



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

LEANING et al

Atty. Ref.: 36-1698; Confirmation No. 2588

Appl. No. 10/433,259

TC/A.U. 2153

Filed: June 2, 2003

Examiner: J. Higa

For: TRANSMISSION AND RECEPTION OF AUDIO AND/OR VIDEO MATERIAL

* * * * *

April 25, 2008

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

Sir:

AMENDMENT

In response to the Office Action dated January 25, 2008, please amend the
above-identified application as follows:

04/28/2008 RHEBRANT 00000096 10433259

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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Canceled).

2. (Previously Presented) A terminal according to claim 3 arranged in operation to decode the files before storing them in the buffer.

3. (Currently Amended) A terminal for playing audio or video material which is stored on a remote server as a set of files representing successive temporal portions of said material, the terminal comprising:

a telecommunications interface for communication with the server;

a buffer for receiving the files from the telecommunications interface;

means for playing the contents of the buffer;

control means operable to determine addresses of further files to be requested and operable in response to the state of the buffer to generate request messages, containing such addresses, for further files for replenishment of the buffer; and

means operable for identifying a starting file for decoding by an iterative process of trial requests comprising generating a to-generate-a-series-of-trial request for a first file, receiving a reply indicating whether the requested file exists, if the requested file exists generating a trial request for a later file or, if it does not exist, generating a trial

~~request for an earlier file. requests to identify the most recent file and to commence decoding starting with the identified sub-file.~~

Claims 4-9 (Canceled).

10. (Previously Presented) A terminal according to claim 3 in which the files are allocated addresses according to a predetermined algorithm and the terminal includes means operable for a said request message to calculate, in accordance with said algorithm, an address for inclusion in the request message.

Claim 11 (Canceled).

12. (Previously Presented) A method according to claim 14 in which the material is stored in a buffer and the request messages are generated in dependence on the state of the buffer.

13. (Original) A method according to claim 12 in which the material is stored in the buffer after decoding.

14. (Currently Amended) A method of transmitting digitally coded audio or video material, said method comprising:

partitioning the material into a plurality of discrete files each representing successive temporal portions of the said material;

storing the files at a first station; and

at a second station

a) transmitting to the first station requests for successive respective ones of the files;

b) receiving the files;

c) decoding the files for replay of the material;

d) generating a trial request for a first file,

e) receiving from the first station a reply including data representing the original time of the first file and the time of said reply, and

f) estimating from these data an estimated identity of a the-most recent file at the first station. ~~stations.~~

15. (Currently Amended) A method, of transmitting digitally coded audio or video material, said method comprising:

partitioning the material into a plurality of discrete files each representing successive temporal portions of the said material;

storing the files at a first station; and

at a second station

a) transmitting to the first station requests for successive respective ones of the files;

- b) receiving the files; and
- c) decoding the files for replay of the material;
- d) wherein the second station identifies a starting file for decoding by an iterative process of trial requests comprising generating a series of trial request for a first file, receiving from requests to identify the most recent file at the first station a reply indicating whether the requested file exists, if the requested file exists, generating a trial request for a later file or, if it does not exist, generating a trial request for an earlier file, and commencing said decoding starting with the identified file.

16. (Currently Amended, Withdrawn) A method according to claim 14 of transmitting digitally coded audio or video material, said method comprising:

partitioning the material into a plurality of discrete files each representing successive temporal portions of the said material;

storing the files at a first station; and

at a second station

- a) transmitting to the first station requests for successive respective ones of the files;

- b) receiving the files; and

- c) decoding the files for replay of the material;

including storing a plurality of sets of files, which sets correspond to respective different delivery modes, and including, at the second station, effecting mode switching

by providing that subsequent request messages shall request files from a set different from the set to which the immediately preceding request related.

17. (Withdrawn) A method according to claim 16 in which at least some of said sets of files correspond to respective different data rates, including:

monitoring the received data rate at the second station; and

in the event that the measured rate is below that needed for the set to which the currently requested field belongs, performing mode switching to provide that subsequent said request messages shall request files from a set corresponding to a lower data rate.

18. (Withdrawn) A method according to claim 16 in which at least some of said sets of files correspond to respective different data rates, including:

monitoring the received data rate at the second station; and

in the event that the measured rate is sufficient to support delivery of files of a higher data rate than that of the set to which the currently requested file belongs, performing mode switching to provide that subsequent said request messages shall request files from a set corresponding to a higher data rate.

