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(54) Method and apparatus for inserting advertising messages into an audio channel

(57) The present invention comprises an advertising voice database (102) which stores the advertising voice data (101) received, an advertising voice extraction part (103) which extracts the advertising voice data (101) from the advertising voice database, a voice synthesizing part (104) which synthesizes a voice signal by inserting the advertising voice data extracted in the advertising voice extraction part (103) into the main voice data (100) received, and a voice outputting part (105) which outputs the voice signal synthesized in the voice synthesizing part (104), and according to advertisement inserting points which are added to the main voice data, inserts the advertising voice data into the positions in the main voice data designated by the advertisement inserting points, and outputs the voice signal after its volume is adjusted.

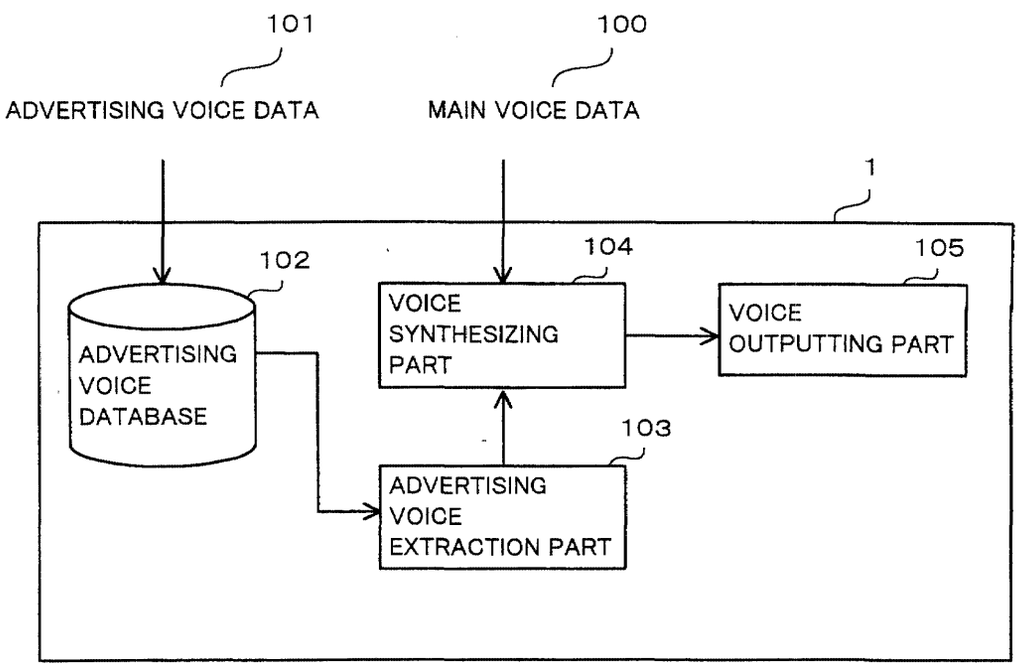

Fig. 1

EP 1 111 825 A2

Description

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present invention claims priority from Japanese Patent Application No. 11-304684 filed October 26, 1999, the contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0002] This invention relates generally to a method and apparatus for inserting commercial voices into a broadcasting voice and, more particularly, to a method and apparatus for subsidiarily inserting commercial voice data so as not to disturb the received main voice data.

2. Description of Related Art

[0003] In a pay broadcast to which subscribers listen at a charge, musical programs are being broadcast continuously without insertion of promotional advertisements or the like. On the other hand, for the purpose of obtaining more listeners (subscribers), there are free broadcasts into which commercial voices are inserted in order to reduce the economic burden of the listeners.

[0004] However, problems occur with respect to utilization of electric waves in addition to increasing problems of a broadcasting station to separately broadcast two kinds of broadcasts, such as a pay broadcast without advertisement and a free broadcast with advertisement, in connection with the same broadcasting contents (programs).

[0005] Consequently, a method has been proposed in which advertising data are multiplexed with a main voice data which is a broadcast without advertisement and are transmitted from a broadcast station.

[0006] Further, as a method for inserting an advertising voice data which is subsidiarily presented to users into a main voice data which is essentially presented to the users and transmitted without a break, a method is known in which the main voice data are switched to the advertising voice data and only the advertising voice data are presented to the users as voice outputs.

[0007] In addition, in an apparatus of the prior art which effectively inserts commercials, such as JP-A 10-55150, music is intermittently broadcast as background music inside of a store or in a shopping street, and, for example after a predetermined time has elapsed, a particular voice of commercials for the store is inserted into the music. Such a conventional apparatus forces the intermittently broadcast music to be switched to a particular voice, so that listeners listening to the music may feel disturbed . In order to solve such a problem, an apparatus has been proposed which detects a silent state of a music intermittently broadcast and after detecting the silent state, causes other commercial music to interrupt the intermittently broadcasting music.

[0008] However, the conventional method and apparatus described above show the following problems.

[0009] (1) A main voice data to be essentially presented to users cannot be heard in a method of the prior art which switches the main voice data to commercial voice data and outputs only the commercial voice data to present to users, thereby causing the voice information to which the users want to listen to be dropped out. And, if the commercial voice data are inserted into positions of a relatively high level of importance in the main voice data, the users may often feel uncomfortable by the presented advertisements.

