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Zhang et al.

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(54) **SYSTEM AND METHOD FOR TRANSPORTING A COMPRESSED VIDEO AND DATA BIT STREAM OVER A COMMUNICATION CHANNEL**

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(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

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Related U.S. Application Data

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(51) **Int. Cl.**⁷ **H04J 3/16**

(52) **U.S. Cl.** **370/468; 370/538**

(58) **Field of Search** 370/465, 468, 370/545, 522, 537, 538, 203, 210, 484

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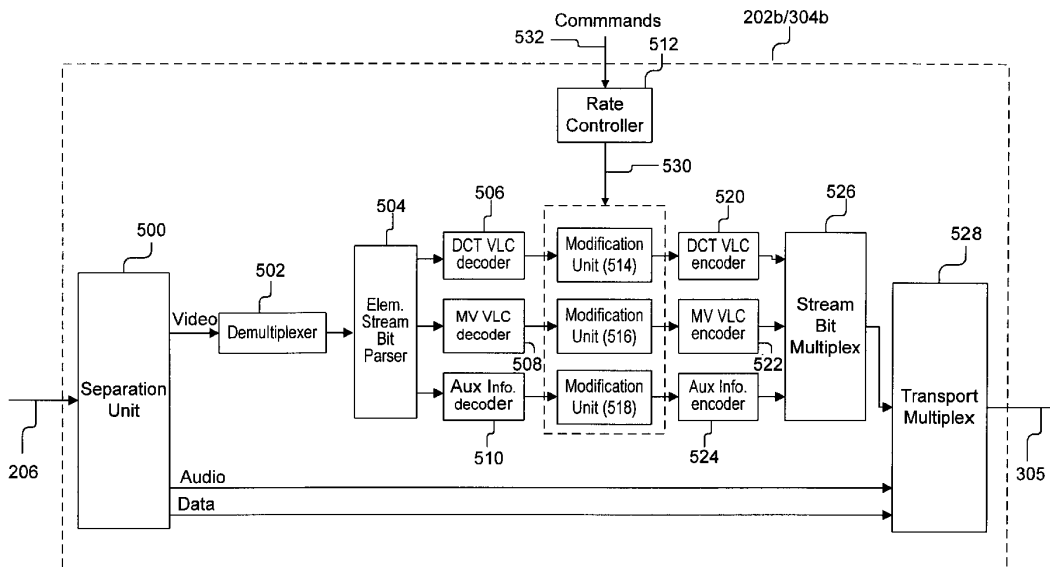
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(57) **ABSTRACT**

Digitally compressed video/audio bit streams, when transmitted over digital communication channels such as digital subscriber loop (DSL) access networks, ATM networks, satellite, or wireless digital transmission facilities, can be corrupted due to lack of sufficient channel bandwidth. This invention describes schemes to ensure lossless transmission of bit streams containing pre-compressed video signals within the communication channels. The schemes herein comprises a rate conversion system that converts the bit rate of a pre-compressed video bit stream from one bit rate to another, and that is integrated with a digital communication channel, and a means to convey the maximum channel transmission rate to the rate conversion system to allow satisfactory transmission of the bit stream from the input of the rate converter through the transmission facility.