19. (Withdrawn) A method according to claim 16 in which at least some of said sets of files correspond to respective different playing modes, in which:

the second station includes means to receive commands from a user of the second station to perform said mode switching from a current playing mode to a desired playing mode corresponding to that command; and

the mode switching means is operable, upon receipt of the command, to provide that subsequent said request messages shall request files from a set corresponding to said desired playing mode.

20. (Previously Presented) A method according to claim 14 in which said material is audio material, in which:

- a) the files are encoded using an audio coding method having a frame structure;
- b) the step of partitioning the material into a plurality of discrete files comprises notionally dividing the material into a plurality of temporal portions and generating each said file, other than the last, by coding one respective temporal portion and an initial part of the following portion such that the portions together represent a whole number of frames;
- c) after decoding, that part of the decoded material which corresponds to said initial part of the following portion is discarded.

21. (Previously Presented) A method according to claim 14 in which said material is audio material, in which:

- a) the files are encoded using an audio coding method having a frame structure;

- b) the step of partitioning the material into a plurality of discrete files comprises notionally dividing the material into a plurality of temporal portions and generating at least some of said files by coding one respective temporal portion and so much of the end of the immediately preceding temporal portion and/or the beginning of the immediately following temporal portion as to constitute with said one respective said temporal portion, a whole number of frames of said frame structure; and
- c) after decoding, that part of the decoded material which corresponds to said end of the immediately preceding temporal portion and/or beginning of the immediately following temporal portion is discarded.

22. (Previously Presented) A method according to claim 20 in which said sets comprise a first set and a second set for which the frame length is different from that used for encoding the second set, and the division into temporal portions is the same for both sets.

23. (Previously Presented) A method according to claim 13 in which said material is audio material, in which:

- a) the files are encoded using an audio coding method having a frame structure;
- b) the step of partitioning the material into a plurality of discrete files comprises notionally dividing the material into a plurality of temporal portions and generating each said file, other than the last, by coding one respective temporal portion

and an initial part of the following portion such that the portions together represent a whole number of frames;

c) after decoding, that part of the decoded material which corresponds to said initial part of the following portion is discarded and

wherein that part of the decoded material which corresponds to said initial part of the following portion is not stored in the buffer.

24. (Withdrawn) A method according to claim 16 in which said material is in the form of video recordings, at least some of said files having been encoded using, for at least some frames thereof, inter-frame coding, and including, at the second station, before generating the request message for a file from a different set, generating a request message for a file for correction of decoder tracking.

25. (Previously Presented) A method according to claim 14 in which the files are allocated addresses according to a predetermined algorithm, the method including calculating, at the second station in accordance with said algorithm, an address for inclusion in a request message.

26. (Original) A method according to claim 25 in which the algorithm generates the addresses in accordance with a key, including the step of transmitting the key to the second station for use in calculating the addresses.

27. (Original) A method according to claim 26 in which the algorithm generates the addresses in accordance with a pseudo-random sequence.

28. (Original) A method according to claim 27 in which the algorithm generates the addresses in accordance with a pseudo-random sequence and the key is a seed value for setting the start point of the pseudo-random sequence.

29. (Previously Presented) A method according to claim 14 including, at the second station:

(a) receiving from the first station a list containing times and data defining actions to be performed at those times;

(b) computing a time, relative to the beginning of the material, represented by the current playing point;

(c) comparing the computed time with the times in the list and, in the event of a match generating a command containing the respective data for initiation of the action.

30. (Original) A method according to claim 29 in which the actions include the display of a subtitle.

31. (Previously Presented) A method according to claim 29 in which the actions include the display of an image.

32. (Original) A method according to claim 31 including transmitting to the first station a request for images identified by the said data, and storing the images at the second station until required for display.

33. (Withdrawn) A method according to claim 16 in which each said address has a first part and a second part, wherein all files of a given mode have the same first part and wherein files that are of different modes but correspond to the same temporal portion of said audio or video material have the same second part, whereby mode switching may be effected by changing the first part of the address.