[0010] (2) In addition, as an apparatus mentioned in JP-A 10-55150 described above, in a configuration in which a silent state with low level of importance for the users of the main voice data is automatically detected and advertising voice data are inserted into silent parts, when the main voice data is, for example, music, the silent parts generally exist between compositions so that the advertising voice data can typically be inserted only at intervals of about three to five minutes, therefore, the advertising voice data cannot be inserted at shorter intervals.

SUMMARY OF THE INVENTION

[0011] Accordingly, the present invention has been made in view of the above-described problems, and it is a primary object of the present invention to provide an apparatus and method for improving the probability that advertising voices are listened to by users and for increasing commercial effect by inserting the advertising voice data into main voice data. The other objects, features and advantages of the present invention will become more readily apparent to those skilled in the art from the following description.

[0012] In order to achieve the foregoing objects, according to a first aspect of the present invention, a method for inserting advertising voices is provided which is characterized in that, when an advertising voice data is inserted into a main voice data due to an advertisement inserting position information which is added to the main voice data received and indicates positions into which the advertising voice data can be inserted, the advertising voice data is inserted into silent parts and voice data with relatively low level of importance in voice data constituting the main voice data, and the synthesized voice data is outputted.

[0013] According to a second aspect of the present invention, a method for inserting advertising voices is provided which is characterized in that, on the basis of an advertisement inserting position information which is added to a main voice data received and indicates positions into which an advertising voice data can be in-

serted, the main voice data and the advertising voice data are synthesized by inserting the advertising voice data acquired from a storage means which stores the advertising voice data received into positions designated by the advertisement inserting position information in the main voice data, and are outputted after their volumes are adjusted.

[0014] According to a third aspect of the present invention, an apparatus for inserting advertising voices is provided which is characterized in that, on the basis of an advertisement inserting position information which is added to a main voice data received and indicates positions into which an advertising voice data can be inserted, a means is provided which inserts the advertising voice data into a main voice data, that is, which inserts the advertising voice data into silent parts and voice data with relatively low level of importance in voice data constituting the main voice data.

[0015] According to a fourth aspect of the present invention, an apparatus for inserting advertising voices is provided which is characterized by comprising a storage means which stores an advertising voice data received and a means which synthesizes voice data by inserting the advertising voice data stored in the storage means into positions in the main voice data designated by an advertisement inserting position information which is added to the main voice data received and indicates positions into which the advertising voice data can be inserted, and outputs the synthesized voice data after their volumes are adjusted.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Specific embodiments of the present invention will now be described, by way of example only, with reference to the accompanying of drawings in which:

FIG. 1 shows a configuration of an embodiment according to the present invention;

FIG. 2 is a diagram showing an example of configuration of main voice data in an embodiment according to the present invention;

FIG. 3 is a diagram showing an example of configuration of voice data in an embodiment according to the present invention;

FIG. 4 is a diagram showing an example of a line of a plurality of voice data and silent parts in an embodiment according to the present invention;

FIG. 5 is a diagram showing an example of configuration of advertisement inserting point data in an embodiment according to the present invention;

FIG. 6 is a diagram showing an example of advertisement inserting points in an embodiment according to the present invention; and

FIG. 7 is a diagram showing a processing procedure of a voice synthesizing part in an embodiment according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] The embodiment of the present invention will be discussed hereinbelow. The present invention is constituted such that, when an advertising voice data is inserted into a main voice data due to an advertisement inserting position information which is added to the main voice data received and indicates positions into which the advertising voice data can be inserted, the advertising voice data is inserted into voice data with relatively low level of importance in voice data constituting the main voice data or into the voice data with relatively low level of importance and silent parts, and the synthesized voice signals are outputted.

[0018] As explained above, in a method of the prior art which switches the main voice data to commercial voice data and outputs only the commercial voice data to present to users, voice information to which the users want to listen will be blended out, and also if the commercial voice data are inserted into positions of a relatively high level of importance in the main voice data, the users may often feel disturbed by the advertisements presented.

[0019] Accordingly, the inventor of the present invention discovered that, if the advertising voice data could be inserted into positions with relatively low level of importance in the main voice data while presenting the main voice data to the users, the probability of giving users unpleasant feelings was reduced and the possibility that the commercial voices inserted might be listened to was improved, thereby allowing the improvement of the commercial effect to be expected.

[0020] In an apparatus of the prior art such as JP-A 10-55150 described above, the silent parts generally exist between compositions so that the advertising voice data can be inserted only at intervals of about three to five minutes, therefore, the advertising voice data cannot be inserted at shorter intervals. To this end, the inventor of the present invention also discovered that the advertising voice data could be presented at shorter intervals by inserting the advertising voice data into positions with relatively low level of importance, for example episode parts, other than silent parts, and improvement of the advertising effect could be expected if timing for presenting the commercial voice data could be controlled delicately.

[0021] The present invention was created according to the above-described teachings. And the apparatus according to the present invention is an apparatus for inserting advertising voices which inserts the advertising voice data into the main voice data received and outputs the inserted main voice data, and comprises an advertising voice database 102 which stores advertising voice data received, an advertising voice extraction part 103 which extracts the advertising voice data 101 from the advertising voice database 102, a voice synthesizing part 104 which synthesizes a voice signal by insert-

ing the advertising voice data extracted in the advertising voice extraction part 103 into the main voice data 100 received, and a voice outputting part 105 which outputs the voice signal synthesized in the voice synthesizing part 104.

