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Janevski

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(54) **APPARATUS AND METHOD FOR SYNCHRONIZING PRESENTATION FROM BIT STREAMS BASED ON THEIR CONTENT**

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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 1435 days.

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(51) **Int. Cl.**
H04N 7/00   (2006.01)
H04N 5/91   (2006.01)
(52) **U.S. Cl.** **386/96**; 386/80; 386/46; 386/68
(58) **Field of Classification Search** 386/96, 386/92, 113, 124, 13, 21, 40, 46, 52, 80, 85, 386/68
See application file for complete search history.

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(57)   **ABSTRACT**

Content of multiple digital bit streams with essentially the same renderable content, and situated at mutually remote locations, are played back in unison. First, time is synchronized among the processors that participate in a synchronized viewing session by playing back respective streams. Second, the playbacks are content-wise aligned, by rewinding or fast forwarding, to effect overall a precisely synchronized presentation. The content-wise alignment is achieved by means of a status message between processors that contains information characteristic of the sender's bit stream. If any participant, performs a control function (e.g. rewind, fast forward, stop), all other participants follow synchronously. The processor that initiates the session is deemed the initiator, a role that is thereafter assumed by the participant that has last performed a control function. The initiator directs all participants, at session startup, upon execution of each control function, and periodically, to synchronize their playbacks to that of the initiator, whereby all playbacks are synchronized and maintain in synchronization.

