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Jones et al.

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(54) **METHOD AND APPARATUS FOR MEDIA DATA TRANSMISSION**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 733 days.

This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

(63) Continuation of application No. 10/177,119, filed on Jun. 21, 2002, now Pat. No. 6,714,984, which is a continuation of application No. 09/139,378, filed on Aug. 25, 1998, now Pat. No. 6,453,355.

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(51) **Int. Cl.**
G06F 15/16 (2006.01)

(52) **U.S. Cl.** **709/230**; 709/231; 370/394

(58) **Field of Classification Search** 709/230–231; 345/327, 259; 370/394
See application file for complete search history.

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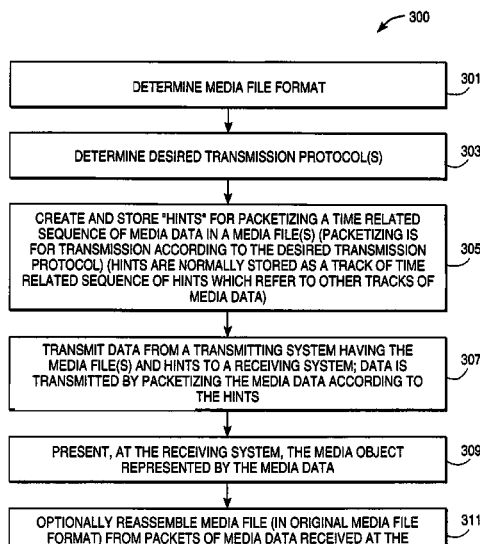
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(57) **ABSTRACT**

Methods and apparatuses for processing media data transmitted in a data communication medium. A digital processing system is provided with a time related sequence of media data provided to the digital processing system based on a set of data, wherein the set of data indicates a method to transmit the time related sequence of media data according to a transmission protocol. The set of data, itself, is a time related sequence of data associated with the time related sequence of media data. The time related sequence of media data may be presented and/or stored by the digital processing system.

59 Claims, 14 Drawing Sheets

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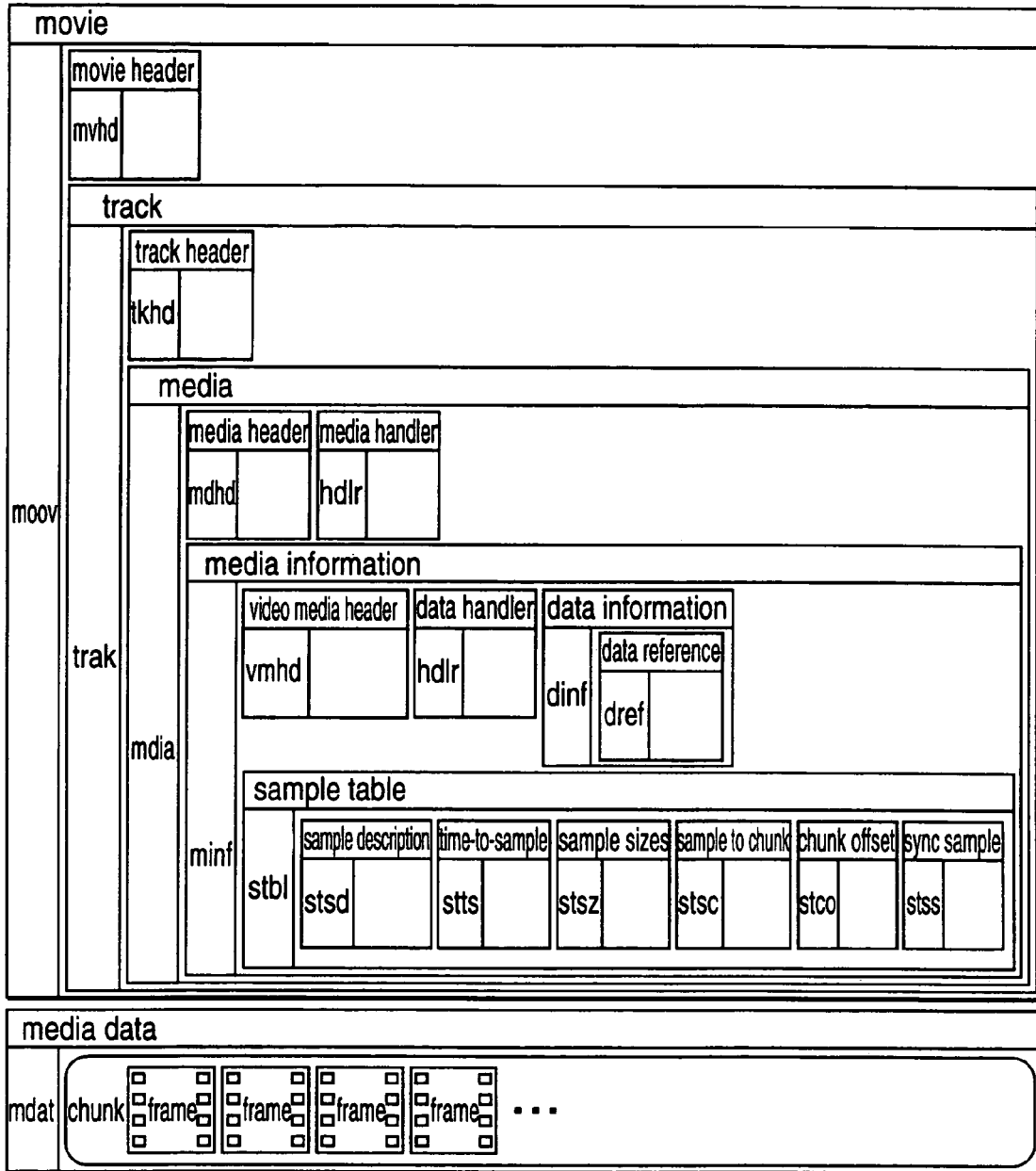
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movie