[0022] In one embodiment of the present invention, the main voice data 100 includes voice data and data (referred to as "advertisement inserting point data") with respect to positions (referred to as "advertisement inserting points") in the voice data into which the advertising voice data can be inserted, and the voice synthesizing part 104 synthesizes the main voice data and the advertising voice data by inserting the advertising voice data into the positions designated by the advertisement inserting points on the voice data of the main voice data.

[0023] In one embodiment of the present invention, if the silent parts exist between the voice data in the main voice data, starting points of the silent parts are made to be the advertisement inserting points and the voice synthesizing part 104 performs voice synthesis by inserting the advertising voice data into the starting points of the silent parts designated by the advertisement inserting points in the main voice data.

[0024] In one embodiment of the present invention, if the main voice data includes one or more voice data with a relatively high level of importance and one or more voice data a with relatively low level of importance, the voice synthesizing part 104 sets up the advertisement inserting point in a starting part of at least one voice data with a relatively low level of importance in the main voice data, and inserts the advertising voice data into the starting part of the voice data with a relatively low level of importance designated by the advertisement inserting points in the voice data of the main voice data to perform processing to synthesize the main voice data and the advertising voice data.

[0025] In one embodiment of the present invention, the voice synthesizing part 104 performs processing to synthesize the main voice data and the advertising voice data by setting up the advertising voice data to a normal volume, lowering the volume of the main voice data from the insertion starting position of the advertising voice data, and returning the volume of the main voice data to a normal level from the insertion ending position of the advertising voice data.

[0026] A voice synthesizing process (i.e., insertion of the advertising voice data) according to the present invention will be performed in the following steps in one preferred embodiment:

Step 1: judges whether the position of the main voice data is consistent with that designated by the advertisement inserting position information (advertisement inserting point);
Step 2: acquires the advertising voice data from the storage means which stores the advertising voice data received, when being consistent with the advertisement inserting position information;
Step 3: inserts the acquiered advertising voice data into the position designated by the advertisement inserting position information in the main voice data;
Step 4: adjusts the volume of the main voice data and the advertising voice data;
Step 5: outputs the synthesized voice.

[0027] In the method according to the present invention, if the main voice data includes voice data parts with a relatively high level of importance and voice data parts with a relatively low level of importance, the advertisement inserting position information designates one of the starting points of the voice data parts with a relatively low level of importance as a position into which the advertising voice data can be inserted.

[0028] Further, in the method according to the present invention, if the main voice data includes silent parts between the voice data, the advertisement inserting position information designates one of the starting points of the silent parts as a position into which the advertising voice data can be inserted.

[0029] In volume adjustment, the advertising voice data is set up to normal volume, the volume of the main voice data is lowered from the insertion starting position of the advertising voice data, and the volume of the main voice data is returned to a normal level from the insertion ending position of the advertising voice data.

[0030] One embodiment according to the present invention will be described in more detail hereinafter with reference to the accompanying drawings.

[0031] Referring to FIG. 1, the advertising voice inserting apparatus 1 according to an embodiment of the present invention receives a main voice data 100 which is presented to the listeners (users) and transmitted without a break from a broadcast station and an advertising voice data 101 which is subsidiarily presented to the users with a receiving part (not shown), respectively, and comprises an advertising voice database 102 which converts the advertising voice data 101 received into digital signals and stores them as the advertising voice data, an advertising voice extraction part 103 which extracts the advertising voice data 101 from the advertising voice database 102, a voice synthesizing part 104 which synthesizes a voice signal by inserting the advertising voice data 101 extracted in the advertising voice extraction part 103 into the main voice data 100 received, and a voice outputting part 105 which outputs the voice signal synthesized in the voice synthesizing part 104 to the users.

[0032] FIG. 2 shows one example of the configuration (data format) of the main voice data 100, which comprises a voice data 200 which is essentially presented to the users and an advertisement inserting point data 300 designating positions into which the advertising voice data 101 can be inserted.

[0033] FIG. 4 shows one example of the configuration of the voice data 200. A plurality of voice data 200, 201, and 202 constituting the main voice data 100 form a line,

and silent parts 250, 252 are inserted between the voice data.

[0034] FIG. 3 shows an alternate example of the configuration of the voice data, which voice data 200 is composed of high important voices 2001, 2003, and 2005 with a relatively high level of importance and low important voices 2002, 2004 with a relatively low level of importance.

[0035] FIG. 5 shows an example of the configuration of the advertisement inserting point data 300 shown in FIG. 2. The advertisement inserting point data 300, the information designating positions into which the advertising voice data 101 in the voice data 200 may be inserted, is composed of an arbitrary number of the advertisement inserting points 3001, 3002, 3003, and 3004.

[0036] FIG. 6 shows an example of the relation between the voice data or silent part in the main voice data 100 and the advertisement inserting point.

[0037] The advertisement inserting points 3001, 3002, and 3003 designate the starting points of the low important voice data 2002, 2004 and silent part 250 in the main voice data 100, respectively.

[0038] Referring again to FIG. 1, the voice synthesizing part 104 performs processing to synthesize the main voice data 100 and the advertising voice data 101 by inserting the advertising voice data 101 into the positions designated by the advertisement inserting points in the main voice data 100.

