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Goldhor et al.

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(54) **METHOD AND APPARATUS FOR CONTINUOUS PLAYBACK OR DISTRIBUTION OF INFORMATION INCLUDING AUDIO-VISUAL STREAMED MULTIMEDIA**

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(65) **Prior Publication Data**

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Related U.S. Application Data

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(51) **Int. Cl.**⁷ **G06F 15/16**

(52) **U.S. Cl.** **709/231; 709/232; 709/233**

(58) **Field of Search** **709/217, 219, 709/218, 231, 232, 233, 234, 235; 348/6, 7, 513, 516, 518; 725/101, 92, 93, 94, 95, 96, 88, 89, 90, 134, 142**

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(57) **ABSTRACT**

An embodiment of the present invention is an apparatus for preparing media for playback which comprises: (a) a buffer which stores data corresponding to the media; (b) a time-scale modification system that time-scale modifies data output from the buffer at a playback rate; and (c) a rate determiner that determines the playback rate over an interval to control the amount of data in the buffer.

2 Claims, 16 Drawing Sheets

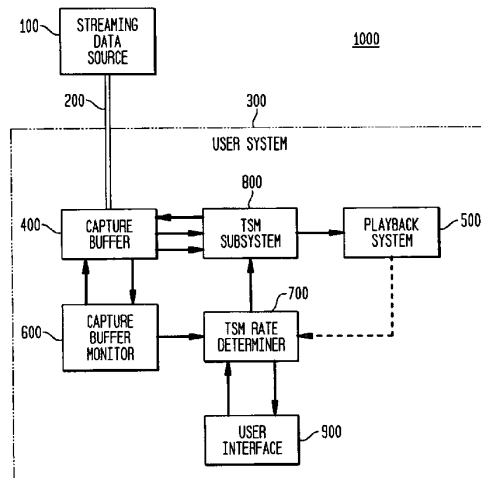


FIG. 1

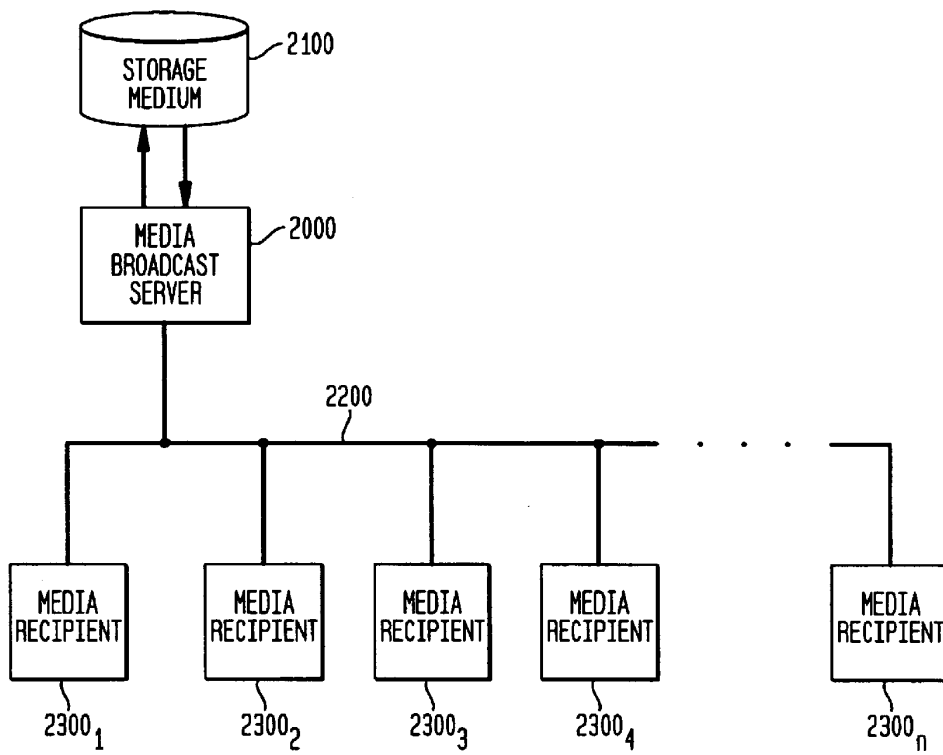


FIG. 2

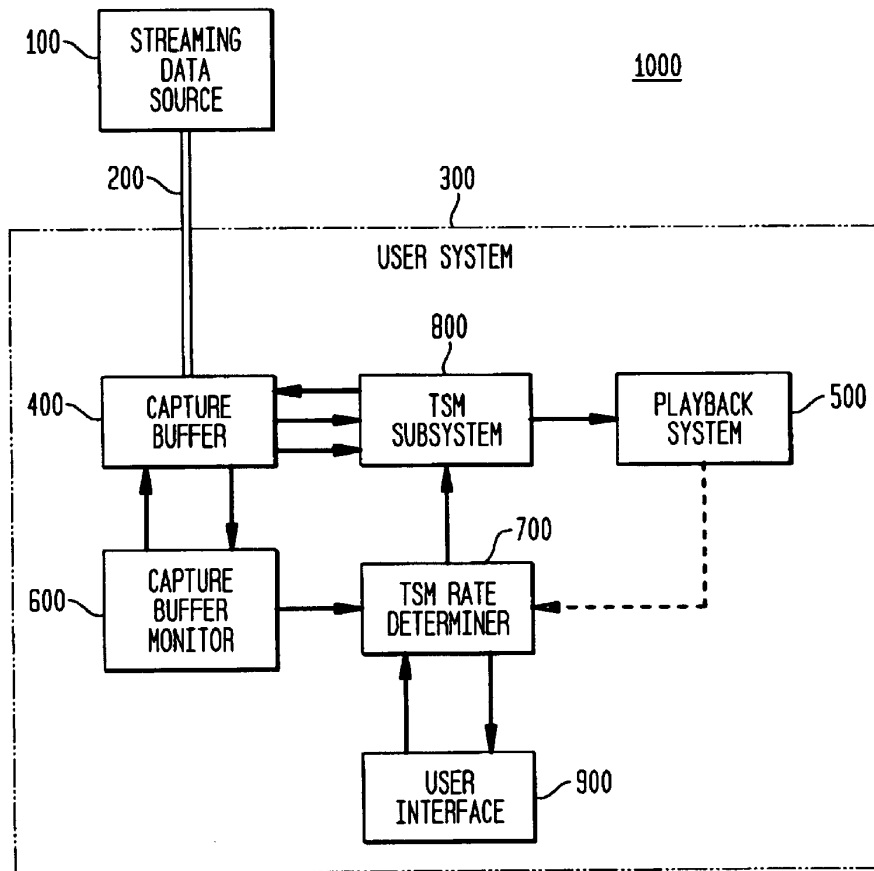


FIG. 3

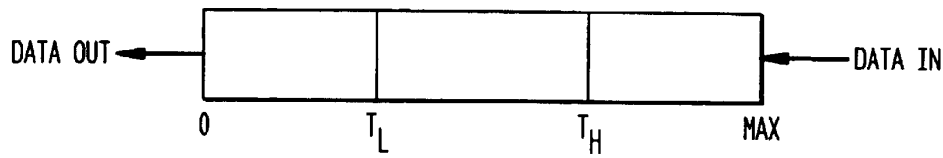
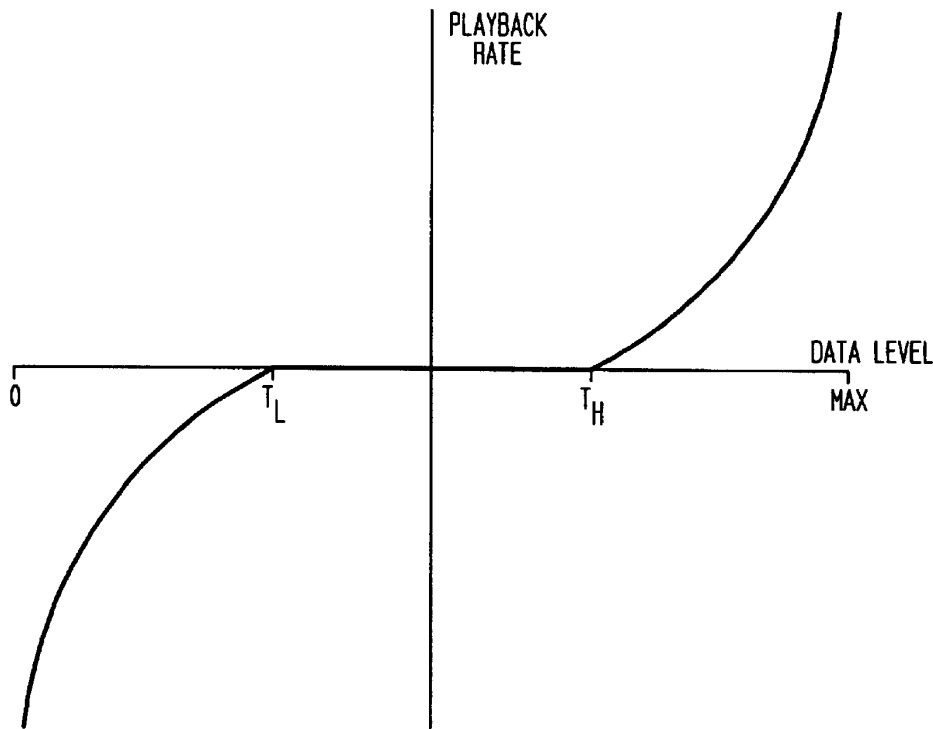