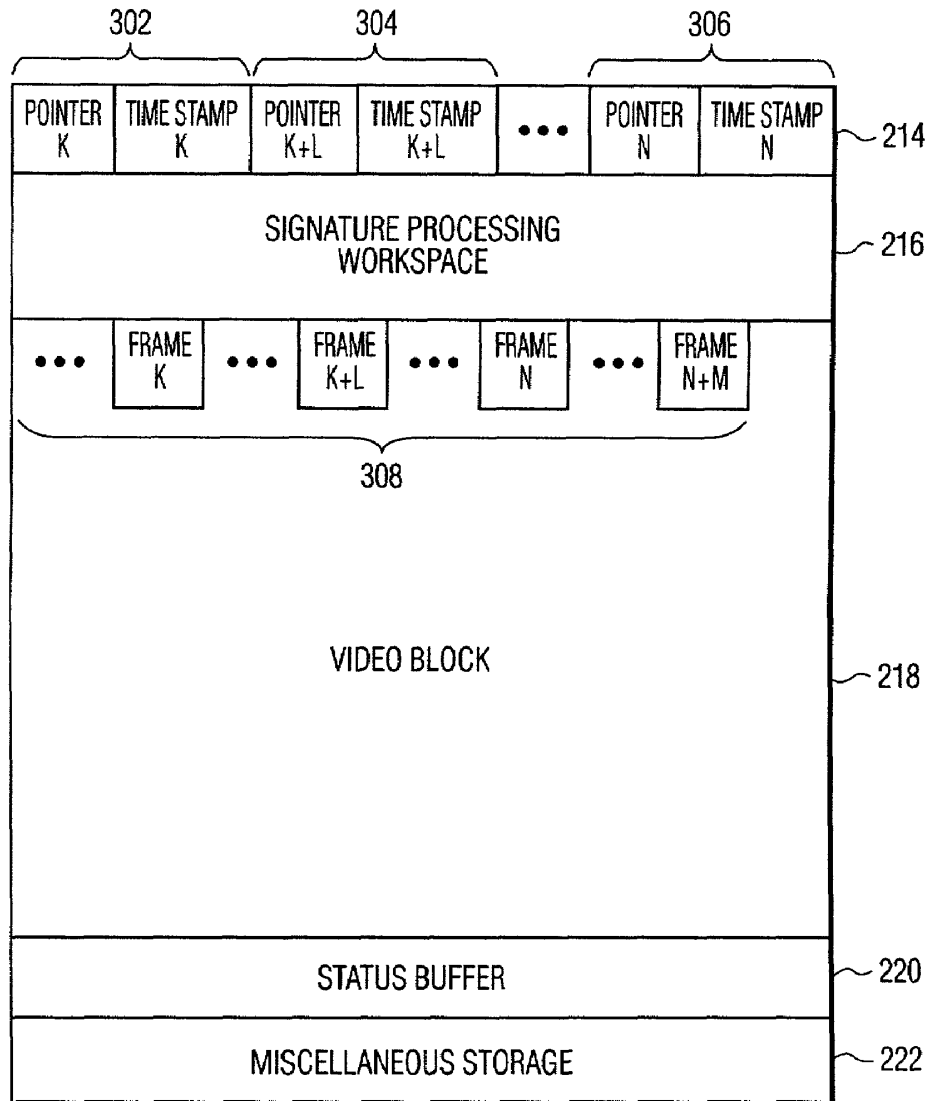**35 Claims, 9 Drawing Sheets**
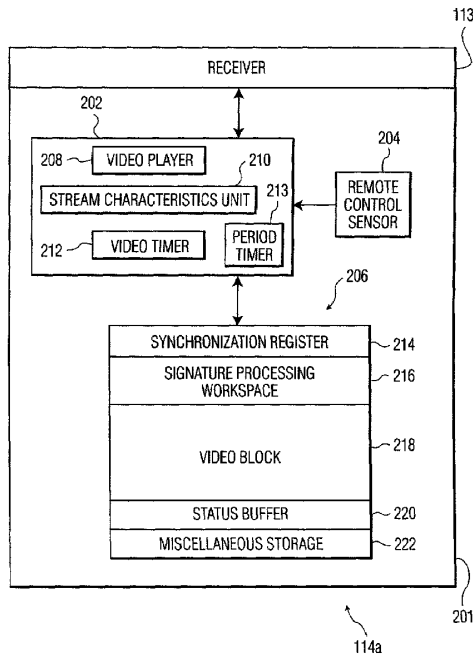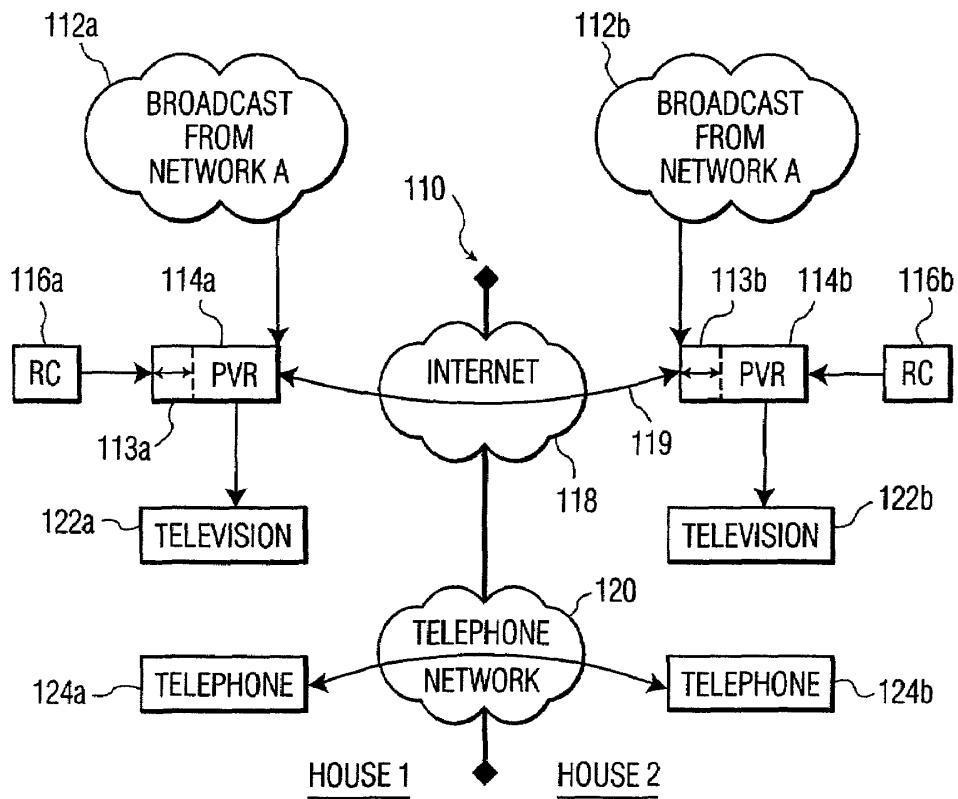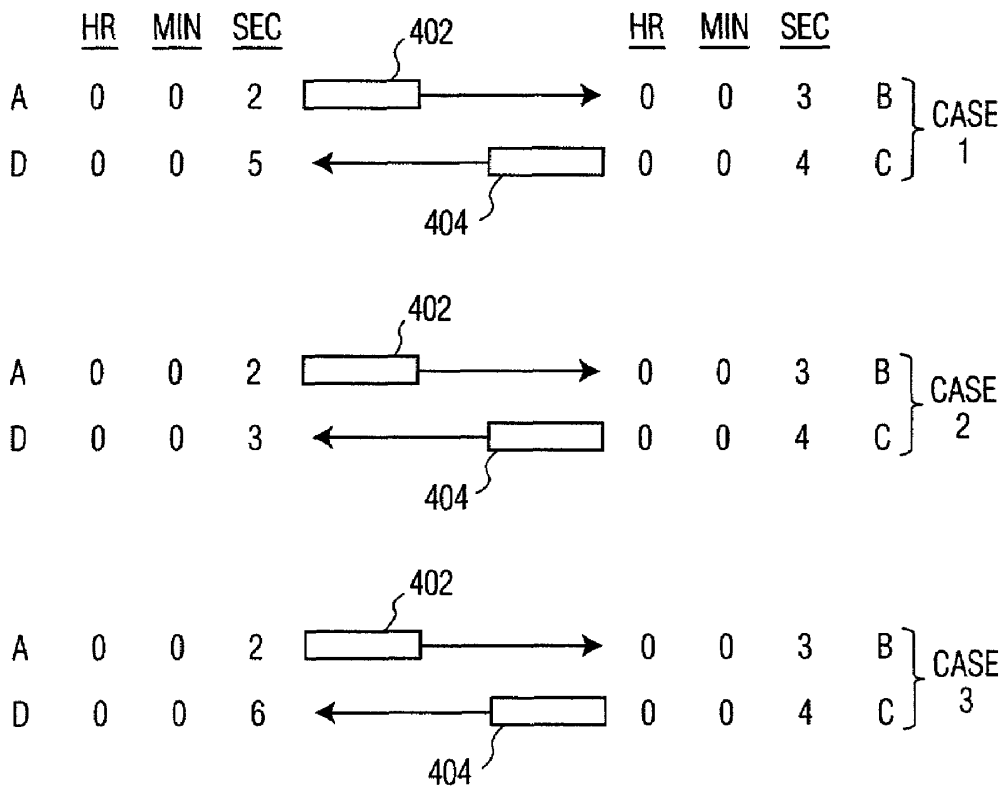