[0039] The voice synthesizing part 104 performs processing to synthesize the main voice data 100 and the advertising voice data 101 by setting up the advertising voice data 101 to a normal volume, lowering the volume of the main voice data 100 from the insertion starting position of the advertising voice data 101, and returning the volume of the main voice data 100 to a normal level from the insertion ending position of the advertising voice data 101.

[0040] An example of the present invention will be explained in order to describe an above-described embodiment of the present invention in further detail. FIG. 1 shows the configuration of the apparatus according to one example of the present invention. The main voice data 100 is a voice to be essentially presented to the users and comprises, for example, music broadcast in a pay radio broadcast service without advertisement, newscasting, and voices in sports.

[0041] The main voice data 100 comprises, as shown in FIG. 2, a voice data 200 which is essentially presented to the users and an advertisement inserting point data 300 designating positions into which the advertising voice data 101 can be inserted.

[0042] FIG. 6 shows an example of the main voice data and the advertisement inserting points. A plurality of voice data 200, 201 form a line, and the main voice data is composed of the high important voices 2001, 2003, 2005, and 2011 and the low important voices 2002, 2004, with the silent part 250 sandwiched between the high important voices 2005 and 2011.

[0043] The high important voices 2001, 2003, 2005, and 2011 are voice parts with high level of importance, and when the voice data 200 are, for example, musical compositions, they are usual musical performance parts.

[0044] The low important voices 2002, 2004 are voice parts with low level of importance, and when the voice data 200 are, for example, musical compositions, they are episode parts.

[0045] Referring to FIG. 5, the advertisement inserting point data 300 is composed of the advertisement inserting points 3001, 3002, 3003, and 3004 designating positions into which the advertising voice data 101 in the voice data 200 may be inserted.

[0046] The advertisement inserting points 3001, 3002, and 3003 designate the starting points of the low important voice data 2002, 2004 and silent part 250 in the main voice data 100, respectively, as shown in FIG. 6.

[0047] Referring again to FIG. 1, the advertising voice data 101 is an advertising voice subsidiarily presented to the users. The advertising voice data 101 is either transmitted from a broadcasting station by being multiplexed with the main voice data 100, or transmitted using a channel other than the main voice data 100, and it is applied to commercial voices of, for example, restaurants, hotels, or food products.

[0048] The advertising voice database 102 stores the received advertising voice data 101 and utilizes a file system of a computer system or a relational database well known in the art.

[0049] The advertising voice extraction part 103 extracts the advertising voice data 101 from the advertising voice database 102.

[0050] The voice synthesizing part 104 synthesizes the main voice data 100 and the advertising voice data 101 as one voice by inserting the advertising voice data 101 extracted in the advertising voice extraction part 103 into the main voice data 100 received.

[0051] FIG. 7 is a flowchart showing a processing procedure of a voice synthesizing part 104 in an embodiment according to the present invention.

[0052] The voice synthesizing part 104, firstly, acquires the main voice data 100 (Step S100).

[0053] An advertisement inserting point in the advertisement inserting points 3001, 3002, 3003, and 3004 in the advertisement inserting point data 300 of the main voice data 100, the advertisement inserting point being later in time than a position from which the main voice data 100 is outputted and being nearest to the position, is compared with the position from which the main voice data 100 is outputted to the voice outputting part 105 (Step S101). When both positions are in agreement, the process proceeds to Step S102, and otherwise, branches to Step S105, causing the normal volume of the main voice data 100 to be an output volume.

[0054] In Step S102, the advertising voice data 101 is

acquired from the advertising voice extraction part 103.

[0055] Subsequently, an output voice is synthesized by inserting the advertising voice data 101 into the agreed position among the advertisement inserting points 3001, 3002, 3003, and 3004 of the main voice data 100 (Step S103).

[0056] Then, the volume of the main voice data 100 is made lower than usual and the volume of the advertising voice data 101 is left as usual (Step S104).

[0057] The voice is outputted from the voice outputting part 105 (Step S105).

[0058] The voice outputting part 105 outputs the voice synthesized in the voice synthesizing part 104 to be presented to users, that is, it is constituted such that, for example, a voice signal synthesized and volume controlled by the voice synthesizing part 104 is converted to an analog signal, amplified by an amplifier, and outputted from a speaker. Incidentally, in the above-described example, the configuration in which the main voice data 100 and the advertising voice data 101 are transmitted from a broadcast station and received by the apparatus 1 has been explained as an example, however, it will be appreciated that the present invention can be applied to cable broadcasting) as well.

[0059] As explained above, according to the present invention, by inserting advertising voice data into positions with a relatively low level of importance in main voice data while presenting the main voice data to users, the probability of giving the users unpleasant feelings may be reduced and also the possibility that the commercial voices are listened to may be improved, thereby allowing an improvement of the commercial effect to be expected.

[0060] In addition, according to the present invention, by inserting advertising voice data into parts in which the contents of the main voice data are switched, for example, when the main voice data is music, positions with low level of importance other than silent parts of junctures between compositions, for example, episode parts, the advertising voice data can be presented at shorter intervals and improvement of the advertising effect can be achieved by delicately controlling the timing for presenting the commercial voice data.

