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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	0203-0023
First Inventor	Jong Kerl LEE
Title	DATA REPRODUCING APPARATUS ...
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)
2. ☐ **Applicant claims small entity status.**
   See 37 CFR 1.27.
3. ☑ **Specification** [*Total Pages* 29]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. ☑ **Drawing(s)** (*35 U.S.C. 113*) [*Total Sheets* 10]
5. **Oath or Declaration** [*Total Sheets* 4]
   a. ☑ Newly executed (original or copy)
   b. ☐ A copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 18 completed)
   i. ☐ DELETION OF INVENTOR(S)
   Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☑ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   ☐ Landscape Table on CD
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ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee_____
10. ☐ **37 CFR 3.73(b) Statement** *(when there is an assignee)* ☑ **Power of Attorney**
11. ☐ **English Translation Document** *(if applicable)*
12. ☑ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
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17. ☐ Other:_____

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: .....

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DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD

PRIORITY

[0001] This application claims the benefit under 35 U.S.C. §119(a) of a Korean patent application filed in the Korean Intellectual Property Office on April 16, 2007 and assigned Serial No. 2007-0037109, the entire disclosure of which is hereby incorporated by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention:

[0002] The present invention relates generally to a data reproducing apparatus and a data reproducing method. More particularly, the present invention relates to a data reproducing apparatus and method, which can receive and store data such as a video clip transferred through a broadcasting network in order to allow a user watch the data at a desired time.

2. Description of the Related Art:

[0003] The term "portable terminal" refers to a mobile communication device that enables its user to perform various communication functions while in motion. In recent years, portable terminals have been widely used. Examples of such portable terminals include MP3 players, Digital Multimedia Broadcasting (DMB) terminals and Portable Media Player (PMP) terminals, which enable their users to listen to music, view a television program, and see a movie, respectively. Various technologies and advancements, which have resulted from considerable research and development, have been collectively applied to portable terminals and resulted in significantly improved functionality. In addition, with the development of new materials, portable terminals have become much smaller in size and denser in integration.

[0004] Recently, portable terminals have become high-performance products that are comparable to desktop computers in storage capacity and speed.

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[0005] Currently, especially in light of the capacity and speed of these devices, almost all persons carry their own portable terminal. With such widespread use thereof, more services that provide various types of information to portable terminals are becoming popular and being requested by users. For example, mobile communication service providers are being requested to provide various services and information to portable terminals through existing mobile communication networks.

[0006] However, it is difficult to transfer a large amount of data through a conventional mobile communication network because of limited resources such as frequency bandwidth or channel properties. Hence, most mobile communication service providers transmit data of a small volume such as texts and simple images. With these limited resources, it is not easy to satisfy the various requests of users carrying their portable terminals in a timely manner. In particular, these services cannot satisfy requests of users that want to transmit and receive a large amount of data. Therefore, it is necessary to develop an effective means that provides both various services and a large amount of data to users of portable terminals at low cost.

SUMMARY OF THE INVENTION

[0007] An aspect of the present invention is to address at least the above-mentioned problems and/or disadvantages and to provide at least the advantages described below. Accordingly, an aspect of the present invention is to provide a data reproducing apparatus and a data reproducing method that can receive and store data transferred through a broadcasting network and allow a user to watch the data at a desired time.

[0008] In accordance with an aspect of the present invention, a data reproducing apparatus is provided. The data reproducing apparatus comprises a broadcast receiver for examining a file transfer channel of a broadcasting network and for receiving data transferred through the examined file transfer channel of the broadcasting network, a memory for storing the received data, a control unit for controlling the stored data to be displayed, and a display unit for displaying the data.

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[0009] In accordance with another aspect of the present invention, a data reproducing method is provided. The data reproducing method comprises receiving data transferred through a file transfer channel of a broadcasting network examined by using a broadcast receiving module, storing the received data and reproducing the stored data.

[0010] Other aspects, advantages, and salient features of the invention will become apparent to those skilled in the art from the following detailed description, which, taken in conjunction with the annexed drawings, discloses exemplary embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The above and other aspects, features and advantages of certain exemplary embodiments of the present invention will be more apparent from the following description taken in conjunction with the accompanying drawings, in which:

[0012] FIG. 1 is a view schematically illustrating a data transmission system according to an exemplary embodiment of the present invention;

[0013] FIG. 2 is a view schematically illustrating a data reproducing apparatus according to an exemplary embodiment of the present invention;

[0014] FIG. 3 is a view illustrating a pop-up module according to an exemplary embodiment of the present invention in detail;

[0015] FIG. 4 is a view illustrating Program Specific Information/Service Information (PSI/SI) information representing program reproduction time and advertisement reproduction time information according to an exemplary embodiment of the present invention;

[0016] FIG. 5 is an exemplary view of a screen representing a direct video clip reproduction method according to an exemplary embodiment of the present invention;

[0017] FIG. 6 is an exemplary view of a screen illustrating a video clip reproduction method during displaying of a broadcast according to an exemplary embodiment of the present invention;

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[0018] FIG. 7 is an exemplary view of a screen illustrating a video clip reproduction method during switching of a channel according to an exemplary embodiment of the present invention;

[0019] FIG. 8 is an exemplary view of a screen illustrating a pop-up window according to an exemplary embodiment of the present invention;

[0020] FIG. 9 is an exemplary view of a screen illustrating another pop-up window according to an exemplary embodiment of the present invention;

[0021] FIG. 10 is a flowchart illustrating a data reproducing method according to an exemplary embodiment of the present invention; and

[0022] FIG. 11 is a flowchart illustrating a data reproducing method according to another exemplary embodiment of the present invention.

[0023] Throughout the drawings, it should be noted that like reference numbers are used to depict the same or similar elements, features and structures.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0024] The following description with reference to the accompanying drawings is provided to assist in a comprehensive understanding of exemplary embodiments of the invention as defined by the claims and their equivalents. It includes various specific details to assist in that understanding but these are to be regarded as merely exemplary. Accordingly, those of ordinary skill in the art will recognize that various changes and modifications of the embodiments described herein can be made without departing from the scope and spirit of the invention. Also, descriptions of well-known functions and constructions are omitted for clarity and conciseness.

[0025] Particular terms may be defined herein to assist in describing the invention. However, the meaning of specific terms or words used in the specification and the claims should not be limited to the literal or commonly employed sense, but should be construed in accordance with the spirit of the invention. Also, the description of the various embodiments is to be construed as exemplary and should not be construed as a description of every possible instance of the invention. Rather,

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it should be understood that various changes may be made and equivalents may be substituted for elements of the invention.

[0026] The term "data" as used in the present description may include a text, a video signal, an audio signal, etc. Here, the video signal may include a video clip, a moving picture, User Created Contents (UCC), User Generated Contents (UGC), etc. The video clip may include an audio signal and a text signal, as well as a video signal. While not mandatory, it is preferable that the audio signal is synchronized with the video signal when it is included in the video clip. The text signal may correspond to a caption signal of the video signal when it is included in the video clip. In the following description, a video clip is used as the data. However, the data of the present invention is not limited to the video clip, and various types of data can be applied to the present invention.

[0027] Furthermore, the broadcast signal described hereinafter is a signal for reproduction of a channel program provided by a broadcasting network server. The broadcast signal may include a video signal, an audio signal, and a text signal that constitute a program.

[0028] The broadcasting network described in the present invention may include various broadcasting networks such as Digital Video Broadcast - Handheld (DVB-H), DMB, etc. More particularly, when the broadcasting network is of a DVB-H type, the data reproducing apparatus can receive the video clip through a file transfer channel. Further, if the broadcasting network is of a DMB type, the data reproducing apparatus can receive the video clip through a channel through which an Electronic Program Guide (EPG) is transferred. Hereinafter, exemplary embodiments of the present invention will be described with reference to a DVB-H broadcasting network. Again, this is merely for ease of description and should not be construed as limiting the bounds of the invention's application.

[0029] Although the data reproducing apparatus performing the functions according to exemplary embodiments of the present invention is described as a mobile communication terminal for convenience, the present invention is not limited thereto. That is, although the data reproducing apparatus according to the described exemplary

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embodiments of the present invention is a terminal capable of receiving a broadcast, it may be any information and communication appliance or multimedia appliance, such as a mobile communication terminal, a DMB receiver, a DVB-H receiver, a wire/wireless phone, a Personal Digital Assistant (PDA), a smart phone, a notebook computer, a personal computer, a 3G terminal such as an International Mobile Telecommunications 2000 (IMT 2000) terminal, a Wideband Code Division Multiple Access (WCDMA) terminal, a Universal Mobile Telecommunications System (UMTS) terminal, and a Global System for Mobile Communications (GSM)/General Packet Radio Services (GPRS) terminal.

[0030] Hereinafter, exemplary embodiments for performing the functions of the present invention will be described in more detail with reference to accompanying drawings.

[0031] FIG. 1 is a view schematically illustrating a data transmission system according to an exemplary embodiment of the present invention.

[0032] Referring to FIG. 1, an exemplary data transmission system 200 of the present invention includes a service providing server 210, a data applying server 220, and a broadcasting network server 230.

[0033] The service providing server 210 produces and collects various data such as a video clip. The service providing server 210 produces broadcast setting information about the collected video clip and transfers the video clip and the broadcast setting information to the data applying server 220. Here, the service providing server 210 can collect the video clip from a terminal connected to the Internet, a portable terminal connected through a 3G network, etc. Further, the portable terminal can produce the video clip by editing an image signal photographed using a camera, etc., and can transfer them to the service providing server 210.

[0034] The data applying server 220 converts the video clip and the broadcast setting information that have been received from the service providing server 210 for transfer through a broadcasting network. That is, the data applying server 220 converts the files of the video clip to a data format that can be transferred through the broadcasting network. More specifically, the data format that can be transferred

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through the broadcasting network is a data format that can be reproduced in a data reproducing apparatus. The data applying server 220 can convert the video clip to a file having a resolution enabling reproduction in the data reproducing apparatus or to a file having a reproducible size. The data applying server 220 converts the video clip according to a protocol standard used by the broadcasting network server 230. For example, when the broadcasting server 230 uses a file delivery over unidirectional transport (FLUTE) protocol, it divides the video clip according to the FLUTE protocol or produces header information. The data applying server 220 produces information defining the video clip by using the broadcast setting information. For example, when the broadcasting network is of the DVB-H type, the data applying server 220 produces the broadcast setting information as Electronic Service Guide (ESG) update information by using a standard suitable for the ESG.

[0035] The broadcasting network server 230 transfers the video clip and the update information to the data reproducing apparatus according to a protocol. Then, the broadcasting network server 230 can transfer the video clip through a file transfer channel. For example, when the protocol is the FLUTE protocol, the broadcasting network server 230 can transfer the video clip together with the ESG update information through the file transfer channel provided by the FLUTE protocol.

[0036] As mentioned above, an exemplary data transmission system of the present invention converts data such as a video clip and broadcast setting information defining the video clip to a form which can be transferred by the broadcasting network server 230. The data transmission system 200 broadcasts the video clip and the broadcasting network setting information through the file transfer channel provided by the broadcasting network server 230. Accordingly, an exemplary data transmission system 200 of the present invention can easily transfer a User Generated Content (UGC) file of a moving picture having a large amount of data, etc. by using a file transfer channel of a broadcasting network.

[0037] Meanwhile, an exemplary data reproducing apparatus of the present invention receives the video clip and the update information transferred by the data transmission system. Further, an exemplary data reproducing apparatus of the present

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invention can alert a user that a new video clip has been received and can reproduce the video clip at a time desired by a user according to a setting. Hereinafter, an exemplary data reproducing apparatus of the present invention will be described in more detail.

[0038] FIG. 2 is a view schematically illustrating an exemplary data reproducing apparatus according to the present invention.

[0039] Referring to FIG. 2, a data reproducing apparatus 100 includes a broadcast receiver 110, a key input unit 130, an audio processing unit 140, a memory 170, a display unit 120, and a control unit 160, and may further include a mobile communication unit 150.

[0040] The broadcast receiver 110 receives data, such as a video clip, transferred from the broadcasting network server 230 and update information. For this purpose, under the control of the control unit 160 the broadcast receiver 110 sets a channel frequency corresponding to the file transfer channel frequency used by the broadcasting network server 230. The broadcast receiver 110 transfers the received update information and the video clip to the control unit 160.

[0041] The control unit 160 evaluates the update information transferred from the broadcast receiver 110 and determines whether there is information to be newly received in the file transfer channel. The control unit 160 determines whether the video clip will be received and stored, according to the update information. If the video clip is updated information, the control unit 160 provides an alert through the display unit 120 and/or the audio processing unit 140. Meanwhile, the control unit 160 can activate a broadcast receiving module 162 in order to receive the video clip and the updated information by using the broadcast receiver 110. The control unit can load the pop-up module 164 to alert reception of the video clip. The control unit 160 can load a reproduction module 166 for reproduction of the video clip or the broadcast signal received according to activation of the broadcast receiving module 162. Also, the control unit can store the video clip in a designated video clip memory region.

[0042] That is, the broadcast receiving module 162 is activated under the control of the control unit 160 at certain intervals to control the setting of the

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broadcast receiver 110, and examines a file transfer channel on the basis of it. If the video clip and the update information are transferred using the file transfer channel, the broadcast receiving module 162 controls the memory 170 to store the transferred video clip and the update information. The broadcast receiving module 162 produces an alert signal informing that the video clip and the update information have been received and transfers it to the pop-up module 164. If there is an input, for example using the key input unit 230, signifying a selection of a user who wants to reproduce the video clip, the video clip is displayed on the display unit 120 through the reproduction module 166. When an input of a user signifying reception of a general broadcast is generated, the broadcast receiving module 162 controls the setting of the broadcast receiver 110 corresponding to the audio and video channels and controls the broadcast signal to be received. When the pop-up module 164 transfers an alert signal for reception of the video clip, the broadcast receiving module 162 is activated to receive the video clip from the file transfer channel of the broadcasting network.

[0043] When the pop-up module 164 receives the alert signal, it produces a pop-up window and transfers the pop-up window to the display unit 120. In an exemplary implementation, the pop-up module 164 may not produce the pop-up window according to the setting of a user. The pop-up module 164 may produce the form of the pop-up window on the basis of the update information. That is, when the update information contains form setting data defining the form of the pop-up window, the pop-up module 164 produces the pop-up window on the basis of the form setting data and transfers it to the display unit 120.

[0044] Meanwhile, the pop-up module 164 can determine whether the message information transferred by the mobile communication unit 150 contains the update information. That is, if the mobile communication unit 150 transfers the message information, the pop-up module 164 searches for the message information. When the message information contains the update information, the pop-up module 164 alerts it to the broadcast receiving module 162. Accordingly, the broadcast receiving module 162 receives the video clip defined by the update information by setting the broadcast receiver 110 according to the update information. When the message information

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does not contain the update information, the pop-up module 164 can display a message according to a general message service. Hereinafter, the pop-up module 164 will be described in detail with reference to FIG. 3.

[0045] FIG. 3 is a block diagram schematically illustrating the pop-up module 164 according to an exemplary embodiment of the present invention.

[0046] Referring to FIG. 3, a pop-up module 164 includes a dynamic graphic engine having a Scalable Vector Graphics (SVG)-Tiny, a rendering effect unit, and a graphic user interface (GUI) control unit, a pop-up controller, an alert unit, an interactive service unit, and a broadcast receiving module adapter. The SVG-Tiny is a module supporting a vector graphic, e.g. a moving picture such as in a flash format. The rendering effect unit is a module adding rendering effects to a graphic. The GUI control unit is a module controlling a user graphic interface. The pop-up controller is a module controlling the timing for generation of a pop-up window displayed on the display unit 120, the form of the pop-up window, the contents that are to be contained in the pop-up window, etc. The alert unit is a module for alerting the broadcast receiving module 162 that the data transferred in a push type through a mobile communication unit 150 are generated. The interactive service unit may be connected to an external network, and helps the data reproducing apparatus 100 be connected to an external network corresponding to a link when the link displayed in the pop-up window is activated. The broadcast receiving module adapter is an interface for transmission and reception of data to and from the broadcast receiving module 162. The broadcast receiving module adapter may have a security-related function. The pop-up window interface produced by the pop-up module 164 will be described with reference to the drawings.

[0047] The reproduction module 166 reproduces a general broadcast signal received by the broadcast receiving module 162 or reproduces the video clip. When the video clip is to be reproduced, the reproduction module 166 reproduces it in correspondence to a time selected by a user. Furthermore, the reproduction module 166 reproduces the video clip according to at least one of a direct reproduction method,

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a reproduction method during displaying of a broadcast, and a reproduction method during conversion of a channel.

[0048] According to the direct reproduction method, the reproduction module 166 reproduces a video clip according to a user's selection. That is, the reproduction module 166 reproduces a selected video clip stored in the memory 170 upon input by a user, for example by using a key input unit 130. More specifically, the direct reproduction method includes a stack storing process for storing a received video clip and a view process for reproducing the stored video clip. In an exemplary implementation of the direct reproduction method, the reproduction module 166 provides a menu screen for selection of the video clip and a list screen. Within the list screen, the reproduced video clip may be arranged with other video clips according to a user preference, for example according to the number of times the video clip has been reproduced or a specific designation of a user. Furthermore, as will be described in more detail below, the video clips may be selected based on the reproduction priority during the reproduction method while displaying a broadcast or during the reproduction method while converting a channel.

[0049] According to the reproduction method during displaying of a broadcast, a video clip is reproduced while displaying a broadcast by using the data reproducing apparatus 100. More particularly, with reference to FIG. 4, the reproduction module 166 can determine the playing time of a current program, the start time of the current program, the end time of the current program, and the start time of a next program, by acquiring program-related information such as PSI/SI information from the broadcast receiving module 162 while displaying a broadcast. The reproduction module 166 can also determine an advertisement time inserted between the current program and the next program. Accordingly, after the current program is completed, the reproduction module 166 may display the video clip in a Picture-in-Picture (PIP) format during reproduction of the advertisement. When the advertisement is completed and the next program starts, the reproduction module 166 may stop reproduction of the video clip. However, the reproduction module 166 may not stop reproduction of the video clip

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even if the next program starts, and can continuously reproduce the video clip in the PIP format without stopping the reproduction of the video clip.

[0050] According to the reproduction method during conversion or changing of a channel, the video clip is reproduced while a channel is being converted. More particularly, if an input signal for conversion of a channel is generated, for example by a key input, the reproduction module 166 reproduces the video clip and displays it on the display unit 120. Further, when the conversion of the channel is completed, the reproduction module 166 may stop reproduction of the video clip altogether. Alternatively, after the conversion of the channel is completed, the reproduction module 166 may continue to reproduce the video clip in the PIP format. The reproduction of the video clip in the PIP format may be stopped in correspondence to selection by a user, i.e. an input signal of the key input unit 130.

[0051] The key input unit 130 produces a key input signal needed in the data reproducing apparatus 100 and transfers it to the control unit 160. The key input unit 130 can produce a variety of key signals based on the keys of the key input unit. For example, the key input unit 130 can produce a check key signal according to generation of the pop-up window, a direction key signal needed during search for a plurality of video clips, a key signal corresponding to numbers, letters, and special letters, a function key signal for performing a predetermined function. Especially, the key input unit 130 of the present invention can produce a key signal for checking storage of the video clip and the update information, a key signal for activating the broadcast receiving module 162, a broadcast signal received according to the broadcast receiving module 162, and a signal needed in reproduction of the video clip.

[0052] The audio processing unit 140 reproduces an audio signal among the broadcast signals received as the broadcast receiving module 162 is activated. For this, the audio processing unit 140 may include a speaker SPK. When the data reproducing apparatus 100 provides a function of collecting an audio signal, the audio processing unit 140 may include a microphone MIC. Especially, the audio processing unit 140 of the present invention can produce an audio signal for alerting reception of the video clip and the update information.

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[0053] The memory unit 170 stores a downloaded video clip, update information, a broadcast signal, etc., including an application program needed for the operation according to an exemplary embodiment of the present invention, and includes the reproduction module 166 for reproduction of the broadcast signal and the video clip. The memory 170 may include a program region and a data region.

[0054] The program region stores an Operating System (OS) for booting the data reproducing apparatus, a program for the reproduction module 166 needed for reproduction of a video clip and a broadcast signal, programs related to other optional functions of a target terminal 100 such as a camera function and a voice reproducing function, and an application program needed for reproduction of an image or a moving picture. When functions are activated corresponding to a request of a user, the data reproducing apparatus 100 provides the functions by using corresponding application programs under the control of the control unit 160. For example, the program region includes the pop-up module 164 alerting reception of the video clip and the update information, a broadcast receiving module 162 for controlling the broadcast receiver 110 receiving a signal transferred from the broadcasting network server 230, and a reproduction module for reproduction of the video clip and the broadcast signal. The modules are loaded in the control unit 160 to perform the functions.

[0055] The data region is provided for storing data that is generated according to use of the data reproducing apparatus 100. The data region also stores the video clip and the update information that are transferred by the broadcast network server 230. Further, the data region may store the broadcast signal transferred by the broadcasting network server 230. The data region can also store user data related to various optional functions of the data reproducing apparatus 100, such as a photographed image or a moving picture from a camera function, phonebook data, audio data, and information corresponding to the contents or user data.

[0056] More particularly, the video clip may include various images and flash files that are provided by the service providing server 210 and may have ranking information. That is, the service providing server 210 can associated a priority ranking with the video clip by referencing a vote or a number of times the video clip

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has been downloaded by various users. Accordingly, the service providing server 210 can sort a video clip having a large vote or a large number of downloads as having a high priority of the video clips as a predetermined priority range, e.g. "Top 10" to transfer it to the data reproducing apparatus 100. Therefore, the video clip may be the data received according to the ranking information.

[0057] Furthermore, the video clip may be the data sorted according to categories. More particularly, the video clip may include a plurality of clips including various categories such as a sports category, a move category, a music video category, a comedy category, etc. Accordingly, when a user wants to reproduce the video clip, the reproduction module 166 can display the list of various clips included in the category prior to the others.

[0058] The video clip can also set Digital Rights Management (DRM). That is, the service providing server 210 can set the DRM with respect to the clip requiring setting of the DRM, among the video clips, and provide it to the data reproducing apparatus 100. Accordingly, when the DRM is set with the video clip, the data reproducing apparatus 100 can alert it. That is, the pop-up module 164 can control display of the DRM setting with respect to the set video clip and can provide address information for purchase of a license when a user requests reproduction of the DRM set video clip. The data reproducing apparatus 100 may be connected to the service providing server 210 to perform the purchase of the license.

[0059] The display unit 120 displays various broadcast data provided by the broadcasting network server 230. Here, the broadcast data may be the above-mentioned video clip, the broadcast signal, etc. The video clip may be a moving picture having a time duration, e.g. from several seconds to several minutes. The broadcast signal may be a general broadcast provided by the broadcasting network server 230, and may be a real time broadcast. In an exemplary implementation, when the display unit 120 receives the video clip and the update information, it can alert of the receipt by displaying a pop-up window. The screen interface of the display unit 120 including the pop-up window will be described later with reference to the drawings.

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[0060] The data reproducing apparatus 100 may include the mobile communication unit 150 when it also functions as a mobile communication terminal. The mobile communication unit 150 can control activation of the broadcast receiving module 162 for receiving the updated video clip on the basis of the message information. For this, the message information transferred by the broadcasting server 230 may contain the update information defining the update of the video clip. In other words, when the mobile communication unit 150 receives the message information containing the update information, it alerts of the receipt to the control unit 160. Then, the control unit 160 can set the broadcast receiver by activating the broadcast receiving module 162, and can receive the video clip transferred by the broadcasting network server 230.

[0061] When a video clip is to be transferred to another terminal, the mobile communication unit 150 can provide a message with corresponding information to transfer the message to the other terminal. Accordingly, the other terminal can receive the message and can activate the broadcast receiving module installed in the other terminal to receive the video clip. When a user is to transfer the video clip to another terminal, the mobile communication unit 150 can transfer the multimedia message containing the video clip to the other terminal. Accordingly, the other terminal can directly receive the video clip from the data reproducing apparatus 100 to reproduce it. When the video clip sets the DRM, the mobile communication unit 150 can form the service providing server 210 and a communication channel under the control of the control unit 160 to acquire the corresponding license. Then, the mobile communication unit 150 can transmit and receive the license request signal, the certification related signal, and the license.

[0062] As mentioned above, the data reproducing apparatus 100 receives the video clip and update information that are transferred by the broadcasting network server 230 and alerts the information about it to the display unit 120 by using a pop-up window. The data reproducing apparatus 100 reproduces the received and stored video clip at a time desired by a user. That is, the data reproducing apparatus 100 directly reproduces the video clip when a user directly requests reproduction. When a

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user wants to watch a broadcast, the data reproducing apparatus 100 acquires an advertisement time and reproduces the video clip in the form of PIP at a time when the advertisement is reproduced. When a user switches a channel, the data reproducing apparatus 100 can reproduce the video clip on the channel conversion screen.

[0063] Hereinafter, a screen interface according to an exemplary embodiment of the present invention will be described in detail with reference to FIGs. 5 to 9.

[0064] FIG. 5 is a view illustrating an exemplary screen interface according to a direct video clip reproduction method.

[0065] Referring to FIG. 5, the display unit 120 displays a content list through a menu by selection of a user in order to directly reproduce the video clip. The content list contains various lists such as a bell sound keeping box, an image keeping box, a camera keeping box, and a video clip keeping box. Here, if a key input signal for selecting the video clip keeping box is generated, the display unit displays various lists contained in the video clip, such as "Award.Divx, Soccer.Divx, Golf.Divx"…. The video clip may be one transferred by the broadcasting network server through a file transfer channel. If a clip in the video clip list, such as "Golf.Divx", is selected, the reproduction module 166 reproduces a screen corresponding to the selected video clip.

[0066] FIG. 6 is a screen interface illustrating an exemplary method of reproducing the video clip while displaying a broadcast.

[0067] Referring to FIG. 6, the display unit 120 receives and displays a currently broadcast program. The broadcast program is one received by a channel provided by the broadcasting network server 230. As described previously with reference to FIG. 4, the display unit reproduces an advertisement following the broadcast program, that is, when the broadcast program is complete. While the advertisement is being reproduced, the display unit displays a screen on one side thereof within which is reproduced a video clip. That is, the display unit displays an image corresponding to an advertisement on the entire screen, and reproduces the video clip in the PIP format by allocating a region of the advertisement image. Here, the video clip is one already received and stored by the broadcast receiving module 162 in the video clip memory region. The reproduction order of the video clip may be

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varied according to the reception order or the ranking information of the video clip. When the reproduction time of the advertisement image is longer than that of the video clip, if the reproduction of the video clip is completed, the original advertisement image is displayed in the region where the video clip has been reproduced. When the reproduction time of the video clip is longer than that of the advertisement image, the display unit can maintain the reproduction in the PIP format while the following broadcast program is being reproduced. The video clip reproduced in the PIP format can finish or maintain reproduction thereof according to selection by a user.

[0068] FIG. 7 is a screen interface illustrating an exemplary method of reproducing a video clip during conversion of a channel.

[0069] Referring to FIG. 7, the reproduction of a video clip can be displayed while changing a channel. That is, while the display unit displays a currently received broadcast program, a channel changing signal may be received. For example, a channel changing signal may be input from the key input unit 130. When the channel conversion signal is received and channel conversion is in process, the reproduction module 166 displays a video clip stored in the memory 170 on the front surface of the display unit. If a broadcast signal is received from the changed channel such that the change of the channel is completed, the reproduction module 166 reproduces the broadcast program received from the changed channel. Furthermore, the display unit can reproduce the video clip in the PIP format during the reproduction of the broadcast program of the changed channel. Here, the video clip reproduced in the broadcast program in the PIP format can finish or maintain reproduction thereof according to selection of a user, i.e. an input signal of the key input unit 130.

[0070] Although the reproduction module 166 selects the video clip stored in the memory unit 170 according to a ranking order or arbitrarily to reproduce it in FIGs. 6 and 7, the present invention is not limited thereto. That is, the reproduction module 166 can assist a user select and watch a video clip by displaying a list screen for selection of the video clip at an advertisement starting time or a channel conversion starting time. The display of the list screen can be optionally provided.

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[0071] FIGs. 8 and 9 are exemplary screens illustrating pop-windows of the present invention.

[0072] Referring to FIG. 8, the pop-up module 164 allows the broadcast receiving module 162 to receive a new video clip and, when alerting of the receipt, displays it on the display unit 120 as a pop-up window. If a key input for checking the pop-up window is generated, the pop-up module 164 can display the corresponding list on the display unit 120 if a plurality of files exists in the newly received video clip. The pop-up window and list displayed on the display unit 120 is automatically removed after lapse of a time period without any input of a separate check key, and the screen can return to the previous screen such as an idle screen.

[0073] Referring to FIG. 9, the pop-up module 164 can display information about the received video clip on one side of a screen such as an idle screen. That is, the display unit can display a name of the service providing server providing the video clip and the characteristics of the video clip such as the ranking information and a category. The display unit can display the number of clips of the video clip. Further, the display unit can display detailed information of the selected video clip. That is, the display unit can display the name of the selected video clip, a representative image, a reproduction time, a size, setting of the DRM, etc. If a reproduction request signal for the video clip among the detailed information displayed on the display unit is generated, the reproduction module 166 can reproduce the corresponding video clip. The display unit can display the link information for connection to the service providing server providing the video clip.

[0074] Until now, the data reproducing apparatus 100 and the screen interfaces according to exemplary embodiments of the present invention have been described. Hereinafter, a data reproducing method according to an exemplary embodiment of the present invention will be described.

[0075] FIG. 10 is a flowchart for illustrating a data reproducing method according to an exemplary embodiment of the present invention.

[0076] Referring to FIG. 10, according to the data reproducing method of the present invention, the data reproducing apparatus 100 is first turned on to be

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initialized and the display unit 120 displays an idle screen in step S101. The data reproducing apparatus 100 searches for update information by using the broadcast receiving module 162, with the idle screen being displayed in step S102.

[0077] In step S102, the broadcast receiving module 162 can be activated at certain intervals under the control of the control unit 160 or can be activated when it receives a message informing that update information has been externally generated. The activated broadcast receiving module 162 examines a file transfer channel by controlling the broadcast receiver 110 and determines whether update information exists in step S103. If update information does not exist, the control unit 160 can save electric power by turning off the broadcast receiving module 162 in step S104. Next, the control unit 160 waits for a period of time in step S105, and then returns to step S102.

[0078] In another exemplary implementation, the broadcast receiving module 162 can be activated as a user of the data reproducing apparatus 100 watches a broadcast. That is, when a user inputs a key input signal for activating the broadcast receiving module 162, for example, when a key input for displaying a broadcast is generated, the broadcast receiving module 162 is activated to perform the steps following S103.

[0079] In step S103, when update information exists, the activated broadcast receiving module 162 receives a video clip transferred through a file transfer channel by the broadcasting network server 230 and transfers it to the memory to store it in step S106. In step S107, the broadcast receiving module 162 alerts a user using the pop-up module 164 that a new video clip is stored. Step S107 can be performed before or simultaneously with the receiving and storing of the video clip in step S106. Here, the step of receiving and storing the video clip performed in step S106 can be omitted or can be replaced by viewing of an image or a preview image of the video clip. More particularly, the step of receiving and storing the video clip may be provided as a setting menu so that a user can select it. That is, the setting menu may include a menu for automatically receiving and storing the video clip, a menu for automatically denying reception and storage of the video clip, and a menu for

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reception and storage by selection of a user after performing a preview function. The preview setting menu can control a representative image or a preview image of the video clip to be displayed on the display unit, with the broadcast receiving module temporarily storing the video clip. Accordingly, the data reproducing apparatus 100 can produce a key input for storing the video clip after display of the representative image or the preview image is performed in advance according to selection of a user.

[0080] The step of alerting the pop-up module 164 performed in step S107 can be omitted according to selection of a user. Therefore, the pop-up module 164 may not produce a separate pop-up window in the display unit even if a new video clip is stored. It is also preferable that the broadcast receiving module 162 activated in steps S106 and S107 is converted to a power off mode, i.e. a sleep mode to save power.

[0081] After step S107, the control unit 160 examines generation of a key input in step S108, and determines whether the key input indicates viewing of the video clip in step S109. In step S109, in the case of a key input signal for viewing the video clip, the control unit 160 reproduces the video clip stored in the memory 170 by using the reproduction module 166 in step S110. If the key input is not a signal for viewing the video clip, the control unit 160 determines whether the key input is a key input for displaying a broadcast in step S111. Step S111 may be omitted when a user activates the broadcast receiving module to display a broadcast in step S102. In step S111, the control unit 160 performs a function corresponding to the key input if the key input is not one for displaying a broadcast in step S112. The corresponding function includes various functions such as a function provided by the data reproducing apparatus 100, for example, a camera function, an MP3 reproducing function, a message function, and a mobile communication function. If instead it is determined in step S111 that the generated key input is one for displaying a broadcast, the control unit 160 activates the broadcast receiving module 162 in step S113. The broadcast receiving module 162 receives a broadcast signal from a broadcast channel corresponding to a key input and reproduces the broadcast signal through the reproduction module 166 in step S114.

[0082] Next, the control unit 160 determines whether a key input is generated for changing a channel in step S115. If it is determined in step S115 that the channel

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converting key input is not generated, it is determined whether the current program is completed in step S116. In step S117, when the currently broadcasted program is completed, the control unit 160 reproduces the video clip stored in the memory 170 in the PIP format on the display unit on which an advertisement is displayed during the following advertisement, by controlling the reproduction module 166. In step S116, the control unit 160 can acquire completion of the current program and timing for advertisement from program-related information, i.e. PSI/SI information. Meanwhile, when it is determined that the current program is not completed in step S116, the process returns to step S114 by the control unit 160.

[0083] If it is determined in step S115 that a key input according to conversion of a channel is generated, the control unit 160 performs conversion of the channel, and the video clip is reproduced by controlling the reproduction module 166 in step S118. That is, the reproduction module 166 controls the video clip stored in the memory 170 to be displayed on the display unit 120, and the broadcast receiving module 162 performs the channel converting process by using background processing. The video clip displayed on the display unit 120 may be displayed on the entire display unit 120 or may be displayed partially on the display unit 120.

[0084] Next, the control unit 160 determines whether the conversion of the channel is completed in step S119. If the channel conversion is completed, the control unit 160 stops reproduction of the video clip and reproduces the broadcast signal or the program received through the converted channel in step S120. Here, the control unit 160 may control the reproduction of the video clip to be maintained in the PIP format when the program of the converted channel is reproduced. If it is determined in step S119 that the channel switching is not completed, the control unit 160 returns to step S118 to continue the channel switching and video clip reproduction.

[0085] The video clip reproduced in at least one of steps S117 and S118 may be reproduced according to a priority or according to arrangement of a user preference list. That is, the reproduced video clip may be arranged in the user preference list according to the number of reproductions or designation by a user, and the arranged video clips determined by the priority of reproduction of the video clips may be

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displayed in order during reproduction while displaying a broadcast or converting a channel.

[0086] FIG. 11 is a flowchart for illustrating a data reproducing method according to another exemplary embodiment of the present invention.

[0087] Referring to FIG. 11, the data reproducing apparatus 100 is initialized as electric power is supplied and displays an idle screen in step S201. In the idle screen state, the control unit 160 determines whether a message is received in step S202. The message may be received using the mobile communication unit 150 of the data reproducing apparatus 100 after the message is transferred through a mobile communication network by the service providing server 210. If a message is not received, the control unit 160 controls the data reproducing apparatus 100 to return to step S201.

[0088] When a message is received in the step S202, the control unit 160 determines whether the message contains update information in step S203. In the case of a general message that does not contain update information, the corresponding message is displayed according to a message service function in step S204.

[0089] If it is determined in step S203 that the message contains update information, the control unit 160 activates the broadcast receiving module 162 in step S205, and transfers the alert about the updated video clip to the pop-up module 164 in step S206. In step S206, if the pop-up module 164 receives the alert, the information about it may be displayed on the idle screen.

[0090] In step S207, the broadcast receiving module 162, activated in step S205, receives the video clip from the file transfer channel provided by the broadcasting network server 230 and transfers it to the memory 170 for storage.

[0091] Next, the control unit 160 reproduces the video clip according to generation of a key input in step S208. In step S208, as mentioned above, the control unit 160 can reproduce the video clip according to a direct reproduction method, a reproduction method during displaying of a broadcast, and a reproduction method during conversion of a channel.

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[0092] According to the data reproducing apparatus and the data reproducing method according to exemplary embodiments of the present invention, the broadcasting network server 230 can receive the video clips transferred through the file transfer channel and can perform an alert. Exemplary embodiments of the present invention receive the video clip according to a direct reproduction method, a reproduction method during displaying of a broadcast, and a reproduction method during conversion of a channel by selection of a user. The methods may be provided as a preset menu item and may be performed independently or complexly according to a function selected by a user.

[0093] As mentioned above, in a data reproducing apparatus and a data reproducing method according to exemplary embodiments of the present invention, the broadcasting network server may receive and store the data provided through the file transfer channel, such as a video clip, perform an alert of the stored data, and select and designate the reproduction time of the data by a user.

[0094] While exemplary embodiments of the present invention have been shown and described in this specification, it will be understood by those skilled in the art that various changes or modifications of the embodiments are possible without departing from the spirit and scope of the invention as defined by the appended claims and their equivalents.

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WHAT IS CLAIMED IS:

1. A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

wherein the examining of the file transfer channel comprises at least one of activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network and activating the broadcast receiving module at certain intervals.

2. The data reproducing method of claim 1, wherein the broadcasting network establishes channels according to a Digital Video Broadcast-Handheld (DVB-H) system, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

3. The data reproducing method of claim 1, wherein the data comprises at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

4. The data reproducing method of claim 1, wherein the receiving of the data comprises:

receiving update information of data; and

receiving data on the basis of the update information.

5. The data reproducing method of claim 4, wherein the update information comprises Electronic Service Guide (ESG) information.

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6. The data reproducing method of claim 1, wherein the reproducing of the stored data comprises:

displaying a list of stored data;

selecting desired data in the list; and

reproducing the selected data.

7. The data reproducing method of claim 1, further comprising:

issuing an alert indicating reception of the data.

8. A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

wherein the stored data is reproduced when, during reception and display of an external broadcast signal, the currently displayed broadcast signal is an advertisement.

9. The data reproducing method of claim 8, wherein the reproducing of the data while displaying the advertisement is performed in a Picture In Picture (PIP) format by allocating a region on an advertisement image.

10. A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

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wherein the stored data is reproduced during channel switching in response to a request for channel switching when the request is generated during display of a broadcast.

11. The data reproducing method of claim 10, wherein the reproducing of the stored data comprises at least one of stopping the reproducing of the reproduced data after completing the switching of the channel and reproducing the reproduced data in a PIP format on a broadcast image corresponding to the switched channel after completing the switching of the channel.

12. A data reproducing apparatus comprising:

a broadcast receiver for examining a file transfer channel of a broadcasting network and for receiving data transferred through the file transfer channel of the broadcasting network;

a memory for storing the received data;

a control unit for controlling the stored data to be displayed; and

a display unit for displaying data,

wherein the control unit comprises:

a broadcast receiving module for controlling setting of the frequency of the broadcast receiver and for transferring the received data to the memory;

a pop-up module for issuing an alert indicating reception of the data; and

a reproduction module for reproducing at least one of a broadcast signal received by the broadcast receiver and the received data.

13. The data reproducing apparatus of claim 12, further comprising:

a mobile communication unit for receiving a message including update information of data through a mobile communication network and for transferring the received message to the pop-up module.

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14. The data reproducing apparatus of claim 13, wherein the pop-up module activates the broadcast receiving module when a message including update information is received.

15. The data reproducing apparatus of claim 13, wherein the pop-up module, upon reception of data from at least one of the broadcast receiving module and the mobile communication network, displays the data-related information on an idle screen.

16. The data reproducing apparatus of claim 13, wherein the pop-up module comprises:

a dynamic graphic engine comprising a Scalable Vector Graphics (SVG)-Tiny supporting vector graphics, a rendering effect unit supporting a rendering effect on an image, and a Graphical User Interface (GUI) control unit;

a pop-up controller for controlling production and display of a pop-up window;

an alert unit for issuing an alert indicating an update of the data to the broadcast receiving module;

a bi-directional service unit supporting a link connected to a server providing the data; and

a broadcast receiving module adaptor for transmission and reception of a signal with the broadcast receiving module.

17. The data reproducing apparatus of claim 13, wherein the reproduction module reproduces the data by using at least one of:

a method of storing the received data and then directly reproducing the stored data according to selection of a menu and a list;

a method of reproducing the data in a Picture In Picture (PIP) format during an advertisement while displaying a broadcast; and

a method of reproducing the data during switching of the channel.

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18. The data reproducing apparatus of claim 13, wherein the broadcast receiving module receives update information of data and controls the broadcast receiver to receive the data on the basis of the update information.

19. The data reproducing apparatus of claim 18, wherein the update information comprises electronic service guide (ESG) information.

20. The data reproducing apparatus of claim 12, wherein the data includes at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

21. The data reproducing apparatus of claim 12, wherein the broadcasting network forms a channel according to a Digital Video Broadcasting-Handheld (DVB-H) method, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

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ABSTRACT OF THE DISCLOSURE

The present invention relates to a data reproducing apparatus and a data reproducing method. The data reproducing apparatus and the data reproducing method receive data using a file transfer channel and assist a user reproduce the data at a desired time. The present invention includes at least one of receiving data transferred through a file transfer channel of a broadcasting network, storing the data, reproducing the data at a time desired by a user, i.e. according to selection through a menu or a list, and reproducing the data while displaying a broadcast, and reproducing the data while switching a channel.

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FIG . 1

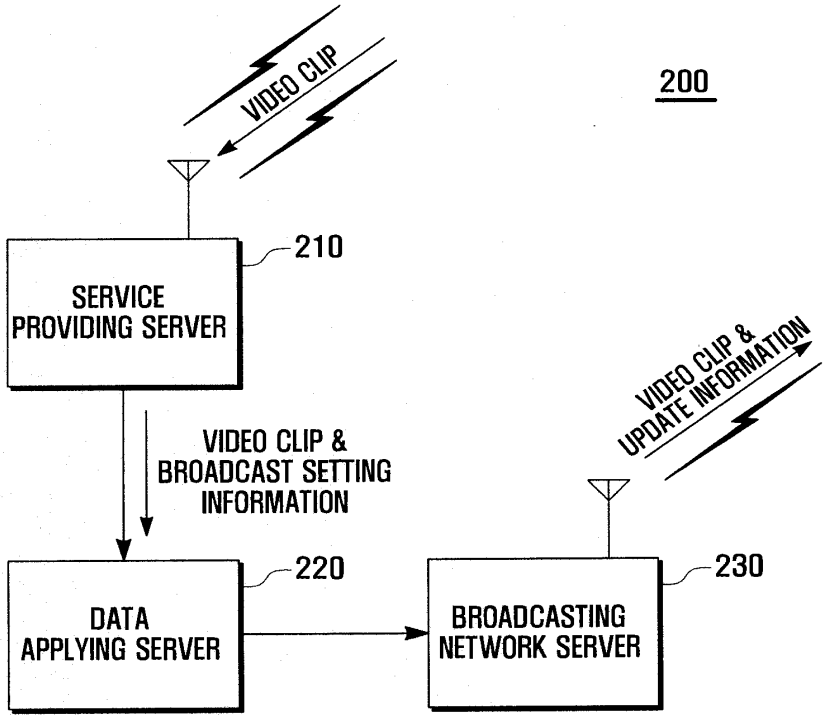

VIDEO CLIP
200
210
SERVICE PROVIDING SERVER
VIDEO CLIP & BROADCAST SETTING INFORMATION
VIDEO CLIP & UPDATE INFORMATION
220
230
DATA APPLYING SERVER
BROADCASTING NETWORK SERVER

FIG . 2

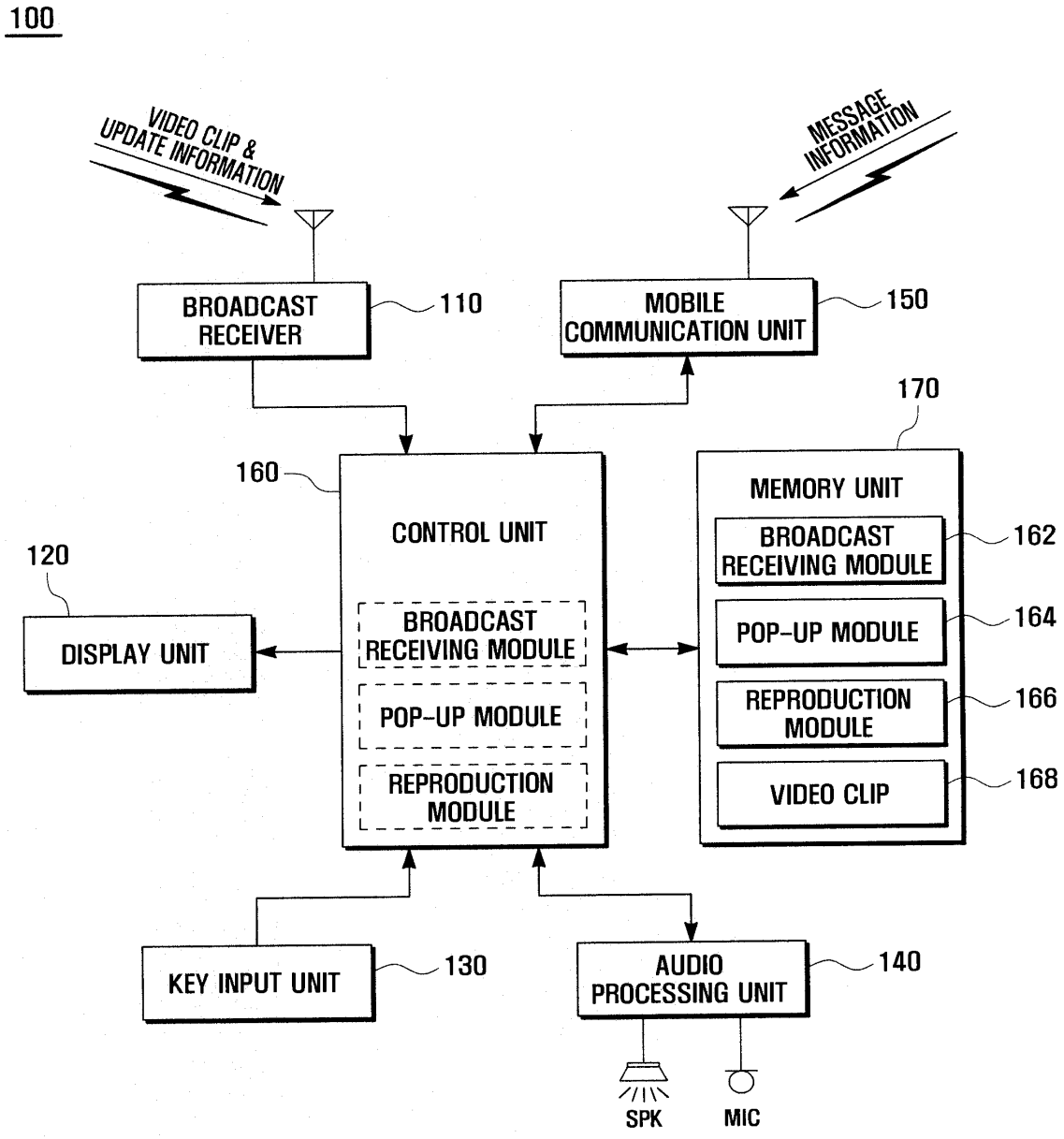

100
VIDEO CLIP & UPDATE INFORMATION
MESSAGE INFORMATION
BROADCAST RECEIVER
110
MOBILE COMMUNICATION UNIT
150
170
160
CONTROL UNIT
BROADCAST RECEIVING MODULE
POP-UP MODULE
REPRODUCTION MODULE
MEMORY UNIT
BROADCAST RECEIVING MODULE
162
POP-UP MODULE
164
REPRODUCTION MODULE
166
VIDEO CLIP
168
120
DISPLAY UNIT
KEY INPUT UNIT
130
AUDIO PROCESSING UNIT
140
SPK
MIC

FIG . 3

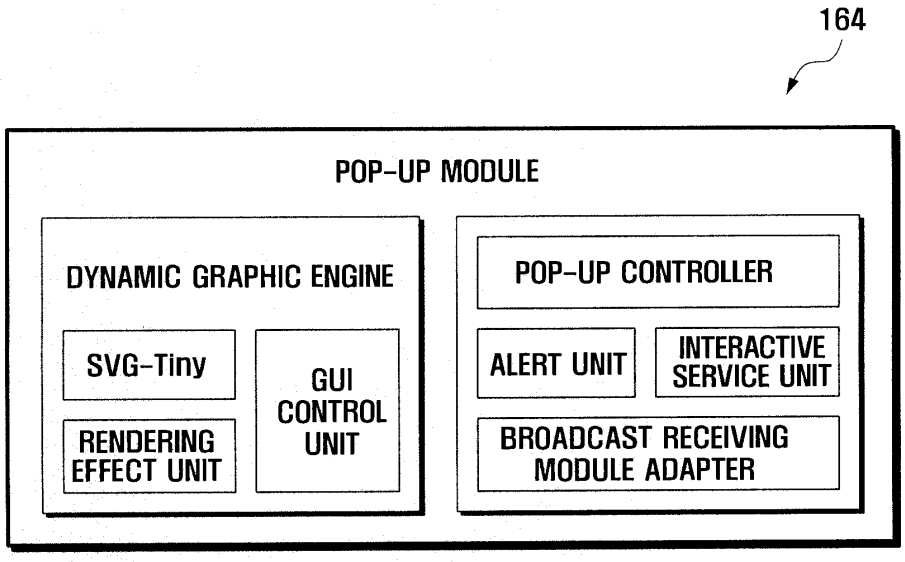

164
POP-UP MODULE
DYNAMIC GRAPHIC ENGINE
SVG-Tiny
RENDERING EFFECT UNIT
GUI CONTROL UNIT
POP-UP CONTROLLER
ALERT UNIT
INTERACTIVE SERVICE UNIT
BROADCAST RECEIVING MODULE ADAPTER

FIG . 4

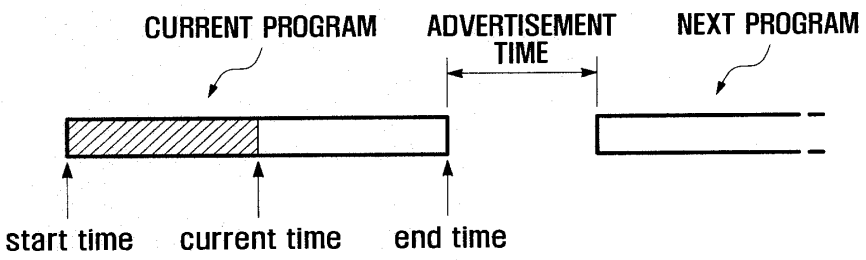

CURRENT PROGRAM
ADVERTISEMENT TIME
NEXT PROGRAM
start time
current time
end time

FIG . 5

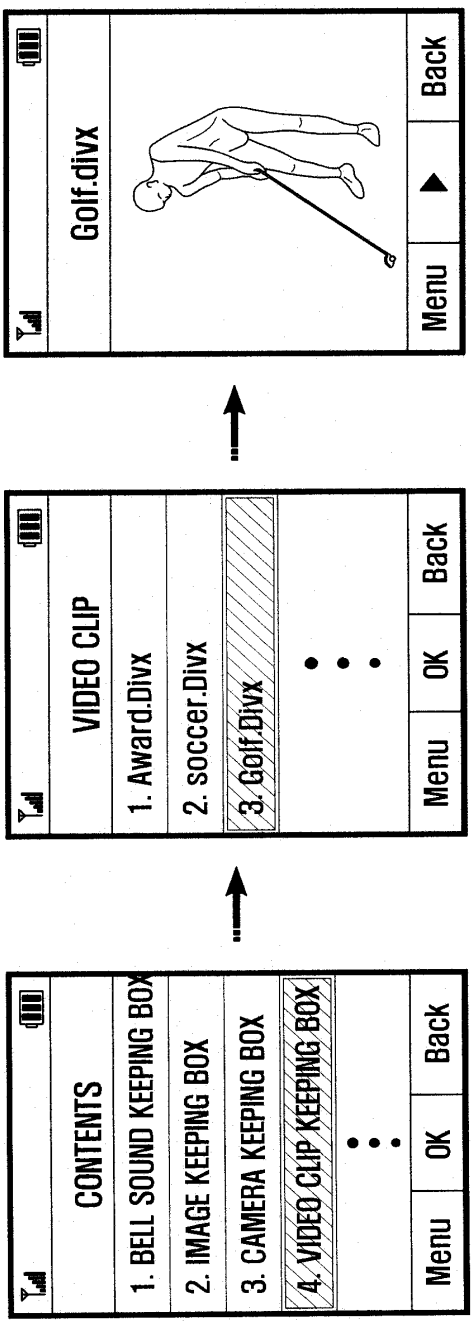

CONTENTS
1. BELL SOUND KEEPING BOX
2. IMAGE KEEPING BOX
3. CAMERA KEEPING BOX
4. VIDEO CLIP KEEPING BOX
Menu
OK
Back
VIDEO CLIP
1. Award.Divx
2. soccer.Divx
3. Golf.Divx
Menu
OK
Back
Golf.divx
Menu
Back

FIG . 6

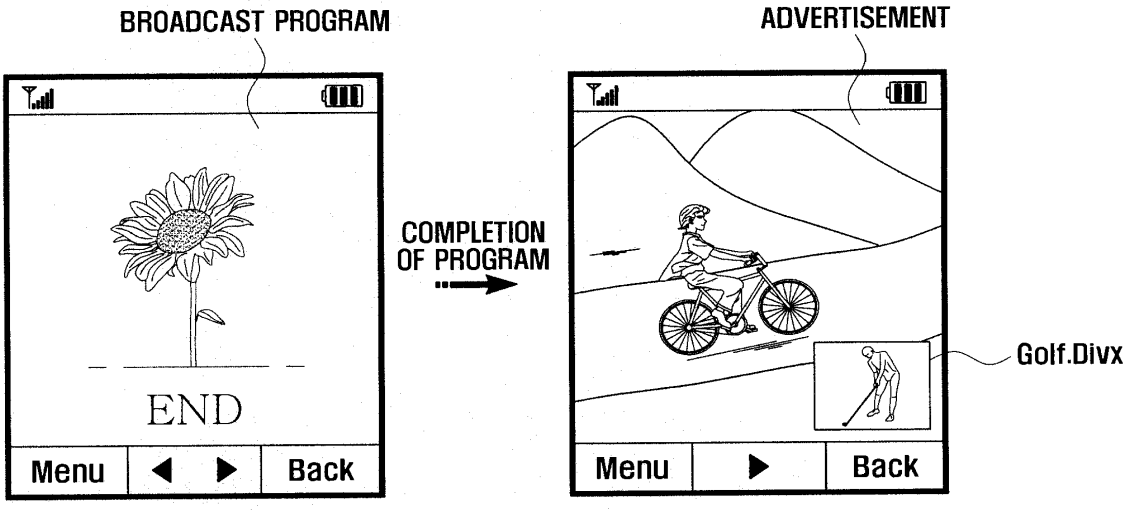
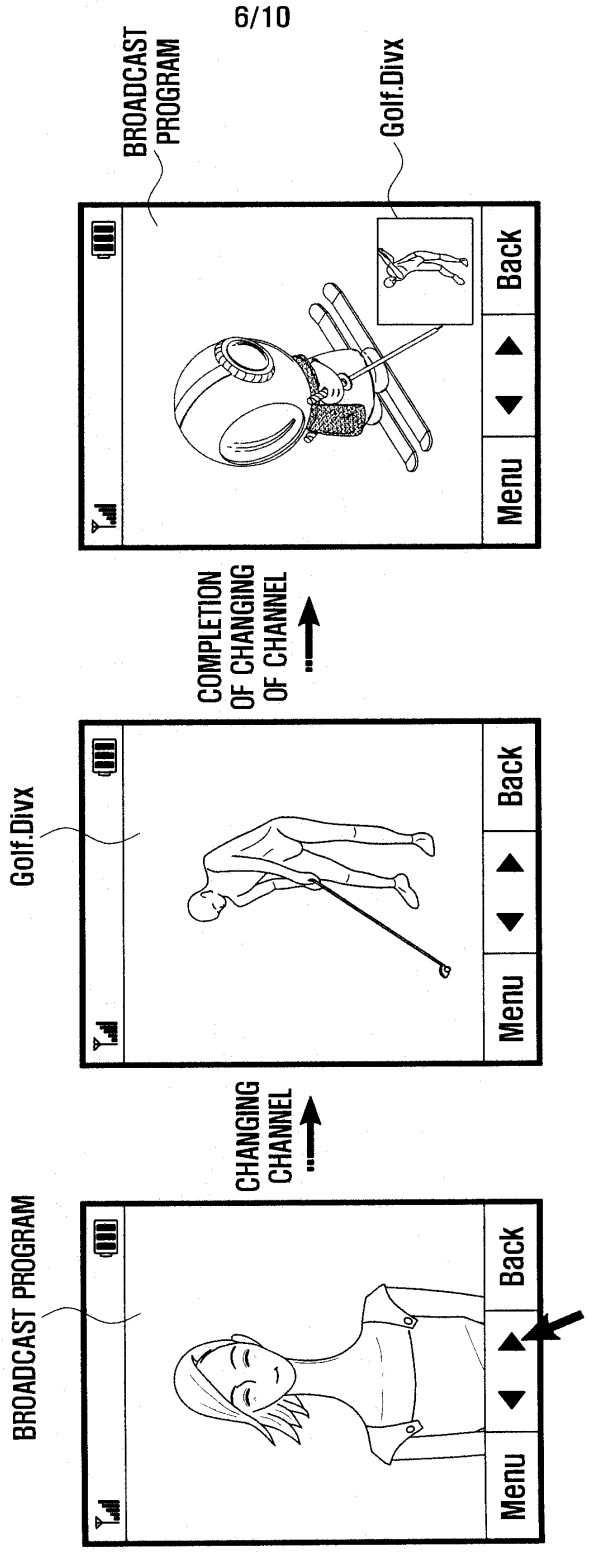
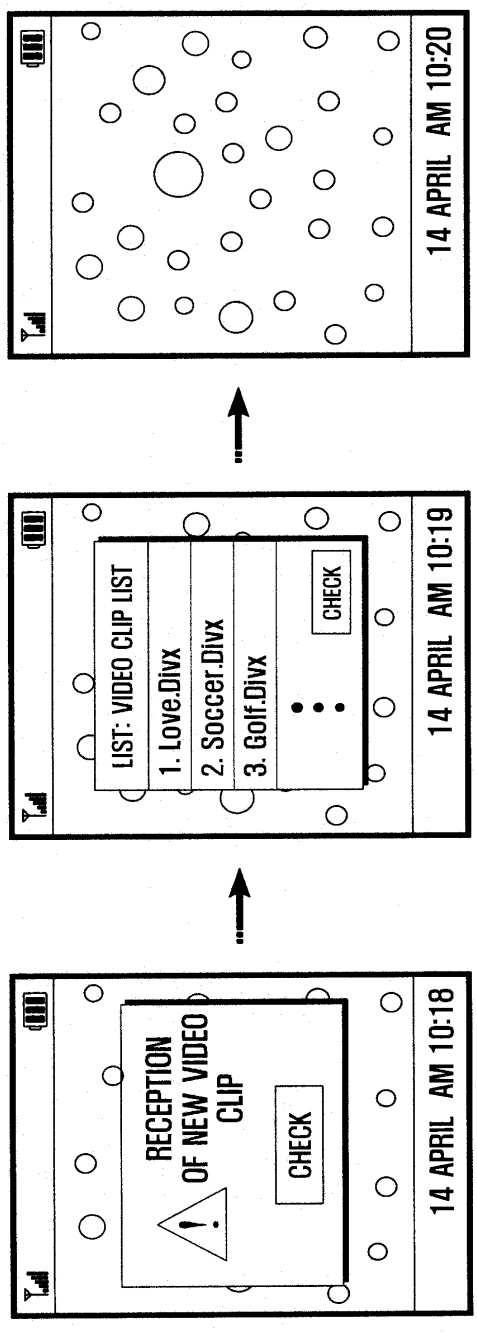

BROADCAST PROGRAM
END
Menu
Back
COMPLETION OF PROGRAM
ADVERTISEMENT
Golf.Divx
Menu
Back

FIG. 7



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FIG . 8



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FIG . 9

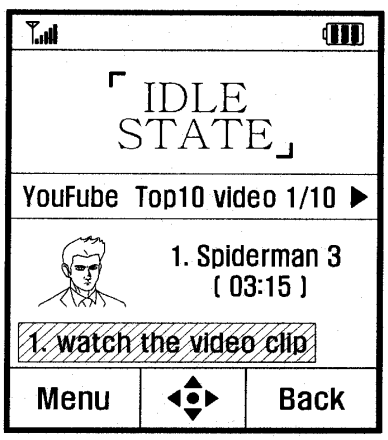

IDLE
STATE
YouFube Top10 video 1/10
1. Spiderman 3
[03:15]
1. watch the video clip
Menu
Back

FIG . 10

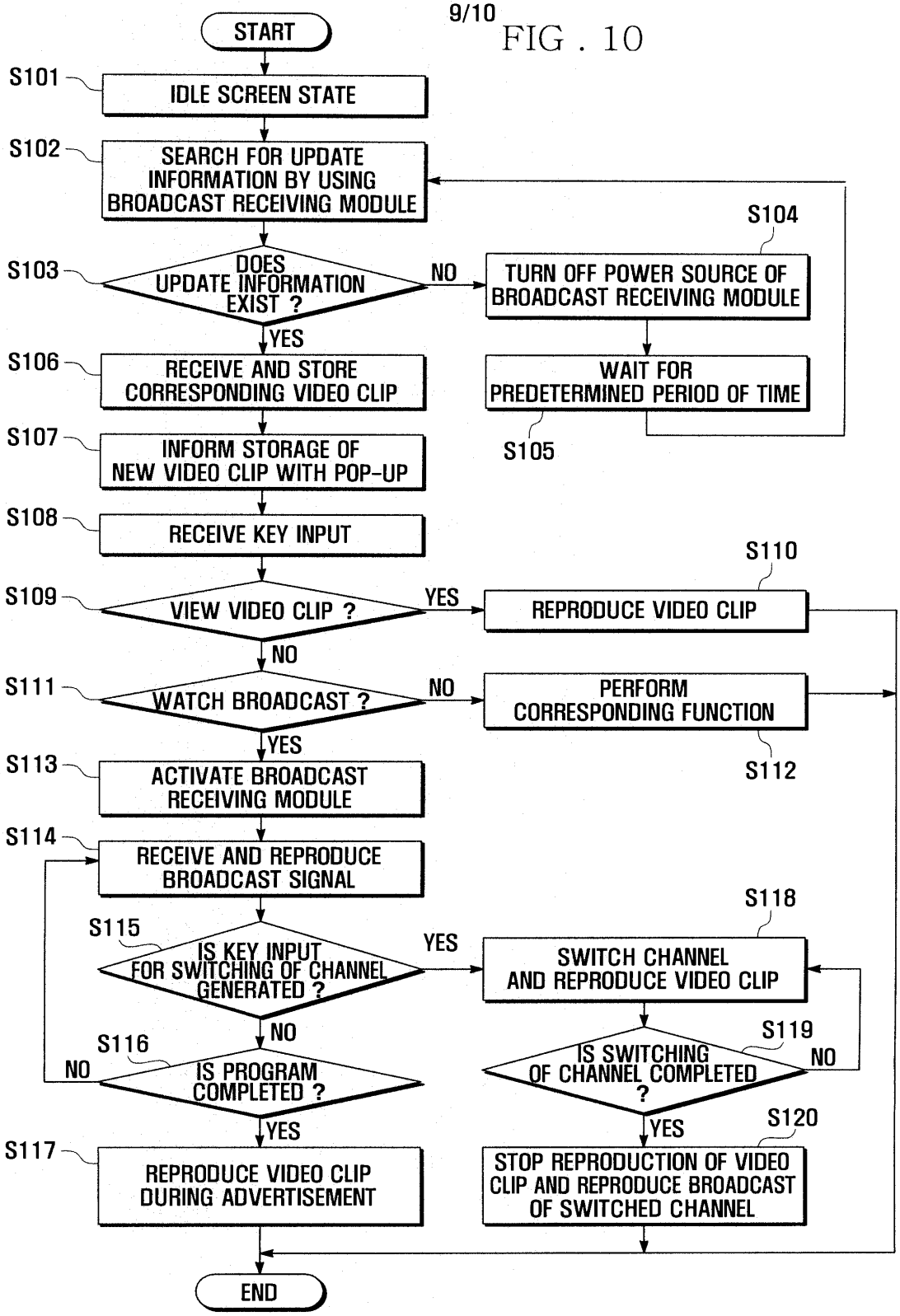
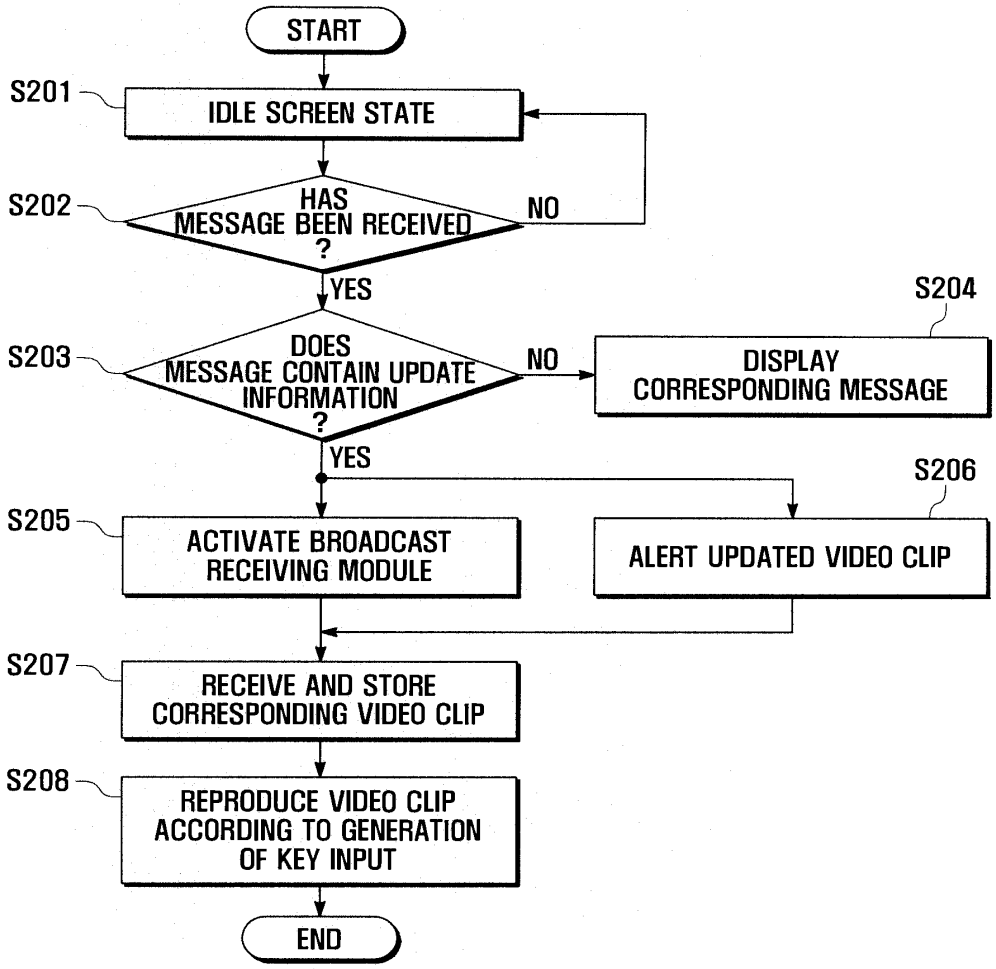

START
S101
IDLE SCREEN STATE
S102
SEARCH FOR UPDATE INFORMATION BY USING BROADCAST RECEIVING MODULE
S103
DOES UPDATE INFORMATION EXIST ?
NO
S104
TURN OFF POWER SOURCE OF BROADCAST RECEIVING MODULE
WAIT FOR PREDETERMINED PERIOD OF TIME
S105
YES
S106
RECEIVE AND STORE CORRESPONDING VIDEO CLIP
S107
INFORM STORAGE OF NEW VIDEO CLIP WITH POP-UP
S108
RECEIVE KEY INPUT
S109
VIEW VIDEO CLIP ?
YES
S110
REPRODUCE VIDEO CLIP
NO
S111
WATCH BROADCAST ?
NO
PERFORM CORRESPONDING FUNCTION
S112
YES
S113
ACTIVATE BROADCAST RECEIVING MODULE
S114
RECEIVE AND REPRODUCE BROADCAST SIGNAL
S115
IS KEY INPUT FOR SWITCHING OF CHANNEL GENERATED ?
YES
S118
SWITCH CHANNEL AND REPRODUCE VIDEO CLIP
NO
S116
NO
IS PROGRAM COMPLETED ?
S119
IS SWITCHING OF CHANNEL COMPLETED ?
NO
YES
S120
YES
S117
REPRODUCE VIDEO CLIP DURING ADVERTISEMENT
STOP REPRODUCTION OF VIDEO CLIP AND REPRODUCE BROADCAST OF SWITCHED CHANNEL
END

FIG . 11


START
S201
IDLE SCREEN STATE
S202
HAS MESSAGE BEEN RECEIVED ?
NO
YES
S203
DOES MESSAGE CONTAIN UPDATE INFORMATION ?
NO
S204
DISPLAY CORRESPONDING MESSAGE
YES
S205
ACTIVATE BROADCAST RECEIVING MODULE
S206
ALERT UPDATED VIDEO CLIP
S207
RECEIVE AND STORE CORRESPONDING VIDEO CLIP
S208
REPRODUCE VIDEO CLIP ACCORDING TO GENERATION OF KEY INPUT
END

Attorney Docket No.: 0203-0023
Client Docket No.: YPF 200802-0009/US

Declaration and Power of Attorney for Patent Application

특허 출원관련 선언서 및 위임권

Korean Language Declaration

아래 지명된 발명자로서, 본인은 하기 사항을 선언 합니다:

As a below named inventor, I hereby declare that:

본인의 거주지, 우송 주소 및 국적은 본인의 성명 아래에 기재된 것과 동일합니다.

My residence, post office and citizenship are as stated next to my name.

본인은 하기 명시된 발명에 대한 특허를 청구하는 주제의 최초, 원래, 단독 발명자이거나 (아래에 한사람의 이름만이 기재된 경우) 또는 최초 원래 공동 발명자임을 (아래에 여러 이름이 기재된 경우) 확인 합니다.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD

다음 난이 체크되어 있지 않으면 본 발명의 명세서가 여기에 첨부 됩니다.
☐미합중국 출원번호 또는 PCT 국제 출원번호는
_____로
_____일에 출원되었고
_____일에 개정되었음 (해당 경우).

the specification of which is attached hereto unless the following box is checked:
☐ was filed on _____
as United States Application Number or PCT International Application Number
_____ and was amended on
_____ (if applicable)

본인은 상기 개정에 의해 수정된 상기 명세서는 물론 특허 청구의 내용을 검사했으며 이해했음을 확인 합니다.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

본인은 연방 규정 코드인 제 37 장의 제 1.56 항에 의거하여 특허 자격에 관한 자료 정보를 공개할 의무가 있음을 인정합니다.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

본인은 외국인 특허 출원(들)이나 발명자의 증명서 관련 경우에는 미합중국 코드인 제 35 장의 제 119 (a)-(d)항이나 제 365 (b)항에 의거하여, 또는 미합중국 이외에 적어도 한 국가를 지정하는 PCT 국제 출원의 경우에는 제 365(a)항에 의거하여 하기 명시된 특허 출원의 외국 우선권을 주장하며, 외국인 특허 출원, 발명자 증명서 또는 우선권이 주장되는 출원일 이전에 제출된 PCT 국제 출원도 또한 아래에 해당란을 체크 함으로서 확인 하였습니다.

I hereby claim foreign priority under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

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Attorney Docket No.: 0203-0023
Client Docket No.: YPF 200802-0009/US

Priority Not Claimed
(우선권 주장 않음)

2007-0037109 (Number) (번호)	Republic of Korea (Country) (국가)	16 April 2007 (Day/Month/Year Filed) (출원일자 일/월/년도)	☐
_____ (Number) (번호)	_____ (Country) (국가)	_____ (Day/Month/Year Filed) (출원일자 일/월/년도)	☐

본인은 미합중국 코드인 제 35 장 제 119 (e)항에 명시된 바와 같이 하기 미합중국 가출원에 관련된 특권을 요구합니다.

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below.

_____ (Application No.) (출원번호)	_____ (Filing Date) (출원일자)
_____ (Application No.) (출원번호)	_____ (Filing Date) (출원일자)

본인은 미합중국 코드인 제 35 장의 미국인 출원(들) 관련 제 120 항에 명시된 바와 같이 또는 미합중국을 지정하는 PCT 국제출원 관련 제 365(c) 항에 명시된 바와 같이 하기 출원의 특권을 요구합니다. 이 출원서에 있는 각 특허 청구의 내용이 미합중국 코드인 제 35 장 제 112 항의 첫번째 절에서 명시된 바와 같이 종전의 미국 또는 PCT 국제출원에 발표되지 않았으며, 본인은 연방 규정 코드인 제 37 장 제 1.56 항에 명시된 바와 같이 종전 출원일자와 이 출원서의 국내 또는 PCT 국제 출원일자 사이에 특허 자격에 대한 자료 정보를 공개할 의무가 있음을 인정 합니다.

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s), or §365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

_____ (Application No.) (출원번호)	_____ (Filing Date) (출원일자)	_____ (Status) (patented, pending, abandoned) (현황) (특허획득, 출원중, 포기)
_____ (Application No.) (출원번호)	_____ (Filing Date) (출원일자)	_____ (Status) (patented, pending, abandoned) (현황) (특허획득, 출원중, 포기)

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본인이 아는 한도 내에서 여기에 제공된 모든 내용이 사실이고, 제공된 정보나 소신이 모두 사실임을 확인하며, 더 나아가 미합중국 코드 제 18 장의 제 1001 절에 명시된 바와 같이 고의의 허위 진술 및 이와 유사한 행위는 벌금이나 투옥으로 처벌 받거나 벌금과 감옥형을 모두 받을수 있고 이러한 고의의 허위 진술은 특허 출원이나 후에 발급된 특허의 유효성을 위태롭게 함을 인지하면서 여기에 진술함으로 선언합니다.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.

본인은 미합중국 특허 상표청과 연관된 커스터머 번호 68103, Jefferson IP Law, LLP 에 근무하는 모든 변호사 또는 대리인을 본인의 변호사 또는 대리인으로 임명하며, 미합중국 특허 상표청과 관련하여 본 출원을 대행, 취소, 대체할 권한을 부여합니다.

POWER OF ATTORNEY: As a named inventor, I hereby appoint all the attorneys and/or agents associated with U.S. Patent and Trademark Office Customer No. 68103 of the firm of Jefferson IP Law, LLP as my attorneys or agents with full power of substitution and revocation, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

서신 수신자:

Send Correspondence to:
Maeng-Ho Shin
Jefferson IP Law, LLP
1730 M Street, NW, Suite 807
Washington, DC 20036

직통 전화 수신자:
성명:
전화번호:

Direct Telephone Calls:
Name: Maeng-Ho Shin
Telephone: (202) 293-2941

Attorney Docket No.: 0203- 0027
Client Docket No.: YPF200802-0009/US

Sole or First Inventor's Signature: 발명자의 서명	Jong Kerl LEE	Date: 일자	Apr. 14, 2008
Full name of sole or first inventor: 단독 또는첫번째공동 발명자 이름	**Jong Kerl LEE**		
Residence: 거주지	NO. 101-1606, Boseonghwangsil 2-Cha, Apt., Sagok-dong, Gumi-si, Gyeongsangbuk-do, Republic of Korea		
Citizenship: 국적	Republic of Korea		
Post Office Address: 우송주소	Same as Residence		

Second Inventor's Signature: 발명자의 서명	Jae Sung Kang	Date: 일자	Apr. 14, 2008
Full name of second inventor: 두번째공동 발명자 이름	**Jae Sung KANG**		
Residence: 거주지	22F, Parkview office tower 6, Jeongja-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea		
Citizenship: 국적	Republic of Korea		
Post Office Address: 우송주소	Same as Residence		

PTO/SB/14 (02-07)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0203-0023
	Application Number	
Title of Invention	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1 Remove

Applicant Authority	◉ Inventor	○ Legal Representative under 35 U.S.C. 117	○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jong Kerl		LEE	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Gumi-si	Country Of Residence[i]	KR
Citizenship under 37 CFR 1.41(b)[i]	KR		

Mailing Address of Applicant:

Address 1	No. 101-1606, Boseonghwangsil 2-Cha, Apt.,		
Address 2	Sagok-dong,		
City	Gumi-si, Gyeongsangbuk-do	State/Province	
Postal Code		Country[i]	KR

Applicant 2 Remove

Applicant Authority	◉ Inventor	○ Legal Representative under 35 U.S.C. 117	○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jae Sung		KANG	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Seongnam-si	Country Of Residence[i]	KR
Citizenship under 37 CFR 1.41(b)[i]	KR		

Mailing Address of Applicant:

Address 1	22F, Parkview Office tower 6,		
Address 2	Jeongja-dong, Bundang-gu,		
City	Seongnam-si, Gyeonggi-do	State/Province	
Postal Code		Country[i]	KR

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0203-0023
	Application Number	
Title of Invention	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	

Customer Number	68103		
Email Address	usdocketing@jeffersonip.com	Add Email	Remove Email

Application Information:

Title of the Invention	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD		
Attorney Docket Number	0203-0023	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		**Sub Class (if any)**	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	10	**Suggested Figure for Publication (if any)**	
Publication Information:			
☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)			
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not been and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.			

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ US Representative (37 CFR 11.9)
Customer Number	68103		

Domestic Priority Information:

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Additional Domestic Priority Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

PTO/SB/14 (02-07)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0203-0023
	Application Number	
Title of Invention	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country [i]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
2007-0037109	KR	2007-04-16	(•) Yes ( ) No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1 Remove

If the Assignee is an Organization check here. ☒			
Organization Name	Samsung Electronics Co. Ltd.		
Mailing Address Information:			
Address 1	416 Maetan-Dong, Yeongtong-gu		
Address 2			
City	Suwon-si, Gyeonggi-do	**State/Province**	
Country [i] KR		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the **Add** button. Add

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/George C. ECKERT/			Date (YYYY-MM-DD)	2008-04-14
First Name	George	Last Name	Eckert	Registration Number	58892

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	
	Filing Date	2008-04-14
	First Named Inventor	Jong Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

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	1	10-2006-0083526	KR	A	2006-07-21	DECKTRON CO., LTD.		☒
	2	10-2006-0128405	KR	A	2006-12-14	LG ELECTRONICS INC.		☒

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	Filing Date	2008-04-14
	First Named Inventor	Jong Kerl LEE
	Art Unit	
	Examiner Name	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2008-04-14
	First Named Inventor	Jong Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/George C. ECKERT/	Date (YYYY-MM-DD)	2008-04-14
Name/Print	George C. Eckert	Registration Number	58,892

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

(19) KOREAN INTELLECTUAL PROPERTY OFFICE

KOREAN PATENT ABSTRACTS

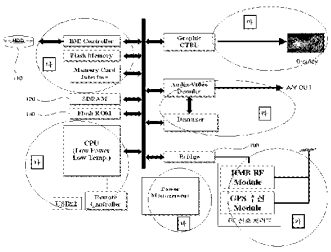
(11)Publication number: 1020060083526 A
(43)Date of publication of application: 21.07.2006

(21)Application number: 1020050004345
(22)Date of filing: 17.01.2005
(30)Priority: ..
(51)Int. Cl H04N 7/00
G01S 5/02

(71)Applicant: DECKTRON CO., LTD.
(72)Inventor: OH, BYOUNG SUNG

(54) DIGITAL MULTIMEDIA BROADCASTING RECEIVER HAVING MEDIA STORAGE/PLAY AND NAVIGATION FUNCTIONS, FOR WATCHING AND LISTENING SELECTIVELY USERS DESIRED MEDIA

(57) Abstract:



PURPOSE: A digital multimedia broadcasting receiver having media storage/play and navigation functions is provided to perform a data backup and movement operation conveniently. CONSTITUTION: An antenna receives an RF(Radio Frequency) signal. A DMB(Digital Multimedia Broadcasting) receiving module receives a DMB signal inputted from the antenna. A GPS receiving module receives a GPS signal inputted from the antenna. A bridge(100) is connected to the DMB and GPS receiving modules. A CPU(Central Processing Unit) circuit member controls the entire operation of the apparatus. A memory circuit member stores navigation information from the GPS receiving module and DMB information and contents from the DMB receiving module. An A/V(Audio/Video) circuit member decodes the audio/video and outputs the decoded signals to the outside. A display member displays the navigation information, the DMB information and contents. A power management circuit member supplies and manages the power.

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Legal Status
Date of request for an examination (20050117)
Notification date of refusal decision (00000000)
Final disposal of an application (rejection)
Date of final disposal of an application (20070201)
Patent registration number ( )
Date of registration (00000000)
Number of opposition against the grant of a patent ( )
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Number of trial against decision to refuse ( )
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H04N 7/00 (2006.01)
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(71) 출원인 주식회사 넥트론
충청북도 청원군 오창면 각리 643-2 오창과학산업단지 102-18블럭

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(74) 대리인 서천석

심사청구 : 있음

(54) 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털멀티미디어 방송 수신장치

요약

본 발명은 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치에 관한 것이다.

본 발명의 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치는 디지털 멀티미디어 방송을 수신하고 저장 및 재생하는 장치에 있어서, RF 신호를 입력받는 안테나; 상기 안테나로부터 입력되는 DMB 신호를 수신하는 DMB 수신모듈; 상기 안테나로부터 입력되는 GPS 신호를 수신하는 GPS 수신모듈; 상기 DMB 수신모듈 및 GPS 수신모듈과 연결된 브릿지; 장치 전체를 동작 및 제어하는 CPU 회로부; 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보 및 저장된 컨텐츠를 저장하는 메모리 회로부; 오디오/비디오를 디코딩하고 외부로 출력하는 A/V 회로부; 상기 저장된 컨텐츠 또는 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보를 표시하는 디스플레이부; 및 장치에 사용되는 전원을 생성 공급하고 관리하는 전원 관리 회로부를 포함하여 이루어짐에 기술적 특징이 있다.

따라서, 본 발명의 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치는 하나의 휴대형 멀티미디어 플레이어 단말에서 컨버전스 시대에 대응할 수 있는 오디오/비디오 저장 및 재생 기능, GPS를 이용한 차량 항법장치 기능, 디지털 멀티미디어 방송 수신기능을 갖는 단말 장치를 제공함으로써 사용자가 원하는 기능을 선택하여 사용할 수 있는 장점이 있고, 전체 비용이 감소하는 효과가 있다.

대표도

도 1

색인어

멀티미디어, 디지털방송, 수신장치, 네비게이션, GPS, DMB

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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명세서

도면의 간단한 설명

도 1은 본 발명의 디지털 멀티미디어 방송 수신장치.

<도면의 주요부분에 대한 부호의 설명>

100. 브릿지 110. 하드디스크

120. SDRAM 130. Flash ROM

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치에 관한 것으로, 보다 자세하게는 하나의 휴대형 멀티미디어 플레이어 단말에서 컨버전스 시대에 대응할 수 있는 오디오/비디오 저장 및 재생 기능, GPS를 이용한 차량 항법장치 기능, 디지털 멀티미디어 방송 수신기능을 갖는 단말 장치에 관한 것이다.

인터넷이 널리 보급되고 디지털(Digital) 방송이 본격화됨으로서 다양한 컨텐츠 및 다기능 다채널을 수용하는 단말기의 필요성이 날로 증대되고 있다. 또한, 다양한 사용자의 요구로 인해 디지털 전자기기가 소형화되고 복합화되고 있으며, 휴대가 간편하고 기능이 통합된 휴대형 멀티미디어 플레이어(Portable multimedia player; PMP) 및 휴대형 디지털 방송 기기 등이 활발히 개발되고 있다. 특히 주 5일제 근무제 도입으로 야외활동의 증가로 차량이용이 빈번해지고 있어 하나의 단말기로 최근의 디지털 멀티미디어 방송(Digital multimedia broadcasting; 이하 DMB라 칭함), 디지털 오디오의 저장/재생 및 GPS를 이용한 차량 항법 장치 등의 여러 가지 기능을 수용할 수 있는 통합 환경에 대한 요구가 커지고 있다. 이에 따라 사용자가 필요에 따라 여러 기기들을 선택해야 하는 번거로움의 발생을 줄여주는 디지털 컨버전스 제품의 필요성이 제기되고 있다.

종래의 디지털 멀티미디어 방송 수신기능을 갖는 단말 장치는 단순히 디지털 방송 또는 멀티미디어 방송을 수신하는 수신기능 또는 저장/재생하는 기능 등을 별도로 수행하였으며, 네비게이션 및 위치 정보 확인 기능이 포함되지 않은 형태로 개발되었다. 따라서 사용자가 원하는 기능을 위해서 여러가지의 기기를 선택해야하기 때문에 부피 및 비용이 커지는 단점이 있었으며, 휴대가 불편하다는 단점이 있었다.

발명이 이루고자 하는 기술적 과제

본 발명은 상기와 같은 종래 기술의 제반 단점과 문제점을 해결하기 위한 것으로, 하나의 휴대형 멀티미디어 플레이어 단말에서 컨버전스 시대에 대응할 수 있는 오디오/비디오 저장 및 재생 기능, GPS를 이용한 차량 항법장치 기능, 디지털 멀티미디어 방송 수신기능을 갖는 단말 장치를 제공하여 원하는 기능을 선택하여 사용할 수 있도록 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치를 제공함에 본 발명의 목적이 있다.

발명의 구성 및 작용

본 발명의 상기 목적은 디지털 멀티미디어 방송을 수신하고 저장 및 재생하는 장치에 있어서, RF 신호를 입력받는 안테나; 상기 안테나로부터 입력되는 DMB 신호를 수신하는 DMB 수신모듈; 상기 안테나로부터 입력되는 GPS 신호를 수신하는 GPS 수신모듈; 상기 DMB 수신모듈 및 GPS 수신모듈과 연결된 브릿지; 장치 전체를 동작 및 제어하는 CPU 회로부; 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보 및 저장된 컨텐츠를 저장하는 메모리 회로부; 오디오/비디오를 디코딩하고 외부로 출력하는 A/V 회로부; 상기 저장된 컨텐츠 또는 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보를 표시하는 디스플레이부; 및 장치에 사용되는 전원을 생성 공급하고 관리하는 전원 관리 회로부를 포함하여 이루어진 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치에 의해 달성된다.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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본 발명의 상기 목적과 기술적 구성 및 그에 따른 작용효과에 관한 자세한 사항은 본 발명의 바람직한 실시예를 도시하고 있는 도면을 참조한 이하 상세한 설명에 의해 보다 명확하게 이해될 것이다.

도 1은 본 발명의 디지털 멀티미디어 방송 수신장치의 개략적인 구성도를 나타낸 것이다. 도 1에 도시된 바와 같이 본 발명은 컨버전스 시대에 대응할 수 있는 오디오/비디오 저장 및 재생기능, GPS를 이용한 차량 항법장치 기능, 디지털 멀티미디어 방송 수신기능을 갖는 단말 장치로서 사용자가 하나의 단말에서 원하는 기능을 선택하여 사용할 수 있다.

도 1의 (가)는 DMB 수신모듈 및 GPS 수신모듈을 나타낸 것이다. 상기 DMB 수신모듈 및 GPS 수신모듈은 안테나와 연결되어 RF 신호(DMB 또는 GPS 신호)를 수신하고 브릿지(100)를 통해 시스템 버스에 접속된다.

도 1의 (나)는 장치 전체를 제어하는 고성능, 저전력 CPU 회로부를 나타낸 것으로, 프로그램 저장용 FLASH ROM 및 SDRAM, Remote Controller, 시스템 업그레이드 및 타 기기와의 인터페이스를 위한 USB 회로등으로 구성되어 있다.

도 1의 (다)는 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보 및 저장된 컨텐츠를 저장하는 메모리 회로부를 나타낸 것이다. 상기 메모리 회로부는 기본적인 컨텐츠 저장용의 플래시 메모리, 네비게이션 정보 업그레이드 또는 백업용의 메모리 카드 인터페이스 회로 및 옵션에 따라 하드디스크를 연결할 수 있도록 하드디스크 컨트롤러를 포함하여 구성된 것을 특징으로 하며, 상기 네비게이션 정보는 전국주소, 관광지, 속도측정 카메라 정보, 숙박지 등의 위치 정보를 포함하는 것이 바람직하다.

도 1의 (라)는 오디오/비디오를 디코딩하고 외부로 출력하는 A/V 회로부를 나타낸 것이다. 상기 A/V 회로부는 오디오/비디오를 디코딩하는 오디오/비디오 디코더, 디먹싱을 수행하는 디먹서 및 오디오/비디오를 외부로 출력하는 A/V 출력단자를 포함하여 구성되는 것을 특징으로 하며, 출력된 오디오/비디오는 가정 또는 차량내 TV나 모니터에 연결될 수 있고, 기기 자체에 포함된 스피커나 이어폰을 통한 오디오의 청취가 가능하다.

도 1의 (마)는 상기 저장된 컨텐츠 또는 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보를 표시하는 디스플레이부를 나타낸 것이다. 상기 디스플레이부는 그래픽을 처리하는 그래픽 콘트롤러 및 디스플레이 수단을 포함하여 구성되는 것을 특징으로 한다.

도 1의 (바)는 장치에 사용되는 전원을 생성 공급하고 관리하는 전원 관리 회로부를 나타낸 것이다.

본 발명은 일반적인 휴대형 멀티미디어 플레이어 단말에 DMB 및 GPS의 통합 수신모듈을 결합한 디지털 멀티미디어 방송 수신 장치로서, 각각의 기능 및 동작원리는 다음과 같다.

첫째, 디지털 멀티미디어 수신 기능은 디지털 멀티미디어 방송 수신 장치의 DMB 모듈에서 DMB RF 신호를 수신하고 역다중화(Demuxing) 하여 동영상 신호를 추출해 내면 IP(Internet protocol) 패킷 형태의 동영상 데이터가 나타난다. 상기 IP 패킷에서 payload 부분의 동영상 신호를 추출하고, 상기 신호를 다시 디지털 멀티미디어 방송 수신 장치의 오디오/비디오 디코더에서 디코딩하여 디스플레이부를 통해 디스플레이 하거나 외부로 출력하게 된다.

둘째, 카 네비게이션 기능은 디지털 멀티미디어 방송 수신 장치의 GPS 모듈에서 GPS RF 신호를 수신하여 중간 주파수로 변환한 다음 스펙트럼 확산을 원래대로 복원시키는 역확산을 수행하여 위성으로부터 수신되는 메시지와 의사거리 정보를 추출하여 시스템 버스에 싣는다. 상기 메시지와 의사거리 정보를 이용하여 디지털 멀티미디어 방송 수신 장치에서 연산을 수행하여 현재의 위치를 구한 다음 디스플레이 하게 된다.

세번째 기능은 다양한 포맷의 오디오 및 비디오를 저장했다가 재생할 수 있는 멀티미디어 재생기 기능이다. 시간에 쫓겨 미처 보지 못한 뉴스, 드라마, 영화 및 인터넷 동영상과 같은 동영상 컨텐츠를 어디서든 원하는 시간에 저장했다가 볼 수 있는 기능이다. 본 발명에 의한 단말 장치의 외부기기 인터페이스(USB, HDD등)를 통해 다운 받거나 다이렉트 인코딩한 다양한 동영상 데이터를 하드디스크(110)나 플래시 메모리(130) 또는 메모리 카드에 저장한 다음 필요할 때 재생하는 것이 가능하다.

상기와 같은 다양한 기능을 포함한 본 발명의 디지털 멀티미디어 방송 수신장치는 사용자가 언제 어디서나 원하는 저장된 미디어를 보고 들을 수 있으며, 운전시에는 카 네비게이션 또는 디지털 멀티미디어 방송 수신기로 사용이 가능하며, 기타 데이터 백업 및 이동에 편리하게 사용할 수 있다.