FIG. 4



$0 \leq x \leq T_L$	PLAYBACK RATE = (SCALE) $\tanh^{-1}((X-T_L)/(T_L))$
$T_L < x < T_H$	PLAYBACK RATE = 1.0
$T_H \leq x \leq MAX$	PLAYBACK RATE = (SCALE) $\tanh^{-1}((X-T_H)/(MAX-T_H))$

FIG. 5

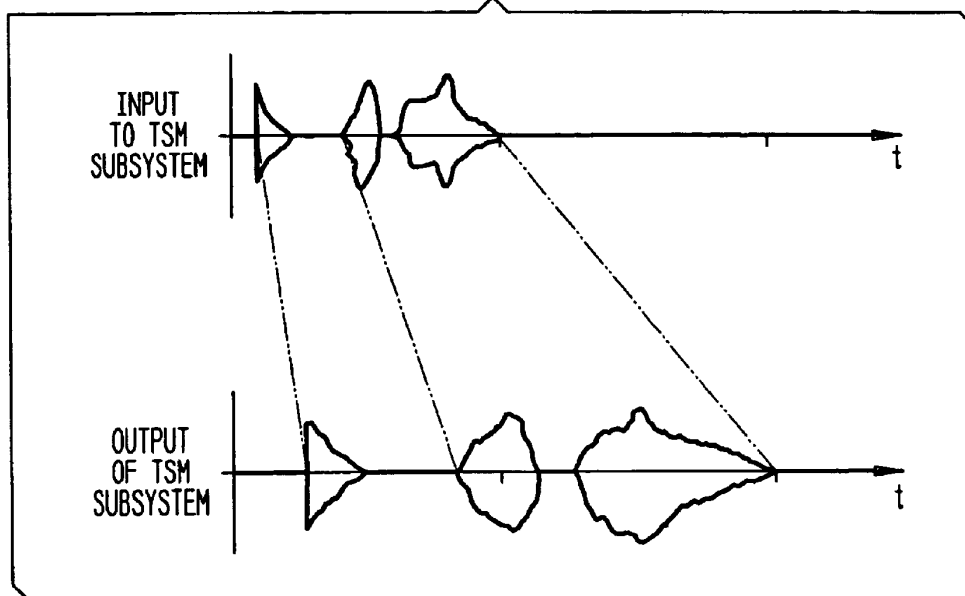
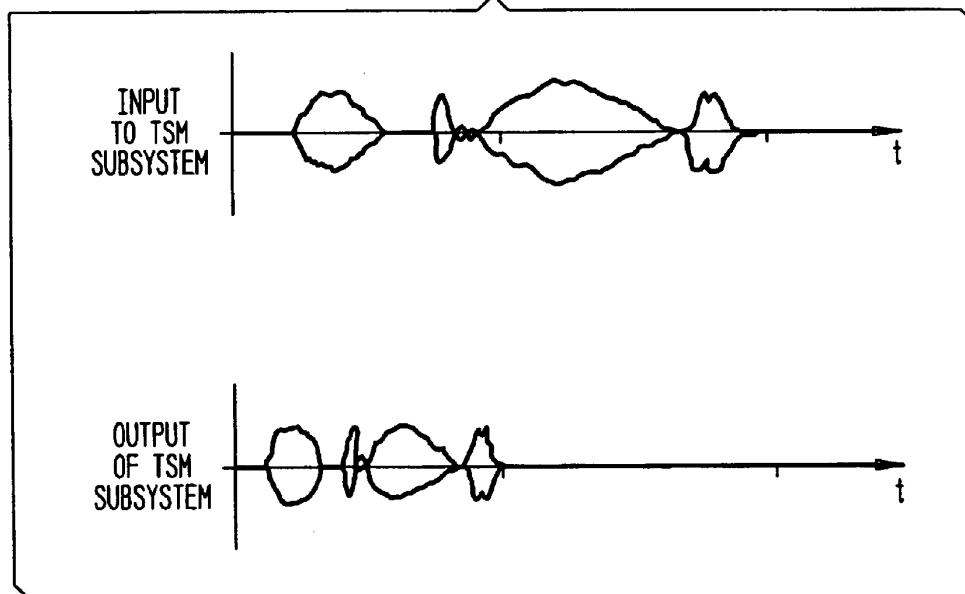


FIG. 6



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