Claims

1. A method for inserting advertising voices, characterized in that, when advertising voice data is inserted into main voice data due to an advertisement inserting position information which is added to the main voice data received and indicates positions into which the advertising voice data can be inserted, the advertising voice data is inserted into silent parts and voice data with a relatively low level of importance in voice data constituting said main voice data or into the voice data with a relatively low level of importance, and the synthesized voice signals are outputted.

2. A method for inserting advertising voices, characterized in that, on the basis of an advertisement inserting position information which is added to main voice data received and indicates positions into which advertising voice data can be inserted, the main voice data and the advertising voice data are synthesized by inserting the advertising voice data acquired from a storage means which stores the advertising voice data received into positions designated by the advertisement inserting position information in the main voice data, and are outputted after volumes of the main voice data and the advertising voice data are adjusted.

3. The method for inserting advertising voices according to claim 2, wherein, when the main voice data includes voice data with a relatively high level of importance and voice data with a relatively low level of importance, said advertisement inserting position information designates said voice data with relatively low level of importance as positions into which the advertising voice data can be inserted.

4. The method for inserting advertising voices according to claim 3, wherein, when the voice data of said main voice data are composed of musical compositions, said voice data with a relatively high level of importance are musical performance parts of the musical compositions and said voice data with a relatively low level of importance are episode parts of the musical compositions.

5. The method for inserting advertising voices according to claim 2, wherein, when said main voice data includes silent parts between the voice data, said advertisement inserting position information designates starting positions of said silent parts as positions into which the advertising voice data can be inserted.

6. The method for inserting advertising voices according to claim 1, wherein said main voice data and said advertising voice data are processed for synthesizing by setting up said advertising voice data to be inserted to said main voice data to a normal volume, lowering the volume of said main voice data from an insertion starting position of said advertising voice data, and returning the volume of said main voice data to a normal level from an insertion ending position of said advertising voice data.

7. The method for inserting advertising voices according to claim 2, wherein said advertising voice data transmitted from a broadcasting station by being multiplexed with said main voice data or transmitted using another channel other than said main voice

data is received and stored by said storage means.

8. A method for inserting advertising voices, characterized in that, when advertising voice data is inserted into a main voice data due to advertisement inserting position information which is added to the main voice data received and indicates positions into which the advertising voice data can be inserted, the advertising voice data is inserted into silent parts and voice data with a relatively low level of importance in voice data constituting said main voice data or into the voice data with a relatively low level of importance, and the synthesized voice signals are outputted.

9. An apparatus for inserting advertising voices, comprising:

a storage means which stores advertising voice data received; and
a means which synthesizes voice data by inserting the advertising voice data stored in said storage means into positions in said main voice data designated by an advertisement inserting position information which is added to said main voice data received and indicates positions into which the advertising voice data can be inserted, and outputs the synthesized voice data after their volumes are adjusted.

10. An apparatus for inserting advertising voices which inserts advertising voice data to be presented to users into main voice data received and outputs the synthesized voice data, comprising:

an advertising voice database which stores advertising voice data received;
an advertising voice extraction part which extracts said advertising voice data from said advertising voice database;
a voice synthesizing part which synthesizes a voice signal by inserting said advertising voice data extracted in said advertising voice extraction part into said main voice data received; and
a voice outputting part which outputs the voice signal synthesized in said voice synthesizing part.

11. The apparatus for inserting advertising voices according to claim 10, wherein said main voice data includes voice data and data (referred to as "advertisement inserting point data") with respect to positions (referred to as "advertisement inserting points") in said voice data into which said advertising voice data can be inserted; and

said voice synthesizing part synthesizes said main voice data and said advertising voice data by inserting said advertising voice data into said advertisement inserting points in said voice data of said main voice data.

12. The apparatus for inserting advertising voices according to claim 10, wherein said main voice data includes voice data and data (referred to as "advertisement inserting point data") with respect to positions (referred to as "advertisement inserting points") in said voice data into which said advertising voice data can be inserted;

starting points of said silent parts are made to be said advertisement inserting points if said main voice data includes silent parts between the voice data; and
said voice synthesizing part synthesizes said main voice data and said advertising voice data by inserting said advertising voice data into said starting points of said silent parts in said main voice data designated by said advertisement inserting points.

13. The apparatus for inserting advertising voices according to claim 10, wherein said main voice data includes voice data and data (referred to as "advertisement inserting point data") with respect to positions (referred to as "advertisement inserting points") in said voice data into which said advertising voice data can be inserted;

said main voice data includes one or more voice data with a relatively high level of importance and one or more voice data with a relatively low level of importance as said voice data;
starting parts of at least one said voice data with a relatively low level of importance in said main voice data are made to be said advertisement inserting point;
said voice synthesizing part synthesizes said main voice data and said advertising voice data by inserting said advertising voice data into said starting points of said voice data with a relatively low level of importance designated by said advertisement inserting points in said main voice data.

14. The apparatus for inserting advertising voices according to claim 13, wherein, when said main voice data includes silent parts between the voice data, starting points of said silent parts are made to be said advertisement inserting points;

said voice synthesizing part synthesizes said main voice data and said advertising voice data by inserting said advertising voice data into said starting points of said silent parts in said main voice data designated by said advertisement inserting points.

15. The apparatus for inserting advertising voices ac-

cording to claim 13, wherein said voice data of said main voice data are composed of musical compositions, said voice data with a relatively high level of importance are musical performance parts of the musical compositions, and said voice data with a relatively low level of importance are episode parts of the musical compositions.