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본 발명은 이상에서 살펴본 바와 같이 바람직한 실시예를 들어 도시하고 설명하였으나, 상기한 실시예에 한정되지 아니하며 본 발명의 정신을 벗어나지 않는 범위 내에서 당해 발명이 속하는 기술분야에서 통상의 지식을 가진 자에 의해 다양한 변경과 수정이 가능할 것이다.

발명의 효과

본 발명의 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치는 하나의 단말에서 컨버전스 시대에 대응할 수 있는 오디오/비디오 저장 및 재생 기능, GPS를 이용한 차량 항법장치 기능, 디지털 멀티미디어 방송 수신 기능을 갖는 단말 장치를 제공함으로써 사용자가 원하는 기능을 선택하여 사용할 수 있는 장점이 있고, 전체 비용이 감소하는 효과가 있다.

(57) 청구의 범위

청구항 1.

디지털 멀티미디어 방송을 수신하고 저장 및 재생하는 장치에 있어서,

RF 신호를 입력받는 안테나;

상기 안테나로부터 입력되는 DMB 신호를 수신하는 DMB 수신모듈;

상기 안테나로부터 입력되는 GPS 신호를 수신하는 GPS 수신모듈;

상기 DMB 수신모듈 및 GPS 수신모듈과 연결된 브릿지;

장치 전체를 동작 및 제어하는 CPU 회로부;

상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보 및 저장된 컨텐츠를 저장하는 메모리 회로부;

오디오/비디오를 디코딩하고 외부로 출력하는 A/V 회로부;

상기 저장된 컨텐츠 또는 상기 GPS 수신모듈로부터의 네비게이션 정보, DMB 수신모듈로부터의 DMB 정보를 표시하는 디스플레이부; 및

장치에 사용되는 전원을 생성 공급하고 관리하는 전원 관리 회로부

를 포함하여 구성됨을 특징으로 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치.

청구항 2.

제 1항에 있어서,

상기 CPU 회로부는 프로그램 저장용 FLASH ROM 및 SDRAM, Remote Controller, 시스템 업그레이드 및 타 기기와의 인터페이스를 위한 USB 회로를 포함하여 구성되는 것을 특징으로 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치.

청구항 3.

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제 1항에 있어서,

상기 메모리 회로부는 기본적인 컨텐츠 저장용의 플래시 메모리, 네비게이션 정보 업그레이드 또는 백업용의 메모리 카드 인터페이스 회로 및 옵션에 따라 하드디스크를 연결할 수 있도록 하드디스크 컨트롤러를 포함하여 구성되는 것을 특징으로 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치.

청구항 4.

제 1항에 있어서,

상기 A/V 회로부는 오디오/비디오를 디코딩하는 오디오/비디오 디코더, 디먹싱을 수행하는 디먹서 및 오디오/비디오를 외부로 출력하는 A/V 출력단자를 포함하여 구성되는 것을 특징으로 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치.

청구항 5.

제 1항에 있어서,

상기 디스플레이부는 그래픽을 처리하는 그래픽 콘트롤러 및 디스플레이 수단을 포함하여 구성되는 것을 특징으로 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치.

청구항 6.

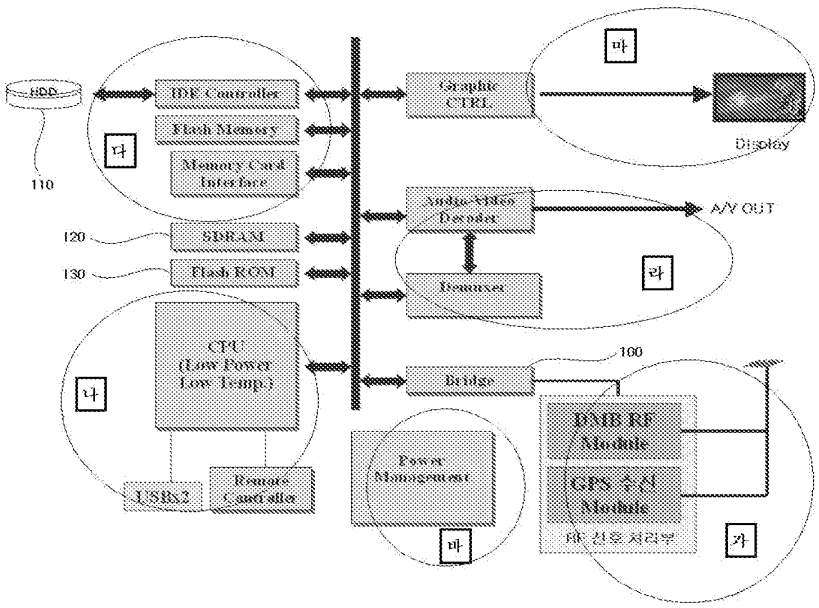
제 5항에 있어서,

상기 디스플레이 수단은 TFT-LCD, OLED 및 PDP중 어느 하나인 것을 특징으로 하는 미디어 저장/재생 및 네비게이션 기능을 갖는 디지털 멀티미디어 방송 수신장치.

도면

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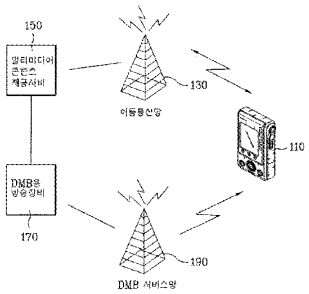
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(30)Priority: ..

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H04B 7/24

(54) METHOD AND A SYSTEM FOR DOWNLOADING MULTIMEDIA CONTENTS, CAPABLE OF REDUCING COSTS REQUIRED FOR USING THE WIRELESS INTERNET BY DOWNLOADING MULTIMEDIA CONTENTS THROUGH A DATA CHANNEL OF A DMB NETWORK

(71)Applicant: LG ELECTRONICS INC.
(72)Inventor: KANG, YONG SUNG

(57) Abstract:



PURPOSE: A method and a system for downloading multimedia contents are provided to enhance the use efficiency of a network by transmitting multimedia contents to multiple users one time. CONSTITUTION: A multimedia contents providing server(150) includes various multimedia contents. A mobile terminal(110) is connected with the multimedia contents providing server(150) to select desired multimedia contents, and receives the selected multimedia contents. In detail, the multimedia contents providing server makes a reservation of a transmission schedule for transmitting the multimedia contents selected by a user of the mobile terminal(110), and transmits the selected multimedia contents through an arbitrary broadcast network according to the schedule, and the mobile terminal(110) receives the multimedia contents.

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(74) 대리인 김용인
심창섭

전체 청구항 수 : 총 30 항

(54) 멀티미디어 콘텐츠 다운로드 방법 및 시스템

(57) 요약

본 발명은 멀티미디어 콘텐츠 다운로드 방법 및 시스템에 관한 것으로, 특히 MP3, 뮤직비디오, 및 영화 등과 같은 멀티미디어 콘텐츠를 이동통신단말기로 다운로드하는 방법 및 이를 구현하기 위한 시스템에 관한 것이다. 본 발명은, 이동통신단말기로 멀티미디어 콘텐츠를 다운로드함에 있어서 데이터전송이 가능한 임의의 방송망을 통해서 상기 멀티미디어 콘텐츠를 다운로드하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법을 제공한다. 본 발명에 의하면, 사용자는 이동통신망의 무선인터넷이 아닌 DMB와 같은 방송망의 데이터채널을 통해 멀티미디어 콘텐츠를 다운로드하기 때문에, 종래에 비해 멀티미디어 콘텐츠의 다운로드를 위한 무선인터넷의 이용비용을 절감할 수 있다.

대표도

도 2

특허청구의 범위

청구항 1.

이동통신단말기로 멀티미디어 콘텐츠를 다운로드함에 있어서,

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데이터전송이 가능한 임의의 방송망을 통해서 상기 멀티미디어 콘텐츠를 다운로드하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 2.

제 1 항에 있어서,

a) 상기 단말기 사용자가 멀티미디어 콘텐츠 제공 서버에 접속하여 원하는 멀티미디어 콘텐츠를 선택하는 단계; 및

b) 상기 선택된 멀티미디어 콘텐츠를 상기 방송망을 통해 상기 이동통신단말기로 다운로드하는 단계;를 포함하여 구성되는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 3.

제 2 항에 있어서,

상기 a) 단계는 상기 멀티미디어 콘텐츠 제공 서버가 상기 선택된 멀티미디어 콘텐츠에 해당하는 암호키를 생성시키는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 4.

제 3 항에 있어서,

상기 a) 단계는 상기 멀티미디어 콘텐츠 제공 서버가 상기 생성된 암호키를 이동통신망을 통해 상기 이동통신단말기로 전송하는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 5.

제 4 항에 있어서,

상기 b) 단계에서 상기 멀티미디어 콘텐츠는 상기 암호키로 암호화되어 다운로드되는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 6.

제 5 항에 있어서,

상기 b) 단계는 상기 이동통신단말기가 상기 수신된 암호키를 이용하여 상기 다운로드된 멀티미디어 콘텐츠를 복호화하는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 7.

제 2 항 내지 제 6 항 중 어느 한 항에 있어서,

상기 방송망은 DMB 서비스 망이고,

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상기 b) 단계에서 상기 선택된 멀티미디어 콘텐츠는 상기 DMB 서비스망의 DMB 데이터채널을 통해 다운로드되는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 8.

a) 이동통신단말기 사용자가 멀티미디어 콘텐츠 제공 서버에 접속하여 원하는 멀티미디어 콘텐츠를 선택하는 단계;

b) 멀티미디어 콘텐츠 제공 서버가 상기 멀티미디어 콘텐츠의 전송을 위한 전송스케쥴을 예약하는 단계;

c) 멀티미디어 콘텐츠 제공 서버가 상기 스케쥴에 따라 데이터전송이 가능한 임의의 방송망을 통해 상기 선택된 멀티미디어 콘텐츠를 전송하는 단계; 및

d) 이동통신단말기가 상기 전송되는 멀티미디어 콘텐츠를 수신하는 단계;를 포함하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 9.

제 8 항에 있어서,

상기 b)단계에서, 상기 사용자가 선택한 멀티미디어 콘텐츠가 임의의 제3자에 의해 전송스케쥴이 예약되어 있는 경우, 상기 멀티미디어 제공 서버는 상기 제3자에 의해 예약되어 있는 전송스케쥴을 상기 사용자를 위한 전송스케쥴로 이용하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 10.

제 8 항에 있어서,

상기 b) 단계는 상기 멀티미디어 콘텐츠 제공 서버가 상기 선택된 멀티미디어 콘텐츠에 해당하는 암호화키를 생성시키는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 11.

제 10 항에 있어서,

상기 b) 단계는 상기 멀티미디어 콘텐츠 제공 서버가 상기 암호화키와 상기 전송스케쥴을 상기 이동통신단말기로 이동통신망을 통해 전송하는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 12.

제 11 항에 있어서,

상기 c) 단계에서 상기 멀티미디어 콘텐츠는 상기 암호키에 의해 암호화되어 전송되는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 13.

제 11 항에 있어서,

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상기 d) 단계에서 상기 이동통신단말기는 상기 수신된 전송스케쥴에 따라 자동적으로 상기 전송되는 멀티미디어 콘텐츠를 수신하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 14.

제 12 항에 있어서,

상기 d) 단계는 상기 이동통신단말기가 상기 수신된 멀티미디어 콘텐츠를 상기 이동통신망을 통해 수신한 암호키로 복호화하는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 15.

제 8 항에 있어서,

상기 d) 단계는 상기 이동통신단말기가 상기 멀티미디어 콘텐츠의 수신이 완료되면 이를 알리는 수신완료메시지를 이동통신망을 통해 상기 멀티미디어 콘텐츠 제공 서버로 제공하는 단계를 더욱 포함하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 16.

제 15 항에 있어서,

상기 c) 단계에서 상기 멀티미디어 콘텐츠 서버는 상기 이동통신단말기로부터 상기 수신완료메시지를 수신할 때까지 상기 멀티미디어 콘텐츠의 전송을 반복하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 17.

제 16 항에 있어서,

상기 c) 단계에서, 상기 선택된 멀티미디어 콘텐츠가 상기 사용자 뿐만 아니라 제3자를 위해서도 전송되는 경우, 상기 멀티미디어 콘텐츠 서버는 상기 사용자의 이동통신단말기뿐만 아니라 상기 제3자의 이동통신단말기로부터도 상기 수신완료메시지를 수신할 때까지 상기 멀티미디어 콘텐츠의 전송을 반복하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 18.

제 16 항에 있어서,

상기 c) 단계에서 상기 멀티미디어 콘텐츠 서버가 상기 이동통신단말기로부터 상기 수신완료메시지를 수신하기 못하였더라도 상기 전송스케쥴에 따른 전송시간이 만료되면 상기 멀티미디어 컨테츠의 전송을 중단하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 19.

제 8 항 내지 제 18 항 중 어느 한 항에 있어서,

상기 방송망은 DMB 서비스망이고

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상기 c)단계에서 상기 멀티미디어 콘텐츠 서버는 상기 DMB 서비스 망의 데이터채널을 통해 상기 선택된 멀티미디어 콘텐츠를 전송하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법.

청구항 20.

다양한 멀티미디어 콘텐츠를 구비하는 멀티미디어 콘텐츠 제공 서버; 및

상기 멀티미디어 콘텐츠 제공 서버에 접속하여 원하는 멀티미디어 콘텐츠를 선택하고, 상기 선택된 멀티미디어 콘텐츠를 수신하기 위한 이동통신단말기;를 포함하고,

상기 멀티미디어 콘텐츠 제공 서버는 상기 이동통신단말기의 사용자가 선택하는 멀티미디어 콘텐츠를 전송하기 위한 전송스케쥴을 예약하고,

상기 멀티미디어 콘텐츠 제공 서버는 상기 스케쥴에 따라 데이터전송이 가능한 임의의 방송망을 통해 상기 선택된 멀티미디어 콘텐츠를 전송하고,

상기 이동통신단말기는 상기 전송되는 멀티미디어 콘텐츠를 수신하는, 멀티미디어 콘텐츠 다운로드 시스템.

청구항 21.

제 20 항에 있어서,

상기 사용자가 선택한 멀티미디어 콘텐츠가 임의의 제3자에 의해 전송스케쥴이 예약되어 있는 경우, 상기 멀티미디어 제공 서버는 상기 제3자에 의해 예약되어 있는 전송스케쥴을 상기 사용자를 위한 전송스케쥴로 이용하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 22.

제 20 항에 있어서,

상기 멀티미디어 제공 서버는 상기 선택된 멀티미디어 콘텐츠에 해당하는 암호화키를 생성시키는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 23.

제 22 항에 있어서,

상기 멀티미디어 제공 서버는 상기 암호화키와 상기 전송스케쥴을 상기 이동통신단말기로 이동통신망을 통해 전송하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 24.

제 23 항에 있어서,

상기 멀티미디어 제공 서버는 상기 멀티미디어 콘텐츠를 상기 암호키에 의해 암호화하여 전송하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

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청구항 25.

제 23 항에 있어서,

상기 이동통신단말기는 상기 수신된 전송스케쥴에 따라 자동적으로 상기 전송되는 멀티미디어 콘텐츠를 수신하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 26.

제 24 항에 있어서,

상기 이동통신단말기는 상기 수신된 멀티미디어 콘텐츠를 상기 이동통신망을 통해 수신한 암호키로 복호화하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 27.

제 20 항에 있어서,

상기 이동통신단말기는 상기 멀티미디어 콘텐츠의 수신이 완료되면 이를 알리는 수신완료메시지를 이동통신망을 통해 상기 멀티미디어 콘텐츠 제공 서버로 제공하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 28.

제 27 항에 있어서,

상기 멀티미디어 콘텐츠 서버는 상기 이동통신단말기로부터 상기 수신완료메시지를 수신할 때까지 상기 멀티미디어 콘텐츠의 전송을 반복하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 29.

제 20 항 내지 제 28 항 중 어느 한 항에 있어서,

상기 방송망은 DMB 서비스 망이고,

상기 멀티미디어 콘텐츠 제공 서버는 DMB 서비스 망의 DMB 데이터 채널을 통해 상기 선택된 멀티미디어 콘텐츠를 전송하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 시스템.

청구항 30.

멀티미디어 콘텐츠 제공 서버에 이동통신망의 무선인터넷을 통해 접속하여 원하는 멀티미디어 콘텐츠를 선택할 수 있는 무선인터넷접속모듈; 및

상기 선택된 멀티미디어 콘텐츠를 DMB 서비스 망의 데이터채널을 통해 다운로드할 수 있는 DMB 모듈;을 포함하는, 멀티미디어 콘텐츠를 다운로드할 수 있는 이동통신단말기.

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발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 멀티미디어 콘텐츠 다운로드 방법 및 시스템에 관한 것으로, 특히 MP3, 뮤직비디오, 및 영화 등과 같은 멀티미디어 콘텐츠를 이동통신단말기로 다운로드하는 방법 및 이를 구현하기 위한 시스템에 관한 것이다.

오늘날 정보통신 분야의 눈부신 발전으로, 정보 및 통신 환경의 급격한 변화를 맞이하고 있는데, 그와 같은 변화 중 이동통신단말기는 현대 사회에서 필수품으로 생각되어질 만큼 많이 사용되어지고 있다. 이와 같은 이동통신단말기의 저변확대에 따른 수요자들의 요구로 인해, 이동통신단말기에는 일반적 음성통화 이외에 더욱 다양한 기능이 부가되고 있는데, 단문메시지 기능, 멀티미디어 콘텐츠 다운로드 및 재생 기능 등이 그 좋은 예이다.

이들 기능 중 멀티미디어 콘텐츠 다운로드에 대해 살펴보면, 기존의 이동통신단말기는 멀티미디어 콘텐츠를 다운로드받는 경우 이동통신망을 통한 무선인터넷을 주로 이용한다. 그런데, 여러 단말기 사용자가 대용량의 멀티미디어 콘텐츠를 동시에 그리고 자주 다운로드하는 경우 무선인터넷의 한정된 네트워크 대역폭으로 인해 트래픽이 증가한다. 이동통신사들은 이러한 점을 고려하여 멀티미디어 콘텐츠 다운로드로 인한 트래픽 발생에 대해 단말기 사용자에게 패킷 단위로 무선인터넷 요금을 과금하고 있다.

따라서, 이동통신단말기로 멀티미디어 콘텐츠를 다운로드받으려는 사용자는 컨텐츠 자체의 요금 이외에 콘텐츠를 다운로드받기 위한 무선인터넷 트래픽 요금도 별도로 지불하게 된다. 이는 멀티미디어 콘텐츠 사용이 특히 빈번하지만 경제적 능력이 없는 10대 및 20대에게는 부담이 되지 않을 수 없다. 또한, 멀티미디어 콘텐츠 제공자의 입장에서는 한정된 네트워크 자원을 이용하여 대용량 멀티미디어 콘텐츠를 전송하기 때문에 동시에 많은 사용자에게 제공하기 어려운 문제점도 있다.

발명이 이루고자 하는 기술적 과제

이에 본 발명은 전술한 문제점을 해결하기 위해 안출된 것으로서, 사용자 면에서는 이중 과금의 문제를 줄여서 좀더 싸게 멀티미디어 콘텐츠를 다운로드받을 수 있고, 멀티미디어 콘텐츠 제공자 면에서는 멀티미디어 콘텐츠를 동시에 많은 사용자에게 제공할 수 있어서 수익성을 높일 수 있는 멀티미디어 콘텐츠 다운로드 방법 및 시스템을 제공하는 것을 목적으로 한다.

발명의 구성

상기 목적을 달성하기 위해 본 발명은, 이동통신단말기로 멀티미디어 콘텐츠를 다운로드함에 있어서 데이터전송이 가능한 임의의 방송망을 통해서 상기 멀티미디어 콘텐츠를 다운로드하는 것을 특징으로 하는 멀티미디어 콘텐츠 다운로드 방법을 제공한다.

또한, 상기 목적을 달성하기 위해 본 발명은, 이동통신단말기 사용자가 멀티미디어 콘텐츠 제공 서버에 접속하여 원하는 멀티미디어 콘텐츠를 선택하는 단계, 멀티미디어 콘텐츠 제공 서버가 상기 멀티미디어 콘텐츠의 전송을 위한 전송스케쥴을 예약하는 단계, 멀티미디어 콘텐츠 제공 서버가 상기 스케쥴에 따라 데이터전송이 가능한 임의의 방송망을 통해 상기 선택된 멀티미디어 콘텐츠를 전송하는 단계 및 이동통신단말기가 상기 전송되는 멀티미디어 콘텐츠를 수신하는 단계;를 포함하는 멀티미디어 콘텐츠 다운로드 방법을 제공한다.

또한, 상기 목적을 달성하기 위해 본 발명은, 다양한 멀티미디어 콘텐츠를 구비하는 멀티미디어 콘텐츠 제공 서버, 및 상기 멀티미디어 콘텐츠 제공 서버에 접속하여 원하는 멀티미디어 콘텐츠를 선택하고 상기 선택된 멀티미디어 콘텐츠를 수신하기 위한 이동통신단말기를 포함하고, 상기 멀티미디어 콘텐츠 제공 서버는 상기 이동통신단말기의 사용자가 선택하는 멀티미디어 콘텐츠를 전송하기 위한 전송스케쥴을 예약하고, 상기 멀티미디어 콘텐츠 제공 서버는 상기 스케쥴에 따라 데이터전송이 가능한 임의의 방송망을 통해 상기 선택된 멀티미디어 콘텐츠를 전송하고, 상기 이동통신단말기는 상기 전송되는 멀티미디어 콘텐츠를 수신하는, 멀티미디어 콘텐츠 다운로드 시스템을 제공한다.

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또한 상기 목적을 달성하기 위해 본 발명은, 멀티미디어 콘텐츠 제공 서버에 이동통신망의 무선인터넷을 통해 접속하여 원하는 멀티미디어 콘텐츠를 선택할 수 있는 무선인터넷접속모듈, 및 상기 선택된 멀티미디어 콘텐츠를 DMB 서비스 망의 데이터채널을 통해 다운로드할 수 있는 DMB 모듈을 포함하는, 멀티미디어 콘텐츠를 다운로드할 수 있는 이동통신단말기를 제공한다.

본 발명에서는 멀티미디어 콘텐츠 다운로드를 위해 디지털 멀티미디어 방송(Digital Multimedia Broadcasting; DMB)을 도입한다. DMB에 대해 간략히 살펴보면, DMB는 방송과 통신이 결합된 새로운 개념의 이동 멀티미디어 방송 서비스로서, 휴대폰, PDA나 차량용 리시버를 통해 이동하면서도 수신할 수 있는 다채널 멀티미디어 방송 및 고속의 디지털 데이터 서비스를 제공한다. 본 발명에서는 DMB의 데이터 서비스를 이용하여 멀티미디어 콘텐츠를 다운로드하도록 구성된다.

이하 상기 목적을 구체적으로 구현할 수 있는 본 발명의 바람직한 실시예를 첨부한 도 1 및 도 2를 참조하여 설명한다.

도 1은 본 발명에 따른 멀티미디어 콘텐츠 다운로드 시스템을 나타내기 위한 블록도이고, 도 2는 본 발명에 따른 멀티미디어 콘텐츠 다운로드 방법을 나타내기 위한 순서도이다.

이동통신단말기(110)의 사용자가 이동통신망(130)을 통한 무선인터넷을 이용하여 멀티미디어 콘텐츠 제공 서버(150)(이하 "콘텐츠 서버"라고도 한다)에 접속한다. 그러면, 콘텐츠 서버(150)는 상기 단말기 사용자에게 상기 서버가 보유하고 있는 멀티미디어 콘텐츠(이는 MP3, 뮤직비디오, 영화 등을 포함한 각종 데이터를 의미함. 이하 같음)의 목록을 제시하고, 상기 사용자는 상기 목록 중 원하는 멀티미디어 콘텐츠를 선택한다[S201].

그 다음, 상기 콘텐츠 서버(150)는 상기 선택된 멀티미디어 콘텐츠를 DMB 서비스 망(190)의 DMB 데이터 채널을 이용하여 상기 사용자에게 전송하기 위한 전송 스케쥴을 예약한다[S203]. DMB 데이터 채널을 통한 데이터 제공은 특정의 일인을 위해서만 선택적으로 제공될 수 있는 것이 아니라 DMB 서비스에 가입한 불특정 다수에게 동시에 제공되는 특성이 있으므로, 언제 얼마동안의 시간에 걸쳐 상기 선택된 멀티미디어 콘텐츠를 제공할지에 대한 전송스케쥴을 미리 예약하는 것이 필요하다.

그리고, 상기 콘텐츠 서버(150)는 상기 선택된 멀티미디어 콘텐츠에 대해 암호키를 생성한다[S203]. 그리고, 상기 콘텐츠 서버(150)는 상기 예약된 전송스케쥴과 상기 생성된 암호키를 이동통신망(130)을 통해 상기 이동통신단말기(110)로 전송한다[S205]. 그러면, 상기 이동통신단말기(110)는 상기 암호키 및 상기 전송스케쥴을 수신하여 저장한다[S207]. 상기 암호키는 상기 이동통신단말기(110)가 추후 상기 멀티미디어 콘텐츠을 수신한 후 재생할 때 사용되고, 상기 전송스케쥴은 상기 이동통신단말기(110)가 상기 전송스케쥴에 따른 날짜 및/또는 시간이 되면 자동적으로 상기 멀티미디어 콘텐츠를 수신할 수 있도록 하기 위해 사용된다.

한편, 임의의 제 3 자가 상기 사용자가 선택한 것과 동일한 멀티미디어 콘텐츠를 다운로드하기 위해 선택하였기 때문에, 상기 멀티미디어 콘텐츠에 대해 전송스케쥴이 이미 예약되어 있는 경우도 있을 것이다. 이러한 경우, 상기 콘텐츠 서버(150)는 상기 예약되어 있는 전송스케쥴을 상기 사용자를 위한 전송스케쥴로 이용한다. 즉, 상기 콘텐츠 서버(150)는 상기 이미 예약되어 있는 전송스케쥴과, 상기 멀티미디어를 위해 이미 생성되어 있는 것과 동일한 암호키를 상기 사용자에게 전송한다. 이는 여러 사용자가 동일한 멀티미디어 콘텐츠의 다운로드를 중복적으로 신청하는 경우 상기 콘텐츠 서버(150)가 동시에 상기 여러 사용자에게 멀티미디어 콘텐츠를 다운로드받을 수 있도록 함으로써, DMB 서비스망(190)의 데이터 채널을 더욱 효율적으로 사용하기 위한 것이다.

그 다음, 상기 콘텐츠 서버(150)가 상기 선택된 멀티미디어 콘텐츠를 상기 암호키로 암호화한다[S209]. 그리고 나서, 상기 전송스케쥴에 의해 예약된 전송시간이 되면, 상기 콘텐츠 서버(150)는 상기 암호화된 멀티미디어 콘텐츠를 DMB용 방송장비(170)로 보내고, 상기 방송장비(170)는 상기 멀티미디어 콘텐츠를 DMB 서비스망(190)의 DMB 데이터 채널을 통해 불특정 다수의 사용자에게 전송한다[S211]. 그러나, 상기 사용자 이외의 불특정 다수의 사용자는 상기 암호키가 없으므로 상기 암호화된 멀티미디어 콘텐츠를 수신한다고 하더라도 이를 복호화하여 재생할 수 없고, 다만 상기 암호키를 이동통신망을 통해 이미 전송받은 상기 사용자만이 이를 수신하여 복호화하여 재생할 수 있다.

그 다음, 상기 이동통신단말기(110)는 DMB 데이터채널을 통해 전송되는 상기 멀티미디어 콘텐츠를 수신한다[S211]. 따라서, 상기 이동통신단말기(110)는 DMB 모듈을 구비하는 DMB용 단말기인 것이 바람직하다. 한편, 상기 멀티미디어 콘텐츠를 수신하는 것을 완료하면, 상기 이동통신단말기(110)는 수신완료의 사실을 알리기 위한 수신완료메시지를 이동통신망(130)을 통해 상기 멀티미디어 콘텐츠 제공 서버(150)로 전송한다[S213].

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상기 멀티미디어 콘텐츠 제공 서버(150)는 상기 수신완료메시지를 수신할 때까지 상기 전송스케쥴에 따른 전송시간 동안에 상기 멀티미디어 콘텐츠를 DMB 데이터채널을 통해 반복적으로 전송한다. 만약, 상기 멀티미디어 콘텐츠가 동일의 전송스케쥴에 따라 복수의 사용자들에게 전송되는 경우, 상기 콘텐츠 서버(150)는 상기 복수의 사용자 모두로부터 수신완료메시지를 받을때까지 상기 멀티미디어 콘텐츠를 반복적으로 전송한다. 따라서, 전송시간 이내라도 상기 사용자 또는 상기 복수의 사용자들 모두로부터 수신완료메시지를 받으면 전송을 중단하고, 상기 컨텐츠 서버(150)는 남은 전송시간을 다른 사용자를 위한 멀티미디어 콘텐츠의 예약 및 전송을 위해 사용한다. 그러나, 상기 전송시간이 경과하면 상기 콘텐츠서버(150)는 상기 수신완료메시지의 수신 여부와 상관없이 전송을 중단하고 다음의 전송스케쥴에 따라 멀티미디어 콘텐츠 전송을 수행한다[S215].

그 다음, 상기 이동통신단말기(110)는 상기 이동통신망(130)을 통해 수신한 암호키를 이용하여 상기 DMB 서비스망(190)을 통해 수신한 암호화된 멀티미디어 컨텐츠를 복호화하여 저장하고[S217], 필요에 따라 단말기 사용자를 위해 재생한다.

본 발명은 본 발명의 정신 및 필수적 특징을 벗어나지 않는 범위에서 다른 특정한 형태로 구체화될 수 있음은 당업자에게 자명하다. 예컨대, 본 발명의 실시예에서는 DMB 서비스망을 통해서 멀티미디어 콘텐츠 다운로드를 구현하였지만, 본 발명의 실시예를 DMB 이외의 또다른 데이터전송이 가능한 방송망을 통해 구현할 수 있도록 변경하는 것은 당업자에게는 쉬울 것이다. 상기의 상세한 설명은 모든 면에서 제한적으로 해석되어서는 아니되고 예시적인 것으로 고려되어야 한다. 본 발명의 범위는 첨부된 청구항의 합리적 해석에 의해 결정되어야 하고, 본 발명의 등가적 범위 내에서의 모든 변경은 본 발명의 범위에 포함된다.

발명의 효과

상기에서 설명한 본 발명에 따른 멀티미디어 콘텐츠 다운로드의 효과를 설명하면 다음과 같다.

첫째, 사용자는 이동통신망의 무선인터넷이 아닌 DMB망의 데이터채널을 통해 멀티미디어 콘텐츠를 다운로드하기 때문에, 종래에 비해 멀티미디어 콘텐츠의 다운로드를 위한 무선인터넷의 이용비용을 절감할 수 있다.

둘째, 동일한 멀티미디어 콘텐츠에 대해 복수의 사용자가 다운로드를 신청하는 경우, 종래에는 각 사용자에 대해 일일이 반복적으로 멀티미디어 콘텐츠를 전송하여야 했으나, 본 발명에 의하면 한번의 전송으로 복수의 사용자에게 멀티미디어 콘텐츠를 전송할 수 있으므로 한정된 자원인 네트워크의 사용효율이 좋아진다.

세째, 멀티미디어 콘텐츠 제공자는 저렴하게 멀티미디어 콘텐츠를 사용자에게 판매할 수 있으므로 수익성이 좋아진다.

도면의 간단한 설명

도 1은 본 발명에 따른 멀티미디어 콘텐츠 다운로드 시스템을 나타내기 위한 블록도이다.

도 2는 본 발명에 따른 멀티미디어 콘텐츠 다운로드 방법을 나타내기 위한 순서도이다.

<도면의 주요부분에 대한 부호의 설명>

110: 이동통신단말기 130: 이동통신망

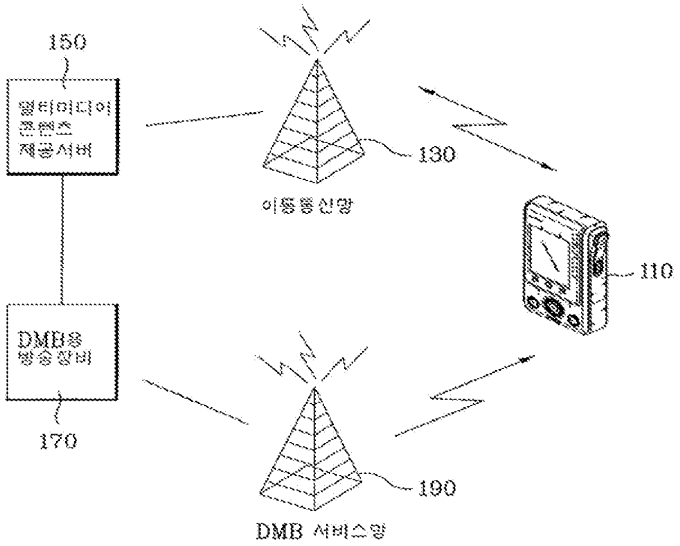
150: 멀티미디어 콘텐츠 제공서버 170: DMB용 방송장비

190: DMB 서비스망

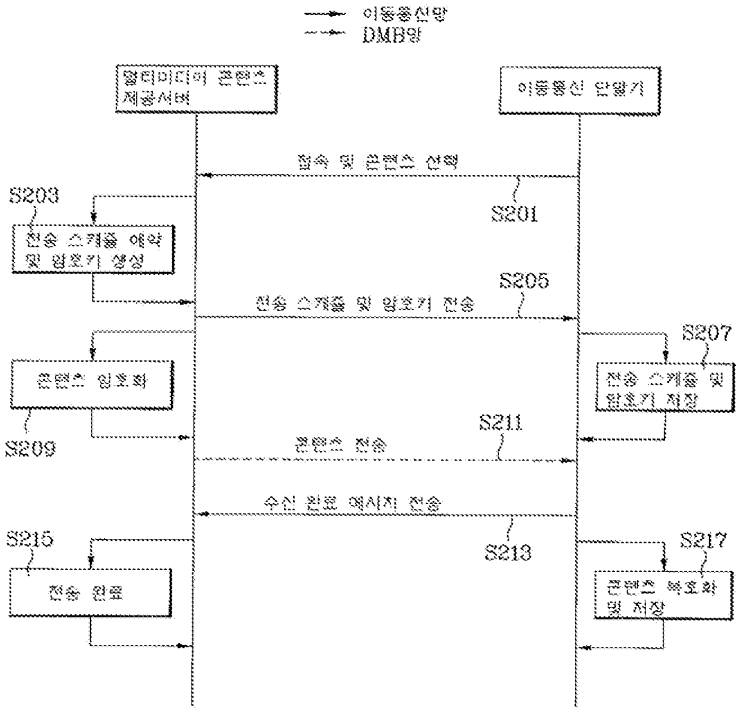
도면

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 69 of 492

도면1



도면2



VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 70 of 492

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Filer:	George Charles Eckert
Attorney Docket Number:	0203-0023
Filed as Large Entity	

Utility Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	310	310
Utility Search Fee	1111	1	510	510
Utility Examination Fee	1311	1	210	210
Pages:				
Claims:				
Claims in excess of 20	1202	1	50	50
Independent claims in excess of 3	1201	1	210	210
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1290**

Electronic Acknowledgement Receipt	
EFS ID:	3149641
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	George Charles Eckert
Filer Authorized By:	
Attorney Docket Number:	0203-0023
Receipt Date:	14-APR-2008
Filing Date:	
Time Stamp:	16:56:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1290
RAM confirmation Number	2276
Deposit Account	504100
Authorized User	ECKERT,GEORGE C.
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		0203-0023ApplicationAsFiled.pdf	1670220 3a0942ad2f757b68161ff2b33070f5c8ea68ef53	yes	44

Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal of New Application	1	1
Specification	2	24
Claims	25	29
Abstract	30	30
Drawings-only black and white line drawings	31	40
Oath or Declaration filed	41	44

Warnings:

Information:

2	Application Data Sheet	0203-0023ApplicationDataSheetAsFiled.pdf	840322 a00ae960833969be764f677624dc16cafa1ac825	no	4

Warnings:

Information:

3	Information Disclosure Statement (IDS) Filed	0203-0023IDSAsFiled04-14-2008.pdf	521826 b0e98eb2a337d7d38b64a59b6629b1aa9138efb7	no	4

Warnings:

Information:

A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.

4	Foreign Reference	0203-0023-KR2006-83526-AsFiled.pdf	1853137 ad6b434d075683649b424ef1df4cedd77b6eae09	no	7

Warnings:					
Information:					
5	Foreign Reference	0203-0023-KR2006-128405 AsFiled.pdf	2572658 3b4b9f117d7fbbb99e7c132893cd2f62d3b33644	no	11
Warnings:					
Information:					
6	Fee Worksheet (PTO-06)	fee-info.pdf	8547 2da18787778a972574badf7daa9a04203f28f322	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	7466710		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
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PTO/SB/06 (12-04)

4/14/2008

Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

Application or Docket Number
12/102,503

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	310
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	510
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	210
TOTAL CLAIMS (37 CFR 1.16(i))	21	* 1	X 25=		OR	X 50=	50
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4	* 1	X 105=			X 210=	210
* APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			185			370	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1,290

APPLICATION AS AMENDED – PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDI-TIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDI-TIONAL FEE ($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	X =		OR	X =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X =		OR	X =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					185		OR	370	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDI-TIONAL FEE ($)	OR	RATE ($)	ADDI-TIONAL FEE ($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	X =		OR	X =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X =		OR	X =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
12/102,503	04/14/2008	2627	1290	0203-0023	21	4

CONFIRMATION NO. 1303

68103
Jefferson IP Law, LLP
1730 M Street, NW
Suite 807
Washington, DC 20036

FILING RECEIPT

OC00000029722794

Date Mailed: 05/07/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Jong Kerl LEE, Gumi-si, KOREA, REPUBLIC OF;
Jae Sung KANG, Seongnam-si, KOREA, REPUBLIC OF;

Assignment For Published Patent Application

SAMSUNG ELECTRONICS CO. LTD., Suwon-si, KOREA, REPUBLIC OF

Power of Attorney: The patent practitioners associated with Customer Number 68103

Domestic Priority data as claimed by applicant

Foreign Applications

REPUBLIC OF KOREA 2007-0037109 04/16/2007

If Required, Foreign Filing License Granted: 05/02/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/102,503**

Projected Publication Date: 10/16/2008

Non-Publication Request: No

Early Publication Request: No

Title

DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD

Preliminary Class

369

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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OIPE IAP70
JUN 06 2008
PATENT & TRADEMARK OFFICE

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicant(s)	:	Jong Kerl LEE et al.	TC/A.U.	:	2627
Filed	:	April 14, 2008	Examiner	:	To Be Determined
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Docket No.	:	0203-0023

TRANSMITTAL OF PRIORITY DOCUMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In order to comply with the requirements of 35 U.S.C. §119 and 37 C.F.R. §1.55(a)(2), Applicant(s) herewith submit a certified copy of the below listed priority document(s). Should anything further be required, the Office is asked to contact the undersigned at the local telephone number listed below. Submitted herewith are:

☒ Korean Patent Application No. 2007-0037109 filed April 16, 2007.

Respectfully submitted,

/George C. ECKERT/
George Eckert
Reg. No.: 58,892

Jefferson IP Law, LLP
1730 M Street, NW, Suite 807
Washington, DC 20036-2680
(202) 293-0804

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2008년 04월 01일

특 허 청

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【서지사항】

【서류명】 보정서

【보정구분】 명세서등 보정

【제출처】 특허청장

【제출인】

【명칭】 삼성전자 주식회사

【출원인코드】 1-1998-104271-3

【사건과의 관계】 출원인

【제출인】

【명칭】 주식회사 더블유알지

【출원인코드】 1-2002-041167-1

【사건과의 관계】 출원인

【대리인】

【성명】 윤동열

【대리인코드】 9-1998-000307-3

【포괄위임등록번호】 1999-005918-7

【포괄위임등록번호】 2006-043757-7

【대리인】

【성명】 박지만

【대리인코드】 9-2005-001245-1

【사건의 표시】

【출원번호】 10-2007-0037109

【제출원인이 된 서류의 발송번호】 9-5-2008-0033706-14

【보정할 서류】 명세서등

【보정할 사항】

【보정대상항목】 별지와 같음

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【보정방법】 별지와 같음

【보정내용】 별지와 같음

위와 같이 특허청장(특허심판원장, 심판장)에게 제출합니다.

대리인 윤동열 (인)

대리인 박지만 (인)

【수수료】

【보정료】 3,000원

【추가심사청구료】 0원

【기타 수수료】 0원

【합계】 3,000 원

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【보정서】

【보정대상항목】 청구항 1

【보정방법】 삭제

【보정대상항목】 청구항 2

【보정방법】 정정

【보정내용】

【청구항 2】

이동통신망을 통하여 메시지를 수신하는 과정;

상기 메시지에 데이터의 업데이트 정보 포함 여부를 확인하는 과정;

상기 업데이트 정보 포함 시, 방송 수신 모듈을 활성화하는 과정;

상기 방송 수신 모듈을 이용하여 파일 전송 채널을 검사하는 과정;

상기 방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 3

【보정방법】 정정

【보정내용】

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【청구항 3】

기 설정된 일정 주기에 따라 방송 수신 모듈을 활성화하는 과정;

상기 활성화된 방송 수신 모듈을 이용하여 파일 전송 채널을 검사하는 과정;

상기 방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 4

【보정방법】 정정

【보정내용】

【청구항 4】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정;

상기 저장된 데이터를 재생하는 과정;을 포함하되,

상기 데이터를 수신하는 과정은

상기 데이터의 업데이트 정보를 수신하는 과정; 및

상기 업데이트 정보를 기반으로 상기 데이터를 수신하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

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【보정대상항목】 청구항 6

【보정방법】 정정

【보정내용】

【청구항 6】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 데이터 수신을 데이터 재생 장치에 알람하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 7

【보정방법】 삭제

【보정대상항목】 청구항 8

【보정방법】 정정

【보정내용】

【청구항 8】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하되,

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상기 데이터는 적어도 하나의 비디오 클립이며,

상기 비디오 클립은

기호도 및 다운로드 횟수를 포함하는 일정 기준에 따라 부여된 랭킹 정보 및 카테고리 정보 중 적어도 하나를 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 9

【보정방법】 정정

【보정내용】

【청구항 9】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하고,

상기 방송망은 DVB-H 방식에 따라 채널을 형성하며, 상기 파일 전송 채널을 FLUTE(File Delivery over Unidirectional Transport) 프로토콜을 이용하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 10

【보정방법】 정정

【보정내용】

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【청구항 10】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하되,

상기 저장된 데이터를 재생하는 과정은

저장된 데이터의 리스트를 표시하는 과정;

상기 리스트 중 특정 데이터를 선택하는 과정; 및

상기 선택된 데이터를 재생 하는 과정을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 11

【보정방법】 정정

【보정내용】

【청구항 11】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하되,

상기 저장된 데이터를 재생하는 과정은

외부로부터 방송신호를 수신하여 시청하는 과정; 및

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현재 시청 중인 방송신호가 광고인 경우, 상기 데이터를 재생하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 13

【보정방법】 정정

【보정내용】

【청구항 13】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정을 포함하되,

상기 저장된 데이터를 재생하는 과정은

방송 시청 중 채널에 해당하는 키입력이 발생하는 과정; 및

상기 키입력에 따라 채널 전환 중 상기 데이터를 재생하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【보정대상항목】 청구항 15

【보정방법】 삭제

【보정대상항목】 청구항 16

【보정방법】 정정

【보정내용】

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【청구항 16】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 방송 수신기;

상기 수신된 데이터를 저장하는 메모리;

상기 저장된 데이터를 표시하도록 제어하는 제어부; 및

상기 데이터를 표시하는 표시부를 포함하고,

상기 제어부는

상기 방송 수신기의 주파수 세팅을 제어하고 상기 수신된 데이터를 상기 메모리에 전달하는 방송 수신 모듈;

상기 데이터 수신을 알람하는 팝업 모듈; 및

상기 방송 수신기가 수신하는 방송 신호 및 상기 수신된 데이터 중 적어도 하나를 재생하는 재생 모듈;을 포함하는 것을 특징으로 하는 데이터 재생 장치.

【보정대상항목】 청구항 24

【보정방법】 삭제

【보정대상항목】 청구항 25

【보정방법】 정정

【보정내용】

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【청구항 25】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 방송 수신기;

상기 수신된 데이터를 저장하는 메모리;

상기 저장된 데이터를 표시하도록 제어하는 제어부; 및

상기 데이터를 표시하는 표시부를 포함하고,

상기 데이터는 적어도 하나의 비디오 클립이며,

상기 비디오 클립은

기호도 및 다운로드 횟수를 포함하는 일정 기준에 따라 부여된 랭킹 정보 및 카테고리 정보 중 적어도 하나를 포함하는 것을 특징으로 하는 데이터 재생 장치.

【보정대상항목】 청구항 26

【보정방법】 정정

【보정내용】

【청구항 26】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 방송 수신기;

상기 수신된 데이터를 저장하는 메모리;

상기 저장된 데이터를 표시하도록 제어하는 제어부; 및

상기 데이터를 표시하는 표시부를 포함하고,

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상기 방송망은 DVB-H 방식에 따라 채널을 형성하며, 상기 파일 전송 채널을 FLUTE(File Delivery over Unidirectional Transport) 프로토콜을 이용하는 것을 특징으로 하는 데이터 재생 장치.

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【서지사항】

【서류명】 서지사항 보정서

【수신처】 특허청장

【제출일자】 2007.04.18

【제출인】

【명칭】 삼성전자 주식회사

【출원인코드】 1-1998-104271-3

【사건과의 관계】 출원인

【제출인】

【명칭】 주식회사 더블유알지

【출원인코드】 1-2002-041167-1

【사건과의 관계】 출원인

【대리인】

【성명】 윤동열

【대리인코드】 9-1998-000307-3

【포괄위임등록번호】 1999-005918-7

【포괄위임등록번호】 2006-043757-7

【사건의 표시】

【출원번호】 10-2007-0037109

【출원일자】 2007.04.16

【심사청구일자】 2007.04.18

【발명의 명칭】 데이터 재생 장치 및 방법

【제출원인】

【접수번호】 1-1-2007-0289400-48

【접수일자】 2007.04.16

【보정할 서류】 특허출원서

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【보정할 사항】

【보정대상항목】 발명자

【보정방법】 정정

【보정내용】

【발명자】

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【성명의 영문표기】 LEE, Jong-Ker l

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【주민등록번호】 741202-1XXXXXX

【우편번호】 463-010

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【취지】 「특허법 시행규칙」 제13조·「실용신안법 시행규칙」 제17조의 규정에의하여 위와 같이 제출합니다.

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【수수료】

【보정료】 0 원

【기타 수수료】 0 원

【합계】 0 원

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【서지사항】

【서류명】	특허출원서
【권리구분】	특허
【수신처】	특허청장
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【발명의 국문명칭】	데이터 재생 장치 및 방법
【발명의 영문명칭】	APPARATUS AND METHOD FOR DISPLAYING DATA
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【요약서】

【요약】

본 발명은 데이터 재생 장치 및 방법에 관한 것이다.

본 발명의 실시 예에 따른 데이터 재생 장치 및 방법은 방송망의 파일 전송 채널을 이용하여 전송되는 데이터를 수신하고, 상기 데이터를 사용자가 원하는 시간에 재생할 수 있도록 지원한다. 이를 위하여 본 발명은 방송망의 파일 전송 채널을 통하여 전송되는 데이터를 수신하는 과정, 상기 데이터를 저장하는 과정, 상기 데이터를 사용자가 원하는 시간 즉, 메뉴나 리스트를 통한 선택에 따른 재생과정, 방송 시청 중 재생과정, 채널 전환 중 재생과정 중 적어도 하나를 포함한다.

【대표도】

도 2

【색인어】

휴대 단말기, 비디오 클립, UCC, UGC, 팝업

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【명세서】

【발명의 명칭】

데이터 재생 장치 및 방법{APPARATUS AND METHOD FOR DISPLAYING DATA}

【도면의 간단한 설명】

<1> 도 1은 본 발명의 실시 예에 따른 데이터 송신 시스템의 구성을 개략적으로 나타낸 도면,

<2> 도 2는 본 발명의 실시 예에 따른 데이터 재생 장치의 구성을 개략적으로 나타낸 도면,

<3> 도 3은 본 발명의 실시 예에 따른 팝업 모듈의 구성을 보다 상세히 나타낸 도면,

<4> 도 4는 본 발명의 프로그램 재생 시간 및 광고 재생 시간 정보를 나타내는 PSI/SI 정보 중 일부를 나타낸 도면,

<5> 도 5는 본 발명의 실시 예에 따른 비디오 클립 직접 재생 방식을 나타낸 화면 예시도,

<6> 도 6은 본 발명의 실시 예에 따른 방송 시청 중 비디오 클립 재생 방식을 나타낸 화면 예시도,

<7> 도 7은 본 발명의 실시 예에 따른 채널 전환 중 비디오 클립 재생 방식을 나타낸 화면 예시도,

<8> 도 8은 본 발명의 팝업창의 일예를 나타낸 화면 예시도,

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<9> 도 9는 본 발명의 팝업창의 다른 일예를 나타낸 화면 예시도,

<10> 도 10은 본 발명의 실시 예에 따른 데이터 재생 방법을 나타낸 순서도,

<11> 도 11은 본 발명의 다른 실시 예에 따른 데이터 재생 방법을 나타낸 순서도.

【발명의 상세한 설명】

【발명의 목적】

【발명이 속하는 기술분야 및 그 분야의 종래기술】

<12> 본 발명은 데이터 재생 장치 및 방법에 관한 것으로서, 특히 방송망을 통하여 전송되는 데이터 예를 들면, 비디오 클립을 수신 및 저장하여, 사용자가 요구하는 시간에 시청할 수 있도록 지원하는 데이터 재생 장치 및 방법에 관한 것이다.

<13> 이동 중에도 음악을 들을 수 있는 MP3, TV를 분수 있는 DMB 단말기 및 영화를 즐길 수 있는 PMP 단말기 등 현대에 이르러서는 이동 중에도 다양한 문화를 접할 수 있는 휴대 단말기가 널리 이용되고 있다. 이러한 휴대 단말기는 전기, 전자, 통신 등 현대에 이용되고 있는 모든 기술의 총집합체라 할 만큼 다양한 기술이 적용되고 있으며, 새로운 물질의 개발과 함께 그 크기가 대폭적으로 감소되는 한편, 집약도는 점차적으로 높아가고 있는 추세이다.

<14> 이러한 휴대 단말기는 최근에 이르러서 데스크 탑 컴퓨터가 제공하는 다양한 저장기능과 함께 데스크 탑 컴퓨터가 제공하는 속도와 비견하여 뒤지지 않을 만큼 뛰어난 기능을 제공하는 제품들로서 생산 및 판매되고 있다.

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<15> 이에 따라, 현재는 1인 1 휴대 단말기라는 말이 어울릴 정도로 많은 사람들이 휴대 단말기를 이용하고 있으며, 이에 발맞추어 상기 휴대 단말기에 다양한 정보를 제공하는 서비스들이 늘어나고 있는 추세이다. 예를 들어, 이동통신 서비스 사업자들은 상기 휴대 단말기를 이동통신 네트웍과 연결하여 다양한 서비스 및 정보를 제공하고 있다.

<16> 그러나 종래의 이동통신 네트웍은 주파수 대역폭이나, 채널 특성 상 많은 양의 데이터를 전달하는 것이 어려운 실정이다. 이에 따라, 종래 이동통신 서비스 사업자들은 용량이 작은 데이터 즉, 텍스트나 간단한 이미지 정도의 데이터를 전송하는 것에 그치고 있다. 이러한, 서비스 한계는 상기 휴대 단말기 사용자의 다양한 욕구를 충족시켜주기에는 많은 한계점을 가지고 있으며, 특히, 많은 양의 데이터를 송수신하길 원하는 사용자의 욕구를 충족시켜주지 못하고 있다. 이에 따라, 상기 휴대 단말기 사용자에게 다양한 서비스 및 많은 양의 데이터를 제공함과 아울러, 이용요금의 부담 없이 폭넓게 이용할 수 있는 서비스 개발이 절실히 요구되고 있다.

【발명이 이루고자 하는 기술적 과제】

<17> 따라서 본 발명은 상술한 종래 기술의 문제점을 해결하기 위하여 창안된 것으로서, 본 발명의 목적은 방송망을 통하여 전송된 다양한 데이터를 사용자가 원하는 시간에 시청할 수 있도록 하는 데이터 재생 장치 및 방법을 제공함에 있다.

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<18> 상기와 같은 목적들을 달성하기 위한 본 발명의 실시 예에 따른 데이터 재생 장치는, 방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 방송 수신기; 상기 수신된 데이터를 저장하는 메모리; 상기 저장된 데이터를 표시하도록 제어하는 제어부; 및 상기 데이터를 표시하는 표시부를 포함하는 것을 특징으로 한다.

<19> 상기와 같은 목적들을 달성하기 위한 본 발명의 실시 예에 따른 데이터 재생 방법은, 방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정; 상기 수신된 데이터를 저장하는 과정; 및 상기 저장된 데이터를 재생하는 과정;을 포함하는 것을 특징으로 한다.

【발명의 구성】

<20> 이하, 본 발명에 따른 바람직한 실시 예를 첨부한 도면을 참조하여 상세히 설명한다. 하기의 설명에서는 본 발명의 실시 예에 따른 동작을 이해하는데 필요한 부분만이 설명되며, 그 이외 부분의 설명은 본 발명의 요지를 흩트리지 않도록 생략될 것이라는 것을 유의하여야 한다.

<21> 본 발명의 상세한 설명에 앞서, 이하에서 설명되는 본 명세서 및 청구범위에 사용된 용어나 단어는 통상적이거나 사전적인 의미로 한정해서 해석되어서는 아니되며, 발명자는 그 자신의 발명을 가장 최선의 방법으로 설명하기 위해 용어의 개념으로 적절하게 정의할 수 있다는 원칙에 입각하여 본 발명의 기술적 사상에 부합

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하는 의미와 개념으로 해석되어야만 한다. 따라서 본 명세서에 기재된 실시 예와 도면에 도시된 구성은 본 발명의 가장 바람직한 일실시 예에 불과할 뿐이고, 본 발명의 기술적 사상을 모두 대변하는 것은 아니므로, 본 출원시점에 있어서 이들을 대체할 수 있는 다양한 균등물과 변형 예들이 있을 수 있음을 이해하여야 한다.

<22> 이하에서 설명하는 본 발명의 데이터는 텍스트, 비디오 신호, 오디오 신호 등을 포함할 수 있다. 여기서, 상기 비디오 신호는 비디오 클립, 동영상, UCC(User Create Contents), UGC(User Generated Contents) 등을 포함할 수 있다. 그리고 비디오 클립은 비디오 신호뿐만 아니라, 오디오 신호와 텍스트 신호까지도 포함할 수 있다. 상기 오디오 신호는 상기 비디오 클립에 포함될 경우, 상기 비디오 신호와 싱크되는 것이 바람직하다. 그리고 상기 텍스트 신호는 상기 비디오 클립에 포함될 경우, 상기 비디오 신호의 자막 신호에 해당할 수 있다. 이하 설명에서 본 발명의 데이터는 비디오 클립을 주 예로 하여 설명하기로 한다. 그러나 본 발명의 데이터는 앞서 설명한 바와 같이, 비디오 클립에 한정되는 것이 아니라, 다양한 데이터 타입이 적용될 수 있을 것이다.

<23> 또한 이하에서 설명하는 방송 신호는 방송망 서버가 제공하는 채널 프로그램 재생을 위한 신호이다. 이러한 방송 신호는 상기 프로그램을 구성하는 비디오 신호, 오디오 신호, 텍스트 신호 등을 포함할 수 있다.

<24> 또한 본 발명에서 설명하는 방송망은 DVB-H, DMB 등 다양한 방송망을 포함할 수 있다. 이를 보다 상세히 설명하면, 상기 방송망이 DVB-H 방식일 경우, 본 발명의 데이터 재생 장치는 상기 비디오 클립을 파일 전송 채널을 통하여 수신할 수 있

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다. 그리고 상기 방송망이 DMB 방식일 경우, 상기 데이터 재생 장치는 EPG가 전송되는 채널을 통하여 상기 비디오 클립을 수신할 수 있다. 이하 본 발명에서는 DVB-H 방송망을 기준으로 설명하기로 한다.

<25> 한편, 본 발명에서는 설명의 편의를 위해 본 발명의 실시 예에 따른 기능을 수행하는 데이터 재생 장치를 이동통신 단말기를 예로 하여 설명하지만, 본 발명이 이에 한정되는 것은 아니다. 즉, 본 발명의 실시 예에 따른 상기 데이터 재생 장치는 방송을 수신할 수 있는 단말기로서, 바람직하게는 이동 전화기, DMB 수신기, DVB-H 수신기, 유/무선 전화기, 개인 정보 단말기(PDA, Personal Digital Assistant), 스마트 폰(Smart Phone), 노트북(Notebook), 퍼스널 컴퓨터(Personal Computer), 3G 단말기 예를 들면, IMT-2000(International Mobile Telecommunication 2000) 단말기, WCDMA(Wideband Code Division Multiple Access) 단말기, UMTS(Universal Mobile Telecommunication Service) 단말기, GSM(Global System For Mobile Communication)/GPRS(General Packet Radio System) 단말기 등과 같은 모든 정보통신기기 및 멀티미디어 기기와, 그에 대한 응용에도 적용될 수 있음은 자명할 것이다.

<26> 그러면 이하에서는, 상기한 바와 같은 본 발명의 실시 예에 따른 기능을 수행하기 위한 바람직한 동작 실시 예들을 첨부한 도면들을 참조하여 살펴보기로 한다.

<27> 도 1은 본 발명의 실시 예에 따른 데이터를 송신하는 데이터 송신 시스템의 구성을 개략적으로 나타낸 도면이다.

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<28> 상기 도 1을 참조하면, 본 발명의 데이터 송신 시스템(200)은 서비스 제공 서버(210), 데이터 적용 서버(220) 및 방송망 서버(230)를 포함한다.

<29> 상기 서비스 제공 서버(210)는 다양한 데이터 예를 들면, 비디오 클립을 생성 및 수집한다. 그리고 상기 서비스 제공 서버(210)는 수집된 비디오 클립에 대해 기술한 방송 설정 정보를 생성한다. 상기 서비스 제공 서버(210)는 상기 비디오 클립과 상기 방송 설정 정보를 상기 데이터 적용 서버(220)에 전달한다. 여기서, 상기 서비스 제공 서버(210)는 상기 비디오 클립을 인터넷 등에 접속된 단말기 및 3G 망을 통해 접속된 휴대 단말기 등으로부터 수집할 수 있다. 여기서, 상기 휴대 단말기는 카메라 등을 이용해 촬영한 영상신호를 편집하여 비디오 클립을 생성하고, 이를 상기 서비스 제공 서버(210)에 전송할 수 있다.

<30> 상기 데이터 적용 서버(220)는 상기 서비스 제공 서버(210)로부터 수신된 비디오 클립과 상기 방송 설정 정보를 방송망을 통하여 전송할 수 있도록 변환한다. 즉 상기 데이터 적용 서버(220)는 상기 비디오 클립의 파일을 방송망을 통하여 전송할 수 있는 데이터 포맷으로 변환한다. 상기 방송망을 통하여 전송할 수 있는 데이터 포맷은 데이터 재생 장치에서 재생 가능한 데이터 포맷이다. 그리고 상기 데이터 적용 서버(220)는 상기 비디오 클립을 데이터 재생 장치에서 재생할 수 있는 해상도를 가지는 파일 또는 재생 가능한 크기를 가지는 파일로 변환할 수 있다. 또한, 상기 데이터 적용 서버(220)는 상기 비디오 클립을 방송망 서버(230)가 사용하는 프로토콜 규격에 따라 변환한다. 예를 들어, 상기 방송망 서버(230)가 FLUTE(File Delivery over Unidirectional Transport) 프로토콜을 사용할 경우, 상

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기 FLUTE 프로토콜에 따라 상기 비디오 클립을 분할하거나, 헤더 정보를 생성하는 등의 작업을 수행한다. 상기 데이터 적용 서버(220)는 상기 방송망 설정 정보를 이용하여 상기 비디오 클립을 정의하는 정보를 생성한다. 예를 들어, 상기 방송망이 DVB-H 방식인 경우, 상기 데이터 적용 서버(220)는 상기 방송망 설정 정보를 ESG(Electric Service Guide)에 맞는 규격 예를 들면, XML언어를 이용하여 ESG 업데이트 정보로서 생성할 수 있다.

<31> 상기 방송망 서버(230)는 상기 비디오 클립 및 상기 업데이트 정보를 일정 프로토콜에 따라 데이터 재생 장치에 전송한다. 이때, 상기 방송망 서버(230)는 상기 비디오 클립을 파일 전송 채널을 통하여 전송할 수 있다. 예를 들어, 상기 일정 프로토콜이 FLUTE 프로토콜인 경우, 상기 방송망 서버(230)는 상기 FLUTE 프로토콜이 제공하는 파일 전송 채널을 통하여 상기 비디오 클립을 상기 ESG 업데이트 정보와 함께 전송할 수 있다.

<32> 상술한 바와 같이, 본 발명의 데이터 송신 시스템은 데이터 예를 들면 비디오 클립과, 상기 비디오 클립을 정의하는 방송망 설정 정보를 방송망 서버(230)가 전송할 수 있는 형태로 변환한다. 그리고 상기 데이터 송신 시스템(200)은 상기 비디오 클립 및 상기 방송망 설정 정보를 방송망 서버(230)가 제공하는 파일 전송 채널을 통하여 방송한다. 이에 따라, 본 발명의 데이터 송신 시스템(200)은 데이터의 양이 큰 동영상 등의 UGC(User Generated Contents) 파일 등을 방송망의 파일 전송 채널을 이용하여 용이하게 전송할 수 있다.

<33> 한편, 본 발명의 데이터 재생 장치는 상기 데이터 송신 시스템(200)이 전송

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한 비디오 클립 및 상기 업데이트 정보를 수신한다. 그리고 본 발명의 데이터 재생 장치는 설정에 따라 새로운 비디오 클립을 수신하였음을 사용자에게 알람하고, 상기 비디오 클립을 사용자가 요구하는 시간에 재생할 수 있다. 이러한 본 발명의 데이터 재생 장치에 대하여 보다 상세히 살펴보기로 한다.

<34> 도 2는 본 발명의 데이터 재생 장치의 각 구성을 개략적으로 나타낸 도면이다.

<35> 상기 도 2를 참조하면, 본 발명의 데이터 재생 장치(100)는 방송 수신기(110), 키입력부(130), 오디오 처리부(140), 메모리(170), 표시부(120), 제어부(160)를 포함하고, 이동통신부(150)를 더 포함할 수 있다.

<36> 상기 방송 수신기(110)는 상기 방송망 서버(230)로부터 전송되는 데이터 예를 들면, 비디오 클립과 업데이트 정보를 수신한다. 이를 위해, 상기 방송 수신기(110)는 상기 제어부(160)의 제어에 따라, 채널 주파수를 방송망 서버(230)가 전송하는 파일 전송 채널 주파수로 세팅한다. 그리고 상기 방송 수신기(110)는 상기 수신된 업데이트 정보 및 상기 비디오 클립을 제어부(160)에 전달한다.

<37> 상기 제어부(160)는 상기 방송 수신기(110)로부터 전달된 업데이트 정보를 확인하여, 상기 파일 전송 채널에 새롭게 수신할 정보가 있는지 여부를 판단한다. 그리고 상기 제어부(160)는 상기 업데이트 정보에 따라, 상기 비디오 클립을 수신 저장할지 여부를 결정한다. 이때, 상기 제어부(160)는 상기 비디오 클립이 업데이트 된 정보일 경우, 이를 상기 표시부(120) 및 상기 오디오 처리부(140)를 통하여 알람할 수 있다. 한편, 상기 제어부(160)는 상기 방송 수신기(110)를 이용하여 상

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기 비디오 클립 및 업데이트 된 정보를 수신하기 위하여 메모리(170)에 저장된 방송 수신 모듈(162)을 활성화할 수 있다. 그리고 상기 제어부(160)는 상기 비디오 클립의 수신여부를 알람하기 위하여 팝업 모듈(164)을 메모리(170)로부터 로드(Load)할 수 있다. 또한 상기 제어부(160)는 상기 방송 수신 모듈(162) 활성화에 따라 수신한 비디오 클립 또는 방송 신호의 재생을 위한 재생 모듈(166)을 메모리(170)로부터 로드할 수 있다.

<38> 즉, 상기 방송 수신 모듈(162)은 상기 제어부(160)의 제어에 따라 일정 주기마다 활성화되어, 상기 방송 수신기(110)의 세팅을 제어하고, 이를 기반으로 파일 전송 채널을 검사한다. 그리고 상기 파일 전송 채널로 상기 비디오 클립과 상기 업데이트 정보가 전송되면, 상기 방송 수신 모듈(162)은 전송된 상기 비디오 클립과 상기 업데이트 정보를 메모리(170)에 저장하도록 제어한다. 그리고 상기 방송 수신 모듈(162)은 상기 비디오 클립과 상기 업데이트 정보를 수신하였음을 알리는 알람 신호를 생성하여 상기 팝업 모듈(164)에 전달한다. 또한, 상기 방송 수신 모듈(162)은 상기 비디오 클립을 재생하고자 하는 사용자 선택에 따른 키입력부(130) 입력이 발생하면, 상기 비디오 클립을 상기 재생 모듈(166)을 통하여 상기 표시부(120)에 표시한다. 상기 방송 수신 모듈(162)은 일반 방송 수신을 위한 사용자 입력이 발생할 경우, 상기 오디오 및 비디오 채널에 해당하는 방송 수신기(110)의 세팅을 제어하고, 이를 기반으로 방송신호를 수신하도록 제어할 수 있다. 상기 방송 수신 모듈(162)은 상기 팝업 모듈(164)이 비디오 클립 수신을 위한 알림신호를 전달한 경우, 활성화되어 방송망의 파일 전송 채널로부터 상기 비디오 클립을 수신할

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수도 있다.

<39> 상기 팝업 모듈(164)은 상기 알람 신호를 수신한 경우, 이에 해당하는 팝업창을 생성하고, 상기 팝업창을 상기 표시부(120)에 전달한다. 이때, 상기 팝업 모듈(164)은 사용자 설정에 따라, 상기 팝업창 생성을 수행하지 않을 수 있다. 상기 팝업 모듈(164)은 상기 팝업창의 형태를 상기 업데이트 정보를 기반으로 생성할 수 있다. 즉, 상기 업데이트 정보에 상기 팝업창의 형태를 정의하는 형태 설정 데이터가 포함된 경우, 상기 팝업 모듈(164)은 상기 형태 설정 데이터를 기반으로 상기 팝업창을 생성하여 상기 표시부(120)에 전달한다.

<40> 한편, 상기 팝업 모듈(164)은 상기 이동통신부(150)가 전달하는 메시지 정보에 상기 업데이트 정보가 포함되었는지 여부를 확인할 수 있다. 즉, 상기 팝업 모듈(164)은 상기 이동통신부(150)가 메시지 정보를 전달하면, 상기 메시지 정보를 검색한다. 그리고 상기 팝업 모듈(164)은 상기 메시지 정보에 상기 업데이트 정보가 포함되어 있을 경우, 이를 상기 방송 수신 모듈(162)에 알람한다. 이에 따라, 상기 방송 수신 모듈(162)은 상기 업데이트 정보에 따라, 방송 수신기(110)를 세팅하여 업데이트 정보에서 정의하는 상기 비디오 클립을 수신한다. 상기 팝업 모듈은 상기 메시지 정보에 업데이트 정보가 포함되지 않은 경우, 일반 메시지 서비스에 따라 메시지를 표시할 수 있다. 이러한, 팝업 모듈과 관련하여 도 3을 참조하여 상세히 설명하기로 한다.

<41> 도 3은 본 발명의 실시 예에 따른 팝업 모듈(164)의 개략적인 구성을 나타낸 블록도이다.

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<42> 상기 도 3을 참조하면, 본 발명의 팝업 모듈(164)은 SVG-Tiny, 렌더링 효과부 및 GUI(Graphic User Interface) 제어부를 포함하는 동적 그래픽 엔진(Dynamic Graphic Engine)과, 팝업 제어기, 알림부(Notification), 양방향 서비스부(Interactive), 방송수신모듈 어댑터를 포함한다. SVG-Tiny는 W3C 표준으로서 벡터 그래픽(Vector Graphic) 예를 들면 플래시 등의 동영상을 지원하는 모듈이다. 상기 렌더링 효과부는 그래픽에 렌더링 효과를 가미하는 모듈이다. 상기 GUI 제어부는 사용자 그래픽 인터페이스를 제어하는 모듈이다. 상기 팝업 제어기는 표시부(120) 상에 표시되는 팝업창의 생성 타이밍, 팝업창의 형태, 팝업창에 포함될 내용 등을 제어하는 모듈이다. 상기 알림부는 이동통신부(150)를 통하여 푸시(Push) 타입으로 전송되는 데이터가 발생하였음을 방송 수신 모듈(162)에 알람하는 모듈이다. 상기 양방향 서비스부는 외부 네트웍과 연결될 수 있으며 팝업창에 표시된 링크가 활성화될 경우, 상기 데이터 재생 장치(100)가 링크에 해당하는 외부 네트웍과 연결될 수 있도록 지원한다. 방송수신모듈 어댑터는 방송 수신 모듈(162)과의 데이터 송수신을 위한 인터페이스이다. 상기 방송수신모듈 어댑터는 보안관련 기능을 포함할 수 있다. 상기 팝업 모듈(164)이 생성하는 팝업창 인터페이스와 관련하여 도면을 참조하여 후술하기로 한다.

<43> 한편, 상기 재생 모듈(166)은 상기 방송 수신 모듈(162)이 수신하는 일반 방송 신호를 재생하거나, 상기 비디오 클립을 재생한다. 특히, 본 발명의 재생 모듈(166)은 상기 비디오 클립 재생 시, 사용자 선택에 따른 시간에 맞추어 재생한다. 이를 보다 상세히 설명하면, 상기 재생 모듈(166)은 상기 비디오 클립을 직접 재생

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방식, 방송 시청 중 재생 방식, 채널 전환 중 재생 방식 중 적어도 하나의 방식에 따라 상기 비디오 클립을 재생한다.

<44> 상기 직접 재생 방식은 사용자가 키입력부(130)를 이용하여 메모리(170)에 저장된 비디오 클립을 선택하면, 상기 재생 모듈(166)이 선택된 비디오 클립을 재생하는 방식이다. 즉, 상기 직접 재생 방식은 수신된 비디오 클립은 저장하는 스택 저장 과정과, 저장된 비디오 클립을 재생하는 뷰(View) 과정을 포함한다. 이러한, 직접 재생 방식을 위하여 상기 재생 모듈(166)은 상기 비디오 클립 선택을 위한 메뉴 화면 및 리스트 화면을 제공하는 것이 바람직하다. 여기서, 상기 재생된 비디오 클립은 재생 횟수 또는 사용자 지정에 따라, 사용자 선호 리스트로 정렬될 수 있다. 그리고 이렇게 정렬된 비디오 클립들은 방송 시청 중 재생 또는 채널 전환 중 재생 시 비디오 클립들의 재생 우선순위로 결정될 수 있다.

<45> 상기 방송 시청 중 재생 방식은 사용자가 상기 데이터 재생 장치(100)를 이용하여 방송을 시청하는 도중 비디오 클립을 재생하는 방식이다. 이를 도 4를 참조하며 보다 상세히 설명하면, 상기 재생 모듈(166)은 상기 방송 시청 중 방송 수신 모듈(162)로부터 프로그램 관련 정보 예를 들면, PSI/SI 정보를 획득하여, 현재 프로그램의 현재 시청 시간(Current time), 상기 현재 프로그램의 시작 시간(Start time1) 및 다음 프로그램의 시작 시간(Start time2) 및 현재 프로그램의 종료 시간(End time) 등을 검색할 수 있다. 이를 기반으로, 상기 재생 모듈(166)은 현재 프로그램과 다음 프로그램 간에 삽입되는 광고 시간을 파악할 수 있다. 이에 따라, 상기 재생 모듈(166)은 현재 프로그램이 완료된 이후, 광고가 재생되는 시간 동안

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상기 비디오 클립을 PIP 형태로 표시부(120)에 표시한다. 그리고 상기 재생 모듈(166)은 광고가 종료되어 다음 프로그램이 시작하면, 상기 비디오 클립의 재생을 중지한다. 이때, 상기 재생 모듈(166)은 다음 프로그램이 시작하더라도, 상기 비디오 클립의 재생을 중지하지 않고, 상기 비디오 클립을 PIP 형태로 지속적으로 재생시킬 수 있다.

<46> 채널 전환 중 재생 방식은 비디오 클립을 채널이 전환되는 중간에 재생하는 방식이다. 이를 보다 상세히 설명하면, 상기 재생 모듈(166)은 채널 전환을 위한 키입력 신호가 발생하면, 상기 비디오 클립을 재생하여 표시부(120)에 표시한다. 그리고 상기 재생 모듈(166)은 채널 전환이 완료되면, 상기 비디오 클립 재생을 중지한다. 여기서, 상기 재생 모듈(166)은 채널 전환이 완료된 이후, 상기 비디오 클립을 PIP 형태로 지속적으로 재생시킬 수 있다. PIP 형태로 재생 중인 비디오 클립은 사용자 선택, 즉 키입력부(130)의 입력신호에 대응하여 재생 중지될 수 있다.

<47> 상기 키입력부(130)는 상기 데이터 재생 장치(100)에 필요한 키입력신호를 생성하여 상기 제어부(160)에 전달한다. 이러한 키입력부(130)는 상기 팝업창 생성에 따른 확인키 신호, 다수개의 비디오 클립 검색 시 필요한 방향키 신호, 숫자나 문자 및 특수문자에 해당하는 키 신호, 특정 기능을 수행하는 기능키 신호를 생성할 수 있다. 특히, 본 발명의 키입력부(130)는 상기 비디오 클립 및 업데이트 정보의 저장 확인을 위한 키 신호, 상기 방송 수신 모듈(162)을 활성화하기 위하여 키 신호, 상기 방송 수신 모듈(162)에 따라 수신되는 방송 신호 및 상기 비디오 클

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립 재생에 필요한 신호 등을 생성할 수 있다.

<48> 상기 오디오 처리부(140)는 상기 방송 수신 모듈(162)의 활성화에 따라 수신된 방송 신호 중 오디오 신호를 재생한다. 이를 위하여 상기 오디오 처리부(140)는 스피커(SPK)를 포함할 수 있다. 또한, 상기 오디오 처리부(140)는 상기 데이터 재생 장치(100)가 오디오 신호를 수집하는 기능을 제공할 경우, 마이크(MIC)를 포함할 수 있다. 특히, 본 발명의 오디오 처리부(140)는 상기 비디오 클립 및 업데이트 정보를 수신한 상태를 알람하기 위한 오디오 신호를 생성할 수 있다.

<49> 상기 메모리(170)는 본 발명의 실시 예에 따른 기능 동작에 필요한 응용 프로그램을 비롯하여, 다운로드하는 비디오 클립, 업데이트 정보, 방송 신호 등을 저장하며, 상기 방송 신호 및 상기 비디오 클립 재생을 위한 재생 모듈(166)을 저장한다. 이러한 상기 메모리(170)는 크게 프로그램 영역과 데이터 영역을 포함할 수 있다.

<50> 상기 프로그램 영역은 상기 데이터 재생 장치(100)를 부팅시키는 운영체제(OS, Operating System), 비디오 클립 및 방송 신호 재생 등에 필요한 재생 모듈(166), 타겟 단말기(100)의 기타 옵션(options) 기능 예컨대, 카메라 기능, 소리 재생 기능, 이미지 또는 동영상 재생 기능 등에 필요한 응용 프로그램 등을 저장한다. 상기 데이터 재생 장치(100)는 사용자 요청에 상응하여 상기한 각 기능을 활성화하는 경우, 상기 제어부(130)의 제어 하에 해당 응용 프로그램들을 이용하여 각 기능을 제공하게 된다. 특히, 본 발명의 프로그램 영역은 비디오 클립 및 업데이트 정보의 수신을 알람하는 팝업 모듈(164), 방송망 서버(230)로부터 전달되는 신

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호를 수신하는 방송 수신기(110) 제어를 위한 방송 수신 모듈(162), 상기 비디오 클립 및 방송 신호 재생을 위한 재생 모듈을 포함한다. 이러한 각 모듈은 제어부(160)에 로드되어 각 기능을 수행한다.

<51> 상기 데이터 영역은 데이터 재생 장치(100) 사용에 따라 발생하는 데이터가 저장되는 영역으로서, 상기 방송망 서버(230)가 전송하는 비디오 클립 및 업데이트 정보를 저장한다. 또한, 상기 데이터 영역은 상기 방송망 서버(230)가 전송하는 방송 신호를 저장할 수 있다. 그리고 상기 데이터 영역은 상기 데이터 재생 장치(100)의 다양한 옵션 기능과 관련한 사용자 데이터들 예컨대, 앞서 설명한 카메라 기능에 의한 촬영 이미지 또는 동영상과, 폰 북 데이터와, 오디오 데이터 및 해당 콘텐츠 또는 사용자 데이터들에 대응하는 정보들 등을 저장할 수 있다.

<52> 여기서, 상기 비디오 클립에 대하여 보다 상세히 설명하면, 상기 비디오 클립은 상기 서비스 제공 서버(210)가 제공하는 다양한 이미지, 플래시 등이 될 수 있다. 그리고 상기 비디오 클립은 랭킹(Ranking) 정보를 가질 수 있다. 즉, 상기 서비스 제공 서버(210)는 홈페이지 등을 통하여 다양한 사용자가 투표 또는 다운로드한 횟수를 기준으로 상기 비디오 클립의 우선순위를 부여할 수 있다. 이에 따라, 상기 서비스 제공 서버(210)는 상기 비디오 클립의 우선순위에 따라, 가장 투표수가 많거나, 다운로드 횟수가 많은 비디오 클립은 일정 순위 범위 예를 들면, "Top 10"으로 정리하여 상기 데이터 재생 장치(100)에 전달할 수 있다. 따라서 상기 비디오 클립은 랭킹 정보에 따라 수신된 데이터가 될 수 있다.

<53> 또한, 상기 비디오 클립은 일정 카테고리별로 분류된 데이터가 될 수 있다.

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이를 보다 상세히 설명하면, 상기 비디오 클립은 주제별 예를 들면, 스포츠 카테고리, 영화 카테고리, 뮤직 비디오 카테고리, 개그 카테고리 등 다양한 카테고리를 포함하는 다수개의 클립을 포함할 수 있다. 이에 따라, 상기 재생 모듈(166)은 사용자가 상기 비디오 클립을 재생하고자 하는 경우, 상기 카테고리에 포함된 다양한 클립들의 리스트를 선행하여 표시할 수 있다.

<54> 그리고 상기 비디오 클립은 과금 관련을 위하여 DRM(Digital Rights Management) 설정이 가능하다. 즉, 상기 서비스 제공 서버(210)는 상기 비디오 클립 중 DRM 설정이 필요한 클립에 대해서 DRM 설정을 수행하여 상기 데이터 재생 장치(100)에 제공한다. 이에 따라, 상기 데이터 재생 장치(100)는 DRM이 설정된 비디오 클립을 수신한 경우, 이에 대한 알람을 수행할 수 있다. 즉, 상기 팝업 모듈(164)은 DRM 설정 비디오 클립에 대하여 DRM 설정 표시를 수행하고, 사용자가 DRM 설정 비디오 클립 재생을 요구할 경우, 라이센스 구매를 위한 주소 정보를 제공할 수 있다. 상기 데이터 재생 장치(100)는 상기 서비스 제공 서버(210)에 접속하여 상기 라이센스 구매를 수행할 수 있다.

<55> 상기 표시부(120)는 상기 방송망 서버(230)가 제공하는 다양한 방송 데이터를 표시한다. 여기서, 상기 다양한 방송 데이터는 앞서 설명한 비디오 클립, 방송 신호 등이 될 수 있다. 상기 비디오 클립은 일정 길이 예를 들면, 수초에서 수분의 길이를 가지는 동영상이 될 수 있다. 상기 방송 신호는 상기 방송망 서버(230)가 제공하는 일반 방송으로서, 실시간 방송이 될 수 있다. 특히, 본 발명의 표시부(120)는 상기 비디오 클립 및 업데이트 정보를 수신한 경우, 그에 따른 팝업창

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을 표시함으로써, 이를 알람할 수 있다. 이러한, 상기 표시부(120)의 화면 인터페이스에 관하여 도면을 참조하여 후술하기로 한다.

<56> 상기 이동통신부(150)는 상기 데이터 재생 장치(100)가 이동통신 단말기의 기능을 가지는 경우 포함될 수 있다. 이러한, 상기 이동통신부(150)는 업데이트된 비디오 클립을 수신하기 위한 방송 수신 모듈(162)의 활성화를 상기 메시지 정보를 기반으로 제어할 수 있다. 이를 위해, 상기 방송망 서버(230)가 전송하는 메시지 정보는 상기 비디오 클립의 업데이트를 정의하는 업데이트 정보를 포함할 수 있다. 다시 말하여, 상기 이동통신부(150)는 상기 방송망 서버(230)로부터 상기 업데이트 정보를 포함하는 메시지 정보를 수신하는 경우, 이를 제어부(160)에 알람한다. 그러면 상기 제어부(160)는 상기 방송 수신 모듈(162)을 활성화하여 상기 방송 수신기를 세팅하고, 상기 방송망 서버(230)가 전송하는 비디오 클립을 수신할 수 있다.

<57> 또한 상기 이동통신부(150)는 특정 비디오 클립을 타 단말기에 전송하고자 하는 경우, 해당 정보를 메시지로 작성하여 타 단말기에 전송할 수 있다. 이에 따라, 타 단말기는 상기 메시지를 수신하고, 상기 비디오 클립을 수신하기 위하여 타 단말기에 실장된 방송 수신 모듈을 활성화할 수 있다. 상기 이동통신부(150)는 사용자가 상기 비디오 클립을 타 단말기에 전송하고자 할 경우, 상기 비디오 클립을 포함하는 멀티미디어 메시지를 상기 타 단말기에 전송할 수 도 있다. 이에 따라, 타 단말기는 상기 데이터 재생 장치(100)로부터 상기 비디오 클립을 직접 전송받아 재생이 가능하다. 상기 이동통신부(150)는 상기 비디오 클립이 DRM 설정이 된 경

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우, 해당 라이센스 획득을 위하여 제어부(160)의 제어에 따라 상기 서비스 제공 서버(210)와 통신채널을 형성할 수 있다. 이때, 상기 이동통신부(150)는 상기 라이센스 요청 신호, 과금 인증 관련 신호, 상기 라이센스를 각각 송수신할 수 있다.

<58> 이상에서 설명한 바와 같이, 본 발명의 데이터 재생 장치(100)는 방송망 서버(230)가 전송하는 비디오 클립 및 업데이트 정보를 수신하고, 이에 대한 정보를 표시부(120)에 팝업창으로 알람한다. 그리고 상기 데이터 재생 장치(100)는 상기 수신 및 저장된 비디오 클립을 사용자가 요구하는 시간에 재생한다. 즉, 상기 데이터 재생 장치(100)는 사용자가 직접 재생 요청할 경우 상기 비디오 클립을 직접 재생한다. 그리고 상기 데이터 재생 장치(100)는 사용자가 방송청취를 원할 경우, 광고시간을 획득하고, 광고가 재생되는 시간에 PIP(Picture In Picture) 형태로 상기 비디오 클립을 재생한다. 또한, 상기 데이터 재생 장치(100)는 사용자가 채널 전환을 수행할 경우, 채널 전환 화면에 상기 비디오 클립을 재생할 수 있다.

<59> 이하, 도 5 내지 도 9를 참조하며, 본 발명의 실시 예에 따른 화면 인터페이스에 대하여 보다 상세히 살펴보기로 한다.

<60> 도 5는 비디오 클립 직접 재생 방식에 따른 화면 인터페이스를 나타낸 도면이다.

<61> 상기 도 5를 참조하면, 본 발명의 표시부는 비디오 클립의 직접 재생을 위하여 사용자 선택에 따라 메뉴를 통하여 컨텐츠 리스트를 표시한다. 상기 컨텐츠 리스트는 다양한 리스트 예를 들면, 벨소리 보관함, 이미지 보관함, 카메라 보관함 및 비디오 클립 보관함을 포함한다. 여기서, 비디오 클립 보관함이 선택되는 키입

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력신호가 발생하면, 상기 표시부는 비디오 클립에 포함된 다양한 리스트 예를 들면, "Award.Divx, Soccer.Divx, Golf.Divx..." 등을 표시한다. 상기 비디오 클립은 방송망 서버(230)가 파일 전송 채널을 통하여 전송한 것이다. 상기 비디오 클립 리스트 중 특정 클립 예를 들면, "Golf.Divx"가 선택되면 재생 모듈(166)은 선택된 비디오 클립에 해당하는 화면을 재생한다.

<62> 도 6은 방송 청취 중 상기 비디오 클립을 재생하는 방식을 나타낸 화면 인터페이스이다.

<63> 상기 도 6을 참조하면, 본 발명의 표시부는 현재 방송되고 방송 프로그램을 수신하여 표시한다. 상기 방송 프로그램은 상기 방송망 서버(230)가 제공하는 특정 채널에서 수신되는 프로그램이다. 한편, 상기 표시부는 상기 방송 프로그램이 종료되면, 이어지는 광고를 재생한다. 이때, 상기 표시부는 일측에 기 설정된 비디오 클립을 재생하는 화면을 표시한다. 즉, 상기 표시부는 화면 전체에 광고에 해당하는 영상을 표시하고, 상기 광고 영상 중 일정 영역을 할당하여 PIP 방식으로 비디오 클립을 재생한다. 여기서, 상기 비디오 클립은 방송 수신 모듈(162)이 기 수신하여 저장한 것이다. 이러한, 비디오 클립의 재생 순서는 수신순서 또는 비디오 클립의 랭킹 정보에 따라 달라질 수 있다. 상기 표시부는 광고 영상의 재생 시간이 상기 비디오 클립의 재생 시간보다 긴 경우에는 비디오 클립 재생이 완료되면, 상기 비디오 클립이 재생되던 영역에 원래 광고 영상을 표시한다. 또한, 상기 표시부는 상기 비디오 클립 재생 시간이 상기 광고 영상 재생 시간 보다 긴 경우, 다음 방송 프로그램이 재생될 때, PIP 방식으로 재생을 유지할 수 있

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다. 상기 PIP 방식으로 재생되는 비디오 클립은 사용자 선택에 따라, 재생이 종료 및 유지될 수 있다.

<64> 도 7은 채널 전환 중 비디오 클립을 재생하는 방식을 나타낸 화면 인터페이스이다.

<65> 상기 도 7을 참조하면, 본 발명의 비디오 클립 재생은 채널 변경 중 표시될 수 있다. 즉, 표시부는 방송 수신 모듈(162)이 현재 수신하고 있는 방송 프로그램을 표시한다. 이후, 키입력부(130)의 채널 변경 신호가 입력되면, 상기 재생 모듈(166)은 메모리(170)에 저장된 비디오 클립을 표시부 전면에 표시한다. 다음으로, 상기 재생 모듈(166)은 채널 변경이 완료되면, 변경된 채널에서 수신된 방송 프로그램을 재생한다. 이때, 상기 표시부는 변경된 채널의 방송 프로그램 재생 중 일측에 PIP 형태로 상기 비디오 클립을 재생할 수 있다. 여기서, 상기 PIP 형태로 방송 프로그램 중에 재생되는 비디오 클립은 사용자 선택 즉, 키입력부(130) 입력 신호에 따라, 재생이 종료 및 유지될 수 있다.

<66> 상기 도 6 및 도 7에서 재생 모듈(166)은 메모리(170)에 저장된 비디오 클립을 랭킹 순서 또는 임의적으로 선택하여 재생하는 것으로 설명하고 있으나, 본 발명이 이에 한정되는 것은 아니다. 즉, 본 발명의 재생 모듈(166)은 광고 시작 시점 또는 채널 전환 시작 시점에 상기 비디오 클립 선택을 위한 리스트 화면을 표시하여, 사용자가 원하는 비디오 클립을 선택하여 볼 수 있도록 지원할 수 있다. 상기 리스트 화면 표시는 옵션기능으로 제공될 수 있다.

<67> 도 8 및 도 9는 본 발명의 팝업창의 일예를 나타낸 화면이다.

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<68> 상기 도 8을 참조하면, 본 발명의 팝업 모듈(164)은 방송 수신 모듈(162)이 새 비디오 클립을 수신하고, 그에 대하여 알람하는 경우, 이를 팝업창으로서 표시부에 표시하도록 할 수 있다. 상기 팝업창에 대한 확인 키입력이 발생하면, 상기 팝업 모듈(164)은 새롭게 수신한 비디오 클립에 다수개의 파일이 존재하면, 해당 리스트를 표시부에 표시하도록 할 수 있다. 상기 표시부에 표시된 팝업창 및 리스트는 별도의 확인키 입력과정 없이 일정 시간이 경과된 이후, 자동으로 제거되고 이전 화면 예를 들면 대기화면으로 복귀할 수 도 있다.

<69> 상기 도 9를 참조하면, 본 발명의 팝업 모듈(164)은 일정 화면 예를 들면, 대기화면 일측에 수신된 비디오 클립에 대한 정보를 표시할 수 있다. 즉, 표시부는 비디오 클립을 제공한 서비스 제공 서버의 명칭 및 상기 비디오 클립의 특성 예를 들면, 랭킹 정보 또는 카테고리 등을 표시할 수 있다. 또한, 상기 표시부는 상기 비디오 클립의 클립 개수를 표시할 수 도 있다. 그리고 상기 표시부는 비디오 클립 중 선택된 비디오 클립의 상세 정보를 표시할 수 있다. 즉, 상기 표시부는 선택된 비디오 클립의 제목, 대표 이미지, 재생 시간, 크기, DRM 설정 여부 등을 표시할 수 있다. 재생 모듈(166)은 상기 표시부에 표시된 상세 정보 중 특정 비디오 클립에 대한 재생 요구 신호가 발생하면, 해당 비디오 클립을 재생할 수 있다. 상기 표시부는 상기 비디오 클립을 제공한 서비스 제공 서버로 접속할 수 있는 링크 정보를 표시할 수 도 있다.

<70> 이상에서는 본 발명의 실시 예에 따른 데이터 재생 장치(100)의 각 구성 및 화면 인터페이스에 대하여 살펴보았다. 이하에서는 본 발명의 실시 예에 따른 데

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이터 재생 방법에 대하여 설명하기로 한다.

<71> 도 10은 본 발명의 실시 예에 따른 데이터 재생 방법을 나타낸 블록도이다.

<72> 상기 도 10을 참조하면, 본 발명의 데이터 재생 방법은 먼저, 데이터 재생 장치(100)가 턴-온 되어 초기화되고, 표시부(120)는 대기화면을 표시한다(S101). 상기 데이터 재생 장치(100)는 대기화면이 표시된 상태에서, 방송 수신 모듈(162)을 이용하여 업데이트 정보가 있는지 검색을 수행한다(S102).

<73> 상기 S102 단계에서, 상기 방송 수신 모듈(162)은 제어부(160)의 제어에 따라 일정 주기에 따라 활성화되거나, 외부로부터 업데이트 정보가 발생하였음을 알리는 메시지를 수신한 경우 활성화될 수 있다. 상기 활성화된 방송 수신 모듈(162)은 방송 수신기(110)를 제어하여 파일 전송 채널을 검사하고, 업데이트 정보가 존재하는지 여부를 검사한다(S103). 상기 S103 단계에서, 업데이트 정보가 존재하지 않으면, 상기 제어부(160)는 상기 방송 수신 모듈(162)을 턴-오프 하여 전원을 절약할 수 있다(S104). 다음으로 제어부(160)는 기 설정된 일정 시간만큼 대기하고(S105), 상기 S102 단계로 분기할 수 있다.

<74> 한편, 본 발명의 방송 수신 모듈(162)은 데이터 재생 장치(100) 사용자의 방송 시청에 따라 활성화될 수 도 있다. 즉, 사용자가 상기 방송 수신 모듈(162)를 활성화하기 위한 키입력 신호를 입력하는 경우, 예를 들면 방송 시청을 위한 키입력을 발생시키는 경우, 상기 방송 수신 모듈(162)을 활성화되어, 상기 S103 단계 이하의 단계를 수행할 수 있다.