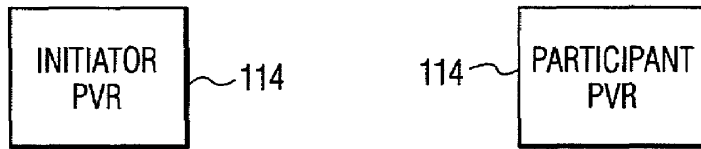
FIG. 1
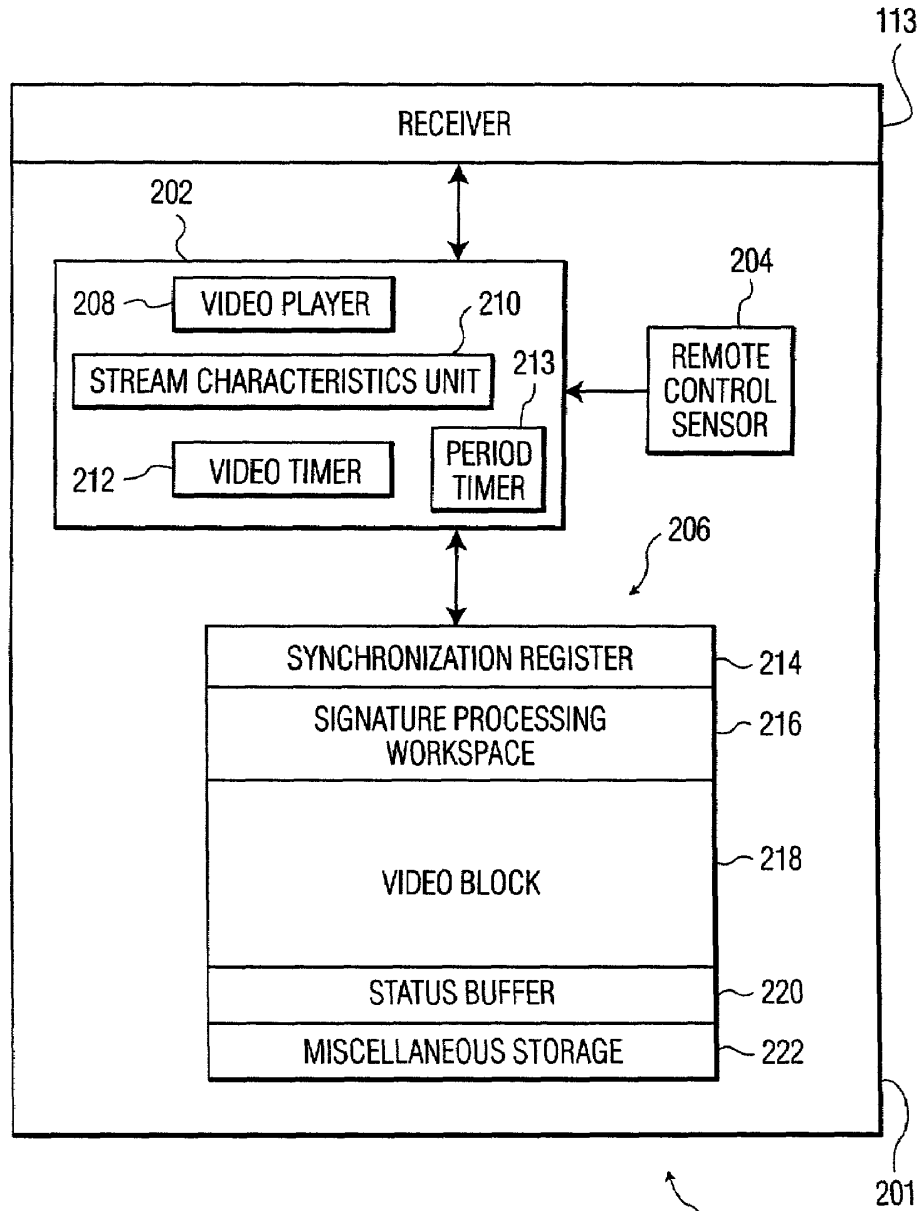
FIG. 2

FIG. 3

FIG. 4

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