16. The apparatus for inserting advertising voices according to claim 10, wherein said voice synthesizing part synthesizes said main voice data and said advertising voice data by setting up said advertising voice data to a normal volume, lowering the volume of said main voice data from an insertion starting position of said advertising voice data, and returning back the volume of said main voice data to a normal level from an insertion ending position of said advertising voice data.

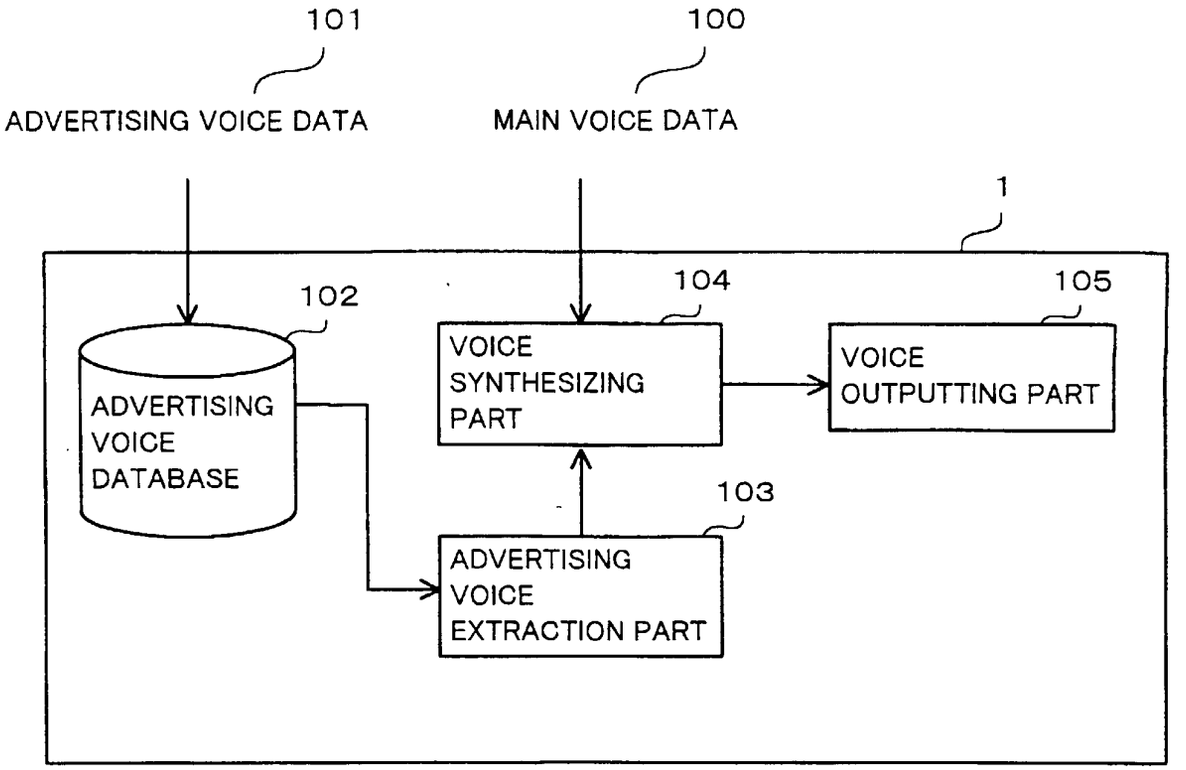
101
100
ADVERTISING VOICE DATA
MAIN VOICE DATA
1
102
104
105
ADVERTISING VOICE DATABASE
VOICE SYNTHESIZING PART
VOICE OUTPUTTING PART
103
ADVERTISING VOICE EXTRACTION PART