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<75> 상기 S103 단계에서, 업데이트 정보가 존재하는 경우, 상기 활성화된 방송 수신 모듈(162)은 방송망 서버(230)가 파일 전송 채널을 통하여 전송하는 비디오 클립을 수신하고 이를 메모리(170)에 전달하여 저장한다(S106). 이때, 상기 방송 수신 모듈(162)은 새로운 비디오 클립을 저장하였음을 팝업 모듈(164)에 알람한다(S107). 상기 S107 단계는 상기 비디오 클립 수신 및 저장하는 S106 단계 이전 또는 동시에 수행 가능하다. 여기서, 상기 S106 단계에서 수행되는 비디오 클립 수신 및 저장 단계는 생략되거나, 상기 비디오 클립의 특정 이미지 또는 프리뷰(Preview) 이미지 보기로 대체될 수 있다. 이를 보다 상세히 설명하면, 비디오 클립 수신 및 저장 단계는 사용자가 선택할 수 있도록, 설정 메뉴로 제공될 수 있다. 즉, 상기 설정 메뉴는 상기 비디오 클립 수신 및 저장을 자동으로 수신 및 저장하도록 설정하는 메뉴, 상기 비디오 클립 수신 및 저장을 자동으로 거부하도록 설정하는 메뉴, 또는 미리보기 기능 수행후 사용자 선택에 의해 수신 및 저장되는 메뉴를 포함할 수 있다. 상기 미리보기 설정 메뉴는 상기 방송 수신 모듈()이 상기 비디오 클립을 임시 저장한 상태에서, 상기 비디오 클립의 대표 이미지 또는 프리뷰(Preview) 이미지를 표시부에 표시하도록 제어할 수 있다. 이에 따라, 상기 데이터 재생 장치(100)는 사용자 선택에 따라 상기 대표 이미지 또는 프리뷰 이미지 보기를 선행한 후, 상기 비디오 클립의 저장을 위한 키입력을 생성할 수 있다.

<76> 또한, 상기 S107 단계에서 수행되는 팝업 모듈(164)에 알람하는 단계는 사용자 선택에 의해 생략될 수 있다. 이에 따라, 상기 팝업 모듈(164)은 새로운 비디오 클립을 저장하더라도 표시부에 별도의 팝업창을 생성하지 않을 수 있다.

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<77> 상기 S106 단계 및 상기 S107 단계에서 활성화된 방송 수신 모듈(162)은 전원절약을 위하여 전원-오프 즉, 슬립모드로 전환되는 것이 바람직하다. 한편, 상기 S107 단계 이후, 상기 제어부(160)는 키입력 발생을 검사하고(S108), 상기 키입력이 비디오 클립 보기인지 여부를 확인한다(S109). 상기 S109 단계에서, 비디오 클립 보기를 위한 키입력신호인 경우, 제어부(160)는 재생 모듈(166)을 이용하여 메모리(170)에 저장된 비디오 클립을 재생한다(S110). 한편, 상기 제어부(160)는 상기 키입력이 방송 시청을 위한 키입력인지 여부를 확인한다(S111). 상기 S111 단계는 상기 S102 단계에서, 사용자가 방송 시청을 위하여 방송 수신 모듈을 활성화한 경우, 생략될 수 있다. 상기 S111 단계에서, 상기 제어부(160)는 방송 시청을 위한 키입력이 아닌 경우, 키입력에 해당하는 기능을 수행한다(S112). 상기 해당 기능은 상기 데이터 재생 장치(100)가 제공하는 기능 예를 들면, 카메라 기능, MP3 재생 기능, 메시지 기능, 이동통신 기능 등 다양한 기능을 포함한다. 상기 S111 단계에서, 발생한 키입력이 방송 시청을 위한 키입력인 경우, 상기 제어부(160)는 방송 수신 모듈(162)을 활성화한다(S113). 상기 방송 수신 모듈(162)은 키입력에 대응하는 방송 채널로부터 방송 신호를 수신하고, 상기 방송 신호를 재생 모듈(166)을 통하여 재생한다(S114).

<78> 다음으로, 상기 제어부(160)는 채널 전환 키입력 발생 여부를 확인한다(S115). 상기 S115 단계에서, 상기 채널 전환 키입력 발생이 아닌 경우, 현재 프로그램이 종료되었는지 여부를 확인한다(S116). 상기 S116 단계에서, 현재 방송되고 있는 프로그램이 종료된 경우, 상기 제어부(160)는 재생 모듈(166)을 제어하여

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이어지는 광고 시간 동안 메모리(170)에 저장된 비디오 클립을 광고가 표시되는 표시부 상에 PIP 형태로 재생한다. 상기 제어부(160)는 상기 S116 단계에서 현재 프로그램 종료 및 광고 시간 타이밍을 프로그램 관련 정보 인 PSI/SI 정보로부터 획득할 수 있다. 한편, 상기 S116 단계에서, 현재 프로그램이 종료되지 않은 경우, 상기 제어부(160)는 상기 S114 단계로 분기하도록 제어한다.

<79> 상기 S115 단계에서, 채널 전환에 따른 키입력이 발생한 경우, 상기 제어부(160)는 채널 전환을 수행하며, 이때, 재생 모듈(166)을 제어하여 비디오 클립을 재생한다(S118). 즉, 상기 재생 모듈(166)은 메모리(170)에 저장된 상기 비디오 클립을 표시부(120)에 표시하도록 제어하며, 상기 방송 수신 모듈(162)은 백그라운드 프로세싱을 이용하여 채널 전환 과정을 수행한다. 표시부(120)에 표시되는 비디오 클립은 표시부(120) 전체에 표시되거나, 표시부(120) 상에 부분적으로 표시될 수 있다.

<80> 다음으로, 상기 제어부(160)는 채널 전환 완료 여부를 확인하고(S119), 채널 전환된 경우, 상기 비디오 클립 재생을 중지하고, 전환된 채널로 수신되는 방송 신호 또는 프로그램을 재생한다(S120). 여기서, 상기 제어부(160)는 전환된 채널의 프로그램 재생 시, 상기 비디오 클립 재생을 PIP 형태로 유지하도록 제어할 수 도 있다.

<81> 상기 S117 단계 및 상기 S118 단계 중 적어도 하나의 단계에서 재생되는 비디오 클립은 사용자 선호 리스트 정렬에 따른 우선순위에 따라 재생될 수 있다. 즉, 상기 재생된 비디오 클립은 재생 횟수 또는 사용자 지정에 따라, 사용자 선호

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리스트로 정렬될 수 있으며, 이렇게 정렬된 비디오 클립들은 방송 시청 중 재생 또는 채널 전환 중 재생 시 비디오 클립들의 재생 우선순위로 결정될 수 있다.

<82> 도 11은 본 발명의 다른 실시 예에 따른 데이터 재생 방법을 나타낸 블록도이다.

<83> 상기 도 11을 참조하면, 본 발명의 다른 실시 예에 따른 데이터 재생 방법은, 데이터 재생 장치(100)가 전원 공급에 따라 초기화되고, 대기화면을 표시한다(S201). 대기화면 상태에서 상기 제어부(160)는 메시지 수신 여부를 확인한다(S202). 상기 제어부(160)는 메시지가 수신되지 않은 경우, 상기 S201 단계로 분기하도록 제어한다. 상기 메시지는 상기 데이터 재생 장치(100)의 이동통신부(150)를 통하여 전송될 수 있다. 즉, 상기 메시지는 서비스 제공 서버(210)가 이동통신망을 통하여 전송할 수 있다.

<84> 상기 202 단계에서 메시지가 수신된 경우, 상기 제어부(160)는 상기 메시지에 업데이트 정보가 포함되었는지 여부를 확인한다(S203). 상기 메시지에 업데이트 정보가 포함되어 있지 않은 일반 메시지인 경우, 메시지 서비스 기능에 따라 해당 메시지를 표시한다(S204).

<85> 상기 S203 단계에서, 상기 메시지가 업데이트 정보를 포함한 경우, 상기 제어부(160)는 방송 수신 모듈(162)을 활성화하고(S205), 팝업 모듈(164)에 업데이트된 비디오 클립에 대한 알람을 전달한다(S206). 상기 S206 단계에서, 상기 팝업 모듈(164)은 상기 알람을 수신하면, 이에 대한 정보를 대기화면 상에 표시할 수 있다.

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<86> 한편, 상기 S205 단계에서 활성화된 방송 수신 모듈(162)은 상기 비디오 클립을 방송망 서버(230)가 제공하는 파일 전송 채널로부터 수신하고 메모리(170)에 전달하여 저장한다(S207).

<87> 다음으로, 상기 제어부(160)는 키입력 발생에 따라 상기 비디오 클립을 재생한다(S208). 상기 S208 단계에서 상기 제어부(160)는 앞서 설명한 바와 같이, 직접 재생 방식, 방송 시청 중 재생 방식, 채널 전환 중 재생 방식에 따라 상기 비디오 클립을 재생할 수 있다.

<88> 이와 같이, 본 발명의 실시 예에 따른 데이터 재생 장치 및 방법은 방송망 서버(230)가 파일 전송 채널을 통하여 전송하는 비디오 클립을 수신하고, 이에 대한 알람을 수행할 수 있다. 그리고 본 발명은 상기 수신된 비디오 클립을 사용자 선택에 따라 직접 재생 방식, 방송 시청 중 재생 방식, 채널 전환 중 재생 방식 등에 따라 재생한다. 상기 각 방식은 특정 메뉴 항목으로 제공할 수 있으며, 사용자가 선택하는 기능에 따라, 독립 또는 복합적으로 수행될 수 있다.

<89> 이상에서 살펴본 바와 같이, 본 발명의 상세한 설명에서는 구체적인 실시 예에 관하여 설명하였으나, 본 발명의 범위에서 벗어나지 않는 한도 내에서 여러 가지 변형이 가능함은 물론이다. 그러므로 본 발명의 범위는 설명된 실시 예에 국한되어 정해져서는 안 되며, 후술하는 특허청구범위뿐만 아니라 이 특허청구의 범위와 균등한 것들에 의해 정해져야 한다.

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【발명의 효과】

<90> 상술한 바와 같이 본 발명에서 제안하는 본 발명의 실시 예에 따른 데이터 재생 장치 및 방법에 따르면, 방송망 서버가 파일 전송 채널을 통하여 제공하는 데이터 예를 들면, 비디오 클립을 수신/저장할 수 있으며, 저장되는 데이터의 알람을 수행하고, 데이터의 재생 시간을 사용자가 선택하여 지정할 수 있다.

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【특허청구범위】

【청구항 1】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 과정;

상기 수신된 데이터를 저장하는 과정; 및

상기 저장된 데이터를 재생하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 2】

제1항에 있어서,

이동통신망을 통하여 메시지를 수신하는 과정;

상기 메시지에 상기 데이터의 업데이트 정보 포함 여부를 확인하는 과정;

상기 업데이트 정보 포함 시, 방송 수신 모듈을 활성화하는 과정; 및

상기 방송 수신 모듈을 이용하여 상기 파일 전송 채널을 검사하는 과정을 더 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 3】

제1항에 있어서,

기 설정된 일정 주기에 따라 방송 수신 모듈을 활성화하는 과정; 및

상기 활성화된 방송 수신 모듈을 이용하여 상기 파일 전송 채널을 검사하는

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과정을 더 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 4】

제1항에 있어서,

상기 데이터의 업데이트 정보를 수신하는 과정; 및

상기 업데이트 정보를 기반으로 상기 데이터를 수신하는 과정;을 더 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 5】

제4항에 있어서,

상기 업데이트 정보는 ESG(Electric Service Guide) 정보 인 것을 특징으로 하는 데이터 재생 방법.

【청구항 6】

제1항에 있어서,

상기 데이터 수신을 알람하는 과정을 더 포함하는 것을 특징으로 하는 데이터 재생 방법.

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【청구항 7】

제1항에 있어서,

상기 데이터는 적어도 하나의 비디오 클립인 것을 특징으로 하는 데이터 재생 방법.

【청구항 8】

제7항에 있어서,

상기 비디오 클립은

기호도 및 다운로드 횟수를 포함하는 일정 기준에 따라 부여된 랭킹 정보 및 카테고리 정보 중 적어도 하나를 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 9】

제1항에 있어서,

상기 방송망은 DVB-H 방식에 따라 채널을 형성하며, 상기 파일 전송 채널을 FLUTE(File Delivery over Unidirectional Transport) 프로토콜을 이용하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 10】

제1항에 있어서,

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상기 저장된 데이터를 재생하는 과정은

저장된 데이터의 리스트를 표시하는 과정;

상기 리스트 중 특정 데이터를 선택하는 과정; 및

상기 선택된 데이터를 재생 하는 과정을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 11】

제1항에 있어서,

상기 저장된 데이터를 재생하는 과정은

외부로부터 방송신호를 수신하여 시청하는 과정; 및

현재 시청 중인 방송신호가 광고인 경우, 상기 데이터를 재생하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 12】

제11항에 있어서,

상기 광고 시청 중 데이터 재생 과정은

광고 영상 위에 일정 영역을 할당하여 PIP(Picture In Picture) 형태로 상기 데이터를 재생하는 것을 특징으로 하는 데이터 재생 방법.

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【청구항 13】

제1항에 있어서,

상기 저장된 데이터를 재생하는 과정은

방송 시청 중 채널에 해당하는 키입력이 발생하는 과정; 및

상기 키입력에 따라 채널 전환 중 상기 데이터를 재생하는 과정;을 포함하는 것을 특징으로 하는 데이터 재생 방법.

【청구항 14】

제13항에 있어서,

상기 채널 전환 완료 후, 상기 재생 중인 데이터를 재생 중지하는 과정; 또는

상기 채널 전환 완료 후, 전환된 채널에 해당하는 방송 영상 위에 상기 재생 중인 데이터를 PIP 형태로 재생하는 과정; 중 어느 하나 인 것을 특징으로 하는 데이터 재생 방법.

【청구항 15】

방송망의 파일 전송 채널을 통하여 전달되는 데이터를 수신하는 방송 수신기;

상기 수신된 데이터를 저장하는 메모리;

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상기 저장된 데이터를 표시하도록 제어하는 제어부; 및

상기 데이터를 표시하는 표시부를 포함하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 16】

제15항에 있어서,

상기 제어부는

상기 방송 수신기의 주파수 세팅을 제어하고 상기 수신된 데이터를 상기 메모리에 전달하는 방송 수신 모듈;

상기 데이터 수신을 알람하는 팝업 모듈; 및

상기 방송 수신기가 수신하는 방송 신호 및 상기 수신된 데이터 중 적어도 하나를 재생하는 재생 모듈;을 포함하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 17】

제16항에 있어서,

이동통신망을 통하여 상기 데이터의 업데이트 정보를 포함하는 메시지를 수신하고, 이를 상기 팝업 모듈에 전달하는 이동통신부를 더 포함하는 것을 특징으로 하는 데이터 재생 장치.

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【청구항 18】

제17항에 있어서,

상기 팝업 모듈은

상기 업데이트 정보를 포함하는 메시지를 수신한 경우 상기 방송 수신 모듈을 활성화하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 19】

제16항에 있어서,

상기 팝업 모듈은

상기 방송 수신 모듈 또는 상기 이동통신망으로부터 데이터 수신 여부를 전달받고, 상기 데이터 관련 정보를 대기화면 상에 표시하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 20】

제16항에 있어서,

상기 팝업 모듈은

벡터 그래픽을 지원하는 SVG-Tiny, 영상에 렌더링 효과를 지원하는 렌더링 효과부 및 GUI(Graphic User Interface) 제어부를 포함하는 동적 그래픽 엔진;

팝업창의 생성 및 표시를 제어하는 팝업 제어기;

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데이터의 업데이트 여부를 상기 방송 수신 모듈에 알람하는 알림부;

상기 데이터를 제공하는 서버에 접속할 수 있는 링크를 지원하는 양방향 서비스부; 및

상기 방송 수신 모듈과의 신호 송수신을 위한 방송수신모듈 어댑터;를 포함하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 21】

제16항에 있어서,

상기 재생 모듈은

수신된 데이터를 저장한 후, 메뉴 및 리스트 선택에 따라 직접 재생하는 방식;

방송 시청 중 광고 시간에 상기 데이터를 PIP(Picture In Picture) 형태로 재생하는 방송 시청 중 재생 방식; 및

채널 전환 중 상기 데이터를 재생하는 채널 전환 중 재생 방식; 중 적어도 하나의 방식을 이용하여 상기 데이터를 재생하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 22】

제16항에 있어서,

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상기 방송 수신 모듈은

상기 데이터의 업데이트 정보를 수신하고, 상기 업데이트 정보를 기반으로 상기 데이터를 수신하도록 상기 방송 수신기를 제어하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 23】

제22항에 있어서,

상기 업데이트 정보는 ESG(Electric Service Guide) 정보 인 것을 특징으로 하는 데이터 재생 장치.

【청구항 24】

제15항에 있어서,

상기 데이터는 적어도 하나의 비디오 클립인 것을 특징으로 하는 데이터 재생 장치.

【청구항 25】

제24항에 있어서,

상기 비디오 클립은

기호도 및 다운로드 횟수를 포함하는 일정 기준에 따라 부여된 랭킹 정보 및

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카테고리 정보 중 적어도 하나를 포함하는 것을 특징으로 하는 데이터 재생 장치.

【청구항 26】

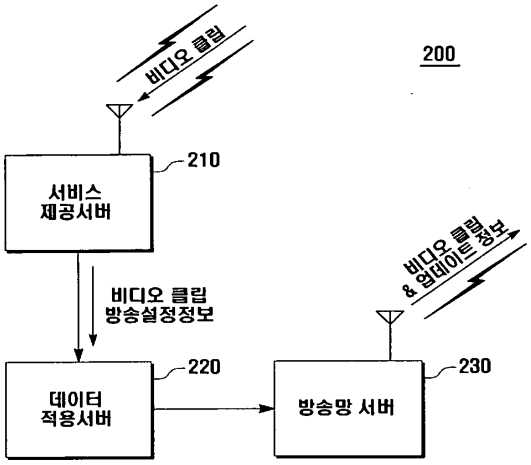
제15항에 있어서,

상기 방송망은 DVB-H 방식에 따라 채널을 형성하며, 상기 파일 전송 채널을 FLUTE(File Delivery over Unidirectional Transport) 프로토콜을 이용하는 것을 특징으로 하는 데이터 재생 장치.

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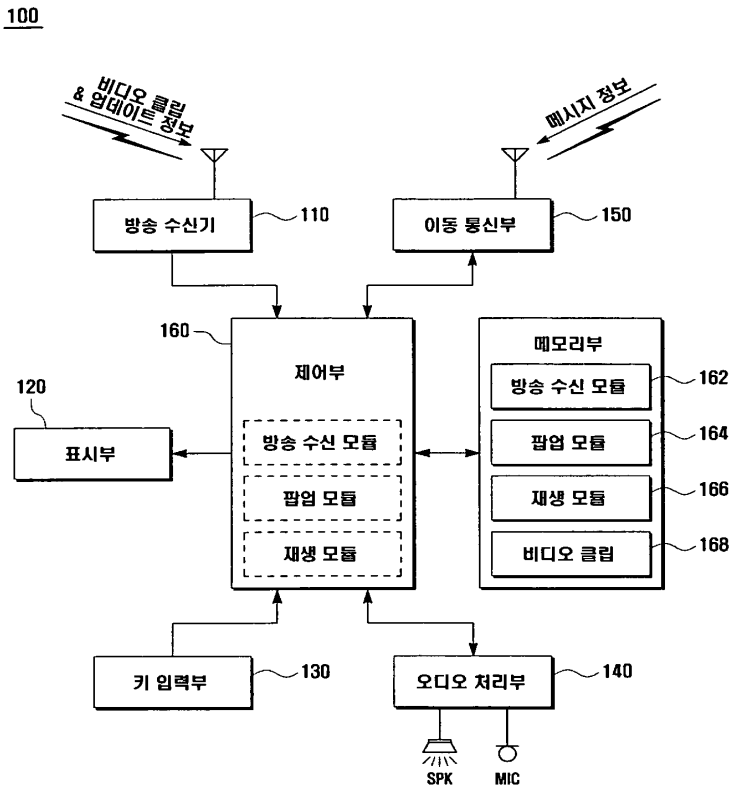
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【도 1】

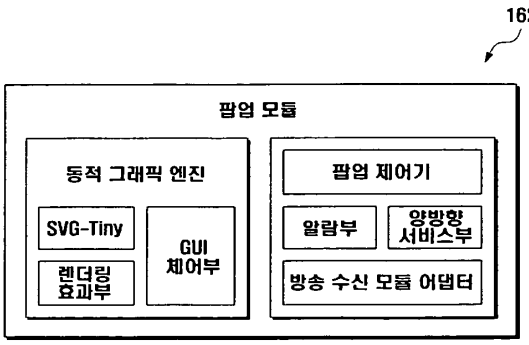


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【도 2】

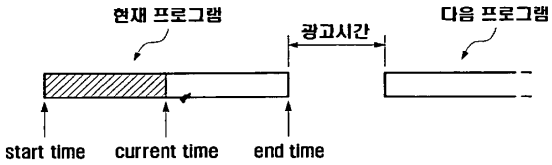


【도 3】

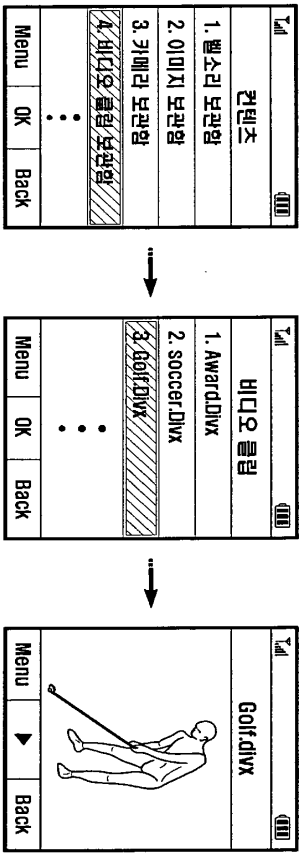


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【도 4】

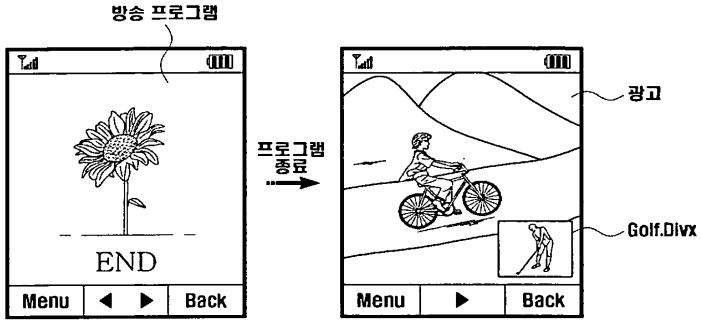


【도 5】



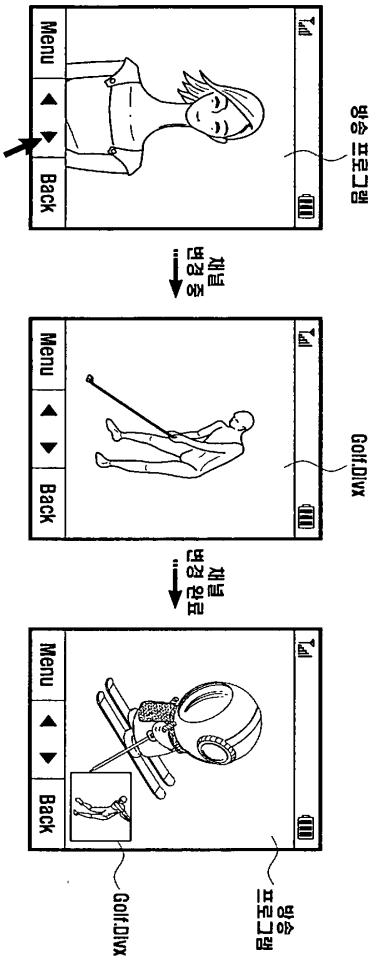
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【도 6】



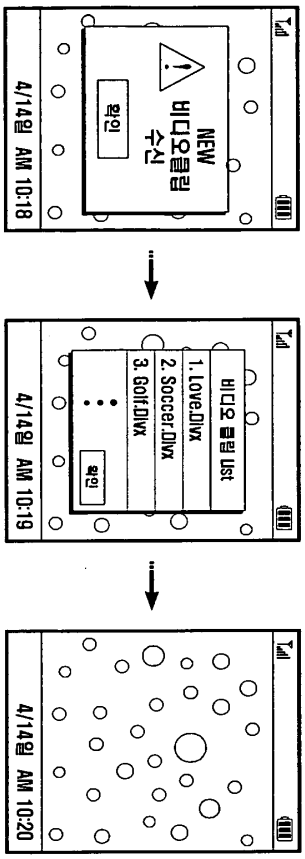
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【도 7】



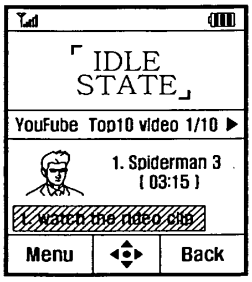
VB Assets Exhibit No. 2005
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【도 8】



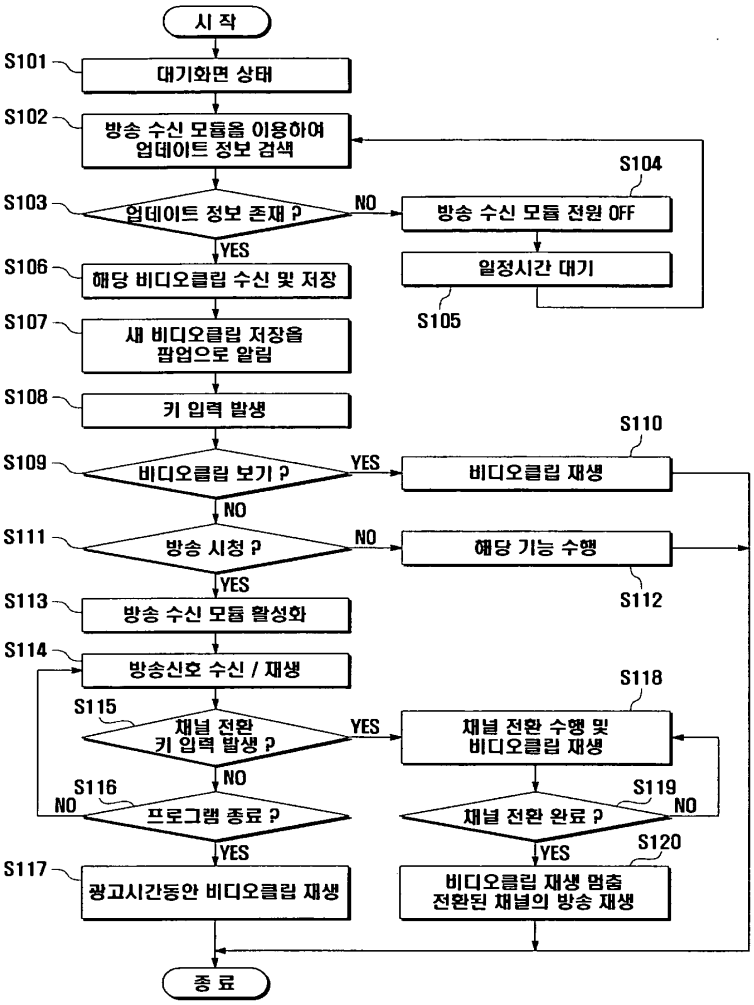
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【도 9】



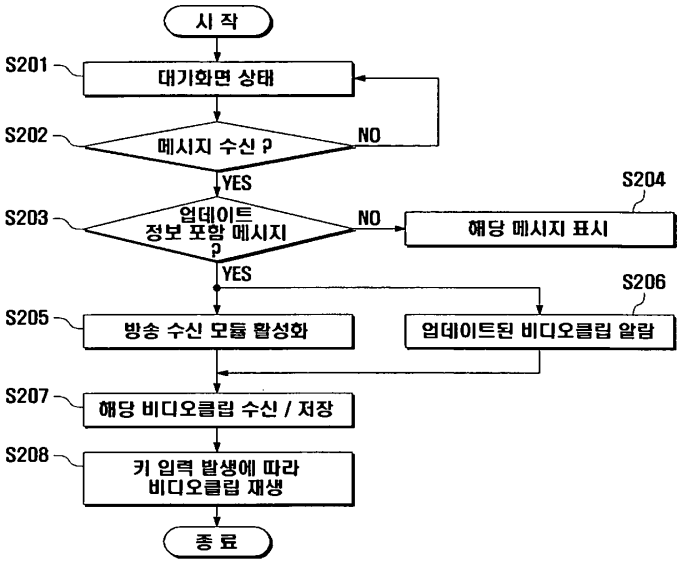
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【도 10】



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【도 11】



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	Application Number	12102503
	Filing Date	2008-03-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

	1	CURCIO et al., FLUTE for MBMS downloading, 3GPP TSG-SA4#29 Meeting, November 24, 2003, Tdoc S4-030772	☐

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Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12102503
	Filing Date	2008-03-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/George C. ECKERT/	Date (YYYY-MM-DD)	2008-10-14
Name/Print	George C. Eckert	Registration Number	58892

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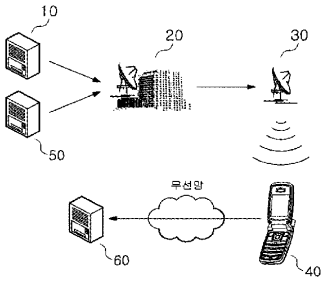
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(54) CONTENTS PROVIDING SYSTEM FOR PROVIDING CONTENTS ONLY TO SUBSCRIBERS OF A CONTENTS USE SERVICE BY USING A DIGITAL MULTIMEDIA BROADCASTING DATA CHANNEL

(57) Abstract:



PURPOSE: A contents providing system by using a digital multimedia broadcasting data channel is provided to promptly download a large amount of contents at a low cost by using a DMB broadcasting channel, and secure additional contents providing media by using a DMB system. CONSTITUTION: A server(10) of a program provider provides DMB(Digital Multimedia Broadcasting) broadcasting program information. A server(50) of a contents provider generates and provides contents data. A DMB broadcasting station(20) processes a broadcasting program received from the server of a program provider for generating a broadcasting information stream and received the contents data from the server of a contents provider for transmitting the contents data to a DMB satellite(30) together with the broadcasting information stream. The DMB satellite converts frequency of the broadcasting information stream for transmitting the converted broadcasting information stream to a DMB terminal(40). The DMB terminal demodulates the broadcasting information stream for reproducing a broadcasting program. A contents subscriber database server(60) stores and manages personal information of a DMB terminal user and subscription of a contents service, and performs subscriber authentication that the DMB terminal user is a subscriber for the contents service when the DMB terminal requests contents download.

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(54) DMB 데이터 채널을 이용한 컨텐츠 제공 시스템

요약

본 발명은 DMB 데이터채널을 이용한 컨텐츠 다운로드 시스템으로서, DMB 단말기에 컨텐츠 다운로드 인증기능을 가진 소프트웨어를 내장하여 방송스트림을 통해 방송프로그램과 컨텐츠를 DMB 단말기에 함께 송출하고, 컨텐츠 다운로드 인증을 수행하여 컨텐츠 다운로드 권한을 가진 사용자측 단말기에 수신된 컨텐츠를 다운로드하도록 구성된다. 본 발명에 의하면 DMB 데이터 채널을 이용하여 대용량 컨텐츠를 빠르고 경제적으로 다운로드 할 수 있으며, DMB 시스템을 이용한 추가적인 컨텐츠 제공매체의 확보 및 이를 통한 컨텐츠 수익 증대효과를 가진다.

대표도

도 1

색인어

DMB, 데이터 채널, 컨텐츠, 다운로드

명세서

도면의 간단한 설명

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도 1은 본 발명의 바람직한 일실시예에 따른 DMB 데이터 채널을 이용한 컨텐츠 제공 시스템을 개략적으로 도시한 도이다.

도 2는 본 발명의 바람직한 일실시예에 따른 DMB 단말기에 내장된 인증 소프트웨어를 구동하여 이동통신망을 통해 컨텐츠를 다운로드하는 과정을 도시한 플로우차트이다.

도 3은 본 발명의 바람직한 일실시예에 따른 DMB 방송 중 강의요약노트의 다운로드 과정을 순차적으로 도시한 플로우차트이다.

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 DMB 데이터 채널(Digital Multimedia Broadcasting Data Channel)을 이용하여 컨텐츠를 제공하는 컨텐츠 제공 시스템 및 제공방법에 관한 것으로서, 보다 상세하게는 컨텐츠사용인증을 수행하는 인증소프트웨어를 내장한 컨텐츠사용서비스 가입자 단말기상에 DMB 데이터 채널을 이용하여 유료컨텐츠를 제공하는 컨텐츠 제공 시스템 및 제공방법에 관한 것이다.

현재, 우리나라에서는 무선망을 통한 컨텐츠 이용 관련 사업이 활성화되어 있다. 이러한 컨텐츠 서비스는 컨텐츠를 다운로드하기 위하여 사용자가 무선인터넷에 접속하여 컨텐츠를 접속하는 방식과, WAP Push를 이용하여 컨텐츠를 다운로드하는 방식으로 나뉘어 진다.

무선인터넷에 접속하여 컨텐츠를 접속하는 경우, 컨텐츠를 이용하는 수신자는 컨텐츠 사용료 뿐만 아니라 컨텐츠 다운로드에 사용되는 패킷 사용료를 지불해야 한다. 특히, 단말기 관련 기술 및 통신기술이 고도화됨에 따라 종래의 어모터콘, 벨소리 등과 같이 저용량 데이터에서 점차 동영상, 게임, 영화와 같이 대용량 컨텐츠로 사용되는 컨텐츠의 용량이 증가되는 추세에 따라 컨텐츠 다운로드에 지불하는 비용 또한 기하급수적으로 늘고 있으며, 경우에 따라 컨텐츠 이용료보다 패킷 사용료가 더 비싼 경우도 발생하게 되어 소비자에게 경제적 부담을 주는 한편, 컨텐츠 이용에 제한을 가하여 컨텐츠 사업의 활성화를 저해하는 요소가 되고 있다.

DMB(Digital Multimedia Broadcasting, 디지털 멀티미디어 방송)란, 음성, 영상 등 다양한 멀티미디어 신호를 디지털 방식으로 변조하여 지상안테나 또는 위성을 통해 고정 또는 휴대용, 차량용 수신기 등에 제공하는 방송 서비스를 말한다.

DMB 시스템내에서 방송 프로그램 제공자(Program Provider,PP) 및 컨텐츠 제공자(Contents Provider, CP)로부터 제공된 방송 프로그램 및 컨텐츠는 압축 및 변복조되어 디지털 신호로 변환된 후, 오디오 채널, 영상채널, 데이터 채널 , PSI(Program Specific Information)/SI(Specific Information)채널을 통해 DMB 전용 단말기에 전달된다. 이러한 DMB 시스템에 의하면 데이터 압축 기술을 사용하여 대용량의 데이터도 압축을 통해 용량을 효과적으로 줄일 수 있으며, 오디오, 영상, 데이터 등 다양한 종류의 신호를 각각의 채널을 통해 동시에 전송할 수 있는 장점이 있다.

따라서, 본원발명의 발명자는 종래 기술의 문제점을 해결하기 위하여 사용자가 DMB 방송 시청중 컨텐츠 사용 서비스에 가입한 사용자에게 방송용 데이터 채널을 이용하여 컨텐츠를 제공하는 경우 사용자가 과다한 패킷 사용료를 지불하지 않고도 대용량 컨텐츠를 이용할 수 있으며, 컨텐츠를 동시에 다수의 사용자에게 제공하여 컨텐츠 다운로드를 보다 용이하게 하고, DMB를 이용한 컨텐츠 제공 서비스의 활성화라는 효과가 있음을 확인하고 본 발명을 완성하게 되었다.

발명이 이루고자 하는 기술적 과제

본 발명은 DMB 데이터 채널을 이용하여 DMB 방송을 시청하는 시청자 중 컨텐츠 사용 서비스에 가입한 사용자에게만 컨텐츠를 제공하는 것을 목적으로 한다.

본 발명의 기타 목적 및 장점들은 하기에 설명될 것이며, 이는 본 발명의 청구범위에 기재된 사항 및 그 실시예의 개시내용뿐만 아니라, 이들로부터 용이하게 추고할 수 있는 범위 내의 수단 및 조합에 의해 보다 넓은 범위로 포섭될 것임을 첨언한다.

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발명의 구성 및 작용

상기한 기술적 과제를 달성하기 위하여, 본 발명은,

DMB 방송 프로그램 정보를 제공하는 프로그램 제공자측 서버;

컨텐츠 데이터를 생성하여 컨텐츠 제공자측 서버;

상기 프로그램 제공자측 서버로부터 수신한 방송프로그램 정보를 가공하여 방송정보스트림을 생성하고, 상기 컨텐츠 제공자측 서버로부터 컨텐츠 데이터를 수신하여 상기 방송정보스트림과 함께 DMB 위성으로 송출하는 DMB 방송센터;

상기 방송센터로부터 수신한 방송정보스트림을 주파수변환하여 DMB단말기에 송출하는 DMB 위성;

상기 DMB 위성으로부터 수신한 방송정보스트림을 복조하여 방송 프로그램을 재생하는 DMB단말기;

상기 DMB 방송을 수신하는 DMB단말기 사용자의 개인정보 및 컨텐츠이용서비스 가입 유무를 저장 및 관리하고, 상기 DMB 단말기로부터 컨텐츠 다운로드 요청이 입력되면 상기 DMB 단말기의 사용자가 상기 컨텐츠 서비스 가입자인지 여부의 인증을 수행하는 컨텐츠 가입자 DB 서버를 더 포함하는, DMB 데이터채널을 이용한 컨텐츠 다운로드 시스템을 제공한다.

상기 DMB단말기는, 컨텐츠 다운로드 명령이 입력되면 이동통신망을 통해 상기 컨텐츠 가입자 DB 서버에 접속하여 해당 컨텐츠 서비스의 가입인증을 요청하고, 상기 가입인증결과 상기 해당 컨텐츠 서비스에 가입된 것으로 판명되면 상기 컨텐츠를 다운로드하도록 제어하는, 가입인증 소프트웨어가 내장된 것을 특징으로 한다.

그리고, 본 발명은 위성 DMB 시스템내에서 DMB 데이터 채널을 이용하여 인증된 사용자 단말기에 컨텐츠를 다운로드하는 방법으로서,

DMB 방송스트림이 DMB단말기에 수신되면, DMB단말기 내에 내장된 데이터 다운로드 인증 소프트웨어를 구동하여 해당 컨텐츠 가입자 DB 서버에 접속하는 접속단계;

상기 컨텐츠 가입자 DB 서버가 인증정보를 조회하여 상기 DMB 단말기의 다운로드 권한유무를 판별하는 인증단계;

상기 컨텐츠 가입자 DB서버로부터 인증결과를 수신하여 사용권한이 있는 것으로 판별된 경우 컨텐츠 데이터를 다운로드하는 다운로드 단계;

상기 컨텐츠 데이터의 다운로드가 정상적으로 완료되었는지 여부를 판별하는 판별단계;

상기 다운로드가 정상적으로 완료된 것으로 판별되면 DMB단말기의 표시부에 완료메시지를 표시하는 완료 메시지 표시단계를 포함하는, DMB 데이터 채널을 이용한 컨텐츠 다운로드 방법을 제공한다.

만약, 상기 인증결과 사용권한이 없는 것으로 판별된 경우, 상기 인증단계와 상기 다운로드 단계 사이에,

상기 DMB단말기의 표시부에 서비스가입여부를 묻는 메시지를 표시하고, 상기 DMB 단말기의 사용자가 서비스가입여부를 선택하는 가입여부 선택단계; 와

상기 DMB단말기에 가입취소명령이 입력되면 상기 인증 소프트웨어의 구동을 종료하는 종료단계를 더 포함한다.

그리고, 상기 가입여부 선택단계에서,

상기 DMB단말기에 서비스 가입선택명령이 입력되면 데이터 다운로드 인증 소프트웨어를 구동하여 상기 컨텐츠 가입자 DB서버에 접속하는 접속단계;

상기 컨텐츠 가입자 DB 서버에 저장된 가입자 정보를 수정하는 수정단계;

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상기 컨텐츠 가입자 DB 서버로부터 수정된 가입자 정보를 수신하여 상기 인증 소프트웨어 내의 인증정보를 수정하는 인증정보수정단계가 더 포함될 수 있다.

그리고, 상기 다운로드가 정상적으로 완료되지 않은 것으로 판별되면 다운로드 단계로 되돌아가는 가는 바람직하다.

이하 본 발명에 따른 바람직한 실시예를 첨부한 도면을 참조하여 상세히 설명한다. 그리고 본 발명을 설명함에 있어서, 관련된 공지기능 혹은 공지 구성에 대한 구체적인 설명 또는 당업자에게 자명한 사항으로서 본 발명의 요지를 불필요하게 흐릴 수 있다고 판단되는 경우에는 그 상세한 설명을 생략한다.

도 1에는 본 발명의 바람직한 일실시예에 따른 DMB 데이터 채널을 이용한 컨텐츠 제공 시스템이 도시되어 있다. 상기 컨텐츠 제공 시스템은 크게 프로그램 제공자측 서버, 컨텐츠 제공자측 서버, DMB 방송센터, 안테나, DMB 수신용 단말기, 컨텐츠 가입자 DB 서버로 구성된다. 본 명세서에서 '컨텐츠'는 벨소리, 컬러링, 뮤직 비디오, 텍스트 문서 등 부가서비스로 사용자에게 제공되는 모든 형식의 데이터들을 포함하는 넓은 개념이다. 그리고, DMB 시스템과 관련하여 본 발명의 특징내용을 설명하는 것과 관계없는 부분에 대한 상세한 설명은 생략한다.

프로그램 제공자측 서버는 방송 프로그램을 생성하여 DMB 방송센터에 제공하는 서버로서, 기존의 지상파 방송국, 케이블 TV 방송국 등과 같이 제작된 방송 프로그램을 DMB 방송센터에 제공하는 모든 서버가 이에 해당한다.

컨텐츠 제공자측 서버는 유무선통신망을 통해 사용자가 이용하는 컨텐츠 정보를 생성하여 DMB 방송센터에 제공하는 서버로서, 기존의 유무선통신망을 통해 사용자에게 컨텐츠를 제공한 컨텐츠 제공자도 포함된다. 상기 방송과 함께 제공되는 컨텐츠는 방송프로그램의 내용과 관련된 컨텐츠일 경우, 보다 효과적인 컨텐츠 다운로드가 가능하다. 예를 들면, 교육방송 프로그램이 방송중에 방송 프로그램 내용이 기재된 강의요약 노트류와 같은 방송 프로그램 관련 컨텐츠들이 제공될 경우, 관련 컨텐츠들을 보다 많이 다운로드할 것으로 기대할 수 있다.

방송센터는 상기 프로그램 제공자측 서버로부터 수신한 방송정보와 상기 컨텐츠 제공자측 서버로부터 수신한 컨텐츠 정보를 디지털화, 압축 및 다중화하여 방송정보스트림을 생성한 후, 방송정보스트림을 중계기로 전송한다. 즉, 상기 방송센터는 방송이 이루어지는 동안 컨텐츠 정보를 방송용 데이터 채널을 이용하여 주기적으로 송출한다.

중계기는 상기 방송센터로부터 수신한 방송정보스트림을 주파수변환하고, 오디오 채널, 비디오 채널, 데이터 채널 등을 통해 DMB단말기에 송출하기 위한 것으로, DMB 위성, 지상안테나 또는 갭 필러(Gap Filer) 등이 있다.

DMB 단말기는 이동통신단말기, PDA, 노트북 등 중계기로부터 수신한 CDM 신호를 복조하여 가입자에게 방송정보를 출력하는 수신기 기능을 가지는 모든 단말기를 포함한다. DMB 단말기는 데이터 채널을 이용한 컨텐츠 다운로드 인증 소프트웨어를 포함하여, DMB 단말기가 상기 중계기로부터 방송신호가 수신하는 동안, 상기

컨텐츠 가입자 DB 서버는 상기 DMB 방송을 수신하는 DMB 단말기 사용자의 개인정보 및 데이터 채널을 이용한 컨텐츠 다운로드 서비스 가입유무를 저장하고 관리한다. 컨텐츠 가입자 DB 서버에 저장된 사용자의 개인정보로서 사용자의 이름, 주소, 주민등록번호, 이동통신번호, 가상계좌번호, 관심분야 등이 저장되며, 사용자의 컨텐츠 다운로드 서비스 가입유무, 서비스 유효기간, 가입시기 등 컨텐츠 다운로드 서비스와 관련된 사항이 함께 저장된다. 또한, 컨텐츠 가입자 DB 서버는 DMB 단말기 사용자가 방송중 컨텐츠를 다운로드하는 경우 컨텐츠 다운로드 서비스의 가입자를 인증하여 인증된 사용자의 DMB 단말기에만 컨텐츠가 다운로드되도록 한다.

도 2에는 본 발명의 바람직한 일실시예에 따라 DMB 단말기에 내장된 인증 소프트웨어를 구동하여 이동통신망을 통해 컨텐츠를 다운로드하는 과정이 흐름도로 도시되고 있다.

DMB 방송을 수신하는 사용자가 DMB 단말기 내에서 DMB 데이터채널 다운로드를 선택하면(S10), DMB 단말기에 내장된 인증 소프트웨어가 구동한다(S20). 인증소프트웨어에 의해 DMB 단말기가 이동통신망을 통해 가입자 DB 서버에 접속하고, 상기 가입자 DB 서버에 사용자 인증 요청신호를 전송하도록 제어한다.

가입자 DB 서버는 상기 DMB 단말기로부터 인증요청을 수신하면, 가입자 DB 서버에 저장된 컨텐츠 다운로드 서비스 가입자 정보를 추출하여 인증을 수행하고 (S30),인증결과를 DMB 단말기에 전송한다.

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인증결과 DMB 단말기 사용자가 부가서비스에 가입한 것으로 판명되면 상기 DMB 단말기는 컨텐츠 데이터를 다운로드하기 시작한다(S40). 상기 단말기는 수신한 방송정보스트림으로부터 컨텐츠 데이터를 분리하여 단말기 내의 메모리부에 저장한다.

그리고, 인증 소프트웨어는 요청된 컨텐츠 데이터의 다운로드가 정상적으로 완료되었는지 여부를 판단한다(S50). 다운로드가 정상적으로 완료되지 않은 것으로 판단되면, 다시 단계 S40으로 되돌아가 컨텐츠의 다운로드를 재시작한다. 만약, 다운로드가 정상적으로 완료된 것으로 판단되면, 완료메시지를 DMB 단말기의 표시부에 표시하고(S60), 컨텐츠 데이터의 다운로드 과정을 종료한다.

한편, 상기 가입자 DB 서버에 의한 인증결과, DMB 단말기 사용자가 부가서비스에 가입하지 않은 경우, 또는 부가서비스 사용기간이 만료된 것으로 판명되면, 단말기는 "다운로드 권한이 없습니다. 월정액 가입을 하시겠습니까?" 라는 컨텐츠 다운로드 서비스 가입안내 메시지를 DMB 단말기의 표시부에 표시한다.

상기 안내 메시지가 표시부에 표시되면, 사용자로부터 월정액 가입여부를 입력받기 위해, 일정시간동안 입력창이 활성화된다. 사용자로부터 일정시간내에 다운로드 명령이 입력되면, 상기 DMB 단말기는 상기 가입자 DB서버에 접속하여 월정액 데이터 채널 다운로드 서비스 정보 수정을 요청한다.

상기 가입자 DB 서버는 월정액 데이터 다운로드 서비스 정보 수정요청을 수신하여 데이터 다운로드 서비스 가입유무를 '가입'으로 수정하고, 수정된 데이터 다운로드 서비스 정보를 상기 DMB 단말기에 전송한다.

상기 DMB 단말기는 인증 소프트웨어의 인증 정보에 수신된 수정 데이터 다운로드 서비스 정보를 저장하고, 요청된 컨텐츠 데이터의 다운로드를 시작한다.

컨텐츠 다운로드 이후의 과정은 스텝 S~S와 동일한 바, 그 자세한 설명은 생략한다.

한편, 본 발명의 다른 실시예로서, 상기 DMB 단말기에 저장된 인증 소프트웨어의 인증정보와 가입자 DB 서버가 Sync되도록 구성될 수 있다. 즉, 예를 들면 데이터 다운로드 서비스를 신규로 가입하고나, 기존의 데이터 다운로드 서비스를 갱신하거나, 데이터 다운로드 서비스 이용기간 만료와 같이 가입자 DB 서버의 데이터 다운로드 서비스와 관련된 수정사항이 발생하면, 가입자 DB 서버가 상기 DMB 단말기에 수정사항을 전송한다. 이에 따라 상기 DMB 단말기에 저장된 인증 소프트웨어의 인증정보는 DB 서버와 연계하여 새로운 고객 인증정보를 저장하게 되므로, 사용자가 데이터를 다운로드할 때마다 굳이 가입자 DB 서버에 매번 접속하지 않아도 된다.

도 3에는 본 발명의 바람직한 일실시예에 따른 DMB 방송 중 강의요약노트의 다운로드 과정이 순차적으로 도시되고 있다.

먼저, 사용자가 DMB 방송을 시청하면, DMB 단말기상에 DMB 방송데이터와 함께 컨텐츠 데이터가 방송정보스트림 형태로 수신된다. 사용자로부터 데이터 다운로드 명령이 입력되면, DMB 단말기 내의 인증 소프트웨어가 구동하여, 사용자의 데이터 다운로드 서비스 가입인증을 시작한다.

상기 인증 소프트웨어는 DMB 단말기를 컨텐츠 가입자 DB 서버에 접속하도록 하여 컨텐츠 다운로드 인증을 요청하고, 상기 컨텐츠 가입자 DB 서버로부터 수신된 컨텐츠 다운로드 인증결과를 이용하여, 컨텐츠 다운로드 권한이 있는 것을 판정되면 상기 수신된 방송정보스트림으로부터 상기 컨텐츠 데이터를 분리하여 이를 상기 DMB 단말기 내 메모리부에 별도로 저장한다.

사용자로부터 "컨텐츠 VIEW" 명령이 입력되면, 상기 DMB 단말기의 메모리부에 저장된 컨텐츠 정보를 상기 DMB 단말기상에 디스플레이하여 사용자에게 제공한다.

한편 이들 실시예는 단지 본 발명을 예시하기 위한 것이며, 본 발명의 보호범위가 이들 실시예에 의해 제한되는 것은 아니다.

이상의 설명에서 본 발명은 특정 실시예와 관련하여 도시 및 설명하였지만, 특허청구범위에 의해 나타난 발명의 사상 및 영역으로부터 벗어나지 않는 한도 내에서 다양한 개조 및 변화가 가능하다는 것을 당업계에서 통상의 지식을 가진 자라면 누구나 쉽게 알 수 있을 것이다.

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발명의 효과

상술한 바와 같이, 본 발명에 따르면, 대용량의 컨텐츠를 DMB 방송채널을 이용하여 저렴하고 빠르게 다운로드 할 수 있다. 또한, 다수의 사용자가 동시에 컨텐츠를 다운로드하는 경우 발생할 수 있는 다운로드 속도 감소 및 접속장애를 해결하여 동시에 많은 사용자에게 컨텐츠를 제공할 수 있으며, DMB 시스템을 이용한 추가적인 컨텐츠 제공매체의 확보 및 이를 통한 컨텐츠 수익 증대를 꾀할 수 있다.

본 발명의 다른 효과는, 이상에서 설명한 실시예 및 본 발명의 청구범위에 기재된 사항뿐만 아니라, 이들로부터 용이하게 추고할 수 있는 범위 내에서 발생될 수 있는 효과 및 산업발전에 기여하는 잠정적 장점의 가능성들에 의해 보다 넓은 범위로 포섭될 것임을 첨언한다.

(57) 청구의 범위

청구항 1.

DMB 방송 프로그램 정보를 제공하는 프로그램 제공자측 서버;

컨텐츠 데이터를 생성하여 제공하는 컨텐츠 제공자측 서버;

상기 프로그램 제공자측 서버로부터 수신한 방송프로그램 정보를 가공하여 방송정보스트림을 생성하고, 상기 컨텐츠 제공자측 서버로부터 컨텐츠 데이터를 수신하여 상기 방송정보스트림과 함께 DMB 위성으로 송출하는 DMB 방송센터;

상기 방송센터로부터 수신한 방송정보스트림을 주파수변환하여 DMB단말기에 송출하는 DMB 위성;

상기 DMB 위성으로부터 수신한 방송정보스트림을 복조하여 방송 프로그램을 재생하는 DMB단말기;

상기 DMB 방송을 수신하는 DMB단말기 사용자의 개인정보 및 컨텐츠이용서비스 가입 유무를 저장 및 관리하고, 상기 DMB 단말기가 컨텐츠 다운로드를 요청시 상기 DMB 단말기의 사용자가 상기 컨텐츠 서비스의 가입자인지 여부의 인증을 수행하는 컨텐츠 가입자 DB 서버를 더 포함하는, DMB 데이터채널을 이용한 컨텐츠 다운로드 시스템.

청구항 2.

제 1 항에 있어서,

상기 DMB단말기는, 컨텐츠 다운로드 명령이 입력되면 이동통신망을 통해 상기 컨텐츠 가입자 DB 서버에 접속하여 해당 컨텐츠 서비스 가입인증을 요청하고, 상기 가입인증결과 상기 해당 컨텐츠 서비스에 가입된 것으로 판명되면 상기 컨텐츠를 다운로드하도록 제어하는, 가입인증 소프트웨어가 내장된 것을 특징으로 하는, DMB 데이터채널을 이용한 컨텐츠 다운로드 시스템.

청구항 3.

위성 DMB 시스템내에서 DMB 데이터 채널을 이용하여 인증된 사용자 단말기에 컨텐츠를 다운로드하는 방법으로서,

DMB 방송스트림이 DMB단말기에 수신되면, DMB단말기 내에 내장된 데이터 다운로드 인증 소프트웨어를 구동하여 해당 컨텐츠 가입자 DB 서버에 접속하는 접속단계;

상기 컨텐츠 가입자 DB 서버가 인증정보를 조회하여 상기 DMB 단말기의 다운로드 권한유무를 판별하는 인증단계;

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상기 가입자 DB서버로부터 인증결과를 수신하여 사용권한이 있는 것으로 판별된 경우 컨텐츠 데이터를 다운로드하는 다운로드 단계;

상기 컨텐츠 데이터의 다운로드가 정상적으로 완료되었는지 여부를 판별하는 판별단계;

상기 다운로드가 정상적으로 완료된 것으로 판별되면 DMB단말기의 표시부에 완료메시지를 표시하는 완료 메시지 표시단계를 포함하는, DMB 데이터 채널을 이용한 컨텐츠 다운로드 방법.

청구항 4.

제 3 항에 있어서,

상기 인증결과 사용권한이 없는 것으로 판별된 경우, 상기 인증단계와 상기 다운로드 단계 사이에,

상기 DMB단말기의 표시부에 서비스가입여부를 묻는 메시지를 표시하고, 상기 DMB 단말기의 사용자가 서비스가입여부를 선택하는 가입여부 선택단계; 와

상기 DMB단말기에 가입취소명령이 입력되면 상기 인증 소프트웨어의 구동을 종료하는 종료단계를 더 포함하는, DMB 데이터 채널을 이용한 컨텐츠 다운로드 방법.

청구항 5.

제 4항에 있어서,

상기 가입여부 선택단계에서,

상기 DMB단말기에 서비스 가입선택명령이 입력되면 데이터 다운로드 인증 소프트웨어를 구동하여 상기 컨텐츠 가입자 DB서버에 접속하는 접속단계;

상기 컨텐츠 가입자 DB 서버에 저장된 가입자 정보를 수정하는 수정단계;

상기 컨텐츠 가입자 DB 서버로부터 수정된 가입자 정보를 수신하여 상기 인증 소프트웨어 내의 인증정보를 수정하는 인증정보수정단계를 더 포함하는, DMB 데이터 채널을 이용한 컨텐츠 다운로드 방법.

청구항 6.

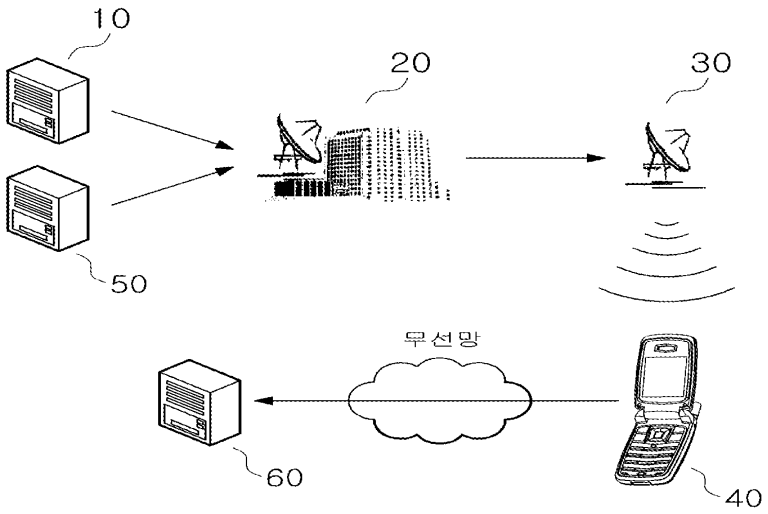
제 3 항 내지 제 5 항에 있어서,

상기 다운로드가 정상적으로 완료되지 않은 것으로 판별되면 상기 다운로드 단계로 돌아가는 것을 특징으로 하는, DMB 데이터 채널을 이용한 컨텐츠 다운로드 방법.

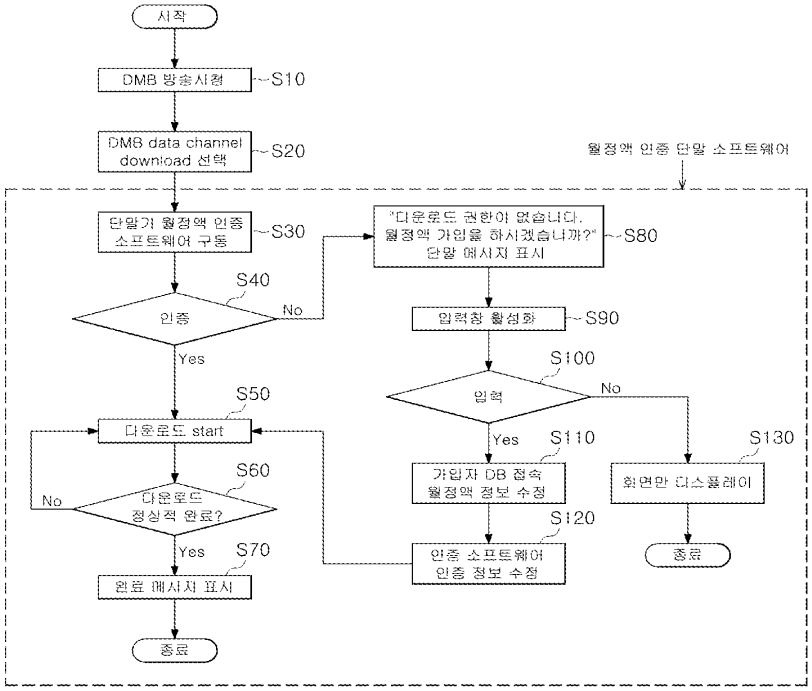
도면

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도면1

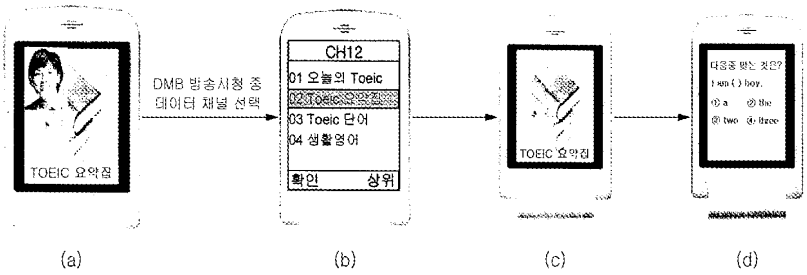


도면2



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도면3



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IPR2025-00867, U.S. Patent No. 7,818,176
Page 160 of 492

Electronic Acknowledgement Receipt	
EFS ID:	4110224
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	George Charles Eckert
Filer Authorized By:	
Attorney Docket Number:	0203-0023
Receipt Date:	14-OCT-2008
Filing Date:	14-APR-2008
Time Stamp:	15:32:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed (SB/08)	0203-0023IDSAsFiled.pdf	607630 669db11390423b799864867543eaa8807b0a6143	no	4
Warnings:					
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2	Foreign Reference	KR2006-79911AsFiled.pdf	1995157 022266c56a56ed786c12eab683cf158ed7b7f1e5	no	11
Warnings:					
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3	NPL Documents	FluteforMBMSdownloadingAsFiled.pdf	159116 970a0c2ff6a25ae370c82a4a4993182078c630b0	no	10
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		Total Files Size (in bytes):	2761903		

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New International Application Filed with the USPTO as a Receiving Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023

CONFIRMATION NO. 1303

68103
Jefferson IP Law, LLP
1730 M Street, NW
Suite 807
Washington, DC 20036

PUBLICATION NOTICE

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Title:DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD

Publication No.US-2008-0256574-A1
Publication Date:10/16/2008

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PTO/SB/08a (08-08)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	12102503
Filing Date	2008-04-14
First Named Inventor	Jong-Kerl LEE
Art Unit	
Examiner Name	
Attorney Docket Number	0203-0023

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	1	20070136742	A1	2007-06-14	SPARRELL	
	2	20020129362	A1	2002-09-12	CHANG et al.	
	3	20020087973	A1	2002-07-04	HAMILTON et al.	
	4	20030126607	A1	2003-07-03	PHILLIPS et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12102503
	Filing Date	2008-04-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

	1	10 2004 032 916	DE	A1	2006-02-02	TRAUBERG et al.		☐
	2	02/01879	WO	A2	2002-01-03	AALTONEN et al.		☐
	3	1 657 918	EP	A1	2006-05-17	CHO		☐

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NON-PATENT LITERATURE DOCUMENTS [Remove]

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	PER FROJDH et al., Study on 14496-12:2005/PDAM2 ALC/FLUTE Server File Format, October 13, 2006, no. M13855, Sweden	☐
	2	ERICSSON, Adoption of SVG Tiny 1.2 Release 6, November 20, 2004, Finland	☐
	3	Digital Video Broadcasting (DVB); DVB-H Implementation Guidelines; ETSI TR 102 377, February 1, 2005, vol. BC, no. V1.1.1	☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12102503
	Filing Date	2008-04-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/George C. ECKERT/	Date (YYYY-MM-DD)	2009-04-21
Name/Print	George C. Eckert	Registration Number	58892

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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GRANDE BRETAGNE

For any questions about this communication:
Tel.:+31 (0)70 340 45 00

16.APR.2009 66090

Date: 16.04.09

Reference	Application No./Patent No.
RGJ/P121421EP	08154564.2 - 2223 / 1991003

Applicant/Proprietor: Samsung Electronics Co., Ltd.

Communication

The extended European search report is enclosed.

The extended European search report includes, pursuant to Rule 62 EPC, the European search report (R. 61 EPC) or the partial European search report/ declaration of no search (R. 63 EPC) and the European search opinion.

Copies of documents cited in the European search report are attached.

☑ 1 additional set(s) of copies of such documents is (are) enclosed as well.

The following have been approved:

☑ Abstract ☑ Title

☐ The Abstract was modified and the definitive text is attached to this communication.

The following figure(s) will be published together with the abstract: 1

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Page 168 of 492

EUROPEAN SEARCH REPORT

Application Number
EP 08 15 4564

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	DE 10 2004 032916 A1 (INFINEON TECHNOLOGIES AG [DE]) 2 February 2006 (2006-02-02) * paragraph [0034] - paragraph [0036] * * paragraph [0046] - paragraph [0058] * * paragraph [0083] * * paragraph [0088] - paragraph [0094]; figure 1 *	1,3-7 2,8,9,21	INV. H04N7/24 H04N5/00 H04N7/173
X Y	WO 02/01879 A (NOKIA OY AB [FI]) 3 January 2002 (2002-01-03) * page 5, line 30 - page 6, line 20 * * page 8, line 1 - page 8, line 7 *	1,3-7 2,13-16, 18-20	
Y	PER FRÖJDH ET AL: "Study on 14496-12:2005/PDAM2 ALC/FLUTE server file format" VIDEO STANDARDS AND DRAFTS, XX, XX, no. M13855, 13 October 2006 (2006-10-13), XP030042523 * page 2 - page 3 *	2,21	TECHNICAL FIELDS SEARCHED (IPC) H04N H04H
P,X	US 2007/136742 A1 (SPARRELL CARLTON J [US]) 14 June 2007 (2007-06-14) * paragraphs [0026] - [0028], [0033] - [0038], [0043] *	8	
Y	US 2002/129362 A1 (CHANG MATTHEW S [US] ET AL) 12 September 2002 (2002-09-12) * paragraphs [0021], [0024], [0027], [0028], [0053] - [0058] *	8,9	

-/--

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	2 April 2009	Richard, Romain

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
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EUROPEAN SEARCH REPORT

Application Number
EP 08 15 4564

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 657 918 A (LG ELECTRONICS INC [KR]) 17 May 2006 (2006-05-17) * paragraphs [0021], [0022], [0029] - [0036], [0046] - [0050] *	10,11,17	
X	US 2002/087973 A1 (HAMILTON JEFFREY S [US] ET AL) 4 July 2002 (2002-07-04) * paragraphs [0033] - [0043] *	10,11,17	
X Y	US 2003/126607 A1 (PHILLIPS RICK [US] ET AL) 3 July 2003 (2003-07-03) * paragraphs [0016] - [0018], [0179] - [0182]; figure 30 *	12 13-16, 18-20	
A	ERICSSON: "Adoption of SVG Tiny 1.2 in Release 6" 3GPP DRAFT; S4-040749 SVG TINY12, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. tsg_sa\WG4_CODEC\TSGS4_33\Docs, no. Helsinki, Finland; 20041122, 20 November 2004 (2004-11-20), XP050287278 * the whole document *	16	TECHNICAL FIELDS SEARCHED (IPC)
A	"Digital Video Broadcasting (DVB); DVB-H Implementation Guidelines; ETSI TR 102 377" ETSI STANDARDS, LIS, SOPHIA ANTIPOLIS CEDEX, FRANCE, vol. BC, no. V1.1.1, 1 February 2005 (2005-02-01), XP014027140 ISSN: 0000-0001 * page 13 - page 13 * * page 17 - page 25 * * page 34 - page 42 * * page 42 - page 43 * * page 77 - page 78 *	1-7	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	2 April 2009	Richard, Romain

CATEGORY OF CITED DOCUMENTS

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

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

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

LACK OF UNITY OF INVENTION
SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7,21

Method of receiving data using a broadcast receiving module according to a DVB-H system and a file delivery over unidirectional transport (FLUTE) when a notification message is received from a mobile communication network.

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2. claims: 8-11, 17

Method and apparatus for reproducing data following certain rules, like during advertisement of a broadcast signal, during channel switching or by means of a picture-in-picture format

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3. claims: 12-16,18-20

Apparatus for displaying data related information by means of a pop-up module.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 15 4564

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

02-04-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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EPO FORM P0459

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

The examination is being carried out on the **following application documents**:

Description, Pages
1-23 as originally filed

Claims, Numbers
1-21 as originally filed

Drawings, Sheets
1/10-10/10 as originally filed

1 Cited Prior Art

Reference is made to the following documents; the numbering will be adhered to in the rest of the procedure:

D1: DE 10 2004 032916 A1 (INFINEON TECHNOLOGIES AG [DE]) 2 February 2006 (2006-02-02)
D2: WO 02/01879 A (NOKIA OY AB [FI]) 3 January 2002 (2002-01-03)
D3: PER FRÖJDH ET AL: "Study on 14496-12:2005/PDAM2 ALC/FLUTE server file format" VIDEO STANDARDS AND DRAFTS, XX, XX, no. M13855, 13 October 2006 (2006-10-13), XP030042523
D4: US 2007/136742 A1 (SPARRELL CARLTON J [US]) 14 June 2007 (2007-06-14)
D5: US 2002/129362 A1 (CHANG MATTHEW S [US] ET AL) 12 September 2002 (2002-09-12)
D6: EP-A-1 657 918 (LG ELECTRONICS INC [KR]) 17 May 2006 (2006-05-17)
D7: US 2002/087973 A1 (HAMILTON JEFFREY S [US] ET AL) 4 July 2002 (2002-07-04)
D8: US 2003/126607 A1 (PHILLIPS RICK [US] ET AL) 3 July 2003 (2003-07-03)
D9: ERICSSON: "Adoption of SVG Tiny 1.2 in Release 6" 3GPP DRAFT; S4-040749 SVG TINY12, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. tsg_sa\WG4_CODEC\TSGS4_33\Docs, no. Helsinki, Finland; 20041122, 20 November 2004 (2004-11-20), XP050287278

2 Non-Unity

2.1 The application lacks unity within the meaning of Article 82 EPC, for the following reasons:

Document D1 which is considered to represent the closest prior art discloses:

A method for activating a broadcast receiver and receiving data through a broadcasting network when a notification message received through a mobile communication network contains information instructing to do so and storing the data. The feature of reproducing the data is implicit. **Claim 1** is thereby anticipated by D1.

The subject-matter of **claim 2** differs from that of D1 in that it uses a file delivery over unidirectional transport (FLUTE) protocol. The problem to be solved is to choose a protocol suitable for file delivery.

The subject-matter of **claim 8** differs from that of D1 in that previously stored data are reproduced during

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the broadcasting of advertisements in order to replace them. The problem to be solved is to reproduce previously stored data during advertisements of an external broadcast signal.

The subject-matter of **claim 12** differs from that of D1 in that a so-called pop-up module is provided to render information related to the received data. The problem to be solved is to provide information related to the received data.

The features of the claims on file, which make a contribution over the prior art, i.e. the Special Technical Features (STF), are consequently: the FLUTE protocol (claim 2), the reproduction of previously stored data during advertisements (claim 8) and the use of a pop-up module to provide information related to the data (claim 12).

As the STF are not identical, and neither the objective problems underlying the subjects of the claimed inventions, nor their solutions defined by the STF allow for a technical relationship to be established between the inventions, the STF cannot be held to be corresponding.

Hence, the following separate inventions or groups of inventions are not so linked as to form a single general inventive concept:

- **Claims 1-7, 21**: Method of receiving data using a broadcast receiving module according to a DVB-H system and a file delivery over unidirectional transport (FLUTE) when a notification message is received from a mobile communication network. It is further noted that claims 3 to 7 are either obvious or anticipated by D1 and are therefore formally added to the first invention.

- **Claims 8-11, 17**: Method and apparatus for reproducing data following certain rules, like during advertisement of a broadcast signal, during channel switching or by means of a picture-in-picture format. Even though claim 17, by its dependency on claim 13, covers aspects to both the second and third invention, it has been formally added to the second invention.

- **Claims 12-16, 18-20**: Apparatus for displaying information by means of a pop-up module.

2.2 The applicant is asked to state upon which invention or group of inventions further prosecution of the application should be based and to limit the application accordingly. The other inventions or groups of inventions are to be excised from the claims, description and drawings if any.

The subject-matter to be excised may be made the subject of one or more divisional applications. The divisional applications must be filed with the European Patent Office in Munich, The Hague or Berlin and shall be in the language of the proceedings relating to the present application (cf. Article 76(1) and Rule 36(2) EPC). The time limit for filing divisional applications (Rule 36(1) EPC) must be observed.

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3 Clarity

The application does not meet the requirements of Article 84 EPC, because **claims 1, 8, 10, 13, 15, 16 and 18** are not clear.

Indeed, the terms "examining a file transfer channel of a broadcast network" are vague and unclear and leave the reader in doubt as to the meaning of the technical feature to which they refer, thereby rendering the definition of the subject-matter of **claims 1, 8 and 10** unclear. It will be assumed that the feature of examining a file transfer channel merely means being connected to the broadcast network and receiving data through a channel of this network.

Claim 13 describes an "update information of data". Claim 13 depends on claim 12 which already specifies data being received. It is not clear if the update information specified in claim 13 corresponds to the same data described in claim 12 or to other data still to be received.

Claim 15 defines the use of data received from the broadcast receiving module or from the mobile communication network. However, in claim 13 on which claim 15 depends, only update information is received from the mobile communication network, in opposition to claim 12 where data is received from the broadcast receiving module. The claim should therefore be reworded in order to clarify which data, information or update information is received by which module and what is being displayed.

Claim 16 describes a "bi-directional service unit". It is not clear to what technical feature this unit may refer and is not supported by the description. It is also not clear if the link refers to a physical link or a simple URL. It will be assumed that this feature corresponds to a unit in charge of the connection with the network delivering the data that should be received by the reproduction apparatus.

Claim 18 describes "update information" received by the broadcast receiving module. However, claim 18 depends on claim 13 which also describes the reception of update information through a mobile communication unit. It is therefore not clear if there are two different update information received by two different modules/units or if it is the same update information which can be received by the different modules/units according to different embodiments. Claim 18 is especially un the light of the description. The description specifies the reception of update information and a video clip, see [0039-0043]. However, contradictions arise in that in this embodiment, the video clip and the update information appears to be received concurrently from the broadcast receiving module ([0039]). Then the control unit evaluates the update information, and depending on the result decides whether the video clip should be received or not ([0040]), which contradicts [0039]. Again in [0043], the update information is first received by the mobile communication network, and based on this information, the video clip is received or not.

4 Patentability

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Notwithstanding the above mentioned lack of clarity, the present application does not meet the requirements of Article 52(1) EPC because the subject-matter of **claims 1 to 21** is not new or does not involve inventive step within the meaning of Article 54(1), (2) and 56 EPC.

4.1 First Invention - Claims 1-7, 21

4.1.1 Novelty

4.1.1.1 Independent Claim

The subject-matter of **claim 1** as far as it can be understood is not new within the meaning of Article 54(1) and (2) EPC for the following reasons:

Document D1 discloses (the references in parenthesis applying to this document):

A data reproducing method comprising:
- examining a file transfer channel of a broadcasting network using a broadcast receiving module (see [0046]);
- receiving data transferred through the file transfer channel (see [0046,0088]);
- storing the received data (see [0131]); and
- reproducing the stored data (see [0130] and "so dass der Benutzer des Endgeräts 403 auf die Daten 407 zugreifen kann"),
wherein the examining of the file transfer channel comprises at least one of activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network (see [0034]) and activating the broadcast receiving module at certain intervals.

Claim 1 is therefore not allowable under Article 52(1) EPC.

For the sake of completeness, it is pointed out that D2 also discloses the subject-matter of claim 1, see p. 5, l. 30 - p. 6, l. 20.

4.1.1.2 Dependent Claims

The subject-matter of **claims 4, 5 and 7** is not new within the meaning of Article 54(1) and (2) EPC for the following reasons:

Document D1 discloses (the references in parenthesis applying to this document):

- **Claim 4**:
The data reproducing method of claim 1 wherein the receiving of the data comprises:
- receiving update information of data (see [0133]); and
- receiving data on the basis of the update information (see [0134])

- **Claim 5**:

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The data reproducing method of claim 4, wherein the update information comprises Electronic Service Guide (ESG) information (see [0090] and "Datenstrom-Identifikation und Stromnummer (beispielsweise die Nummer des Datenstroms im verwendeten MPEG2-transport stream)").

- **Claim 7**:
The data reproducing method of claim 1, further comprising:
- issuing an alert indicating reception of the data (see [0123] and "eine Bestätigungsnachricht zu dem MBS-Server mittels des Mobilfunk-Netzwerks 107 gesendet", meaning the reception is acknowledged from the reception device)

Claims 4, 5 and 7 are therefore not allowable under Article 52(1) EPC.

4.1.2 Inventive Step

The subject-matter of **claims 2, 3, 6 and 21** does not involve inventive step within the meaning of Article 56 EPC for the following reasons:

- **Claims 2 and 21**: D1 discloses a method using for example the DVB-H standard for reception of the data, but does not specify any protocol for the transfer of the data. Therefore, the skilled person would be entrusted with the choice of an adequate protocol for the transfer of data such as video or audio-clips. In this respect, D3 discloses the FLUTE protocol which has been adopted as the mandatory protocol for broadcast/multicast file delivery by the 3GPP and DVB-H IP data casting (see section 2.1). To a skilled person, therefore, starting from D1 and aware of the disclosure of D3, it would be obvious to choose the FLUTE protocol for the transfer of the data, and by doing so would arrive at the method described in claim 2. **Claim 21** has been formally added to the first invention for having the FLUTE protocol as its main technical feature, which is also not inventive.

-**Claim 3**: It is well known in the field of video broadcasting that programs are sent together with information related to it such as category, ranking or parental guidance. A widely used standard is DVB with the Service Information and Event Information.

-**Claim 6**: It is considered obvious to select a stored data out of a list for reproduction.

Claims 2, 3 and 6 are therefore not allowable under Article 52(1) EPC for lack of inventive step, Article 56 EPC.

4.2 Second Invention - Claims 8-11, 17

4.2.1 Independent Claims

The subject-matter of **claim 8** is not new within the meaning of Article 54(1) and (2) EPC for the following reasons:

Document D5 discloses (the references in parenthesis applying to this document):
A data reproducing method comprising:
- examining a file transfer channel of a broadcasting network using a broadcast receiving module;

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- receiving data transferred through the file transfer channel;
- storing the received data; (see [0055] and the periodic reception of new commercials on a STB) and
- reproducing the stored data, wherein the stored data is reproduced when, during reception and display of an external broadcast signal, the currently displayed broadcast signal is an advertisement (see [0057] where a replacement commercial is selected and displayed when a commercial time slot begins).

Claim 8 is therefore not allowable under Article 52(1) EPC.

For the sake of completeness, it is pointed out that D4 also discloses the subject-matter of claim 8, see [0027], [0033], [0038] and [0043].

The subject-matter of **claim 10** is not new within the meaning of Article 54(1) and (2) EPC for the following reasons:
Document D6 discloses (the references in parenthesis applying to this document):
A data reproducing method comprising (see [0021]):
- examining a file transfer channel of a broadcasting network using a broadcast receiving module;
- receiving data transferred through the file transfer channel;
- storing the received data; (see fig. 1 and [0046] and the reception of substitute information through the broadcast service and its storage) and
- reproducing the stored data,wherein the stored data is reproduced during channel switching in response to a request for channel switching when the request is generated during display of a broadcast (see [0046]).

Claim 10 is therefore not allowable under Article 52(1) EPC.

For the sake of completeness, it is pointed out that D7 also discloses the subject-matter of claim 10, see [0037-0039] and [0040, last 5 lines].

4.2.2 Dependent Claims

The subject-matter of **claims 9, 11 and 17** is not new within the meaning of Article 54(1) and (2) EPC for the following reasons:

- **Claim 9**: D5 discloses a method of displaying stored data in a Picture-In-Picture mode, see [0057, 0058] and fig. 6.
- **Claim 11**: The subject-matter is also anticipated by D6 and D7, see D6, [0048] and D7, [0040, last 5 lines].
-**Claim 17**: It is noted that claim 17 contains features of the second and the third invention and has been formally added to the second invention. The technical features of claim 17 are anticipated by D6 and D7, as for claim 11, see D6, [0048] and D7, [0040, last 5 lines].

4.3 Third Invention - Claims 12-16, 18-20

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The subject-matter of **claim 12** is not new within the meaning of Articles 54(1) and (2) EPC over the disclosure of D8 and the subject-matter of **claims 13 to 16 and 18 to 20** (and a fortiori claim 12) does not involve inventive step within the meaning of Article 56 EPC over the disclosure of D2 and D8.

4.3.1 Independent Claim

D8 describes an apparatus in the field of interactive television. This apparatus has recording capabilities and stores programs, video clips or advertisements that have been requested by the user or according to a user configuration, see [0016-0018]. D8 also provides an alert mechanism upon reception of the data thus fulfilling the wish of the user to be notified when a video clip is available after recording has been completed, see [0179]. The alert takes the form of a pop-up window providing information on the recorded material, see figure 30. A reproduction module, a control unit to control the display and a display unit are also implicitly disclosed since the data is being viewed by the user at a certain point of time. An equivalent of the broadcast receiving module for setting of the frequency of the broadcast receiver is also implicitly disclosed.

Claim 12 is therefore not allowable under Article 52(1) EPC for lack of novelty, Article 54(1) and (2) EPC.

4.3.2 Dependent Claims

D2, which is considered to represent the closest prior art to the subject-matter of **claim 12**, discloses an apparatus having a broadcast receiver for receiving data, a memory for storing the data, a display unit and a controller (which is equivalent to a control unit) controlling the broadcast receiver to receive the data, see p. 5, l. 30 - p. 6, l. 14 and figure 2. A reproduction module is also implicitly disclosed since the data is being viewed by the user at a certain point of time.

The difference between the apparatus described in claim 13 and that of D2 is therefore the pop-up module for issuing an alert indicating reception of data. The technical effect achieved by this difference is therefore to provide the user with a visual notification of the reception of the data.

The objective technical problem underlying the claimed invention can therefore be seen as how to notify the end-user of the reception of the data.

In this context D8 describes an apparatus in the field of interactive television. This apparatus has recording capabilities and stores programs, video clips or advertisements that have been requested by the user or according to a user configuration, see [0016-0018]. D8 also provides an alert mechanism upon reception of the data thus fulfilling the wish of the user to be notified when a video clip is available after recording has been completed, see [0179]. The alert takes the form of a pop-up window providing information on the recorded material, see figure 30.

To a skilled person, therefore, starting from the apparatus described in D2, where video clips are received from a broadcast network and stored in a memory for reproduction at a later time and aware of the disclosure of D8, it would be apparent that the teaching of D8 would allow to improve the apparatus of D2 by providing a notification mechanism by means of a pop-up window displaying information related

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to the recorded video clip.

The additional features introduced in the following dependent claims are not considered to involve inventive step for the following reasons:

- **Claim 13**: The step of transferring the message received from the mobile communication network to the pop-up module merely is an implementation detail and is not of inventive significance. Indeed, the skilled person would be capable of arranging the information flow within the so-called "control unit" in a reasonable way, according to the needs of the application.
- **Claim 14**: D2 discloses a controller unit activating the broadcast receiving module after receiving a message containing update information, see p. 6, l. 7-12. As for claim 13, the feature that the pop-up module activates the broadcast receiver is not considered inventive.
- **Claim 15**: This feature has been discussed with respect to claim 12 where a pop-up window displays an alert indicating reception of the data, showing its title for example, see D8, figure 30.
- **Claim 16**: A skilled person entrusted with the implementation of a module for rendering data in a pop-up window would look for an appropriate solution and would use the SVG-Tiny as part of it. Indeed, as described in D9, SVG-Tiny is widely used and recommended in the field of rendering on mobile devices such as mobile phones. As far as the feature regarding the bi-directional service unit can be understood, providing a unit which supports the connection to the broadcasting network is obvious. Indeed, once the information that a video clip is available for example, such a unit is necessary at the receiver side to enable the transfer of the video.
The remaining features (alert unit, production and display control, adapter, GUI control unit) fall within the capabilities of implementation of a skilled person in the field of the application.
- **Claim 18 and 19**: D2 discloses the feature of configuring the broadcast receiver according to the service information received from the mobile communication network. This kind of information is part of the electronic service guide information, see p. 6, l. 16-20.
- **Claim 20**: It is well known in the field of video broadcasting that programs (equivalent to a video clip) are sent together with information related to it such as category, ranking or parental guidance. A widely used standard is DVB with the Service Information and Event Information.

Claims 13 to 16 and 18 to 20 are therefore not allowable under Article 52(1) EPC for lack of inventive step, Article 56 EPC.

5 Further procedure

It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicants nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 43(1) EPC. The applicant should also indicate how the subject-matter of the new claim differs from the state of the art and the significance thereof.
In case the applicant intends to file a new set of claims, he is requested to take into consideration the following remarks:

5.1 Independent claims, according to Rule 43(1) EPC, should be in the two-part form, with those features known in combination from the prior art being placed in the preamble (Rule 43(1)(a) EPC) and the remaining features being included in the characterising part (Rule 43(1)(b) EPC).

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If, however, the applicant is of the opinion that the two-part form would be inappropriate, reasons therefor should be provided. In addition, the applicant should ensure that it is clear from the description which features of the subject-matter of the independent claims are already known from the documents D1, D2 or D3 (see Guidelines C-III, 2.3.2).

5.2 The vague and imprecise statement "spirit of the invention" in the description, cf. [0023,0024 and 0093], implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in a lack of clarity of the claims (Article 84 EPC) when the description is used to interpret the claims (see Guidelines C-III, 4.4). These statements should therefore be amended to remove this inconsistency.

5.3 To meet the requirements of Rule 42(1)(b) EPC, the documents describing the most relevant prior art of the invention on which the examination will be carried out should be identified in the description and the relevant background art disclosed therein should be briefly discussed.

5.4 The features of the claims should be provided with reference signs placed in parentheses to increase the intelligibility of the claims (Rule 43(7) EPC). This applies to both the preamble and characterising portion (see Guidelines C-III, 4.19). Furthermore, brackets have been used in claims 2, 5, 9, 16, 17, 19 and 21 which do not apply to reference signs, these brackets or abbreviations should therefore be removed to comply with Rule 43(7) EPC.

5.5 When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and of any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application relating to the first invention as originally filed (Article 123(2) EPC).

5.6 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant should clearly identify the amendments made, irrespective of whether they concern amendments by addition, replacement or deletion, and indicate the passages of the application as filed on which these amendments are based (see Guidelines E-II, 1).

If the applicant considers it appropriate, these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.

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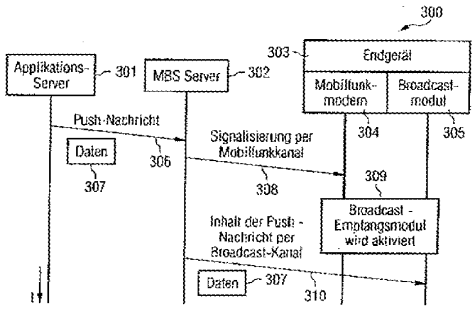
(56) Für die Beurteilung der Patentfähigkeit in Betracht gezogene Druckschriften:
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Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen

Prüfungsantrag gemäß § 44 PatG ist gestellt.

(54) Bezeichnung: **Kommunikationssystem, Verfahren zum Steuern eines Kommunikationssystems, Server, Verfahren zum Betreiben eines Servers, Teilnehmergerät und Verfahren zum Betreiben eines Teilnehmergeräts**

(57) Zusammenfassung: Es wird ein Kommunikationssystem mit einem Teilnehmergerät, einem Broadcast-Netzwerk, einem Mobilfunk-Netzwerk und einem Server bereitgestellt, wobei das Teilnehmergerät eine Broadcast-Empfangsvorrichtung aufweist und der Server dem Teilnehmergerät signalisiert, wann die Broadcast-Empfangsvorrichtung zum Messen der Empfangssituation oder zum Empfangen von Daten aktiviert werden soll.



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Beschreibung

[0001] Die Erfindung betrifft ein Kommunikationssystem, ein Verfahren zum Steuern eines Kommunikationssystems, einen Server, ein Verfahren zum Betreiben eines Servers, ein Teilnehmergerät und ein Verfahren zum Betreiben eines Teilnehmergeräts.

[0002] Vor Kurzem wurde digitales terrestrisches Fernsehen in Form von DVB-T (Digital Video Broadcast-terrestrisch) eingeführt.

Stand der Technik

[0003] Mittels DVB-T wird die terrestrische Ausstrahlung insbesondere von TV-Programmen für stationäre und portable Empfänger durchgeführt.

[0004] Ein zu DVB-T kompatibler Video-Broadcast-Kommunikationsdienst ist der für portable und tragbare Geräte, wie beispielsweise Mobilfunktelefone und mit einer Mobilfunk-Schnittstelle versehene Taschencomputer (PDAs), vorgesehene DVB-H (Digital Video Broadcast-Handheld).

[0005] Durch Verwendung von DVB-H ist es möglich, die für mobile Empfangsgeräte zur Nutzung des jeweiligen Video-Broadcast-Kommunikationsdienstes erforderliche Leistungsaufnahme gegenüber DVB-T deutlich zu verringern. Deshalb eignet sich DVB-H besonders für kleine tragbare Geräte mit Empfangsvorrichtung, die eine verhältnismäßig stark begrenzte Stromversorgung aufweisen. Beispielsweise kann das unkomfortabel oft erforderliche Aufladen von Akkumulatoren, die den Geräten zur Stromversorgung dienen, vermieden werden bzw. die Betriebszeit der Energieversorgung mit einem Akkumulator verlängert werden.

[0006] Es ist vorgesehen, dass mittels DVB-H Videosignale mit weitaus geringerer Datenrate übertragen werden als mittels DVB-T, weil mittels DVB-H hauptsächlich Geräte, die Displays mit geringer Auflösung (typischerweise 360 mal 288 Bildpunkte) aufweisen, mit Videodaten versorgen werden sollen und weil das bei DVB-H verwendete Videokompressionsverfahren H.264 deutlich effizienter ist als die bei DVB-T verwendete MPEG-2-Videocodierung.

[0007] Es ist beispielsweise möglich, bis zu 50 TV-Programme mittels eines terrestrischen TV-Kanals mit 8 MHz Bandbreite zu übertragen wenn die TV-Programme gemäß DVB-H codiert sind. Auf diese Weise können geringe Übertragungskosten pro TV-Programm erreicht werden und Kommunikationsdienste mit strengen Kostenrestriktionen können lukrativ betrieben werden.

[0008] Neben Videosignalen und Audiosignalen für TV-Programme und Radio-Programme ist es mittels DVB-H auch möglich, andere Arten von Daten zu übertragen, beispielsweise durch Einbettung der Daten in Datenpakete gemäß dem Internet-Protokoll (IP).

[0009] Ein weiteres modernes Kommunikationssystem ist das UMTS (Universal Mobile Telecommunications System), das ein von der ETSI (European Telecommunication Standard Institute) standardisiertes Kommunikationssystem zur universellen Mobilfunk-Telekommunikation ist.

[0010] Vor allem im Bereich der Multimediatechnik ermöglicht ein UMTS-Kommunikationssystem, d.h. ein Kommunikationssystem gemäß einem UMTS-Standard, auf Grund der wesentlich höheren Datenübertragungsraten als sie beispielsweise von einem GSM (Global System für Mobile Communication)-Kommunikationssystem bereitgestellt werden, die Bereitstellung leistungsfähiger Multimedia-Kommunikationsdienste.

[0011] Ein UMTS-Kommunikationssystem weist die Leistungsmerkmale der Leitungsvermittlung der GSM-Kommunikationssystemen zu Grunde liegenden Technik sowie die Leistungsmerkmale der Paketvermittlung der dem GPRS (General Paket Radio Service) zu Grunde liegenden Technik auf und erfüllt somit die Voraussetzungen für einen schnellen Datentransfer.

[0012] Ferner weist der UMTS-Standard Spezifikationen auf, die den Datentransport basierend auf dem IP (Internet-Protokoll) vorsehen und somit die Verwendung von UMTS-Kommunikationssystemen für einen auf Funk basierenden Internet-Zugang ermöglichen.

[0013] Ein UMTS-Kommunikationssystem ist ein zellulares Mobilfunk-Kommunikationssystem bei dem Daten mittels dedizierter Punkt-Zu-Punkt-Verbindungen im Downlink (Abwärtsstrecke) und im Uplink (Aufwärtstrecke) zwischen mobilen Teilnehmergeräten und dem Funknetzwerk des UMTS-Kommunkationssystems übertragen werden.

[0014] Gemäß dem UMTS-Standard ist ferner der Multimedia Broadcast und Multicast Service (MBMS) spezifiziert, der die Übertragung der selben Daten an mehrere Mobilfunkteilnehmer, d.h. Benutzer des UMTS-Kommunikationssystems, gleichzeitig ermöglicht, was auch als Datenübertragung mittels Punkt-Zu-Mehrpunkt-Verbindungen bezeichnet wird. Dabei werden die von einem Sender zu einer Mehrzahl von Empfängern zu übertragenden Daten mittels gemeinsamer Verbindungswege von dem Sender zu den Empfängern (idealerweise) nur einmal gesendet. Auf diese Weise wird die für die im Rahmen eines Kommunikationsdienstes durchzuführende Übertragung von Daten an die Empfänger erforderli-

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che Bandbreite im Funknetzwerk und auf der Luftschnittstelle stark reduziert, verglichen mit der Übertragung der Daten mittels dedizierter Kommunikationsverbindungen für jeden Empfänger.