34. (New) A terminal for playing audio or video material which is stored on a remote server as a set of files representing successive temporal portions of the said material, the terminal comprising:

a telecommunications interface for communication with the server;

a buffer for receiving the files from the telecommunications interface;

means for playing the contents of the buffer; and

control means operable to determine the addresses of further files to be requested and operable in response to the state of the buffer to generate request messages, containing such addresses, for further files for replenishment of the buffer,

wherein said control means being further operable for generating a trial request for a first file, for receiving a reply including data representing the original time of the first file and the time of said reply; and for estimating from these data an estimated identity of the most recent file.

35. (New) A terminal according to claim 34 arranged in operation to decode the files before storing them in the buffer.

36. (New) A terminal according to claim 34 in which the files are allocated addresses according to a predetermined algorithm and the terminal includes means operable for a said request message to calculate, in accordance with said algorithm, an address for inclusion in the request message.

37. (New) A method according to claim 15 in which the material is stored in a buffer and the request messages are generated in dependence on the state of the buffer.

38. (New) A method according to claim 37 in which the material is stored in the buffer after decoding.

39. (New) A method according to claim 15 in which said material is audio material, in which:

- a) the files are encoded using an audio coding method having a frame structure;
- b) the step of partitioning the material into a plurality of discrete files comprises notionally dividing the material into a plurality of temporal portions and generating each said file, other than the last, by coding one respective temporal portion and an initial part of the following portion such that the portions together represent a whole number of frames;
- c) after decoding, that part of the decoded material which corresponds to said initial part of the following portion is discarded.

40. (New) A method according to claim 15 in which said material is audio material, in which:

- a) the files are encoded using an audio coding method having a frame structure;
- b) the step of partitioning the material into a plurality of discrete files comprises notionally dividing the material into a plurality of temporal portions and generating at least some of said files by coding one respective temporal portion and so much of the end of the immediately preceding temporal portion and/or the beginning of the immediately following temporal portion as to constitute with said one respective said temporal portion, a whole number of frames of said frame structure; and

c) after decoding, that part of the decoded material which corresponds to said end of the immediately preceding temporal portion and/or beginning of the immediately following temporal portion is discarded.

41. (New) A method according to claim 40 in which said sets comprise a first set and a second set for which the frame length is different from that used for encoding the second set, and the division into temporal portions is the same for both sets.

42. (New) A method according to claim 38 in which said material is audio material, in which:

a) the files are encoded using an audio coding method having a frame structure;

b) the step of partitioning the material into a plurality of discrete files comprises notionally dividing the material into a plurality of temporal portions and generating each said file, other than the last, by coding one respective temporal portion and an initial part of the following portion such that the portions together represent a whole number of frames;

c) after decoding, that part of the decoded material which corresponds to said initial part of the following portion is discarded and

wherein that part of the decoded material which corresponds to said initial part of the following portion is not stored in the buffer.

43. (New) A method according to claim 15 in which the files are allocated addresses according to a predetermined algorithm, the method including calculating, at the second station in accordance with said algorithm, an address for inclusion in a request message.

44. (New) A method according to claim 43 in which the algorithm generates the addresses in accordance with a key, including the step of transmitting the key to the second station for use in calculating the addresses.

45. (New) A method according to claim 44 in which the algorithm generates the addresses in accordance with a pseudo-random sequence.

46. (New) A method according to claim 45 in which the algorithm generates the addresses in accordance with a pseudo-random sequence and the key is a seed value for setting the start point of the pseudo-random sequence.

REMARKS/ARGUMENTS

Claims 2, 3, 8, 10, 12-14, 20-23 and 25-46 stand in the present application, claims 3 and 14-16 having been amended, claims 4-9 having been canceled, and new claims 34-46 having been added. In addition, Applicants have identified claims 16-19, 24 and 33 as withdrawn for not having been elected for examination on the merits. It should be noted, however, that claims 16-19, 24 and 33 depend from claim 14 which the Examiner has deemed to obtain allowable subject matter and accordingly should claim 14 be allowed in this case, then claims 16-19, 24 and 33 should also be allowed in this case. Applicants note with appreciation the Examiner's indication of allowable subject matter in claims 12-14, 20-23 and 25-32, but respectfully submit that in view of the above amendments and the following remarks that all of the claims now standing in this case are in condition for allowance.

In the Office Action, the Examiner has objected to claims 4-7, 9, 16-19, 24 and 33 because they have not been indicated as canceled or withdrawn. As noted above, Applicants have canceled claims 4-7 and 9 and have further designated claims 16-19, 24 and 33 as withdrawn. Accordingly, the Examiner's objection to the claims is believed to have been overcome.