Fig. 1

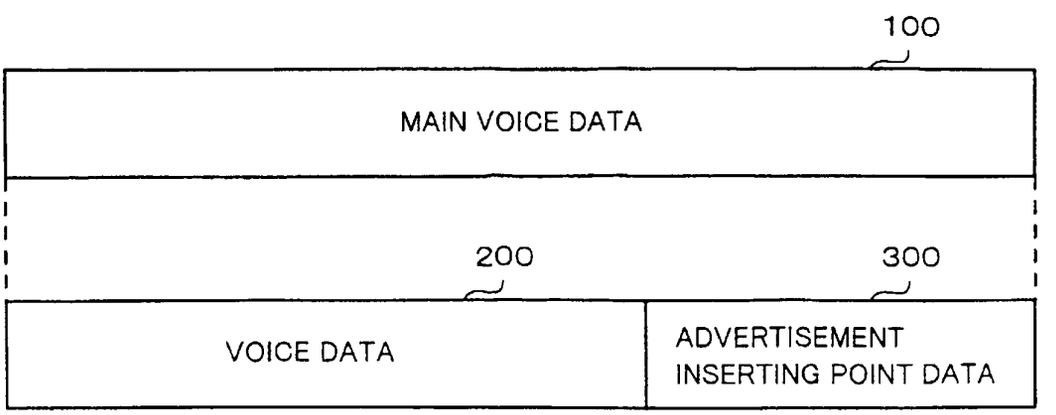
100
MAIN VOICE DATA
200
300
VOICE DATA
ADVERTISEMENT INSERTING POINT DATA

Fig. 2

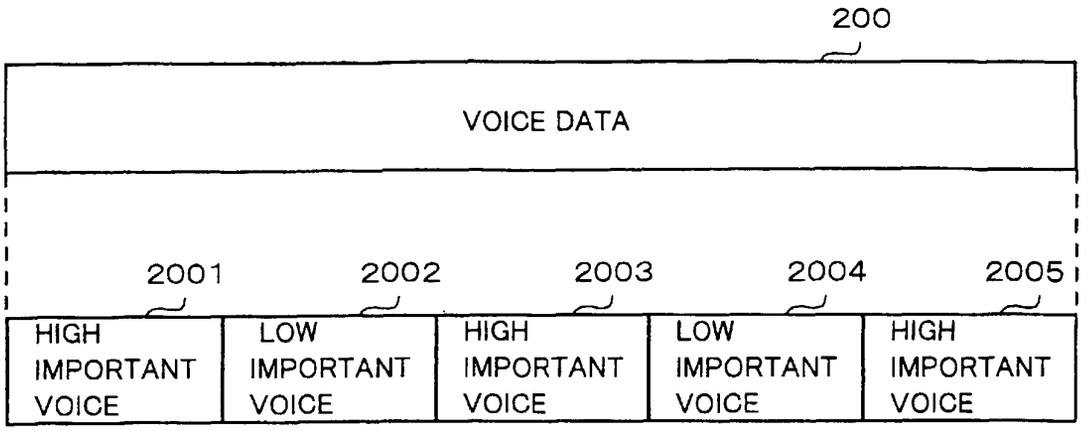

Fig. 3

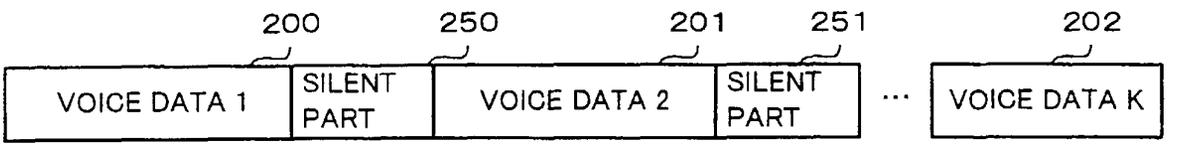

Fig. 4

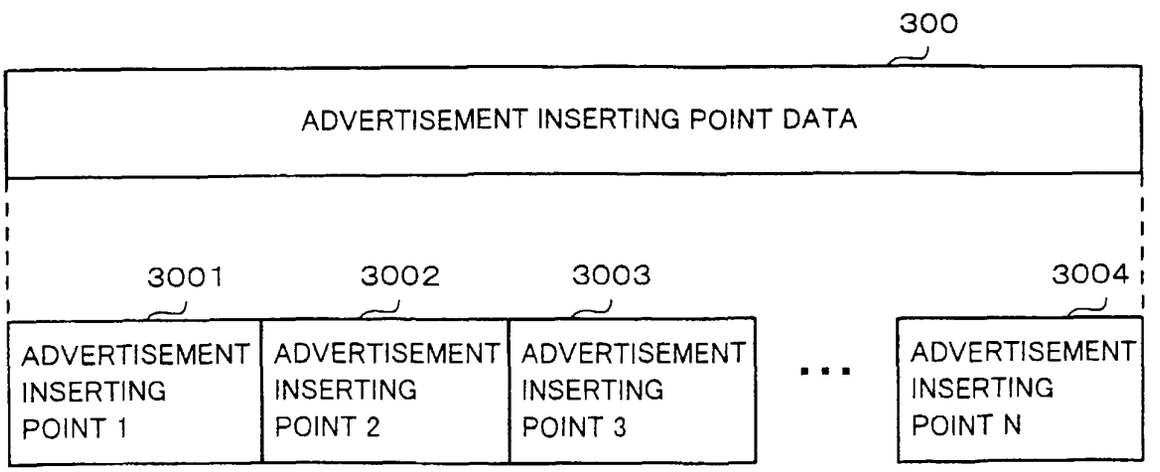

Fig. 5

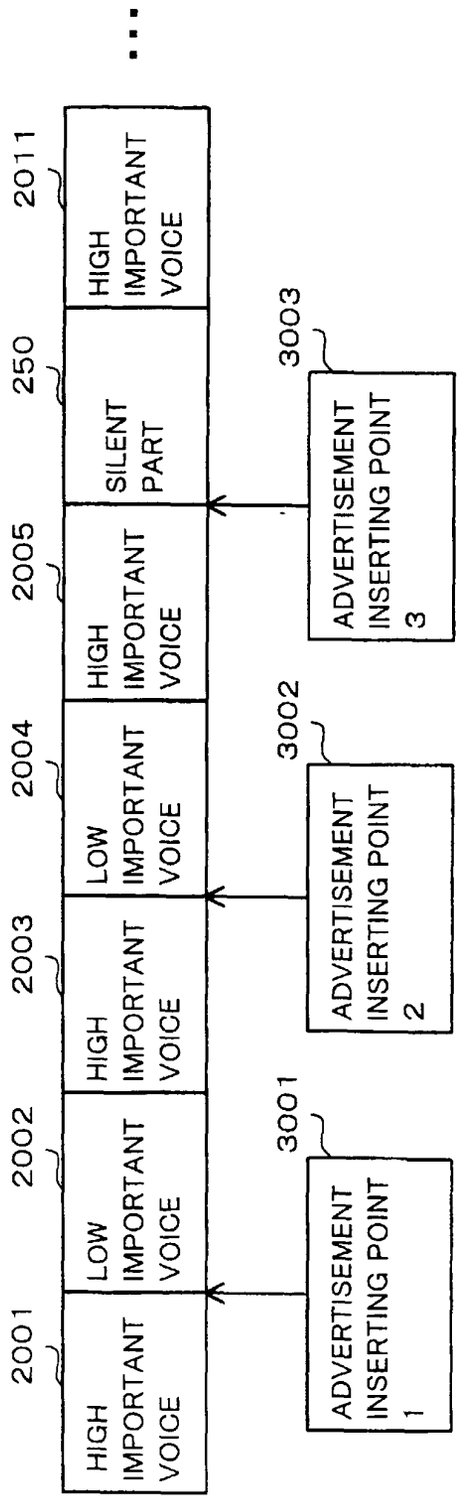
2001
HIGH IMPORTANT VOICE
2002
LOW IMPORTANT VOICE
2003
HIGH IMPORTANT VOICE
2004
LOW IMPORTANT VOICE
2005