[0015] In dem Standardisierungsforum OMA (Open Mobile Alliance) gibt es Überlegungen Broadcast-Kommunikationssysteme, wie beispielsweise DVB-H, und bidirektionale Mobilfunktechniken, wie sie insbesondere bei GSM-Kommunikationssystemen, bei GPRS und UMTS-Kommunikationssystemen verwendet werden, miteinander zu kombinieren. Das dabei geplante und entstehende Kommunikationssystem wird im Rahmen der OMA als Mobile Broadcast Service (MBS) bezeichnet.

[0016] Im Rahmen der Entwicklung von MBS ist es ein Ziel, beide Übertragungssysteme, das heißt Übertragung mittels Broadcast-Netzwerk und Übertragung mittels Mobilfunk-Netzwerk, auf Seiten des jeweiligen Netzwerks und auf Seiten der Endgeräte logisch zu verknüpfen, so dass für ein oder mehrere Engeräte bestimmte Daten ressourceneffizient und mit optimierter Dienstqualität an das Endgerät bzw. die Engeräte übertragen werden können.

[0017] Ferner ist ein Ziel bei der Entwicklung des MBS, die Benutzer des Kommunikationssystems mittels DVB-H ressourceneffizient und kostengünstig mit Multimedia-Daten zu versorgen und den Mobilfunkteilnehmern ferner mittels eines Rückkanals zu ermöglichen, interaktiv in die Übertragung der Multimedia-Daten einzugreifen und beispielsweise die Steuerung und die Eigenschaften der Datenübertragung zu beeinflussen.

[0018] Mögliche Anwendungen von MBS sind Kommunikationsdienste, wie Online Games (Online-Spiele), Dedicated Download (dediziertes Herunterladen), News Broadcast (Nachrichtenrundsenden) an ausgewählte Mobilfunkteilnehmer usw., sowie Kontrollmechanismen, wie beispielsweise zur Authentifizierung, Autorisierung und Aushandlungen von Schlüsseln sowie Prozeduren für die Vergebührung der von den Mobilfunkteilnehmern genutzten Kommunikationsdienste (Charging, Billing).

[0019] In [1] ist ein Verfahren zur Übertragung von Daten zwischen Sende-/Empfangsstationen offenbart, wobei die Datenübertragung mittels eines Funkübertragungssystems durchgeführt wird, das aus einer Mehrzahl von Funkübertragungssystemen basierend auf einem Teilnehmerprofil und auf der Übertragungsqualität für die Datenübertragung ausgewählt wird.

[0020] In [2] ist ein Verfahren zur Realisierung von Instant-Messaging-Funktionen offenbart, bei dem vorgesehen ist, dass ein Kommunikationsendgerät mittels eines Mobilfunk-Netzwerks Daten überträgt und dass Multicast-Informationen mittels einer separaten Schnittstelle, beispielsweise eines DVB-T-Systems, übertragen werden.

[0021] In [3] ist ein Verfahren offenbart, mittels welchem Übertragungsprobleme, die durch das gleichzeitige Betreiben eines DVB-T-Empfängers und eines GSM-Senders in einem Teilnehmergerät entstehen, gelöst werden.

[0022] In [4] ist ein Verfahren zum Übertragen von Daten mittels des TCP/IP-Protokolls offenbart, wobei IP-Netzwerkmodule eine Kommunikationsvorrichtung für die Übertragung von Daten mit verschiedenen Kommunikationsnetzwerken koppelt.

[0023] Druckschrift [5] offenbart Verfahren zum zeitlichen Synchronisieren eines Multiträgersignalempfängers, bei dem die Impulsantwort eines Übertragungskanals berechnet wird.

[0024] Druckschrift [6] offenbart eine Vorrichtung zum Beobachten von elektromagnetischen Feldern.

[0025] Druckschrift [7] offenbart ein portables digitales Fernsehsystem mit einem Zweikanalempfänger.

[0026] In [8] ist eine Vorrichtung zum Konvertieren einer Farbtemperatur offenbart, die eingerichtet ist, die Farbtemperatur eines Eingabebildes zu variieren und auszugeben.

[0027] Druckschrift [9] offenbart eine Anordnung und ein Verfahren zum Berechnen des Rauschens in einem empfangenen Signal, wobei das Rauschen unter Verwendung mehrerer empfangener Datenpakete berechnet wird.

[0028] Wie in [10] beschrieben, ist ein Funk-Kommunikationssystem bekannt, bei welchem die Übertragungsleistung, mit der Datenpakete übertragen werden, an die Übertragungslast angepasst wird.

[0029] Druckschrift [11] offenbart einen Maximum-a-posteriori-Decoder (MAP-Decoder) für ein digitales Video-Broadcast-System.

[0030] Ferner ist aus Druckschrift [12] ein Empfänger für ein digitales Kommunikationssystem bekannt, bei dem Eigenschaften eines Kommunikationssignals durch wiederholte Anpassung berechnet werden.

[0031] Druckschrift [13] offenbart ein Gleichstromkompensationssystem für ein Funk-Kommunikationssystem mit einem Gleichstromverstärker, das die Ausgabe einer Gleichstromlevelberechnungseinheit empfängt und ein Gleichstrom-Offset-Signal ausgibt.

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Aufgabenstellung

[0032] Der Erfindung liegt die Aufgabe zu Grunde, ein Kommunikationssystem bereitzustellen, das eine effizientere Nutzung eines Broadcast-Netzwerks ermöglicht, als es gemäß dem Stand der Technik möglich ist.

[0033] Die Aufgabe wird durch ein Kommunikationssystem, ein Verfahren zum Steuern eines Kommunikationssystems, einen Server, ein Verfahren zum Betreiben eines Servers, ein Teilnehmergerät und ein Verfahren zum Betreiben eines Teilnehmergeräts mit den Merkmalen gemäß den unabhängigen Patentansprüchen gelöst.

[0034] Es wird ein Kommunikationssystem mit einem Teilnehmergerät, einem Broadcast-Netzwerk, einem Mobilfunk-Netzwerk und einem Server bereitgestellt, wobei das Teilnehmergerät eine Broadcast-Empfangsvorrichtung aufweist; das Broadcast-Netzwerk eingerichtet ist, Daten von dem Server zu dem Teilnehmergerät zu übertragen; das Mobilfunk-Netzwerk eingerichtet ist, Daten von dem Server zu dem Teilnehmergerät und von dem Teilnehmergerät zu dem Server zu übertragen; der Server eine Signalisierungseinrichtung aufweist, die eingerichtet ist, mittels des Mobilfunk-Netzwerks eine Nachricht an das Teilnehmergerät zu senden, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem die Broadcast-Empfangsvorrichtung aktiviert werden soll; und das Teilnehmergerät eine Steuereinheit aufweist, die eingerichtet ist, die Broadcast-Empfangsvorrichtung zu dem mindestens einen spezifizierten Zeitpunkt zu aktivieren.

[0035] Eine der Erfindung zu Grunde liegende Idee kann darin gesehen werden, dass die Broadcast-Empfangsvorrichtung nur dann von dem Teilnehmergerät betrieben wird, wenn dies tatsächlich erforderlich ist, was durch den Server mittels des Mobilfunk-Netzwerks in einer hierfür vorgesehenen Nachricht signalisiert wird.

[0036] Dies hat den Vorteil, dass die Broadcast-Empfangsvorrichtung wesentlich seltener als gemäß dem Stand der Technik betrieben wird, was eine erhebliche Energieersparnis ermöglicht.

[0037] Insbesondere bei mobilen Empfangsgeräten ist dies von Vorteil, da diese typischerweise mittels Akkumulatoren mit Energie versorgt werden, und diese durch den Benutzer aufgeladen werden müssen. Die mittels der Erfindung erreichte Energieersparnis senkt die Zahl der erforderlichen Aufladevorgänge, was eine bequemere Nutzung des Teilnehmergeräts ermöglicht und insbesondere einen längeren Betrieb des Teilnehmergeräts ermöglicht, wenn keine Möglichkeit vorhanden ist den Akkumulator aufzuladen, beispielsweise auf Reisen.

[0038] Es wird gewährleistet, dass die Energie benötigende Broadcast-Empfangsvorrichtung zum Empfangen eines Broadcast-Signals nur dann aktiviert ist, wenn das Broadcast-Signal tatsächlich von dem Teilnehmergerät empfangen werden soll.

[0039] Ferner werden ein Verfahren zum Steuern eines Kommunikationssystems, ein Server, ein Verfahren zum Betreiben eines Servers, ein Teilnehmergerät und ein Verfahren zum Betreiben eines Teilnehmergeräts gemäß dem oben beschriebenen Kommunikationssystem bereitgestellt.

[0040] Bevorzugte Weiterbildungen der Erfindung ergeben sich aus den abhängigen Ansprüchen. Die weiteren Ausgestaltungen der Erfindung, die im Zusammenhang mit dem bereitgestellten Kommunikationssystem beschrieben sind, gelten sinngemäß auch für das bereitgestellte Verfahren zum Steuern eines Kommunikationssystems, den Server, das Verfahren zum Betreiben eines Servers, das Teilnehmergerät und das Verfahren zum Betreiben eines Teilnehmergeräts.

[0041] Es ist bevorzugt, dass die Broadcast-Empfangsvorrichtung eingerichtet ist nach seiner Aktivierung Daten, die mittels des Broadcast-Netzwerks übertragenen werden, zu empfangen und/oder die Broadcast-Netzwerk-Empfangssituation zu messen.

[0042] Insbesondere erzeugt in einer Ausführungsform das Teilnehmergerät Messwerte, die die Empfangsqualität und die Verfügbarkeit des Broadcast-Netzwerks durch das Teilnehmergerät spezifizieren und überträgt diese Messwerte an den Server, beispielsweise als Teil von "Measurement-Reports", die auch Messwerte enthalten, die die Empfangsqualität und die Verfügbarkeit des Mobilfunk-Netzwerks durch das Teilnehmergerät spezifizieren, beispielsweise den Empfangspegel. Dies kann periodisch, bei Änderungen der Empfangsqualität und der Verfügbarkeit und/oder auf Anfrage des Servers durchgeführt werden.

[0043] Anschaulich gesprochen signalisiert das Teilnehmergerät die das Broadcast-Netzwerk betreffenden Eigenschaften des Teilnehmergeräts, beispielsweise die Empfangssituation und die Verfügbarkeit des Broadcast-Netzwerks, mittels der Luftschnittstelle an die verantwortliche Netzwerkeinheit, das heißt, Broadcast-Netzwerk-Empfangsparameter werden mittels eines Kanals des Mobilfunk-Netzwerks als Rückmeldung des Teilnehmergeräts an den Server übertragen.

[0044] Anschaulich gesprochen werden die Verfügbarkeit und die Empfangssituation des Broadcast-Netzwerks und des Mobilfunk-Netzwerks durch

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das Teilnehmergerät von dem Kommunikationssystem verwaltet.

[0045] Das Messen der Verfügbarkeit und der Empfangssituation des Broadcast-Netzwerks und das Mitteilen dieser Werte an den Server ermöglicht es, dass der Server entscheidet, ob das Aktivieren der Broadcast-Empfangsvorrichtung und die Übertragung von Daten mittels des Broadcast-Netzwerks angesichts der Empfangssituation sinnvoll ist.

[0046] Die Daten, die mittels des Broadcast-Netzwerks übertragen werden, werden in einer Ausführungsform von einem Applikationsserver bereitgestellt, der dem Server, der in dieser Ausführungsform ein MBS-Server ist, signalisiert, ob Daten für mehrere Empfänger bestimmt sind und die Adressen der Empfänger signalisiert. Ferner signalisiert der Applikationsserver in einer Ausführungsform, welche Qualitätsanforderungen an die Übertragung der Daten gestellt werden, beispielsweise die maximal zulässige Verzögerung, die zulässige Fehlerrate und den zulässigen Paketverlust.

[0047] In einer Ausführungsform wählt der Server für zu übertragende Daten das am besten geeignete Übertragungssystem, das heißt Broadcast-Netzwerk oder Mobilfunk-Netzwerk, und den am besten geeigneten Transportkanal für die Übertragung der Daten aus, beispielsweise basierend auf der Empfangssituation und der Verfügbarkeit des Broadcast-Netzwerks durch das Teilnehmergerät.

[0048] Anschaulich gesprochen werden die Übertragungsressourcen zur möglichst effizienten Nutzung der zur Verfügung stehenden Übertragungskanäle netzwerkseitig verwaltet.

[0049] In einer Ausführungsform werden die zu übertragenden Daten zwischengespeichert und erneut übertragen, wenn bei der ersten Übertragung der Daten Fehler aufgetreten sind.

[0050] Es ist bevorzugt, dass die Steuervorrichtung eingerichtet ist, die Broadcast-Empfangsvorrichtung nach dem Empfangen der Daten und/oder dem Messen der Broadcast-Netzwerk-Empfangssituation zu deaktivieren.

[0051] Auf diese Weise kann eine hohe Energieersparnis erreicht werden.

[0052] Vorzugsweise ist die Signalisierungseinrichtung eingerichtet, eine Deaktivierungsnachricht an das Teilnehmergerät zu senden, welche Deaktivierungsnachricht Parameterwerte enthält, die mindestens einen Deaktivierungszeitpunkt spezifizieren, zu welchem die Broadcast-Empfangsvorrichtung deaktiviert werden soll und die Steuereinheit eingerichtet ist, die Broadcast-Empfangsvorrichtung zu dem mindestens einen spezifizierten Deaktivierungszeitpunkt zu deaktivieren.

[0053] Auf diese Weise kann erreicht werden, dass die Broadcast-Empfangsvorrichtung genau dann aktiviert ist, wenn dies erforderlich ist, wodurch eine maximale Energieersparnis erreicht werden kann.

[0054] Es ist ferner bevorzugt, dass mittels des Broadcast-Netzwerks Daten im Karussell-Verfahren übertragen werden und der spezifizierte Zeitpunkt einen Zeitpunkt angibt, zu dem gegenüber dem letzten Übertragungsdurchlauf aktualisierte Daten mittels des Broadcast-Netzwerks übertragen werden.

[0055] Bei einer Übertragung von Daten im Karussell-Verfahren werden die Daten in zyklischer Wiederholung übertragen. Die Daten müssen dabei nicht exakt zyklisch wiederholt übertragen werden sondern können gegenüber dem letzten Übertragungsdurchlauf verändert oder aktualisiert sein.

[0056] Anschaulich entspricht eine Datenübertragung im Karussell-Verfahren einer Übertragung von Videotext an einen Fernseher.

[0057] Vorzugsweise ist das Broadcast-Netzwerk gemäß DVB-T (Digital Video Broadcast-terrestrisch), DVB-H (Digital Video Broadcast-handheld), ISDB-T (Integrated Services Digital Broadcasting – Terrestrial transmission), DRM (Digital Radio Mondial), DAB/DMB (Digital Audio Broadcast/Digital Multimedia Broadcast), 3GPP/MBMS (Multimedia Broadcast and Multicast Service gemäß dem 3GPP-Standard) und/oder 3GPP2/BCMCS (Broadcast and Multicast Service gemäß dem 3GPP2-Standard) ausgestaltet.

[0058] Es ist ferner bevorzugt, dass das Mobilfunk-Netzwerk ein zellulares Mobilfunk-Netzwerk ist und besonders bevorzugt gemäß dem UMTS-Standard, dem GSM-Standard oder dem GPRS-Standard ausgestaltet ist.

[0059] In einer Ausführungsform, die unabhängig von dem bereitgestellten Kommunikationssystem und unabhängig von dem unabhängigen Patentbegehren realisiert werden kann, wird ein Kommunikationssystem mit einem Teilnehmergerät, einem Server, einer Signalisierungseinrichtung und einem Kommunikationsnetzwerk bereitgestellt, wobei das Teilnehmergerät eine Empfangsvorrichtung aufweist; das Kommunikationsnetzwerk eingerichtet ist, Daten von dem Server zu dem Teilnehmergerät zu übertragen, und die Signalisierungseinrichtung eingerichtet ist, eine Nachricht an den Server zu übertragen, welche Nachricht Werte von Parametern enthält, die mindestens einen Zeitpunkt spezifizieren, zu dem die Empfangsvorrichtung mittels des Kommunikationsnetzwerks übertragene Daten empfangen kann.

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[0060] Vorzugsweise weist das Teilnehmergerät eine zusätzliche Signalisierungseinrichtung auf, die eingerichtet ist, eine zusätzliche Nachricht an die Signalisierungseinrichtung zu übertragen, welche zusätzliche Nachricht Werte von Parametern enthält, die mindestens einen Zeitpunkt spezifizieren, zu dem die Empfangsvorrichtung mittels des Kommunikationsnetzwerks übertragene Daten empfangen kann.

[0061] Vorzugsweise ist das Kommunikationsnetzwerk ein Broadcast-Netzwerk und die Empfangsvorrichtung eine Broadcast-Empfangsvorrichtung.

[0062] Es ist bevorzugt, dass das Kommunikationssystem ferner ein Mobilfunk-Netzwerk aufweist und die zusätzliche Nachricht mittels des Mobilfunk-Netzwerks von der zusätzlichen Signalisierungseinrichtung an die Signalisierungseinrichtung gesendet wird.

[0063] Vorzugsweise ist das Broadcast-Netzwerk gemäß DVB-T, DVB-H, ISDB-T, DRM, DAB/DMB, 3GPP/MBMS und/oder 3GPP2/BCMCS ausgestaltet.

[0064] Es ist ferner bevorzugt, dass das Mobilfunk-Netzwerk gemäß dem UMTS-Standard, dem GSM-Standard oder dem GPRS-Standard ausgestaltet ist.

Ausführungsbeispiel

[0065] Ausführungsbeispiele der Erfindung sind in den Figuren dargestellt und werden im Weiteren näher erläutert.

[0066] Fig. 1 zeigt ein Kommunikationssystem gemäß einem Ausführungsbeispiel der Erfindung.

[0067] Fig. 2 zeigt ein Nachrichtenflussdiagramm gemäß einem Ausführungsbeispiel der Erfindung.

[0068] Fig. 3 zeigt ein Nachrichtenflussdiagramm gemäß einem Ausführungsbeispiel der Erfindung.

[0069] Fig. 4 zeigt ein Nachrichtenflussdiagramm gemäß einem Ausführungsbeispiel der Erfindung.

[0070] Fig. 1 zeigt ein Kommunikationssystem **100** gemäß einem Ausführungsbeispiel der Erfindung.

[0071] Das Kommunikationssystem **100** weist einen MBS (Mobile Broadcast Service)-Server **101** auf.

[0072] Der MBS Server **101** ist mit einem MMS(Multimedia Messaging Service)-Server **102**, einem PSS(Packet Switched Streaming)-Server **103** und weiteren Servern **104** gekoppelt.

[0073] Ein Teilnehmergerät **105** ist mittels eines Broadcast-Netzwerks **106** und eines Mobilfunk-Netzwerks **107** mit dem MBS-Server **101** gekoppelt.

[0074] Das Broadcast-Netzwerk **106** weist DVB-H-Einheiten **111** auf, die die Datenübertragung von dem MBS-Server **101** zu dem Teilnehmergerät **105** mittels DVB-H ermöglichen.

[0075] Das Mobilfunk-Netzwerk **107** weist MBMS (Multimedia Broadcast Multicast Service)-Einheiten **108** auf, die die Datenübertragung von dem MBS-Server **101** zu dem Teilnehmergerät **105** mittels MBMS ermöglichen.

[0076] Das Mobilfunk-Netzwerk **107** weist ferner GPRS/GSM-Einheiten **109** auf, die die Datenübertragung von dem Teilnehmergerät **105** zu dem MBS-Server **101** sowie die Datenübertragung von dem MBS-Server **101** zu dem Teilnehmergerät **105** mittels GPRS (General Packet Radio Service) und/oder GSM (Global System for Mobile Communications) ermöglichen.

[0077] Das Teilnehmergerät **105** ist beispielsweise ein Mobiltelefon, dass mit einer DVB-H-Empfangseinheit und mit einer UMTS-Sende-/Empfangseinheit versehen ist.

[0078] Das Kommunikationssystem **100** weist weitere Teilnehmergeräte (nicht gezeigt) auf, die analog zu dem Teilnehmergerät **105** angeordnet sind.

[0079] Das Broadcast Netzwerk **106**, das Mobilfunk-Netzwerk **107**, der MBS-Server **101**, der MMS-Server **102**, der PSS-Server **103** und die weiteren Server **104** sind Teil eines Kommunikationsnetzwerks **110**.

[0080] Benutzer können unter Verwendung von Teilnehmergeräten, wie beispielsweise dem Teilnehmergerät **105**, Daten zu dem Kommunikationsnetzwerk **110** übertragen und Daten von dem Kommunikationsnetzwerk **110** empfangen, beispielsweise zur Kommunikation mit anderen Benutzern oder zur Nutzung von von dem Kommunikationsnetzwerk **110** bereitgestellten Kommunikationsdiensten.

[0081] Der MBS-Server **101** kann als zentrale Einheit des Kommunikationsnetzwerks **110** angesehen werden. Er sammelt Informationen darüber, welche Teilnehmer, d.h. Benutzer, zu erreichen sind, wie diese Teilnehmer zu erreichen sind, beispielsweise unter welcher Mobilfunk-Telefonnummer, und steuert bei einer Anfrage eines Datenservers, d.h. des MMS-Servers **102**, des PSS-Servers **103** oder eines der weiteren Server **104** des Kommunikationsnetzwerks **110**, für die Übertragung von Daten an eine oder mehrere Benutzer die Datenübertragung mittels des am besten geeigneten Transportkanals, der von dem Broadcast-Netzwerk **106** oder von dem Mobil-

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funk-Netzwerk **107** bereitgestellt wird.

[0082] Die zu übertragenden Daten werden von dem MMS-Server **102**, von dem PSS-Server **103** oder einem der weiteren Server **104** bereitgestellt. Ein Server der weiteren Server **104** kann ein beliebiger Server sein, der Daten auf Basis des Internet-Protokolls (IP) oder eines entsprechenden Protokolls für Mobilfunksysteme, beispielsweise des Wireless Application-Protokolls (WAP), bereitgestellt, sein.

[0083] Ein Server der weiteren Server **104** ist beispielsweise ein Download-Server, der Lieder in Form von komprimierten Audio-Dateien zum Herunterladen auf Teilnehmergeräte bereitstellt.

[0084] Stellt einer der Datenserver Daten zur Übertragung an einen oder mehrer Benutzer bereit, so werden neben den zu übertragenden Daten auch Informationen von dem Datenserver an den MBS-Server zum Steuern der Datenübertragung gesendet.

[0085] Dies sind beispielweise die folgenden Informationen:

- Eine oder mehrere Adressen von Empfängern oder Empfängergruppen (d.h. eine Liste von Empfängern), an die die Daten übertragen werden sollen, mittels welcher Adresse(n) der Empfänger adressiert werden kann bzw. die Empfänger adressiert werden können.
- Eine Gruppen-Adresse einer Gruppe von Empfängern, an die die Daten übertragen werden sollen, beispielsweise eine Multicast-Adresse oder eine MBMS-Adresse gemäß dem 3GPP (Third Generation Partnership Project)-UMTS-Standard.
- Ein Gruppenindikator, d.h. eine Signalisierung, die angibt, dass eine Gruppen-Adresse an den MBS-Server **101** von dem Datenserver übertragen wurde, welcher Gruppen-Indikator in einer Ausführungsform auch die Anzahl der Mitglieder der Gruppe enthält. Die Information, dass eine Gruppen-Adresse übertragen wurde, ist wichtig, wenn der MBS-Server **101** nicht an Hand der Adresse erkennen kann, dass die Adresse eine Gruppe von Empfängern adressiert und wie viele Mitglieder diese Gruppe hat. Der MBS-Server **101** kann basierend auf dieser Information die Entscheidung treffen, ob die Datenübertragung mittels einer dedizierten Funkverbindung mittels des Mobilfunk-Netzwerks **107** oder mittels einer Broadcast-Übertragung mittels des Broadcast-Netzwerks **106** durchgeführt werden soll.
- Anforderungen an die Datenübertragung betreffend die Datenrate, die Dauer der Übertragung, das Datenvolumen, die maximale Verzögerung der Datenübertragung und die Zulässigkeit von Übertragungsfehlern.

[0086] Der MBS-Server **101** kommuniziert ferner mit dem Broadcast-Netzwerk **106** sowie mit dem Mobilfunk-Netzwerk **107** und erhält dadurch beispielsweise die folgenden Informationen:

- Informationen über die Erreichbarkeit des oder der Empfänger mittels des Mobilfunk-Netzwerks **107** und Informationen über die Erreichbarkeit der Empfänger mittels des Broadcast-Netzwerks **106**.
- Informationen über die voraussichtliche Erreichbarkeit des oder der Empfänger mittels des Mobilfunk-Netzwerks **107** und Informationen über die vorrausichtliche Erreichbarkeit des oder der Empfänger mittels des Broadcast-Netzwerks **106**. Diese Informationen werden durch eine Vorhersage bestimmt, die auf Positionsinformationen, Geschwindigkeitsinformationen und Richtungsinformationen in Kombination mit Informationen über die geographische Verfügbarkeit des Mobilfunk-Netzwerks **107** bzw. des Broadcast-Netzwerks **106** basiert. Beispielsweise könnte das Teilnehmergerät **105** in einem Fahrzeug betrieben werden und mit einem Navigationssystem des Fahrzeugs gekoppelt sein, das dem Teilnehmergerät Informationen über die Fahrtroute des Fahrzeugs zuführt. Basierend darauf und auf der Information, in welchen geographischen Bereichen das Broadcast-Netzwerk **106** und/oder das Mobilfunk-Netzwerk **107** verfügbar ist, kann eine Vorhersage über die Verfügbarkeit des Teilnehmergeräts **105** getroffen werden.
- Informationen über die jeweilige Netzauslastung, beispielsweise die bei dem Broadcast-Netzwerk **106** zur Verfügung stehende Datenrate.
- Informationen über die Empfangssituation der einzelnen Empfänger oder Informationen über die Empfangssituation von Empfängergruppen, so dass beispielsweise vor der Datenübertragung an die Empfänger eingeschätzt werden kann, ob eine Datenübertragung mittels des Broadcast-Netzwerks **106** erfolgreich sein wird.

[0087] Ferner hat der MBS-Server **101** die folgenden Aufgaben:

- Adressübersetzung von einer Adresse auf der Schnittstelle zwischen Datenserver und MBS-Server **101**, d.h. eine Adresse, mittels welcher ein Datenserver beispielsweise das Teilnehmergerät **105** adressiert, in eine Adresse zwischen MBS-Server **101** und den Teilnehmergeräten, d.h. in eine Adresse, mittels welcher der MBS-Server **101** beispielsweise das Teilnehmergerät **105** adressiert, zu übersetzen. Die Adresse, mittels welcher der MBS-Server **101** beispielsweise das Teilnehmergerät **105** adressiert kann spezifisch für das von dem MBS-Server **101** für die Datenübertragung ausgewählte Übertragungssystem, d.h. das Broadcast-Netzwerk **106** oder das Mobilfunk-Netzwerk **107**, sein und kann auch die Adresse einer Gruppe von Empfängern sein.
- Zwischenspeicherung von zu übertragenden Daten, bis auf dem ausgewählten Übertragungs-

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system ausreichend Kapazität zum Übertragen der Daten frei ist.
– Aufteilung der zu übertragenden Daten in Datenpakete mit einer für das ausgewählte Übertragungssystem geeigneten Größe.
– Nummerierung der Datenpakete zur Wiederherstellung der Reihenfolge der Datenpakete nach der Datenübertragung.
– Generierung von Abrechnungsinformationen unter Berücksichtigung des ausgewählten und verwendeten Übertragungssystems.
– Anpassung der Inhalte der zu übertragenden Daten bezüglich der Darstellungsformate und der Eigenschaften der Inhalte unter Berücksichtigung des ausgewählten und verwendeten Übertragungssystems.
– Zwischenspeicherung von zu übertragenden Daten bis der korrekte Empfang der Daten bzw. der Datenpakete, in die die Daten aufgeteilt sind, von bestimmten Empfängern bestätigt wurde.

[0088] Für das Teilnehmergerät **105**, das ein Empfangsmodul für Broadcast-Dienste, wie beispielsweise DVB-H, mittels welchem das Broadcast-Netzwerk **106** Daten überträgt, bedeutet der Betrieb des Empfangsmoduls einen erheblichen Stromverbrauch. Die Laufzeit des Akkumulators des Teilnehmergeräts **105** verkürzt sich dadurch typischerweise erheblich.

[0089] Der MBS-Server **101** informiert die Teilnehmergeräte, beispielsweise das Teilnehmergerät **105**, mittels des Mobilfunk-Netzwerks **107** darüber, ob zu einem Zeitpunkt in der nahen Zukunft eine Datenübertragung mittels des Broadcast-Netzwerks **106** zu dem jeweiligen Teilnehmergerät, beispielweise dem Teilnehmergerät **105**, stattfinden wird und informiert das jeweilige Teilnehmergerät gegebenenfalls über den Zeitpunkt.

[0090] Dazu kann ein sogenannter Push-Dienst realisiert werden, bei dem die Initiative für eine Datenübertragung von dem Kommunikationsnetzwerk **110** ausgeht. Der MBS-Server **101** verwendet dazu beispielsweise die Funktionalität von WAP(Wireless Application Protocol)-Push und überträgt eine kurze Nachricht, beispielsweise an das Teilnehmergerät **105**, in der die folgenden Informationen enthalten sind:
– Datum und Uhrzeit, die den Zeitpunkt spezifizieren, zu dem die Datenübertragung startet; oder vorzugsweise
– Datum und Uhrzeit, die den Zeitpunkt spezifizieren, an dem das Teilnehmergerät **105** das DVB-H-Empfangsmodul aktivieren soll;
– das aktuelle Datum und die aktuelle Uhrzeit zur Synchronisierung der Uhr in dem Teilnehmergerät **105**;
– Werte von Übertragungsparametern für die Datenübertragung zu dem Teilnehmergerät **105** mittels des Broadcast-Netzwerks **106**, beispielweise bestehend aus: Frequenz, Modulationsparameter (beispielsweise die DVB-H-Trägeranzahl), Werte von Fehlerschutzparametern, Datenstrom-Identifikation und Stromnummer (beispielsweise die Nummer des Datenstroms im verwendeten MPEG2-transport stream);
– Werte von Zugriffsparametern für die übertragenen Daten, beispielsweise Rechteobjekte für DRM (Digital Rights Managment)-geschützte Daten; der Vorteil hierbei ist, dass für die Werte der Zugriffsparameter und für die geschützten Daten unterschiedliche Übertragungswege verwendet werden und somit eine hohe Sicherheit vor unautorisierter Nutzung der Daten erreicht wird.

[0091] Mittels eines Push-Dienstes können beispielsweise Nachrichten des Multimedia Messaging Service, der von dem MMS-Servereinheit 2 bereitgestellt wird, übertragen werden. Diese Nachrichten weisen Multimedia-Inhalte auf, und weisen deswegen eine hohe Datenmenge auf, so dass eine Übertragung mittels eines Broadcast-Systems, wie dem Broadcast-Netzwerk **106** sinnvoll ist.

[0092] Die Übertragung mittels eines Broadcast-Systems ist insbesondere dann sinnvoll, wenn ein bestimmter Multimedia-Inhalt an mehrere Empfänger übertragen werden soll, beispielsweise bei einem Kommunikationsdienst, der Szenen aus Fußballspielen in Form von Videosequenzen, beispielsweise einen kurzen Ausschnitt eines Fußballspiels, in dem gerade ein Tor geschossen wird, an mehrere Empfänger überträgt, die den Kommunikationsdienst abonniert haben. In diesem Fall sendet der MMS-Server **102** eine Nachricht mit dem zu übertragenden Multimedia-Inhalt und eine Liste der Empfänger an den MBS-Server **101**. Der MBS-Server **101** stellt anschließend fest, mittels welchem Übertragungssystem, d.h. mittels des Broadcast-Netzwerks **106** oder mittels des Mobilfunk-Netzwerks **107**, die Empfänger jeweils am besten zu erreichen sind. Dementsprechend wählt der MBS-Server **101** für jeden Empfänger eine individuelle Zustellmethode.

[0093] Befinden sich beispielsweise mehrere Empfänger im Empfangsgebiet eines DVB-H-Senders des Broadcast Netzwerks **106**, so kann der MBS-Server **101** diesen Empfängern eine Push-Nachricht, beispielsweise mittels eines WAP-Push-Kommunikationsdienstes, zuschicken und die Teilnehmergeräte dieser Empfänger auf diese Weise dazu veranlassen mit dem Empfangsmodul des jeweiligen Teilnehmergeräts einen bestimmten Datenstrom aus einem bestimmten Broadcast-Kanal zu empfangen.

[0094] Anschließend wird auf diesem Broadcast-Kanal die Videosequenz übertragen und somit allen Empfängern im Empfangsbereich des DVB-H-Senders zugänglich gemacht. Die dabei übertragenen Nachrichten können entweder kom-

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plett mittels des Broadcast-Kanals übertragen werden oder die Signalisierung und die Grundelemente der Nachrichten werden mittels Mobilfunkkanälen, die mittels des Mobilfunk-Netzwerks **107** bereitgestellt werden, zu den Teilnehmergeräten übertragen und es werden nur die multimedialen Elemente der Nachrichten, die typischerweise einen Großteil des Datenvolumens der Nachrichten bilden, mittels des Broadcast-Kanals an eines oder mehrere der Teilnehmergeräte übertragen.

[0095] Das Kommunikationsnetzwerk **110** stellt ferner Datendienste im Karussell-Verfahren bereit. Im Karussell-Verfahren werden Daten mittels des Broadcast-Netzwerks **106** in zyklischer Wiederholung übertragen, so dass in einem Empfangsgerät, beispielsweise dem Teilnehmergerät **105**, im Laufe der Zeit der komplette Satz von übertragenen Daten empfangen und zwischengespeichert werden kann.

[0096] Anschaulich entspricht dies der Übertragung von Videotext an einen Fernseher.

[0097] Bei jedem Übertragungsdurchlauf, d.h. bei jeder zyklischen Wiederholung, können die übertragenen Daten entweder exakt wiederholt werden oder von den Daten, die bei dem vorhergehenden Durchlauf übertragen wurden, abweichen, d.h. anschaulich, dass Änderungen einfließen.

[0098] Wie oben erwähnt, besteht bei einem mobilen Endgerät, wie beispielsweise dem Teilnehmergerät **105**, das Problem, dass für eine fortlaufenden Empfang der mittels des Karussell-Verfahrens übertragenen Daten eine zu hohe Energiemenge erforderlich ist, um das mobile Endgerät für dem Benutzer bequem betreiben zu können. Wird hingegen das Datenangebot nur in bestimmten zeitlichen Abständen empfangen und auf dem Endgerät abgespeichert, so stehen möglicherweise die aktuellen Informationen nicht unmittelbar zur Verfügung, auf Grund der einfließenden Änderungen.

[0099] Deshalb sendet der Dienstanbieter, d.h. beispielsweise der den Kommunikationsdienst bereitstellende Datenserver, bei einer Veränderung des Datensatzes, der in zyklischer Wiederholung übertragen wird, vor der Übertragung des geänderten Datensatzes eine Benachrichtigung zu dem Endgerät, beispielsweise mittels WAP-Push, und veranlasst auf diese Weise das Endgerät beim folgenden Durchlauf die Änderungen des Datensatzes aufzuzeichnen, d.h. zu empfangen und zu speichern. Auf diese Weise wird es erreicht, dass die aktuellen Daten auf dem Endgerät vorhanden und somit durch den Benutzer abrufbar sind und dennoch ein geringer Energiebedarf der Empfangsvorrichtung des Endgeräts erforderlich ist.

[0100] In einer Ausführungsform betreibt das Teilnehmergerät **105** sein Broadcast-Empfangsmodul ununterbrochen und meldet jede Änderung der Empfangssituation, die bestimmten Kriterien entspricht, durch Signalisierung mittels eines Mobilfunkkanals, der von dem Mobilfunk-Netzwerk **107** bereitgestellt wird, an den MBS-Server **101**. Der MBS-Server **101** speichert und verwaltet in einer Datenbasis die Empfangssituation für das Teilnehmergerät **105** und eventuell weitere Empfangsgeräte. Wird eine Anfrage eines Datenservers für die Übertragung von Daten an eine oder mehrere Empfangsgeräte an den MBS-Server **101** übertragen, so kann dieser auf Basis der Einträge in der Datenbasis entscheiden, mittels welchen Übertragungssystems er die zu übertragenen Daten an das oder die Empfangsgerät (e) übertragen kann.

[0101] Diese Ausführungsform weist den Nachteil auf, dass das Teilnehmergerät **105** die Empfangsqualität des Broadcast-Netzes ununterbrochen oder zumindest in kurzen zeitlichen Intervallen überprüfen muss und der Energiebedarf des Teilnehmergeräts **105** dadurch erheblich erhöht wird.

[0102] In einer anderen Ausführungsform wird die Überwachung der Broadcast-Netzverfügbarkeit, wie im Folgenden mit Bezug auf Fig. 2 erläutert, durchgeführt.

[0103] Im Folgenden wird ein Beispiel für die Überwachung der Broadcast-Netzverfügbarkeit eines Endgeräts, d.h. der Erreichbarkeit beispielsweise des Teilnehmergeräts **105** mittels des Broadcast-Netzwerks **106**, mit Bezug auf Fig. 1 und Fig. 2 erläutert.

[0104] Fig. 2 zeigt ein Nachrichtenflussdiagramm **200** gemäß einem Ausführungsbeispiel der Erfindung.

[0105] Der in Fig. 2 dargestellte Nachrichtenfluss findet zwischen einem MBS-Server **201** und einem Endgerät **202** statt. Das Endgerät **202** entspricht dem Teilnehmergerät **105** und der MBS-Server **201** entspricht dem MBS-Server **101** und der MBS-Server **201** und das Endgerät **202** sind, wie es mit Bezug auf Fig. 1 erläutert wurde, angeordnet und ausgestaltet.

[0106] Das Endgerät **202** weist ein Mobilfunkmodem **203** auf, das es dem Endgerät **202** ermöglicht, mittels des Mobilfunk-Netzwerks **107** Daten zu dem MBS-Server **101** zu übertragen und Daten von dem MBS-Server **101** zu empfangen, sowie ein Broadcastmodul **204**, das es dem Endgerät **202** ermöglicht, Daten, die der MBS-Server **101** mittels des Broadcast-Netzwerks **106** überträgt, zu empfangen.

[0107] Für die Nutzung des Broadcast-Netzwerks **106** zur Übertragung von Daten an einen oder mehrere Empfänger ist es wichtig, dass dem MBS-Server **101** vor dem Beginn der Datenübertragung bekannt

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ist, ob der Empfang der übertragenen Daten durch das von dem jeweiligen Empfänger verwendete Endgerät möglich sein wird. Dazu kann der MBS-Server **101** ständig oder bei Bedarf, d.h. bei einer Anfrage eines Datenservers zur Übertragung von Daten, die Erreichbarkeit des bzw. der Empfänger mittels des Broadcast-Netzwerks **106** ermitteln.

[0108] Das Endgerät **202** betreibt das Broadcast-Modul **204** nur auf Anforderung des MBS-Servers **201**.

[0109] In Schritt **205** signalisiert der MBS-Server **201** mittels einer entsprechenden Nachricht, dass das Endgerät **202** eine Messung der Broadcast-Netzwerk-Empfangsituation durchführen soll. Diese Nachricht wird mittels des Mobilfunk-Netzwerks **107** an das Endgerät **202** übertragen und mittels des Mobilfunkmodems **203** von dem Endgerät **202** empfangen.

[0110] In Schritt **206** betreibt das Endgerät **202** das Broadcast-Modul **204** und misst die Empfangsituation des Broadcast-Netzwerks **106**, d.h. es misst beispielsweise, ob und wie gut mittels des Broadcast-Netzwerks übertragene Daten von dem Broadcast-Modul **204** empfangen werden können.

[0111] In Schritt **207** übermittelt das Endgerät **202** die Ergebnisse der Messung mittels des Mobilfunk-Netzwerks **107** an den MBS-Server **201**.

[0112] Dies hat den Vorteil, dass das Broadcast-Modul **204** zur Messung der Empfangssituation nur kurz betrieben werden muss, womit ein geringer Energiebedarf erreicht wird. Ferner werden stets aktuelle Messwerte für die Entscheidung des MBS-Servers **201** verwendet, welches Übertragungssystem zur Übertragung der Daten verwendet wird.

[0113] Im Weiteren wird ein Beispiel für die Übertragung von Daten mittels eines Broadcast-Kanals, der von dem Broadcast-Netzwerk **106** bereitgestellt wird, mit Bezug auf Fig. 1 und Fig. 3 erläutert.

[0114] Fig. 3 zeigt ein Nachrichtenflussdiagramm **300** gemäß einem Ausführungsbeispiel der Erfindung.

[0115] Der in Fig. 3 dargestellte Nachrichtenfluss findet zwischen einem Applikationsserver **301**, einem MBS-Server **302** und einem Endgerät **303** statt. Das Endgerät **303** entspricht dem Teilnehmergerät **105**, der MBS-Server **302** entspricht dem MBS-Server **101** und der Applikationsserver **301** entspricht dem MMS-Server **102**, dem PSS-Server **103** oder einem der weiteren Server **104**. Der Applikationsserver **301**, der MBS-Server **302** und das Endgerät **303** sind, wie es mit Bezug auf Fig. 1 oben erläutert ist, angeordnet und ausgestaltet. Analog zu der in Fig. 2 dargestellten Anordnung weist das Endgerät ein Mobilfunkmodem **304** sowie ein Broadcastmodul **305** auf.

[0116] In Schritt **306** sendet der Applikationsserver **301** Daten **307** an den MBS-Server **302** zur Übertragung an das Endgerät **303** und eventuell an weitere Endgeräte, die aus Gründen der besseren Übersichtlichkeit nicht gezeigt sind.

[0117] Der MBS-Server **302** ermittelt, beispielsweise gemäß einer der oben beschriebenen Varianten, die Empfangssituation des Endgeräts **303** in Hinblick auf das Broadcast-Netzwerk **106** und entscheidet in diesem Beispiel die Daten **307** mittels eines von dem Broadcast-Netzwerk **106** bereitgestellten Broadcast-Kanals zu übertragen.

[0118] Die nachfolgenden Schritte werden für die weiteren, nicht gezeigten Endgeräte, an die die Daten **307** übertragen werden sollen, analog wie für das Endgerät **303**, was im Folgenden beschrieben wird, durchgeführt.

[0119] In Schritt **308** kündigt der MBS-Server **302** dem Endgerät **303** mittels eines von dem Mobilfunk-Netzwerk **107** bereitgestellten Mobilfunkkanals eine bevorstehende Datenübertragung, die mittels eines Broadcast-Kanals durchgeführt wird, mittels einer entsprechenden Nachricht an.

[0120] Die Nachricht enthält die zum Empfang der übertragenen Daten **307** erforderlichen Parameterwerte, wie beispielsweise die Übertragungsfrequenz, eine Spezifikation des verwendeten Broadcast-Signals, die Bandbreite des Übertragungssignals, Werte von Modulationsparametern und Fehlerschutzparametern, Adressinformationen, wie etwa die Paketnummern, die Typen und die Formate der zu übertragenen Daten sowie den Startzeitpunkt der Datenübertragung in Form einer relativen Zeitangabe oder einer absoluten Zeitangabe.

[0121] In Schritt **309** aktiviert das Endgerät **303** automatisch und zeitlich passend, unter Verwendung der in der in Schritt **308** übertragenen Nachricht enthaltenen Zeitangabe, das Broadcast-Modul **305** zum Empfangen der Daten **307**.

[0122] In Schritt **310** überträgt der MBS-Server **302** die Daten **307** mittels des Broadcast-Netzwerks **106** an das Endgerät **303**, welches die Daten **307** unter Verwendung des Broadcast-Moduls **305** empfängt. Die Datenübertragung erfolgt mit geringst möglichem Aufwand an Übertragungskapazität und Energiebedarf des Broadcast-Moduls **305**.

[0123] In einer Ausführungsform wird nach der Übertragung der Daten **307** von dem Endgerät **303**, beispielsweise veranlasst durch den MBS-Server **302**, eine Bestätigungsnachricht zu dem MBS-Server

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mittels des Mobilfunk-Netzwerks **107** gesendet.

[0124] Falls das Endgerät **303** die Daten **307** nicht empfangen kann, beispielsweise weil das Broadcast-Netzwerk **106** aktuell nicht verfügbar ist oder weil es bestimmte Übertragungsparameter oder Datenformate der zu übertragenen Daten **307** nicht unterstützt, sendet das Endgerät **303** eine entsprechende Information mittels des Mobilfunk-Netzwerks **107** an den MBS-Server **302**.

[0125] Der MBS-Server **302** kann in diesem Fall eine angepasste Art der Übertragung wählen, die eventuell auch mittels des Mobilfunk-Netzwerks **107** erfolgen kann.

[0126] Im Folgenden wird ein Beispiel für eine Datenübertragung im Karussell-Modus, d.h. mittels eines Karussell-Verfahrens, mit Bezug auf Fig. 1 und Fig. 4 erläutert.

[0127] Fig. 4 zeigt ein Nachrichtenflussdiagramm **400** gemäß einem Ausführungsbeispiel der Erfindung.

[0128] Der in Fig. 4 dargestellte Nachrichtenfluss findet zwischen einem Applikationsserver **401**, einem MBS-Server **402** sowie einem Endgerät **403** statt, die wie oben mit Bezug auf Fig. 3 und Fig. 1 beschrieben angeordnet und ausgestaltet sind. Insbesondere weist das Endgerät **403** ein Mobilfunkmodem **404** sowie ein Broadcast-Modul **405** auf.

[0129] Die Übertragung von Daten mittels eines Broadcast-Kanals an viele Endgeräte ist für Daten von allgemeinem Interesse geeignet, für welche typischerweise eine häufige Aktualisierung erforderlich ist. Im Folgenden wird ein Beispiel für die Übertragung solcher Daten mittels des Kommunikationssystems **100** erläutert.

[0130] Für Schritt **406** übermittelt der Applikationsserver **401** die zu übertragenen Daten **407** an den MBS-Server **402**. Die Daten **407**, beispielsweise eine Auswahl von Web-Seiten eines Internetportals, sollen an das Endgerät **403** übertragen werden, so dass das Endgerät **403** die Daten **407** in einem Speicher des Endgeräts **403** abspeichern kann, so dass der Benutzer des Endgeräts **403** auf die Daten **407** zugreifen kann, beispielsweise übertragene Web-Seiten direkt aus dem Speicher des Endgeräts aufrufen kann um sich mittels eines Bildschirms des Endgeräts **403** anzeigen lassen kann. Auf diese Weise ist eine effiziente Übertragung der Daten **407** und eine komfortable Nutzung ohne lange Wartezeiten, die bei einer individuellen Übertragung der Daten **407** entstehen würden, möglich. Wie erwähnt, sind die Daten **407** von solcher Art, dass sie von dem Applikationsserver **401** von Zeit zu Zeit aktualisiert werden. Damit der Speicher des Endgeräts **403** stets die aktuellen Daten erhält, ist es erforderlich, dass die Daten **407** an das Endgerät **403** übertragen werden, es ist jedoch nicht erforderlich, dass das Endgerät **403** die Daten **407**, die in diesem Beispiel in zyklischer Wiederholung übertragen werden, empfängt, bis die Daten **407** von dem Applikationsserver **401** aktualisiert wurden und dementsprechend aktualisierte Daten **413** zur Verfügung stehen.

[0131] In Schritt **408** signalisiert deshalb der MBS-Server **402** mit einem gewissen zeitlichen Vorlauf, beispielsweise wenige Sekunden, mittels einer entsprechenden Nachricht, dass das Endgerät **403** zu einem bestimmten Zeitpunkt in der Zukunft, der in der Nachricht relativ oder absolut spezifiziert ist, das Broadcast-Modul **408** aktivieren soll und die Daten **407** empfangen soll und in einem Speicher des Endgeräts **403** speichern soll.

[0132] In Schritt **409** aktiviert das Endgerät **403** nach Erhalt dieser Nachricht, die mittels des Mobilfunk-Netzwerks **107** übertragen wurde, das Broadcast-Modul **405**.

[0133] In Schritt **410** wird zu dem spezifizierten Zeitpunkt die Übertragung der Daten **407** mittels eines Broadcastkanals, der von dem Broadcast-Netzwerk **106** bereitgestellt wird, durchgeführt. Die Datenübertragung wird durch ein Signal abgeschlossen, das angibt, dass die Daten **407** komplett übertragen wurden und das Broadcast-Modul **405** deaktiviert werden kann. Dieses Signal kann in den Daten **407** selbst integriert sein oder kann mittels einer zusätzlichen Nachricht übertragen werden. Das Endgerät **403**, das mit minimalen Energieaufwand stets die aktuellen Daten abgespeichert haben soll, schaltet daraufhin in Schritt **411** das Broadcast-Modul **405** ab und hält die Daten **407** zur Abfrage durch den Benutzer des Endgeräts **403** im Speicher des Endgeräts **403** bereit und wartet auf eine neue Signalisierung mittels des Mobilfunk-Netzwerks **107**, die angibt, dass aktualisierte Daten **413** mittels eines Broadcast-Kanals empfangen werden können. Wenn der Applikationsserver **401** die Daten **407** aktualisiert hat, so überträgt er in Schritt **412** die aktualisierten Daten **413** an den MBS-Server **402**.

[0134] Die aktualisierten Daten **413** werden nun analog zu der in den Schritten **408** bis **411** durchgeführten Datenübertragung der Daten **407** übertragen.

[0135] Falls die aktualisierten Daten **413** ebenfalls in zyklischer Wiederholung übertragen werden kann ein Endgerät zu einem beliebigen Zeitpunkt die aktualisierten Daten **413** empfangen und diese Abspeichern und auf eine Signalisierung des MBS-Servers **402** warten, die angibt, das erneut aktualisierte Daten zur Verfügung stehen und diese dann empfangen.

[0136] Anschaulich gesprochen kann sich ein End-

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gerät also zu einem beliebigen Zeitpunkt durch Empfang der momentan übertragenen Daten aufsynchronisieren und anschließend analog zu dem Endgerät **403** auf die Nachricht des MBS-Servers **402** warten, die signalisiert, dass aktualisierte Daten zur Verfügung stehen.

[0137] In diesem Dokument sind folgende Veröffentlichungen zitiert:

[1] DE 199 57 642 A1
[2] DE 101 16 246 A1
[3] WO 03/105386 A2
[4] EP 1 389 852 A1
[5] WO 97/26742 A1
[6] EP 1 233 273 A2
[7] FR 2786048 A1
[8] US 2003/063799 A1
[9] US 2003/076900 A1
[10] WO 01/080445 A2
[11] WO 00/059118 A1
[12] US 2003/152170 A1
[13] WO 02/29968 A2

Bezugszeichenliste

100	Kommunikationssystem
101	MBS-Server
102	MMS-Server
103	PSS-Server
104	weitere Server
105	Teilnehmergerät
106	Broadcast-Netzwerk
107	Mobilfunk-Netzwerk
108	MBMS-Einheiten
109	GPRS/GSM-Einheiten
110	Kommunikationsnetzwerk
111	DVB-H-Einheiten
200	Nachrichtenflussdiagramm
201	MBS-Server
202	Endgerät
203	Mobilfunkmodem
204	Broadcastmodul
205–207	Verarbeitungsschritte
300	Nachrichtenflussdiagramm
301	Applikationsserver
302	MBS-Server
303	Endgerät
304	Mobilfunkmodem
305	Broadcastmodul
306	Verarbeitungsschritt
307	Daten
308–310	Verarbeitungsschritte
400	Nachrichtenflussdiagramm
401	Applikationsserver
402	MBS-Server
403	Endgerät
404	Mobilfunkmodem
405	Broadcastmodul
406	Verarbeitungsschritt
407	Daten
408–412	Verarbeitungsschritte
413	aktualisierte Daten

Patentansprüche

1. Kommunikationssystem mit einem Teilnehmergerät, einem Broadcast-Netzwerk, einem Mobilfunk-Netzwerk und einem Server, wobei
– das Teilnehmergerät eine Broadcast-Empfangsvorrichtung aufweist;
– das Broadcast-Netzwerk eingerichtet ist, Daten von dem Server zu dem Teilnehmergerät zu übertragen;
– das Mobilfunk-Netzwerk eingerichtet ist, Daten von dem Server zu dem Teilnehmergerät und von dem Teilnehmergerät zu dem Server zu übertragen;
– der Server eine Signalisierungseinrichtung aufweist, die eingerichtet ist, mittels des Mobilfunk-Netzwerks eine Nachricht an das Teilnehmergerät zu senden, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem die Broadcast-Empfangsvorrichtung aktiviert werden soll;
– das Teilnehmergerät eine Steuereinheit aufweist, die eingerichtet ist, die Broadcast-Empfangsvorrichtung zu dem mindestens einen spezifizierten Zeitpunkt zu aktivieren.

2. Kommunikationssystem gemäß Anspruch 1, wobei die Broadcast-Empfangsvorrichtung eingerichtet ist nach seiner Aktivierung Daten, die mittels des Broadcast-Netzwerks übertragenen werden, zu empfangen und/oder die Broadcast-Netzwerk-Empfangssituation zu messen.

3. Kommunikationssystem gemäß Anspruch 2, wobei die Steuervorrichtung eingerichtet ist, die Broadcast-Empfangsvorrichtung nach dem Empfangen der Daten und/oder dem Messen der Broadcast-Netzwerk-Empfangssituation zu deaktivieren.

4. Kommunikationssystem gemäß einem der Ansprüche 1 bis 3, wobei die Signalisierungseinrichtung eingerichtet ist, mittels des Mobilfunk-Netzwerks eine Deaktivierungsnachricht an das Teilnehmergerät zu senden, welche Deaktivierungsnachricht Parameterwerte enthält, die mindestens einen Deaktivierungszeitpunkt spezifizieren, zu welchem die Broadcast-Empfangsvorrichtung deaktiviert werden soll und die Steuereinheit eingerichtet ist, die Broadcast-Empfangsvorrichtung zu dem mindestens einen spezifizierten Deaktivierungszeitpunkt zu deaktivieren.

5. Kommunikationssystem gemäß einem der Ansprüche 1 bis 4, wobei mittels des Broadcast-Netz-

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werks Daten in zyklischer Wiederholung übertragen werden und der spezifizierte Zeitpunkt einen Zeitpunkt angibt, zu dem gegenüber dem letzten Übertragungsdurchlauf aktualisierte Daten mittels des Broadcast-Netzwerks übertragen werden.

6. Kommunikationssystem gemäß einem der Ansprüche 1 bis 5, wobei das Broadcast-Netzwerk gemäß DVB-T, DVB-H, ISDB-T, DRM, DAB/DMB, 3GPP/MBMS und/oder 3GPP2/BCMCS ausgestaltet ist.

7. Kommunikationssystem gemäß einem der Ansprüche 1 bis 6, wobei das Mobilfunk-Netzwerk gemäß dem UMTS-Standard, dem GSM-Standard oder dem GPRS-Standard ausgestaltet ist.

8. Kommunikationssystem gemäß einem der Ansprüche 1 bis 7, wobei
– das Kommunikationssystem ein Kommunikationsnetzwerk und eine zweite Signalisierungseinrichtung aufweist;
– das Teilnehmergerät eine Empfangsvorrichtung aufweist;
– das Kommunikationsnetzwerk eingerichtet ist, Daten von dem Server zu dem Teilnehmergerät zu übertragen, und die zweite Signalisierungseinrichtung eingerichtet ist, eine zweite Nachricht an den Server zu übertragen, welche zweite Nachricht Werte von Parametern enthält, die mindestens einen Zeitpunkt spezifizieren, zu dem die Empfangsvorrichtung mittels des Kommunikationsnetzwerks übertragene Daten empfangen kann.

9. Kommunikationssystem gemäß Anspruch 8, wobei das Teilnehmergerät eine dritte Signalisierungseinrichtung aufweist, die eingerichtet ist, eine dritte Nachricht an die zweite Signalisierungseinrichtung zu übertragen, welche dritte Nachricht Werte von Parametern enthält, die mindestens einen Zeitpunkt spezifizieren, zu dem die Empfangsvorrichtung mittels des Kommunikationsnetzwerks übertragene Daten empfangen kann.

10. Kommunikationssystem gemäß Anspruch 8 oder 9, wobei das Kommunikationsnetzwerk das Broadcast-Netzwerk und die Empfangsvorrichtung die Broadcast-Empfangsvorrichtung ist.

11. Kommunikationssystem gemäß Anspruch 9 oder 10, wobei die dritte Nachricht mittels des Mobilfunk-Netzwerks von der dritten Signalisierungseinrichtung an die zweite Signalisierungseinrichtung gesendet wird.

12. Verfahren zum Steuern eines Kommunikationssystems mit einem Teilnehmergerät, einem Broadcast-Netzwerk, einem Mobilfunk-Netzwerk und einem Server, wobei gemäß dem Verfahren
– der Server mittels des Mobilfunk-Netzwerks eine Nachricht an das Teilnehmergerät sendet, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem eine Broadcast-Empfangsvorrichtung des Teilnehmergeräts aktiviert werden soll;
– das Teilnehmergerät die Broadcast-Empfangsvorrichtung zu dem mindestens einen spezifizierten Zeitpunkt aktiviert.

13. Server eines Kommunikationssystems, das ein Broadcast-Netzwerk und ein Mobilfunk-Netzwerk aufweist, wobei
– der Server eine Signalisierungseinrichtung aufweist, die eingerichtet ist, mittels des Mobilfunk-Netzwerks eine Nachricht an ein Teilnehmergerät des Kommunikationssystems zu senden, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem eine Broadcast-Empfangsvorrichtung des Teilnehmergeräts aktiviert werden soll.

14. Verfahren zum Betreiben eines Servers eines Kommunikationssystems, das ein Teilnehmergerät, ein Broadcast-Netzwerk und ein Mobilfunk-Netzwerk aufweist, wobei gemäß dem Verfahren
– der Server mittels des Mobilfunk-Netzwerks eine Nachricht an ein Teilnehmergerät des Kommunikationssystems sendet, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem eine Broadcast-Empfangsvorrichtung des Teilnehmergeräts aktiviert werden soll.

15. Teilnehmergerät eines Kommunikationssystems, das ein Broadcast-Netzwerk, ein Mobilfunk-Netzwerk und einen Server aufweist, wobei
– das Teilnehmergerät eine Broadcast-Empfangsvorrichtung aufweist;
– das Teilnehmergerät eine Emfpangssvorrichtung aufweist, die eingerichtet ist, mittels des Mobilfunk-Netzwerks eine Nachricht von dem Server zu empfangen, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem die Broadcast-Empfangsvorrichtung aktiviert werden soll;
– das Teilnehmergerät eine Steuereinheit aufweist, die eingerichtet ist, die Broadcast-Empfangsvorrichtung zu dem mindestens einen spezifizierten Zeitpunkt zu aktivieren.

16. Verfahren zum Betreiben eines Teilnehmergeräts eines Kommunikationssystems, das ein Broadcast-Netzwerk, ein Mobilfunk-Netzwerk und einen Server aufweist, wobei gemäß dem Verfahren
– das Teilnehmergerät mittels des Mobilfunk-Netzwerks eine Nachricht von dem Server empfängt, welche Nachricht Parameterwerte enthält, die mindestens einen Zeitpunkt spezifizieren, zu welchem eine Broadcast-Empfangsvorrichtung des Teilnehmergeräts aktiviert werden soll;
– das Teilnehmergerät die Broadcast-Empfangsvor-

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richtung zu dem mindestens einen spezifizierten Zeitpunkt aktiviert.

Es folgen 3 Blatt Zeichnungen

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Anhängende Zeichnungen

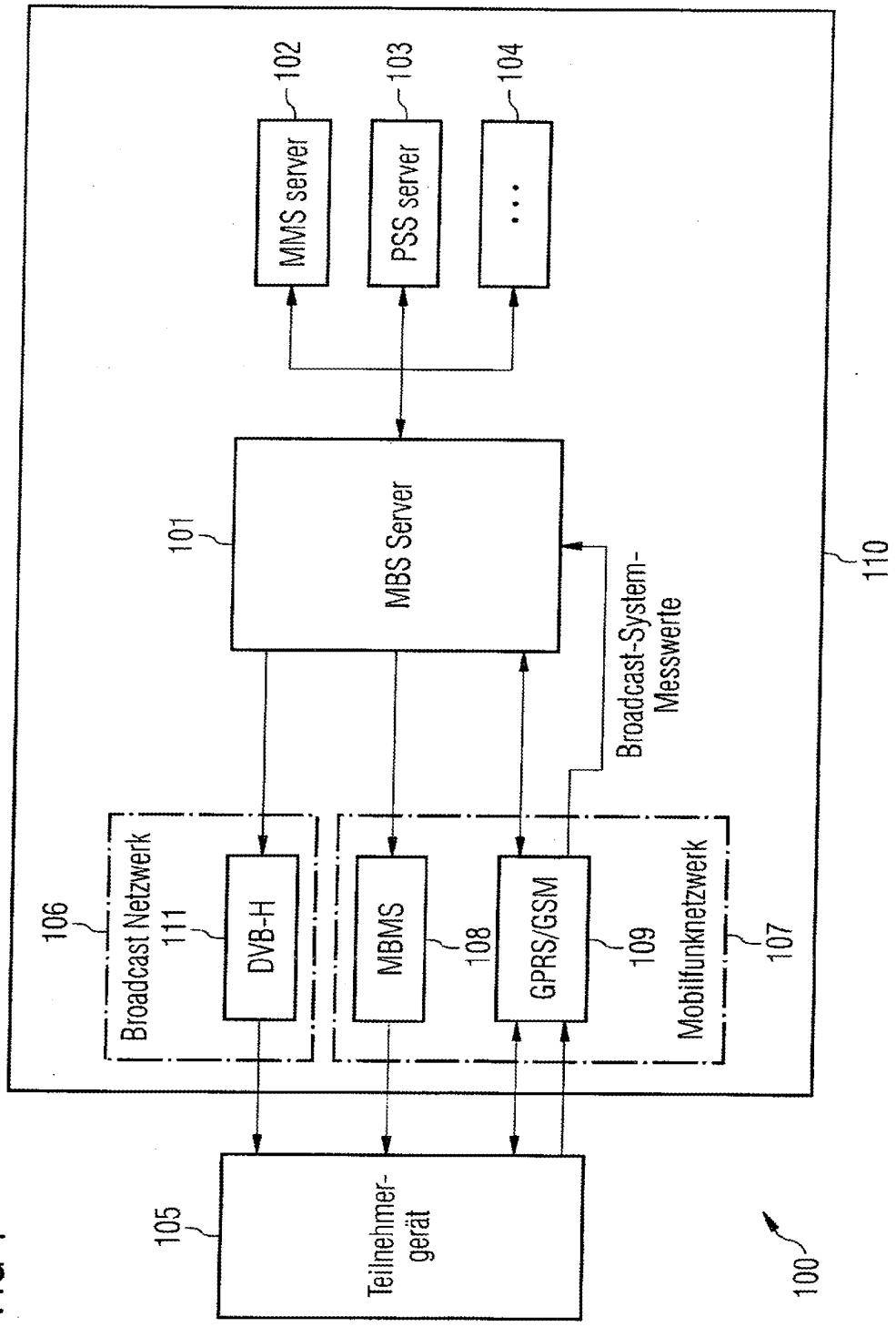


FIG 1

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FIG 2

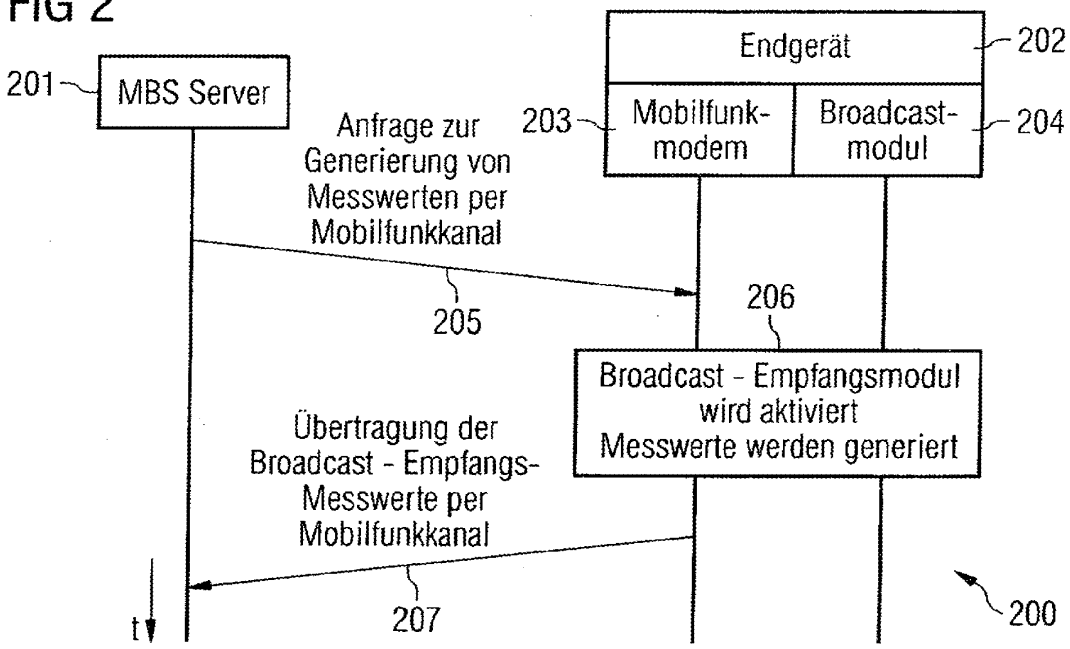
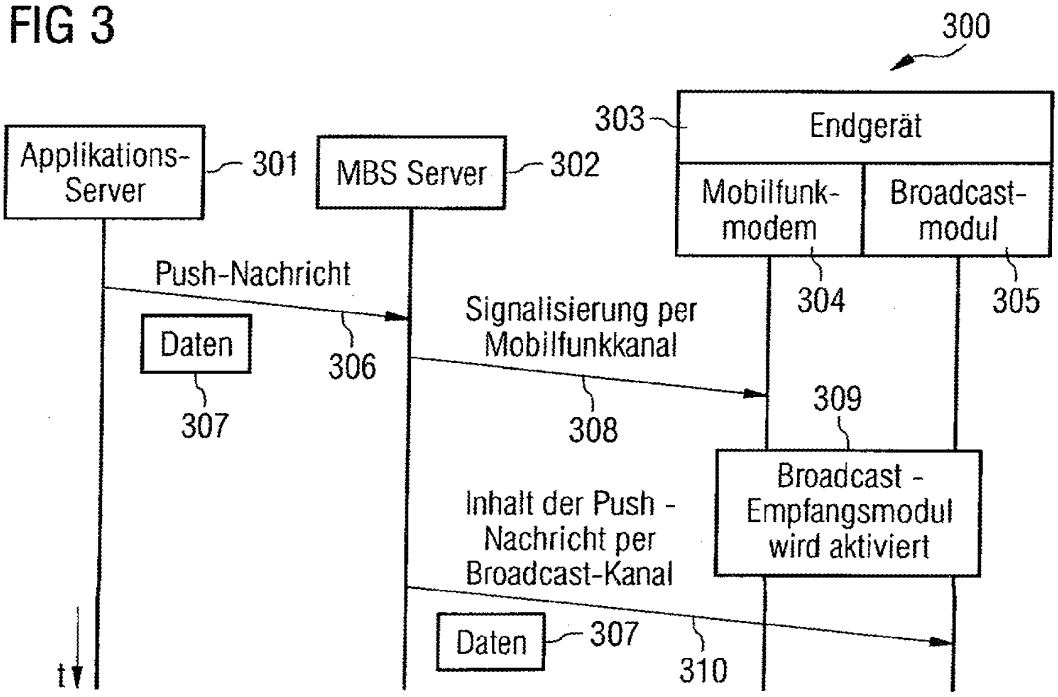


FIG 3



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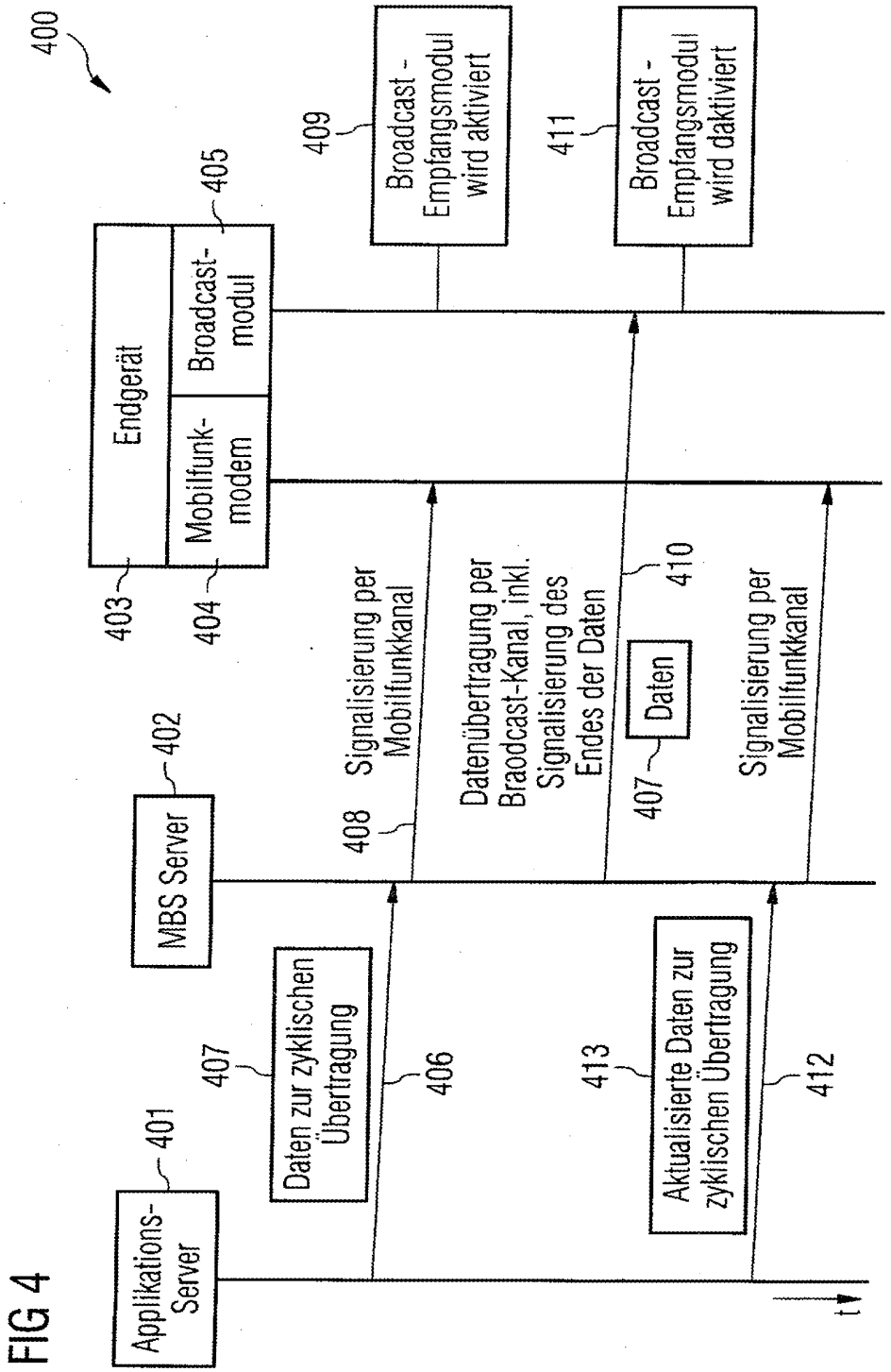


FIG 4

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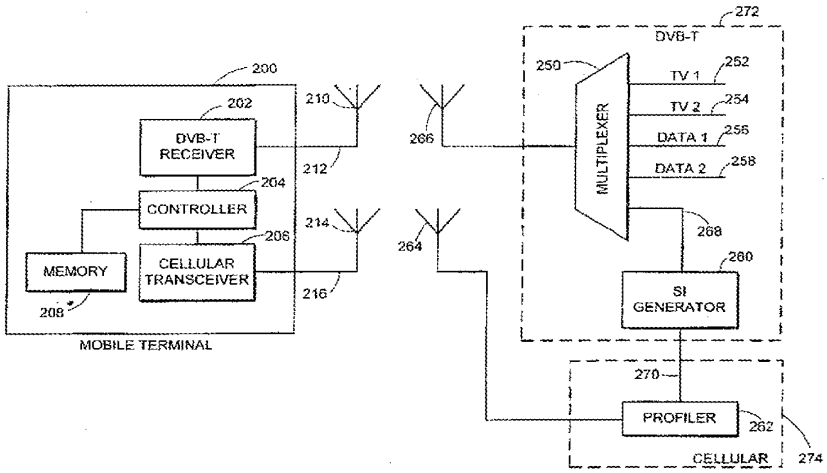
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RECEIVER



(57) Abstract: The present invention relates to receivers such as multi-carrier and cellular receivers. Cellular receivers, in the form of portable radiotelephones are commonplace, and their design and operation is well understood. Such portable radiotelephones can be used for making and receiving telephone calls, sending and receiving messages, and even browsing world-wide computer network such as the Internet. Many standards exist for portable radiotelephones, including global system for mobile communications (GSM), general radio packet service (GPRS)Receivers capable of receiving digital television signals, such as signals according to the terrestrial digital video broadcasting (DVB-T) standard are also commonplace. The present invention provides a method and apparatus for receiving and transmitting signals via multiple communication channels.

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RECEIVER

The present invention relates to receivers such as multi-carrier and cellular receivers.

Cellular receivers, in the form of portable radiotelephones are commonplace, and their design and operation is well understood. Such portable radiotelephones can be used for making and receiving telephone calls, sending and receiving messages, and even browsing world-wide computer network such as the Internet. Many standards exist for portable radiotelephones, including global system for mobile communications (GSM), general radio packet service (GPRS)

Receivers capable of receiving digital television signals, such as signals according to the terrestrial digital video broadcasting (DVB-T) standard are also commonplace.

The use and operation of consumer set-top-boxes (STB) for receiving digital video broadcasting (DVB-T) transmissions are well known. Such STBs are capable of receiving a large number of digital television channels, data and other interactive services.

According to a first aspect of the present invention, there is provided a terminal having a first receiver for receiving a first signal from a first communications network comprising: a second receiver for receiving a second signal conveying complementary information relating to said first signal from a second communications network.

Advantageously, the present invention provides a receiver having a first and a second receiver for receiving signals from two different communications networks. In a first embodiment of the present invention this results in increased power efficiency, since one of the receivers can be effectively

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switched off whilst not required. Schedule or configuration data can, however, still be received on the other receiver. The received schedule or configuration data can be used to switch on the other receiver at an appropriate time. This configuration allows the receiver to receive non-scheduled data, such as news flashes, results from sporting events, share prices etc.

According to a second aspect of the present invention, there is provided apparatus for transmitting a signal to a receiver via a first communications network comprising: a transmitter for transmitting complementary information relating to said signal via a second communication network.

According to a third aspect of the present invention, there is provided a method of receiving a first signal from a first communications network comprising: receiving a second signal conveying complementary information relating to said first signal from a second communications network.

According to a fourth aspect of the present invention, there is provided a method of transmitting a signal to a receiver via a first communications network comprising: transmitting complementary information relating to said signal via a second communication network.

The invention will now be described, by way of example only, with reference to the accompanying diagrams, in which:

Figure 1 is a block diagram of a typical consumer receiver/transmitter arrangement; and

Figure 2 is a block diagram of a first embodiment according to the present invention.

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Figure 1 is a block diagram of a typical consumer receiver/transmitter arrangement in which a terrestrial digital video broadcasting (DVB-T) transmitter 150 transmits a DVB-T signal to a DVB-T set-top-box receiver 106.

In the transmitter 150, a number of television channels 154 and 156 are multiplexed together with a number of data channels 158 and 160 by a multiplexer 152. In addition to this, service information (SI) 162, which contains details of each of the other multiplexed channels, is also input to the multiplexer 152, provided by a SI generator 164. The multiplexer creates a single, multiplexed, signal 166 which contains all of the separate channels 154, 156, 158 and 160, along with the SI 162. Further details of the multiplexing and SI may be found in the DVB-T specification (EN 300 468) which is incorporated herein by reference. The multiplexed signal 166 is transmitted via an antenna 164, across a transmission channel, to an antenna 102 of a set-top-box receiver 106. In the case of DVB-T, the transmission channel is a terrestrial transmission channel. However, the transmission channel could, alternatively, be a satellite, microwave, cable or optical channel.

The signals received by the antenna 102 are input to a DVB-T receiver 100 which enables the user to select a desired channel. Received data may also be stored in a memory 104.

Whilst the set-top-box 106 is switched on, the DVB-T receiver 100 is also powered up and receiving DVB-T signals. The DVB-T receiver is constantly decoding SI information which provides details of the content and location of each of the channels within the received multiplexed signal. The SI information also contain schedule details for each of the multiplexed channels. The schedule details allow a user to watch or record a specific programme of interest. For example, if the set-top-box 106 is connected to a personal computer (not shown), it is possible to receive data transmitted over the DVB-T network for use with the personal computer. In this way, the

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transmission of large data files can be broadcast, to a large audience, using the high data rates provided by DVB-T transmission. If a data file is due to be transmitted at a certain time on a certain channel, the SI information will contain this information which can be used by the personal computer to ensure that receiver receives the required data.

SI information may change frequently, to reflect not only changes in program scheduling, but also to reflect re-allocation of frequencies and channels etc by the broadcaster. For example, it is possible for a channel to broadcast on a different frequency to originally scheduled. Since the SI contains details of the frequencies (or changes to the frequencies), a receiver should always be able to receive the desired channel and/or program. Some set-top-boxes store SI information in a memory, thereby allowing users to browse a schedule or program guide. However, due to the nature of SI information, the SI information is updated frequently to ensure that no discrepancies exist between the SI stored by the set-top-box and the SI being transmitted by the broadcaster.

Figure 2 shows a block diagram of a first embodiment according to the present invention. A mobile terminal 200 receives DVB-T transmissions from a DVB-T transmitter 272. The transmitted DVB-T signal is a multiplexed signal produced by a multiplexer 250. The multiplexer 250 accepts as inputs a number of channels 252, 254, 256 and 258 to produce the multiplexed signal. The channels may be television, audio or data channels. Service information (SI) data, which contains details of the multiplexed channels, is also input to the multiplexer 250. The SI data is generated by a SI generator 260, which may be a database containing schedule and location details of each of the channels.

The DVB-T signals are received by an antenna 210 of the mobile terminal 200 and are received and decoded by a DVB-T receiver 202.

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In addition, and advantageously, the mobile terminal also receives an interactive channel from a cellular or other transmission network 274 at a cellular transceiver 206. The cellular transceiver 206 allows both the reception and transmission of signals between the mobile terminal 200 and the cellular network 274. The cellular network may be a GSM network, a general packet radio service (GPRS), third generation (3G) or other suitable network.

SI data generated by the SI generator 260 is also supplied to a profiler 262 of the cellular network 274. The profiler contains a database of information about each of the subscribers to the cellular network 274. The profiler may contain information such as, demographic data, income level, sports leisure interests, etc.

The operation of a first embodiment of the present invention will now be described by way of example.

According to the prior art, if a user wishes to receive a video clip each time his favourite football team scores during a football match, it is necessary that the DVB-T receiver 100 in the DVB-T set-top-box 106 is constantly powered up and is constantly receiving SI data. This is since the exact timing of when a goal will be scored is not known in advance. Accordingly, no schedule will exist in the SI data for this event. A DVB-T receiver must therefore wait for the SI data to indicate when the video clip will be broadcast. If the user is only interested in receiving video clips of the football match, this is particularly inefficient in terms of power consumption, especially for mobile terminals, since the DVB-T receiver just waiting, consuming power, for a specific video clip to be broadcast.

According to a first embodiment of the present invention, as exemplified in Figure 2, the subscriber registers his interest in receiving video clips with the profiler 262 of the cellular network 274. The DVB-T receiver 202 of the mobile

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terminal 200 may then be powered down. When a goal is scored, and a video clip is available for broadcast, the broadcaster must schedule the video clip to be included in the existing DVB-T multiplex signal. This may involve rescheduling existing programs, and updating the SI data accordingly. Once a scheduled time has been established for the broadcast of the video clip, a service announcement is sent by the cellular network 274 to the cellular transceiver 206. The service announcement is received by the cellular transceiver 206 and is processed by the controller 204. The controller informs the DVB-T receiver 202 of when the video clip will be broadcast and other relevant associated data, such as channel location, encryption parameters etc. The DVB-T receiver can be powered up and configured in time to receive and decode the video clip. The video clip may also be stored in a memory 208. Once the desired video clip, or other data, has been received, the DVB-T receiver 202 can be once again powered down.

The service announcement may be in the form of SI data, or may alternatively be in the form of a special short message service (SMS) message containing the necessary timing and location information required by the DVB-T receiver. Alternative forms of service announcement may be used, both in terms of the data required to be sent and the protocol which is used for sending it.

In this way, the DVB-T receiver 202 can be powered down when not required for actual reception of data. This can produce large savings in power consumption, compared to the system of the prior art.

The profiler 262 also controls whether requested information is transmitted to a user via the DVB-T or cellular network. For example, if one million people have requested to see a video clip of goals from a particular football match, it is better to transmit the video clip via the DVB-T network. For such a large number of users, the DVB-T network provides a cost effective delivery means. The alternative would be to individually send the video clip via the cellular

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network which, with so many users, could impact severely on the operation of the cellular network.

If the number of users requesting to see a particular video clip is much smaller, it may be more economical to send it individually via the cellular network. The exact threshold levels will vary according to the pricing structure of the DVB-T and cellular networks, as well as the number of users requesting a particular item, and the volume of data required to be sent.

The cellular transceiver 206 may also be used to send an acknowledgement back to the cellular network 274, indicating whether the video clip was correctly received. This may be used for billing purposes, or also to request a re-sending of the video clip if it not received due to poor signal strength etc. Re-sending of the video clip may again take place either via the DBV-T or cellular network depending on demand and cost effectiveness.

A further advantage of the present invention is that, if schedule announcements are sent over the cellular network, it is possible to remove some or all of the SI data from DVB-T network. Since the SI data typically occupies up to $3Mbits^{-1}$ this redundant bandwidth could be used for providing additional data or video channels.

In a further embodiment of the present invention, a profiler may be included in the mobile terminal 200. This may be instead of, or in addition to, the profiler 262 of the cellular network 274. A profiler on the mobile terminal may be used if the communications network used for the interactive channel supports broadcasting of data, such as via a GPRS network or other packet type network. The profiler can be configured according to user preferences, and will only accept service announcements which comply with the user preferences.

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Those skilled in the art will appreciate that although the present invention is described above with reference to DVB-T transmissions, the invention is not limited thereto. The same techniques could be applied to DVB (satellite) reception and transmission or any other similar or equivalent standards. Equally, references to cellular networks and cellular transmission techniques could be replaced by fixed line, public switched telephone networks, or any other type of suitable communications network.

It will be apparent from the foregoing the present invention is not limited to the delivery of televisual content. Indeed, as has been indicated previously, digital video broadcasting may provide data and other interactive services.

For example, on-line banking and other customer orientated services can use the present invention to improve the transmission of data, including Internet pages, to subscribers. For example, an on-line bank could broadcast using the broadcast network pages of information containing high quality graphics, standard texts etc. Each page could then be personalised using personal data transmitted over an interactive channel provided by a second network such as GSM, GPRS or other future generation network. For example, a generic 'balance' sheet could be broadcast to all users containing the bank logo, background images etc. Personal balance data transmitted over the interactive channel could then be combined with the broadcast 'balance' sheet, to present to the user their own personal balance sheet.

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CLAIMS

1. A terminal having a first receiver for receiving a first signal from a first communications network comprising:
a second receiver for receiving a second signal conveying complementary information relating to said first signal from a second communications network.

2. A terminal according to claim 1, further comprising a controller for configuring said first receiver according to said complementary information.

3. A terminal according to claim 1 or 2, wherein said first receiver is enabled to receive said first signal in response to said complementary information.

4. A terminal according to claim 1, 2 or 3, wherein said complementary information comprises schedule and configuration data.

5. A terminal according to any preceding claim, further comprising storage means for storing user preferences.

6. A terminal according to claim 5, further comprising decision means for deciding whether said second signal should enable said first receiver in dependence on the stored user preferences.

7. A terminal according to any preceding claim, wherein said first signal is a digital video broadcasting (DVB) signal, and said first receiver is a digital video broadcasting (DVB) receiver.

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8. A terminal according to any preceding claim, wherein said second signal is a global system for mobile (GSM) signal, and said second receiver is a global system for mobile (GSM) receiver.

9. A terminal according to any of claims 1 to 7, wherein said second signal is a general packet radio service (GPRS) signal, and said second receiver is a general packet radio service (GPRS) receiver.

10. A terminal according to any one of claims 1 to 9, wherein the first signal includes a data file, said terminal being actuable in response to said complementary information to receive said data file.

11. Apparatus for transmitting a signal to a receiver via a first communications network comprising:
a transmitter for transmitting complementary information relating to said signal via a second communication network.

12. Apparatus according to claim 11, wherein said complementary information comprises schedule and configuration data relating to said first signal.

13. Apparatus according claim 11 or 12, further comprising storage means for storing details of subscriber preferences.

14. Apparatus according to claim 13, further comprising decision means for deciding to which subscribers to transmit said second signal in dependence on said stored subscriber preferences.

15. Apparatus according to any of claims 11 to 14, wherein said first signal is a digital video broadcasting (DVB) signal, and said first communications network is a digital video broadcasting (DVB) network.

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16. Apparatus according to any of claims 11 to 15, wherein said second communications network is a global system for mobile (GSM) network, and said transmitter is a global system for mobile (GSM) transmitter.

17. Apparatus according to any of claims 11 to 15, wherein said second communications network is a general packet radio service (GPRS) network, and said transmitter is a general packet radio service (GPRS) transmitter.

18. A method of receiving a first signal from a first communications network comprising:
receiving a second signal conveying complementary information relating to said first signal from a second communications network.

19. A method according to claim 18, further comprising receiving said first signal in accordance with said complementary information.

20. A method according to claim 18 or 19, further comprising storing user preferences.

21. A method according to claim 20, further comprising deciding whether said second signal should be received in dependence on said stored user preferences.

22. A method of transmitting a signal to a receiver via a first communications network comprising:
transmitting complementary information relating to said signal via a second communication network.

23. A method according to claim 22, wherein the step of transmitting complementary information comprises transmitting schedule and configuration data relating to said signal.

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24. A method according to claim 22 or 23, further comprising storing details of subscriber preferences.

25. A method according to claim 24, further comprising deciding whether to transmit said complementary information to a subscriber in dependence on said stored preferences.

26. A method according to any of claims 22 to 25, comprising transmitting said signal as a digital video broadcasting (DVB) signal.

27. A method according to any of claims 22 to 26, comprising transmitting said complementary information via a global system for mobile (GSM) network.

28. A method according to any of claims 22 to 26, comprising transmitting said complementary information via a general packet radio service (GPRS) network.

29. A method of transmitting a signal to a receiver via a first communications network, comprising receiving a request for non-scheduled content to be included in said signal and transmitting service information via a second communications network identifying availability of said non-scheduled content.

30. A method as claimed in Claim 29, wherein said service information is generated in accordance with changes to scheduled content to include said non-scheduled content in said signal.

31. A method as claimed in Claim 29 or Claim 30, wherein said service information includes schedule and configuration data relating to said signal.

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32. A method as claimed in any one of Claims 29 to 31, wherein said service information identifies a time and channel location at which said non-scheduled content will be transmitted.

33. A method of receiving a first signal from a first communications network, comprising requesting non-scheduled content to be included in said signal, receiving a second signal conveying service information via a second communications network identifying availability of said non-scheduled content and activating reception of said first signal in accordance therewith.

34. A method as claimed in Claim 33, wherein reception of said first signal is deactivated following reception of said non-scheduled content.

35. A method as claimed in Claim 33 or Claim 34, wherein acknowledgement of reception of said non-scheduled content is made to said first communications network.

36. A method as claimed in any one of Claims 33 to 35, including storing said non-scheduled content following reception of said signal.

37. A method of transmitting a signal to a receiver via a first communications network comprising transmitting complementary information relating to said signal via a second communications network, wherein said first signal contains public data and said complementary information contains personal data.

38. A method of receiving a first signal from a first communications network comprising receiving a second signal conveying complementary information relating to said first signal from a second communications network, and combining said information from said second signal with content in said first signal.

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39. A method as claimed in Claim 38, wherein said complementary information comprises personal data, said data being combined with generic data forming said content of said first signal.

40. A method as claimed in Claim 38 or Claim 39, wherein said second signal further comprises schedule and configuration data relating to said first signal identifying said content.

41. A terminal substantially as hereinbefore described with reference to the accompanying drawings.

42. Apparatus for transmitting a signal substantially as hereinbefore described with reference to the accompanying drawings.