movie header

mvhd

track

track header

tkhd

media

media header

mdhd

media handler

hdlr

media information

video media header

vmhd

data handler

hdlr

data information

dinf

data reference

dref

sample table

stbl

sample description

stsd

time-to-sample

stts

sample sizes

stsz

sample to chunk

stsc

chunk offset

stco

sync sample

stss

moov

trak

mdia

minf

media data

mdat chunk frame frame frame frame • • •

FIG. 1

FIG. 2

300

301
DETERMINE MEDIA FILE FORMAT

303
DETERMINE DESIRED TRANSMISSION PROTOCOL(S)

305
CREATE AND STORE "HINTS" FOR PACKETIZING A TIME RELATED SEQUENCE OF MEDIA DATA IN A MEDIA FILE(S) (PACKETIZING IS FOR TRANSMISSION ACCORDING TO THE DESIRED TRANSMISSION PROTOCOL) (HINTS ARE NORMALLY STORED AS A TRACK OF TIME RELATED SEQUENCE OF HINTS WHICH REFER TO OTHER TRACKS OF MEDIA DATA)

307
TRANSMIT DATA FROM A TRANSMITTING SYSTEM HAVING THE MEDIA FILE(S) AND HINTS TO A RECEIVING SYSTEM; DATA IS TRANSMITTED BY PACKETIZING THE MEDIA DATA ACCORDING TO THE HINTS