HIGH IMPORTANT VOICE
250
SILENT PART
2011
HIGH IMPORTANT VOICE
...
3001
ADVERTISEMENT INSERTING POINT 1
3002
ADVERTISEMENT INSERTING POINT 2
3003
ADVERTISEMENT INSERTING POINT 3

Fig. 6

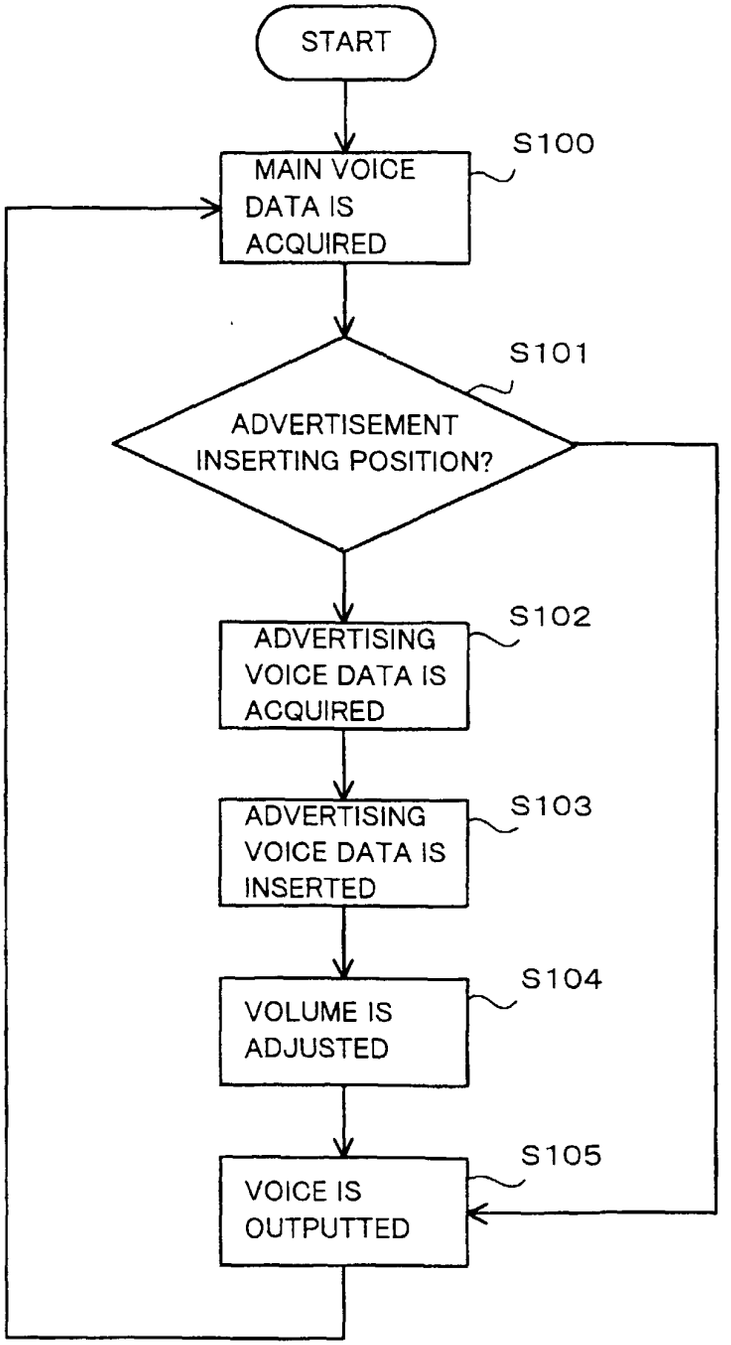
START
S100
MAIN VOICE DATA IS ACQUIRED
S101
ADVERTISEMENT INSERTING POSITION?
S102
ADVERTISING VOICE DATA IS ACQUIRED
S103
ADVERTISING VOICE DATA IS INSERTED
S104
VOLUME IS ADJUSTED
S105
VOICE IS OUTPUTTED

Fig. 7