43. A method of receiving substantially as hereinbefore described with reference to the accompanying drawings.

44. A method of transmitting substantially as hereinbefore described with reference to the accompanying drawings.

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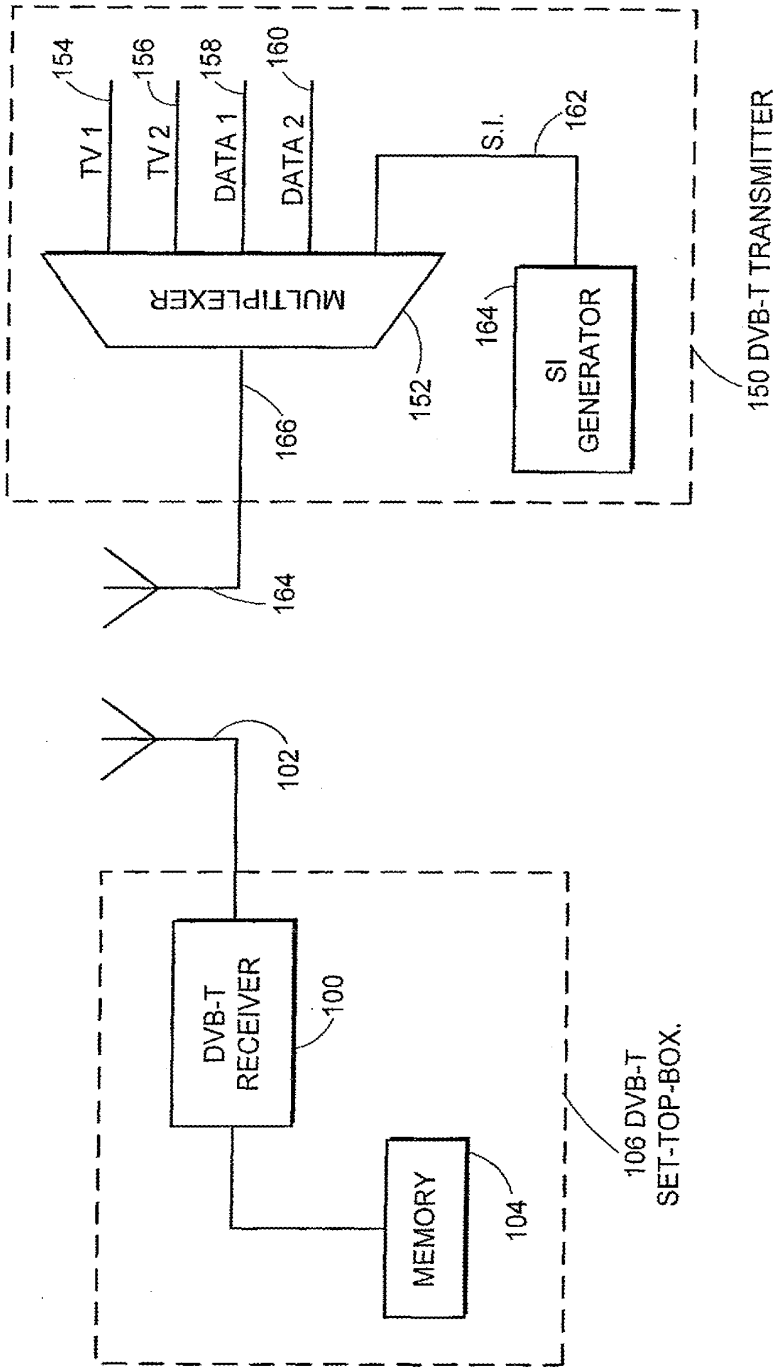


FIG.1 PRIOR ART

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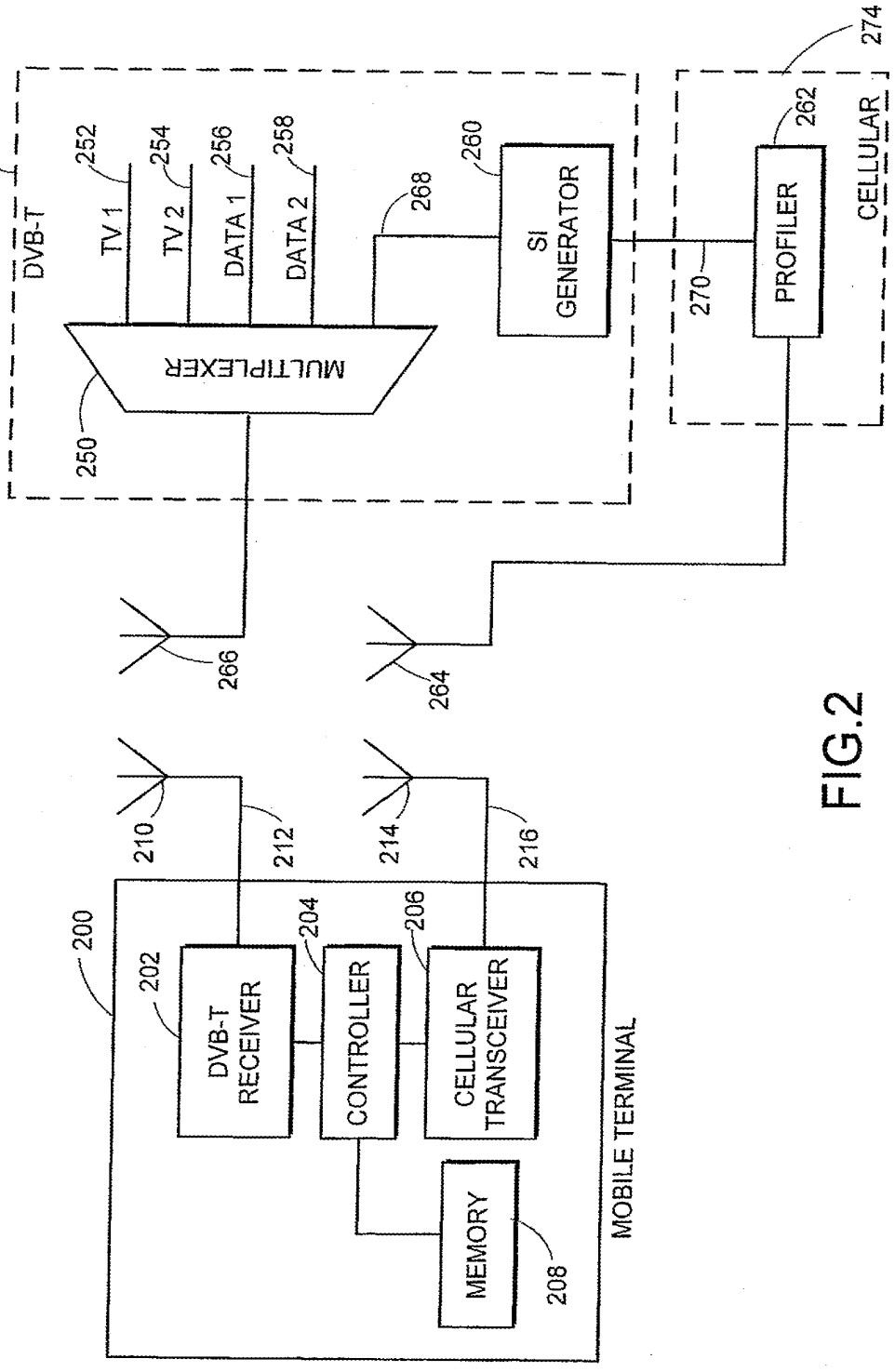


FIG.2

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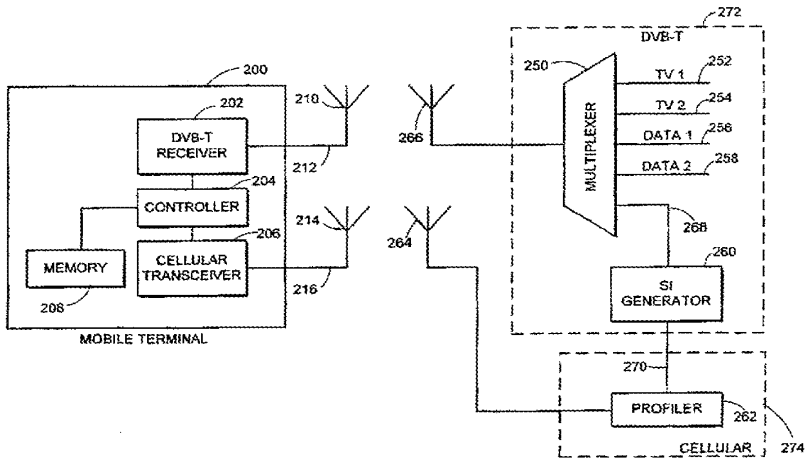
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(54) Title: RECEIVER



(57) Abstract: The present invention relates to receivers such as multi-carrier and cellular receivers. Cellular receivers, in the form of portable radiotelephones are commonplace, and their design and operation is well understood. Such portable radiotelephones can be used for making and receiving telephone calls, sending and receiving messages, and even browsing world-wide computer network such as the Internet. Many standards exist for portable radiotelephones, including global system for mobile communications (GSM), general radio packet service (GPRS)Receivers capable of receiving digital television signals, such as signals according to the terrestrial digital video broadcasting (DVB-T) standard are also commonplace. The present invention provides a method and apparatus for receiving and transmitting signals via multiple communication channels.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
14 February 2002	21/02/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Fantini, F

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A	figure 3	2,3,19, 29-36
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Information on patent family members

In ational Application No
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(54) Method for providing information during a channel change in a digital broadcast receiver

(57) A method for displaying video information in a digital broadcast receiver during a change from a current channel to a new channel is disclosed. The method is suitable for displaying video information such as an advertisement, information selected by the user, or a program guide.

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Description

[0001] [0001] This application claims the benefit of Korean Patent Application No. 10-2004-0091545, filed on November 10, 2004, which is hereby incorporated by reference as if fully set forth herein.

FIELD OF THE INVENTION

[0002] The present invention relates to digital broadcasting, and more particularly, to a method for providing information during a channel change in a digital broadcast receiver which is capable of providing information during a delay caused by a channel change.

BACKGROUND OF THE INVENTION

[0003] In analog broadcasting, when changing to a new channel from a current channel, the video of the new channel is available immediately. In digital broadcasting, when changing to a new channel, output of video of the new channel is not immediately available; rather, there is a temporary delay before the video is available. A blank image is displayed during this delay until the video of the new channel is available. For this reason, viewers see a blank image while changing channels.

[0004] An interleaving scheme sometimes is used to enhance the reception rate in digital multimedia broadcasting (DMB) received by a moving receiver. In this case, the video delay caused by changing channels is longer due to the interleaving scheme.

[0005] If a digital broadcast receiver can simultaneously decode broadcasting signals of all broadcast channels, the video delay caused by changing channels can be prevented. However, practicality precludes manufacturing such a decoder.

[0006] Since such a video delay caused by changing channels results in viewer inconvenience, a scheme capable of eliminating the delay is desirable and needed.

SUMMARY OF THE INVENTION

[0007] Accordingly, the present invention is directed to a method for providing information during a channel change in a digital broadcast receiver overcoming one or more problems due to limitations and disadvantages of the related art.

[0008] An object of the present invention is to provide a method for providing and displaying information during a channel change in a digital broadcast receiver, wherein the information is an advertisement.

[0009] Another object of the present invention is to provide a method for providing and displaying information during a channel change in a digital broadcast receiver, wherein a user may select the information.

[0010] Another object of the present invention is to provide a method for providing and displaying information during a channel change in a digital broadcast receiver, wherein the information is at least one of an advertisement selected by the user, a program guide, and inherent user information.

[0011] Additional advantages, objects, and features of the invention are set forth in part in the description which follows and in part will become apparent to those having ordinary skill in the art upon examination of the following or may be learned from practice of the invention. The objectives and other advantages of the invention may be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.

[0012] To achieve these objects and other advantages and in accordance with the purpose of the invention, as embodied and broadly described herein, a method for providing and displaying information during a channel change in a digital broadcast receiver, which comprises the steps of: selecting information to be displayed during a channel change; obtaining display conditions of the information selected by the user; and displaying the substitute information in accordance with the display condition during the channel change.

[0013] The substitute information may be a momentary advertisement.

[0014] The substitute information may be a program guide. The program guide may be a program guide for the new channel, a program guide of a channel of the curent channel, or a guide of programs recently viewed by the user.

[0015] The substitute information may be a function of the digital broadcast receiver determined by the user. The function selectable by the user may be a background image, tutorial information, or a schedule.

[0016] The method may further comprise the step of receiving the substitute information from a broadcasting service provider when the user selects the substitute information, and storing the received substitute information.

[0017] The method may further comprise the steps of specifying a duration of time for displaying the substitute information during the channel change, in accordance with a need of the user.

[0018] It is to be understood that both the foregoing general description and the following detailed description of the present invention are exemplary and explanatory and are intended to provide further explanation of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this application, illustrate embodiment(s) of the invention and together with the description serve to explain the principle of the invention. In the drawings:

FIG. 1 shows a block diagram illustrating a configu-

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ration of a digital broadcast receiver according to the present invention;

FIG. 2 shows a flow chart illustrating a procedure for selecting the type of substitute information to be displayed while changing channels in accordance with an embodiment of the present invention; and

FIG. 3 shows a flow chart illustrating a procedure for providing and displaying substitute information selected by the user for display while changing channels in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0020] Reference will now be made in detail to the preferred embodiments of the present invention associated with a method for displaying information during a channel change in a digital broadcast receiver, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers will be used throughout the drawings to refer to the same or like parts.

[0021] In accordance with the present invention, the digital broadcast receiver displays at least one of an advertisement, a program guide, and inherent user information during a time taken for a video change caused by a channel change. In the following description, the advertisement, program guide, and inherent user information are referred to as "substitute information".

[0022] Here, the advertisement is a momentary advertisement displayed while a channel change takes place. The program guide is an electronic program guide (EPG) or interactive program guide (IPG) received through a redundant frequency band or provided from a separate external device. This program guide is displayed during the interval for a channel change from a current channel to a new channel. The inherent user information is information selected by the user from various functions supported by the digital broadcast receiver (e.g., background image), a tutorial function, and a user defined schedule. This inherent user information is displayed during a channel change interval.

[0023] Hereinafter, a configuration and operation of the digital broadcast receiver according to the present invention will be described in detail.

[0024] FIG. 1 shows a block diagram illustrating the digital broadcast receiver according to the present invention, wherein a tuner 101 receives digital broadcast signals of diverse channels from an antenna 100, and tunes only the selected channel of the broadcast signals. The tuner 101 provides the tuned broadcast signal to a broadcast signal demodulator 102.

[0025] The broadcasting signal demodulator 102 demodulates the digital broadcast signal, thereby separating the digital broadcast signal into an audio signal, a video signal, and data outputs. An audio decoder 110 decodes the audio signal output. A video decoder 120 decodes the video signal output. A digital/analog (D/A) converter 111 converts the digital audio output to an analog signal, and the analog audio signal is provided to a speaker.

[0026] A video manager 121 converts the video decoder 120 output to an analog video signal having a format or size suitable for display. In some cases, the video manager 121 interleaves data input from a digital signal processor 143 (DSP) into the converted analog video signal. A monitor 122 externally displays the analog video signal from the video manager 121. The data includes the substitute information according to the present invention.

[0027] A data decoder 130 decodes the data output from the broadcasting signal demodulator 102. The DSP 143 stores an output from the data decoder 130 in a memory 152. In some cases, the DSP 143 provides the data received from the data decoder 130 to the video manager 121 allowing the video manager 121 to interleave the data into a video signal.

[0028] The output of the data decoder 130 includes EPG, IPG or a momentary advertisement.

[0029] An external interface 151 provides a path to connect the digital broadcast receiver to an on-line or off-line external device. Through the external interface 151, substitute information from the external device, such as an advertisement, program guide or inherent user information may be provided and stored in the memory 152.

[0030] A user interface 142 is also provided which may be a remote controller. Using the interface 142, a user can change channels, volume, and functions of the digital broadcast receiver. In particular, in accordance with the present invention, the user can select substitute information to be displayed during a channel change by operating the user interface 142.

[0031] An information selector 141 sends substitute information display information to the DSP 143. The DSP 143 stores the display information in the memory 152.

[0032] Hereinafter, operations of selecting substitute information in accordance with a user's desire and providing the selected substitute information will be described.

[0033] When the user requests selection of substitute information through the user interface 142, the DSP 143 provides a menu image of substitute information to the monitor 122.

[0034] The menu image contains the types of substitute information displayable during a channel change, namely, a program guide, a momentary advertisement, and inherent user information. When the user selects one of the three types of substitute information, a detailed menu relating to the selected type of substitute information is displayed on the monitor 122.

[0035] When the user completes selecting substitute information, the information selector 141 transmits final display information (hereinafter, simply referred to as "display information") to the DSP 143. The DSP 143 stores the display information in the memory 152.

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[0036] If the user subsequently performs a channel change by operating the user interface 142, the substitute information selected by the user is displayed on the monitor 122 for a time necessary for a video change caused by the channel change. The substitute information is based on the information established by the user, namely, the display and selection information.

[0037] The procedure for selecting desired substitute information through the substitute information menu will be described for each type of substitute information.

[0038] When the user selects inherent user information as the substitute information, the DSP 143 provides various information items relating to the inherent user information for display on the monitor 122. Selected broadcast receiver functions such as a background image function, a tutorial function, or a user schedule may be displayed on a menu.

[0039] If the user selects the background image function, the digital broadcast receiver displays a plurality of background images, either still images or moving images. Such background images may be an image provided to the digital broadcast receiver through the external interface 151 from a system (broadcasting service provider) through a broadcasting signal, or captured from the output of the video manager 121 displayed through the monitor 122. The background images are stored in the memory 152.

[0040] The DSP 143 provides a list of the background images stored in the memory 152 together with information representing whether each of the listed background images is a moving image or a still image. When the user selects one of the listed background images, the DSP 143 displays setting information associated with the selected background image, wherein the setting information may be the resolution, size, format, and name of the selected background image. That is, the DSP 143 sets the background image selected by the user as an image to be displayed upon a channel change, and stores associated display information in the memory 152.

[0041] When the user selects the tutorial function, the digital broadcast receiver displays tutorial information, for example, a foreign language vocabulary or current event information, previously provided by the user. Words contained in a foreign language vocabulary or current event information may be provided through the external interface 151 or from the broadcasting service provider using a broadcasting signal. The tutorial information is stored in the memory 152.

[0042] The DSP 143 provides a menu having information associated with the foreign language vocabulary or current events stored in the memory 152. The information includes the output sequence of foreign language words (or current events), the font/font-size of characters, the number of words included in each display, etc. The DSP 143 stores the tutorial function display information in the memory 152.

[0043] When the user selects a schedule item from the information items, the DSP 143 provides a menu enabling creation of a new schedule or correction of a stored schedule. The display information includes the name, content, date, and time of an event, etc. The DSP 143 stores the user schedule in the memory 152.

[0044] Although the inherent user information has been described as including a background image function, a tutorial function, and a user schedule, the present invention is not limited thereto. The inherent user information may be changeable by the system designer or user.

[0045] When the user selects the program guide as the substitute information, the DSP 143 stores display information enabling display of a stored program guide during a channel change in the memory 152. In this case, it is preferred that the program guide be the latest program guide of the new channel. The detailed information of the program guide may include a program broadcasting time, a program title, an episode synopsis, characters, etc. The program guide may contain information relating to a program currently being broadcasted, or to be broadcasted in the future. The program guide may also be detailed information relating to a program broadcast before a channel change (for example, the time at which the user viewed the program, the episode synopsis of the program, the characters of the program, etc.). Also, the program guide may be detailed information of recently viewed programs (e.g., the viewing history of the programs of each channel). The above-described program guides are intended only for illustrative purposes without limiting the present invention thereto. The program guides may be changeable by the system designer or user.

[0046] When the user selects advertisements as substitute information, the DSP 143 stores display information enabling display of stored advertisements during a channel change in the memory 152. The DSP 143 also receives advertisements provided by the broadcasting service provider as the substitute information, and stores the received advertisements. The DSP 143 displays the stored advertisements during a channel change in a desired order. Of course, momentary advertisements may also be provided from an on-line or off-line external device.

[0047] Thus, when the user performs a channel change by operating the user interface 142, the DSP 143 reads the setting information designated by the user and associated substitute information from the memory 152. The DSP 143 then displays the substitute information based on the setting information through the monitor 122.

[0048] In detail, the DSP 143 displays the substitute information during the channel change until the video of the changed-to channel is ready for display.

[0049] In another embodiment of the present invention associated with display of substitute information, the substitute information selected by the user may be displayed at a time optionally set by the user (a time other than the channel change time) or for a period set by the user. That is, in accordance with the present invention, the digital

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broadcast receiver sets the substitute information display time or period in accordance with the needs of the user.

[0050] In another embodiment of the present invention, a user may change the time period for displaying the substitute information upon a channel change to a desired time period. If the substitute information display time is set to be more than a channel change period, the DSP 143 delays the completion of the channel change such that the channel change period corresponds to the set substitute information display time.

[0051] Hereinafter, the procedure for selecting the type of substitute information to be displayed during a channel change and the procedure for displaying the substitute information selected by the user will be described in conjunction with FIG. 2.

[0052] FIG. 2 shows a flow chart illustrating a procedure for selecting the type of substitute information to be displayed during a channel change in accordance with an embodiment of the present invention, wherein the user operates the user interface 142 to select substitute information to be displayed during a channel change, the DSP 143 executes menu for selecting substitute information (S10).

[0053] A menu image for selection of substitute information is displayed on the monitor 122. The menu image contains the types of substitute information displayable during a channel change, namely, a program guide, a momentary advertisement, and inherent user information. These types of substitute information are intended only for illustrative purposes without limiting the present invention thereto. In accordance with the present invention, the type of substitute information may be changeable by the menu designer or system designer.

[0054] When the user selects one type of substitute information to be displayed during a channel change using the menu (S11), the DSP 143 executes a detailed display information menu for the selected type of substitute information (S12, S13, or S14).

[0055] When the user finally determines a display condition for substitute information through the detailed display information menu, the DSP 143 stores display information associated with the final setting (S15).

[0056] FIG. 3 is a flow chart illustrating a procedure for displaying substitute information selected by the user during a channel change in accordance with an embodiment of the present invention, wherein the user performs a channel change by operating the user interface 142 (S20), the DSP 143 searches for the substitute information selected by the user, and checks the display information associated with the selected substitute information (S21).

[0057] The DSP 143 then displays the substitute information selected by the user, based on the associated display information (S22, S23, or S24).

[0058] When a momentary advertisement as substitute information is selected, the DSP 143 displays one of currently stored advertisements (S22).

[0059] When a program guide as substitute information is selected, one of the following items is displayed in accordance with an EPG or IPG (S23):

1. Guide of latest programs of the new channel (broadcasting time, title, episode synopsis, characters, etc. of each program);

2. Guide of programs of the current channel (broadcasting time, title, episode synopsis, characters, etc. of each program);

3. Detailed information of recently viewed programs (viewing history for each channel); or

4. Guide of programs of all broadcasting channels

[0060] The above-described program guides are intended only for illustrative purposes without limiting the present invention thereto. The program guides may be changeable by the system designer or user.

[0061] When inherent user information as substitute information is selected, the DSP 143 displays information items included in the inherent user information (S24). The information items may include the functions of the digital broadcast receiver (e.g., a background image function), a tutorial function, a user schedule, etc. Descriptions of each function have been presented above.

[0062] The terminology used herein includes terms defined by taking into consideration functions implemented in the present invention, and the definition thereof may be changed in accordance with the intention of skilled persons in the technical field or the custom in the technical field. Accordingly, the definition of the terminology must be determined based on the whole content of the present invention.

[0063] As apparent from the above description, it is possible to provide information or advertisements centered related to the user's interests during a channel change because the substitute information (an advertisement, a program guide, inherent user information, etc.) provided during the channel change is selected by the user.

[0064] In accordance with the present invention, the user is not inconvenienced because of a delay in displaying a video signal caused by a channel change. Substitute information selected by the user is displayed during this period.

[0065] It will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the spirit or scope of the inventions. Thus, it is intended that the present invention covers the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.

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Claims

1. A method for displaying information in a digital broadcast receiver, the method comprising the steps of:

   selecting substitute information to be displayed during a channel change from a current channel to a new channel;
   obtaining display conditions of the substitute information; and
   displaying the substitute information in accordance with the display conditions during the channel change.

2. The method of claim 1, wherein the substitute information is an advertisement.

3. The method of claim 1, wherein the substitute information is a program guide.

4. The method of claim 3, wherein the program guide is a program guide of the current channel.

5. The method of claim 3, wherein the program guide is a program guide of the new channel.

6. The method of claim 3, wherein the program guide is an electronic program guide.

7. The method of claim 3, wherein the program guide is an interactive program guide.

8. The method of claim 3, wherein the program guide is a guide of recently viewed programs.

9. The method of claim 1, wherein the substitute information is a user selectable digital broadcast receiver function.

10. The method of claim 9, wherein the selectable function displays a background image.

11. The method of claim 10, wherein the background image is one of a still image and a moving image.

12. The method of claim 10, wherein the background image is provided from a broadcast service provider by a broadcast signal.

13. The method of claim 10, wherein the background image is an image captured from a video displayed by the broadcast receiver.

14. The method of claim 1, wherein the substitute information is tutorial information.

15. The method of claim 1, wherein the substitute information is a schedule.

16. The method of claim 1 further comprises the steps of:

   receiving the substitute information from a broadcasting service provider; and
   storing the received substitute information.

17. The method of claim 1 further comprising specifying a duration of time in which the substitute information is to be displayed during the channel change.

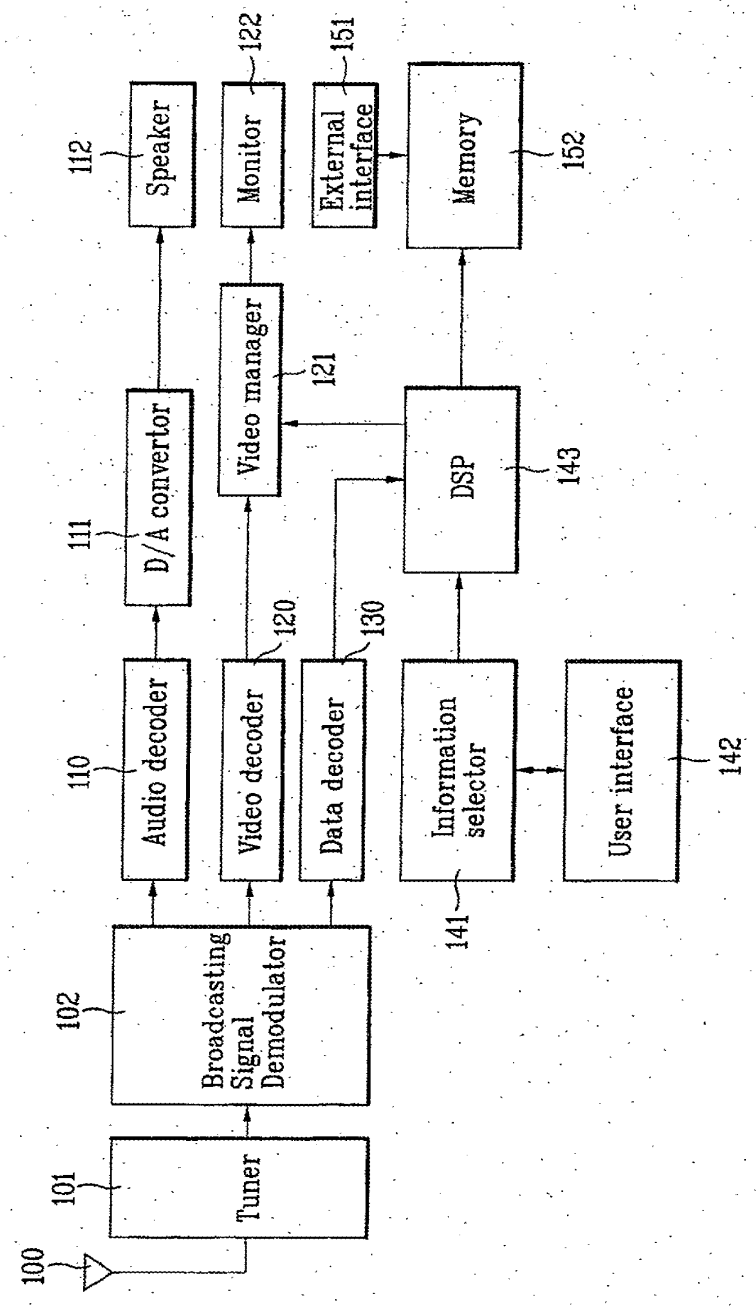
18. The method of claim 17 further comprising the step of delaying the display of the new channel until the completion of the duration of time to display the substitute information.

19. The method of claim 1 futher comprising specifying a time at which to display substitute information.

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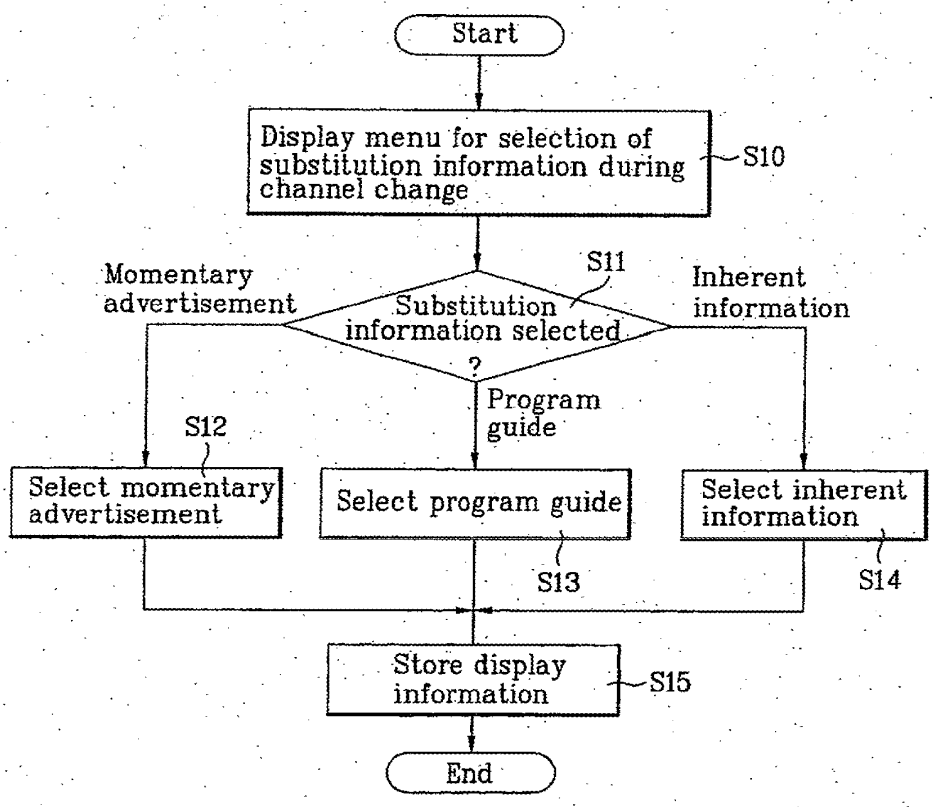
FIG. 1



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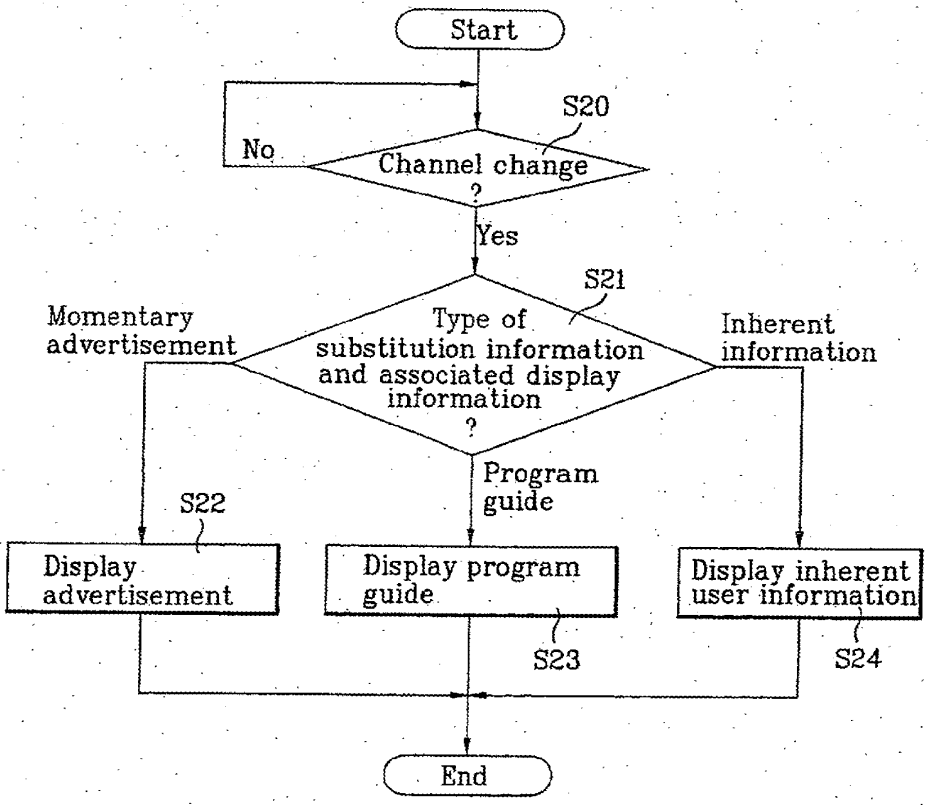
FIG. 2



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FIG. 3



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European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 02 4436

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2002/087973 A1 (HAMILTON JEFFREY S ET AL) 4 July 2002 (2002-07-04)	1,2, 9-13, 16-19	H04N5/44
Y	* the whole document *	8,14	
X	US 6 490 001 B1 (SHINTANI PETER ET AL) 3 December 2002 (2002-12-03)	1,3,5-7, 15,16	
Y	* column 1, line 54 - column 2, line 9 * * column 3, line 5 - line 34 * * column 12, line 27 - line 34 * * column 17, line 26 - line 34 * * column 20, line 6 - column 21, line 28 *	4,8,14	
X	US 2004/012718 A1 (SULLIVAN GARY E ET AL) 22 January 2004 (2004-01-22)	1,2,9	
Y	* abstract * * paragraphs [0004], [0020], [0024] *	4	

TECHNICAL FIELDS SEARCHED (IPC)

H04N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	2 February 2006	Yvonnet, J

CATEGORY OF CITED DOCUMENTS

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

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

& : member of the same patent family, corresponding document

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 02 4436

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

02-02-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002087973 A1	04-07-2002	NONE	
US 6490001 B1	03-12-2002	JP 11261906 A	24-09-1999
US 2004012718 A1	22-01-2004	US 6593973 B1	15-07-2003

EPO FORM P0459

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

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicants	:	Jong-Kerl LEE et al.	TC/A.U.	:	To be determined
Filed	:	April 14, 2008	Examiner	:	To be determined
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Docket No.	:	0203-0023

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §§ 1.56 and 1.97-1.98, Applicants herewith transmit copies of the documents listed in the attached Form PTO/SB/08, which may be deemed material to the examination of the Applicants' above-identified application.

The listed documents were cited in a European Office action with respect to a European patent application related to Applicant's above-identified U.S. patent application. An English language copy of the European Office action and the search report, which indicates the relevance of each reference, is provided, therefore satisfying the requirement for a concise explanation of relevance of any reference not in English. See MPEP §609.04(a)(III).

The Examiner is requested to consider the attached documents in connection with the Applicants' above-identified application and to return a copy of the Form PTO/SB/08 to the Applicants with the Examiner's initials in the spaces provided.

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Submission of this Information Disclosure Statement does not constitute an admission by the Applicants as to the materiality of the attached documents to the Applicants' application, nor do the Applicants waive any right to challenge the validity of the documents as prior art should such action be deemed appropriate.

Respectfully submitted,

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Electronic Acknowledgement Receipt	
EFS ID:	5192913
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	George Charles Eckert
Filer Authorized By:	
Attorney Docket Number:	0203-0023
Receipt Date:	21-APR-2009
Filing Date:	14-APR-2008
Time Stamp:	19:13:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed (SB/08)	0203-0023IDSAsFiled.pdf	608198 fb550ca4e4dd7ef886566316c4c2000b6ac936fc	no	4
Warnings:					
Information:					

2	Foreign Reference	0203-0023SearchReportAsFiled.pdf	6194596 312166f952d3010db64af6eed226139d73cedda3	no	16
Warnings:					
Information:					
3	Foreign Reference	0203-0023DE102004032916AsFiled.pdf	9971244 22e0d1a45bf0b94d04444ffe9a6660a6dff195d3	no	17
Warnings:					
Information:					
4	Foreign Reference	0203-0023WO0201879AsFiled.pdf	7445743 a6316ead1ab83a150702efcef93f6fec983acf52	no	23
Warnings:					
Information:					
5	Foreign Reference	0203-0023EP1657918AsFiled.pdf	4390516 e8a3a9ded10b19c28d62f10f912bb396316b7300	no	11
Warnings:					
Information:					
6	NPL Documents	0203-0023StudyonPDMAsFiled.pdf	12121727 5b75db6834e779e2883c23d30d3adebbc4be2ade	no	32
Warnings:					
Information:					
7	NPL Documents	0203-0023EricssonAsFiled.pdf	569622 4c6aa7f56768265dd4fe7bfc029dd6899baa6423	no	2
Warnings:					
Information:					
8	NPL Documents	0203-0023DigitalVideoBroadcastingAsFiled.pdf	3605401 1d9ae5d4fd57b44b3562b356278dbc8809891289	no	81
Warnings:					
Information:					
9	Transmittal Letter	0203-0023IDSLetterAsFiled.pdf	63071 7ecb6190ea2603ce2a7816009cd0ec3277750a0e	no	2
Warnings:					
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		Total Files Size (in bytes):	44970118		

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New International Application Filed with the USPTO as a Receiving Office

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PTO/SB/08a (08-08)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	12102503
Filing Date	2008-04-14
First Named Inventor	Jong-Kerl LEE
Art Unit	
Examiner Name	
Attorney Docket Number	0203-0023

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	1	10-2002-0028752	KR	A	2002-04-17	CHAE		☒
	2	10-2007-0053432	KR	A	2007-05-25	RYU		☒
	3	10-2007-0055165	KR	A	2007-05-30	JEONG et al.		☒

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12102503
	Filing Date	2008-04-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12102503
	Filing Date	2008-04-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/George C. ECKERT/	Date (YYYY-MM-DD)	2009-06-09
Name/Print	George C. Eckert	Registration Number	58892

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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(19) KOREAN INTELLECTUAL PROPERTY OFFICE

KOREAN PATENT ABSTRACTS

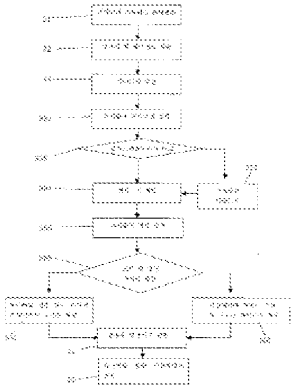
(11)Publication number: 1020020028752 A
(43)Date of publication of application: 17.04.2002

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(51)Int. Cl G06F 17/00

(71)Applicant: CHAE, JE WOO
(72)Inventor: CHAE, JE WOO

(54) METHOD AND SYSTEM FOR TRANSMITTING INTERNET DATA OVER CATV NETWORK

(57) Abstract:



PURPOSE: An internet data transmission method and system is provided to make a terminal, installed at a relay station, convert internet data, such as videos, sounds, or texts in video signals for broadcasting, and relay the converted video signals over the CATV (Cable Television) network so that it can transmit the internet data to a plurality of viewers with a server and a backbone network of a relatively smaller capacity. CONSTITUTION: The method comprises steps of an encoding server converting digital videos, sounds or texts into data in a streaming format(31), the encoding server transmitting the data in a streaming format and scheduler data for controlling the data in a streaming format to the relay station via a host server over the internet (32), the relay station making a real time regeneration of the transmitted data in a streaming format according to an analysis of the scheduler data or storing the transmitted data(33), the relay station converting the data, regenerated in an AV generator, into video signals for broadcasting(34), the relay station transmitting the converted AV stream data to televisions over the CATV network(35).

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Legal Status
Date of request for an examination (20010226)
Notification date of refusal decision ( )
Final disposal of an application (application)
Date of final disposal of an application ( )
Patent registration number ( )
Date of registration ( )
Number of opposition against the grant of a patent ( )
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Number of trial against decision to refuse ( )
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Date of extinction of right ( )

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(12) 공개특허공보(A)

(51) 。Int. Cl.[7]
G06F 17/00

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심사청구 : 있음

(54) 유선 중계 방송망을 이용한 인터넷 송출 방법 및 그 시스템

요약

본 발명은 유선 중계 방송망을 이용한 실시간 인터넷 방송의 송출방법에 관한 것으로서, 인터넷 영상, 음향, 문자 신호를 중계소에 설치된 단말기에서 방송용 영상신호로 바꿔 유선 방송 케이블을 통해 중계함으로써 적은 용량의 서버 및 백본망에서도 다수의 시청자에게 서비스를 제공할 수 있다. 이를 위하여, 인코딩 서버(210)가 디지털화된 영상, 음향, 문자 데이터를 스트리밍 포맷의 데이터로 변환하는 단계(31); 스트리밍 포맷으로 전환된 데이터 및 스트리밍 데이터의 제어정보인 스케줄러 데이터를 호스트 서버(200)를 통하여 인터넷 망으로 송출하여 중계소 단말기(400)까지 전송하는 단계(32); 중계소 단말기(400)에서 스트리밍 포맷의 데이터 및 스케줄러 데이터를 수신하고, 스케줄러 데이터의 해석에 따라서 미디어 재생기(401)를 통하여 실시간으로 재생하거나 또는 데이터를 저장 매체에 저장하여 이후 재생하는 단계(33); AV 출력 발생기(402)에서 재생되는 데이터를 방송용 영상신호로 변환하는 단계(34); 변환된 오디오/비디오 스트림 데이터를 유선 방송망을 통해 개별 시청자의 텔레비젼에 전송하는 단계(35); 를 포함하는 것을 특징으로 하며, 이러한 방식의 인터넷 방송 송출은 동일한 서버 및 전용선 환경에서 더 많은 시청자에게 컨텐츠를 제공할 수 있다.

대표도
도 1

색인어
인터넷, 방송, 유선중계, 디지털, 동영상, 디코딩

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 245 of 492

명세서

도면의 간단한 설명

도 1 은 본 발명의 실시예에 따른 인터넷 방송 송출 방법을 구현하기 위한 대략적인 구성도,

도 2 는 본 발명의 중계소 단말기의 구성도,

도 3 은 본 발명의 실시예에 따른 인터넷 방송 송출 방법을 나타내는 흐름도이다.

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 유선 중계 방송망을 이용한 실시간 인터넷 방송의 송출방법으로 실시간 인터넷 방송의 종래기술은 스트리밍 포맷으로 전화선 또는 전용선을 통해 중계되었다.

그러나, 종래 기술로는 동시 접속자가 많아지면 서버 및 전용선에 부하가 걸려 화면 끊김 현상이 발생하고 그에 따라 동시 시청자를 일정한 인원으로 제한하고 있다. 또한, 인터넷을 통하여 송출되는 각종의 동영상 화일이나, 음악 화일, 인터넷 방송 컨텐츠 등은 대량으로 생산되고 전파되고 있으나, 이를 저장하여 활용하기 위한 효과적인 수단이 부족한 실정이다.

발명이 이루고자 하는 기술적 과제

상기와 같은 문제점을 해소하고자 하는 본 발명의 목적은, 인터넷으로 전달되는 디지털 신호를 방송용 아날로그 영상 신호로 복호화 한 후 모듈레이터로 분배하여 유선 방송망을 통해 다수의 개별 시청자에게 전달함으로써, 인터넷을 통하여 공급되는 각종의 인터넷 컨텐츠들을 접속된 사용자 수에 구애받지 않고 원활하게 시청할 수 있게 하며, 동시에 상기 인터넷 컨텐츠를 저장하여 재활용할 수 있는 방법을 제공하는데 있다.

발명의 구성 및 작용

상기와 같은 목적을 달성하고자 하는 본 발명의 구성은,

인터넷 방송 송출방법에 있어서, 인터넷을 통해 컨텐츠를 송신한 후 모뎀을 통해 상기 컨텐츠를 수신한 후, 상기 컨텐츠를 디코딩하여 상기 모듈레이터를 통해 유선방송망으로 상기 사용자에게 제공하는 과정을 구비하는 것을 특징으로 한다.

이하, 첨부된 도면을 참조하여 본 발명의 바람직한 실시예를 상세하게 기술하고자 한다.

먼저, 본 발명에서는 음성, 영상, 문자 등이 인터넷을 통하여 전송되기에 적절한 형태로 변환되어 인터넷에 접속하는 사용자에게 제공되고, 그것이 담고 있는주제에 따라서 각종의 정보가 포함되는 데이터들을 통칭하여 인터넷 컨텐츠라고 부르기로 하며, 특히 이러한 인터넷 컨텐츠들이 인터넷 망을 통하여 실시간으로 송출되면서, 기존의 공중파 방송에서의 방송 프로그램 형식으로 진행되는 소위 인터넷 방송이 인터넷 컨텐츠의 중심적인 영역으로 확산되어 가고 있다.

본 발명에서는 이와 같은 상기의 인터넷 방송을 인터넷 망에 접속할 수 있는 접속 수단을 구비하지 못한 사용자도 일반적인 텔레비젼을 통하여 효과적으로 전달받을 수 있도록 하는 방법을 제공하기 위한 것이며, 도 1 은 본 발명의 실시예에 따른 인터넷 방송 송출 방법을 구현하기 위한 대략적인 구성도를 나타낸 것이다. 도면을 참조하여 본 발명의 구성을 설명하면 다음과 같다.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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인터넷 컨텐츠를 이루고 있는 영상, 동영상, 음향, 문자 등이 데이터베이스에 의하여 저장되어 있는 디지털 데이터(110); 상기의 데이터(110)들이 실시간 인터넷 방송에 적합한 인터넷 스트리밍 포맷으로 인코딩되는 인코딩 서버(210); 인코딩 서버(210)에서 출력되는 인터넷 스트리밍 포맷의 데이터 및 스트리밍 데이터의 재생에 관련된 스케줄러 데이터를 생성하여 인터넷 망(300)으로 송출하는 호스트 서버(200); 호스트 서버(200)에서 송출되는 인터넷 스트리밍 포맷의 데이터를 수신하여 이를 텔레비전용 오디오/비디오 스트림 포맷으로 변환하고, 스케줄러 데이터를 내장된 제어 프로그램에 의하여 해석하는 중계소 단말기(400); 변환된 오디오/비디오 스트림 데이터를 일반적인 텔레비전에서 인식할 수 있는 주파수의 대역을 가지는 RF 스트림으로 변환하는 모듈레이터(500); 및 모듈레이터(500)에서 출력된 RF 스트림을 수신하여 이를 재생하는 시청자의 텔레비전(600); 으로 구성된다. 여기서, 미설명 기호인 도면 부호 120 은 각각 인터넷 망상에서의 전송선로를 가리키며, 130 은 유선케이블망을 사용하는 유선선로를 가리킨다.

위와 같이 구성되는 본 발명의 구성을 더욱 상세하게 설명하면 다음과 같다.

인터넷 컨텐츠를 이루고 있는 영상, 동영상, 음향, 문자 등의 각종의 데이터(110)들은 처음에는 아날로그 데이터 형태(Low data format)로 구현되는 것이나, 이러한 아날로그 데이터들이 디지털 변조에 의하여 디지털 데이터로 변환되고, 서버와 연관되는 데이터 베이스에 저장됨이 바람직하다.

상기의 데이터(110)들은 인코딩 서버(210)에 의하여 실시간 인터넷 방송에 적합한 스트리밍 포맷(통상적으로 사용되는 AVI, MPEC, Real data 등의 포맷)으로 인코딩된다. 상기 인코딩 서버에는 디지털 데이터를 스트리밍 포맷으로 변환하는데 필요한 제어 프로그램 및 솔루션을 구비하고 있으며, 인코딩 과정의 제반 기술 사항은 기존의 통상적인 기술 수준에서 구현이 가능하므로 자세한 설명은 생략하기로 한다.

위와 같은 과정을 거쳐서 스트리밍 포맷으로 변환된 인터넷 컨텐츠들은 호스트 서버(200)를 통하여 인터넷 망(300)으로 송출된다. 상기 호스트 서버(200)는 TCP/IP 프로토콜을 사용하여 인터넷 망에 연결된 타 호스트 서버 또는 개인 사용자들의 인터넷 접속도구(퍼스널 컴퓨터, PDA)등와 연결됨으로서, 그들의 웹 브라우저에 표시되는 웹 페이지를 전송하고 각종의 정보를 서로간에 송수신 할 수 있도록 하는 인터페이스 및 접속장치를 구비하고, 특히, 후술할 중계소 단말기(400)로는 호스트 서버(200)에서 전송하는 인터넷 컨텐츠의 재생에 관련된 제어정보가 포함되는 스케줄러를 데이터를 생성하고, 이를 인터넷 컨텐츠 정보와 함께 전송한다.

인터넷 망(300)으로 전송된 상기의 인터넷 컨텐츠 데이터는 중계소 단말기 (400)로 수신된다. 상기의 중계소 단말기(400)는, 상기의 인터넷 컨텐츠 데이터를 시청자의 텔레비전 화면에 표시할 수 있도록 하기 위하여, 인터넷 스트리밍 포맷의 데이터를 재생하거나 또는 저장 매체에 저장하고, 저장된 스트리밍 포맷의 데이터 또는 재생되는 스트리밍 포맷의 데이터를 텔레비전용 오디오/비디오 스트림(TV Audio/Vedio Stream) 포맷으로 변환함과 동시에 수신된 스케줄러 데이터를 내장된 제어 프로그램에 따라서 해석하는 장치로서, 그 상세한 구성은 도 2 에 도시된 바와 같다.

도 2 는 중계소 단말기 및 그에 구비되는 시스템의 구성도를 간략하게 도시한 것으로서, 본 발명 중계소 단말기(400)의 구성은, 인터넷 망을 통하여 수신되는 인터넷 스트리밍 포맷의 컨텐츠 데이터를 재생하는 미디어 재생기(401), 미디어 재생기(401)의 출력을 텔레비전용 오디오/비디오 스트림으로 변환하는 AV 출력 발생기(402)로 구성되며,

이후, AV 출력 발생기(402)를 통하여 변환된 오디오/비디오 스트림 데이터는 일반적인 텔레비전에서 인식할 수 있는 주파수의 대역을 가지는 RF 스트림(Radio Frequency Stream)으로 변환을 하는 모듈레이터(Modulator) (500) 및 모듈레이터에서 출력된 RF 스트림을 텔레비전에서 출력할 수 있도록 전력 증폭하고, 각 시청자의 텔레비전(600)의 신호 입력단으로 신호를 분배하는 RF 신호 분배기(501)를 경유하게 된다.

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여기서, 상기의 중계소 단말기(400)는 인터넷 망에 접속할 수 있는 접속 수단을 가지고, 웹 브라우져를 통하여 호스트 서버(200)에서 송출하는 웹 페이지를 표시할 수 있는 모니터를 가진 통상의 컴퓨터를 이용하는 것이 바람직하고, 상기 미디어 재생기(401)는 인터넷 스트리밍 포맷의 컨텐츠 데이터(AVI, MPEC, Real data 등의 데이터 포맷 등)를 재생하는 프로그램으로서, 마이크로 소프트 사(Mycrosoft 社)의 윈도우 미디어 플레이어(Window Media Player) 등의 공지의 스트리밍 재생기를 이용하면 되고, 도면에 도시하지는 않았으나, 스트리밍 포맷의 데이터들을 저장할 저장 매체(하드디스크 등)를 구비한다.

한편, 상기의 AV 출력 발생기(402)는 디지털화 되어 있는 스트리밍 데이터를 아날로그 상태로 변환하여 텔레비젼에 입력하기 위한 장치로서, 범용적으로 이용되고 있는 것이므로 그 상세한 구성은 생략한다.

결국, 본 발명에서의 중계소 단말기(400)는 TCP/IP 프로토콜을 사용하여 인터넷 망에 접속할 수 있는 접속 수단을 가지는 통상적인 퍼스널 컴퓨터에 미디어 재생기(401) 소프트웨어를 인스톨하고, 통상의 AV 출력 발생기(402)를 컴퓨터 내부에 장착하는 형태로 구현이 되는 것이 바람직하다.

또한, 본 발명에서 상기 중계소 단말기(400)로부터 모듈레이터(500), RF 신호 분배기(501)를 경유하여 시청자의 텔레비젼(600) 까지의 신호의 전송 선로는 유선 통신망에서 통상적으로 사용되는 동축케이블(Coaxial cable)로 되어 있는 것이 바람직하다.

이하, 위와 같이 설명된 본 발명의 유선 중계 방송망을 이용한 인터넷 송출 방법의 각 단계를 상세하게 설명하면 아래와 같다.

본 발명의 유선 중계 방송망을 이용한 인터넷 송출 방법은,

인코딩 서버(210)가 디지털화된 영상, 음향, 문자 데이터를 스트리밍 포맷의 데이터로 변환하는 단계(31); 스트리밍 포맷으로 전환된 데이터 및 스트리밍 데이터의 제어정보인 스케쥴러 데이터를 호스트 서버(200)를 통하여 인터넷 망으로 송출하여 중계소 단말기(400)까지 전송하는 단계(32); 중계소 단말기(400)에서 스트리밍 포맷의 데이터 및 스케쥴러 데이터를 수신하고, 스케쥴러 데이터의 해석에 따라서 미디어 재생기(401)를 통하여 실시간으로 재생하거나 또는 데이터를 저장 매체에 저장하여 이후 재생하는 단계(33); AV 출력 발생기(402)에서 재생되는 데이터를 방송용 영상 신호로 변환하는 단계(34); 변환된 오디오/비디오 스트림 데이터를 유선 방송망을 통해 개별 시청자의 텔레비젼에 전송하는 단계(35); 를 포함하는 것을 특징으로 하며, 계시된 도 3 을 참조하여 각 단계를 상세하게 설명한다.

도 3 은 본 발명에 의한 방법을 나타내는 흐름도이다.

1) 인코딩 서버(210)가 디지털화된 영상, 음향, 문자 데이터를 스트리밍 포맷의 데이터로 변환하는 단계(31);

본 발명에 의한 인코딩 서버(210)가 서버(210)와 연동된 데이터 베이스의 각종의 동영상, 음향, 문자 데이터(110)를 인터넷 망으로 실시간으로 전송하기 위한 스트리밍 포맷의 데이터로 변환하는 단계로서, 상기의 데이터(110)들은 인코딩 서버(210)에 의하여 실시간 인터넷 방송에 적합한 스트리밍 포맷(AVI, MPEC, Real data 등의 포맷)으로 인코딩 된다.

2) 스트리밍 포맷으로 전환된 데이터 및 스트리밍 데이터의 제어정보인 스케쥴러 데이터를 호스트 서버(200)를 통하여 인터넷 망으로 송출하여 중계소 단말기(400)까지 전송하는 단계(32);

인코딩 서버(210)에 의하여 스트리밍 포맷으로 변환된 데이터들을 호스트 서버(200)가 인터넷 망(300)을 통하여 중계소 단말기(400)까지 송출하는 단계이다. 또한, 상기의 호스트 서버(200)는 부가적으로 호스트 서버(200)에서 전송하는 데이터들의 재생에 관련된 스케쥴러 데이터를 생성하고, 이를 스트리밍 포맷으로 변환된 데이터들과 함께 중계소 단말기(400)까지 전송한다.

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여기서, 상기 스케줄러 데이터는 중계소 단말기(400)의 컴퓨터로 스트리밍 데이터들과 함께 전송되는 것으로, 중계소 단말기(400)의 미디어 재생기를 통하여 재생되어야할 스트리밍 데이터 혹은 그들의 URL 및 재생되는 날짜/시간에 관한 정보를 가지고 있는 데이터 화일이다.

3) 중계소 단말기(400)에서 스트리밍 포맷의 데이터 및 스케줄러 데이터를 수신하고, 스케줄러 데이터의 해석에 따라서 미디어 재생기(401)를 통하여 실시간으로 재생하거나 또는 데이터를 저장 매체에 저장하여 이후 재생하는 단계(33);

중계소 단말기(400)의 미디어 재생기(401)를 통하여 인터넷 망을 통하여 수신되는 인터넷 스트리밍 포맷의 컨텐츠 데이터를 실시간으로 재생하거나, 또는 이를 실시간으로 재생하지 않고 일단 저장 매체에 저장한 다음, 이후에 전송되는 스케줄러 데이터의 정보에 따라서 전달받은 스트리밍 데이터를 재생하는 단계이다.

본 발명의 실시예에 의하면, 중계소 단말기에서 미디어 재생기를 통하여 전달받는 스트리밍 포맷의 데이터를 재생하는 방식은 두가지 모드의 방식으로 동작할 수 있는데, 하나는 중계소 단말기로 전달되는 데이터를 받는 즉시 이를 실시간으로 재생하는 실시간 스트리밍 데이터 재생(Real-time streaming)모드와 다른 하나로서는 전달되는 데이터를 일단 중계소 단말기의 저장 매체에 저장한 다음, 후에 호스트 서버로부터 전달받는 스케줄러 데이터의 제어에 따라서 저장된 데이터를 재생하는 저장후 방영(Store and Play)모드가 존재한다.

중계소 단말기(400)에서의 상기 모드 선택에 의한 데이터 처리의 흐름을 더욱 상세하게 설명하면 아래와 같다.

중계소 단말기(400)에서는 호스트 서버(200)로부터 전송되는 스트리밍 데이터 및 스케줄러 데이터를 수신한 다음, 수신된 스케줄러 데이터의 내용을 검색(331)한다. 이 때, 상기 스케줄러 데이터의 검색 및 해석의 수행은 중계소 단말기(400)에 미리 인스톨되는 제어 프로그램에 의한 것으로, 본 발명에 의한 실시예에서는 JAVA 언어 등의 웹 프로그래밍 언어를 통하여 작성된 제어 프로그램에 의하여 검색 및 해석이 수행된다.

이후, 제어 프로그램은 검색된 스케줄러 데이터와 기수신된 기존의 스케줄러 데이터를 비교(332)한다. 상기의 비교는 호스트 서버에서 송신된 스케줄러 데이터와 기존의 스케줄러 데이터의 버전(version)을 비교하는 것으로 버전이 서로 불일치하면 다시 호스트 서버(200)로부터 스케줄러 데이터를 다운로드(333) 받고, 버전이 서로 일치하면, 제어 프로그램은 중계소 단말기가 수행되고 있는 상태의 현재의 시간을 확인(334)한다. 그리고, 스케줄러 데이터가 포함하고 있는 정보중에서 확인된 현재 시간에 해당하는 스케쥴 정보를 검색(335)한다. 상기의 스케쥴 정보는 수신된 스트리밍 데이터에 대한 재생 모드 정보(실시간 스트리밍 데이터 재생모드 또는 저장후 방영모드) 및 재생되어야 할 스트리밍 데이터의 이름 또는 URL 주소를 가지고 있으며, 제어 프로그램은 스케줄러 데이터로부터 상기의 모드 및 재생될 데이터를 확인(336)한다.

그 다음에, 확인된 재생 모드에 따라서 실시간 스트리밍 데이터 재생 모드이면 스케쥴 정보에서 지정하는 데이터를 호스트 서버(200)으로부터 실시간 전송받아 미디어 재생기(401)을 통하여 재생(337)하고, 저장후 방영모드이면, 스케쥴 정보에서 지정하는 데이터를 중계소 단말기(400)의 저장매체에 저장(338)한다. 상기 저장된 스트리밍 데이터는 이후에 계속하여 전달되는 스케줄러 데이터의 해석에 따라서 스케쥴 정보가 저장된 데이터의 재생을 지정하고 있으면, 지정된 데이터가 미디어 재생기(401)에 의하여 재생(338)되게 된다.

여기서, 본 발명 실시예에 의한 저장후 방영 모드는 중계소 단말기(400)에서저장된 방송을 재생하거나, 재생을 하지 않는 시간중에도 계속하여 인터넷 망상으로부터 스트리밍 데이터를 송신받아 이를 저장할 수 있으므로, 대용량의 데이터를 저장하여 인터넷망 상의 데이터 트래픽 문제가 없이 우수한 화질과 음향을 가진 컨텐츠 데이터를 시청자들에게 지속적으로 공급할 수 있다.

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이후, 미디어 재생기(401)의 재생을 마친 데이터들은 AV 출력 발생기(401)에 의하여 텔레비젼용 오디오/비디오 스트림으로 변환(34)되게 된다.

4) AV 출력 발생기(402)에서 재생되는 데이터를 방송용 영상신호로 변환하는 단계(34);

인터넷 스트리밍 포맷의 데이터를 전술한 AV 출력 발생기(402)를 통하여 텔레비젼용 오디오/비디오 스트림(TV Audio/Vedio Stream) 포맷으로 변환하는 단계이다.

5) 변환된 오디오/비디오 스트림 데이터를 유선 방송망을 통해 개별 시청자의 텔레비젼에 전송하는 단계(35);

변환된 오디오/비디오 스트림 데이터를 모듈레이터(500)에서 일반적인 텔레비젼에서 인식할 수 있는 주파수의 대역을 가지는 RF 스트림(Radio Frequency Stream)으로 변환을 하여 출력하고, RF 신호 분배기(501)가 모듈레이터에서 출력된 RF 스트림을 텔레비젼에서 출력할 수 있도록 전력 증폭함과 동시에, 증폭된 RF 스트림을 시청자 각각의 텔레비젼(600)의 신호 입력단으로 RF 스트림을 분배하는 단계로서, 상기의 RF 신호 분배기(501)는 다수 시청자의 텔레비젼으로 신호를 분배하는 통상의 공청시설 분배기로 이루어짐이 바람직하다.

지금까지 제시된 도면을 참조하여 본 발명의 유선 중계 방송망을 이용한 인터넷 송출 방법을 설명하였으나, 본 발명 명세서에 기재된 실시예와 도면에 의하여 본 발명은 한정되지 아니하며, 본 발명의 기술사상 범위내에서 당업자에 의하여 다양한 변형이 이루어 질 수 있음은 당업자에 의하여 자명하다 할 것이다.

발명의 효과

상기와 같은 구성을 가진 본 발명의 효과는 유선망을 통하여 일반적인 텔레비젼으로 인터넷 컨텐츠를 수신할 수 있음으로, 일반 인터넷 망을 통한 인터넷방송에 비하여 상대적으로 낮은 성능의 서버와 적은 용량의 전용선으로 많은 사용자들에게 컨텐츠를 제공할 수 있으며, 인터넷 사용에 익숙하지 못한 사람들에게도 인터넷 방송 컨텐츠를 제공할 수 있다.

또한, 중계소 단말기에서 수신되는 인터넷 컨텐츠의 저장 및 재생이 가능하므로, 기하급수적으로 증대되고 있는 인터넷 컨텐츠의 효과적인 재활용을 가능하게 하는 매우 진보한 발명인 것이다.

(57) 청구의 범위

청구항 1.

인터넷 방송 송출방법에 있어서, 인터넷을 통해 컨텐츠를 송신한 후 모뎀을 통해 상기 컨텐츠를 수신한 후, 상기 컨텐츠를 디코딩하여 상기 모듈레이터를 통해 유선방송망으로 상기 사용자에게 제공하는 과정을 구비함을 특징으로 하는 인터넷 방송 송출 방법.

청구항 2.

제 1 항에 있어서,

인코딩 서버(210)가 디지털화된 영상, 음향, 문자 데이터를 스트리밍 포맷의 데이터로 변환하는 단계(31); 스트리밍 포맷으로 전환된 데이터 및 스트리밍 데이터의 제어 정보인 스케쥴러 데이터를 호스트 서버(200)를 통하여 인터넷 망으로 송출하여 중계소 단말기(400)까지 전송하는 단계(32); 중계소 단말기(400)에서 스트리밍 포맷의 데이터 및 스케쥴러 데이터를 수신하고, 스케쥴러 데이터의 해석에 따라서 미디어 재생기(401)를 통하여 실시간으로 재생하거나 또는 데이터를 저장 매체에 저장하여 이후 재생하는 단계(33); AV 출력 발생기(402)에서 재생되는 데이터를 방송용 영상신호로 변환하는 단계(34); 변환된 오디오/비디오 스트림 데이터를 유선 방송망을 통해 개별 시청자의 텔레비젼에

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전송하는 단계(35); 를 포함하는 것을 특징으로 하는 인터넷 방송 송출 방법.

청구항 3.

제 2 항에 있어서,

중계소 단말기(400)에서 스트리밍 포맷의 데이터 및 스케쥴러 데이터를 수신하고, 스케쥴러 데이터의 해석에 따라서 미디어 재생기(401)를 통하여 실시간으로 재생하거나 또는 데이터를 저장 매체에 저장하여 이후 재생하는 단계(33); 는

중계소 단말기(400)에서는 호스트 서버(200)로부터 전송되는 스트리밍 데이터 및 스케쥴러 데이터를 수신하고, 수신된 스케쥴러 데이터의 내용을 검색(331)하고, 상기 중계소 단말기(400)에 내장된 제어 프로그램에 의해 검색된 스케쥴러 데이터와 기수신된 기존의 스케쥴러 데이터를 비교(332)하고, 호스트 서버에서 송신된 스케쥴러 데이터와 기존의 스케쥴러 데이터의 버전이 서로 불일치하면 다시 호스트 서버(200)로부터 스케쥴러 데이터를 다운로드(333) 받고, 버전이 서로 일치하면, 제어 프로그램이 중계소 단말기가 수행되고 있는 상태의 현재의 시간을 확인(334)하고, 스케쥴러 데이터가 포함하고 있는 정보중에서 확인된 현재 시간에 해당하는 스케쥴 정보를 검색(335)하여, 스케쥴러 데이터로부터 상기의 모드 및 재생될 데이터를 확인(336)하고, 확인된 재생 모드에 따라서 실시간 스트리밍 데이터 재생 모드이면 스케쥴 정보에서 지정하는 데이터를 호스트 서버(200)으로부터 전송받아 미디어 재생기(401)을 통하여 재생(337)하고, 저장후 방영모드이면, 스케쥴 정보에서 지정하는 데이터를 중계소 단말기(400)의 저장매체에 저장(338)하고, 상기 저장된 스트리밍 데이터는 이후에 계속하여 전달되는 스케쥴러 데이터의 해석에 따라서 지정된 데이터가 미디어 재생기(401)에 의하여 재생(338)되는 것을 특징으로 하는 인터넷 방송 송출 방법.

청구항 4.

통상의 인터넷 방송 송출 시스템에 있어서,

인터넷 컨텐츠를 이루고 있는 영상, 동영상, 음향, 문자 등이 데이터베이스에 의하여 저장되어 있는 디지털 데이터(110); 상기의 데이터(110)들이 실시간 인터넷 방송에 적합한 인터넷 스트리밍 포맷으로 인코딩되는 인코딩 서버(210); 인코딩 서버(210)에서 출력되는 인터넷 스트리밍 포맷의 데이터 및 스트리밍 데이터의 재생에 관련된 스케쥴러 데이터를 생성하여 인터넷 망(300)으로 송출하는 호스트 서버(200); 호스트 서버(200)에서 송출되는 인터넷 스트리밍 포맷의 데이터를 수신하여 이를 텔레비젼용 오디오/비디오 스트림 포맷으로 변환하고, 스케쥴러 데이터를 내장된 제어 프로그램에 의하여 해석하는 중계소 단말기(400); 변환된 오디오/비디오 스트림 데이터를 일반적인 텔레비젼에서 인식할 수 있는 주파수의 대역을 가지는 RF 스트림으로 변환하는 모듈레이터(500); 및 모듈레이터(500)에서 출력된 RF 스트림을 수신하여 이를 재생하는 시청자의 텔레비젼(600); 으로 구성되는 것을 특징으로 하는 인터넷 방송 송출 시스템.

청구항 5.

제 4 항에 있어서,

중계소 단말기(400)는 인터넷 망을 통하여 수신되는 인터넷 스트리밍 포맷의 컨텐츠 데이터를 재생하는 미디어 재생기(401), 미디어 재생기(401)의 출력을 텔레비젼용 오디오/비디오 스트림으로 변환하는 AV 출력 발생기(402)를 포함하는 것을 특징으로 하는 인터넷 방송 송출 시스템.

청구항 6.

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제 4 항 내지 제 5 항중 어느 한 항에 있어서,

모듈레이터(500)에서 출력된 RF 스트림을 수신하여 텔레비젼에서 출력할 수 있도록 전력 증폭하고, 증폭된 RF 스트림을 시청자 각각의 텔레비젼(600)의 신호 입력단으로 RF 스트림을 분배하는 RF 신호 분배기(501)를 더 포함하는 것을 특징으로 하는 인터넷 방송 송출 시스템.

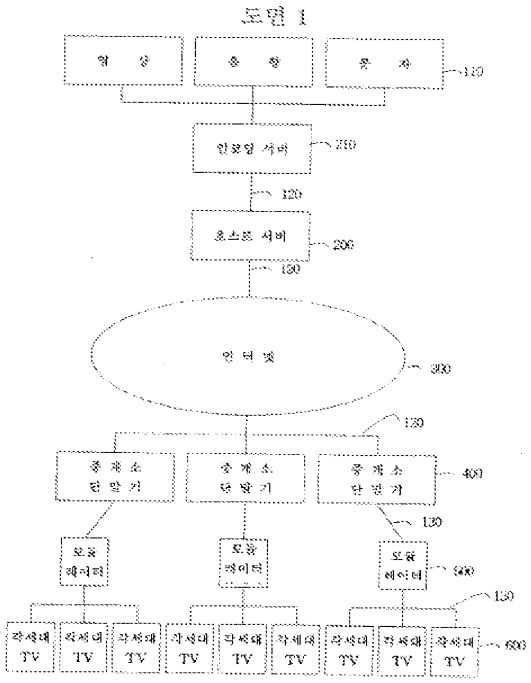
청구항 7.

제 6 항에 있어서,

상기의 RF 신호 분배기(501)는 상기의 RF 신호 분배기(501)는 다수 시청자의 텔레비젼으로 신호를 분배하는 공청시설 분배기인 것을 특징으로 하는 인터넷 방송 송출 시스템.

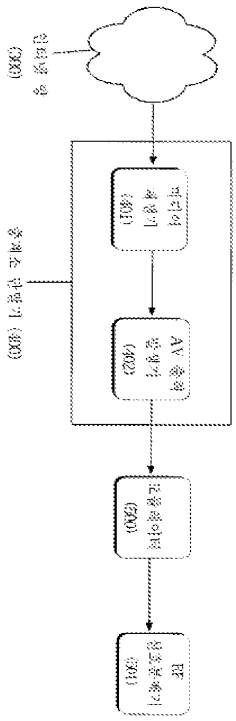
도면

도면 1



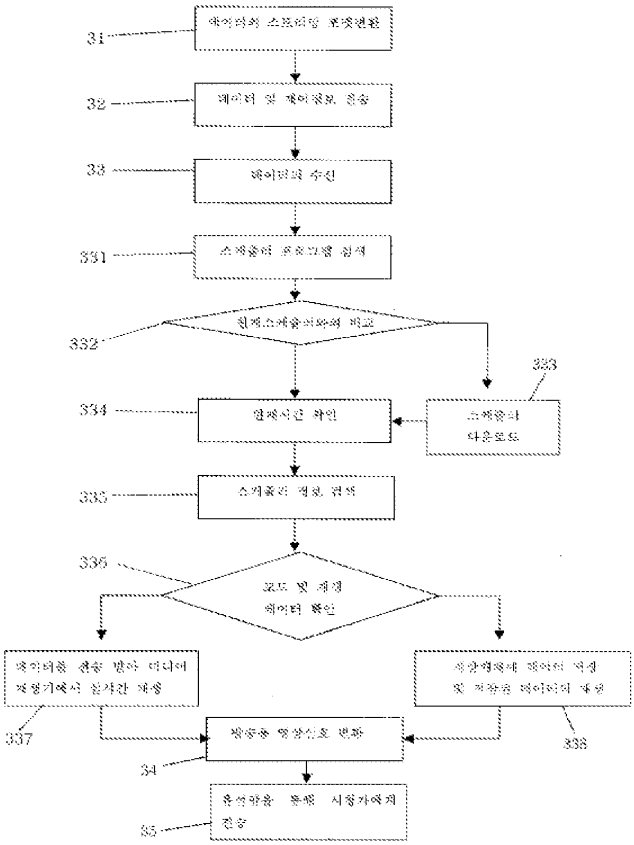
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도면 3



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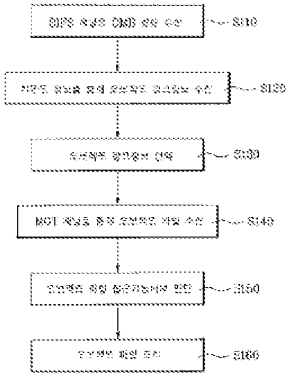
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(54) METHOD FOR PROVIDING DATA SERVICE THROUGH BIFS CHANNEL AND DIGITAL MULTIMEDIA BROADCASTING RECEIVING TERMINAL FOR RECEIVING LARGE QUANTITY OF DATA FROM DIGITAL MULTIMEDIA BROADCASTING STATION

(57) Abstract:

PURPOSE: A method for providing data service through a BIFS(Binary Format for Scene) channel and a DMB(Digital Multimedia Broadcasting) receiving terminal are provided to offer a large quantity of data to the DMB receiving terminal by providing link information of data through a BIFS channel and providing a file through a MOT (Multimedia Object Transfer) channel. CONSTITUTION: A DMB receiving terminal receives DMB service from a DMB station through a BIFS channel, and simultaneously receives link information of an object through command information of BIFS(S110,S120). When a receiver selects download of the object, the object file broadcasted from the DMB station is downloaded through a MOT channel using the link of the object(S140).



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(54) ＢＩＦＳ 채널을 통한 데이터 서비스 방법, 및 디지털멀티미디어 방송수신 단말기

(57) 요약

본 발명은 BIFS 채널을 통한 데이터 서비스 방법, 및 디지털 멀티미디어 방송수신 단말기에 관한 것으로서, 더욱 상세하게는 지상파 DMB 데이터 서비스에 있어서, 디지털 멀티미디어 방송국이 MPEG-4의 BIFS 채널을 통해 디지털 멀티미디어 방송수신 단말기에 데이터 서비스를 제공할 수 있는 BIFS 채널을 통한 데이터 서비스 방법, 및 디지털 멀티미디어 방송수신 단말기에 관한 것이다. 본 발명은, (a) 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는 단계; 및, (b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받는 단계;를 포함한다.

본 발명에 의하면, 데이터의 링크정보는 BIFS(Binary Format for Scene) 채널을 통해 제공하고 파일은 MOT 채널을 통해 제공함으로써, 대용량의 데이터를 디지털 멀티미디어 수신 단말기에 제공할 수 있다.

대표도

도 1

특허청구의 범위

청구항 1.

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방송수신 단말기가 디지털 멀티미디어 방송국으로부터 디지털 멀티미디어 방송 서비스를 제공받는 방법으로서,

(a) 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는 단계; 및,

(b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받는 단계;

를 포함하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 2.

제 1 항에 있어서,

상기 디지털 멀티미디어 방송 서비스는,

DMB(Digital Multimedia Broadcasting) 규격에 부합하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 3.

제 1 항에 있어서,

상기 (b) 단계는,

(b1) 수신자에 의해 상기 오브젝트의 다운로드가 선택되는 단계;

(b2) 상기 방송수신 단말기의 유저 어플리케이션이 상기 방송수신 단말기의 MOT 데이터 디코더에 파일을 요청하는 단계; 및,

(b3) 상기 방송수신 단말기의 MOT 데이터 디코더가 MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받는 단계;

를 포함하는 단계임을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 4.

제 3 항에 있어서,

상기 (b) 단계는,

(b3) 단계이후,

(b4) 상기 방송수신 단말기의 MOT 데이터 디코더가 상기 오브젝트 파일을 다운로드 받는 도중 또는 다운로드 받은 이후, 상기 오브젝트 파일을 상기 방송수신 단말기의 유저 어플리케이션에 전달하는 단계;

를 더 포함하는 단계임을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

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청구항 5.

제 1 항에 있어서,

상기 (b) 단계이후,

(c) 상기 방송수신 단말기의 유저 어플리케이션이 상기 오브젝트 파일을 디스플레이를 통해 표시하는 단계;

를 더 포함하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 6.

제 5 항에 있어서,

상기 (c) 단계는,

상기 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 수신되는 디지털 멀티미디어 방송 컨텐츠를 디스플레이를 통해 표시함과 동시에,

상기 방송수신 단말기의 유저 어플리케이션이 상기 오브젝트 파일을 디스플레이를 통해 표시하는 단계인 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 7.

제 5 항에 있어서,

상기 (c) 단계는,

수신자의 선택에 따라, 상기 방송수신 단말기의 유저 어플리케이션이 상기 오브젝트 파일을 디스플레이를 통해 표시하는 단계임을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 8.

제 7 항에 있어서,

상기 (c) 단계는,

(c1) 수신자가 오브젝트 파일의 표시를 선택하는 단계;

(c2) 상기 방송수신 단말기의 유저 어플리케이션이 상기 오브젝트 파일의 접근에 필요한 인증정보를 상기 수신자로부터 입력받는 단계;

(c3) 상기 방송수신 단말기의 유저 어플리케이션이 상기 인증정보를 이용하여 인증을 수행하는 단계; 및,

(c4) 상기 (c3) 단계에서의 인증이 성공적으로 수행될 것을 조건으로 상기 오브젝트 파일을 디스플레이를 통해 표시하는 단계;

를 포함하는 단계임을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

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청구항 9.

디지털 멀티미디어 방송국이 방송수신 단말기에 디지털 멀티미디어 방송 서비스를 제공하는 방법으로서,

(a) 방송수신 단말기에 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 제공함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송하는 단계; 및,

(b) 상기 방송수신 단말기가 상기 오브젝트 파일을 다운로드받을 수 있도록 상기 오브젝트 파일을 MOT(Multimedia Object Transfer) 채널을 통해 브로드캐스팅하는 단계;

를 포함하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 10.

방송수신 단말기가 디지털 멀티미디어 방송국으로부터 디지털 멀티미디어 방송 서비스를 제공받는 방법으로서,

(a) 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는 단계; 및,

(b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, 상기 오브젝트의 링크를 이용하여 이동통신사 서버로부터 상기 오브젝트 파일을 다운로드받을 수 있는 MMS(Multimedia Massage Service)를 상기 디지털 멀티미디어 방송국으로부터 수신하는 단계;

를 포함하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 11.

제 1 항에 있어서,

상기 (b) 단계 이후,

(c) 상기 MMS를 이용하여 상기 이동통신사 서버로부터 이동통신망을 통해 상기 오브젝트 파일을 다운로드받는 단계;

를 포함하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 12.

디지털 멀티미디어 방송국이 방송수신 단말기에 디지털 멀티미디어 방송 서비스를 제공하는 방법으로서,

(a) 방송수신 단말기에 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 제공함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송하는 단계; 및,

(b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, 상기 오브젝트의 링크를 이용하여 이동통신사 서버로부터 상기 오브젝트 파일을 다운로드받을 수 있는 MMS(Multimedia Massage Service)를 상기 방송수신 단말기에 전송하는 단계;

를 포함하는 것을 특징으로 하는 BIFS 채널을 통한 데이터 서비스 방법.

청구항 13.

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디지털 멀티미디어 방송국으로부터 디지털 멀티미디어 방송 서비스를 제공받는 디지털 멀티미디어 방송수신 단말기로서,

디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받아서, 수신자의 선택에 따라 상기 오브젝트 파일을 요청하고 전달받는 유저 어플리케이션;

상기 유저 어플리케이션으로부터 상기 오브젝트 파일을 요청받으면, MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받아서 상기 유저 어플리케이션에 전달하는 MOT 데이터 디코더;

상기 BIFS의 커맨드 정보 및 상기 오프젝트 파일이 저장되는 메모리부; 및,

상기 디지털 멀티미디어 방송 서비스를 통해 전송받은 방송 컨텐츠가 표시되는 디스플레이;

를 포함하는 것을 특징으로 하는 디지털 멀티미디어 방송수신 단말기.

청구항 14.

디지털 멀티미디어 방송국으로부터 디지털 멀티미디어 방송 서비스를 제공받는 디지털 멀티미디어 방송수신 단말기로서,

디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받아서, 수신자의 선택에 따라 상기 오브젝트의 링크를 이용하여 이동통신사 서버로부터 상기 오브젝트 파일을 다운로드 받을 수 있는 MMS (Multimedia Massage Service)를 상기 디지털 멀티미디어 방송국으로부터 수신하는 유저 어플리케이션;

상기 유저 어플리케이션이 상기 MMS를 수신하면, 상기 MMS를 이용하여 이동통신사 서버로부터 이동통신망을 통해 오브젝트 파일을 수신하는 데이터 통신모듈;

상기 BIFS의 커맨드 정보 및 상기 오프젝트 파일이 저장되는 메모리부; 및,

상기 디지털 멀티미디어 방송 서비스를 통해 전송받은 방송 컨텐츠가 표시되는 디스플레이;

를 포함하는 것을 특징으로 하는 디지털 멀티미디어 방송수신 단말기.

명세서

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 BIFS 채널을 통한 데이터 서비스 방법, 및 디지털 멀티미디어 방송수신 단말기에 관한 것으로서, 더욱 상세하게는 지상파 DMB 데이터 서비스에 있어서, 디지털 멀티미디어 방송국이 MPEG-4의 BIFS 채널을 통해 디지털 멀티미디어 방송수신 단말기에 데이터 서비스를 제공할 수 있는 BIFS 채널을 통한 데이터 서비스 방법, 및 디지털 멀티미디어 방송수신 단말기에 관한 것이다.

일반적으로, 지상파 DMB 방송 서비스에 있어서, 여러 가지 데이터 서비스가 제공되고 있다. BIFS(Binary Format for Scene)은 비디오 서비스와 연동하여 부가적으로 제공되는 데이터 서비스에 관한 것이다. 한편, BIFS 채널은 그 특성상 대용량의 데이터를 전송하는 데 적합하지 않으며, 데이터를 유료화하여 소정의 서비스료를 지불한 사용자에게만 제공할 수 있는 방법이 없다는 문제점이 있다.

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발명이 이루고자 하는 기술적 과제

본 발명은 상기와 같은 문제점을 해결하기 위해 창안된 것으로서, 지상파 DMB 서비스의 데이터 서비스에 있어서, 데이터의 링크정보는 BIFS(Binary Format for Scene) 채널을 통해 제공하고 파일은 MOT 채널을 통해 제공함으로써, 대용량의 데이터를 디지털 멀티미디어 수신 단말기에 제공할 수 있는 BIFS 채널을 통한 데이터 서비스 방법, 및 디지털 멀티미디어 방송수신 단말기를 제공하는데 그 목적이 있다.

본 발명의 또 다른 목적은 지상파 DMB 서비스의 데이터 서비스에 있어서, 데이터의 링크정보는 BIFS(Binary Format for Scene) 채널을 통해 제공하고 파일은 이동통신망(CDMA망 등)을 통해 제공함으로써, 대용량의 데이터를 디지털 멀티미디어 수신 단말기에 제공할 수 있는 BIFS 채널을 통한 데이터 서비스 방법, 및 디지털 멀티미디어 방송수신 단말기를 제공하는데 있다.

발명의 구성

상기와 같은 목적을 달성하기 위하여 본 발명에 따른 BIFS 채널을 통한 데이터 서비스 방법은 방송수신 단말기가 디지털 멀티미디어 방송국으로부터 디지털 멀티미디어 방송 서비스를 제공받는 방법으로서, (a) 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는 단계; 및, (b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받는 단계;를 포함한다.

본 발명의 또 다른 측면에 따르면, 디지털 멀티미디어 방송국이 방송수신 단말기에 디지털 멀티미디어 방송 서비스를 제공하는 방법으로서, (a) 방송수신 단말기에 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 제공함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송하는 단계; 및,

(b) 상기 방송수신 단말기가 상기 오브젝트 파일을 다운로드받을 수 있도록 상기 오브젝트 파일을 MOT(Multimedia Object Transfer) 채널을 통해 브로드캐스팅하는 단계;를 포함하는 BIFS 채널을 통한 데이터 서비스 방법이 제공된다.

본 발명의 또 다른 측면에 따르면, (a) 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는 단계; 및, (b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, 상기 오브젝트의 링크를 이용하여 이동통신사 서버로부터 상기 오브젝트 파일을 다운로드받을 수 있는 MMS(Multimedia Massage Service)를 상기 디지털 멀티미디어 방송국으로부터 수신하는 단계;를 포함하는 BIFS 채널을 통한 데이터 서비스 방법가 제공된다.

본 발명의 또 다른 측면에 따르면, 디지털 멀티미디어 방송국이 방송수신 단말기에 디지털 멀티미디어 방송 서비스를 제공하는 방법으로서, (a) 방송수신 단말기에 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 제공함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송하는 단계; 및, (b) 수신자에 의해 상기 오브젝트의 다운로드가 선택되면, 상기 오브젝트의 링크를 이용하여 이동통신사 서버로부터 상기 오브젝트 파일을 다운로드받을 수 있는 MMS(Multimedia Massage Service)를 상기 방송수신 단말기에 전송하는 단계;를 포함하는 BIFS 채널을 통한 데이터 서비스 방법이 제공된다.

본 발명의 또 다른 측면에 따르면, 디지털 멀티미디어 방송국으로부터 디지털 멀티미디어 방송 서비스를 제공받는 디지털 멀티미디어 방송수신 단말기로서, 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받아서, 수신자의 선택에 따라 상기 오브젝트 파일을 요청하고 전달받는 유저 어플리케이션; 상기 유저 어플리케이션으로부터 상기 오브젝트 파일을 요청받으면, MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받아서 상기 유저 어플리케이션에 전달하는 MOT 데이터 디코더; 상기 BIFS의 커맨드 정보 및 상기 오브젝트 파일이 저장되는 메모리부; 및, 상기 디지털 멀티미디어 방송 서비스를 통해 전송받은 방송 컨텐츠가 표시되는 디스플레이;를 포함하는 디지털 멀티미디어 방송수신 단말기가 제공된다.

본 발명의 또 다른 측면에 따르면, 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보

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를 전송받아서, 수신자의 선택에 따라 상기 오브젝트의 링크를 이용하여 이동통신사 서버로부터 상기 오브젝트 파일을 다운로드 받을 수 있는 MMS(Multimedia Massage Service)를 상기 디지털 멀티미디어 방송국으로부터 수신하는 유저 어플리케이션; 상기 유저 어플리케이션이 상기 MMS를 수신하면, 상기 MMS를 이용하여 이동통신사 서버로부터 이동통신망을 통해 오브젝트 파일을 수신하는 데이터 통신모듈; 상기 BIFS의 커맨드 정보 및 상기 오브젝트 파일이 저장되는 메모리부; 및, 상기 디지털 멀티미디어 방송 서비스를 통해 전송받은 방송 컨텐츠가 표시되는 디스플레이;를 포함하는 디지털 멀티미디어 방송수신 단말기가 제공된다.

이하 첨부된 도면을 참조로 본 발명의 바람직한 실시예를 상세히 설명하기로 한다. 이에 앞서, 본 명세서 및 청구범위에 사용된 용어나 단어는 통상적이거나 사전적인 의미로 한정해서 해석되어서는 아니되며, 발명자는 그 자신의 발명을 가장 최선의 방법으로 설명하기 위해 용어의 개념을 적절하게 정의할 수 있다는 원칙에 입각하여 본 발명의 기술적 사상에 부합하는 의미와 개념으로 해석되어야만 한다. 따라서, 본 명세서에 기재된 실시예와 도면에 도시된 구성은 본 발명의 가장 바람직한 일 실시예에 불과할 뿐이고 본 발명의 기술적 사상을 모두 대변하는 것은 아니므로, 본 출원시점에 있어서 이들을 대체할 수 있는 다양한 균등물과 변형예들이 있을 수 있음을 이해하여야 한다.

도 1은 본 발명의 일 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법을 구현하기 위한 네트워크 구성을 보여주는 도면이다. 도면을 참조하면, 본 발명의 BIFS 채널을 통한 데이터 서비스 방법은 디지털 멀티미디어 방송국(300)이 BIFS 채널(210) 및 MOT 채널(220)을 통해 디지털 멀티미디어 수신단말기(100)와 연계됨으로써 이루어진다. 한편, 디지털 멀티미디어 방송국(300)은 프로그램 제공자 서버(400)와 경보통신망을 통해 연계되어 있을 수 있다.

디지털 멀티미디어 수신단말기(100)는 디지털 멀티미디어 방송국(300)으로부터 디지털 멀티미디어 방송 서비스를 제공받는 단말기로서, BIFS 채널(210)을 통해 BIFS 커맨드 정보(101)를 수신하고, MOT 채널(220)을 통해 MOT 로컬 데이터(102) 즉, 오브젝트 파일을 수신한다. 디지털 멀티미디어 수신단말기(100)의 각 구성요소에 관한 구체적인 설명은 도 2와 함께 후술하고자 한다.

디지털 멀티미디어 방송국(300)은 디지털 멀티미디어 수신단말기(100)에 디지털 멀티미디어 방송 서비스를 제공한다. 구체적으로, 디지털 멀티미디어 방송 서비스를 통해 디지털 멀티미디어 수신단말기(100)에 방송 컨텐츠를 제공함과 동시에 데이터 서비스를 제공한다. 한편, 디지털 멀티미디어 방송 서비스는 DMB(Digital Multimedia Broadcasting) 규격에 부합하는 것일 수 있다.

프로그램 제공자 서버(400)는 디지털 멀티미디어 방송국(300)에 방송 컨텐츠 및/또는 광고 컨텐츠 등을 제공하는 서버이다. 디지털 멀티미디어 방송국(300)은 프로그램 제공자 서버(400)로부터 전송된 컨텐츠를 저장한 후 또는 실시간으로 디지털 멀티미디어 방송국(300)에 제공한다.

BIFS 채널(210)은 BIFS(Binary Format for Scene)에 따라 커맨드 경보와 커맨드 정보 이외의 데이터를 디지털 멀티미디어 수신단말기(100)에 전송하는 채널이다. BIFS 커맨드에는 인서트(Insert), 삭제(Delete), 리플레이스(Replace), 리플레이스 씬(Replace Scene)으로 구성되며, 이를 통한 서비스의 일 예 중에서, 최종단의 어플리케이션(application)의 종류에 따라 무비 텍스쳐(movie texture) 또는 이미지 텍스쳐(image texture) 등으로 나타낼 수 있다. 이 구조는 다음과 같다.

ImageTexture {

exposedField	MFString	url	[ ]
field	SFBool	repeatS	TRUE
field	SFBool	repeatT	TRUE

}

상기와 같이 커맨드 정보에 url 정보가 포함되며, 이 url 정보는 MOT의 오브젝트와 연결된다.

MOT 채널(220)은 MOT(Multimedia Object Transfer)에 따라 오브젝트 파일, 즉, MOT 로컬 데이터를 디지털 멀티미디어 수신단말기(100)에 전송하는 채널이다.

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도 2는 본 발명의 일 실시예에 따른 디지털 멀티미디어 방송수신 단말기의 구성도이다. 도면을 참조하면, 디지털 멀티미디어 수신단말기(100)는 제어부(110), 메모리부(120), 유저 어플리케이션(130), MOT 데이터 디코더(140), 디스플레이(145)를 구비한다.

제어부(110)는 디지털 멀티미디어 서비스에 관한 일련의 처리를 담당한다.

메모리부(120)는 BIFS의 커맨드 정보 및 상기 오브젝트 파일이 저장되는 저장장치이다.

유저 어플리케이션(130)은 디지털 멀티미디어 방송국(300)으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받아서, 수신자의 선택에 따라 상기 오브젝트 파일을 요청하고 전달받는다.

MOT 데이터 디코더(140)는 유저 어플리케이션(130)으로부터 오브젝트 파일을 요청받으면, MOT(Multimedia Object Transfer) 채널을 통해 디지털 멀티미디어 방송국(300)으로부터 브로드캐스팅되는 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받아서 유저 어플리케이션(130)에 전달하는 것으로서, 오브젝트 매니지먼트(142) 및 리어셈블리 유닛(144)을 구비한다.

오브젝트 매니지먼트(Object Management)(142)는 유저 어플리케이션(130)으로부터 오브젝트 파일 요청을 수신하여 리어셈블리 유닛(144)에 어셈블(assemble)을 요청한다. 그런 다음 리어셈블리 유닛(144)으로부터 MOT 오브젝트를 전달받으면 상기 유저 어플리케이션에 MOT 오브젝트 파일을 전달한다.

리어셈블리 유닛(Reassembly Unit)(144)은 상기 오브젝트 매니지먼트로부터 어셈블을 요청받으면, 디지털 멀티미디어 방송국(300)으로부터 브로드캐스팅되는 오브젝트에 관한 MSC 데이터 그룹을 수신하여 MOT 오브젝트를 어셈블한 후, 이를 상기 오브젝트 매니지먼트에 전달한다.

디스플레이(145)는 디지털 멀티미디어 방송 서비스를 통해 전송받은 방송 컨텐츠가 표시되는 표시장치이다. 나아가, 데이터 서비스를 통해 전송받은 상기 오브젝트 파일이 표시될 수도 있다.

도 3은 본 발명의 일 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법의 순서도이다. 도 3을 참조하면, 우선, 디지털 멀티미디어 방송국(300)으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신한다(S110 단계). S110 단계에서 디지털 멀티미디어 방송 컨텐츠를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는다(S120 단계). 여기서, 오브젝트의 링크 정보는, 다수 개의 오브젝트에 관한 것일 수 있다. 그런 다음 오브젝트에 관한 정보를 디스플레이를 통해 표시하는 것이 바람직하다.

이때, 수신자에 의해 상기 오브젝트의 다운로드가 선택된다(S130 단계). 물론, 오브젝트의 링크 정보가 다수 개의 오브젝트에 관한 것일 때는, 이 단계에서 수신자에 의해 다수 개의 오브젝트 중 하나가 선택될 수 있다.

S130 단계에서 오브젝트의 다운로드가 선택되면, MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받는다(S140 단계). 상기 S140 단계를 구체적으로 살펴보면 다음과 같다. 우선 수신자에 의해 오브젝트의 다운로드가 선택되면, 방송수신 단말기의 유저 어플리케이션이 방송수신 단말기의 MOT 데이터 디코더에 파일을 요청한다. 상기 방송수신 단말기의 MOT 데이터 디코더가 MOT(Multimedia Object Transfer) 채널을 통해 상기 디지털 멀티미디어 방송국으로부터 브로드캐스팅되는 상기 오브젝트 파일을 상기 오브젝트의 링크를 이용하여 다운로드받는다. 그런 다음, 방송수신 단말기의 MOT 데이터 디코더가 상기 오브젝트 파일을 다운로드 받는 도중 또는 다운로드 받은 이후, 상기 오브젝트 파일을 상기 방송수신 단말기의 유저 어플리케이션에 전달한다.

상기 S140 단계를 통해 오브젝트 파일을 전송받은 후, 수신자가 오브젝트 파일의 표시를 선택하면, 방송수신 단말기의 유저 어플리케이션이 상기 오브젝트 파일의 접근에 필요한 인증정보를 상기 수신자로부터 입력받은 후, 상기 인증정보를 이용하여 인증을 수행할 수 있다(S150 단계). 즉, 오브젝트 파일에 접근할 수 있는 정당한 권리자인지 여부를 판단하는 것이다.