37 Claims, 16 Drawing Sheets



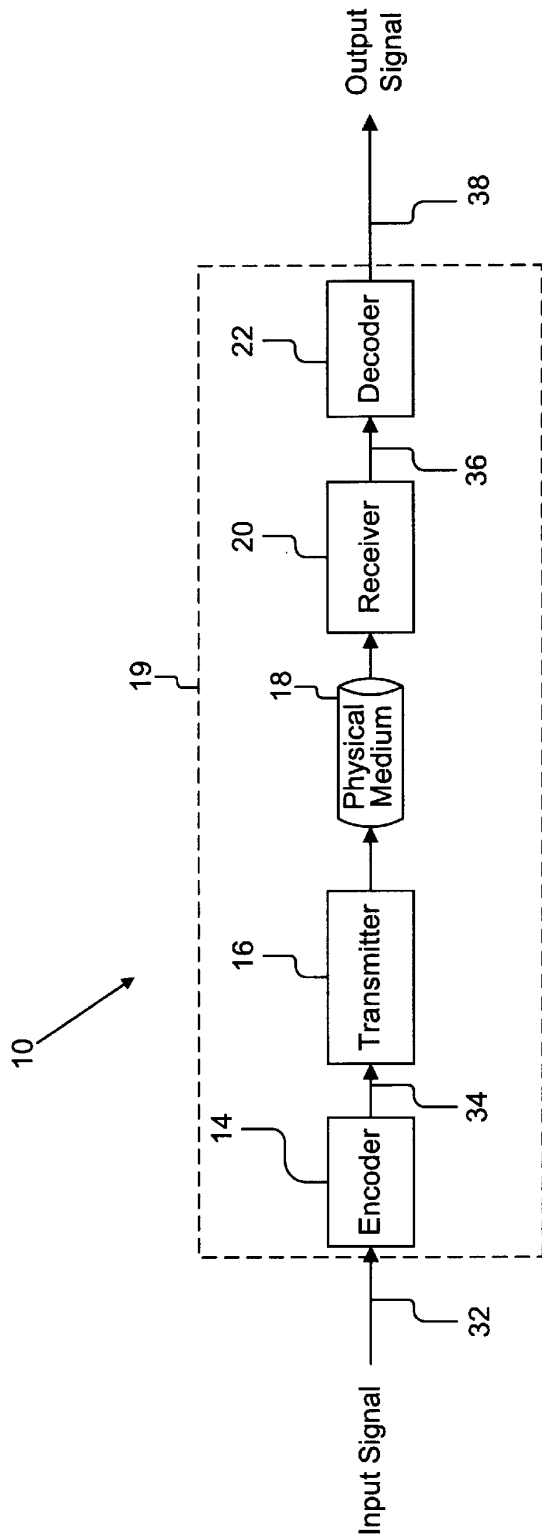


Figure 1A
(Prior Art)

