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(54) Title: METHOD OF SPLICING ENCODED MULTIMEDIA DATA STREAMS

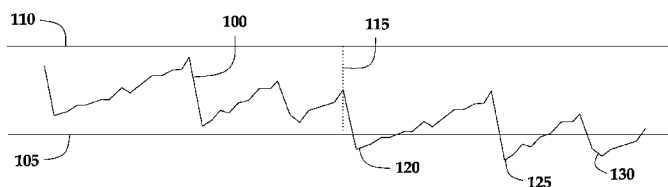


Figure 1A

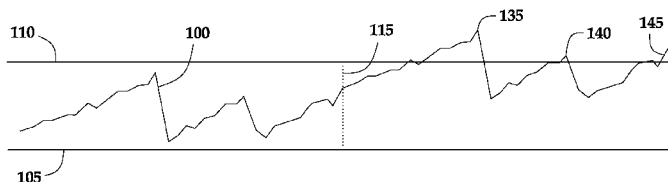


Figure 1B

(57) Abstract: The present invention provides a method of splicing data streams flowing between an encoder and a decoder. The method includes accessing a first encoded data stream. The first encoded data stream is encoded by the encoder based upon a first buffer size associated with the decoder. The method also includes delaying the first encoded data stream by an offset determined based on a second buffer size associated with the decoder. The second buffer size is larger than the first buffer size. The method further includes splicing one or more second encoded data stream(s) into the delayed first encoded data stream.



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N7/24

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)
H04N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7 139 241 B1 (GAZIT HILLEL [US]) 21 November 2006 (2006-11-21)	1,4,9
Y	column 3, line 35 - column 4, line 51 figures 1-3	2,3
X	WO 02/09425 A (AGILEVISION L L C [US]) 31 January 2002 (2002-01-31)	5-8,10
Y	page 1, line 7 - line 10 page 4, line 1 - line 5 page 5, line 3 - line 20 page 7, line 1 - page 8, line 15 claim 12 figures 1-4	3
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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 document but published on or after the international filing date
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- *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

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/030082

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>US 2007/140358 A1 (SCHWARTZ MAYER D [US] ET AL SCHWARTZ MAYER D [US] ET AL) 21 June 2007 (2007-06-21) paragraph [0012] paragraph [0035] - paragraph [0046] figures 1-6</p> <p style="text-align: center;">-----</p>	2
A	<p>WO 2004/019530 A (VISIBLE WORLD INC [US]) 4 March 2004 (2004-03-04) page 4, line 1 - line 10 page 8, line 13 - line 23 page 15, line 10 - page 18, line 33 figures 1-15</p> <p style="text-align: center;">-----</p>	1,2,4,9
A	<p>MEHDI.REZAEI ET AL: "Spliced Video and Buffering Considerations for Tune-In Time Minimization in DVB-H for Mobile TV" PERSONAL, INDOOR AND MOBILE RADIO COMMUNICATIONS, 2006 IEEE 17TH INTER NATIONAL SYMPOSIUM ON, IEEE, PI, 1 September 2006 (2006-09-01), pages 1-5, XP031023391 ISBN: 978-1-4244-0329-5 abstract</p> <p style="text-align: center;">-----</p>	1,2,4,9
A	<p>US 6 049 569 A (RADHA HAYDER [US] ET AL) 11 April 2000 (2000-04-11) column 7, line 5 - line 47</p> <p style="text-align: center;">-----</p>	3,5-8,10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/030082

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,4,9

maintaining the decoder buffer around the midpoint to prevent buffer under-/overflows at a splice-in point, where a secondary encoded data stream is spliced into the primary encoded data stream.

2. claims: 3,5-8,10

adjusting the transmission rate of a secondary encoded data stream to prevent buffer under-/overflows at a splice-out point, where a primary encoded stream is resumed after the end of the inserted secondary encoded data stream.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/030082

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