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상기 S150 단계에서 인증이 성공적으로 수행될 것을 조건으로 상기 오브젝트 파일을 디스플레이를 통해 표시한다(S160 단계). 이때, 물론 상기 디지털 멀티미디어 방송국으로부터 BIFS(Binary Format for Scene)을 통해 수신되는 디지털 멀티미디어 방송 컨텐츠를 디스플레이를 통해 표시함과 동시에, 하나의 디스플레이를 통해 상기 오브젝트 파일이 표시될 수 있다.

도 4는 본 발명의 다른 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법을 구현하기 위한 네트워크 구성도이다. 도면을 참조하면, 본 발명의 BIFS 채널을 통한 데이터 서비스 방법은 디지털 멀티미디어 방송국(350)이 BIFS 채널(210)을 통해 디지털 멀티미디어 수신단말기(150)와 연계되고, 이동통신사 서버(500)가 이동통신망(230)을 통해 디지털 멀티미디어 수신단말기(150)와 연계됨으로써 이루어진다. 한편, 디지털 멀티미디어 방송국(350)은 역시 프로그램 제공자 서버(400)와 정보통신망을 통해 연계되어 있을 수 있다.

디지털 멀티미디어 수신단말기(150)는 디지털 멀티미디어 방송국(350)으로부터 디지털 멀티미디어 방송 서비스를 제공받는 단말기로서, BIFS 채널(210)을 통해 BIFS 커맨드 정보(101)를 수신하고, 이동통신망(230)을 통해 이동통신 로컬 데이터(103) 즉, 오브젝트 파일을 수신한다. 디지털 멀티미디어 수신단말기(150)의 각 구성요소에 관한 구체적인 설명은 도 5와 함께 후술하고자 한다.

디지털 멀티미디어 방송국(350)은 디지털 멀티미디어 수신단말기(150)에 디지털 멀티미디어 방송 서비스를 제공한다. 구체적으로, 디지털 멀티미디어 방송 서비스를 통해 디지털 멀티미디어 수신단말기(150)에 방송 컨텐츠를 제공함과 동시에 데이터 서비스를 제공한다. 한편, 디지털 멀티미디어 방송 서비스는 DMB(Digital Multimedia Broadcasting) 규격에 부합하는 것일 수 있다.

프로그램 제공자 서버(400)는 디지털 멀티미디어 방송국(350)에 방송 컨텐츠 및/또는 광고 컨텐츠 등을 제공하는 서버로서, 앞서 설명한 바와 같다.

이동통신사 서버(500)는 이동통신망(230)을 통해 디지털 멀티미디어 수신단말기(150)에 MMS에 해당하는 오브젝트 파일을 전송하는 서버이다. 상기 이동통신사 서버(500)를 운용하는 이동통신 사업자는 디지털 멀티미디어 방송국(350)을 운용하는 사업자와 상기 오브젝트 파일의 전송에 관한 제휴를 맺은 사업자이다.

BIFS 채널(210)은 BIFS(Binary Format for Scene)에 따라 커맨드 정보와 커맨드 정보 이외의 데이터를 디지털 멀티미디어 수신단말기(150)에 전송하는 채널로서, 앞서 설명한 바와 같다.

이동통신망(230)은 이동통신사 서버(500)가 디지털 멀티미디어 수신단말기(150)에 오브젝트 파일을 전송하는 데이터 통신망으로서, CDMA 망이 여기에 해당할 수 있다.

도 5는 본 발명의 다른 실시예에 따른 디지털 멀티미디어 방송수신 단말기의 구성도이다. 도면을 참조하면, 디지털 멀티미디어 방송수신 단말기(150)는 제어부(160), 메모리부(170), 유저 어플리케이션(180), 디스플레이(145)를 포함한다.

제어부(160)는 디지털 멀티미디어 서비스에 관한 일련의 처리를 담당한다.

메모리부(170)는 상기 BIFS의 커맨드 정보 및 상기 오브젝트 파일이 저장되는 저장장치이다.

유저 어플리케이션(180)은 디지털 멀티미디어 방송국(350)으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받아서, 수신자의 선택에 따라 상기 오브젝트의 링크를 이용하여 이동통신사 서버(500)로부터 오브젝트 파일을 다운로드 받을 수 있는 MMS(Multimedia Massage Service)를 상기 디지털 멀티미디어 방송국(350)으로부터 수신한다.

데이터 통신모듈(190)은 유저 어플리케이션(180)이 MMS를 수신하면, 상기 MMS를 이용하여 이동통신사 서버(500)로부터 이동통신망(230)을 통해 오브젝트 파일을 수신한다.

디스플레이(145)는 디지털 멀티미디어 방송 서비스를 통해 전송받은 방송 컨텐츠가 표시되는 표시장치이다. 나아가, 데이터 서비스를 통해 전송받은 상기 오브젝트 파일이 표시될 수도 있다.

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도 6은 본 발명의 다른 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법의 순서도이다. 도 6을 참조하면, 우선, 디지털 멀티미디어 방송국(350)으로부터 BIFS(Binary Format for Scene)을 통해 디지털 멀티미디어 방송 서비스를 수신한다(S210 단계). S210 단계에서 디지털 멀티미디어 방송 컨텐츠를 수신함과 동시에 BIFS(Binary Format for Scene)의 커맨드 정보를 통해 오브젝트의 링크 정보를 전송받는다(S220 단계). 여기서, 오브젝트의 링크 정보는, 다수 개의 오브젝트에 관한 것일 수 있다. 그런 다음 오브젝트에 관한 정보를 디스플레이를 통해 표시하는 것이 바람직하다.

이때, 수신자에 의해 상기 오브젝트의 다운로드가 선택된다(S230 단계). 물론, 오브젝트의 링크 정보가 다수 개의 오브젝트에 관한 것일 때는, 이 단계에서 수신자에 의해 다수 개의 오브젝트 중 하나가 선택될 수 있다.

그러면, 이동통신사 서버(500)로부터 오브젝트 파일을 다운로드 받을 수 있는 MMS(Multimedia Massage Service)를 디지털 멀티미디어 방송국으로부터 수신한다. 그리고 상기 MMS를 이용하여 이동통신사 서버(500)로부터 이동통신망(230)을 통해 오브젝트 파일을 다운로드 받는다(S240 단계).

상기 S240 단계를 통해 오브젝트 파일을 전송받은 후, 수신자가 오브젝트 파일의 표시를 선택하면, 방송수신 단말기의 유저 어플리케이션이 상기 오브젝트 파일의 접근에 필요한 인증정보를 상기 수신자로부터 입력받은 후, 상기 인증정보를 이용하여 인증을 수행할 수 있다(S250 단계). 즉, 오브젝트 파일에 접근할 수 있는 정당한 권리자인지 여부를 판단하는 것이다.

상기 S250 단계에서 인증이 성공적으로 수행될 것을 조건으로 상기 오브젝트 파일을 디스플레이를 통해 표시한다(S260 단계).

이상과 같이, 본 발명은 비록 한정된 실시예와 도면에 의해 설명되었으나, 본 발명은 이것에 의해 한정되지 않으며 본 발명이 속하는 기술분야에서 통상의 지식을 가진 자에 의해 본 발명의 기술사상과 아래에 기재될 특허청구범위의 균등범위 내에서 다양한 수정 및 변형이 가능함은 물론이다.

발명의 효과

본 발명의 일 측면에 따르면, 데이터의 링크정보는 BIFS(Binary Format for Scene) 채널을 통해 제공하고 파일은 MOT 채널을 통해 제공함으로써, 대용량의 데이터를 디지털 멀티미디어 수신 단말기에 제공할 수 있다.

본 발명의 다른 측면에 따르면, MOT 채널로 저장된 데이터 파일을 접근하기 위해 인증을 수행하도록 함으로써, 데이터의 유료화를 실현할 수 있다.

본 발명의 또 다른 측면에 따르면, 디지털 멀티미디어 방송을 제공함과 동시에 광고에 관한 링크 정보가 있음을 제공하고, MOT 채널을 통해 광고에 관한 컨텐츠 파일을 제공하도록 함으로써, 새로운 광고 매체를 창출할 수 있다.

도면의 간단한 설명

도 1은 본 발명의 일 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법을 구현하기 위한 네트워크 구성도.

도 2는 본 발명의 일 실시예에 따른 디지털 멀티미디어 방송수신 단말기의 구성도.

도 3은 본 발명의 일 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법의 순서도.

도 4는 본 발명의 다른 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법을 구현하기 위한 네트워크 구성도.

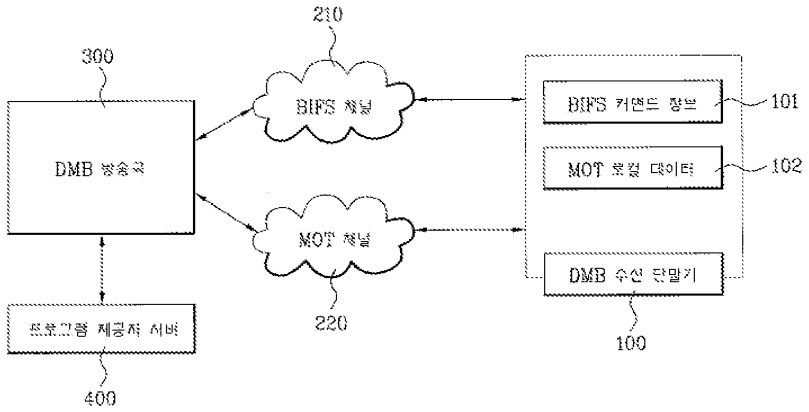
도 5는 본 발명의 다른 실시예에 따른 디지털 멀티미디어 방송수신 단말기의 구성도.

도 6은 본 발명의 다른 실시예에 따른 BIFS 채널을 통한 데이터 서비스 방법의 순서도.

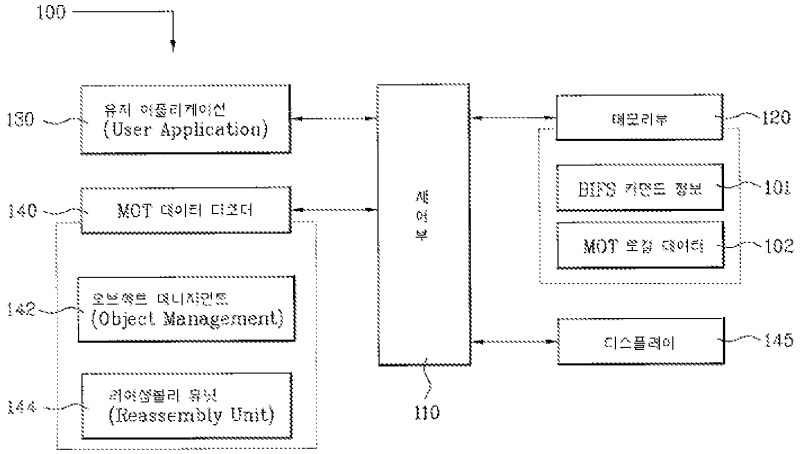
도면

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도면1

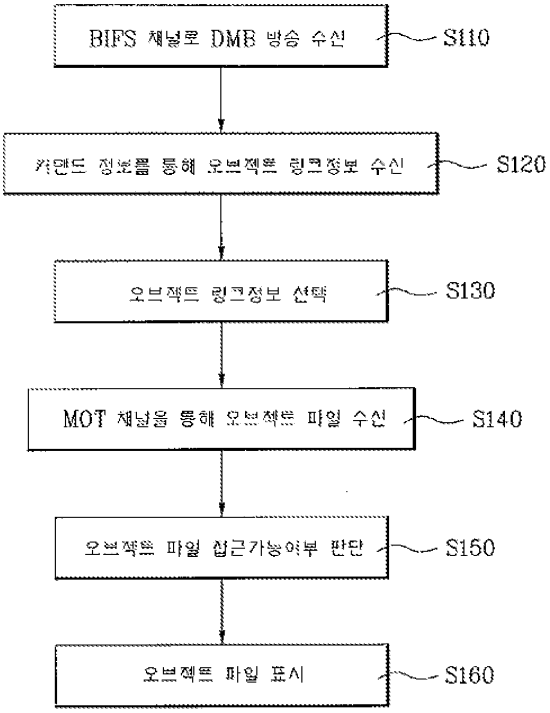


도면2

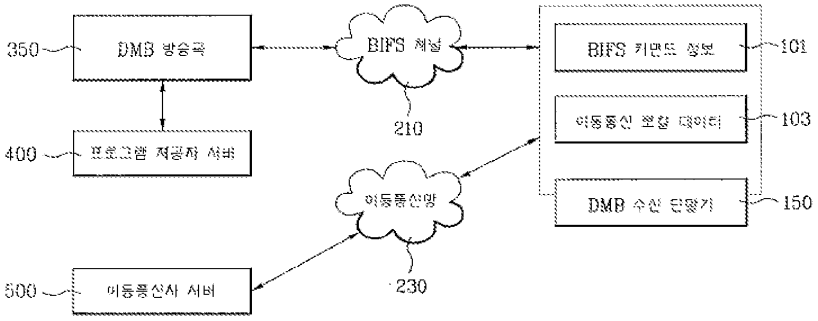


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도면3

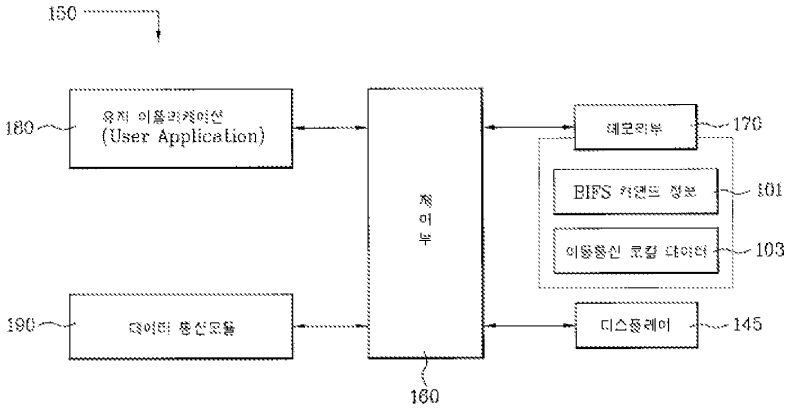


도면4

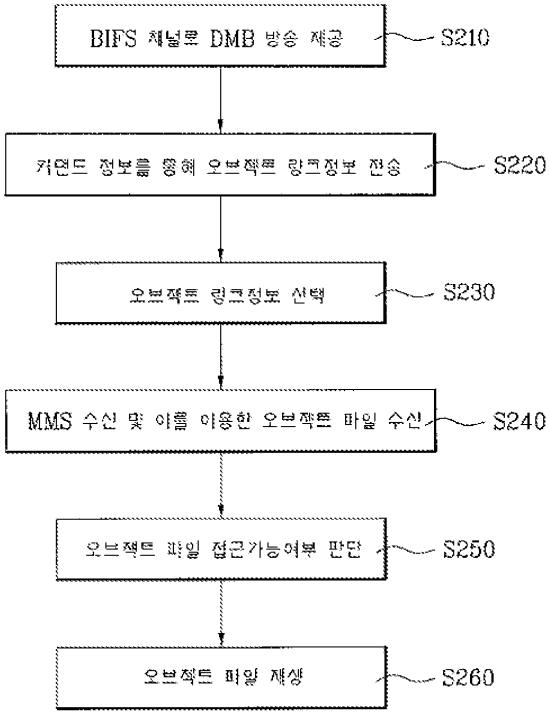


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도면5



도면6



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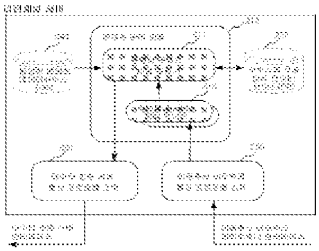
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G06F 15/16

(54) DEVICE AND A METHOD FOR EFFICIENTLY TRANSCEIVING MOVING PICTURE CONTENTS THROUGH THE MOBILE NETWORK IN A TERRESTRIAL DMB(DIGITAL MULTIMEDIA BROADCASTING) SYSTEM HAVING A RETURN CHANNEL BY USING DOWNLINK, AND A MOVING PICTURE DATA SERVICE METHOD USING THE SAME

(57) Abstract:



PURPOSE: A device and a method for transmitting moving picture data by using downlink of a terrestrial DMB system, and a moving picture data service method using the same are provided to use no mobile resource of the high cost mobile network by transmitting the moving picture contents through a DMB downlink channel without using the downlink channel of the mobile network. CONSTITUTION: A content managing module(210) selects and transmits the moving picture contents through the DMB downlink after determining a data transfer mode to each terminal. A mobile network connector connects to a PDSN(Packet Data Serving Node) of the mobile network. A transfer mode database(250) stores information for the data transfer mode by each service type of the moving picture contents. The content managing module includes a return channel processor(212) receiving/transferring a moving picture content request to a moving picture content channel distributor and the moving picture content channel distributor(211) loading/transmitting the moving picture contents of a moving picture content database(240) to the data broadcasting server through a data broadcasting server connector.

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(54) 지상파 디지털 멀티미디어 방송 시스템의 다운링크를 이용한 동영상 데이터 전송 장치 및 그 방법

(57) 요약

1. 청구범위에 기재된 발명이 속한 기술분야

본 발명은 지상파 디지털 멀티미디어 방송 시스템의 다운링크를 이용한 동영상 데이터 전송 장치 및 수신 장치와 그를 이용한 동영상 데이터 서비스 방법에 관한 것임.

2. 발명이 해결하려고 하는 기술적 과제

본 발명은 동영상 콘텐츠를 이동통신 네트워크의 다운링크 채널로 송신하지 않고, DMB 다운링크 채널로 송신하여 고비용의 이동통신 네트워크의 무선 자원을 사용하지 않는 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치 및 수신 장치와 그를 이용한 동영상 데이터 서비스 방법을 제공하는데 그 목적이 있음.

3. 발명의 해결방법의 요지

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본 발명은 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치에 있어서, 동영상 콘텐츠만을 선택하여, 선택된 동영상 콘텐츠를 각 단말에게 소정의 데이터 전송 방식을 결정한 후, DMB 다운링크로 전송하기 위한 콘텐츠 관리 수단; 이동통신 네트워크의 게이트웨이(PDSN; Packet Data Serving Node)와 접속하기 위한 이동통신 네트워크 접속 수단; 상기 DMB 시스템의 데이터 방송 서버와 접속하기 위한 데이터 방송 서버 접속 수단; 상기 동영상 콘텐츠를 저장하기 위한 동영상 콘텐츠 저장수단; 및 상기 동영상 콘텐츠의 서비스 종류별로 상기 단말로의 데이터 전송 방식에 대한 정보를 저장하기 위한 서비스별 전송 방식 저장수단을 포함함.

4. 발명의 중요한 용도

본 발명은 디지털 방송 시스템 등에 이용됨.

대표도

도 2

특허청구의 범위

청구항 1.

지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치에 있어서,

동영상 콘텐츠만을 선택하여, 선택된 동영상 콘텐츠를 각 단말에게 소정의 데이터 전송 방식을 결정한 후, DMB 다운링크로 전송하기 위한 콘텐츠 관리 수단;

이동통신 네트워크의 게이트웨이(PDSN; Packet Data Serving Node)와 접속하기 위한 이동통신 네트워크 접속 수단;

상기 DMB 시스템의 데이터 방송 서버와 접속하기 위한 데이터 방송 서버 접속 수단;

상기 동영상 콘텐츠를 저장하기 위한 동영상 콘텐츠 저장수단; 및

상기 동영상 콘텐츠의 서비스 종류별로 상기 단말로의 데이터 전송 방식에 대한 정보를 저장하기 위한 서비스별 전송 방식 저장수단

을 포함하는 동영상 데이터 전송 장치.

청구항 2.

제 1 항에 있어서,

상기 콘텐츠 관리 수단은,

동영상 콘텐츠 요청을 받아 동영상 콘텐츠 채널 분배수단으로 전달하기 위한 리턴채널 서비스 처리 수단; 및

상기 리턴채널 서비스 처리 수단으로부터 요청된 동영상 분배요청을 받아 상기 동영상 콘텐츠 저장수단으로부터 콘텐츠를 가져와 상기 데이터 방송 서버 접속 수단을 통해 상기 데이터 방송 서버에게 전송하기 위한 동영상 콘텐츠 채널 분배수단

을 포함하는 동영상 데이터 전송 장치.

청구항 3.

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제 1 항 또는 제 2 항에 있어서,

상기 동영상 콘텐츠 채널 분배수단은,

동영상 분배요청을 받아 상기 단말로 동영상 전송시 사용되는 소정의 데이터 전송 방식 결정시 상기 서비스별 전송 방식 저장수단으로부터 정보를 조회한 후, 결정하는 것을 특징으로 하는 동영상 데이터 전송 장치.

청구항 4.

제 3 항에 있어서,

상기 소정의 데이터 전송 방식은,

애니캐스팅 방식, 멀티캐스팅 방식, 브로드캐스팅 방식을 포함하되, 상기 애니캐스팅 방식과 멀티캐스팅 방식의 경우, 상기 단말을 구분하기 위해서 IP(Internet Protocol) 주소를 사용하거나 CAS(Conditional Access System: 수신자 제한 시스템)를 이용하는 것을 특징으로 하는 동영상 데이터 전송 장치.

청구항 5.

지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 수신 장치에 있어서,

DMB 통신을 수행하기 위한 DMB 통신 프로토콜 정보를 저장하기 위한 DMB 통신 프로토콜 저장수단;

이동통신 네트워크와의 리턴채널을 이용하기 위한 이동통신 통신 프로토콜 정보를 저장하기 위한 이동통신 프로토콜 저장수단;

소정 데이터를 수신하여 DMB 단말 사용자와의 인터페이싱을 하기 위한 DMB 데이터서비스 디스플레이 수단;

상기 사용자가 상기 DMB 데이터서비스 디스플레이 수단을 통해 선택한 특정 콘텐츠나 서비스를 리턴채널을 통해 요청하기 위한 리턴채널용 단말 처리 수단;

티펙(TPEG) 응용들을 처리하기 위한 티펙(TPEG) 처리 수단; 및

DMB 다운링크를 통해 수신한 동영상 콘텐츠를 읽어 실행시키기 위한 동영상 콘텐츠 실행 수단

을 포함하는 동영상 데이터 수신 장치.

청구항 6.

제 5 항에 있어서,

상기 리턴채널용 단말 처리 수단은,

상기 요청이 이동통신 프로토콜 저장수단과 이동통신 업링크를 통해 콘텐츠가 있는 리턴채널 서버로 전달되며, 동영상 콘텐츠가 아닌 경우, 상기 리턴채널 서버와 인터랙티브 모드로 양방향 통신을 이루는 것을 특징으로 하는 동영상 데이터 수신 장치.

청구항 7.

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지상파 DMB 다운링크를 이용한 동영상 데이터 전송 방법에 있어서,

리턴채널 서버가 동영상 콘텐츠 정보를 제공하고, 상기 동영상 콘텐츠를 DMB 다운링크로 방송하는 동영상 콘텐츠 방송 단계;

사용자가 DMB 데이터서비스 브라우저를 통해 상기 동영상 콘텐츠 방송 단계에서 수신한 콘텐츠 서비스 정보를 보고, 특정한 콘텐츠를 요청(선택)하는 콘텐츠 요청(선택) 단계;

상기 요청(선택)을 이동통신 네트워크의 CDMA 업링크(단말->기지국)를 통해 상기 리턴채널 서버에게 전달하는 요청(선택) 전달 단계; 및

상기 요청(선택) 전달 단계에서 전달된 요청(선택)을 받아 리턴채널 서버가 동영상 콘텐츠를 DMB 다운링크로 전송하는 동영상 데이터 전달 단계

를 포함하는 동영상 데이터 전송 방법.

청구항 8.

제 7 항에 있어서,

상기 동영상 데이터 전달 단계는,

하나의 DMB 단말에게 애니캐스팅, 그룹핑된 다수의 DMB 단말에게 멀티캐스팅 형태로 전달하는 것을 특징으로 하는 동영상 데이터 전송 방법.

명세서

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 이동통신 네트워크를 통해 리턴채널을 갖는 지상파 디지털 멀티미디어 방송(Digital Multimedia Broadcasting : 이하, "DMB"라 함) 시스템에서 효율적으로 동영상 콘텐츠를 송/수신하기 위한 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치 및 수신 장치와 그를 이용한 동영상 데이터 서비스 방법에 관한 것으로, 더욱 상세하게는 DMB 단말로 전송되는 동영상 데이터가 기존에는 이동통신의 다운링크를 통해 전송되었으나 DMB 다운링크로 변경하여 동영상 데이터를 송/수신 할 수 있는 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치 및 수신 장치와 그를 이용한 동영상 데이터 서비스 방법에 관한 것이다.

현재의 지상파 DMB 시스템은 동영상 콘텐츠를 서비스받을 때, 리턴채널인 이동통신 네트워크를 통해 콘텐츠를 요청하고, 또한 이동통신 네트워크를 통해 요청에 대한 응답으로 동영상 콘텐츠를 수신받는다. 즉, 동영상 콘텐츠 요청은 이동통신 네트워크의 업링크(단말->기지국)를 통해 이루어지고, 응답인 동영상 콘텐츠는 이동통신 네트워크의 다운링크(기지국->단말)로 전달된다. 여기서 업링크의 경우는 데이터 량이 적어 상대적으로 무선 자원의 소모가 적지만, 다운링크의 경우에는 동영상 콘텐츠 데이터의 양이 크므로, 이로 인해 고비용인 무선 자원의 소모가 커진다. 즉, 리턴채널인 이동통신 네트워크를 통해 동영상 콘텐츠를 수신받는 경우, 이동통신의 다운링크, 즉 기지국에서 단말로 많은 양의 데이터가 전송되므로, 이로 인해 이동통신 네트워크 사업자 측면에서는 네트워크 자원 및 무선자원의 손실을, 사용자는 고비용의 서비스 사용료를 지불 해야되는 문제점이 있었다.

발명이 이루고자 하는 기술적 과제

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본 발명은 상기 문제점을 해결하기 위하여 제안된 것으로, 동영상 콘텐츠를 이동통신 네트워크의 다운링크 채널로 송신하지 않고, DMB 다운링크 채널로 송신하여 고비용의 이동통신 네트워크의 무선 자원을 사용하지 않는 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치 및 수신 장치와 그를 이용한 동영상 데이터 서비스 방법을 제공하는데 그 목적이 있다.

본 발명의 다른 목적 및 장점들은 하기의 설명에 의해서 이해될 수 있으며, 본 발명의 실시예에 의해 보다 분명하게 알게 될 것이다. 또한, 본 발명의 목적 및 장점들은 특허 청구 범위에 나타낸 수단 및 그 조합에 의해 실현될 수 있음을 쉽게 알 수 있을 것이다.

발명의 구성

상기 목적을 달성하기 위한 본 발명의 장치는, 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치에 있어서, 동영상 콘텐츠만을 선택하여, 선택된 동영상 콘텐츠를 각 단말에게 소정의 데이터 전송 방식을 결정한 후, DMB 다운링크로 전송하기 위한 콘텐츠 관리 수단; 이동통신 네트워크의 게이트웨이(PDSN; Packet Data Serving Node)와 접속하기 위한 이동통신 네트워크 접속 수단; 상기 DMB 시스템의 데이터 방송 서버와 접속하기 위한 데이터 방송 서버 접속 수단; 상기 동영상 콘텐츠를 저장하기 위한 동영상 콘텐츠 저장수단; 및 상기 동영상 콘텐츠의 서비스 종류별로 상기 단말로의 데이터 전송 방식에 대한 정보를 저장하기 위한 서비스별 전송 방식 저장수단을 포함하는 것을 특징으로 한다.

또한, 본 발명의 다른 장치는, 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 수신 장치에 있어서, DMB 통신을 수행하기 위한 DMB 통신 프로토콜 정보를 저장하기 위한 DMB 통신 프로토콜 저장수단; 이동통신 네트워크와의 리턴채널을 이용하기 위한 이동통신 통신 프로토콜 정보를 저장하기 위한 이동통신 프로토콜 저장수단; 소정 데이터를 수신하여 DMB 단말 사용자와의 인터페이싱을 하기 위한 DMB 데이터서비스 디스플레이 수단; 상기 사용자가 상기 DMB 데이터서비스 디스플레이 수단을 통해 선택한 특정 콘텐츠나 서비스를 리턴채널을 통해 요청하기 위한 리턴채널용 단말 처리 수단; 티펙(TPEG) 응용들을 처리하기 위한 티펙(TPEG) 처리 수단; 및 DMB 다운링크를 통해 수신한 동영상 콘텐츠를 읽어 실행시키기 위한 동영상 콘텐츠 실행 수단을 포함하는 것을 특징으로 한다.

한편, 본 발명의 방법은, 지상파 DMB 다운링크를 이용한 동영상 데이터 전송 방법에 있어서, 리턴채널 서버가 동영상 콘텐츠 정보를 제공하고, 상기 동영상 콘텐츠를 DMB 다운링크로 방송하는 동영상 콘텐츠 방송 단계; 사용자가 DMB 데이터서비스 브라우저를 통해 상기 동영상 콘텐츠 방송 단계에서 수신한 콘텐츠 서비스 정보를 보고, 특정한 콘텐츠를 요청(선택)하는 콘텐츠 요청(선택) 단계; 상기 요청(선택)을 이동통신 네트워크의 CDMA 업링크(단말->기지국)를 통해 상기 리턴채널 서버에게 전달하는 요청(선택) 전달 단계; 및 상기 요청(선택) 전달 단계에서 전달된 요청(선택)을 받아 리턴채널 서버가 동영상 콘텐츠를 DMB 다운링크로 전송하는 동영상 데이터 전달 단계를 포함하는 것을 특징으로 한다.

상술한 목적, 특징 및 장점은 첨부된 도면과 관련한 다음의 상세한 설명을 통하여 보다 분명해 질 것이며, 그에 따라 본 발명이 속하는 기술분야에서 통상의 지식을 가진 자가 본 발명의 기술적 사상을 용이하게 실시할 수 있을 것이다. 또한, 본 발명을 설명함에 있어서 본 발명과 관련된 공지 기술에 대한 구체적인 설명이 본 발명의 요지를 불필요하게 흐릴 수 있다고 판단되는 경우에 그 상세한 설명을 생략하기로 한다. 이하, 첨부된 도면을 참조하여 본 발명에 따른 바람직한 일실시예를 상세히 설명하기로 한다.

도 1 에 기존의 이동통신 네트워크의 리턴채널을 이용한 동영상 데이터 전송 장치의 구성 및 방법을 나타낸 일실시예 설명도이다.

도 1에 도시된 바와 같이, 기존의 이동통신 네트워크의 리턴채널을 이용한 동영상 데이터 송수신 장치는, 리턴채널 서버(111), 데이터 방송 서버(112), 서비스 다중화기(113), 앙상블 다중화기(114), 송신기(변조기)(115), DMB 단말(116), 그리고 이동통신 네트워크(117)를 포함한다.

상기와 같은 구성으로 동영상 데이터를 송수신하는 방법은 다음과 같다.

먼저, 리턴채널 서버(111)는 동영상 콘텐츠 정보를 제공한다. 동영상 콘텐츠는 데이터 방송 서버(112), 서비스 다중화기(113), 앙상블 다중화기(114), 송신기(115)를 통해 DMB 다운링크로 DMB 단말(116)로 방송된다(121).

사용자는 방송된 동영상 콘텐츠를 DMB 데이터서비스 브라우저를 통해 다양한 콘텐츠 서비스 정보를 보고, 특정한 콘텐츠를 요청(선택)한다(122).

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상기 요청은 CDMA(Code Division Multiple Access) 업링크(단말->기지국)를 통해 동영상 콘텐츠 서버인 리턴채널 서버(111)에게 전달된다(123). 이때, 이동통신 네트워크(117)는 투명하게(Ttransparent) 데이터를 전달하는 역할을 하며, IP 서비스를 제공한다.

다음으로, 리턴채널 서버(111)가 동영상 콘텐츠를 제공하면(124) 이는 다시 이동통신 네트워크(117)의 CDMA 다운링크(기지국->단말)를 통해 DMB 단말(116)에게 전달된다.

최종적으로 DMB 단말(116)은 하부의 이동통신 모듈을 통해 동영상 콘텐츠를 수신하고, 이를 실행한다.

도 2 는 본 발명에 따른 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치의 일실시예 구성도로서, 리턴채널 서버의 상세 구성도를 나타낸다.

먼저, 이동통신 네트워크의 무선 자원을 사용하지 않고 지상파 DMB 시스템의 다운링크를 이용하여 동영상 데이터를 전송하기 위해서는 다음과 같은 기능이 구비되어야 한다.

첫째, 리턴채널 서버는 동영상 콘텐츠를 애니캐스팅 또는 멀티캐스팅 형태로 DMB 다운링크로 전송할 수 있어야 한다.

둘째, DMB 단말은 사용자가 DMB 콘텐츠 서비스를 요청(선택)하면, 상기 요청을 리턴채널을 통해 콘텐츠 서버(리턴채널 서버)로 전달하여야 한다. 리턴채널 서버는 동영상 콘텐츠를 DMB 다운링크로 송신할 수 있어야 하고, DMB 단말은 하부의 DMB 통신 모듈을 통해 동영상 콘텐츠를 수신하고, 이를 실행할 수 있어야 한다.

따라서, 상기 조건을 만족시키는 본 발명에 따른 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치는, 동영상 콘텐츠의 경우만을 선택해서, 선택된 동영상 콘텐츠를 각 단말(들)에게 애니캐스팅 방식 또는 멀티캐스팅 방식 또는 브로드캐스팅 방식으로 전송할 것인지를 결정한 후, DMB 다운링크로 전송하는 역할을 수행하는 콘텐츠 관리 모듈(210), 이동통신 네트워크의 게이트웨이(PDSN: Packet Data Serving Node)와 접속하기 위한 하부 프로토콜인 이동통신 네트워크 통신 프로토콜 스택(220), 데이터 방송 서버와 접속하기 위한 하부 프로토콜인 데이터 방송 서버 통신 프로토콜 스택(230), 동영상 콘텐츠를 저장하고 있는 동영상 콘텐츠 데이터베이스(DB)(240), 그리고 동영상의 서비스 종류별로 단말에게 데이터 전송 방식에 대한 정보를 저장하는 서비스별 전송 방식 데이터베이스(DB)(250)를 포함한다.

상기 콘텐츠 관리 모듈(210)은 내부에 동영상 콘텐츠 요청을 받아 동영상 콘텐츠 채널 분배기(211)로 전달하는 리턴채널 서비스 처리 유니트(212)와 상기 리턴채널 서비스 처리 유니트(212)으로부터 요청된 동영상 분배요청을 받아 동영상 콘텐츠 데이터베이스(DB)(240)로부터 콘텐츠를 가져와 데이터 방송서버 통신 프로토콜 스택(220)을 통해 데이터 방송 서버에게 전송하는 동영상 콘텐츠 채널 분배기(211)를 포함한다.

상기 리턴채널 서비스 처리 유니트(212)는 기존에 리턴채널을 처리하기 위한 소프트웨어이며, 본 발명을 위해서 추가적으로 동영상 콘텐츠를 전송하는 경우, 리턴채널로 전송하지 않고 DMB 다운링크로 전송하기 위한 기능이 추가된다. 상기 리턴채널 서비스 처리 유니트(212)는 동영상 콘텐츠 요청이 있을 경우, 이 요청을 동영상 콘텐츠 채널 분배기(211)에게 전달한다.

상기 동영상 콘텐츠 채널 분배기(211)는 동영상 분배요청이 있을 경우, 동영상 콘텐츠 데이터베이스(DB)(240)로부터 콘텐츠를 가져와 데이터 방송서버 통신 프로토콜 스택(220)을 통해 데이터 방송 서버에게 전송하는 역할을 수행한다. 이때 동영상 콘텐츠 채널 분배기(211)는 각 단말(들)에게 애니캐스팅 방식 또는, 멀티캐스팅 방식 또는, 브로드캐스팅 방식으로 전송할 것인지는 결정해야 하는데, 서비스별 전송 방식 데이터베이스(DB)(250)로부터 이에 대한 정보를 조회한 후, 결정한다.

애니캐스팅과 멀티캐스팅의 경우, 개별 DMB 단말들을 구분하기 위해서 IP(Internet Protocol) 주소를 사용하거나 또는, CAS(Conditional Access System: 수신자 제한 시스템)를 이용한다.

도 3 은 본 발명에 따른 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 수신 장치의 일실시예 구성도로서, DMB 단말의 상세 구성도를 나타낸다.

도 3에 도시된 바와 같이, 본 발명에 따른 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 수신 장치는, DMB 통신을 위한 DMB 통신 프로토콜 스택(310), 리턴채널을 위한 이동통신 통신 프로토콜 스택(320), DMB 단말 사용자와의 인

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터페이싱을 위한 DMB 데이터서비스 브라우저(360), 사용자가 선택한 특정 콘텐츠나 서비스를 리턴채널을 통해 요청하는 기능을 수행하는 리턴채널용 단말 소프트웨어(330), 티펙(TPEG : Transport Protocol Experts Group) 응용들을 처리하는 티펙(TPEG) 모듈(63), DMB 다운링크를 통해 수신한 동영상 콘텐츠를 읽어 MPEG, 스트리밍과 같은 동영상 플레이어 역할을 수행하는 동영상 콘텐츠 플레이어(350)를 포함한다.

상기 리턴채널용 단말 소프트웨어(330)에서의 요청은 이동통신 프로토콜 스택(320)과 이동통신 업링크를 통해 콘텐츠가 있는 리턴채널 서버로 전달된다. 이 소프트웨어는 동영상 콘텐츠가 아닌 경우, 기존과 동일하게 리턴채널 서버와 인터렉티브 모드로 양방향 통신을 이룬다.

도 4 는 본 발명에 따른 지상파 DMB 다운링크를 이용한 동영상 데이터 전송 방법에 대한 일실시예 설명도이다.

도 4에 도시된 바와 같이, 본 발명에 따른 지상파 DMB 다운링크를 이용한 동영상 데이터 전송 방법은, 먼저 리턴채널 서버(410)는 동영상 콘텐츠 정보를 제공하고, 상기 동영상 콘텐츠는 데이터 방송 서버(411), 서비스 다중화기(412), 앙상블 다중화기(413), 송신기(변조기)(414)를 통해 DMB 다운링크로 방송된다(431).

사용자는 DMB 데이터서비스 브라우저를 통해 수신된 다양한 콘텐츠 서비스 정보를 보고, 특정한 콘텐츠를 요청(선택)한다(432).

그리고, 상기 요청은 이동통신 네트워크(416)의 CDMA 업링크(단말->기지국)를 통해 동영상 콘텐츠 서버인 리턴채널 서버(410)에게 전달된다(433).

다음으로, 리턴채널 서버(410)는 동영상 콘텐츠를 리턴채널인 이동통신 네트워크(416)로 전송하지 않고, DMB 데이터 서버 등을 통해 DMB 다운링크로 전송한다(434). 동영상 콘텐츠는 하나의 DMB 단말(415)에게 애니캐스팅 또는 그룹핑된 다수의 DMB 단말(415)에게 멀티캐스팅 형태로 방송된다.

최종적으로 DMB 단말(415)은 하부의 DMB 통신 모듈을 통해 동영상 콘텐츠를 수신하고, 이를 실행한다.

상술한 바와 같은 본 발명의 방법은 프로그램으로 구현되어 컴퓨터로 읽을 수 있는 형태로 기록매체(씨디롬, 램, 롬, 플로피 디스크, 하드 디스크, 광자기 디스크 등)에 저장될 수 있다. 이러한 과정은 본 발명이 속하는 기술 분야에서 통상의 지식을 가진 자가 용이하게 실시할 수 있으므로 더 이상 상세히 설명하지 않기로 한다.

이상에서 설명한 본 발명은, 본 발명이 속하는 기술분야에서 통상의 지식을 가진 자에게 있어 본 발명의 기술적 사상을 벗어나지 않는 범위 내에서 여러 가지 치환, 변형 및 변경이 가능하므로 전술한 실시예 및 첨부된 도면에 의해 한정되는 것이 아니다.

발명의 효과

상기와 같은 본 발명은, 이동통신 네트워크를 통해 리턴채널을 갖는 지상파 DMB 시스템에서 대량의 데이터를 가진 동영상 콘텐츠를 저비용으로 송수신 할 수 있는 효과가 있다.

또한, 본 발명은, DMB 다운링크의 대역이 충분할 경우, 고비용의 이동통신 다운링크 자원을 사용하지 않고도 애니캐스팅 통신을 이룰 수 있고, 동영상 콘텐츠를 다수의 사용자가 수신하는 동영상 광고와 같은 경우에 DMB 다운링크를 이용해 저비용의 멀티캐스팅 또는 브로드캐스팅을 이룰 수 있는 효과가 있다.

도면의 간단한 설명

도 1 에 기존의 이동통신 네트워크의 리턴채널을 이용한 동영상 데이터 전송 장치의 구성 및 방법을 나타낸 일실시예 설명도.

도 2 는 본 발명에 따른 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 전송 장치의 일실시예 구성도.

도 3 은 본 발명에 따른 지상파 DMB 시스템의 다운링크를 이용한 동영상 데이터 수신 장치의 일실시예 구성도.

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도 4 는 본 발명에 따른 지상파 DMB 다운링크를 이용한 동영상 데이터 전송 방법에 대한 일실시예 설명도.

* 도면의 주요 부분에 대한 부호의 설명

210 : 콘텐츠 관리 모듈 211 : 동영상 콘텐츠 채널 분배기

212 : 리턴채널 서비스 처리 유니트

220 : 데이터 방송 서버 통신 프로토콜 스택

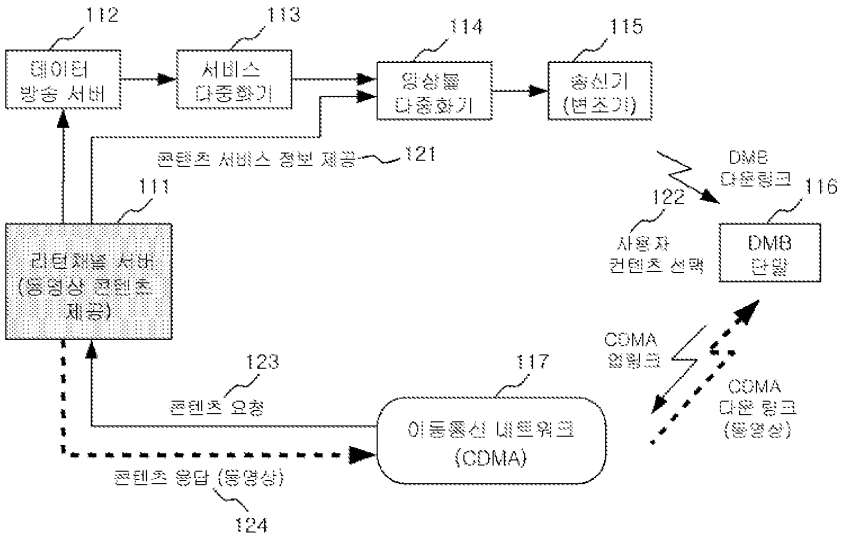
230 : 이동통신 네트워크 통신 프로토콜 스택

240 : 동영상 콘텐츠 데이터베이스

250 : 서비스별 전송 방식 데이터베이스

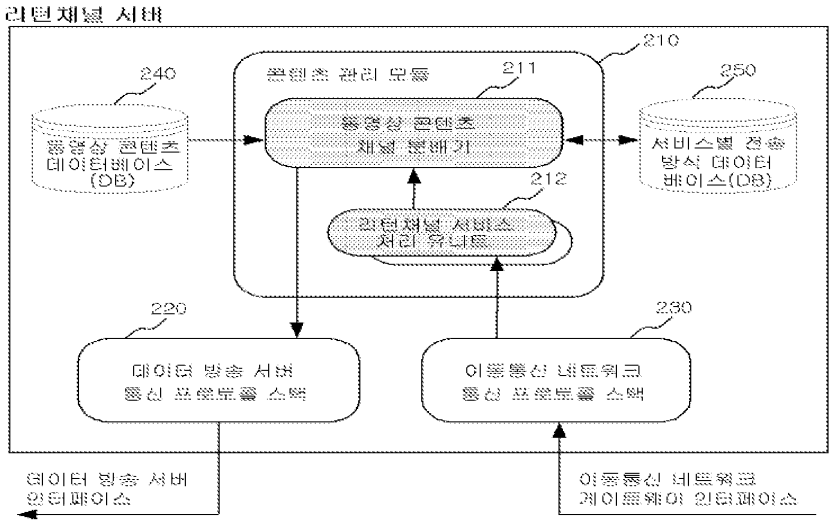
도면

도면1

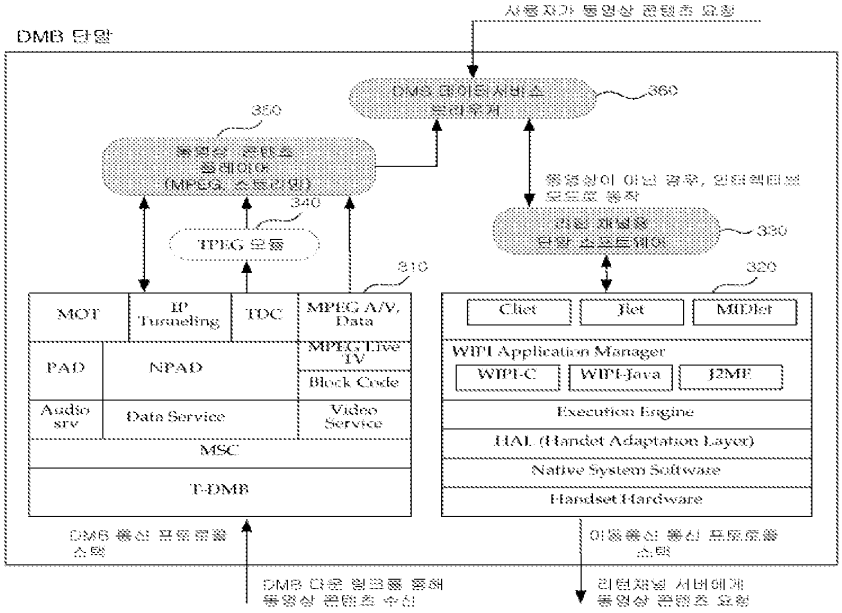


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도면2

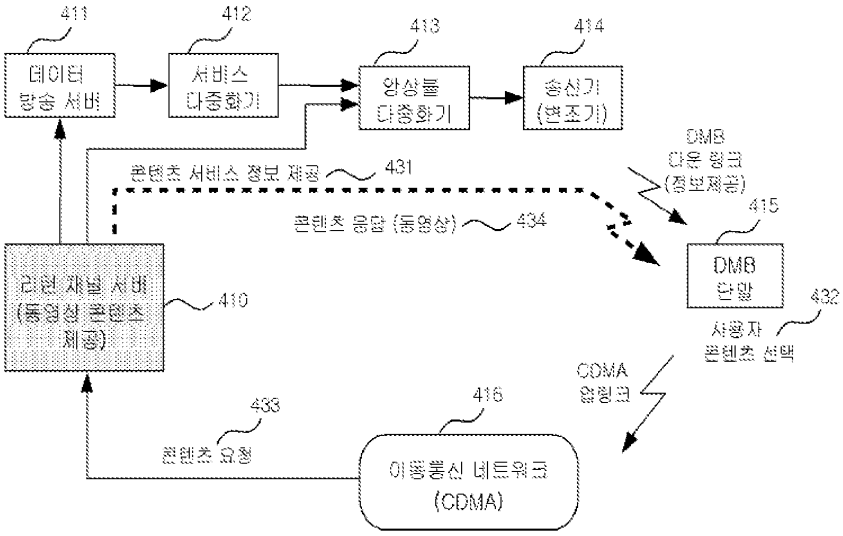


도면3



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도면4



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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicants	:	Jong-Kerl LEE	TC/A.U.	:	2627
Filed	:	April 14, 2008	Examiner	:	To be determined
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Docket No.	:	0203-0023

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §§ 1.56 and 1.97-1.98, Applicants herewith transmit copies of the documents listed in the attached Form PTO/SB/08, which may be deemed material to the examination of the Applicants' above-identified application.

As indicated, the documents are in English or include English abstracts and therefore, no statement of relevance is required. Also, since the present Information Disclosure Statement is being filed prior to issuance of a first Office Action on the merits, no certification under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required. However, because the listed documents were first cited in a communication from a counterpart foreign application not more than three months prior to the filing of this IDS, certification is made under 37 C.F.R. § 1.92(e)(1).

These documents were cited in a Korean Office Action with respect to a Korean Patent Application related to the Applicants' above-identified U.S. Patent Application. For the Examiner's convenience, a copy of the Korean Office Action is attached.

The Examiner is requested to consider the attached documents in connection with the Applicants' above-identified application and to return a copy of the Form PTO/SB/08 to the Applicants with the Examiner's initials in the spaces provided.

Submission of this Information Disclosure Statement does not constitute an admission by the Applicants as to the materiality of the attached documents to the Applicants' application, nor do the Applicants waive any right to challenge the validity of the documents as prior art should such action be deemed appropriate.

Respectfully submitted,

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Dated: June 9, 2009

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference OPP070343KR	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/KR 2007/003157	International filing date *(day/month/year)* 28 June 2007 (28.06.2007)	(Earliest) Priority Date *(day/month/year)* 29 June 2006 (29.06.2006)
Applicant ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
      ☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
   b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see continuation of this first sheet.

2. ☐ **Certain claims were found unsearchable** (see continuation of this first sheet)

3. ☐ **Unity of invention is lacking** (see continuation of this first sheet)

4. With regard to the **title**,
   ☐ the text is approved as submitted by the applicant.
   ☒ the text has been established by this Authority to read as follows:

   METHOD OF PERFORMING HANDOVER IN WIRELESS COMMUNICATION SYSTEM AND MOBILE AND BASE STATION

5. With regard to the **abstract**,
   ☐ the text is approved as submitted by the applicant.
   ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in the continuation of this first sheet. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,
   a. the figure of the drawings to be published with the abstract is Figure No. 3
   ☒ as suggested by the applicant.
   ☐ as selected by this Authority, because the applicant failed to suggest a figure.
   ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figures is to be published with the abstract.

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Continuation No. IV:

Text of the abstract

(Continuation of item 5 of the first sheet)

Disclosed are handover methods of a mobile station (MS) in a wireless communication system, and a base station (BS) and a mobile station (MS) for the same. A list of neighboring base stations (BSs) that can accept a handover of a mobile station (MS) is shared by the mobile station (MS) and a serving base station (S-BS) before the mobile station (MS) performs the handover so as to reduce handover delay time in a high speed environment through a simplified control message exchange process. In addition, the active base station set managed by the mobile station (MS) and the serving base station (S-BS) can be managed with consideration of radio signal quality and resource state of each of the neighboring base stations (BSs) included in the active base station set, and thus when the mobile station (MS) attempts a network re-entry process to a target base station (BS) that is not ready for the handover of the mobile station (MS) due to a loss of a handover control message, a handover failure due to a lack of radio resources can be prevented, thereby increasing a handover success rate.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR 2007/003157

A. CLASSIFICATION OF SUBJECT MATTER
IPC[8]: ***H04W 36/08*** (2009.01); ***H04W 92/20*** (2009.01)
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC[8]: H04Q; H04W

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPODOC; WPI; espacenet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	WO 2006/123863 A2 (LG Electronics Inc.) 23 November 2006 (23.11.2006). *abstract; page 6 line 20 to page 16 line 5; claims 1-20*	1-19
A	WO 2005/107379 A2 (LG Electronics Inc.) 17 November 2005 (17.11.2005) *abstract; page 7 line 4 to page 12 line 1 and page 21 line 9 to page 25 line 2 and page 25 line 4 to page 26 line 7; claims*	1-19
P,A	WO 2007/133034 A2 (LG Electronics Inc.) 22 November 2007 (22.11.2007) . *the whole document*	1-19

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
24 February 2009 (24.02.2009)	15 April 2009 (15.04.2009)

Name and mailing address of the ISA/ AT	Authorized officer
Austrian Patent Office Dresdner Straße 87, A-1200 Vienna	VÁRHEGYI Celesztin
Facsimile No. +43 / 1 / 534 24 / 535	Telephone No. +36 /1/ 474-5867

Form PCT/ISA/210 (second sheet) (January 2004)

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/0079235 A1 (Gwang-Eun Kim) 13 April 2006 (13.04.2006). *the whole document*	1-19
A	US 2005/0049000 A1 (Arnold Sheynman et al) 3 March 2005 (03.03.2005). *abstract; paragraphs 0008-0012; claims 1-17*	1-19

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 285 of 492

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/KR 2007/003157

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
WO	A	2006123863		JP	T	2008541652T	2008-11-20
				CN	A	101176375	2008-05-07
				EP	A2	1889504	2008-02-20
				KR	A	20060118642	2006-11-24
				WO	A2	2006123863	2006-11-23
WO	A	2005107379		US	A1	2008051087	2008-02-28
				JP	T	2007536874T	2007-12-13
				CN	A	1951142	2007-04-18
				EP	A2	1747698	2007-01-31
				CA	A1	2564891	2005-11-17
				KR	A	20050107667	2005-11-15
WO	A	2007133034		KR	A	20080021462	2008-03-07
				KR	A	20080016316	2008-02-21
				KR	A	20080004932	2008-01-10
				KR	A	20070110180	2007-11-16
				WO	A2	2007133034	2007-11-22
US	A	2006079235		KR	A	20060032466	2006-04-17
				US	A1	2006079235	2006-04-13
US	A	2005049000		CN	A	1998249	2007-07-11
				JP	T	2007503761T	2007-02-22
				KR	A	20060121825	2006-11-29
				BR	A	PI0414822	2006-10-24
				RU	A	2006109487	2006-07-27
				EP	A2	1658548	2006-05-24

PATENT COOPERATION TREATY

To:
YOU ME PATENT AND LAW FIRM
Seolim Bldg., 649-10,
Yoksam-dong, Kangnam-ku,
Seoul 135-080
Republic of Korea

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing *(day/month/year)*	15 April 2009 (15.04.2009)
Applicant's or agent's file reference: OPP070343KR	**FOR FURTHER ACTION** See paragraph 2 below
International application No.: PCT/KR 2007/003157	International filing date *(day/month/year)*: 28 June 2007 (28.06.2007)
	Priority Date *(day/month/year)*: 29 June 2006 (29.06.2006)
International Patent Classification (IPC) or both national classification and IPC: ***H04W 36/08*** (2009.01); ***H04W 92/20*** (2009.01)	
Applicant: ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE	

1. This opinion contains indications relating to the following items:

- ☒ Cont. No. I — Basis of the opinion
- ☐ Cont. No. II — Priority
- ☐ Cont. No. III — Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Cont. No. IV — Lack of unity of invention
- ☒ Cont. No. V — Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Cont. No. VI — Certain documents cited
- ☐ Cont. No. VII — Certain defects in the international application
- ☐ Cont. No. VIII — Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ AT **Austrian Patent Office** Dresdner Straße 87, A-1200 Vienna	Authorized officer VÁRHEGYI Celesztin
Facsimile No. +43 / 1 / 534 24 / 535	Telephone No. +36 /1/ 474-5867

Form PCT/ISA/237 (cover sheet) (January 2004)

Continuation No. I

Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed.

Continuation No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims **1-19**	**YES**
	Claims -	**NO**
Inventive step (IS)	Claims **1-19**	**YES**
	Claims -	**NO**
Industrial applicability (IA)	Claims **1-19**	**YES**
	Claims -	**NO**

2. Citations and explanations:

Reference is made to the following documents:

D1: WO 2006/123863 A2
D2: WO 2005/107379 A2
D3: WO 2007/133034 A2
D4: US 2006/0079235 A1
D5: US 2005/0049000 A1

The present application relates to handover methods of a mobile station in a wireless communication system, and a base station and a mobile station for the same. A list of neighboring base stations that can accept a handover of a mobile station is shared by the mobile station and a serving base station before the mobile station performs the handover so as to reduce handover delay time in a high speed environment through a simplified control message exchange process. In addition, the active base station set managed by the mobile station and the serving base station can be managed with consideration of radio signal quality and resource state of each of the neighboring base stations included in the active base station set, and thus when the mobile station attempts a network re-entry process to a target base station that is not ready for the handover of the mobile station due to a loss of a handover control message, a handover failure due to a lack of radio resources can be prevented, thereby increasing a handover success rate.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 288 of 492

Neither of the prior art documents cited in the search report discloses or suggests such a method performing a handover of a mobile station to one of a plurality of neighboring base stations,

- where receiving a scanning report message reporting an update of an active base station and transmitting an active base station set based on the scanning report (independent claim 1);

- where transmitting a scanning report message to the serving base station and reflecting the handover acceptance information to the active base station set (independent claim 6);

- where selecting one target base station included in an active base station set and transmitting a handover indication message (independent claim 9);

further such a mobile station having signal detector and storage unit (independent claim 15) and such a base station having message detector managing a handover (independent claim 18) for implementing these methods.

Consequently the subject matter of all independent claims 1, 6, 9, 15 and 18 is new and involves an inventive step.

Claims 2 to 5 are dependent upon independent claim 1,
claims 7 and 8 are dependent upon independent claim 6,
claims 10 to 14 are dependent upon independent claim 9,
claims 16 and 17 are dependent upon independent claim 15 and
claim 19 is dependent upon independent claim 18 directly or indirectly,
thus also satisfy the requirements with respect to novelty and inventive step.

Industrial applicability is given.

Continuation No. VI:

Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO 2006123863 A2	23.11.2006.	05.04.2006.	16.05.2005.
WO 2007133034 A2	22.11.2007.	14.05.2007.	13.05.2006.

Electronic Acknowledgement Receipt	
EFS ID:	5480335
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	George Charles Eckert/Stephanie Bolger
Filer Authorized By:	George Charles Eckert
Attorney Docket Number:	0203-0023
Receipt Date:	09-JUN-2009
Filing Date:	14-APR-2008
Time Stamp:	13:37:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed (SB/08)	0203-0023IDSAsFiled06-09-2009.pdf	607721 16d56b75b1b5e86a7f463f01dabf7d81d85e8154	no	4
Warnings:					
Information:					

A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.

2	Foreign Reference	0203-0023KR20020028752AsFiled.pdf	1015327 590d341a8d00bf4c269754888fdb4e153855ebe7	no	11
Warnings:					
Information:					
3	Foreign Reference	0203-0023KR20070053432AsFiled.pdf	1338850 f31b8f8bff8e2be81040de18ef51b556cb540775	no	14
Warnings:					
Information:					
4	Foreign Reference	0203-0023KR20070055165AsFiled.pdf	1035782 b809b495a4269314aa3de033240f022fa331144b	no	11
Warnings:					
Information:					
5	Transmittal Letter	0203-0023IDSLetterAsFiled.pdf	1526345 8b045b08d9d4cbc4739af12c4fc3d27e272d4df8	no	10
Warnings:					
Information:					
		Total Files Size (in bytes):	5524025		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicants	:	Jong-Kerl LEE	TC/A.U.	:	2627
Filed	:	April 14, 2008	Examiner	:	To be determined
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Docket No.	:	0203-0023

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Information Disclosure Statement filed earlier today was based on documents cited in a Korean Office Action with respect to a Korean Patent Application related to the Applicants' above-identified U.S. Patent Application. The document attached to the earlier filed letter purported to be a copy of the Korean Office Action. However, due to a clerical error, an incorrect document (International Search Report for PCT/KR2007/003157), unrelated to the present application, was inadvertently attached. Accordingly, a copy of the appropriate Korean Office Action is attached to this letter.

If there are any questions regarding this or the previous submission, the Office is invited to contact the undersigned representative for clarification.

Respectfully submitted,

/George C. ECKERT/
George C. Eckert
Reg. No. 58,892

Jefferson IP Law, LLP
1700 M Street, N.W., Suite 807
Washington, D.C. 20036
(202) 293-0804

Dated: June 9, 2009

Electronic Acknowledgement Receipt	
EFS ID:	5483755
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	George Charles Eckert
Filer Authorized By:	
Attorney Docket Number:	0203-0023
Receipt Date:	09-JUN-2009
Filing Date:	14-APR-2008
Time Stamp:	16:45:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	0203-0023CorrectedIDSLetterAsFiled.pdf	390142 892d513f04e961802e57d0c123062b6566024dde	no	3
Warnings:					
Information:					

Total Files Size (in bytes):	390142

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 09/30/2010

Jefferson IP Law, LLP
1130 Connecticut Ave., NW
Suite 420
Washington, DC 20036

EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2424	

MAIL DATE	DELIVERY MODE
09/30/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/102,503	LEE ET AL.	
	Examiner	Art Unit	
	SON P. HUYNH	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *01* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2008*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-21* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 296 of 492

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-7, 12-21 are drawn to data reproducing method comprises activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network..., classified in class 725, subclass 50.

   II. Claims 8-9 are drawn to a data reproducing method comprising stored data is reproduced during reception and display of an external broadcast signal, the currently displayed broadcast signal is an advertisement, classified in class 725, subclass 42.

   III. Claims 10-11 are drawn to data reproducing method comprising stored data is reproduced during channel switching in response to a request for channel switching..., classified in class 725, subclass 94.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has

separate utility such as using in information updating, and subcombination II has separate utility such as displaying advertisement associated with selected television program. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and/or examination burden if restriction were not required because at least the following reason(s) apply:

The inventions have acquired a separate status in the art as shown by their different classification and their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement

may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. In addition, this application contains claims directed to the following patentably distinct species:

Species 1: figures 1-2.

Species 2: figures 1, 5;

Species 3: figures 1, 6.

Species 4: figures 1, 7.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no generic claim.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply:

The claims have acquired a separate status in the art as shown by their different classification and their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or a grouping of patentably indistinct species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species or grouping of patentably indistinct species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement

will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing them to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

A telephone call was made to attorney Raymond Persino (Reg. No. 58082) on September 27, 2010 to request an oral election to the above restriction requirement, but did not result in an election being made.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON P. HUYNH whose telephone number is (571)272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son P Huynh/ September 27, 2010
Primary Examiner, Art Unit 2424

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/27/2010								
	1	÷								
	2	÷								
	3	÷								
	4	÷								
	5	÷								
	6	÷								
	7	÷								
	8	÷								
	9	÷								
	10	÷								
	11	÷								
	12	÷								
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	14	÷								
	15	÷								
	16	÷								
	17	÷								
	18	÷								
	19	÷								
	20	÷								
	21	÷								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Chris Grant and Chris Kelley (restriction)	9/27/10	AH

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

	/SON P HUYNH/ Primary Examiner.Art Unit 2424

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicant(s)	:	Jong Kerl LEE	TC/A.U.	:	2424
Filed	:	04/14/2008	Examiner	:	Son P HUYNH
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Atty. Docket No.	:	0203-0023

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPLICANT'S ELECTION IN RESPONSE TO RESTRICTION REQUIREMENT

Sir:

In the Office action having the mailing date of September 30, 2010, Applicant's originally filed claims 1-21 were subject to a restriction requirement under 35 U.S.C. § 121. Specifically, claims 1-7 and 12-21 were considered drawn to a data reproducing method comprising activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network, while claims 8-9 were considered drawn to a data reproducing method comprising stored data reproduced during reception and display of an external broadcast signal, and claims 10-11 were considered drawn to a data reproducing method comprising stored data reproduced during channel switching. The Office indicates that the groups are related as subcombinations usable together in a single combination. Applicants have reviewed the Office's position and submit the response below.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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REMARKS

I. Election in Response to Restriction Requirement

A. Provisional Election

The applicants provisionally elect for examination Species 3, as illustrated in Figures 1 and 6, corresponding to Group II of the Restriction Requirement, including claims 8-9.

B. Traversal of the Requirement

The Examiner has not shown that there would be an undue burden on the Examiner if restriction were not required. Here, each of Group II and Group III contains only two claims. The additional search necessary to search the limitations of just four additional claims would not present a serious burden on the Examiner, especially where, as here, a text search for the limitations of the Group I claims would naturally be expected to encompass the Group II and III claims as well.

This is not a case where the Examiner would be required to search a large number of additional patents for a large number of claims. Rather, examination of all three groups would mean the Examiner would only be required to search the limitations of four additional claims, corresponding to a class and subclasses having small numbers of patents and application publications. Since the burden on the Examiner to search just four related additional claims is so light, restriction is not proper in this case.

II. Traversal of the Restriction

The above election is made with traverse.

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III. Conclusion

In view of the above, it is believed that the above identified application is now in condition for allowance and notice to that effect is respectfully requested. The Director is hereby authorized to charge any underpayment of fees or credit any overpayments to Deposit Account No. 504100. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: October 29, 2010

/Donald A. DIPAULA/
Donald A. DiPaula
Reg. No. 58,115
Representative for Applicant(s)

Jefferson IP Law, LLP
1130 Connecticut Ave., NW, Suite 420
Washington, D.C. 20036
Main: (202)-293-0804
Direct: (202)-293-1766

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 307 of 492

Electronic Acknowledgement Receipt	
EFS ID:	8732082
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	Donald Anthony Dipaula/Kira Camargo
Filer Authorized By:	Donald Anthony Dipaula
Attorney Docket Number:	0203-0023
Receipt Date:	29-OCT-2010
Filing Date:	14-APR-2008
Time Stamp:	14:18:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response to Election / Restriction Filed	0203-0023ResponseAsFiled.pdf	75827 d26432d3b2a2d61922da8b266c3b329be827055f	no	3
Warnings:					
Information:					

Total Files Size (in bytes):	75827

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 11/09/2010

Jefferson IP Law, LLP
1130 Connecticut Ave., NW
Suite 420
Washington, DC 20036

EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2424	

MAIL DATE	DELIVERY MODE
11/09/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/102,503	LEE ET AL.	
	Examiner	Art Unit	
	SON P. HUYNH	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *1-7 and 10-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species 3 corresponding to Group II of the restriction requirement and corresponding to claims 8-9 in the reply filed on October 29, 2010 is acknowledged. The traversal is on the ground(s) that each of the group II and Group III contains only two claims, the additional search necessarily to search the limitations of four additional claims would not present a serious burden on the Examiner, especially where, as here, a text search for the limitations of group I claims would naturally be expected to encompass the group II and III claims as well (page 2). This is not found persuasive because it is noted that the M.P.E.P does not state that restriction requirement is based on number of claims. In this case, in the restriction is required because the invention are illustrated on different figures (for species) and/or the inventions have acquired a separate status in the art as shown by their different classification and their recognized divergent subject matter (see restriction requirement mailed 9/30/2010). Therefore, restriction for examination purpose is proper.

The requirement is still deemed proper and is therefore made FINAL.

For the reasons given above, rejections of the elected claims 8-9 are discussed below. Claims 1-7, 10-21 have been withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the currently displayed broadcast signal" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Plotnick et al. (US 2002/0144262 A1).

Note that for documents incorporated by references in Plotnick are treated as part of the specification of Plotnick.

Regarding claim 8, Plotnick discloses a data reproducing method comprising:

examining a file transfer channel of a broadcast network using a broadcast receiving module (e.g., examining or checking channel of a broadcasting network using receiving interface and/or tuner for files such as alternative ad file, ad file, control file, etc. – see include, but not limited to, figures 10, 12a-14b, paragraphs 0125, 0107, 0116, **0154-0160,** 0176, 0179, 0181);

receiving data transferred through the file transfer channel (e.g., receiving alternative ad and/or other data through the channel that carries alternative ad file, control file, etc.- see include, but not limited to, figures 10, 12a-14b, paragraphs 0125, 0107, 0116, **0154-0160,** 0176, 0179, 0181);

storing the received data (storing alternative ad and other data – see include, but not limited to, paragraphs 0125, 0154-0156, 0172, **0181-**0183, 0186**, 0196);**

reproducing the stored data (e.g., reproducing/playing back the stored alternative ad – see include, but not limited to, figure 17, paragraphs 181, 186, 196);

wherein the stored data is reproduced when, during reception and display of an external broadcast signal, currently displayed broadcast signal is an advertisement (e.g., during reception and display, by television and/or display device, of television program and/or advertisement from an external broadcast signal, user selects trick play such as fast forward, change channel of broadcast signal/advertisement currently displayed causes the stored alternative ad to be reproduced and displayed to user - see include, but not limited to, figures 12a-14a, 17, paragraphs 0181, 0186, 0196).

Regarding claim 9, Plotnick further discloses the reproducing of the data while displaying the advertisement is performed in a Picture in Picture (PIP) format by allocating a region on an advertisement image (see include, but not limited to, figure 17, paragraphs 0221-0227).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Alexander et al. (US 6177931) discloses receiving and stored customized data and displaying the stored data in PIP with advertisement (see include, but not limited to, figures 1-5, col. 8, lines 20-35, col. 13, lines 45-55, col. 32, lines 35-67, col. 33, line 44-col. 34, line 25).

Wachfogel (US 7,340,760) discloses advertisements in an end user controlled playback environment.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON P. HUYNH whose telephone number is (571)272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Son P Huynh/ November 5, 2010
Primary Examiner, Art Unit 2424

Notice of References Cited	Application/Control No. 12/102,503	Applicant(s)/Patent Under Reexamination LEE ET AL.	
	Examiner SON P. HUYNH	Art Unit 2424	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,177,931	01-2001	Alexander et al.	725/52
*	B	US-7,340,760	03-2008	Wachtfogel et al.	725/34
*	C	US-2002/0144262	10-2002	Plotnick et al.	725/32
*	D	US-6,029,045	02-2000	Picco et al.	725/34
*	E	US-7,194,754	03-2007	Tomsen et al.	725/60
*	F	US-2001/0013125	08-2001	Kitsukawa et al.	725/36
*	G	US-2008/0155585	06-2008	Craner et al.	725/32
*	H	US-2004/0034874	02-2004	Hord et al.	725/136
*	I	US-7,237,252	06-2007	Billmaier, James A.	725/43
*	J	US-6,616,533	09-2003	Rashkovskiy, Oleg B.	463/31
*	K	US-2003/0056219	03-2003	Reichardt et al.	725/60
*	L	US-2002/0124252	09-2002	Schaefer et al.	725/33
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	WO 98/53611	11-1998	PCT	Kate	H04N 7/173
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/27/2010	11/05/2010							
	1	÷	N							
	2	÷	N							
	3	÷	N							
	4	÷	N							
	5	÷	N							
	6	÷	N							
	7	÷	N							
	8	÷	✓							
	9	÷	✓							
	10	÷	N							
	11	÷	N							
	12	÷	N							
	13	÷	N							
	14	÷	N							
	15	÷	N							
	16	÷	N							
	17	÷	N							
	18	÷	N							
	19	÷	N							
	20	÷	N							
	21	÷	N							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

SEARCHED			
Class	Subclass	Date	Examiner
725	32,34-36,40-42	11/4/10	AH

SEARCH NOTES		
Search Notes	Date	Examiner
Chris Grant and Chris Kelley (restriction)	9/27/10	AH
EAST text search enclosed	11/4/10	AH

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

	/SON P HUYNH/ Primary Examiner.Art Unit 2424

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BIB DATA SHEET

CONFIRMATION NO. 1303

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/102,503	04/14/2008 RULE	369	2424	0203-0023

APPLICANTS
Jong Kerl LEE, Gumi-si,;
Jae Sung KANG, Seongnam-si,;

** CONTINUING DATA ********** none /AH/

** FOREIGN APPLICATIONS ********** Yes /AH/
REPUBLIC OF KOREA 2007-0037109 04/16/2007

** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **
05/02/2008

Foreign Priority claimed	35 USC 119(a-d) conditions met	Verified and Acknowledged	Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
❑ Yes ☑ No	❑ Yes ☑ No	/SON P HUYNH/ Examiner's Signature	❑ Initials		10	21	4

ADDRESS
Jefferson IP Law, LLP
1130 Connecticut Ave., NW
Suite 420
Washington, DC 20036
UNITED STATES

TITLE
DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD

FILING FEE RECEIVED		
1290	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	❑ All Fees ❑ 1.16 Fees (Filing) ❑ 1.17 Fees (Processing Ext. of time) ❑ 1.18 Fees (Issue) ❑ Other _____ ❑ Credit

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	47	("20010013125" | "20010034668" | "20020016965" | "20020056109" | "20020059590" | "20020104086" | "20020104090" | "20020104099" | "20020124252" | "20020194592" | "20020194593" | "20020194595" | "5410326" | "5504519" | "5523794" | "5561708" | "5661517" | "5663757" | "5745556" | "5764899" | "5819034" | "5864610" | "5864823" | "5884141" | "5918213" | "5960411" | "6029045" | "6032130" | "6061719" | "6064420" | "6097441" | "6104334" | "6115057" | "6130726" | "6141006" | "6177931" | "6282713" | "6341352" | "6460020" | "6484011" | "6556975" | "6567984" | "6616533" | "6628729" | "6637032" | "6671716" | "6748481").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 18:38
L3	3	Kate.in. and trigger and music	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 18:51
L4	4	Kate.in. and trigger and music	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:52
L5	20	Kate.in. and trigger and web	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:52

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L6	1790	file with transfer$1 with channel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:53
L7	410	file with transfer$1 with channel same (determin$3 detect$4 locat$3 analyz$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:53
L8	60	file with transfer$1 with channel same (determin$3 detect$4 locat$3 analyz$4) and clip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:54
L9	30	file with transfer$1 with channel same (determin$3 detect$4 locat$3 analyz$4) and clip and advertis$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:54
L10	656	file with transfer$1 with channel same (stor$3 record$4 sav$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:59
L11	169	file with transfer$1 with channel same (stor$3 record$4 sav$3) same (select$3 determin $3 filter$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:00
L12	15	file with transfer$1 with channel same (stor$3 record$4 sav$3) same (select$3 determin $3 filter$3) and (advertis$6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:00
L13	0	file with transfer$1 with channel and "United video properties".as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
L14	812	"United video properties".as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03

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L15	49	"United video properties".as. and (file with transfer$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
L16	22	"United video properties".as. and (file with transfer$4) and clip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
L17	2	Sumaiya.xa. and delay$3 with (ad advertis$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:06
L18	27	ngoc.xp. and vu.xp. and "725"/$.ccls. and advertisement	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:13
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L22	661	725/41-43.ccls. and (ad advertis $6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
L23	345	725/41-43.ccls. and (ad advertis $6) and file	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
L24	51	725/41-43.ccls. and (ad advertis $6) and file and PIP	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
L25	99	725/41-43.ccls. and (ad advertis $6) and file and ((picture near3 picture) PIP)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
L26	39	725/41-43.ccls. and file and ((picture near3 picture) PIP) same (ad advertis$6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:23

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L27	176	"725"/$.ccls. and file and ((picture near3 picture) PIP) same (ad advertis$6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:29
L28	137	27 not 26	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:30
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L30	29	son.xp. and huynh.xp. and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:51
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L32	35	("20020028061" | "20020087402" | "20020144262" | "20020168009" | "20020176702" | "20030002672" | "20030037330" | "20030088872" | "20030152363" | "20030154128" | "20040034874" | "20040055088" | "20040096002" | "20040223612" | "20060061065" | "20070226761" | "6058240" | "6078328" | "6104441" | "6185340" | "6215526" | "6351439" | "6373534" | "6438168" | "6445738" | "6462744" | "6563936" | "6621866" | "6637032" | "6735253" | "6798893" | "6909837" | "7065250" | "7154560" | "7249367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:54
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L35	1	flavin.in. and son.xa.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:02
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L39	68	shang.xa. or shang.xp. and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
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L41	24	(shang.xa. or shang.xp.) and advertis$6	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
L42	1	(shang.xa.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09

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L43	0	(shang.xp.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09
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S8	49	(alert near3 information) and head near3 end and "set top" and phone and advertis$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 16:32

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	Application Number	
	Filing Date	2008-04-14
	First Named Inventor	Jong Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

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	1	10-2006-0083526	KR	A	2006-07-21	DECKTRON CO., LTD.		☒
	2	10-2006-0128405	KR	A	2006-12-14	LG ELECTRONICS INC.		☒

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	1		☐

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Filing Date	2008-04-14
First Named Inventor	Jong-Kerl LEE
Art Unit	
Examiner Name	
Attorney Docket Number	0203-0023

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	1	20070136742	A1	2007-06-14	SPARRELL	
	2	20020129362	A1	2002-09-12	CHANG et al.	
	3	20020087973	A1	2002-07-04	HAMILTON et al.	
	4	20030126607	A1	2003-07-03	PHILLIPS et al.	

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	Application Number	12102503
	Filing Date	2008-04-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

	1	10 2004 032 916	DE	A1	2006-02-02	TRAUBERG et al.		☐
	2	02/01879	WO	A2	2002-01-03	AALTONEN et al.		☐
	3	1 657 918	EP	A1	2006-05-17	CHO		☐

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	1	PER FROJDH et al., Study on 14496-12:2005/PDAM2 ALC/FLUTE Server File Format, October 13, 2006, no. M13855, Sweden	☐
	2	ERICSSON, Adoption of SVG Tiny 1.2 Release 6, November 20, 2004, Finland	☐
	3	Digital Video Broadcasting (DVB); DVB-H Implementation Guidelines; ETSI TR 102 377, February 1, 2005, vol. BC, no. V1.1.1	☐

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	1	10-2002-0028752	KR	A	2002-04-17	CHAE		☒
	2	10-2007-0053432	KR	A	2007-05-25	RYU		☒
	3	10-2007-0055165	KR	A	2007-05-30	JEONG et al.		☒

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	Filing Date	2008-03-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

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	1	1020060079911	KR	A	2006-07-07	PARK et al.		☒
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	Filing Date	2008-03-14
	First Named Inventor	Jong-Kerl LEE
	Art Unit	
	Examiner Name	
	Attorney Docket Number	0203-0023

	1	CURCIO et al., FLUTE for MBMS downloading, 3GPP TSG-SA4#29 Meeting, November 24, 2003, Tdoc S4-030772	☐

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A1

(11) International Publication Number: **WO 98/53611**

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(30) Priority Data:
97201510.1 21 May 1997 (21.05.97) EP
(34) Countries for which the regional or international application was filed: NL et al.

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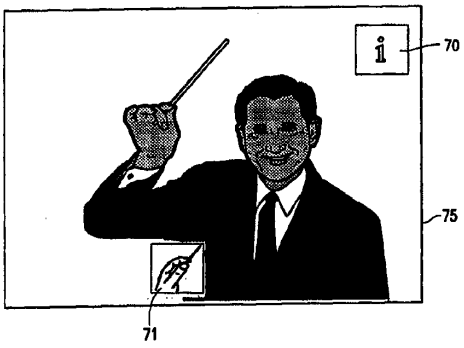
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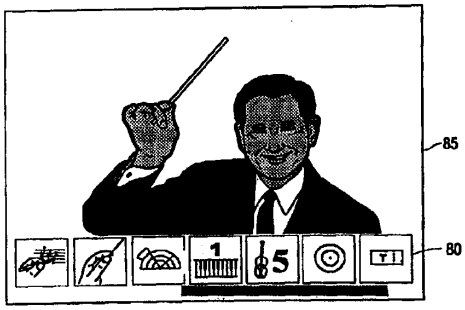
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(57) Abstract

A television transmitter transmits addditional information in the form of Web pages along with the television signal. The transmission further includes triggers (71) for selectively invoking said Web pages in synchronism with the program. The triggers include (or refer to) a perceptible signal, e.g. a pictogram or an audible beep. In response to receiving a trigger, a receiver reproduces said perceptible signal without substantially disturbing the television screen. The user is thus timely alerted about additional information related to the television program when viewing it. Then, he may or may not invoke the relevant Web page at his own discretion. To inform the public in advance of the triggers that will be broadcast and to provide easy access to the Web pages at an earlier or later stage, the transmission further includes a table of contents (80) identifying the triggers that are being transmitted during the program. The table of contents itself may be invoked by a trigger (70).





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Transmission and reception of television programs

FIELD OF THE INVENTION

The invention relates to a method of transmitting and receiving television programs. The transmission includes additional information items related to said television programs and trigger data for selectively invoking said information items.

BACKGROUND OF THE INVENTION

A known method as defined in the opening paragraph is disclosed in "Intercast Brings the Web to TV", PC Magazine, January 21, 1997, pp. 203-204. This article describes a method of transmitting Web pages along with a standard television signal. The Web pages provide additional information on what is being broadcast at a particular time. They are downloaded and cached in a receiver's memory. The transmission also includes trigger data (hereinafter also denoted as "triggers") which cause cached pages to be pulled up for display. Said triggers allow the broadcaster to download the pages well in advance and display them at the right moment in the television program. For example, during a commercial for a product, a Web page is pulled up that provides more product information such as available sizes or colors.

The television program, a directory of Web pages, and a selected Web page are displayed in distinct windows of the receiver's display screen. If the television program were displayed in the full screen mode, the user would remain unaware of the Web page that is actually being pulled up. Furthermore, the window showing the directory of Web pages is created by the receiver and necessarily lists only the pages which have already been received.

OBJECT AND SUMMARY OF THE INVENTION

It is an object of the invention to further improve the prior-art system.

To this end, the method according to the invention is characterized in that the trigger data includes a reproducible signal for reproduction by the receiver. This allows the receiver to reproduce said signal upon reception of the trigger and thus to inform the public that additional information about a current event in the program is accessible, even if the television program is being viewed in the full screen mode. Thus the user may or may

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not invoke the relevant Web page at his own discretion. The reproducible signal may be a displayable video sub-image, for example, a pictogram. It may also be an audible sound signal, for example, a beep.

An embodiment of the method further comprises the step of transmitting a table of contents identifying the trigger data transmitted during the program. It is thereby achieved that the viewer is informed in advance about the triggers he can expect during the program and to which additional information he will be alerted, even if the information items themselves have not yet been transmitted and received. The table of contents is accessible during the full length of the program. After a trigger has been passed, the viewer may (re)inspect the information still in the context of the television program. Access at a later stage may be along a different path than access during the alerting period in which the trigger is displayed. The table of contents is preferably repetitively transmitted throughout the program in order that it is also available for people who started to watch the program later.

Advantageously, the availability of the table of contents is also signalled to the user by the transmission of an appropriate trigger.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig.1 shows schematically a transmission system comprising a transmitter and a receiver in accordance with the invention.

Fig.2 shows the transmission format of additional information transmitted by the transmitter shown in Fig.1.

Fig.3 shows the transmission format of trigger data transmitted by the transmitter shown in Fig.1.

Fig.4 shows the transmission format of a table of contents transmitted by the transmitter shown in Fig.1.

Fig.5, composed of Figs. 5A and 5B, shows an example of data transmitted along with the television signal during a television program broadcast by the transmitter shown in Fig.1.

Fig.6 shows a flow chart of a program stored in and executed by a microprocessor in the receiver shown in Fig.1.

Fig.7 shows examples of a television screen illustrating the features of the invention.

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DESCRIPTION OF EMBODIMENTS

Fig.1 shows schematically a transmission system in accordance with the invention. The system comprises a transmitter **1** and at least one receiver **2** connected together through a channel **3**. The channel **3** may be a broadcast channel, for example, a satellite connection, a terrestrial broadcast network or a cable. As the advantageous effects of the invention are also achieved when playing back a prerecorded program from a storage medium, the channel **3** may also be such a storage medium, for example, a magnetic tape or an optical disc on which the output signal of the transmitter has been recorded. Optionally, a second channel **4** (return channel or bi-directional channel) between the transmitter and the receiver is provided in the form of the Public Switched Telephone Network PSTN or Integrated Service Digital Network ISDN.

The transmitter **1** comprises a television signal source **10** which is shown in the Figure as a studio tape recorder playing back a prerecorded television program. The television signal TV from the source **10** is encoded by an MPEG encoder **11** into a digital MPEG television signal MP. The transmitter further comprises a first storage medium **12** and a second storage medium **13**. The first storage medium **12** stores a number of Web pages W with additional information related to the television program. The second storage medium **13** stores trigger data items T for invoking said Web pages and a table of contents TOC. In practice, both storage media **12** and **13** will be sections of a single hard disk unit. The triggers T and selected ones of the Web pages W are read from the respective storage media in synchronism with the television program under the control of synchronization signals S delivered by the signal source **10**. They are multiplexed with the digital television signal MP by means of a multiplexer **14** into an MPEG Transport Stream TS and transmitted to the receiver **2**. Optionally, the transmitter also comprises an Internet access terminal **15** which enables receivers to access the Web pages W stored in the first storage medium **12** through the Public Switched Telephone Network **4**.

The receiver **2** comprises a demultiplexer **20** which separates the encoded television signal MP from the triggers T, table of contents TOC, and Web pages W. The television signal MP is applied to an MPEG decoder **21** which decodes the audio component A for reproduction by a speaker **22** and the video component V for full-screen display on a display screen **23**. The triggers T, table of contents TOC, and Web pages W are applied to a microprocessor **24** which is arranged to store these types of data in a memory **25** for subsequent processing. The microprocessor is arranged to store selected information in a

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predetermined display section of the memory **25**. The data in said display section is converted by a character generator **26** into a displayable graphics signal G which is applied to a combiner stage **27** for display on the screen **25**, solely or in combination with the video signal V. The microprocessor **24** is further connected to a (remote) control unit **28** and, optionally, a modem **29** for accessing the Internet.

Fig.2 shows the transmission format of Web pages W transmitted by the transmitter **1**. A type field **100** identifies the type of information which is the character "W" for Web pages in this example. An address field **101** defines an address (here a file name) by which the pages are retrieved from the broadcast signal and stored in the receiver's memory. Numeral **102** denotes the contents of the page made up in the popular HTML format (HyperText Mark-up Language).

Fig.3 shows the transmission format of the triggers T transmitted by the transmitter. For triggers, the type field **100** is the character "T". A display data field **103** defines (or refers to) a reproducible data signal such as a visual pictogram or an audible signal. The same field can also define how long the signal must be reproduced. A link field **104** defines the location where the Web page to which the trigger is linked can be found. For the purpose of disclosing this invention, the link field **104** has one of two formats. The format http://www.X/Y refers to Web page Y of content provider X on the Internet. The format dvb://X/Y refers to Web page Y which is transmitted along with the television signal transmitted by broadcast station X.

The operation of the system shown in Fig.1 will now be described with reference to an example. In this example, a classical concert is being broadcast. A plurality of Web pages with additional information related to the television program are transmitted during the broadcast for consultation by the user if he so wishes. Some of these pages are transmitted along with the television signal, others can only be accessed through the Internet. The following Web pages with additional information related to the concert are accessible in this example:

- information about the composer to whom the concert is dedicated,
- information about the conductor,
- information about each individual piece of music (Piano concert No.1 and Symphony No.5, respectively, in this example),
- the orchestral layout,
- an order form for purchasing a CD of the concert, and
- an order form for purchasing a ticket for a forthcoming concert.

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The broadcaster informs the user about the availability of these Web pages by transmitting respective triggers at adequate points of time during the concert. Upon reception of a trigger, the receiver displays the pictogram or reproduces the audible signal which is defined in the trigger's display data field **103** (see Fig.3). The pictogram is displayed in the (full-screen) television image area. The user may then access the relevant Web pages by simply clicking the pictogram or pressing a dedicated button on the remote control unit. Three types of triggers can be identified:

- Static triggers relate to the television program as a whole.
- Dynamic triggers relate to a current event in the program.
- Living triggers are a combination of a static trigger and a dynamic link. The visualization of the trigger remains unchanged but the actual link field **104** adapts to the action in the program.

The triggers being transmitted and presented during the program are listed together in a table of contents. Fig.4 shows the transmission format of tables of contents. They are identified by the character "TOC" in their type field **100**. The type field is followed by a list of triggers, each comprising a display data field **103** and a link field **104**. In the TOC, the link field **104** may be empty, for example, if the relevant Web page has not yet been broadcast. Upon reception by the receiver, the TOC will be stored at a predetermined memory location, for example, under the reserved file name "toc". An address field similar to the address field **101** shown in Fig.2 can therefore be dispensed with.

In the example of the TOC shown in Fig.4, seven triggers **41-47** are listed which will be transmitted during the classical concert broadcast. Initially, i.e. at the beginning of the program when the TOC is transmitted prior to the transmission of any of the above-mentioned Web pages with program-related additional information, all of the respective link fields **104** refer to Web pages on the Internet. This allows the user to consult the relevant Web pages already at the beginning of the concert if he so wishes. However, as will be explained hereinafter, the TOC is regularly transmitted with updated link fields.

Fig.5 (which is composed of Figs. 5A and 5B) shows the actual data (tables of contents TOC, Web pages W, triggers T) that are transmitted along with the television signal during the classical concert broadcast. Numeral **51** denotes the first transmission of the table of contents. At this stage, all link fields in the TOC refer to Web pages on the Internet as shown in Fig.4. Numeral **52** denotes the transmission of a trigger T enabling the user to access the TOC which has just been received. The link field of this trigger is "toc" which is the reserved file name for the table of contents. The trigger **52** is an example of a static

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trigger. The relevant pictogram remains displayed during the whole program, for example, in an upper corner of the television image. Alternatively, the TOC can be accessed by pressing a dedicated information button (**281** in Fig.1) on the remote control unit.

Numeral **53** denotes the transmission, at the beginning of the program (e.g. during announcements), of a Web page with background information about the composer to whom the concert is dedicated. The page is stored in the receiver under the file name "composer". Then, a trigger **54** is transmitted which causes the embedded pictogram to be inserted into the television image for a defined period of time. The user may click the pictogram and cause the composer Web page to be read from the memory and displayed on the screen.

Numeral **55** denotes the transmission of an updated version of the table of contents. The updated TOC differs from the first version in that the link field of the composer trigger (**41** in Fig.4) is changed from an Internet link (http://www.bbc/composer) to a link to the broadcast page (dvb://bbc1/composer). Accordingly, if the user accesses the composer page via the TOC at a later stage, the receiver will acquire the page from the local memory rather than from the Internet, as was the case at the very beginning of the program.

When the first notes of the first piece of music (Piano Concert No.1) are being broadcast, the transmitter transmits a Web page **56** with background information about this piece of music, which is followed by the transmission of a trigger **57**. As long as the relevant pictogram is displayed, the viewer can consult the respective page by simply clicking the pictogram. As is shown in the Figure, the page is stored under the file name "curpiece". Subsequently, the table of contents is updated by transmitting a new TOC **58** in which the link field **104** of trigger **44** (see Fig.4) has been changed from http://www.bbc/piano1 to dvb://bbc1/curpiece.

During the first piece of music, a Web page **59** showing a layout of the orchestra and a Web page **60** with background information about the conductor of the orchestra are transmitted and stored in the receiver. Their transmission is followed by an update **61** of the TOC in which the link field of layout trigger **43** (see Fig.4) has been changed from http://www.bbc/orchlayout to dvb://bbc1/orchlayout, and the link field of conductor trigger **42** (see Fig.4) has been changed from http://www.bbc/conductor to dvb://bbc1/conductor. The triggers T for invoking these Web pages by clicking the relevant pictogram are denoted **62** and **63** in the Figure. They are transmitted at appropriate moments during the program, i.e. during a close-up view of the conductor and a global view of the

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orchestra, respectively. Note that the other information items such as the composer page can be accessed at any time via the table of contents. To this end, the user clicks the TOC pictogram or presses the information button and selects a desired pictogram from the table of contents which is displayed in response thereto.

Reference numeral **64** denotes the transmission of a Web page with information about the second piece of music (Symphony No.5). Numeral **65** denotes a trigger for invoking this page which is transmitted when this piece is being played. In this example, the Symphony No.5 page replaces the Piano Concert No.1 page because both pages have the same file name "curpiece". This is not essential but is shown to illustrate the flexibility of the invention. Although the trigger associated with the Piano Concert No.1 will no longer be transmitted, the information remains accessible to the user via the Internet. To this end, the link field of trigger **44** in the table of contents (see Fig.4) is restored to its original value http://www.bbc/piano1 in an updated version **66** of the TOC. While Symphony No.5 is being played, triggers **67** and **68** for invoking the conductor and orchestral layout pages are again transmitted during a close-up view of the conductor and a global view of the orchestra, respectively.

At the end of the program, announcements are made about the possibility to buy a CD of the concert and a ticket for the next concert in the concert hall. During these announcements, triggers **69** and **70** are transmitted. Clicking the corresponding pictogram causes the receiver to establish an Internet connection with a CD shop or the concert hall, respectively, allowing him to order the CD or ticket. Finally, a new TOC **71** is transmitted in which all link fields are given their initial value as shown in Fig.4. After the program has finished, the viewer is thus still kept informed about the program's additional information and he can still access the Web pages via the Internet.