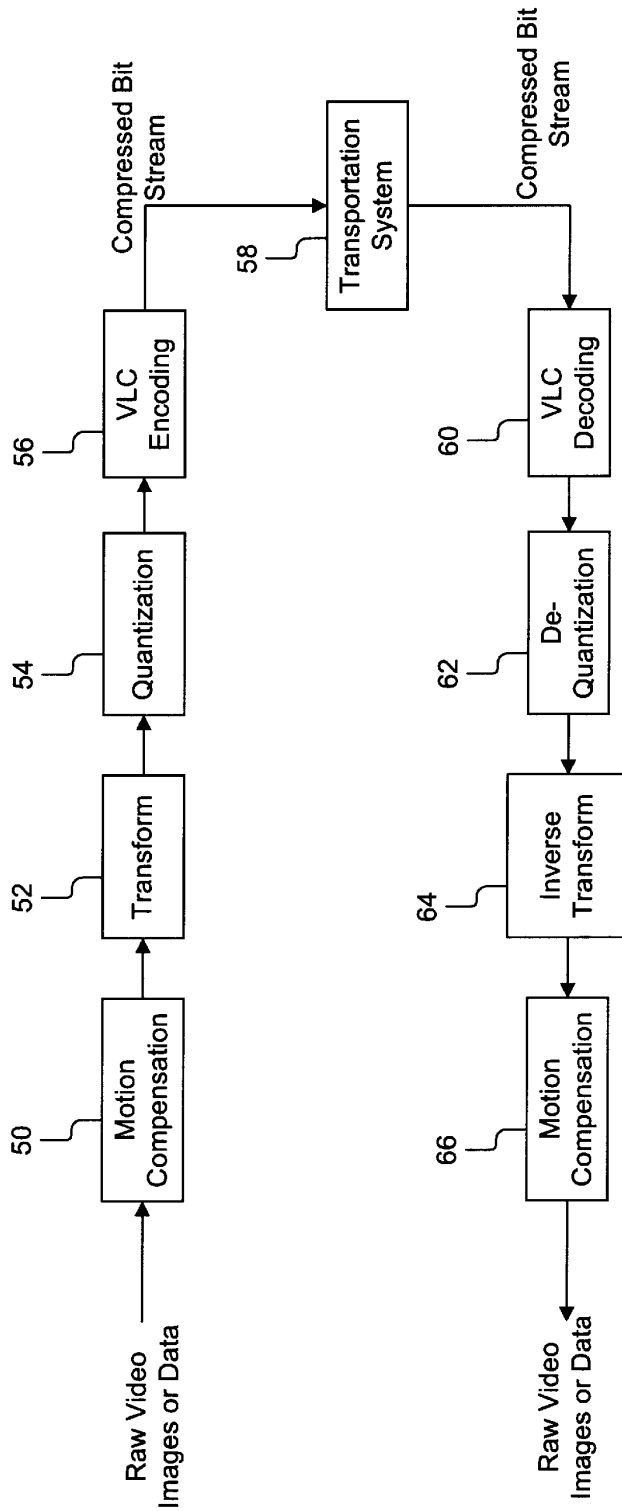


Figure 1B
(Prior Art)