The Examiner has also rejected claims 3, 14 and 15 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 regard as the invention. As noted above,

these claims have been amended and accordingly the Examiner's § 112, second paragraph, rejection of the claims is also believed to have been overcome.

In view of the amendment to claim 14 correcting the § 112, second paragraph, deficiency pointed out by the Examiner it is respectfully submitted that claim 14 and its respective dependent claims are now in condition for allowance.

The Examiner has rejected claims 3, 10 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Peters in view of Corley et al. ("Corley"). In view of the above-described claim amendments to claims 3 and 15, the Examiner's § 103 rejection of these claims is believed to have been overcome, as will be explained in greater detail below.

In the Office Action, the Examiner has acknowledged that Peters does not expressly teach a means operable to generate a series of trial requests to identify the most recent file and to commence the coding starting with the identified sub-file. See Office Action at page 4. To overcome this deficiency of Peters, the Examiner is relying on Corley and has specifically cited column 9, lines 54-65 and column 13, lines 58-59 of Corley as showing "a series of file requests to identify the most recent file." However, these requests in Corley consist merely of asking for the same file again and again, until it becomes available. Thus Corley may disclose a series of requests or possibly even a series of trial requests, but it should be clear that the requests do not serve to "identify the most recent file" nor indeed to identify anything other than whether the requested file is or is not available.

As noted above, Applicants have amended claims 3 and 15 to more clearly recite “identifying the most recent file by identifying a starting file for decoding by an iterative process of trial requests and determining whether the requested file exists, and if so, generating a trial request for a later file or if not, generating a trial request for an earlier file.” Since the cited references taken either singly or in combination do not teach or suggest this feature of Applicants’ invention, as now more clearly recited in independent claims 3 and 15, these claims are believed to patentably define over the cited references. Accordingly, independent claims 3 and 15 and their respective dependent claims are believed to patentably define over Peters and Corley taken either singly or in combination.

The Examiner has also rejected claims 2 and 8 as being obvious over Peters in view of Corley and further in view of Huang et al. or Debey, respectively. Applicants respectfully traverse the Examiner’s § 103 rejection of these claims.

It should be clear that the secondary references of Huang and Debey do not solve the deficiencies noted above with respect to Peters and Corley. More particularly, Huang has merely been cited for teaching a playback buffer which receives decoded audio blocks from an audio buffer and Debey has merely been cited for removing redundant data from a playback buffer. Since these references do not solve the deficiencies noted above with respect to Peters and Corley, it is respectfully submitted that dependent claim 2 patentably defines over the cited references taken either singly

or in any combination. Applicants have canceled claim 8 so the Examiner's rejection of that claim is moot.

In addition, Applicants have added a new apparatus claim 34 which substantially corresponds to allowable method claim 14, and dependent claims 35 and 36 which correspond to original claims 2 and 10. Accordingly, claims 34-36 are believed to patentably define over the cited art for the same reasons that claim 14 depends over the cited art.

Finally, new claims 37-46, which correspond to original claims 12, 13, 20-23 and 25-28, respectively, have been added to depend from claim 15. These claims are believed to patentably define over the cited art for the same reasons given above with respect to claim 15.

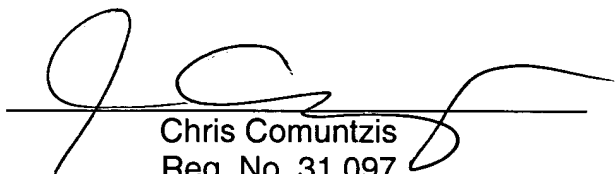
Therefore, it is respectfully requested that the application be reconsidered and that all of claims 2, 3, 8, 10, 12-15, 20-23, 25-32 and 34-46 which are under consideration in this case be allowed and that the case be passed to issue. In addition, dependent claims 16-19, 24 and 33 which have been withdrawn from consideration but depend ultimately from an allowable claim 14 are also believed to be in condition for allowance. If there are any other issues remaining which the Examiner believes could

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be resolved through either a supplemental response or an Examiner's amendment, the Examiner is respectfully requested to contact the undersigned at the local telephone exchange indicated below.

Respectfully submitted,

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