Although the receiver **2** (see Fig.1) has already been described functionally in the above example, its operation will now be described in more detail. The operation of the receiver is determined by a program which is stored in, and executed by, the microprocessor **24**. Fig.6 shows a flow chart illustrating this program. References in this description which are made to various circuit elements of the receiver refer to the schematic diagram shown in Fig.1. In the flow chart, numeral **200** denotes a reset operation which is carried out when the receiver is tuned to a television program. In a step **201**, the microprocessor awaits reception of a data item (W, T, TOC) from the multiplexer **20** or reception of a control command (C)

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from the remote control unit **28**. If a data item is received, the program proceeds with step **210**. If a control command is received, the program proceeds with step **220**.

In the step **210**, the microprocessor reads the type field of the received data item. If the type field is "W", the data item is a broadcast Web page. In a step **211**, said page is stored in the receiver's memory **25** under the file name which is included in the address field of the Web page. If the type field is "T", the data item is a trigger. In a step **212**, the microprocessor stores the pictogram embedded in the display data field in the display section of memory **25**. In response thereto, the character generator **26** displays the pictogram as an overlay over the television image. The link field of the trigger is also saved in memory. If the type field is "TOC", the data item is a table of contents. In a step **213**, said table is stored in memory **25** under the file name 'toc". After thus having processed a received data item, the program returns to the step **201** to await further events.

In the step **220**, the microprocessor investigates whether the received control command is a toggle command to switch the display of the table of contents on or off. The relevant command is issued by pressing a special i-button (**281** in Fig.1) of the remote control unit or pointing-and-clicking the i-pictogram in the upper right corner of the television screen. Then a step **221** is executed in which the table of contents is displayed or, if the TOC is already displayed, erased.

Other control commands are point-and-click operations for navigating through the information associated with the television program. In a step **222**, the link field associated with the pictogram being clicked is read. This applies to triggers that have just been received as well as triggers that are listed in the table of contents. In a step **223**, the microprocessor determines whether the link field is filled in and, if this is the case, whether it represents an Internet address (http://..) or a broadcast address (dvb://..). In the table of contents, link fields may initially be empty. In that case, the microprocessor generates an on-screen-display message informing the user that the selected information item will be transmitted and received later during the program. The user is thus informed about information still to come.

If the link field is an Internet address, a step **224** is carried out in which the microprocessor activates modem **29** for establishing an Internet connection with the relevant provider. If the receiver has no modem, the user may be informed that the desired information will possibly be transmitted and received later.

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If the link field represents a broadcast address, the microprocessor checks in a step **225** whether a page with the associated file name is stored in the receiver's memory **25**. This will usually be the case, and the microprocessor will transfer the stored page to the display section in a step **226**. If the page is not locally available yet, a step **227** is performed in which the user is given an appropriate message that the page is being looked for in the received television signal. Optionally, the receiver may keep a copy of the initial version of the table of contents (see Fig.4) for offering the user an alternative location of the desired information. As an additional option, the transmitter may transmit for this purpose a special backup version of the table of contents in which all link fields refer to Internet Web pages only. Such an option is very useful for viewers who have tuned to the program at a later stage.

Fig.7 shows an example of television screens during the concert. In screen **75**, the conductor trigger has just been transmitted. The corresponding pictogram **71** is displayed, and the viewer can access more information about the conductor by clicking the pictogram. In the upper right corner, the i-pictogram **70** for accessing the table of contents is displayed. Screen **85** shows the result of pointing and clicking said i-pictogram. It causes the display data fields **80** of the triggers listed in the table of contents to be displayed.

In summary, a television transmitter transmits additional information in the form of Web pages along with the television signal. The transmission further includes triggers (71) for selectively invoking said Web pages in synchronism with the program. The triggers include (or refer to) a perceptible signal, e.g. a pictogram or an audible beep. In response to receiving a trigger, a receiver reproduces said perceptible signal without substantially disturbing the television screen. The user is thus timely alerted about additional information related to the television program when viewing it. Thus, he may or may not invoke the relevant Web page at his own discretion. To inform the public in advance of the triggers that will be broadcast and to provide easy access to the Web pages at an earlier or later stage, the transmission further includes a table of contents (80) identifying the triggers that are being transmitted during the program. The table of contents itself may be invoked by a trigger (70).

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Claims

1. A method of transmitting television programs (TV) to at least one receiver, including the steps of transmitting additional information items (W) related to said television programs and trigger data (T) for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal (103) for reproduction by the receiver.

2. A method as claimed in claim 1, wherein the reproducible signal is a displayable video sub-image.

3. A method as claimed in claim 1, wherein the reproducible signal is an audible sound signal.

4. A method as claimed in claim 1, further comprising the step of transmitting a table of contents (TOC) identifying the trigger data being transmitted during the program.

5. A method as claimed in claim 4, wherein the table of contents is repetitively transmitted throughout the television program.

6. A method as claimed in claim 4, including the step of transmitting trigger data for invoking said table of contents.

7. A method of receiving television programs, comprising the steps of receiving and storing additional information items related to said television programs and receiving trigger data for selectively invoking said information items, characterized by reproducing a reproducible signal included in the trigger data upon reception of said trigger data and invoking said information item in response to a predetermined user-operable command.

8. A method as claimed in claim 7, wherein the reproducible signal is a displayable video sub-image, comprising the step of displaying said sub-image within the image area representing the television program.

9. A method as claimed in claim 7, comprising the step of receiving and storing a table of contents identifying the trigger data transmitted during the program, displaying said table of contents and invoking stored information items in response to selecting respective trigger data from said table of contents.

10. A transmitter for transmitting television sprogram to at least one receiver, comprising means for transmitting additional information items related to said television

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programs and trigger data for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal for reproduction by the receiver.

11. A transmitter as claimed in claim 10, further comprising means for transmitting a table of contents identifying the trigger data transmitted during the program.

12. A receiver for receiving television programs, comprising means for receiving and storing additional information items related to said television programs and receiving trigger data for selectively invoking said information items, characterized by means for reproducing a reproducible signal included in the trigger data upon reception of said trigger data and invoking said information item in response to a predetermined user-operable command.

13. A receiver as claimed in claim 12, wherein the reproducible signal is a displayable video sub-image, comprising means for displaying said sub-image within the image area representing the television program.

14. A receiver as claimed in claim 12, comprising means for receiving and storing a table of contents identifying the trigger data transmitted during the program, displaying said table of contents and invoking stored information items in response to selecting respective trigger data from said table of contents.

15. A television signal including additional information items related to said television programs and trigger data for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal for reproduction by the receiver.

16. A signal as claimed in claim 15, further including a table of contents identifying the trigger data transmitted during the program.

17. A storage medium on which a television signal as claimed in claim 15 or 16 is stored.

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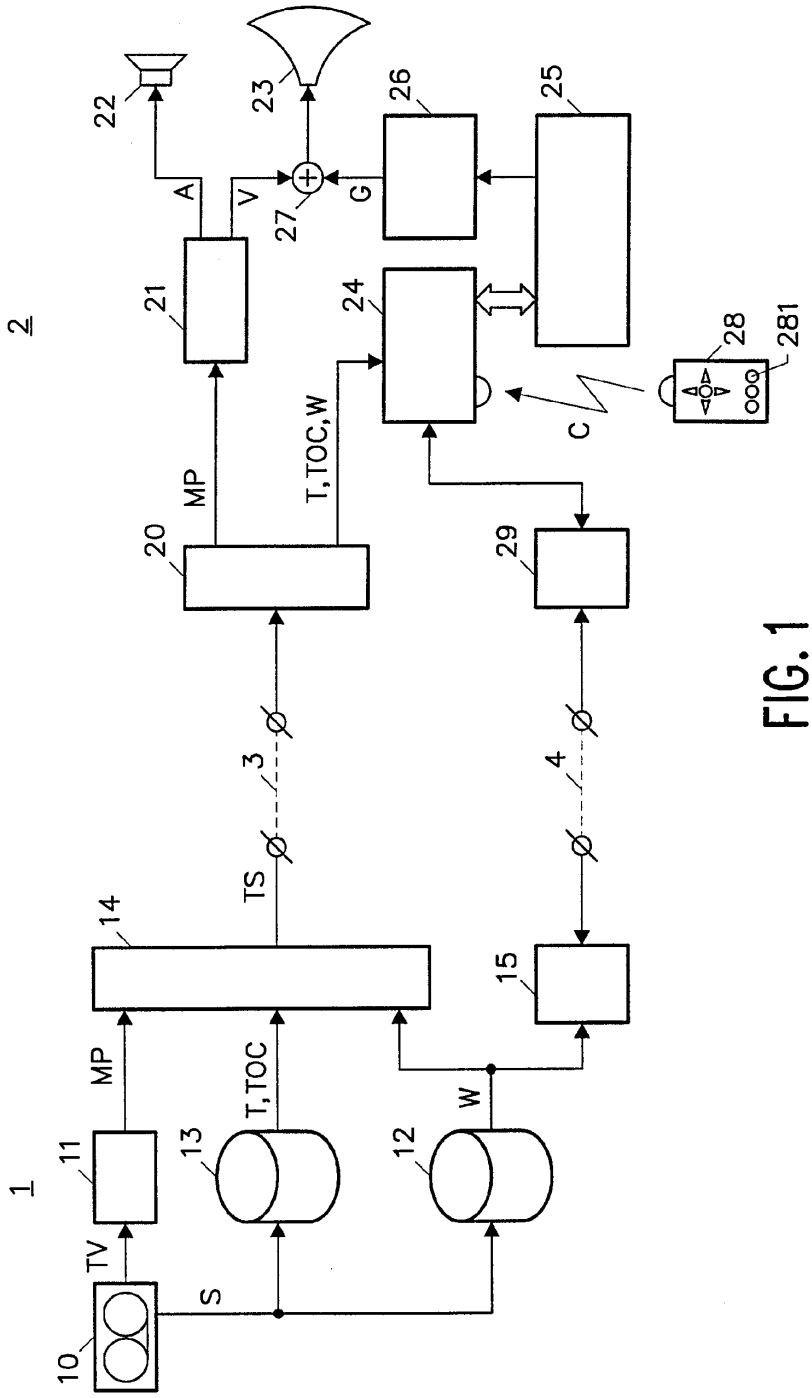


FIG. 1

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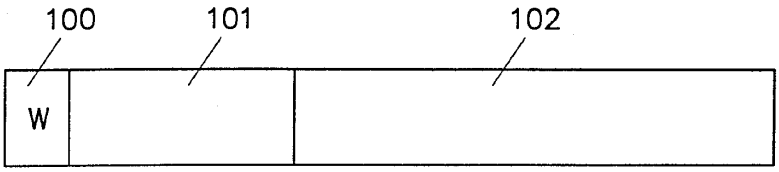


FIG. 2

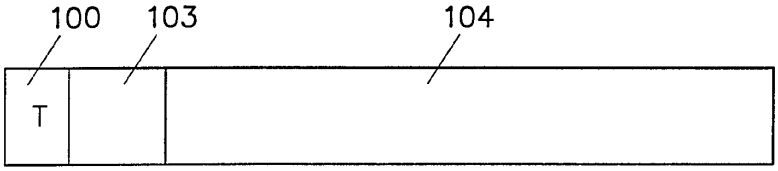


FIG. 3

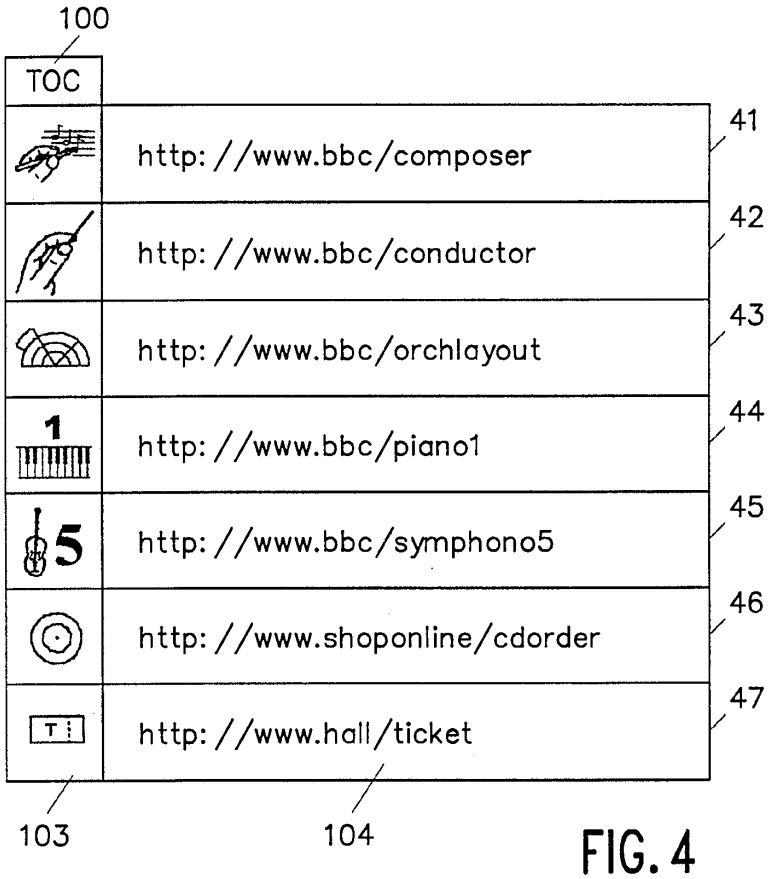


FIG. 4

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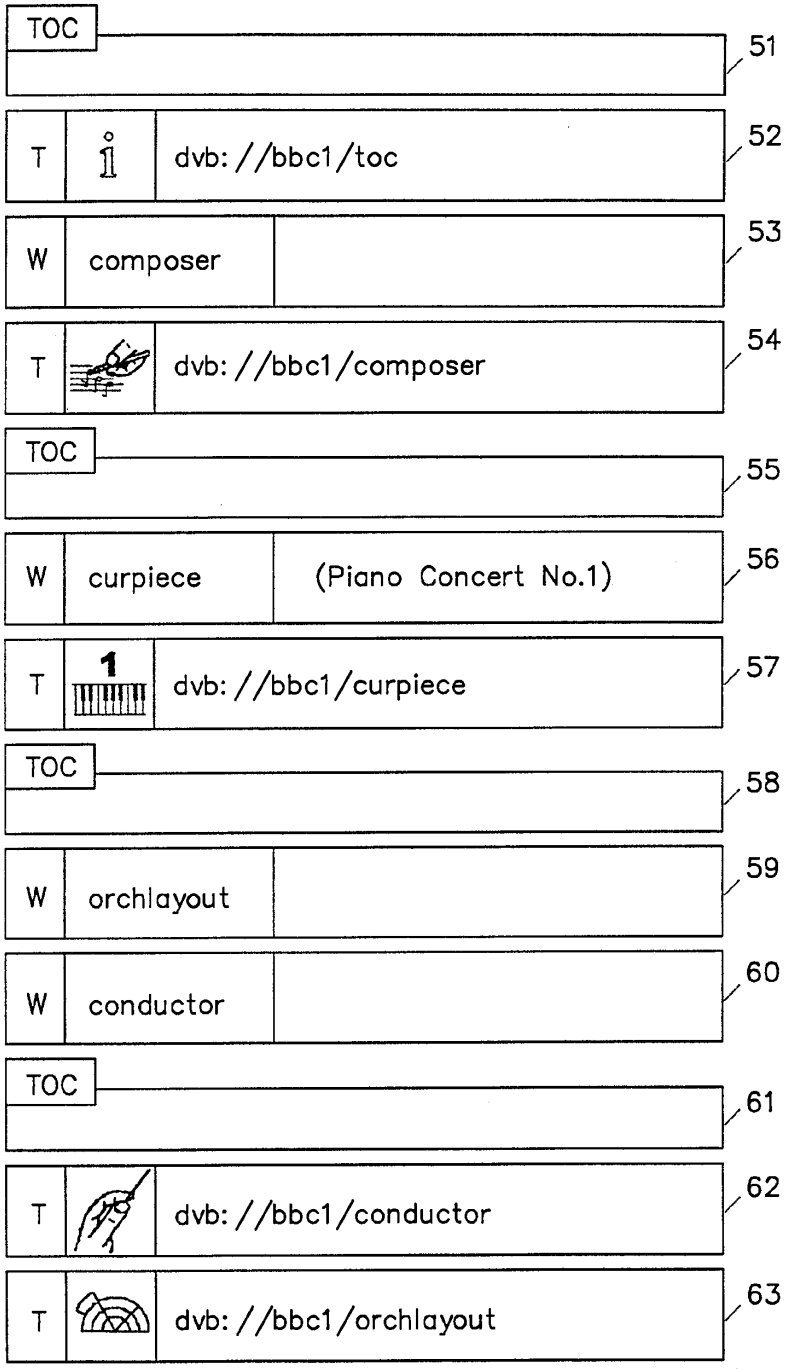


FIG. 5A

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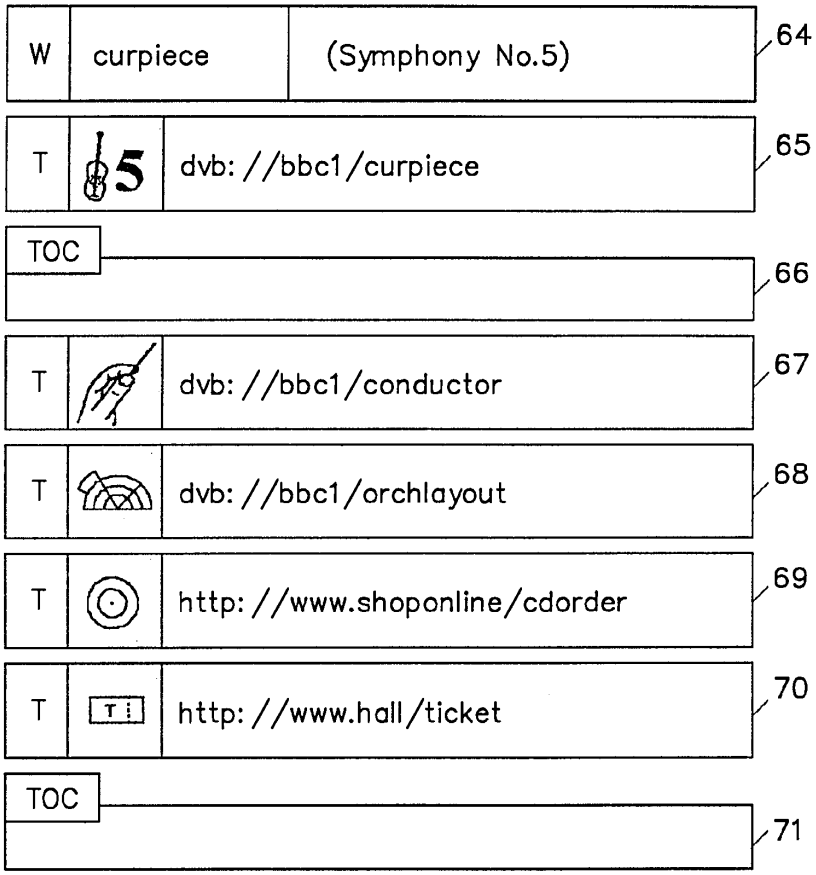


FIG. 5B

VB Assets Exhibit No. 2005
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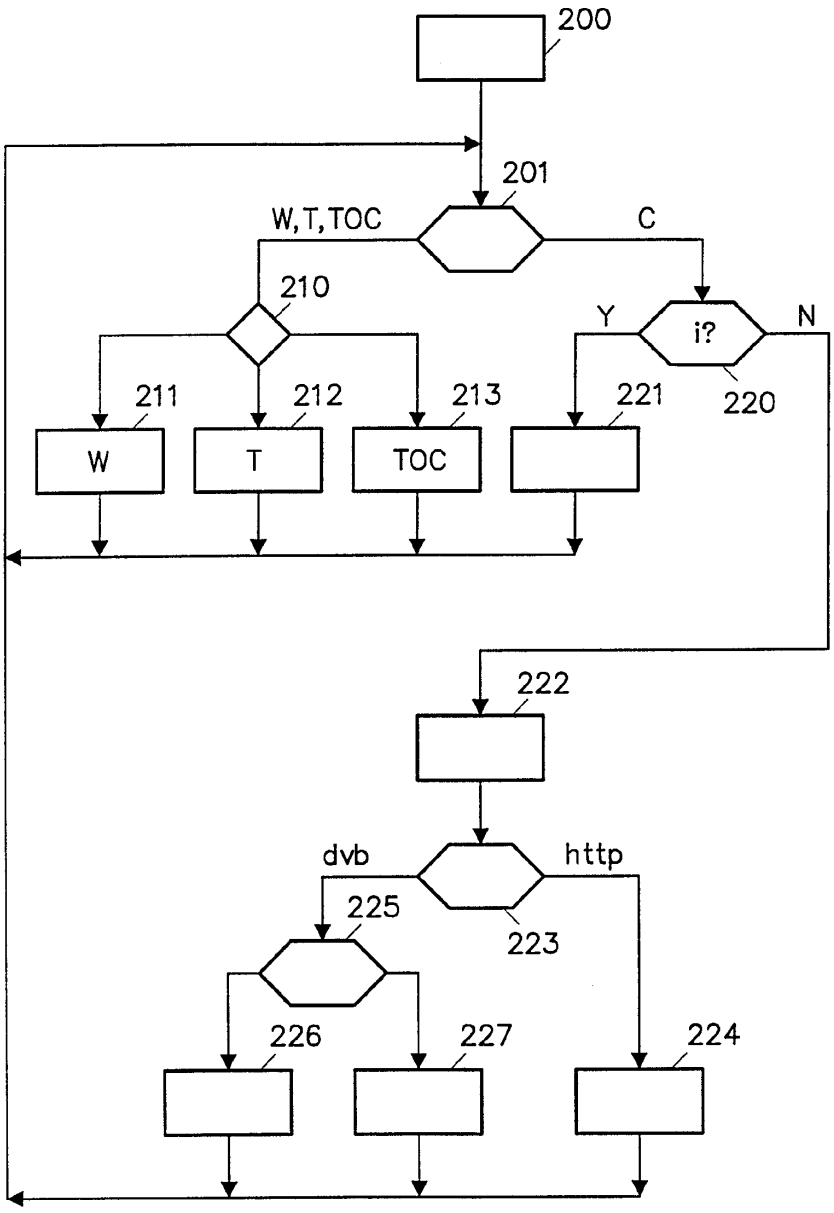
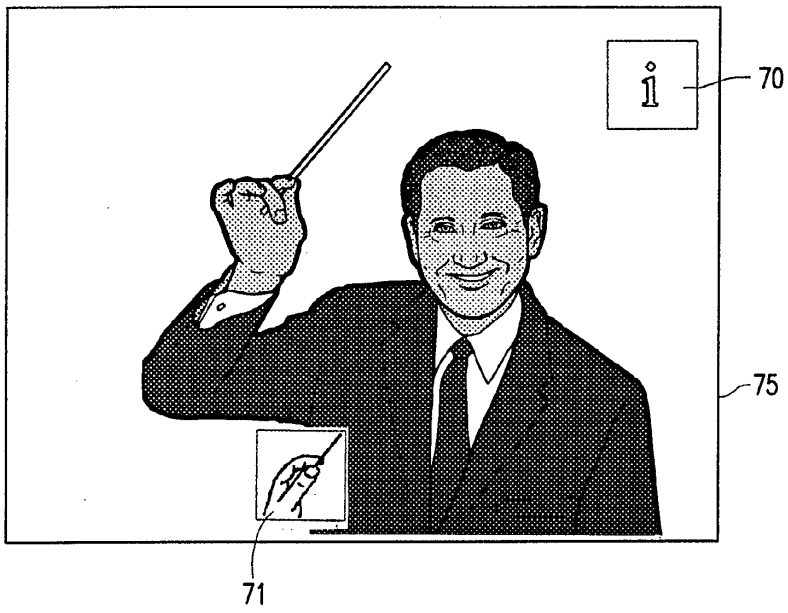


FIG. 6

VB Assets Exhibit No. 2005
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IPR2025-00867, U.S. Patent No. 7,818,176
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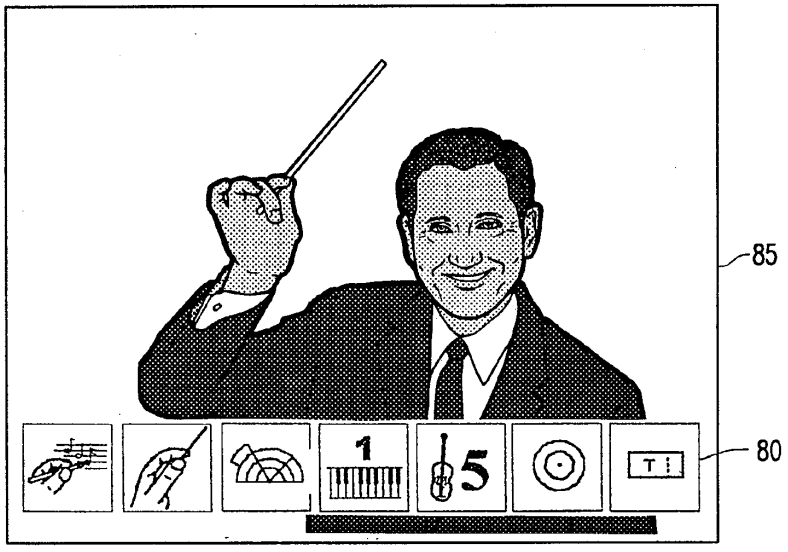


FIG. 7

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IPR2025-00867, U.S. Patent No. 7,818,176
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 98/00580

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04N 7/173, H04N 5/445
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9641478 A1 (TV GUIDE ON SCREEN), 19 December 1996 (19.12.96), claims 1-5, abstract ---	1-17
A	US 4488179 A (H. ECKHARD KRÜGER ET AL), 11 December 1984 (11.12.84), abstract --- --------	1-17

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 April 1998	05 -10- 1998
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Rune Bengtsson Telephone No. +46 8 782 25 00

Form PCT/ISA/210 (second sheet) (July 1992)

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Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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INTERNATIONAL SEARCH REPORT

Information on patent family members

27/07/98

International application No.
PCT/IB 98/00580

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9641478 A1	19/12/96	AU 6258596 A	30/12/96
		EP 0856227 A	05/08/98
		PL 323914 A	27/04/98
		US 5589892 A	31/12/96
US 4488179 A	11/12/84	DE 3036552 A,C	13/05/82
		JP 1766313 C	11/06/93
		JP 4040912 B	06/07/92
		JP 57087682 A	01/06/82

Form PCT/ISA/210 (patent family annex) (July 1992)

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicant(s)	:	Jong Kerl LEE et al.	TC/A.U.	:	2424
Filed	:	April 14, 2008	Examiner	:	Son P. HUYNH
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Atty. Docket No.	:	0203-0023

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Sir:

In response to the Office Action dated November 9, 2010, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

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Amendments to the Claims:

This listing of claims will replace all prior versions and listing of the claims in the application.

Listing of Claims:

1. (Withdrawn) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

wherein the examining of the file transfer channel comprises at least one of activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network and activating the broadcast receiving module at certain intervals.

2. (Withdrawn) The data reproducing method of claim 1, wherein the broadcasting network establishes channels according to a Digital Video Broadcast-Handheld (DVB-H) system, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

3. (Withdrawn) The data reproducing method of claim 1, wherein the data comprises at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

4. (Withdrawn) The data reproducing method of claim 1, wherein the receiving of the data comprises:

receiving update information of data; and

receiving data on the basis of the update information.

5. (Withdrawn) The data reproducing method of claim 4, wherein the update information comprises Electronic Service Guide (ESG) information.

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6. (Withdrawn) The data reproducing method of claim 1, wherein the reproducing of the stored data comprises:

displaying a list of stored data;

selecting desired data in the list; and

reproducing the selected data.

7. (Withdrawn) The data reproducing method of claim 1, further comprising:

issuing an alert indicating reception of the data.

8. (Currently amended) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data~~, wherein the stored data is reproduced when, during reception and display of an external broadcast signal,~~ when ~~the~~ a currently displayed external broadcast signal is an advertisement,

wherein a list screen for selection of the stored data is displayed at a starting time of the advertisement, and wherein the reproducing of the stored data is according to a ranking order.

9. (Original) The data reproducing method of claim 8, wherein the reproducing of the data while displaying the advertisement is performed in a Picture In Picture (PIP) format by allocating a region on an advertisement image.

10. (Withdrawn) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

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wherein the stored data is reproduced during channel switching in response to a request for channel switching when the request is generated during display of a broadcast.

11. (Withdrawn) The data reproducing method of claim 10, wherein the reproducing of the stored data comprises at least one of stopping the reproducing of the reproduced data after completing the switching of the channel and reproducing the reproduced data in a PIP format on a broadcast image corresponding to the switched channel after completing the switching of the channel.

12. (Withdrawn) A data reproducing apparatus comprising:

a broadcast receiver for examining a file transfer channel of a broadcasting network and for receiving data transferred through the file transfer channel of the broadcasting network;

a memory for storing the received data;

a control unit for controlling the stored data to be displayed; and

a display unit for displaying data,

wherein the control unit comprises:

a broadcast receiving module for controlling setting of the frequency of the broadcast receiver and for transferring the received data to the memory;

a pop-up module for issuing an alert indicating reception of the data; and

a reproduction module for reproducing at least one of a broadcast signal received by the broadcast receiver and the received data.

13. (Withdrawn) The data reproducing apparatus of claim 12, further comprising:

a mobile communication unit for receiving a message including update information of data through a mobile communication network and for transferring the received message to the pop-up module.

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14. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module activates the broadcast receiving module when a message including update information is received.

15. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module, upon reception of data from at least one of the broadcast receiving module and the mobile communication network, displays the data-related information on an idle screen.

16. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module comprises:

a dynamic graphic engine comprising a Scalable Vector Graphics (SVG)-Tiny supporting vector graphics, a rendering effect unit supporting a rendering effect on an image, and a Graphical User Interface (GUI) control unit;

a pop-up controller for controlling production and display of a pop-up window;

an alert unit for issuing an alert indicating an update of the data to the broadcast receiving module;

a bi-directional service unit supporting a link connected to a server providing the data; and

a broadcast receiving module adaptor for transmission and reception of a signal with the broadcast receiving module.

17. (Withdrawn) The data reproducing apparatus of claim 13, wherein the reproduction module reproduces the data by using at least one of:

a method of storing the received data and then directly reproducing the stored data according to selection of a menu and a list;

a method of reproducing the data in a Picture In Picture (PIP) format during an advertisement while displaying a broadcast; and

a method of reproducing the data during switching of the channel.

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18. (Withdrawn) The data reproducing apparatus of claim 13, wherein the broadcast receiving module receives update information of data and controls the broadcast receiver to receive the data on the basis of the update information.

19. (Withdrawn) The data reproducing apparatus of claim 18, wherein the update information comprises electronic service guide (ESG) information.

20. (Withdrawn) The data reproducing apparatus of claim 12, wherein the data includes at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

21. (Withdrawn) The data reproducing apparatus of claim 12, wherein the broadcasting network forms a channel according to a Digital Video Broadcasting-Handheld (DVB-H) method, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

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REMARKS

I. Status of Claims

After the above amendments, claims 1-21 are pending, claims 1, 8, 10, and 12 being independent. Claims 1-7 and 10-21 have been withdrawn. All claims find full support in the original specification, claims, and drawings. No new matter has been added.

II. Rejection of Claims 8 and 9 Under 35 U.S.C. §112 Second Paragraph

The Examiner rejects claims 8 and 9 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as the invention. More particularly, the Examiner alleges that it is unclear as to what is being positively cited. Applicants respectfully request that the 35 U.S.C. 112 rejection be reconsidered and withdrawn in view of amended claim 8 presented herein.

III. Rejection of Claims 8 and 9 Under 35 U.S.C. §102

Claims 8 and 9 have been rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Plotnick et al. (U.S. Pat. App. Pub. No. 2002/0144262 A1) hereinafter referred to as Plotnick. Applicants respectfully traverse this rejection.

Anticipation of a claim under 35 U.S.C. § 102 can be found only if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984). See also *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987) (Anticipation under 35 U.S.C. § 102 requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference"). Because Plotnick fails to disclose each and every element of Applicants' claims 8 and 9, Plotnick cannot be considered to anticipate these claims.

With respect to claim 8, Plotnick does not disclose, teach or suggest that a list screen for selection of the stored data is displayed at a starting time of the

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advertisement, wherein the reproducing of the stored data is according to a ranking order, as claimed.

The reproduction module 166 of the instant application selects the video clip stored in the memory unit 170 according to a ranking order or arbitrarily to reproduce it in FIGs. 6 and 7. Furthermore, the reproduction module 166 can assist a user to select and watch a video clip by displaying a list screen for selection of the video clip at an advertisement starting time. (See paragraph [0070] in the specification of the instant application).

In contrast, Plotnick merely discloses displaying an alternative advertisement when a subscriber fast forwards through a recorded advertisement (See paragraph [0181] of Plotnick). Nowhere does Plotnick disclose that a list screen for selection of the stored data is displayed at a starting time of the advertisement, wherein the reproducing of the stored data is according to a ranking order, as claimed in the instant application.

Plotnick does not disclose, teach or suggest each and every element as set forth in the claims. For at least these reasons, withdrawal of the rejections of claims 8 and 9 under 35 U.S.C. § 102(b) as allegedly being anticipated over Plotnick is respectfully requested.

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IV. Conclusion

In view of the above, it is believed that the above identified application is now in condition for allowance and notice to that effect is respectfully requested. The Director is hereby authorized to charge any underpayment of fees or credit any overpayments to Deposit Account No. 504100. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: January 31, 2011

/Maeng-Ho SHIN/
Maeng-Ho Shin
Reg. No. 53,859
Representative for Applicant(s)

Jefferson IP Law, LLP
1130 Connecticut Ave., NW, Suite 420
Washington, D.C. 20036
Main: (202)-293-0804
Direct: (202)-293-2829

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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Electronic Acknowledgement Receipt	
EFS ID:	9340797
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	Raymond Bernardo Persino/Soo Oh
Filer Authorized By:	Raymond Bernardo Persino
Attorney Docket Number:	0203-0023
Receipt Date:	31-JAN-2011
Filing Date:	14-APR-2008
Time Stamp:	13:51:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		0203-0023AmendmentAsFiled.pdf	121812 f9648caf471ae553901c2c3481f2cd935fbbe37c	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	9
Warnings:			
Information:			
	Total Files Size (in bytes):	121812	

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,503	Filing Date 04/14/2008	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐ RATE ($)	SMALL ENTITY ☐ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
FOR	NUMBER FILED	NUMBER EXTRA					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 01/31/2011

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 21	Minus	** 21	= 0	X $ =		OR	X $52=	0
Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/Debra R. Wyatt/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 04/08/2011

Jefferson IP Law, LLP
1130 Connecticut Ave., NW
Suite 420
Washington, DC 20036

EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2424	

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04/08/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/102,503	LEE ET AL.	
	Examiner	Art Unit	
	SON P. HUYNH	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *1-7 and 10-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 8-9 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-7, 10-21 have been withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plotnick et al. (US 2002/0144262 A1) in view of Ngo et al. (US 7,134,132).

Note that for documents incorporated by references in Plotnick are treated as part of the specification of Plotnick.

Regarding claim 8, Plotnick discloses a data reproducing method comprising:

examining a file transfer channel of a broadcast network using a broadcast receiving module (e.g., examining or checking channel of a broadcasting network using receiving interface and/or tuner for files such as alternative ad file, ad file, control file, etc. – see include, but not limited to, figures 10, 12a-14b, paragraphs 0125, 0107, 0116, **0154-0160,** 0176, 0179, 0181);

receiving data transferred through the file transfer channel (e.g., receiving alternative ad and/or other data through the channel that carries alternative ad file, control file, etc.- see include, but not limited to, figures 10, 12a-14b, paragraphs 0125, 0107, 0116, **0154-0160,** 0176, 0179, 0181);

storing the received data (storing alternative ad and other data – see include, but not limited to, paragraphs 0125, 0154-0156, 0172, **0181-**0183, 0186**, 0196);**

reproducing the stored data when a currently displayed external broadcast signal is an advertisement (e.g., reproducing/playing back the stored alternative ads when a currently displayed external broadcast signal is an advertisement in trick play mode/skipped – see include, but not limited to, figures 12a-14a, 17, paragraphs 181, 186, 196),

Plotnick further discloses user selection of stored data, and wherein the reproducing of the stored data is according to a ranking order (e.g., user selection of alternative ads for displaying and the reproducing/playing back of stored data/stored alternative ads is according to ranking order in ad queue/or in a group based on market segment or user preferences – see include, but not limited to, figures 6B-6C; paragraphs 0130-0131, 0134, 0142, 0144-0145, 0155-0156,0171, 0177, 0181-0186).

Plotnick further discloses the user control the selection of trick play mode (e.g., change channel, fast forward, etc. – see include, but not limited to, paragraphs 0062, 0171). It would have been obvious to one of ordinary skill in the art to perform trick play mode/make a selection to display stored data (alternative ads) at a start time of the advertisement (being skipped) in order to maximize time for displaying stored data.

Plotnick is does not explicitly disclose a list screen for selection of the stored data is displayed.

Ngo discloses a list screen for selection of stored data is displayed (figure 9, col. 7, lines 33-40). Ngo also discloses user make selection to display other advertisements when an advertisement is displayed (see include, but not limited to, 24-40). It would have been obvious to one of ordinary skill in the art that a list screen is displayed at a starting time of the advertisement at starting time of the advertisement (for example, at the starting time of first advertisement, the user selects to display a menu for selection between additional variants to the advertisement) in order to maximize time for displaying stored data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Plotnick with the teaching for displaying a list screen for selection of stored data as taught by Ngo in order to yield predictable results such as allowing viewer to control selection of advertisements in the form that interest to the viewer (col. 1, lines 52-62).

Regarding claim 9, Plotnick in view of Ngo further discloses the reproducing of the data while displaying the advertisement is performed in a Picture in Picture (PIP) format by allocating a region on an advertisement image (see include, but not limited to, Plotnick: figure 17, paragraphs 0221-0227).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zalewski et al. (US 2007/0226761) discloses dynamic insertion of cinematic stage props in program content.

Hooks et al. (US 6,169,542 B1) discloses method of delivering advertising through an interactive video distribution system.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON P. HUYNH whose telephone number is (571)272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son P Huynh/ April 1, 2011
Primary Examiner, Art Unit 2424

Notice of References Cited	Application/Control No. 12/102,503	Applicant(s)/Patent Under Reexamination LEE ET AL.	
	Examiner SON P. HUYNH	Art Unit 2424	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,698,020	02-2004	Zigmond et al.	725/34
*	B	US-5,959,623	09-1999	van Hoff et al.	715/719
*	C	US-6,169,542	01-2001	Hooks et al.	715/719
*	D	US-2007/0226761	09-2007	Zalewski et al.	725/032
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	WO 98/53611	11-1998	PCT	Kate	H04N 7/173
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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(74) Agent: SCHMITZ, Herman, J., R.; Internationaal Octrooibureau B.V., P.O. Box 220, NL–5600 AE Eindhoven (NL).

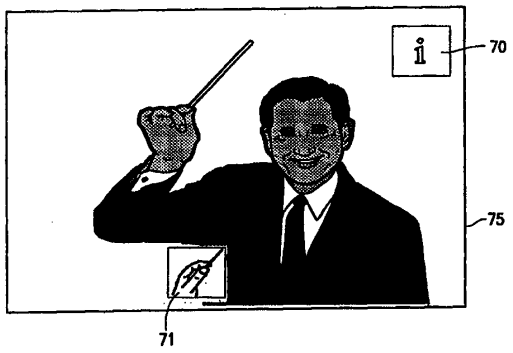
(81) Designated States: CA, CN, JP, KR, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

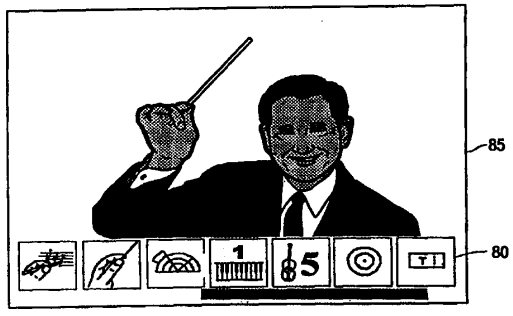
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Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: TRANSMISSION AND RECEPTION OF TELEVISION PROGRAMS

(57) Abstract

A television transmitter transmits addditional information in the form of Web pages along with the television signal. The transmission further includes triggers (71) for selectively invoking said Web pages in synchronism with the program. The triggers include (or refer to) a perceptible signal, e.g. a pictogram or an audible beep. In response to receiving a trigger, a receiver reproduces said perceptible signal without substantially disturbing the television screen. The user is thus timely alerted about additional information related to the television program when viewing it. Then, he may or may not invoke the relevant Web page at his own discretion. To inform the public in advance of the triggers that will be broadcast and to provide easy access to the Web pages at an earlier or later stage, the transmission further includes a table of contents (80) identifying the triggers that are being transmitted during the program. The table of contents itself may be invoked by a trigger (70).





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Transmission and reception of television programs

FIELD OF THE INVENTION

The invention relates to a method of transmitting and receiving television programs. The transmission includes additional information items related to said television programs and trigger data for selectively invoking said information items.

BACKGROUND OF THE INVENTION

A known method as defined in the opening paragraph is disclosed in "Intercast Brings the Web to TV", PC Magazine, January 21, 1997, pp. 203-204. This article describes a method of transmitting Web pages along with a standard television signal. The Web pages provide additional information on what is being broadcast at a particular time. They are downloaded and cached in a receiver's memory. The transmission also includes trigger data (hereinafter also denoted as "triggers") which cause cached pages to be pulled up for display. Said triggers allow the broadcaster to download the pages well in advance and display them at the right moment in the television program. For example, during a commercial for a product, a Web page is pulled up that provides more product information such as available sizes or colors.

The television program, a directory of Web pages, and a selected Web page are displayed in distinct windows of the receiver's display screen. If the television program were displayed in the full screen mode, the user would remain unaware of the Web page that is actually being pulled up. Furthermore, the window showing the directory of Web pages is created by the receiver and necessarily lists only the pages which have already been received.

OBJECT AND SUMMARY OF THE INVENTION

It is an object of the invention to further improve the prior-art system.

To this end, the method according to the invention is characterized in that the trigger data includes a reproducible signal for reproduction by the receiver. This allows the receiver to reproduce said signal upon reception of the trigger and thus to inform the public that additional information about a current event in the program is accessible, even if the television program is being viewed in the full screen mode. Thus the user may or may

not invoke the relevant Web page at his own discretion. The reproducible signal may be a displayable video sub-image, for example, a pictogram. It may also be an audible sound signal, for example, a beep.

An embodiment of the method further comprises the step of transmitting a table of contents identifying the trigger data transmitted during the program. It is thereby achieved that the viewer is informed in advance about the triggers he can expect during the program and to which additional information he will be alerted, even if the information items themselves have not yet been transmitted and received. The table of contents is accessible during the full length of the program. After a trigger has been passed, the viewer may (re)inspect the information still in the context of the television program. Access at a later stage may be along a different path than access during the alerting period in which the trigger is displayed. The table of contents is preferably repetitively transmitted throughout the program in order that it is also available for people who started to watch the program later.

Advantageously, the availability of the table of contents is also signalled to the user by the transmission of an appropriate trigger.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig.1 shows schematically a transmission system comprising a transmitter and a receiver in accordance with the invention.

Fig.2 shows the transmission format of additional information transmitted by the transmitter shown in Fig.1.

Fig.3 shows the transmission format of trigger data transmitted by the transmitter shown in Fig.1.

Fig.4 shows the transmission format of a table of contents transmitted by the transmitter shown in Fig.1.

Fig.5, composed of Figs. 5A and 5B, shows an example of data transmitted along with the television signal during a television program broadcast by the transmitter shown in Fig.1.

Fig.6 shows a flow chart of a program stored in and executed by a microprocessor in the receiver shown in Fig.1.

Fig.7 shows examples of a television screen illustrating the features of the invention.

DESCRIPTION OF EMBODIMENTS

Fig.1 shows schematically a transmission system in accordance with the invention. The system comprises a transmitter **1** and at least one receiver **2** connected together through a channel **3**. The channel **3** may be a broadcast channel, for example, a satellite connection, a terrestrial broadcast network or a cable. As the advantageous effects of the invention are also achieved when playing back a prerecorded program from a storage medium, the channel **3** may also be such a storage medium, for example, a magnetic tape or an optical disc on which the output signal of the transmitter has been recorded. Optionally, a second channel **4** (return channel or bi-directional channel) between the transmitter and the receiver is provided in the form of the Public Switched Telephone Network PSTN or Integrated Service Digital Network ISDN.

The transmitter **1** comprises a television signal source **10** which is shown in the Figure as a studio tape recorder playing back a prerecorded television program. The television signal TV from the source **10** is encoded by an MPEG encoder **11** into a digital MPEG television signal MP. The transmitter further comprises a first storage medium **12** and a second storage medium **13**. The first storage medium **12** stores a number of Web pages W with additional information related to the television program. The second storage medium **13** stores trigger data items T for invoking said Web pages and a table of contents TOC. In practice, both storage media **12** and **13** will be sections of a single hard disk unit. The triggers T and selected ones of the Web pages W are read from the respective storage media in synchronism with the television program under the control of synchronization signals S delivered by the signal source **10**. They are multiplexed with the digital television signal MP by means of a multiplexer **14** into an MPEG Transport Stream TS and transmitted to the receiver **2**. Optionally, the transmitter also comprises an Internet access terminal **15** which enables receivers to access the Web pages W stored in the first storage medium **12** through the Public Switched Telephone Network **4**.

The receiver **2** comprises a demultiplexer **20** which separates the encoded television signal MP from the triggers T, table of contents TOC, and Web pages W. The television signal MP is applied to an MPEG decoder **21** which decodes the audio component A for reproduction by a speaker **22** and the video component V for full-screen display on a display screen **23**. The triggers T, table of contents TOC, and Web pages W are applied to a microprocessor **24** which is arranged to store these types of data in a memory **25** for subsequent processing. The microprocessor is arranged to store selected information in a

predetermined display section of the memory **25**. The data in said display section is converted by a character generator **26** into a displayable graphics signal G which is applied to a combiner stage **27** for display on the screen **25**, solely or in combination with the video signal V. The microprocessor **24** is further connected to a (remote) control unit **28** and, optionally, a modem **29** for accessing the Internet.

Fig.2 shows the transmission format of Web pages W transmitted by the transmitter **1**. A type field **100** identifies the type of information which is the character "W" for Web pages in this example. An address field **101** defines an address (here a file name) by which the pages are retrieved from the broadcast signal and stored in the receiver's memory. Numeral **102** denotes the contents of the page made up in the popular HTML format (HyperText Mark-up Language).

Fig.3 shows the transmission format of the triggers T transmitted by the transmitter. For triggers, the type field **100** is the character "T". A display data field **103** defines (or refers to) a reproducible data signal such as a visual pictogram or an audible signal. The same field can also define how long the signal must be reproduced. A link field **104** defines the location where the Web page to which the trigger is linked can be found. For the purpose of disclosing this invention, the link field **104** has one of two formats. The format http://www.X/Y refers to Web page Y of content provider X on the Internet. The format dvb://X/Y refers to Web page Y which is transmitted along with the television signal transmitted by broadcast station X.

The operation of the system shown in Fig.1 will now be described with reference to an example. In this example, a classical concert is being broadcast. A plurality of Web pages with additional information related to the television program are transmitted during the broadcast for consultation by the user if he so wishes. Some of these pages are transmitted along with the television signal, others can only be accessed through the Internet. The following Web pages with additional information related to the concert are accessible in this example:

- information about the composer to whom the concert is dedicated,
- information about the conductor,
- information about each individual piece of music (Piano concert No.1 and Symphony No.5, respectively, in this example),
- the orchestral layout,
- an order form for purchasing a CD of the concert, and
- an order form for purchasing a ticket for a forthcoming concert.

The broadcaster informs the user about the availability of these Web pages by transmitting respective triggers at adequate points of time during the concert. Upon reception of a trigger, the receiver displays the pictogram or reproduces the audible signal which is defined in the trigger's display data field **103** (see Fig.3). The pictogram is displayed in the (full-screen) television image area. The user may then access the relevant Web pages by simply clicking the pictogram or pressing a dedicated button on the remote control unit. Three types of triggers can be identified:

- Static triggers relate to the television program as a whole.
- Dynamic triggers relate to a current event in the program.
- Living triggers are a combination of a static trigger and a dynamic link. The visualization of the trigger remains unchanged but the actual link field **104** adapts to the action in the program.

The triggers being transmitted and presented during the program are listed together in a table of contents. Fig.4 shows the transmission format of tables of contents. They are identified by the character "TOC" in their type field **100**. The type field is followed by a list of triggers, each comprising a display data field **103** and a link field **104**. In the TOC, the link field **104** may be empty, for example, if the relevant Web page has not yet been broadcast. Upon reception by the receiver, the TOC will be stored at a predetermined memory location, for example, under the reserved file name "toc". An address field similar to the address field **101** shown in Fig.2 can therefore be dispensed with.

In the example of the TOC shown in Fig.4, seven triggers **41-47** are listed which will be transmitted during the classical concert broadcast. Initially, i.e. at the beginning of the program when the TOC is transmitted prior to the transmission of any of the above-mentioned Web pages with program-related additional information, all of the respective link fields **104** refer to Web pages on the Internet. This allows the user to consult the relevant Web pages already at the beginning of the concert if he so wishes. However, as will be explained hereinafter, the TOC is regularly transmitted with updated link fields.

Fig.5 (which is composed of Figs. 5A and 5B) shows the actual data (tables of contents TOC, Web pages W, triggers T) that are transmitted along with the television signal during the classical concert broadcast. Numeral **51** denotes the first transmission of the table of contents. At this stage, all link fields in the TOC refer to Web pages on the Internet as shown in Fig.4. Numeral **52** denotes the transmission of a trigger T enabling the user to access the TOC which has just been received. The link field of this trigger is "toc" which is the reserved file name for the table of contents. The trigger **52** is an example of a static

trigger. The relevant pictogram remains displayed during the whole program, for example, in an upper corner of the television image. Alternatively, the TOC can be accessed by pressing a dedicated information button (**281** in Fig.1) on the remote control unit.

Numeral **53** denotes the transmission, at the beginning of the program (e.g. during announcements), of a Web page with background information about the composer to whom the concert is dedicated. The page is stored in the receiver under the file name "composer". Then, a trigger **54** is transmitted which causes the embedded pictogram to be inserted into the television image for a defined period of time. The user may click the pictogram and cause the composer Web page to be read from the memory and displayed on the screen.

Numeral **55** denotes the transmission of an updated version of the table of contents. The updated TOC differs from the first version in that the link field of the composer trigger (**41** in Fig.4) is changed from an Internet link (http://www.bbc/composer) to a link to the broadcast page (dvb://bbc1/composer). Accordingly, if the user accesses the composer page via the TOC at a later stage, the receiver will acquire the page from the local memory rather than from the Internet, as was the case at the very beginning of the program.

When the first notes of the first piece of music (Piano Concert No.1) are being broadcast, the transmitter transmits a Web page **56** with background information about this piece of music, which is followed by the transmission of a trigger **57**. As long as the relevant pictogram is displayed, the viewer can consult the respective page by simply clicking the pictogram. As is shown in the Figure, the page is stored under the file name "curpiece". Subsequently, the table of contents is updated by transmitting a new TOC **58** in which the link field **104** of trigger **44** (see Fig.4) has been changed from http://www.bbc/piano1 to dvb://bbc1/curpiece.

During the first piece of music, a Web page **59** showing a layout of the orchestra and a Web page **60** with background information about the conductor of the orchestra are transmitted and stored in the receiver. Their transmission is followed by an update **61** of the TOC in which the link field of layout trigger **43** (see Fig.4) has been changed from http://www.bbc/orchlayout to dvb://bbc1/orchlayout, and the link field of conductor trigger **42** (see Fig.4) has been changed from http://www.bbc/conductor to dvb://bbc1/conductor. The triggers T for invoking these Web pages by clicking the relevant pictogram are denoted **62** and **63** in the Figure. They are transmitted at appropriate moments during the program, i.e. during a close-up view of the conductor and a global view of the

orchestra, respectively. Note that the other information items such as the composer page can be accessed at any time via the table of contents. To this end, the user clicks the TOC pictogram or presses the information button and selects a desired pictogram from the table of contents which is displayed in response thereto.

Reference numeral **64** denotes the transmission of a Web page with information about the second piece of music (Symphony No.5). Numeral **65** denotes a trigger for invoking this page which is transmitted when this piece is being played. In this example, the Symphony No.5 page replaces the Piano Concert No.1 page because both pages have the same file name "curpiece". This is not essential but is shown to illustrate the flexibility of the invention. Although the trigger associated with the Piano Concert No.1 will no longer be transmitted, the information remains accessible to the user via the Internet. To this end, the link field of trigger **44** in the table of contents (see Fig.4) is restored to its original value http://www.bbc/piano1 in an updated version **66** of the TOC. While Symphony No.5 is being played, triggers **67** and **68** for invoking the conductor and orchestral layout pages are again transmitted during a close-up view of the conductor and a global view of the orchestra, respectively.

At the end of the program, announcements are made about the possibility to buy a CD of the concert and a ticket for the next concert in the concert hall. During these announcements, triggers **69** and **70** are transmitted. Clicking the corresponding pictogram causes the receiver to establish an Internet connection with a CD shop or the concert hall, respectively, allowing him to order the CD or ticket. Finally, a new TOC **71** is transmitted in which all link fields are given their initial value as shown in Fig.4. After the program has finished, the viewer is thus still kept informed about the program's additional information and he can still access the Web pages via the Internet.

Although the receiver **2** (see Fig.1) has already been described functionally in the above example, its operation will now be described in more detail. The operation of the receiver is determined by a program which is stored in, and executed by, the microprocessor **24**. Fig.6 shows a flow chart illustrating this program. References in this description which are made to various circuit elements of the receiver refer to the schematic diagram shown in Fig.1. In the flow chart, numeral **200** denotes a reset operation which is carried out when the receiver is tuned to a television program. In a step **201**, the microprocessor awaits reception of a data item (W, T, TOC) from the multiplexer **20** or reception of a control command (C)

from the remote control unit **28**. If a data item is received, the program proceeds with step **210**. If a control command is received, the program proceeds with step **220**.

In the step **210**, the microprocessor reads the type field of the received data item. If the type field is "W", the data item is a broadcast Web page. In a step **211**, said page is stored in the receiver's memory **25** under the file name which is included in the address field of the Web page. If the type field is "T", the data item is a trigger. In a step **212**, the microprocessor stores the pictogram embedded in the display data field in the display section of memory **25**. In response thereto, the character generator **26** displays the pictogram as an overlay over the television image. The link field of the trigger is also saved in memory. If the type field is "TOC", the data item is a table of contents. In a step **213**, said table is stored in memory **25** under the file name 'toc". After thus having processed a received data item, the program returns to the step **201** to await further events.

In the step **220**, the microprocessor investigates whether the received control command is a toggle command to switch the display of the table of contents on or off. The relevant command is issued by pressing a special i-button (**281** in Fig.1) of the remote control unit or pointing-and-clicking the i-pictogram in the upper right corner of the television screen. Then a step **221** is executed in which the table of contents is displayed or, if the TOC is already displayed, erased.

Other control commands are point-and-click operations for navigating through the information associated with the television program. In a step **222**, the link field associated with the pictogram being clicked is read. This applies to triggers that have just been received as well as triggers that are listed in the table of contents. In a step **223**, the microprocessor determines whether the link field is filled in and, if this is the case, whether it represents an Internet address (http://..) or a broadcast address (dvb://..). In the table of contents, link fields may initially be empty. In that case, the microprocessor generates an on-screen-display message informing the user that the selected information item will be transmitted and received later during the program. The user is thus informed about information still to come.

If the link field is an Internet address, a step **224** is carried out in which the microprocessor activates modem **29** for establishing an Internet connection with the relevant provider. If the receiver has no modem, the user may be informed that the desired information will possibly be transmitted and received later.

If the link field represents a broadcast address, the microprocessor checks in a step **225** whether a page with the associated file name is stored in the receiver's memory **25**. This will usually be the case, and the microprocessor will transfer the stored page to the display section in a step **226**. If the page is not locally available yet, a step **227** is performed in which the user is given an appropriate message that the page is being looked for in the received television signal. Optionally, the receiver may keep a copy of the initial version of the table of contents (see Fig.4) for offering the user an alternative location of the desired information. As an additional option, the transmitter may transmit for this purpose a special backup version of the table of contents in which all link fields refer to Internet Web pages only. Such an option is very useful for viewers who have tuned to the program at a later stage.

Fig.7 shows an example of television screens during the concert. In screen **75**, the conductor trigger has just been transmitted. The corresponding pictogram **71** is displayed, and the viewer can access more information about the conductor by clicking the pictogram. In the upper right corner, the i-pictogram **70** for accessing the table of contents is displayed. Screen **85** shows the result of pointing and clicking said i-pictogram. It causes the display data fields **80** of the triggers listed in the table of contents to be displayed.

In summary, a television transmitter transmits additional information in the form of Web pages along with the television signal. The transmission further includes triggers (71) for selectively invoking said Web pages in synchronism with the program. The triggers include (or refer to) a perceptible signal, e.g. a pictogram or an audible beep. In response to receiving a trigger, a receiver reproduces said perceptible signal without substantially disturbing the television screen. The user is thus timely alerted about additional information related to the television program when viewing it. Thus, he may or may not invoke the relevant Web page at his own discretion. To inform the public in advance of the triggers that will be broadcast and to provide easy access to the Web pages at an earlier or later stage, the transmission further includes a table of contents (80) identifying the triggers that are being transmitted during the program. The table of contents itself may be invoked by a trigger (70).

Claims

1. A method of transmitting television programs (TV) to at least one receiver, including the steps of transmitting additional information items (W) related to said television programs and trigger data (T) for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal (103) for reproduction by the receiver.

2. A method as claimed in claim 1, wherein the reproducible signal is a displayable video sub-image.

3. A method as claimed in claim 1, wherein the reproducible signal is an audible sound signal.

4. A method as claimed in claim 1, further comprising the step of transmitting a table of contents (TOC) identifying the trigger data being transmitted during the program.

5. A method as claimed in claim 4, wherein the table of contents is repetitively transmitted throughout the television program.

6. A method as claimed in claim 4, including the step of transmitting trigger data for invoking said table of contents.

7. A method of receiving television programs, comprising the steps of receiving and storing additional information items related to said television programs and receiving trigger data for selectively invoking said information items, characterized by reproducing a reproducible signal included in the trigger data upon reception of said trigger data and invoking said information item in response to a predetermined user-operable command.

8. A method as claimed in claim 7, wherein the reproducible signal is a displayable video sub-image, comprising the step of displaying said sub-image within the image area representing the television program.

9. A method as claimed in claim 7, comprising the step of receiving and storing a table of contents identifying the trigger data transmitted during the program, displaying said table of contents and invoking stored information items in response to selecting respective trigger data from said table of contents.

10. A transmitter for transmitting television sprogram to at least one receiver, comprising means for transmitting additional information items related to said television

programs and trigger data for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal for reproduction by the receiver.

11. A transmitter as claimed in claim 10, further comprising means for transmitting a table of contents identifying the trigger data transmitted during the program.

12. A receiver for receiving television programs, comprising means for receiving and storing additional information items related to said television programs and receiving trigger data for selectively invoking said information items, characterized by means for reproducing a reproducible signal included in the trigger data upon reception of said trigger data and invoking said information item in response to a predetermined user-operable command.

13. A receiver as claimed in claim 12, wherein the reproducible signal is a displayable video sub-image, comprising means for displaying said sub-image within the image area representing the television program.

14. A receiver as claimed in claim 12, comprising means for receiving and storing a table of contents identifying the trigger data transmitted during the program, displaying said table of contents and invoking stored information items in response to selecting respective trigger data from said table of contents.

15. A television signal including additional information items related to said television programs and trigger data for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal for reproduction by the receiver.

16. A signal as claimed in claim 15, further including a table of contents identifying the trigger data transmitted during the program.

17. A storage medium on which a television signal as claimed in claim 15 or 16 is stored.

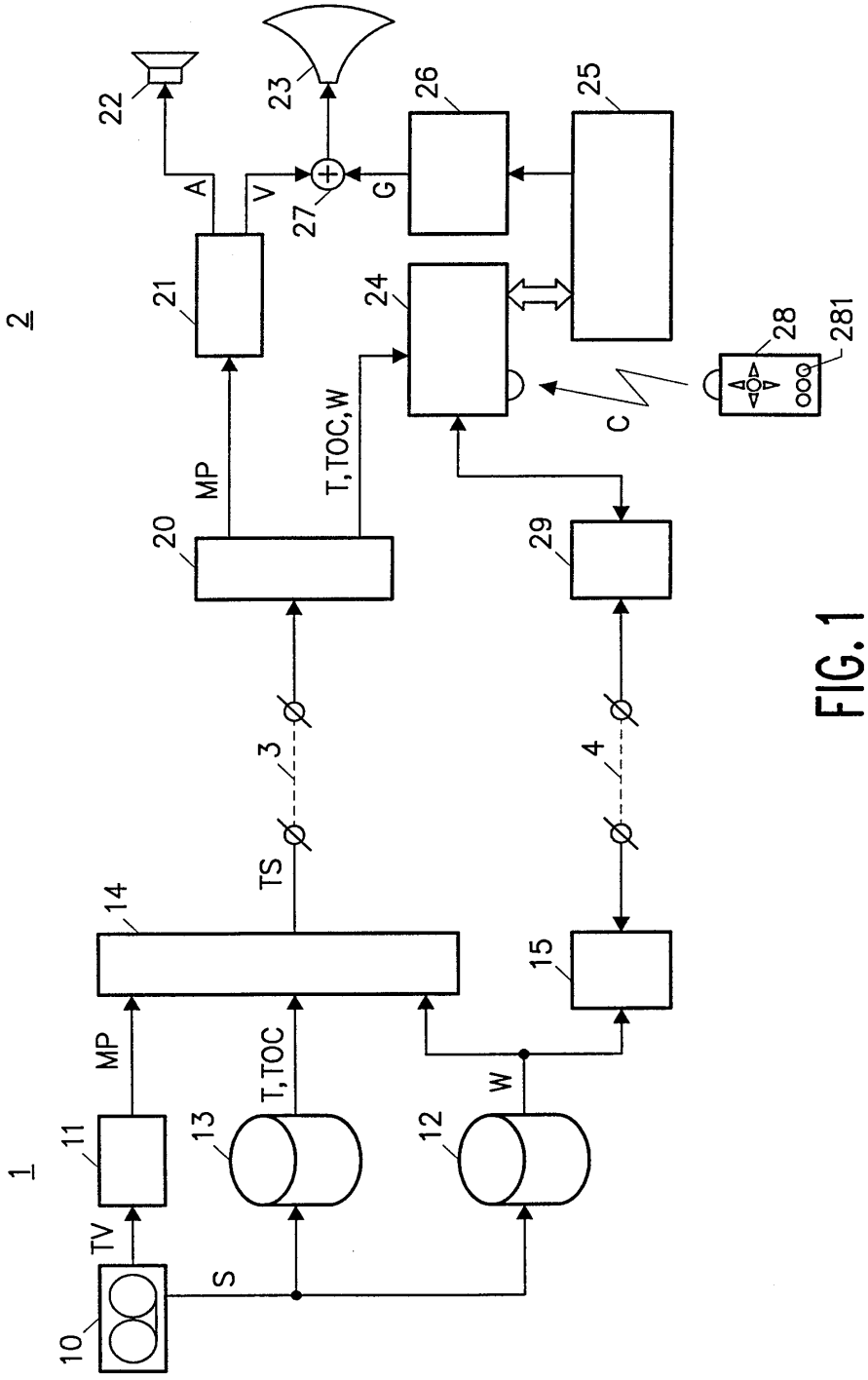

1
2
10
11
12
13
14
15
20
21
22
23
24
25
26
27
28
281
29
TV
MP
S
T,TOC
W
TS
3
4
A
V
G
T,TOC,W
C

FIG. 1

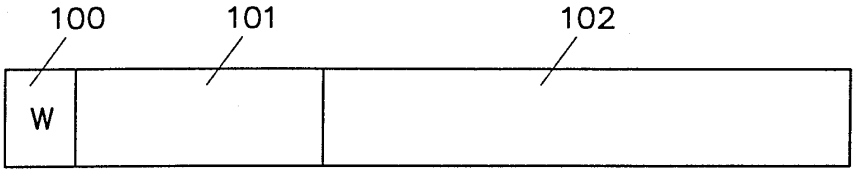


FIG. 2

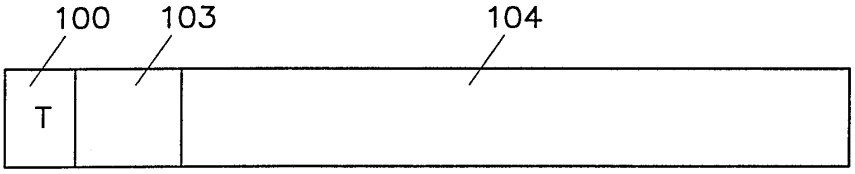


FIG. 3

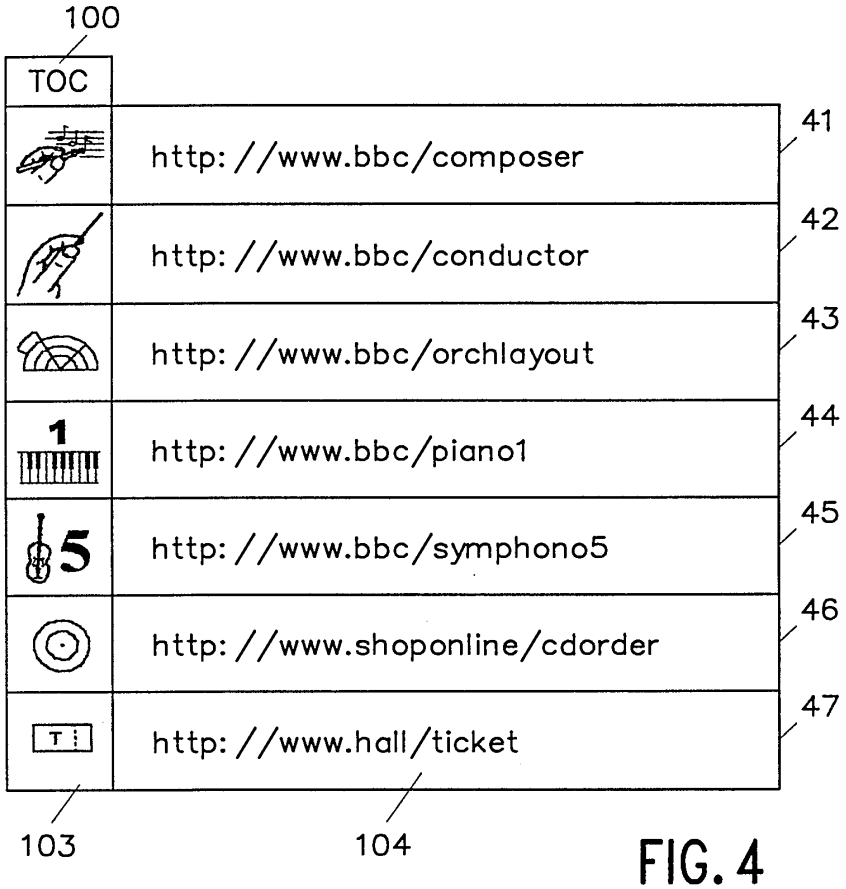


FIG. 4

3/6

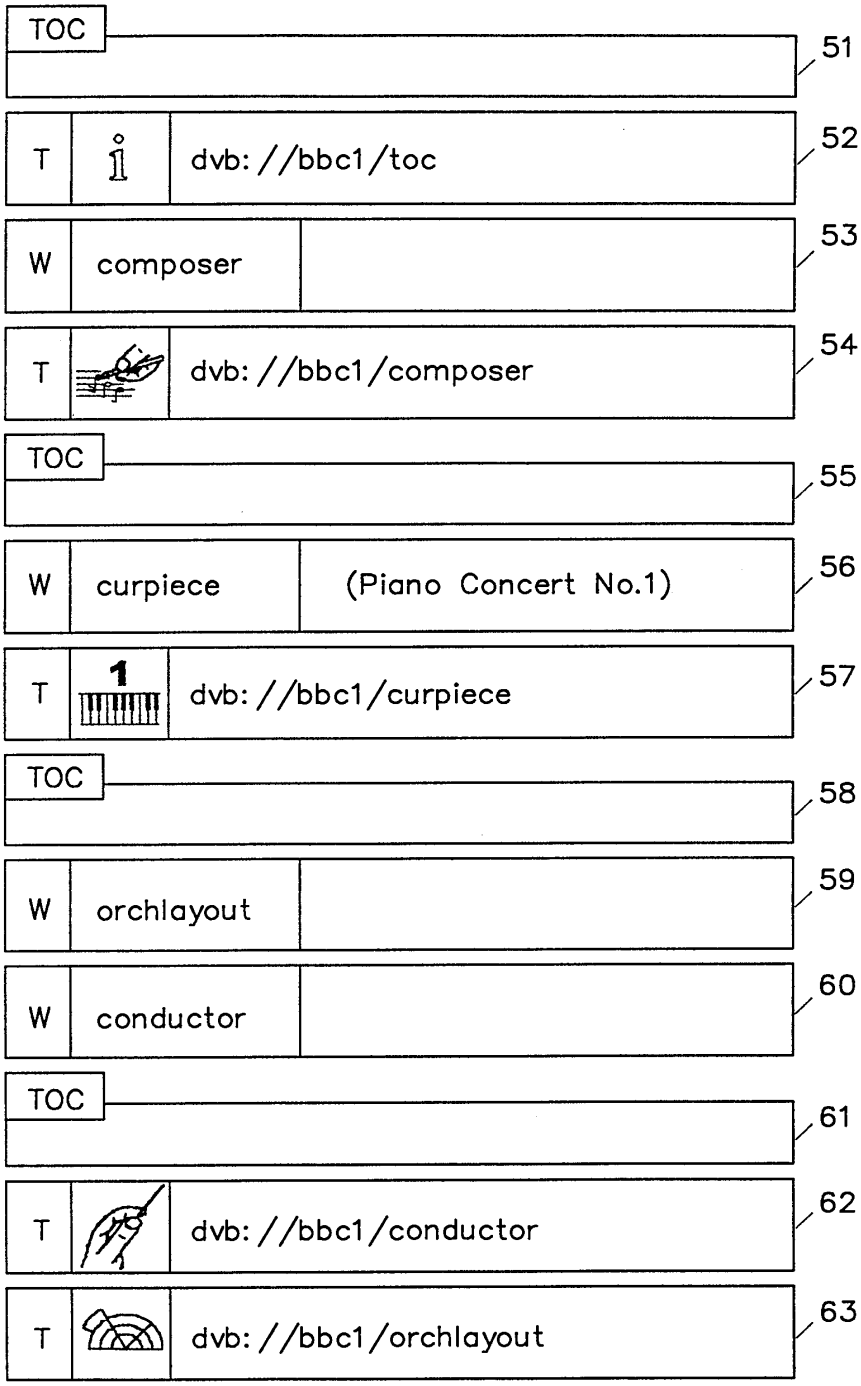

TOC
51
T
dvb: //bbc1/toc
52
W
composer
53
T
dvb: //bbc1/composer
54
TOC
55
W
curpiece
(Piano Concert No.1)
56
T
1
dvb: //bbc1/curpiece
57
TOC
58
W
orchlayout
59
W
conductor
60
TOC
61
T
dvb: //bbc1/conductor
62
T
dvb: //bbc1/orchlayout
63

FIG. 5A

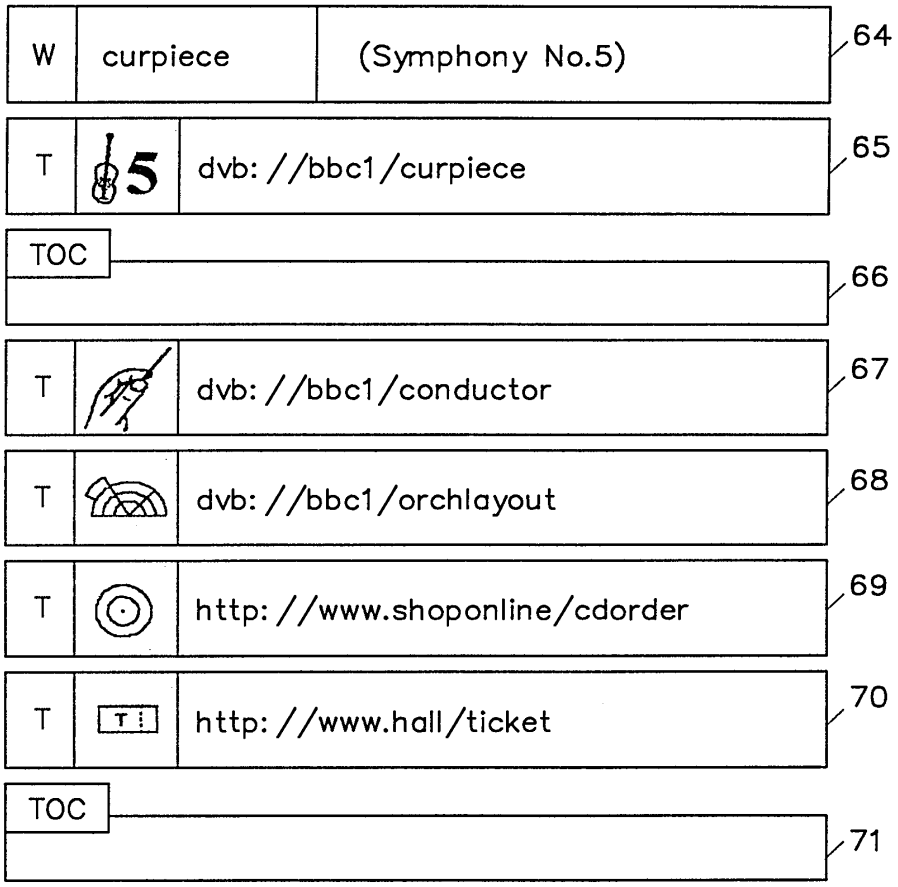

W
curpiece
(Symphony No.5)
64
T
dvb: //bbc1/curpiece
65
TOC
66
T
dvb: //bbc1/conductor
67
T
dvb: //bbc1/orchlayout
68
T
http: //www.shoponline/cdorder
69
T
http: //www.hall/ticket
70
TOC
71

FIG. 5B

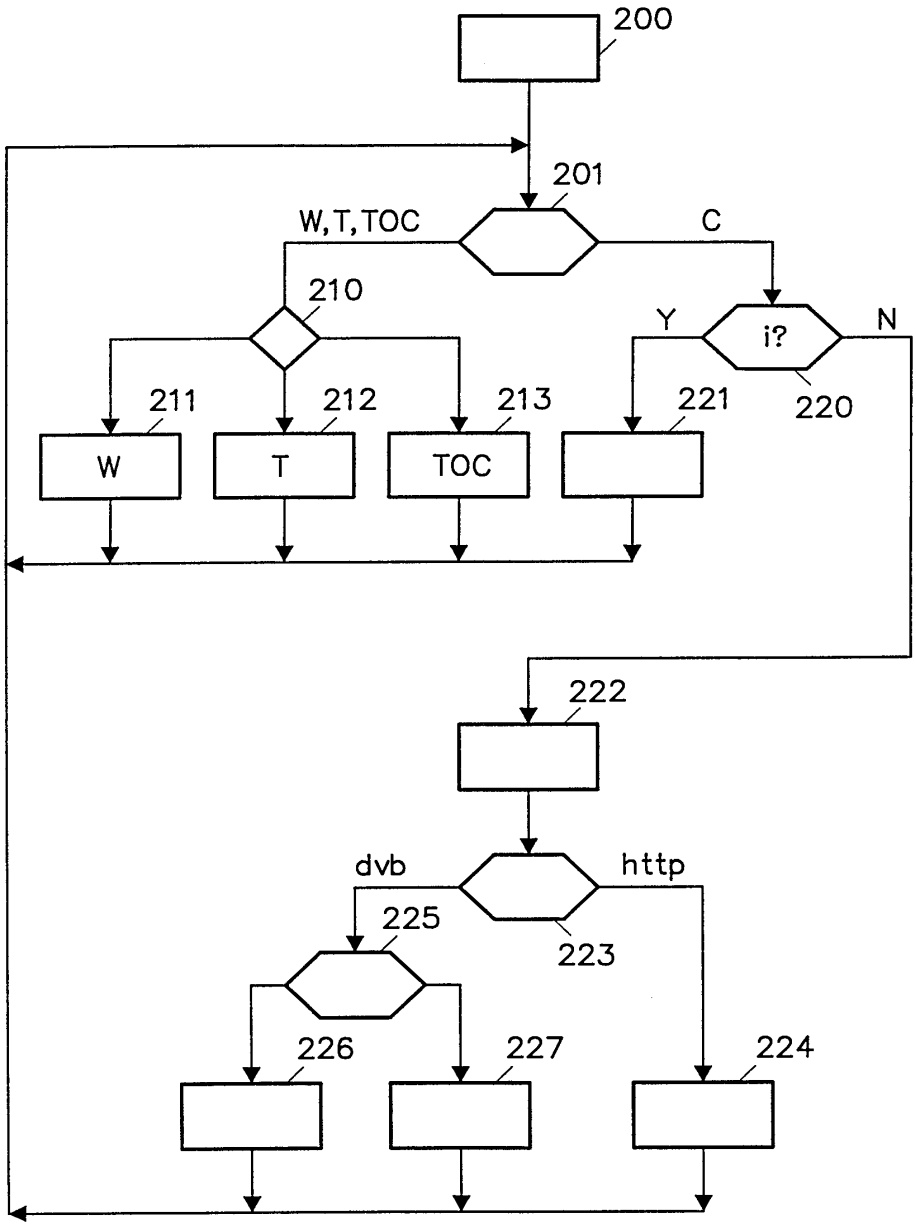
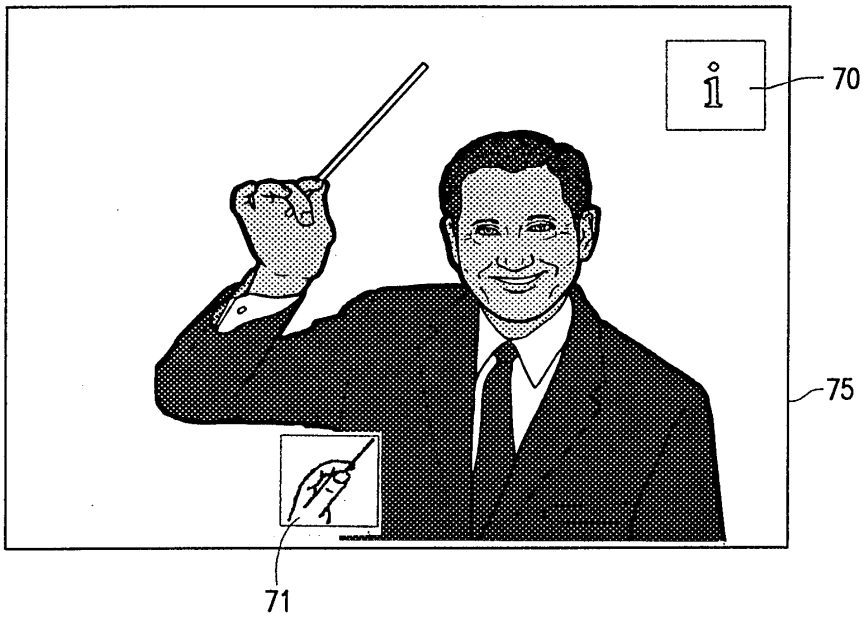

200
201
W,T,TOC
C
210
Y
i?
N
211
212
213
221
220
W
T
TOC
222
dvb
http
225
223
226
227
224

FIG. 6



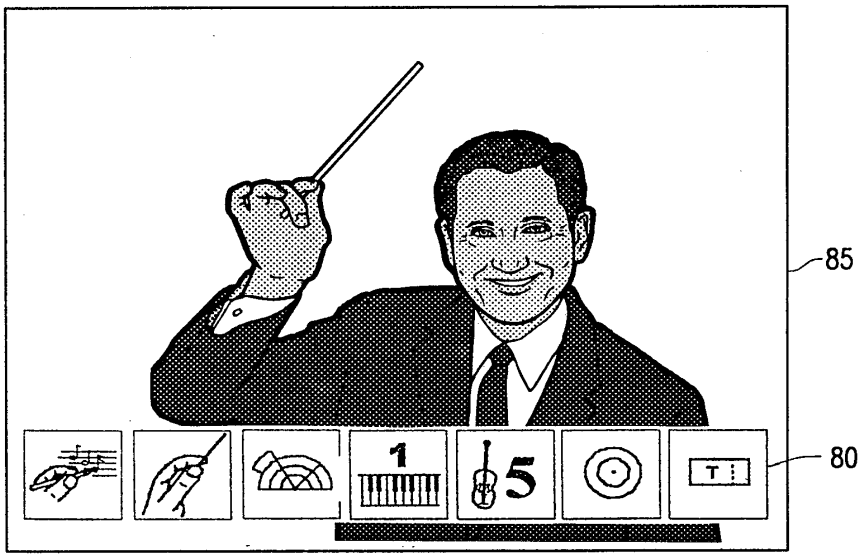


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 98/00580

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04N 7/173, H04N 5/445
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9641478 A1 (TV GUIDE ON SCREEN), 19 December 1996 (19.12.96), claims 1-5, abstract ---	1-17
A	US 4488179 A (H. ECKHARD KRÜGER ET AL), 11 December 1984 (11.12.84), abstract ---	1-17

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 April 1998	05 -10- 1998
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Rune Bengtsson Telephone No. +46 8 782 25 00

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

27/07/98

International application No.
PCT/IB 98/00580

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9641478 A1	19/12/96	AU 6258596 A	30/12/96
		EP 0856227 A	05/08/98
		PL 323914 A	27/04/98
		US 5589892 A	31/12/96
US 4488179 A	11/12/84	DE 3036552 A,C	13/05/82
		JP 1766313 C	11/06/93
		JP 4040912 B	06/07/92
		JP 57087682 A	01/06/82

Form PCT/ISA/210 (patent family annex) (July 1992)

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/27/2010	11/05/2010	04/01/2011						
	1	÷	N	N						
	2	÷	N	N						
	3	÷	N	N						
	4	÷	N	N						
	5	÷	N	N						
	6	÷	N	N						
	7	÷	N	N						
	8	÷	✓	✓						
	9	÷	✓	✓						
	10	÷	N	N						
	11	÷	N	N						
	12	÷	N	N						
	13	÷	N	N						
	14	÷	N	N						
	15	÷	N	N						
	16	÷	N	N						
	17	÷	N	N						
	18	÷	N	N						
	19	÷	N	N						
	20	÷	N	N						
	21	÷	N	N						

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

SEARCHED			
Class	Subclass	Date	Examiner
725	32,34-36,40-42	11/4/10	AH
	Updated search	4/1/11	AH

SEARCH NOTES		
Search Notes	Date	Examiner
Chris Grant and Chris Kelley (restriction)	9/27/10	AH
EAST text search enclosed	11/4/10	AH
EAST text search enclosed	4/1/11	AH

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

	/SON P HUYNH/ Primary Examiner.Art Unit 2424

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	9	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis$4)	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/01 01:35
L3	9	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/01 01:36
L4	3	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis$4) same (replac$4 substitu$6 select$3 fast skip$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/01 01:37
S1	13	son.xa. and huynh.xa. and kelley.xp.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 15:19
S7	75	(alert near3 information) and head near3 end and "set top" and phone	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 16:32
S8	49	(alert near3 information) and head near3 end and "set top" and phone and advertis$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 16:32
S9	47	("20010013125" | "20010034668" | "20020016965" | "20020056109" | "20020059590" | "20020104086" | "20020104090" | "20020104099" | "20020124252" | "20020194592" | "20020194593" | "20020194595" | "5410326" | "5504519" | "5523794" | "5561708" | "5661517" | "5663757" | "5745556" | "5764899" | "5819034" | "5864610" | "5864823" | "5884141" | "5918213" |	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 18:38

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		"5960411" | "6029045" | "6032130" | "6061719" | "6064420" | "6097441" | "6104334" | "6115057" | "6130726" | "6141006" | "6177931" | "6282713" | "6341352" | "6460020" | "6484011" | "6556975" | "6567984" | "6616533" | "6628729" | "6637032" | "6671716" | "6748481").PN.				
S10	3	Kate.in. and trigger and music	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 18:51
S11	4	Kate.in. and trigger and music	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:52
S12	20	Kate.in. and trigger and web	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:52
S13	1790	file with transfer$1 with channel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:53
S14	410	file with transfer$1 with channel same (determin$3 detect$4 locat$3 analyz$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:53
S15	60	file with transfer$1 with channel same (determin$3 detect$4 locat$3 analyz$4) and clip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:54
S16	30	file with transfer$1 with channel same (determin$3 detect$4 locat$3 analyz$4) and clip and advertis$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:54
S17	656	file with transfer$1 with channel same (stor$3 record$4 sav$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:59

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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S18	169	file with transfer$1 with channel same (stor$3 record$4 sav$3) same (select$3 determin $3 filter$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:00
S19	15	file with transfer$1 with channel same (stor$3 record$4 sav$3) same (select$3 determin $3 filter$3) and (advertis$6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:00
S20	0	file with transfer$1 with channel and "United video properties".as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S21	812	"United video properties".as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S22	49	"United video properties".as. and (file with transfer$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S23	22	"United video properties".as. and (file with transfer$4) and clip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S24	2	Sumaiya.xa. and delay$3 with (ad advertis$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:06
S25	27	ngoc.xp. and vu.xp. and "725"/ $.ccls. and advertisement	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:13
S26	14	("0537029" | "20020054017" | "20020056098" | "4855833" | "5559549" | "5926230" | "6147714" | "6163345" | "6236395" | "6388715" | "6405371" | "6421067" | "6425129").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:19

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S27	17	("4841291" | "5422986" | "5724521" | "5767857" | "5828839" | "5892691" | "5903816" | "5915243" | "5933150" | "5959623" | "5974398" | "5990927" | "6160570" | "6169542" | "6177931" | "6282713" | "6906732").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:20
S28	982	725/41-43.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:21
S29	661	725/41-43.ccls. and (ad advertis $6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S30	345	725/41-43.ccls. and (ad advertis $6) and file	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S31	51	725/41-43.ccls. and (ad advertis $6) and file and PIP	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S32	99	725/41-43.ccls. and (ad advertis $6) and file and ((picture near3 picture) PIP)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S33	39	725/41-43.ccls. and file and ((picture near3 picture) PIP) same (ad advertis$6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:23
S34	176	"725"/$.ccls. and file and ((picture near3 picture) PIP) same (ad advertis$6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:29
S35	137	S34 not S33	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:30
S36	97	S35 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:30
S37	29	son.xp. and huynh.xp. and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:51
S38	84	("20010014914" | "20020069113" | "4531021" | "4736422" | "4769818" | "5029207" | "5187787" | "5231631" | "5257369" | "5335277" | "5339392" | "5359367" | "5499243" | "5539743" | "5559808" | "5565909" | "5570126" | "5586186" | "5589892" | "5592552" | "5594509" | "5617565" | "5619250" | "5625692" | "5625864" | "5627829" | "5650831" | "5666293" | "5675390" | "5684807" | "5686954" | "5687331" | "5689081" | "5694163" | "5706048" | "5708845" | "5724424" |	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:52

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		"5727065" | "5727865" | "5751282" | "5761606" | "5774664" | "5774666" | "5778187" | "5799002" | "5801753" | "5809543" | "5818441" | "5818841" | "5818935" | "5835914" | "5838668" | "5854897" | "5859852" | "5878033" | "5884033" | "5889860" | "5929849" | "5940073" | "5978828" | "6006256" | "6029045" | "6049671" | "6064420" | "6091411" | "6108706" | "6141010" | "6177931" | "6205485" | "6209132" | "6216141" | "6233734" | "6240555" | "6263505" | "6298482" | "6421694" | "6427238" | "6438751" | "6502243" | "6536041" | "6604242" | "6637032" | "6763522" | "7079176").PN.				
S39	35	("20020028061" | "20020087402" | "20020144262" | "20020168009" | "20020176702" | "20030002672" | "20030037330" | "20030088872" | "20030152363" | "20030154128" | "20040034874" | "20040055088" | "20040096002" | "20040223612" | "20060061065" | "20070226761" | "6058240" | "6078328" | "6104441" | "6185340" | "6215526" | "6351439" | "6373534" | "6438168" | "6445738" | "6462744" | "6563936" | "6621866" | "6637032" | "6735253" | "6798893" | "6909837" | "7065250" | "7154560" | "7249367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:54
S40	4	son.xa. and huynh.xa. and ATVEF	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:57

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S41	20	("5559550" | "5937331" | "5971849" | "5991747" | "6025837" | "6108706" | "6177931" | "6205485" | "6240555" | "6281877" | "6338094" | "6356939" | "6442755" | "6502243" | "6571392" | "6608633" | "6637032" | "6785902" | "6795973" | "7069571").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:58
S42	1	flavin.in. and son.xa.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:02
S43	1	"6169542".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:03
S44	4	("5600364" | "5761648" | "5940073" | "5977962").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:03
S45	55	("6169542").URPN.	USPAT	OR	ON	2010/11/04 20:04
S46	68	shang.xa. or shang.xp. and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
S47	1	(shang.xa. or shang.xp.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
S48	24	(shang.xa. or shang.xp.) and advertis$6	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
S49	1	(shang.xa.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09
S50	0	(shang.xp.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09
S51	29	(shang.xp.)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09
S52	76	("20010049820" | "20020144262" | "20020176702" | "20030079226" | "20030154128" | "20040103429" | "4107734" | "4308554" | "4602279" | "4677466" | "4745468" | "4876592" | "4888638" | "4905080" | "4926255" | "4930158" | "5034807" | "5057915" | "5128752" | "5227874" | "5235643" | "5249044" | "5260778" | "5325183" | "5373440" | "5412416" | "5414773" | "5446919" | "5481294" | "5483276" | "5488423" | "5504519" | "5530469" | "5539822" | "5550681" | "5555308" | "5566353" | "5585858" | "5619250" | "5635978" | "5640192" | "5664948" | "5666645" |	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:10

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		"5715315" | "5737527" | "5759101" | "5760821" | "5761601" | "5761648" | "5774186" | "5819092" | "5855008" | "5911029" | "5937392" | "5946664" | "5970469" | "5978013" | "5999688" | "6018612" | "6057872" | "6064978" | "6070145" | "6075551" | "6075971" | "6119098" | "6141530" | "6160570" | "6172712" | "6208801" | "6285987" | "6373534" | "6377745" | "6490000" | "6588015" | "6681393" | "6698020").PN.				
S53	1	"20080320533".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:17
S54	157	watson.in. and encrypted	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:20
S55	36	watson.in. and encrypted with key	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:20
S56	20	watson.in. and encrypted with key and download$3	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:20
S57	46	watson.in. and encrypted with content	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:21
S58	33	watson.in. and encrypted with content and decrypt$3 with key	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:21
S59	20	Kate.in. and trigger and web	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/05 17:03
S60	2	"6510557".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:02
S61	1452	Daniels.in. and microsoft.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:05
S62	2	"6973669".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:06
S63	0	naval.in. and microsoft.as. and ticker	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:07

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S64	0	narval.in. and microsoft.as. and ticker	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:07
S65	0	son.xa. and huynh.xa. and ticker	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:07
S66	0	son.xa. and huynh.xa. and "sony.xa.s"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:08
S67	7	son.xa. and huynh.xa. and sony.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:08
S68	8	son.xa. and huynh.xa. and history	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/15 13:09
S69	23	("5036394" | "5557338" | "5589892" | "5686954" | "5699107" | "5731844" | "5734444" | "5751282" | "5808694" | "5867226" | "5903314" | "5907323" | "5909212" | "6005597" | "6008803" | "6025837" | "6177931" | "6247176" | "6298482" | "6344878" | "6349329" | "6369861" | "6483553").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/15 13:10
S70	28	("6349329").URPN.	USPAT	OR	ON	2010/11/15 13:13
S71	1	ngoc.xp. and ngo.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/30 21:49
S72	17	("4841291" | "5422986" | "5724521" | "5767857" | "5828839" | "5892691" | "5903816" | "5915243" | "5933150" | "5959623" | "5974398" | "5990927" | "6160570" | "6169542" | "6177931" | "6282713" | "6906732").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:49
S73	30	son.xp. and huynh.xp. and frame	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:51

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S74	47	son.xp. and huynh.xp.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:51
S75	35	("20020028061" | "20020087402" | "20020144262" | "20020168009" | "20020176702" | "20030002672" | "20030037330" | "20030088872" | "20030152363" | "20030154128" | "20040034874" | "20040055088" | "20040096002" | "20040223612" | "20060061065" | "20070226761" | "6058240" | "6078328" | "6104441" | "6185340" | "6215526" | "6351439" | "6373534" | "6438168" | "6445738" | "6462744" | "6563936" | "6621866" | "6637032" | "6735253" | "6798893" | "6909837" | "7065250" | "7154560" | "7249367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:53
S76	2	huy.xp. and nguyen.xp. and advertis$5 with storage	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:54
S77	4	zigmond.in. and hai.xa.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:55

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	1	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis $4)	USPAT; UPAD	OR	ON	2011/04/01 01:35

4/1/11 1:39:41 AM
C:\Documents and Settings\ahuynh1\My Documents\EAST\workspaces\12102503.wsp

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicant(s)	:	Jong Kerl LEE et al.	TC/A.U.	:	2424
Filed	:	April 14, 2008	Examiner	:	Son P. HUYNH
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Atty. Docket No.	:	0203-0023

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Box AF

RESPONSE

Sir:

In response to the Office Action dated April 8, 2011, Applicants request entry of the response in the above-identified application as follows:

A listing of the Claims is presented on page 2 of this paper for the Examiner's convenience. No amendments to the claims are made herein.