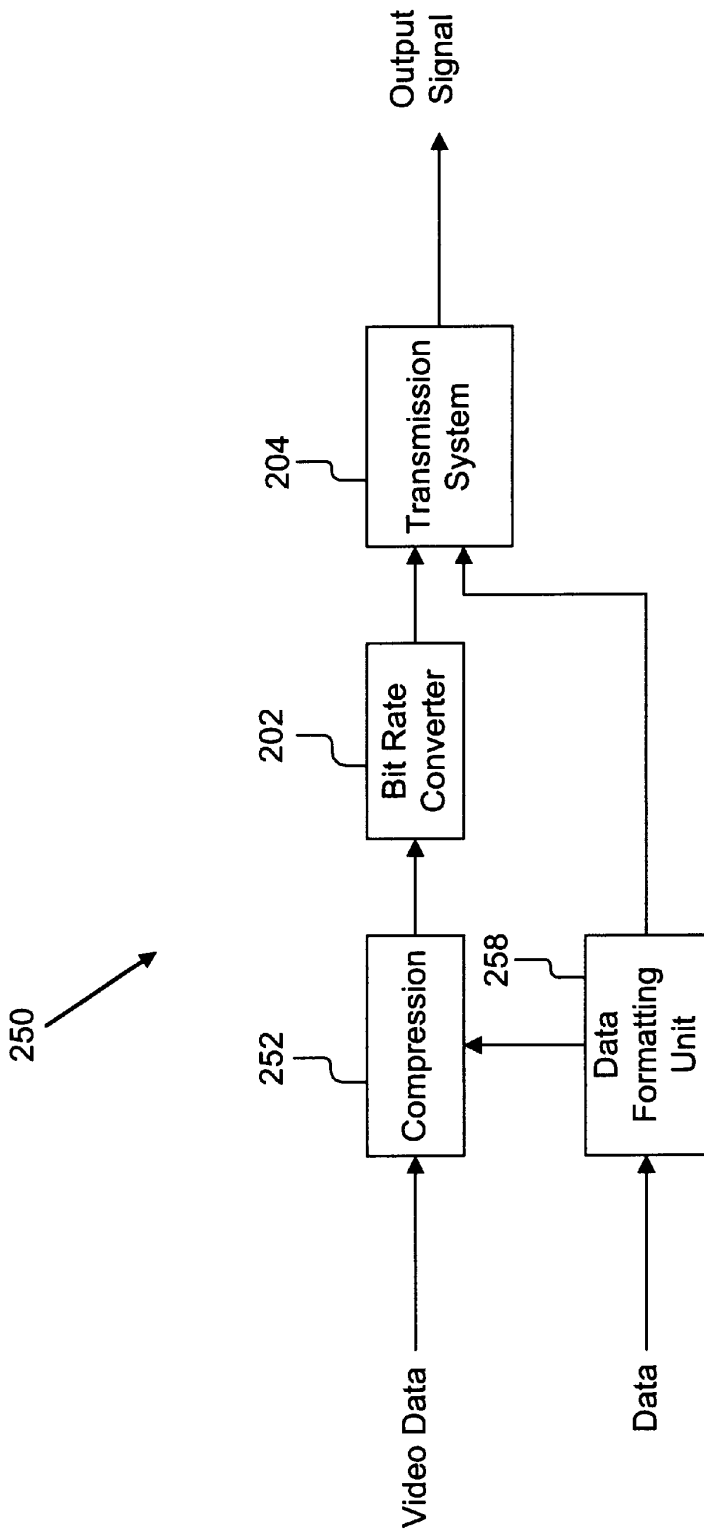


Figure 2A

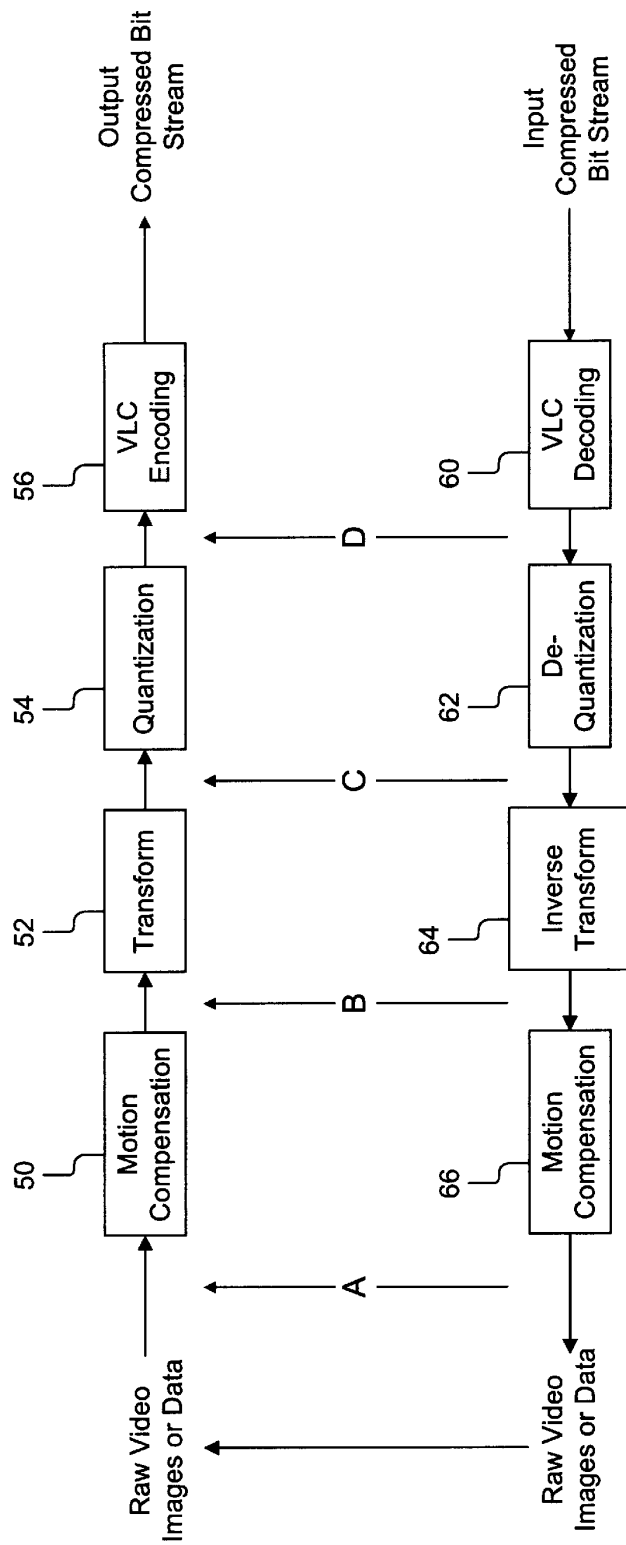


Figure 2B

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