309
PRESENT, AT THE RECEIVING SYSTEM, THE MEDIA OBJECT REPRESENTED BY THE MEDIA DATA

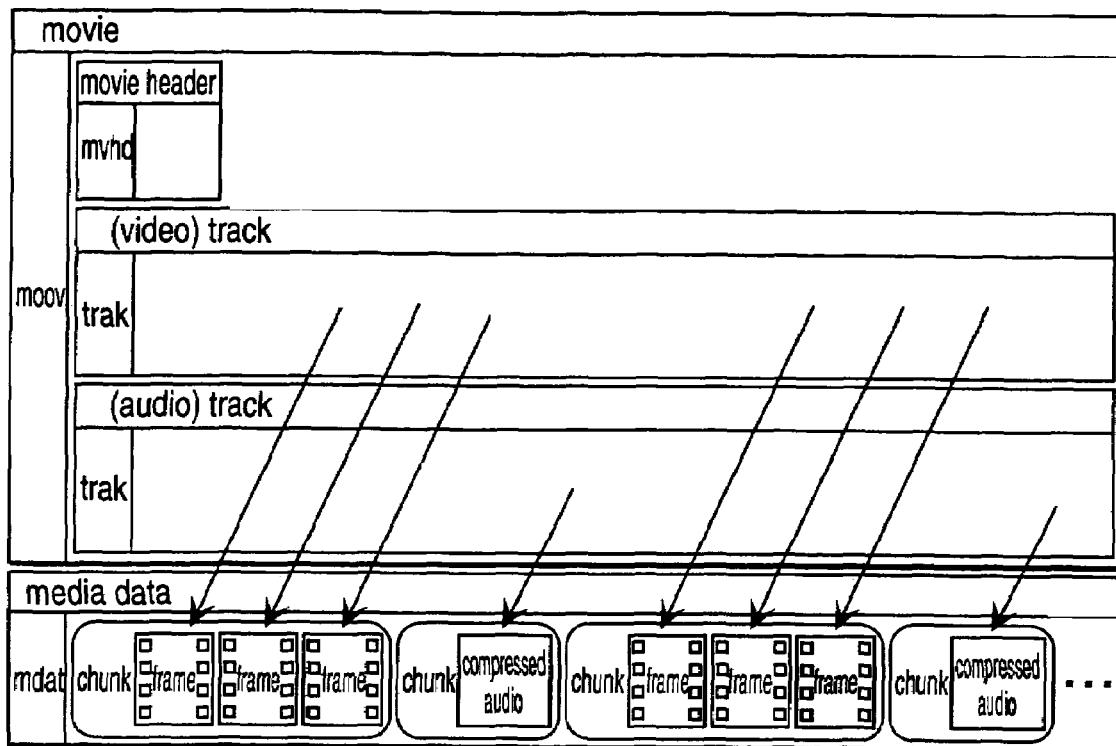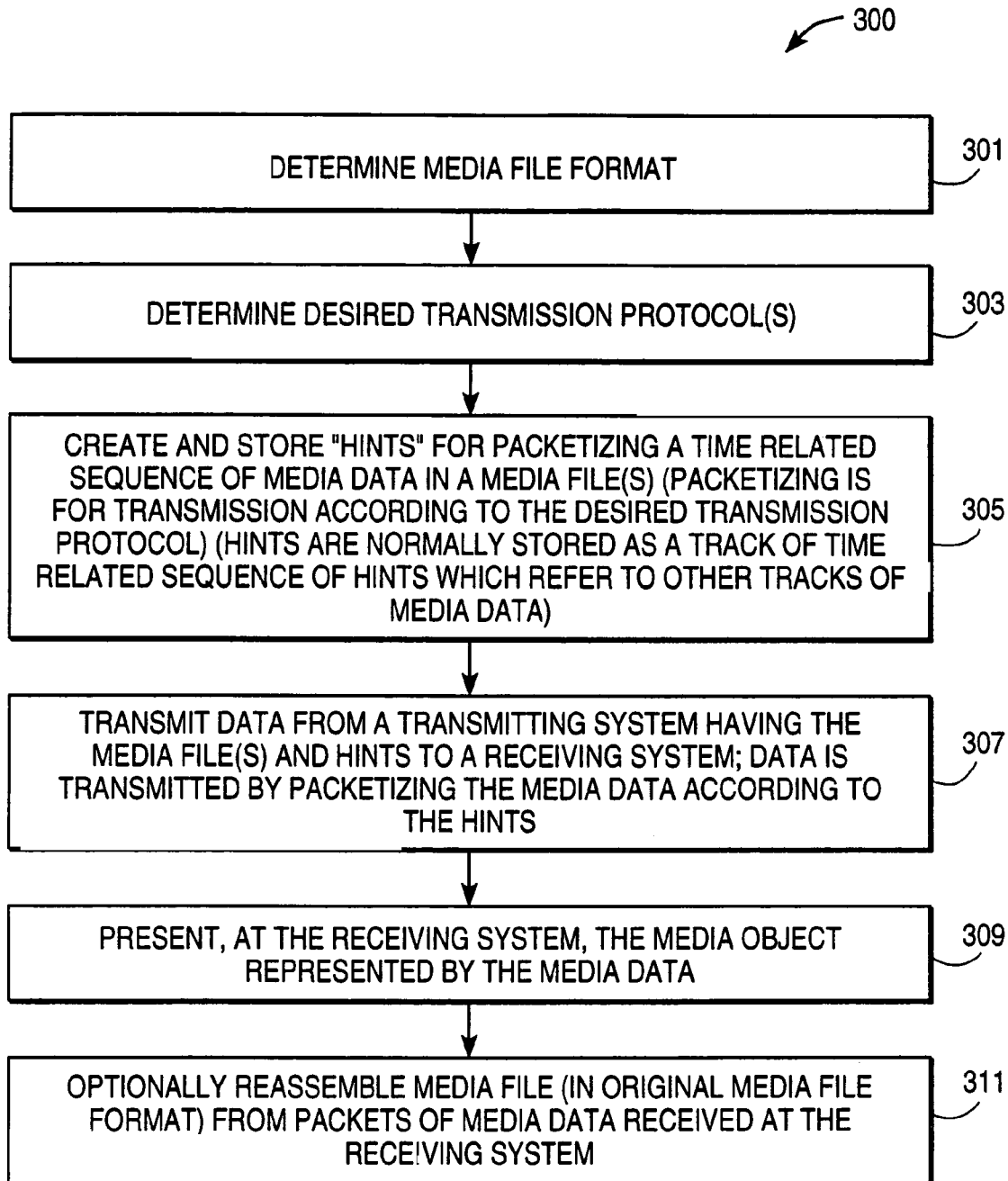| 311 |
| --- |
| OPTIONALLY REASSEMBLE MEDIA FILE (IN ORIGINAL MEDIA FILE FORMAT) FROM PACKETS OF MEDIA DATA RECEIVED AT THE RECEIVING SYSTEM |

FIG. 3

DOCKET ALARM

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