Remarks begin on page 7 of this paper.

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Listing of Claims:

1. (Withdrawn) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

wherein the examining of the file transfer channel comprises at least one of activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network and activating the broadcast receiving module at certain intervals.

2. (Withdrawn) The data reproducing method of claim 1, wherein the broadcasting network establishes channels according to a Digital Video Broadcast-Handheld (DVB-H) system, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

3. (Withdrawn) The data reproducing method of claim 1, wherein the data comprises at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

4. (Withdrawn) The data reproducing method of claim 1, wherein the receiving of the data comprises:

receiving update information of data; and

receiving data on the basis of the update information.

5. (Withdrawn) The data reproducing method of claim 4, wherein the update information comprises Electronic Service Guide (ESG) information.

6. (Withdrawn) The data reproducing method of claim 1, wherein the reproducing of the stored data comprises:

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displaying a list of stored data;

selecting desired data in the list; and

reproducing the selected data.

7. (Withdrawn) The data reproducing method of claim 1, further comprising:

issuing an alert indicating reception of the data.

8. (Previously Presented) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data when a currently displayed external broadcast signal is an advertisement,

wherein a list screen for selection of the stored data is displayed at a starting time of the advertisement, and wherein the reproducing of the stored data is according to a ranking order.

9. (Original) The data reproducing method of claim 8, wherein the reproducing of the data while displaying the advertisement is performed in a Picture In Picture (PIP) format by allocating a region on an advertisement image.

10. (Withdrawn) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

wherein the stored data is reproduced during channel switching in response to a request for channel switching when the request is generated during display of a broadcast.

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11. (Withdrawn) The data reproducing method of claim 10, wherein the reproducing of the stored data comprises at least one of stopping the reproducing of the reproduced data after completing the switching of the channel and reproducing the reproduced data in a PIP format on a broadcast image corresponding to the switched channel after completing the switching of the channel.

12. (Withdrawn) A data reproducing apparatus comprising:

a broadcast receiver for examining a file transfer channel of a broadcasting network and for receiving data transferred through the file transfer channel of the broadcasting network;

a memory for storing the received data;

a control unit for controlling the stored data to be displayed; and

a display unit for displaying data,

wherein the control unit comprises:

a broadcast receiving module for controlling setting of the frequency of the broadcast receiver and for transferring the received data to the memory;

a pop-up module for issuing an alert indicating reception of the data; and

a reproduction module for reproducing at least one of a broadcast signal received by the broadcast receiver and the received data.

13. (Withdrawn) The data reproducing apparatus of claim 12, further comprising:

a mobile communication unit for receiving a message including update information of data through a mobile communication network and for transferring the received message to the pop-up module.

14. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module activates the broadcast receiving module when a message including update information is received.

15. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module, upon reception of data from at least one of the broadcast receiving

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module and the mobile communication network, displays the data-related information on an idle screen.

16. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module comprises:

a dynamic graphic engine comprising a Scalable Vector Graphics (SVG)-Tiny supporting vector graphics, a rendering effect unit supporting a rendering effect on an image, and a Graphical User Interface (GUI) control unit;

a pop-up controller for controlling production and display of a pop-up window;

an alert unit for issuing an alert indicating an update of the data to the broadcast receiving module;

a bi-directional service unit supporting a link connected to a server providing the data; and

a broadcast receiving module adaptor for transmission and reception of a signal with the broadcast receiving module.

17. (Withdrawn) The data reproducing apparatus of claim 13, wherein the reproduction module reproduces the data by using at least one of:

a method of storing the received data and then directly reproducing the stored data according to selection of a menu and a list;

a method of reproducing the data in a Picture In Picture (PIP) format during an advertisement while displaying a broadcast; and

a method of reproducing the data during switching of the channel.

18. (Withdrawn) The data reproducing apparatus of claim 13, wherein the broadcast receiving module receives update information of data and controls the broadcast receiver to receive the data on the basis of the update information.

19. (Withdrawn) The data reproducing apparatus of claim 18, wherein the update information comprises electronic service guide (ESG) information.

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20. (Withdrawn) The data reproducing apparatus of claim 12, wherein the data includes at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

21. (Withdrawn) The data reproducing apparatus of claim 12, wherein the broadcasting network forms a channel according to a Digital Video Broadcasting-Handheld (DVB-H) method, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

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REMARKS

I. Status of Claims

In the present application, claims 1-21 are pending, claims 1, 8, 10, and 12 being independent. Claims 1-7 and 10-21 stand withdrawn. All claims find full support in the original specification, claims, and drawings. No new matter has been introduced.

Claims 8-9 stand rejected under 35 USC §103(a) over Plotnick, et al. (US Pat. App. Pub. 2002/0144262) in view of Ngo, et al. (US 7,134,132). Applicants respectfully traverse this rejection.

II. Rejection of Claims 8 and 9 Under 35 U.S.C. §103(a) over Plotnick and Ngo

Claims 8-9 stand rejected under 35 USC §103(a) over Plotnick and Ngo. Applicants respectfully traverse this rejection.

With respect to claim 8, Plotnick does not disclose, teach or suggest at least, "A data reproducing method comprising: examining a file transfer channel of a broadcasting network using a broadcast receiving module; receiving data transferred through the file transfer channel; storing the received data; and reproducing the stored data when a currently displayed external broadcast signal is an advertisement, wherein a list screen for selection of the stored data is displayed at a starting time of the advertisement, and wherein the reproducing of the stored data is according to a ranking order," as recited in the claims.

The Examiner alleges that Plotnick discloses, "*user selection of stored data, and wherein the reproducing of the stored data is according to a ranking order (e.g., user selection of alternative ads for displaying and the reproducing/playing back of stored data/stored alternative ads is according to ranking order in ad queue/or in a group based on market segment or user preferences - see include, but not limited to, figures 6B-6C; paragraphs 0130-0131, 034, 0142, 0144-0145, 0155-0156,0171, 0177, 0181-0186)*." Office Action, p. 3.

However, none of the cited figures or passages discloses or suggests a ranking order. Instead, Plotnick discloses that when multiple ads are determined to be

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appropriate for a viewer's demographic profile, they are stored in a queue. Plotnick also discloses that the ads may be determined according to various other context such as what ad the viewer is attempting to skip over, whether the viewer is fast forwarding or rewinding, etc. That is, Plotnick teaches various factors to determine which ads may be included among those to be viewed. However, in no case does Plotnick teach or suggest a ranking order. In no case does Plotnick teach or suggest any manipulation of the order of queue contents.

That is, where Plotnick teaches multiple ads in an ad queue for a viewer, in no case does Plotnick ever teach or suggest any ranking comparison of ads within an ad queue. Plotnick teaches only determining whether each alternate ad is included among those to be shown to a particular user.

"*FIG. 6B illustrates a single ad queue structure for multiple market segments/subscribers; FIG. 6C illustrates the user of multiple ad queues for multiple market segments/subscribers*." Plotnick, para. [0075]-[0076]. "*Stored ads and infomercials can be organized and presented by subject matter, and can be targeted to a household based on the preferences and demographics of the household*." Plotnick, para. [0130]. "*Ad queues form part of this ad management system and allow for the organization and presentation of different ads to different market segments and different subscribers*." Plotnick, para. [0134]. "*The targeted advertising features of the client side STB ad targeting system 600 permit the device to analyze viewer behavior (shows watched, channel surfing habits, commercial watching, etc.), infer viewer profiles (demographic, psychographic, and behavioral attributes), select and present advertisements based on user profiles derived from one or more of the following: a demographic data base, volunteered information, profiles, or an autonomous agent*." Plotnick, para. [0134]. "*The ad queue 650 is a data structure which provides organization to the ads that are to be played*." Plotnick, para. [0142]. "*FIG. 6C illustrates an alternate embodiment in which separate ad queues are utilized to store the names or addresses of the ads which are to be presented to the market segments or subscribers*." Plotnick, para. [0144]. "*The control data 1006 is processed 1010 to generate ad queue structures 1016 that are stored in an ad queue database 1018*." Plotnick, para. [0155]. "*The filtering 1008 determines whether an ad 1002 received from the downstream ad feed 1000 is appropriate for the household by comparing the target audience specified in the ad metadata 1006 with the viewer profiles from a*

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profile database 1046. Ads that are not appropriate for viewers in this household will be discarded." Plotnick, para. [0156]. "*According to one embodiment, the video stream 1210 may include multiple alternative advertisements 1240, and the PVR 1250 determines which alternative advertisement 1240 to display to the subscriber 1260 based on which subscriber 1260 (individual subscriber or group of subscribers) the PVR 1250 determines is interacting with (i.e., viewing) the video stream 1210. That is, the alternative advertisement 1240 is targeted to the subscriber 1260 (regardless of whether the advertisement 1230 was a default ad or was targeted).*" Plotnick, para. [0177]. "*The PVR 1250 determines which subscriber 1260 (individual or group) is viewing the video stream 1210 and displays the appropriate alternative advertisement 1240 (in place of or in conjunction with the fast forwarding advertisement 1230) when the subscriber 1260 fast forwards 1280 through the recorded advertisement 1230.*" Plotnick, para. [0181]. "*The alternative advertisement 1300 is created based on who the PVR 1250 determines is watching the video stream 1210 [and] applying the appropriate set of processing rules 1310.*" Plotnick, para. [0185].

In contrast, "Although the reproduction module 166 selects the video clip stored in the memory unit 170 according to a ranking order or arbitrarily to reproduce it in FIGs. 6 and 7, the present invention is not limited thereto." Specification, para. [0070]. "That is, the display unit can display a name of the service providing server providing the video clip and the characteristics of the video clip such as the ranking information and a category." Specification, para. [0073].

Therefore, Plotnick fails to disclose or suggest at least this feature of the claims.

Ngo fails to overcome the deficiencies of Plotnick, nor was Ngo so asserted by the Office with regard to the above discussed features.

Claim 9 depends from claim 8, inheriting all features and limitations thereof. Applicants submit that claim 9 is patentable for at least this reason, as well as for the additional subject matter it recites.

Therefore, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 8-9 over Plotnick in view of Ngo.

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III. Conclusion

In view of the above, it is believed that the above identified application is now in condition for allowance and notice to that effect is respectfully requested. The Director is hereby authorized to charge any underpayment of fees or credit any overpayments to Deposit Account No. 504100. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: June 2, 2011

/Donald A. DiPaula/
Donald A. DiPaula
Reg. No. 58,115
Representative for Applicant(s)

Jefferson IP Law, LLP
1130 Connecticut Ave., NW, Suite 420
Washington, D.C. 20036
Main: (202)-293-0804
Direct: (202)-293-1766

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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Electronic Acknowledgement Receipt	
EFS ID:	10215221
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	Donald Anthony Dipaula/Soo Oh
Filer Authorized By:	Donald Anthony Dipaula
Attorney Docket Number:	0203-0023
Receipt Date:	02-JUN-2011
Filing Date:	14-APR-2008
Time Stamp:	12:03:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		0203-0023ResponseAsFiled06-02-2011.pdf	128488 062130d3d57571b29d10b86c0aa425a90e2422af	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment After Final	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	10
Warnings:			
Information:			
	Total Files Size (in bytes):	128488	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,503	Filing Date 04/14/2008	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐ RATE ($)	SMALL ENTITY ☐ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
FOR	NUMBER FILED	NUMBER EXTRA					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	06/02/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 21	Minus	** 21	= 0	X $ =		OR	X $52=	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/STEFANIE BRYCE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 06/10/2011

Jefferson IP Law, LLP
1130 Connecticut Ave., NW
Suite 420
Washington, DC 20036

EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2424	

MAIL DATE	DELIVERY MODE
06/10/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 12/102,503	Applicant(s) LEE ET AL.	
	Examiner SON P. HUYNH	Art Unit 2424	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 02 June 2011 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *8 and 9*.
   Claim(s) withdrawn from consideration: *1-7 and 10-21*.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☒ Other: See Continuation Sheet.

/SON P. HUYNH/
Primary Examiner, Art Unit 2424

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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Continuation of 13. Other: Applicant argues Plotnick does not disclose ranking order or ranking comparison of ads within an ad queue. In contrast, the specification, par. 0070 and par. 0073, discloses "although the reproduction module 166 selects the video clip stored in the memory unit 170 according to a ranking order" and "...the characteristics of the video clip such as the ranking information and a category." (pages 8-9). This argument is respectfully traversed.
It is noted that the claim doe not recite "ranking comparison of ads within an ad queue". It is further noted that although claims are interpreted in light of the specification, limitations from the specification are not read into the claims. In re Van Geuns, 988 F.2d 1181, 1184 (Fed. Cir. 1993) or M.P.E.P 2106. or M.P.E.P 2106 II.C. In addition,as discussed during the telephone interview on June 7, 2011, Plotnick's disclosure is read on the claimed limitation "wherein the reproducing... is according to a ranking order." Particularly, Plotnick discloses the stored advertisements in queue are targeted/filtered or arranged/organized to be reproduced based on theme, products, income level, how many time users select the advertisement, etc. (see include, but not limited to, paragraphs 0130, 0134, 0142, 0144-0145, 0154-0156, 0160,0176, 0181, 0186, 0194). Since the advertisements are filtered or sorted based on particular rules, a comparison must be made in order to determine which one should be filtered out and which one should be kept. The targeted/filtered advertisements are sorted/organized in an order/queue. Therefore, Plotnick's disclosure of target/sorting/filtering advertisement and then organizing/arranging the stored targeted/filtered advertisements in an order based on theme, product, number of time users select program or putting the targeted/filtered advertisements in queue for reproducing is read on "reproducing... according a ranking order" recited in claim 8.
For the reasons given above, the rejection of claims 8-9 is sustained.

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Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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Please ENTER /Son Huynh/ (06/08/2011)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicant(s)	:	Jong Kerl LEE et al.	TC/A.U.	:	2424
Filed	:	April 14, 2008	Examiner	:	Son P. HUYNH
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Atty. Docket No.	:	0203-0023

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Box AF

RESPONSE

Sir:

In response to the Office Action dated April 8, 2011, Applicants request entry of the response in the above-identified application as follows:

A listing of the Claims is presented on page 2 of this paper for the Examiner's convenience. No amendments to the claims are made herein.

Remarks begin on page 7 of this paper.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 424 of 492

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 06/13/2011

Jefferson IP Law, LLP
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Suite 420
Washington, DC 20036

EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2424	

MAIL DATE	DELIVERY MODE
06/13/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	12/102,503	LEE ET AL.	
	Examiner	Art Unit	
	SON P. HUYNH	2424	

All participants (applicant, applicant's representative, PTO personnel):

(1) *SON P. HUYNH*. (3)_____.

(2) *Donald A. DiPaula (Reg. No. 58,115)*. (4)_____.

Date of Interview: *07 June 2011*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *claim 8*.

Identification of prior art discussed: *Plotnick et al. of record*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Discussed claim 8 in view of Plotnick and discussed possible amendments to the claim*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/SON P. HUYNH/ Primary Examiner, Art Unit 2424	

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	12102503	Filing Date	2008-04-14	Docket Number (if applicable)	0203-0023	Art Unit	2424
First Named Inventor	Jong Kerl LEE			Examiner Name	Son P. HUYNH		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 504100

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature
☐ Applicant Signature

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Signature of Registered U.S. Patent Practitioner			
Signature	/Donald A. DIPAULA/	Date (YYYY-MM-DD)	2011-07-08
Name	Donald A. DiPaula	Registration Number	58115

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	12/102,503	Confirmation No.	:	1303
Applicant(s)	:	Jong Kerl LEE et al.	TC/A.U.	:	2424
Filed	:	April 14, 2008	Examiner	:	Son P. HUYNH
Title	:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD	Atty. Docket No.	:	0203-0023

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Box AF

AMENDMENT WITH REQUEST FOR CONTINED EXAMINATION

Sir:

In response to the Office Action dated April 8, 2011, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

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Amendments to the Claims:

This listing of claims will replace all prior versions and listing of the claims in the application.

Listing of Claims:

1. (Withdrawn) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

wherein the examining of the file transfer channel comprises at least one of activating the broadcast receiving module when a message containing update information of data is received through a mobile communication network and activating the broadcast receiving module at certain intervals.

2. (Withdrawn) The data reproducing method of claim 1, wherein the broadcasting network establishes channels according to a Digital Video Broadcast-Handheld (DVB-H) system, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

3. (Withdrawn) The data reproducing method of claim 1, wherein the data comprises at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

4. (Withdrawn) The data reproducing method of claim 1, wherein the receiving of the data comprises:

receiving update information of data; and

receiving data on the basis of the update information.

5. (Withdrawn) The data reproducing method of claim 4, wherein the update information comprises Electronic Service Guide (ESG) information.

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6. (Withdrawn) The data reproducing method of claim 1, wherein the reproducing of the stored data comprises:

displaying a list of stored data;

selecting desired data in the list; and

reproducing the selected data.

7. (Withdrawn) The data reproducing method of claim 1, further comprising:

issuing an alert indicating reception of the data.

8. (Currently Amended) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data when a currently displayed external broadcast signal is an advertisement,

wherein a list screen for selection of the stored data is displayed at a starting time of the advertisement, and wherein the reproducing of the stored data is according to a ranking order comprising a display ordering of the data to be displayed in accordance with a characteristic of each data to be displayed, the characteristics comprising a vote or a number of times the data have been downloaded.

9. (Original) The data reproducing method of claim 8, wherein the reproducing of the data while displaying the advertisement is performed in a Picture In Picture (PIP) format by allocating a region on an advertisement image.

10. (Withdrawn) A data reproducing method comprising:

examining a file transfer channel of a broadcasting network using a broadcast receiving module;

receiving data transferred through the file transfer channel;

storing the received data; and

reproducing the stored data,

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wherein the stored data is reproduced during channel switching in response to a request for channel switching when the request is generated during display of a broadcast.

11. (Withdrawn) The data reproducing method of claim 10, wherein the reproducing of the stored data comprises at least one of stopping the reproducing of the reproduced data after completing the switching of the channel and reproducing the reproduced data in a PIP format on a broadcast image corresponding to the switched channel after completing the switching of the channel.

12. (Withdrawn) A data reproducing apparatus comprising:

a broadcast receiver for examining a file transfer channel of a broadcasting network and for receiving data transferred through the file transfer channel of the broadcasting network;

a memory for storing the received data;

a control unit for controlling the stored data to be displayed; and

a display unit for displaying data,

wherein the control unit comprises:

a broadcast receiving module for controlling setting of the frequency of the broadcast receiver and for transferring the received data to the memory;

a pop-up module for issuing an alert indicating reception of the data; and

a reproduction module for reproducing at least one of a broadcast signal received by the broadcast receiver and the received data.

13. (Withdrawn) The data reproducing apparatus of claim 12, further comprising:

a mobile communication unit for receiving a message including update information of data through a mobile communication network and for transferring the received message to the pop-up module.

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14. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module activates the broadcast receiving module when a message including update information is received.

15. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module, upon reception of data from at least one of the broadcast receiving module and the mobile communication network, displays the data-related information on an idle screen.

16. (Withdrawn) The data reproducing apparatus of claim 13, wherein the pop-up module comprises:

a dynamic graphic engine comprising a Scalable Vector Graphics (SVG)-Tiny supporting vector graphics, a rendering effect unit supporting a rendering effect on an image, and a Graphical User Interface (GUI) control unit;

a pop-up controller for controlling production and display of a pop-up window;

an alert unit for issuing an alert indicating an update of the data to the broadcast receiving module;

a bi-directional service unit supporting a link connected to a server providing the data; and

a broadcast receiving module adaptor for transmission and reception of a signal with the broadcast receiving module.

17. (Withdrawn) The data reproducing apparatus of claim 13, wherein the reproduction module reproduces the data by using at least one of:

a method of storing the received data and then directly reproducing the stored data according to selection of a menu and a list;

a method of reproducing the data in a Picture In Picture (PIP) format during an advertisement while displaying a broadcast; and

a method of reproducing the data during switching of the channel.

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18. (Withdrawn) The data reproducing apparatus of claim 13, wherein the broadcast receiving module receives update information of data and controls the broadcast receiver to receive the data on the basis of the update information.

19. (Withdrawn) The data reproducing apparatus of claim 18, wherein the update information comprises electronic service guide (ESG) information.

20. (Withdrawn) The data reproducing apparatus of claim 12, wherein the data includes at least one video clip, and further wherein the video clip contains at least one of ranking information and category information that are assigned according to a standard.

21. (Withdrawn) The data reproducing apparatus of claim 12, wherein the broadcasting network forms a channel according to a Digital Video Broadcasting-Handheld (DVB-H) method, and the file transfer channel uses a file delivery over unidirectional transport (FLUTE) protocol.

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REMARKS

I. Status of Claims

After the above amendments, claims 1-21 are pending, claims 1, 8, 10, and 12 being independent. Claims 1-7 and 10-21 stand withdrawn. By this amendment, claim 8 is amended. All claims find full support in the original specification, claims, and drawings. No new matter has been introduced.

Claims 8-9 stand rejected under 35 USC §103(a) over Plotnick, et al. (US Pat. App. Pub. 2002/0144262) in view of Ngo, et al. (US 7,134,132). Applicants respectfully traverse this rejection.

II. Examiner Interview

Applicants appreciate the courtesies extended to Applicants' representative Donald DiPaula in the telephone interview of June 7, 2011. The substance of that interview is incorporated into the following discussion.

III. Rejection of Claims 8 and 9 Under 35 U.S.C. §103(a) over Plotnick and Ngo

Claims 8-9 stand rejected under 35 USC §103(a) over Plotnick and Ngo. Applicants respectfully traverse this rejection.

With respect to claim 8, Plotnick does not disclose, teach or suggest at least, "A data reproducing method comprising: examining a file transfer channel of a broadcasting network using a broadcast receiving module; receiving data transferred through the file transfer channel; storing the received data; and reproducing the stored data when a currently displayed external broadcast signal is an advertisement, wherein a list screen for selection of the stored data is displayed at a starting time of the advertisement, and wherein the reproducing of the stored data is according to a ranking order comprising a display ordering of the data to be displayed in accordance with a characteristic of each data to be displayed, the characteristics comprising a vote or a number of times the data have been downloaded," as recited in the claims.

As discussed in the interview of June 7, the feature, "the reproducing of the stored data is according to a ranking order comprising a display ordering of the data to

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be displayed in accordance with a characteristic of each data to be displayed, the characteristics comprising a vote or a number of times the data have been downloaded," is neither disclosed nor suggested by Plotnick or Ngo.

The Examiner has referred to Eldering, et al. (US Pat. App. Pub. 2002/0178445) in the telephone interview, as suggested in Plotnick para. [0130]. The Examiner alleges that Eldering suggests adjusting an order of stored advertisements, according to various criteria, in para. [0095]-[0103].

However, Eldering fails to disclose or suggest wherein the reproducing of the stored data is according to a ranking order comprising a display ordering of the data to be displayed in accordance with a characteristic of each data to be displayed, the characteristics comprising a vote or a number of times the data have been downloaded, as recited in the claims.

Therefore, Plotnick, Ngo, and Eldering fail to disclose or suggest at least this feature of the claims.

Claim 9 depends from claim 8, inheriting all features and limitations thereof. Applicants submit that claim 9 is patentable for at least this reason, as well as for the additional subject matter it recites.

Therefore, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claims 8-9.

IV. Conclusion

In view of the above, it is believed that the above identified application is now in condition for allowance and notice to that effect is respectfully requested. The Director is hereby authorized to charge any underpayment of fees or credit any overpayments to Deposit Account No. 504100. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: July 8, 2011

/Donald A. DiPaula/
Donald A. DiPaula
Reg. No. 58,115
Representative for Applicant(s)

VB Assets Exhibit No. 2005
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Jefferson IP Law, LLP
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Electronic Patent Application Fee Transmittal	
Application Number:	12102503
Filing Date:	14-Apr-2008
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Filer:	Donald Anthony Dipaula/Soo Oh
Attorney Docket Number:	0203-0023
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	1801	1	810	810
		Total in USD ($)		**810**

Electronic Acknowledgement Receipt	
EFS ID:	10479306
Application Number:	12102503
International Application Number:	
Confirmation Number:	1303
Title of Invention:	DATA REPRODUCING APPARATUS AND DATA REPRODUCING METHOD
First Named Inventor/Applicant Name:	Jong Kerl LEE
Customer Number:	68103
Filer:	Donald Anthony Dipaula/Soo Oh
Filer Authorized By:	Donald Anthony Dipaula
Attorney Docket Number:	0203-0023
Receipt Date:	08-JUL-2011
Filing Date:	14-APR-2008
Time Stamp:	14:33:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$810
RAM confirmation Number	10417
Deposit Account	504100
Authorized User	SHIN,MAENG-HO
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	0203-0023RCETransmittalAsFiled.pdf	697789 57864132d645e7ddbd78366cfed975d71075bb0c	no	3
Warnings:					
Information:					
2		0203-0023AmendmentAsFiled 07-08-2011.pdf	99055 9f449e44fdf10cdf25dce96a82463790a09014af	yes	9

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment Submitted/Entered with Filing of CPA/RCE	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	9

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30230 02be263b371396ad22ff2ea5e63f6333f1778077	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	827074		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

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PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 12/102,503	Filing Date 04/14/2008	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	07/08/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 21	Minus	** 21	= 0	X $ =		OR	X $52=	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/JEFFERY L. OLSEN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 07/20/2011

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1130 Connecticut Ave., NW
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EXAMINER	
HUYNH, SON P	

ART UNIT	PAPER NUMBER
2424	

MAIL DATE	DELIVERY MODE
07/20/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/102,503	LEE ET AL.	
	Examiner	Art Unit	
	SON P. HUYNH	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *1-7 and 10-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/8/2011 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 8-9 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-7, 10-21 have been withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eldering et al. (US 2003/0149975 A1) in view of Ngo et al. (US 7,134,132).

Note that documents incorporated by references in Eldering in their entireties (Eldering: par. 0001-0048), including Plotnick of record (US 2002/0144262 A1 -docket No. T738-10) are treated as part of the specification of Plotnick.

Regarding claim 8, Eldering discloses a data reproducing method comprising:

examining a file transfer channel of a broadcast network using a broadcast receiving module (e.g., examining or checking channel of a broadcasting network using receiving interface and/or tuner for files such as alternative ad file, ad file, control file, etc. – see include, but not limited to, figures 5-8, 10, paragraphs 0074-76, 0101, 0111-0112, 0119; Plotnick: figures 10, 12a-14b, paragraphs 0125, 0107, 0116, **0154-0160,** 0176, 0179, 0181);

receiving data transferred through the file transfer channel (e.g., receiving alternative ad and/or other data through the channel that carries alternative ad file, control file, etc.- see include, but not limited to, figures 5-8, 10, paragraphs 0074-76, 0101, 0111-0112, 0119; Plotnick: figures 10, 12a-14b, paragraphs 0125, 0107, 0116, **0154-0160,** 0176, 0179, 0181);

storing the received data (storing alternative ad and other data – see include, but not limited to, paragraphs 0106, 0111-0112, 0122, 0138, 0153, 0158; Plotnick: paragraphs 0125, 0154-0156, 0172, **0181-**0183, 0186**, 0196);**

reproducing the stored data when a currently displayed external broadcast signal is an advertisement (e.g., reproducing/playing back the stored alternative ads when a currently displayed external broadcast signal is an advertisement in trick play mode/skipped – see include, but not limited to, paragraphs 0100, 0101, 0111-0112, 0140, 0150, 0156, 0158-0159, 0162, 0166; Plotnick: figures 12a-14a, 17, paragraphs 181, 186, 196),

Plotnick further discloses user selection of stored data, and wherein the reproducing of the stored data is according to a ranking order comprising a display ordering of the data to be displayed in according with a characteristic of each data to be displayed, the characteristics comprising a vote or a number of times the data have been downloaded (e.g., user selection of alternative ads/stored advertisements for displaying and the reproducing/playing back of stored data/stored alternative ads is according to ranking order in ad queue or in playlist and/or in ranking order comprising a display ordering of the data to be displayed in according with a characteristic of each data to be displayed comprising a vote (e.g., user request) or a number of times the data have been downloaded, selected, and/or viewed – see include, but not limited to, figures 5-10, paragraphs 0052, 0055, 0057, 0111-0112, 0114, 0119, 0122, 0124, 0126, 0128, 0134, 0138, 0140, 0143, 0148, 0150, 0156, 0158, 0162-0163, 0166; Plotnick:

figures 6B-6C; paragraphs 0130-0131, 0134, 0142, 0144-0145, 0155-0156,0171, 0177, 0181-0186).

Plotnick further discloses the user control the selection of trick play mode (e.g., change channel, fast forward, etc. – see include, but not limited to, paragraphs 0062, 0171). It would have been obvious to one of ordinary skill in the art to perform trick play mode/make a selection to display stored data (alternative ads) at a start time of the advertisement (being skipped) in order to maximize time for displaying stored data.

Plotnick is does not explicitly disclose a list screen for selection of the stored data is displayed.

Ngo discloses a list screen for selection of stored data is displayed (figure 9, col. 7, lines 33-40). Ngo also discloses user make selection to display other advertisements when an advertisement is displayed (see include, but not limited to, 24-40). It would have been obvious to one of ordinary skill in the art that a list screen is displayed at a starting time of the advertisement at starting time of the advertisement (for example, at the starting time of first advertisement, the user selects to display a menu for selection between additional variants to the advertisement) in order to maximize time for displaying stored data.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Plotnick with the teaching for displaying a list screen for selection of stored data as taught by Ngo in order to yield predictable results such as allowing viewer to control selection of advertisements in the form that interest to the viewer (col. 1, lines 52-62).

Regarding claim 9, Plotnick in view of Ngo further discloses the reproducing of the data while displaying the advertisement is performed in a Picture in Picture (PIP) format by allocating a region on an advertisement image (see include, but not limited to, Plotnick: figure 17, paragraphs 0221-0227).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Alexander et al. (US 6,177,930) discloses utilization of viewer profile information (includes number of time advertisement have been selected/viewed) to provide customized presentation of advertising to the viewer (col. 29, lines 31-55, col. 32, line 22-col. 34, line 55).

Thomas et al. (US 2005/0149964 A1) discloses program guide system with monitoring of advertisement usage user activities and displaying most popular programs/advertisements.

Mai et al. (US 2002/0049635) discloses multiple advertising.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON P. HUYNH whose telephone number is (571)272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PANKAJ KUMAR can be reached on 571-272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SON P. HUYNH/ July 13, 2011
Primary Examiner, Art Unit 2424

Notice of References Cited	Application/Control No. 12/102,503	Applicant(s)/Patent Under Reexamination LEE ET AL.	
	Examiner SON P. HUYNH	Art Unit 2424	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0034874	02-2004	Hord et al.	725/136
*	B	US-2005/0149964	07-2005	Thomas et al.	725/009
*	C	US-2003/0149975	08-2003	Eldering et al.	725/34
*	D	US-2002/0148445	10-2002	Doane et al.	123/458
*	E	US-2002/0049635	04-2002	Mai et al.	705/14
*	F	US-7,908,171	03-2011	Fukuda et al.	705/14.52
*	G	US-7,818,176	10-2010	Freeman et al.	704/270
*	H	US-2007/0016469	01-2007	Bae et al.	705/014
*	I	US-2004/0249709	12-2004	Donovan et al.	705/014
*	J	US-6,463,585	10-2002	Hendricks et al.	725/35
*	K	US-2007/0100956	05-2007	Kumar, Gopesh	709/217
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	WO 98/53611	11-1998	PCT	Kate	H04N 7/173
	O					
	P					
	Q					
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	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
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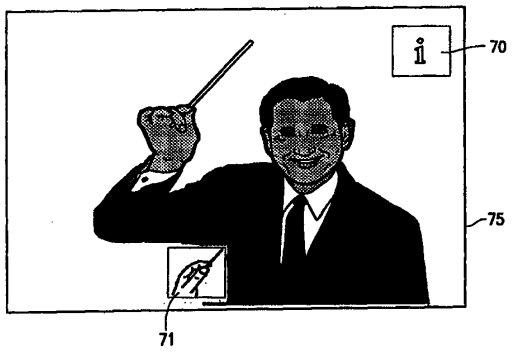
(81) Designated States: CA, CN, JP, KR, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

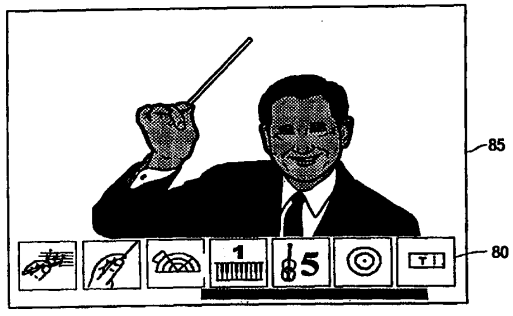
Published
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(54) Title: TRANSMISSION AND RECEPTION OF TELEVISION PROGRAMS

(57) Abstract

A television transmitter transmits addditional information in the form of Web pages along with the television signal. The transmission further includes triggers (71) for selectively invoking said Web pages in synchronism with the program. The triggers include (or refer to) a perceptible signal, e.g. a pictogram or an audible beep. In response to receiving a trigger, a receiver reproduces said perceptible signal without substantially disturbing the television screen. The user is thus timely alerted about additional information related to the television program when viewing it. Then, he may or may not invoke the relevant Web page at his own discretion. To inform the public in advance of the triggers that will be broadcast and to provide easy access to the Web pages at an earlier or later stage, the transmission further includes a table of contents (80) identifying the triggers that are being transmitted during the program. The table of contents itself may be invoked by a trigger (70).





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Transmission and reception of television programs

FIELD OF THE INVENTION

The invention relates to a method of transmitting and receiving television programs. The transmission includes additional information items related to said television programs and trigger data for selectively invoking said information items.

BACKGROUND OF THE INVENTION

A known method as defined in the opening paragraph is disclosed in "Intercast Brings the Web to TV", PC Magazine, January 21, 1997, pp. 203-204. This article describes a method of transmitting Web pages along with a standard television signal. The Web pages provide additional information on what is being broadcast at a particular time. They are downloaded and cached in a receiver's memory. The transmission also includes trigger data (hereinafter also denoted as "triggers") which cause cached pages to be pulled up for display. Said triggers allow the broadcaster to download the pages well in advance and display them at the right moment in the television program. For example, during a commercial for a product, a Web page is pulled up that provides more product information such as available sizes or colors.

The television program, a directory of Web pages, and a selected Web page are displayed in distinct windows of the receiver's display screen. If the television program were displayed in the full screen mode, the user would remain unaware of the Web page that is actually being pulled up. Furthermore, the window showing the directory of Web pages is created by the receiver and necessarily lists only the pages which have already been received.

OBJECT AND SUMMARY OF THE INVENTION

It is an object of the invention to further improve the prior-art system.

To this end, the method according to the invention is characterized in that the trigger data includes a reproducible signal for reproduction by the receiver. This allows the receiver to reproduce said signal upon reception of the trigger and thus to inform the public that additional information about a current event in the program is accessible, even if the television program is being viewed in the full screen mode. Thus the user may or may

not invoke the relevant Web page at his own discretion. The reproducible signal may be a displayable video sub-image, for example, a pictogram. It may also be an audible sound signal, for example, a beep.

An embodiment of the method further comprises the step of transmitting a table of contents identifying the trigger data transmitted during the program. It is thereby achieved that the viewer is informed in advance about the triggers he can expect during the program and to which additional information he will be alerted, even if the information items themselves have not yet been transmitted and received. The table of contents is accessible during the full length of the program. After a trigger has been passed, the viewer may (re)inspect the information still in the context of the television program. Access at a later stage may be along a different path than access during the alerting period in which the trigger is displayed. The table of contents is preferably repetitively transmitted throughout the program in order that it is also available for people who started to watch the program later.

Advantageously, the availability of the table of contents is also signalled to the user by the transmission of an appropriate trigger.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig.1 shows schematically a transmission system comprising a transmitter and a receiver in accordance with the invention.

Fig.2 shows the transmission format of additional information transmitted by the transmitter shown in Fig.1.

Fig.3 shows the transmission format of trigger data transmitted by the transmitter shown in Fig.1.

Fig.4 shows the transmission format of a table of contents transmitted by the transmitter shown in Fig.1.

Fig.5, composed of Figs. 5A and 5B, shows an example of data transmitted along with the television signal during a television program broadcast by the transmitter shown in Fig.1.

Fig.6 shows a flow chart of a program stored in and executed by a microprocessor in the receiver shown in Fig.1.

Fig.7 shows examples of a television screen illustrating the features of the invention.

DESCRIPTION OF EMBODIMENTS

Fig.1 shows schematically a transmission system in accordance with the invention. The system comprises a transmitter **1** and at least one receiver **2** connected together through a channel **3**. The channel **3** may be a broadcast channel, for example, a satellite connection, a terrestrial broadcast network or a cable. As the advantageous effects of the invention are also achieved when playing back a prerecorded program from a storage medium, the channel **3** may also be such a storage medium, for example, a magnetic tape or an optical disc on which the output signal of the transmitter has been recorded. Optionally, a second channel **4** (return channel or bi-directional channel) between the transmitter and the receiver is provided in the form of the Public Switched Telephone Network PSTN or Integrated Service Digital Network ISDN.

The transmitter **1** comprises a television signal source **10** which is shown in the Figure as a studio tape recorder playing back a prerecorded television program. The television signal TV from the source **10** is encoded by an MPEG encoder **11** into a digital MPEG television signal MP. The transmitter further comprises a first storage medium **12** and a second storage medium **13**. The first storage medium **12** stores a number of Web pages W with additional information related to the television program. The second storage medium **13** stores trigger data items T for invoking said Web pages and a table of contents TOC. In practice, both storage media **12** and **13** will be sections of a single hard disk unit. The triggers T and selected ones of the Web pages W are read from the respective storage media in synchronism with the television program under the control of synchronization signals S delivered by the signal source **10**. They are multiplexed with the digital television signal MP by means of a multiplexer **14** into an MPEG Transport Stream TS and transmitted to the receiver **2**. Optionally, the transmitter also comprises an Internet access terminal **15** which enables receivers to access the Web pages W stored in the first storage medium **12** through the Public Switched Telephone Network **4**.

The receiver **2** comprises a demultiplexer **20** which separates the encoded television signal MP from the triggers T, table of contents TOC, and Web pages W. The television signal MP is applied to an MPEG decoder **21** which decodes the audio component A for reproduction by a speaker **22** and the video component V for full-screen display on a display screen **23**. The triggers T, table of contents TOC, and Web pages W are applied to a microprocessor **24** which is arranged to store these types of data in a memory **25** for subsequent processing. The microprocessor is arranged to store selected information in a

predetermined display section of the memory **25**. The data in said display section is converted by a character generator **26** into a displayable graphics signal G which is applied to a combiner stage **27** for display on the screen **25**, solely or in combination with the video signal V. The microprocessor **24** is further connected to a (remote) control unit **28** and, optionally, a modem **29** for accessing the Internet.

Fig.2 shows the transmission format of Web pages W transmitted by the transmitter **1**. A type field **100** identifies the type of information which is the character "W" for Web pages in this example. An address field **101** defines an address (here a file name) by which the pages are retrieved from the broadcast signal and stored in the receiver's memory. Numeral **102** denotes the contents of the page made up in the popular HTML format (HyperText Mark-up Language).

Fig.3 shows the transmission format of the triggers T transmitted by the transmitter. For triggers, the type field **100** is the character "T". A display data field **103** defines (or refers to) a reproducible data signal such as a visual pictogram or an audible signal. The same field can also define how long the signal must be reproduced. A link field **104** defines the location where the Web page to which the trigger is linked can be found. For the purpose of disclosing this invention, the link field **104** has one of two formats. The format http://www.X/Y refers to Web page Y of content provider X on the Internet. The format dvb://X/Y refers to Web page Y which is transmitted along with the television signal transmitted by broadcast station X.

The operation of the system shown in Fig.1 will now be described with reference to an example. In this example, a classical concert is being broadcast. A plurality of Web pages with additional information related to the television program are transmitted during the broadcast for consultation by the user if he so wishes. Some of these pages are transmitted along with the television signal, others can only be accessed through the Internet. The following Web pages with additional information related to the concert are accessible in this example:

- information about the composer to whom the concert is dedicated,
- information about the conductor,
- information about each individual piece of music (Piano concert No.1 and Symphony No.5, respectively, in this example),
- the orchestral layout,
- an order form for purchasing a CD of the concert, and
- an order form for purchasing a ticket for a forthcoming concert.

The broadcaster informs the user about the availability of these Web pages by transmitting respective triggers at adequate points of time during the concert. Upon reception of a trigger, the receiver displays the pictogram or reproduces the audible signal which is defined in the trigger's display data field **103** (see Fig.3). The pictogram is displayed in the (full-screen) television image area. The user may then access the relevant Web pages by simply clicking the pictogram or pressing a dedicated button on the remote control unit. Three types of triggers can be identified:

- Static triggers relate to the television program as a whole.
- Dynamic triggers relate to a current event in the program.
- Living triggers are a combination of a static trigger and a dynamic link. The visualization of the trigger remains unchanged but the actual link field **104** adapts to the action in the program.

The triggers being transmitted and presented during the program are listed together in a table of contents. Fig.4 shows the transmission format of tables of contents. They are identified by the character "TOC" in their type field **100**. The type field is followed by a list of triggers, each comprising a display data field **103** and a link field **104**. In the TOC, the link field **104** may be empty, for example, if the relevant Web page has not yet been broadcast. Upon reception by the receiver, the TOC will be stored at a predetermined memory location, for example, under the reserved file name "toc". An address field similar to the address field **101** shown in Fig.2 can therefore be dispensed with.

In the example of the TOC shown in Fig.4, seven triggers **41-47** are listed which will be transmitted during the classical concert broadcast. Initially, i.e. at the beginning of the program when the TOC is transmitted prior to the transmission of any of the above-mentioned Web pages with program-related additional information, all of the respective link fields **104** refer to Web pages on the Internet. This allows the user to consult the relevant Web pages already at the beginning of the concert if he so wishes. However, as will be explained hereinafter, the TOC is regularly transmitted with updated link fields.

Fig.5 (which is composed of Figs. 5A and 5B) shows the actual data (tables of contents TOC, Web pages W, triggers T) that are transmitted along with the television signal during the classical concert broadcast. Numeral **51** denotes the first transmission of the table of contents. At this stage, all link fields in the TOC refer to Web pages on the Internet as shown in Fig.4. Numeral **52** denotes the transmission of a trigger T enabling the user to access the TOC which has just been received. The link field of this trigger is "toc" which is the reserved file name for the table of contents. The trigger **52** is an example of a static

trigger. The relevant pictogram remains displayed during the whole program, for example, in an upper corner of the television image. Alternatively, the TOC can be accessed by pressing a dedicated information button (**281** in Fig.1) on the remote control unit.

Numeral **53** denotes the transmission, at the beginning of the program (e.g. during announcements), of a Web page with background information about the composer to whom the concert is dedicated. The page is stored in the receiver under the file name "composer". Then, a trigger **54** is transmitted which causes the embedded pictogram to be inserted into the television image for a defined period of time. The user may click the pictogram and cause the composer Web page to be read from the memory and displayed on the screen.

Numeral **55** denotes the transmission of an updated version of the table of contents. The updated TOC differs from the first version in that the link field of the composer trigger (**41** in Fig.4) is changed from an Internet link (http://www.bbc/composer) to a link to the broadcast page (dvb://bbc1/composer). Accordingly, if the user accesses the composer page via the TOC at a later stage, the receiver will acquire the page from the local memory rather than from the Internet, as was the case at the very beginning of the program.

When the first notes of the first piece of music (Piano Concert No.1) are being broadcast, the transmitter transmits a Web page **56** with background information about this piece of music, which is followed by the transmission of a trigger **57**. As long as the relevant pictogram is displayed, the viewer can consult the respective page by simply clicking the pictogram. As is shown in the Figure, the page is stored under the file name "curpiece". Subsequently, the table of contents is updated by transmitting a new TOC **58** in which the link field **104** of trigger **44** (see Fig.4) has been changed from http://www.bbc/piano1 to dvb://bbc1/curpiece.

During the first piece of music, a Web page **59** showing a layout of the orchestra and a Web page **60** with background information about the conductor of the orchestra are transmitted and stored in the receiver. Their transmission is followed by an update **61** of the TOC in which the link field of layout trigger **43** (see Fig.4) has been changed from http://www.bbc/orchlayout to dvb://bbc1/orchlayout, and the link field of conductor trigger **42** (see Fig.4) has been changed from http://www.bbc/conductor to dvb://bbc1/conductor. The triggers T for invoking these Web pages by clicking the relevant pictogram are denoted **62** and **63** in the Figure. They are transmitted at appropriate moments during the program, i.e. during a close-up view of the conductor and a global view of the

orchestra, respectively. Note that the other information items such as the composer page can be accessed at any time via the table of contents. To this end, the user clicks the TOC pictogram or presses the information button and selects a desired pictogram from the table of contents which is displayed in response thereto.

Reference numeral **64** denotes the transmission of a Web page with information about the second piece of music (Symphony No.5). Numeral **65** denotes a trigger for invoking this page which is transmitted when this piece is being played. In this example, the Symphony No.5 page replaces the Piano Concert No.1 page because both pages have the same file name "curpiece". This is not essential but is shown to illustrate the flexibility of the invention. Although the trigger associated with the Piano Concert No.1 will no longer be transmitted, the information remains accessible to the user via the Internet. To this end, the link field of trigger **44** in the table of contents (see Fig.4) is restored to its original value http://www.bbc/piano1 in an updated version **66** of the TOC. While Symphony No.5 is being played, triggers **67** and **68** for invoking the conductor and orchestral layout pages are again transmitted during a close-up view of the conductor and a global view of the orchestra, respectively.

At the end of the program, announcements are made about the possibility to buy a CD of the concert and a ticket for the next concert in the concert hall. During these announcements, triggers **69** and **70** are transmitted. Clicking the corresponding pictogram causes the receiver to establish an Internet connection with a CD shop or the concert hall, respectively, allowing him to order the CD or ticket. Finally, a new TOC **71** is transmitted in which all link fields are given their initial value as shown in Fig.4. After the program has finished, the viewer is thus still kept informed about the program's additional information and he can still access the Web pages via the Internet.

Although the receiver **2** (see Fig.1) has already been described functionally in the above example, its operation will now be described in more detail. The operation of the receiver is determined by a program which is stored in, and executed by, the microprocessor **24**. Fig.6 shows a flow chart illustrating this program. References in this description which are made to various circuit elements of the receiver refer to the schematic diagram shown in Fig.1. In the flow chart, numeral **200** denotes a reset operation which is carried out when the receiver is tuned to a television program. In a step **201**, the microprocessor awaits reception of a data item (W, T, TOC) from the multiplexer **20** or reception of a control command (C)

from the remote control unit **28**. If a data item is received, the program proceeds with step **210**. If a control command is received, the program proceeds with step **220**.

In the step **210**, the microprocessor reads the type field of the received data item. If the type field is "W", the data item is a broadcast Web page. In a step **211**, said page is stored in the receiver's memory **25** under the file name which is included in the address field of the Web page. If the type field is "T", the data item is a trigger. In a step **212**, the microprocessor stores the pictogram embedded in the display data field in the display section of memory **25**. In response thereto, the character generator **26** displays the pictogram as an overlay over the television image. The link field of the trigger is also saved in memory. If the type field is "TOC", the data item is a table of contents. In a step **213**, said table is stored in memory **25** under the file name 'toc". After thus having processed a received data item, the program returns to the step **201** to await further events.

In the step **220**, the microprocessor investigates whether the received control command is a toggle command to switch the display of the table of contents on or off. The relevant command is issued by pressing a special i-button (**281** in Fig.1) of the remote control unit or pointing-and-clicking the i-pictogram in the upper right corner of the television screen. Then a step **221** is executed in which the table of contents is displayed or, if the TOC is already displayed, erased.

Other control commands are point-and-click operations for navigating through the information associated with the television program. In a step **222**, the link field associated with the pictogram being clicked is read. This applies to triggers that have just been received as well as triggers that are listed in the table of contents. In a step **223**, the microprocessor determines whether the link field is filled in and, if this is the case, whether it represents an Internet address (http://..) or a broadcast address (dvb://..). In the table of contents, link fields may initially be empty. In that case, the microprocessor generates an on-screen-display message informing the user that the selected information item will be transmitted and received later during the program. The user is thus informed about information still to come.

If the link field is an Internet address, a step **224** is carried out in which the microprocessor activates modem **29** for establishing an Internet connection with the relevant provider. If the receiver has no modem, the user may be informed that the desired information will possibly be transmitted and received later.

If the link field represents a broadcast address, the microprocessor checks in a step **225** whether a page with the associated file name is stored in the receiver's memory **25**. This will usually be the case, and the microprocessor will transfer the stored page to the display section in a step **226**. If the page is not locally available yet, a step **227** is performed in which the user is given an appropriate message that the page is being looked for in the received television signal. Optionally, the receiver may keep a copy of the initial version of the table of contents (see Fig.4) for offering the user an alternative location of the desired information. As an additional option, the transmitter may transmit for this purpose a special backup version of the table of contents in which all link fields refer to Internet Web pages only. Such an option is very useful for viewers who have tuned to the program at a later stage.

Fig.7 shows an example of television screens during the concert. In screen **75**, the conductor trigger has just been transmitted. The corresponding pictogram **71** is displayed, and the viewer can access more information about the conductor by clicking the pictogram. In the upper right corner, the i-pictogram **70** for accessing the table of contents is displayed. Screen **85** shows the result of pointing and clicking said i-pictogram. It causes the display data fields **80** of the triggers listed in the table of contents to be displayed.

In summary, a television transmitter transmits additional information in the form of Web pages along with the television signal. The transmission further includes triggers (71) for selectively invoking said Web pages in synchronism with the program. The triggers include (or refer to) a perceptible signal, e.g. a pictogram or an audible beep. In response to receiving a trigger, a receiver reproduces said perceptible signal without substantially disturbing the television screen. The user is thus timely alerted about additional information related to the television program when viewing it. Thus, he may or may not invoke the relevant Web page at his own discretion. To inform the public in advance of the triggers that will be broadcast and to provide easy access to the Web pages at an earlier or later stage, the transmission further includes a table of contents (80) identifying the triggers that are being transmitted during the program. The table of contents itself may be invoked by a trigger (70).

Claims

1. A method of transmitting television programs (TV) to at least one receiver, including the steps of transmitting additional information items (W) related to said television programs and trigger data (T) for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal (103) for reproduction by the receiver.

2. A method as claimed in claim 1, wherein the reproducible signal is a displayable video sub-image.

3. A method as claimed in claim 1, wherein the reproducible signal is an audible sound signal.

4. A method as claimed in claim 1, further comprising the step of transmitting a table of contents (TOC) identifying the trigger data being transmitted during the program.

5. A method as claimed in claim 4, wherein the table of contents is repetitively transmitted throughout the television program.

6. A method as claimed in claim 4, including the step of transmitting trigger data for invoking said table of contents.

7. A method of receiving television programs, comprising the steps of receiving and storing additional information items related to said television programs and receiving trigger data for selectively invoking said information items, characterized by reproducing a reproducible signal included in the trigger data upon reception of said trigger data and invoking said information item in response to a predetermined user-operable command.

8. A method as claimed in claim 7, wherein the reproducible signal is a displayable video sub-image, comprising the step of displaying said sub-image within the image area representing the television program.

9. A method as claimed in claim 7, comprising the step of receiving and storing a table of contents identifying the trigger data transmitted during the program, displaying said table of contents and invoking stored information items in response to selecting respective trigger data from said table of contents.

10. A transmitter for transmitting television sprogram to at least one receiver, comprising means for transmitting additional information items related to said television

programs and trigger data for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal for reproduction by the receiver.

11. A transmitter as claimed in claim 10, further comprising means for transmitting a table of contents identifying the trigger data transmitted during the program.

12. A receiver for receiving television programs, comprising means for receiving and storing additional information items related to said television programs and receiving trigger data for selectively invoking said information items, characterized by means for reproducing a reproducible signal included in the trigger data upon reception of said trigger data and invoking said information item in response to a predetermined user-operable command.

13. A receiver as claimed in claim 12, wherein the reproducible signal is a displayable video sub-image, comprising means for displaying said sub-image within the image area representing the television program.

14. A receiver as claimed in claim 12, comprising means for receiving and storing a table of contents identifying the trigger data transmitted during the program, displaying said table of contents and invoking stored information items in response to selecting respective trigger data from said table of contents.

15. A television signal including additional information items related to said television programs and trigger data for selectively invoking said information items, characterized in that the trigger data includes a reproducible signal for reproduction by the receiver.

16. A signal as claimed in claim 15, further including a table of contents identifying the trigger data transmitted during the program.

17. A storage medium on which a television signal as claimed in claim 15 or 16 is stored.

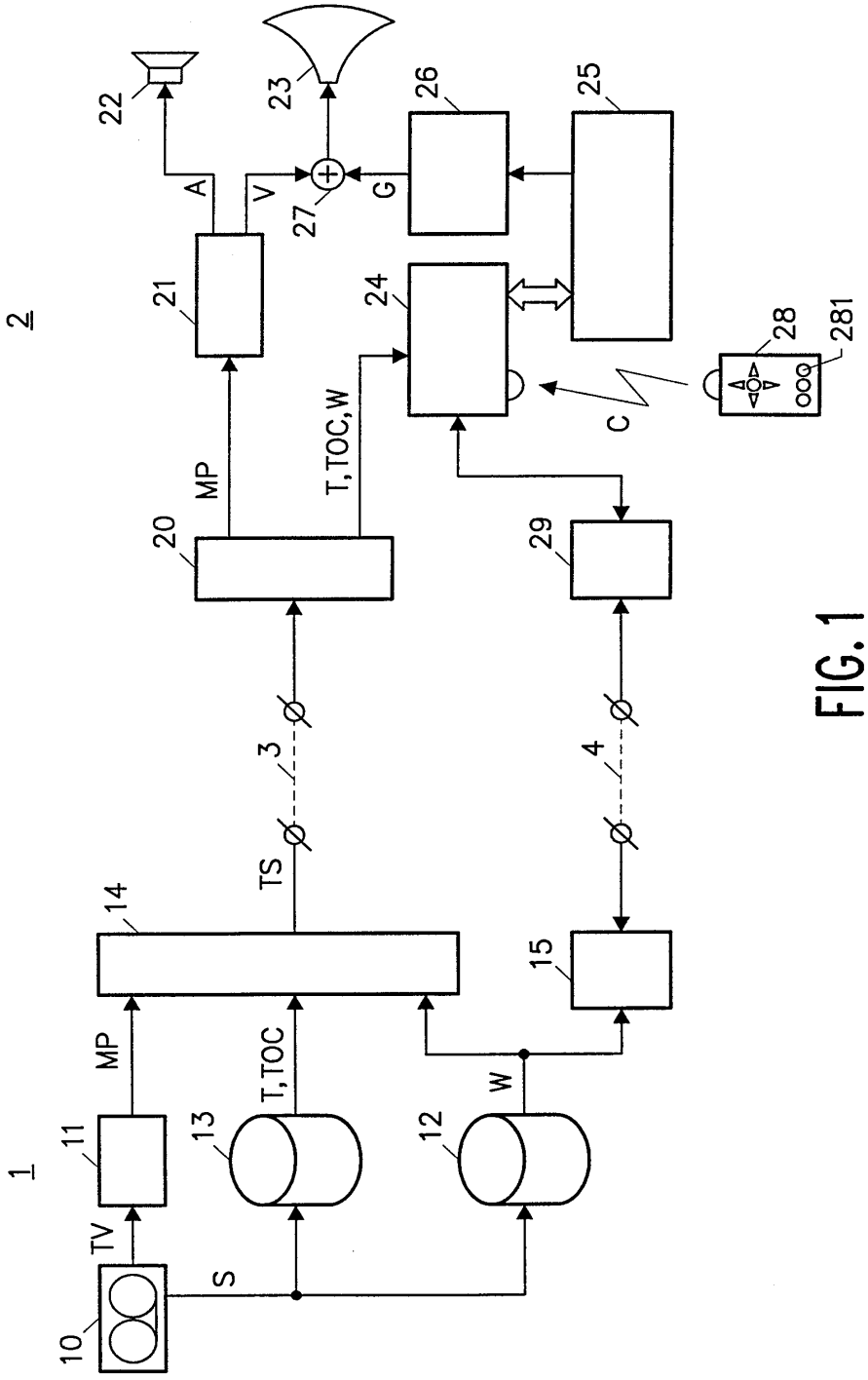

1
2
10
11
12
13
14
15
20
21
22
23
24
25
26
27
28
281
29
3
4
TS
S
TV
MP
T,TOC
W
T,TOC,W
MP
A
V
G
C

FIG. 1

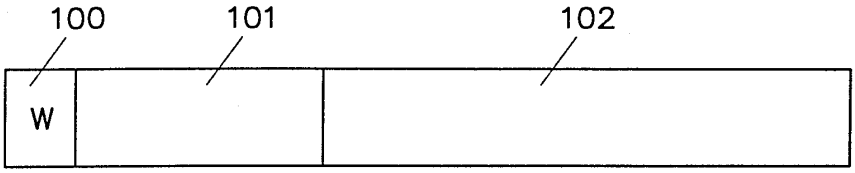


FIG. 2

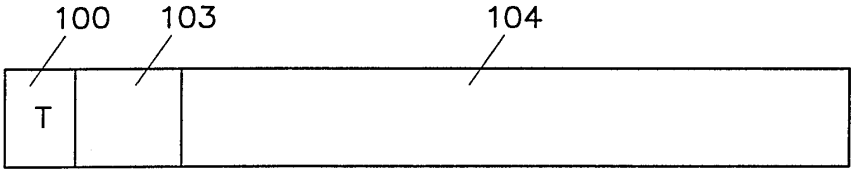


FIG. 3

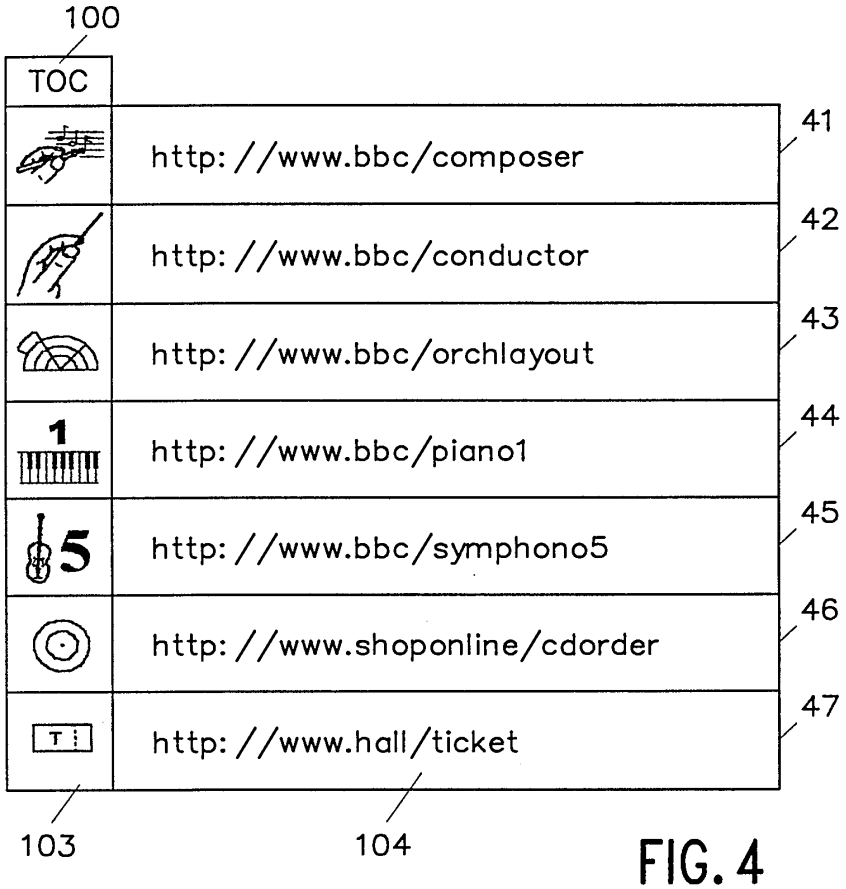


FIG. 4

3/6

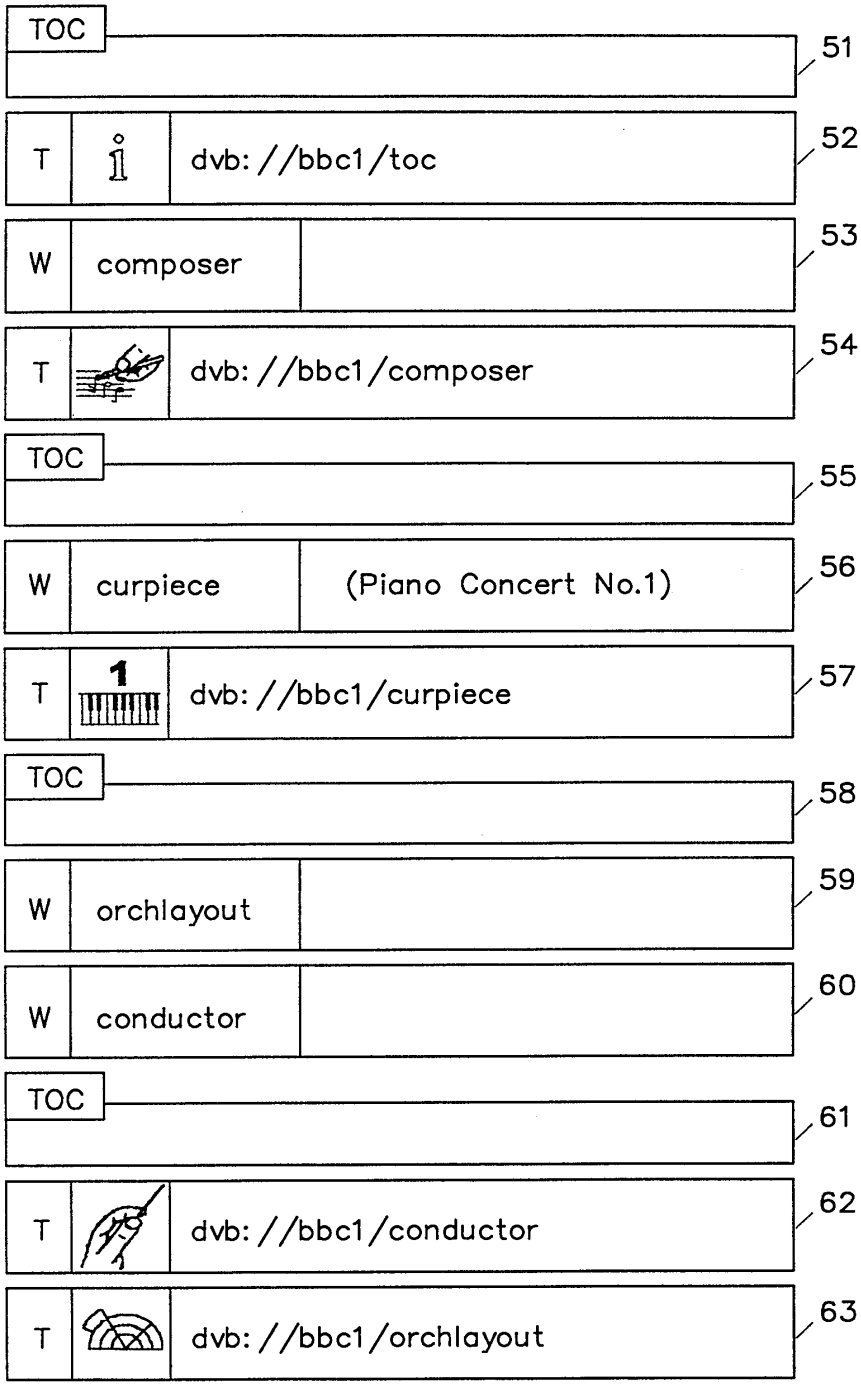

TOC
51
T
dvb: //bbc1/toc
52
W
composer
53
T
dvb: //bbc1/composer
54
TOC
55
W
curpiece
(Piano Concert No.1)
56
T
1
dvb: //bbc1/curpiece
57
TOC
58
W
orchlayout
59
W
conductor
60
TOC
61
T
dvb: //bbc1/conductor
62
T
dvb: //bbc1/orchlayout
63

FIG. 5A

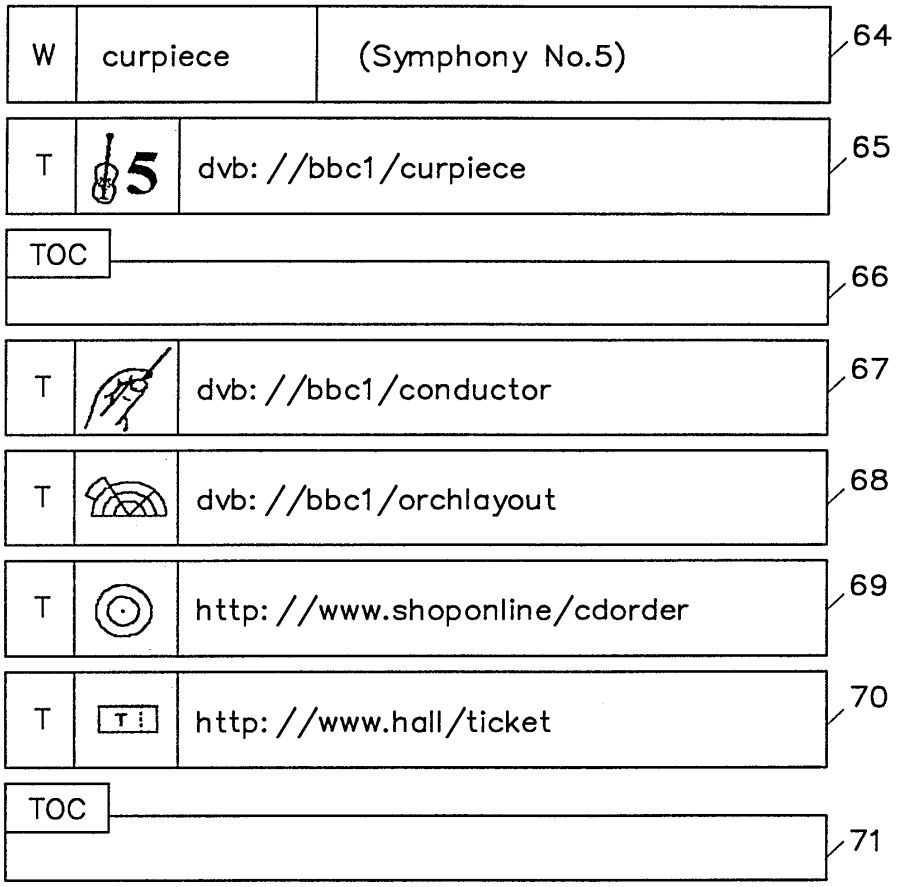

W
curpiece
(Symphony No.5)
64
T
dvb: //bbc1/curpiece
65
TOC
66
T
dvb: //bbc1/conductor
67
T
dvb: //bbc1/orchlayout
68
T
http: //www.shoponline/cdorder
69
T
http: //www.hall/ticket
70
TOC
71

FIG. 5B

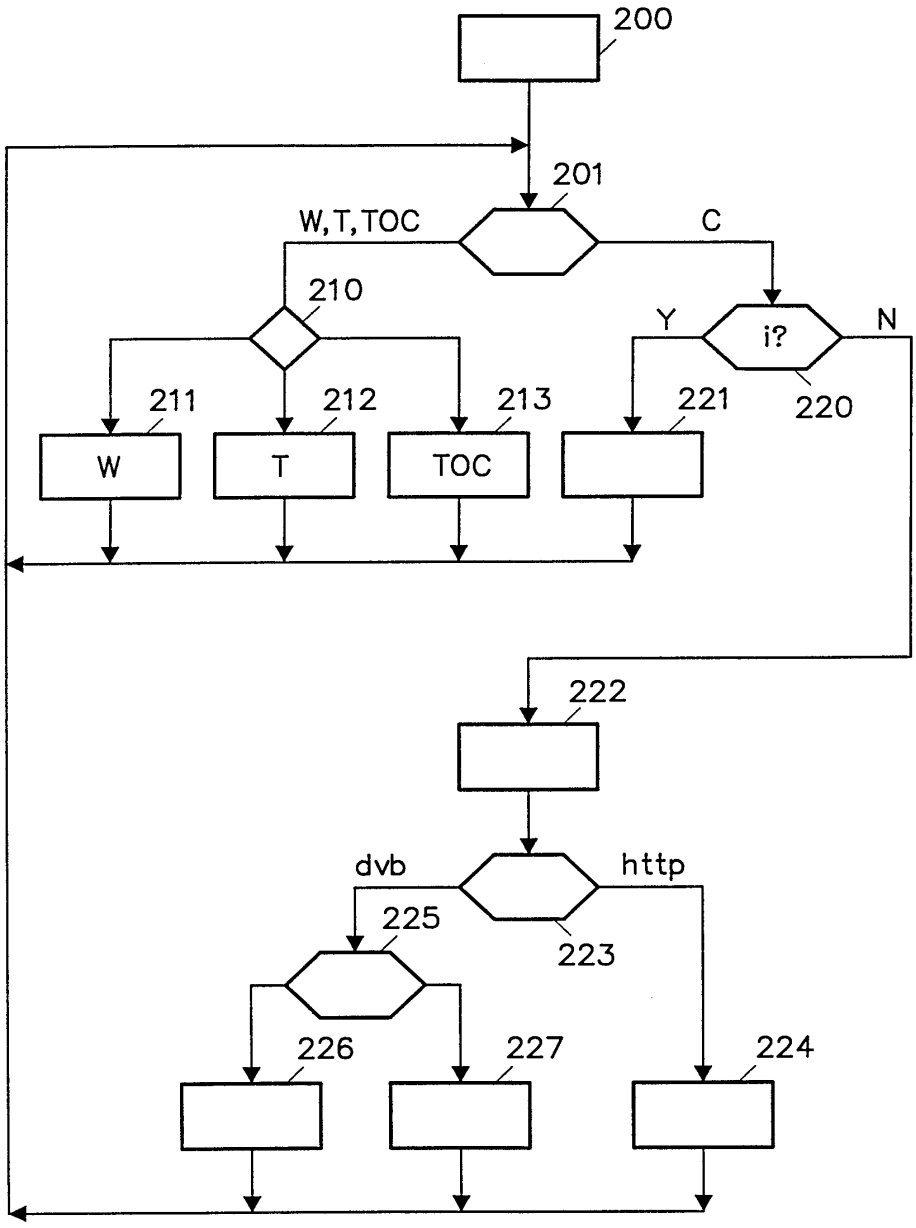
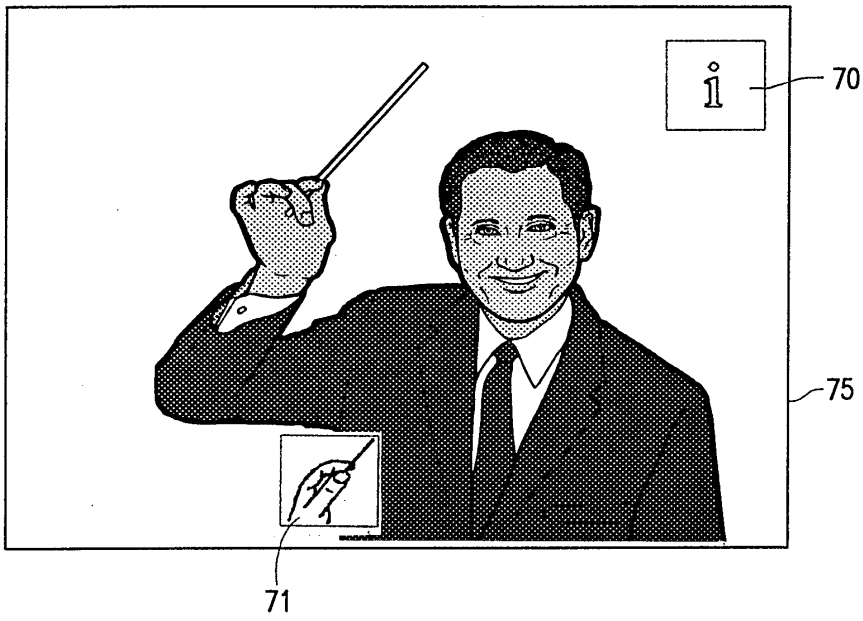

200
201
W,T,TOC
C
210
Y
i?
N
211
212
213
221
220
W
T
TOC
222
dvb
http
225
223
226
227
224

FIG. 6



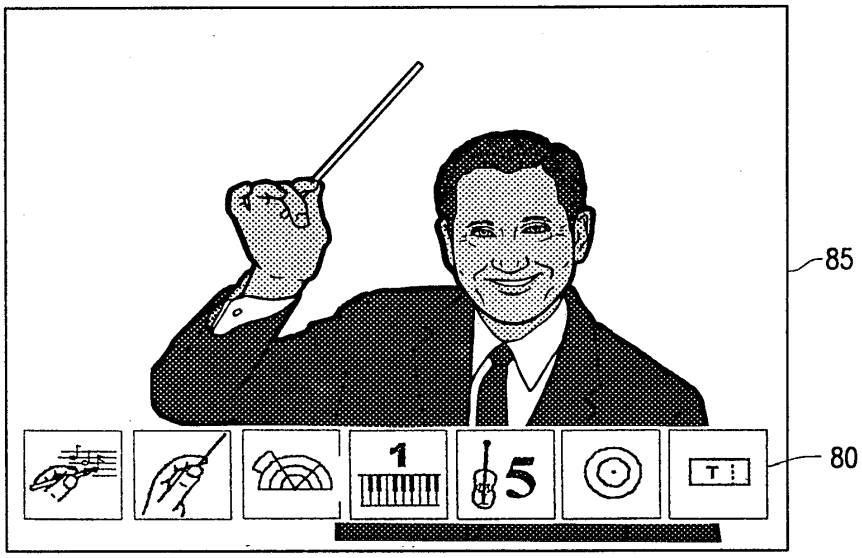


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 98/00580

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04N 7/173, H04N 5/445
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9641478 A1 (TV GUIDE ON SCREEN), 19 December 1996 (19.12.96), claims 1-5, abstract ---	1-17
A	US 4488179 A (H. ECKHARD KRÜGER ET AL), 11 December 1984 (11.12.84), abstract ---	1-17

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 April 1998	05 -10- 1998
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Rune Bengtsson Telephone No. +46 8 782 25 00

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

27/07/98

International application No.
PCT/IB 98/00580

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9641478 A1	19/12/96	AU 6258596 A	30/12/96
		EP 0856227 A	05/08/98
		PL 323914 A	27/04/98
		US 5589892 A	31/12/96
US 4488179 A	11/12/84	DE 3036552 A,C	13/05/82
		JP 1766313 C	11/06/93
		JP 4040912 B	06/07/92
		JP 57087682 A	01/06/82

Form PCT/ISA/210 (patent family annex) (July 1992)

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/27/2010	11/05/2010	04/01/2011	07/13/2011					
	1	÷	N	N	N					
	2	÷	N	N	N					
	3	÷	N	N	N					
	4	÷	N	N	N					
	5	÷	N	N	N					
	6	÷	N	N	N					
	7	÷	N	N	N					
	8	÷	✓	✓	✓					
	9	÷	✓	✓	✓					
	10	÷	N	N	N					
	11	÷	N	N	N					
	12	÷	N	N	N					
	13	÷	N	N	N					
	14	÷	N	N	N					
	15	÷	N	N	N					
	16	÷	N	N	N					
	17	÷	N	N	N					
	18	÷	N	N	N					
	19	÷	N	N	N					
	20	÷	N	N	N					
	21	÷	N	N	N					

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12102503	LEE ET AL.
	Examiner	Art Unit
	SON P HUYNH	2424

SEARCHED			
Class	Subclass	Date	Examiner
725	32,34-36,40-42	11/4/10	AH
	Updated search	4/1/11	AH
	updated search	7/13/11	AH
705	14....	7/13/11	AH

SEARCH NOTES		
Search Notes	Date	Examiner
Chris Grant and Chris Kelley (restriction)	9/27/10	AH
EAST text search enclosed	11/4/10	AH
EAST text search enclosed	4/1/11	AH
EAST text search enclosed	7/13/11	AH

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

	/SON P HUYNH/ Primary Examiner.Art Unit 2424

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
Page 477 of 492

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	"20050028208".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 16:56
L2	126	blahut.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 16:58
L3	3	blahut.in. and child	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 16:59
L4	34	blahut.in. and identif$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 16:59
L5	2	blahut.in. and identif$5 with remote	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 16:59
L6	10	blahut.in. and id	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 17:01
S1	13	son.xa. and huynh.xa. and kelley.xp.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 15:19
S7	75	(alert near3 information) and head near3 end and "set top" and phone	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 16:32

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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S8	49	(alert near3 information) and head near3 end and "set top" and phone and advertis$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/09/27 16:32
S9	47	("20010013125" | "20010034668" | "20020016965" | "20020056109" | "20020059590" | "20020104086" | "20020104090" | "20020104099" | "20020124252" | "20020194592" | "20020194593" | "20020194595" | "5410326" | "5504519" | "5523794" | "5561708" | "5661517" | "5663757" | "5745556" | "5764899" | "5819034" | "5864610" | "5864823" | "5884141" | "5918213" | "5960411" | "6029045" | "6032130" | "6061719" | "6064420" | "6097441" | "6104334" | "6115057" | "6130726" | "6141006" | "6177931" | "6282713" | "6341352" | "6460020" | "6484011" | "6556975" | "6567984" | "6616533" | "6628729" | "6637032" | "6671716" | "6748481").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 18:38
S10	3	Kate.in. and trigger and music	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 18:51
S11	4	Kate.in. and trigger and music	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:52
S12	20	Kate.in. and trigger and web	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:52
S13	1790	file with transfer$1 with channel	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:53

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
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S14	410	file with transfer$1 with channel same (determin$3 detect$4 locat $3 analyz$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:53
S15	60	file with transfer$1 with channel same (determin$3 detect$4 locat $3 analyz$4) and clip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:54
S16	30	file with transfer$1 with channel same (determin$3 detect$4 locat $3 analyz$4) and clip and advertis$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:54
S17	656	file with transfer$1 with channel same (stor$3 record$4 sav$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 18:59
S18	169	file with transfer$1 with channel same (stor$3 record$4 sav$3) same (select$3 determin$3 filter $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:00
S19	15	file with transfer$1 with channel same (stor$3 record$4 sav$3) same (select$3 determin$3 filter $3) and (advertis$6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:00
S20	0	file with transfer$1 with channel and "United video properties". as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S21	812	"United video properties".as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S22	49	"United video properties".as. and (file with transfer$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03

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S23	22	"United video properties".as. and (file with transfer$4) and clip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:03
S24	2	Sumaiya.xa. and delay$3 with (ad advertis$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:06
S25	27	ngoc.xp. and vu.xp. and "725"/$.ccls. and advertisement	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/04 19:13
S26	14	("0537029" | "20020054017" | "20020056098" | "4855833" | "5559549" | "5926230" | "6147714" | "6163345" | "6236395" | "6388715" | "6405371" | "6421067" | "6425129").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:19
S27	17	("4841291" | "5422986" | "5724521" | "5767857" | "5828839" | "5892691" | "5903816" | "5915243" | "5933150" | "5959623" | "5974398" | "5990927" | "6160570" | "6169542" | "6177931" | "6282713" | "6906732").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:20
S28	982	725/41-43.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:21
S29	661	725/41-43.ccls. and (ad advertis $6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S30	345	725/41-43.ccls. and (ad advertis $6) and file	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S31	51	725/41-43.ccls. and (ad advertis $6) and file and PIP	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S32	99	725/41-43.ccls. and (ad advertis $6) and file and ((picture near3 picture) PIP)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:22
S33	39	725/41-43.ccls. and file and ((picture near3 picture) PIP) same (ad advertis$6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:23
S34	176	"725"/$.ccls. and file and ((picture near3 picture) PIP) same (ad advertis$6)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:29
S35	137	S34 not S33	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:30

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S36	97	S35 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:30
S37	29	son.xp. and huynh.xp. and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:51
S38	84	("20010014914" | "20020069113" | "4531021" | "4736422" | "4769818" | "5029207" | "5187787" | "5231631" | "5257369" | "5335277" | "5339392" | "5359367" | "5499243" | "5539743" | "5559808" | "5565909" | "5570126" | "5586186" | "5589892" | "5592552" | "5594509" | "5617565" | "5619250" | "5625692" | "5625864" | "5627829" | "5650831" | "5666293" | "5675390" | "5684807" | "5686954" | "5687331" | "5689081" | "5694163" | "5706048" | "5708845" | "5724424" | "5727065" | "5727865" | "5751282" | "5761606" | "5774664" | "5774666" | "5778187" | "5799002" | "5801753" | "5809543" | "5818441" | "5818841" | "5818935" | "5835914" | "5838668" | "5854897" | "5859852" | "5878033" | "5884033" | "5889860" | "5929849" | "5940073" | "5978828" | "6006256" | "6029045" | "6049671" | "6064420" | "6091411" | "6108706" | "6141010" | "6177931" | "6205485" | "6209132" | "6216141" | "6233734" | "6240555" | "6263505" | "6298482" | "6421694" | "6427238" | "6438751" | "6502243" | "6536041" | "6604242" | "6637032" | "6763522" | "7079176").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:52

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S39	35	("20020028061" | "20020087402" | "20020144262" | "20020168009" | "20020176702" | "20030002672" | "20030037330" | "20030088872" | "20030152363" | "20030154128" | "20040034874" | "20040055088" | "20040096002" | "20040223612" | "20060061065" | "20070226761" | "6058240" | "6078328" | "6104441" | "6185340" | "6215526" | "6351439" | "6373534" | "6438168" | "6445738" | "6462744" | "6563936" | "6621866" | "6637032" | "6735253" | "6798893" | "6909837" | "7065250" | "7154560" | "7249367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:54
S40	4	son.xa. and huynh.xa. and ATVEF	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:57
S41	20	("5559550" | "5937331" | "5971849" | "5991747" | "6025837" | "6108706" | "6177931" | "6205485" | "6240555" | "6281877" | "6338094" | "6356939" | "6442755" | "6502243" | "6571392" | "6608633" | "6637032" | "6785902" | "6795973" | "7069571").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 19:58
S42	1	flavin.in. and son.xa.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:02
S43	1	"6169542".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:03
S44	4	("5600364" | "5761648" | "5940073" | "5977962").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:03
S45	55	("6169542").URPN.	USPAT	OR	ON	2010/11/04 20:04
S46	68	shang.xa. or shang.xp. and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
S47	1	(shang.xa. or shang.xp.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
S48	24	(shang.xa. or shang.xp.) and advertis$6	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:06
S49	1	(shang.xa.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09
S50	0	(shang.xp.) and ticker	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09

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S51	29	(shang.xp.)	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:09
S52	76	("20010049820" | "20020144262" | "20020176702" | "20030079226" | "20030154128" | "20040103429" | "4107734" | "4308554" | "4602279" | "4677466" | "4745468" | "4876592" | "4888638" | "4905080" | "4926255" | "4930158" | "5034807" | "5057915" | "5128752" | "5227874" | "5235643" | "5249044" | "5260778" | "5325183" | "5373440" | "5412416" | "5414773" | "5446919" | "5481294" | "5483276" | "5488423" | "5504519" | "5530469" | "5539822" | "5550681" | "5555308" | "5566353" | "5585858" | "5619250" | "5635978" | "5640192" | "5664948" | "5666645" | "5715315" | "5737527" | "5759101" | "5760821" | "5761601" | "5761648" | "5774186" | "5819092" | "5855008" | "5911029" | "5937392" | "5946664" | "5970469" | "5978013" | "5999688" | "6018612" | "6057872" | "6064978" | "6070145" | "6075551" | "6075971" | "6119098" | "6141530" | "6160570" | "6172712" | "6208801" | "6285987" | "6373534" | "6377745" | "6490000" | "6588015" | "6681393" | "6698020").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:10
S53	1	"20080320533".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:17
S54	157	watson.in. and encrypted	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:20
S55	36	watson.in. and encrypted with key	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:20
S56	20	watson.in. and encrypted with key and download$3	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:20
S57	46	watson.in. and encrypted with content	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:21
S58	33	watson.in. and encrypted with content and decrypt$3 with key	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/04 20:21

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S59	20	Kate.in. and trigger and web	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/05 17:03
S60	2	"6510557".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:02
S61	1452	Daniels.in. and microsoft.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:05
S62	2	"6973669".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:06
S63	0	naval.in. and microsoft.as. and ticker	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:07
S64	0	narval.in. and microsoft.as. and ticker	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:07
S65	0	son.xa. and huynh.xa. and ticker	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:07
S66	0	son.xa. and huynh.xa. and "sony.xa.s"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:08
S67	7	son.xa. and huynh.xa. and sony.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/13 15:08
S68	8	son.xa. and huynh.xa. and history	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/11/15 13:09

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S69	23	("5036394" | "5557338" | "5589892" | "5686954" | "5699107" | "5731844" | "5734444" | "5751282" | "5808694" | "5867226" | "5903314" | "5907323" | "5909212" | "6005597" | "6008803" | "6025837" | "6177931" | "6247176" | "6298482" | "6344878" | "6349329" | "6369861" | "6483553").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/11/15 13:10
S70	28	("6349329").URPN.	USPAT	OR	ON	2010/11/15 13:13
S71	1	ngoc.xp. and ngo.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/03/30 21:49
S72	17	("4841291" | "5422986" | "5724521" | "5767857" | "5828839" | "5892691" | "5903816" | "5915243" | "5933150" | "5959623" | "5974398" | "5990927" | "6160570" | "6169542" | "6177931" | "6282713" | "6906732").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:49
S73	30	son.xp. and huynh.xp. and frame	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:51
S74	47	son.xp. and huynh.xp.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:51
S75	35	("20020028061" | "20020087402" | "20020144262" | "20020168009" | "20020176702" | "20030002672" | "20030037330" | "20030088872" | "20030152363" | "20030154128" | "20040034874" | "20040055088" | "20040096002" | "20040223612" | "20060061065" | "20070226761" | "6058240" | "6078328" | "6104441" | "6185340" | "6215526" | "6351439" | "6373534" | "6438168" | "6445738" | "6462744" | "6563936" | "6621866" | "6637032" | "6735253" | "6798893" | "6909837" | "7065250" | "7154560" | "7249367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:53

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S76	2	huy.xp. and nguyen.xp. and advertis$5 with storage	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:54
S77	4	zigmond.in. and hai.xa.	US-PGPUB; USPAT; USOCR	OR	ON	2011/03/30 21:55
S78	9	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis$4)	US-PGPUB; USPAT; USOCR	OR	ON	2011/04/01 01:35
S79	9	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/01 01:36
S80	3	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis$4) same (replac$4 substitu$6 select $3 fast skip$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/01 01:37
S82	2	kate.in. and trigger and web	EPO; DERWENT	OR	ON	2011/04/06 20:15
S83	2	"20050149964".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:47
S84	2	"6177931".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:49
S85	183	(rank$4 rating) with (order$3) with (ads advertisement$1 commercial$1) same (watched selected viewed vote)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:52
S86	374	(((rank$4 rating) with order$3) play$list) with (ads advertisement$1 commercial$1) same (watched selected viewed vote)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:52
S87	234	S86 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/12 14:53
S88	394	(((rank$4 rating) with order$3) play$list) with (ads advertisement$1 commercial$1) same (watched selected viewed vote popular$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:53
S89	231	(((rank$4 rating) with order$3) play$list) with (ads advertisement$1 commercial$1) with (watched selected viewed vote popular$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:54

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S90	145	S89 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/12 14:54
S91	183	(((rank$4 rating) near4 order $3) play$list) with (ads advertisement$1 commercial$1) with (watched selected viewed vote popular$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/12 14:55
S92	116	S91 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/12 14:55
S93	62	S92 and ("725"/$.ccls. or "705"/$.ccls. or "386"/$.ccls.)	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/12 14:55
S96	111	(ranking near5 (order priority)) with (commercial$1 advertis$6) and ("725"/$.ccls. or "705"/$.ccls. or "386"/$.ccls.)	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/13 11:44
S97	74	S96 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/13 11:44
S98	111	(ranking near5 (order priority)) with (commercial$1 advertis$6) and ("725"/$.ccls. or "705"/$.ccls. or "386"/$.ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 11:45
S99	74	S98 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR	OR	ON	2011/07/13 11:45
S100	74	S98 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 11:45
S101	79	(ranking near5 (order priority)) with (commercial$1 advertis$6) same (watched viewed selected displayed presented vote)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 11:46
S102	58	S101 and (@ad<="20070416" or @prad<="20070416" or @rlad<="20070416")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 11:47
S103	16	Hendricks.in. and (rank$4 with advertis$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:00

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S104	47	Hendricks.in. and (top with advertis$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:07
S105	11	Hendricks.in. and (top with advertis$5 same (rank$3 sort))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:07
S106	0	Hendricks.in. and (popular$4 with advertis$5 same (rank$3 sort))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:09
S107	1	Hendricks.in. and (watched with advertis$5 same (rank$3 sort))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:09
S108	21	Hendricks.in. and (watched with advertis$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:09
S109	5	Hendricks.in. and (suggest$3 with terminal).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:11
S110	2	Hendricks.in. and (suggest$3 with terminal).ti. and weight	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:12
S111	2	Hendricks.in. and (suggest$3 with terminal).ti. and weight and (commercial advertis$6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:13
S112	2	Hendricks.in. and (suggest$3 with terminal).ti. and (commercial advertis$6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:13

S113	2	"20020144262".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:18
S114	0	"20020144262".pn. and "T742"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:18
S115	0	"20020144262".pn. and T742	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:19
S116	2	"20020178445".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/07/13 12:26

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S81	1	(Plotnick.in. "eldering.in") and (start$4 begin$4) with (commercial$1 ad advertis $4)	USPAT; UPAD	OR	ON	2011/04/01 01:35

7/13/11 5:55:33 PM
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/102,503	04/14/2008	Jong Kerl LEE	0203-0023	1303

68103 7590 03/23/2012

Jefferson IP Law, LLP
1130 Connecticut Ave., NW
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Washington, DC 20036

EXAMINER	
HUYNH, AN SON PHI	
ART UNIT	PAPER NUMBER
2424	

MAIL DATE	DELIVERY MODE
03/23/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Abandonment	Application No.	Applicant(s)
	12/102,503	LEE ET AL.
	Examiner	Art Unit
	AN SON P. HUYNH	2424

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on *20 July 2011*.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☒ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☐ The reason(s) below:

the Examiner called applicant's representative of record, Donald A. DiPaula on March 18, 2012 and left a message but no response have been received. The Examiner called Applicant's representative again on March 21 but no one pick up the phone.

/AN SON P. HUYNH/
Primary Examiner, Art Unit 2424

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

VB Assets Exhibit No. 2005
Samsung Elec. and Samsung Elec. Am. v. VB Assets, LLC
IPR2025-00867, U.S. Patent No. 7,818,176
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