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Bheda et al.

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- [54] **AUDIO/VIDEO SUBPROCESSOR METHOD AND STRUCTURE**
- [75] Inventors: **Hemant Bheda**, Cupertino; **Ygal Arbel**, Belmont; **Partha Srinivasan**, Fremont, all of Calif.
- [73] Assignee: **National Semiconductor Corporation**, Santa Clara
- [21] Appl. No.: **08/742,583**
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- [51] Int. Cl.⁶ **H04N 7/32**
- [52] U.S. Cl. **348/423; 348/384; 348/390**
- [58] Field of Search 348/423, 384, 348/390, 14, 512, 515, 416; 382/232, 234, 307; 395/800.32, 800.33, 800.34, 800.35; 386/98; 364/131-134; 711/1, 100, 147; 375/240; 712/32-35; H04N 7/32

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Primary Examiner—Vu Le
 Attorney, Agent, or Firm—Steven F. Caserza; Flehr Hobbach Test Albritton & Herbert

[57] ABSTRACT

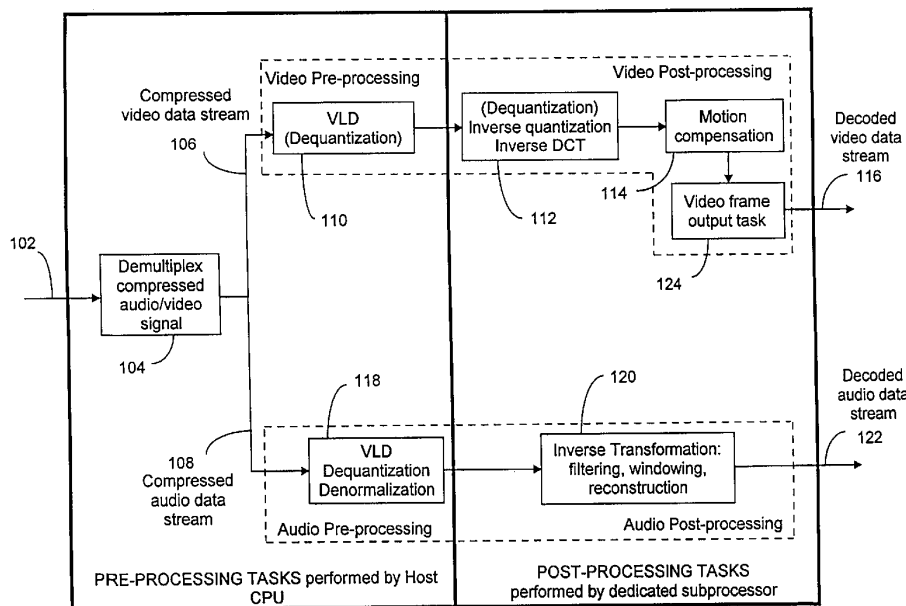
A novel method and apparatus for decoding a compressed audio/video signal to produce decoded audio and decoded video signals. The decoding tasks are partitioned into "pre-processing tasks" and "post-processing tasks." Pre-processing tasks involve one or more non-signal processing oriented operations which do not require extensive computing resources. Pre-processing tasks are assigned to be executed by the host processor, which can perform these tasks without straining its computational resources. Pre-processing tasks include demultiplexing the compressed audio/video stream into compressed audio and compressed video streams, performing audio pre-processing on the compressed audio stream and performing video pre-processing on the compressed video stream. Post-processing tasks involve one or more signal processing oriented operations which require extensive computing resources. Pre-processing tasks are assigned to be executed by a dedicated subprocessor. Post-processing tasks include audio post-processing and video post-processing. In an embodiment, video frame tasks are also performed as part of video post-processing. Post-processing performed by the dedicated subprocessor outputs a decoded audio signal and a decoded video signal.

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5 Claims, 5 Drawing Sheets



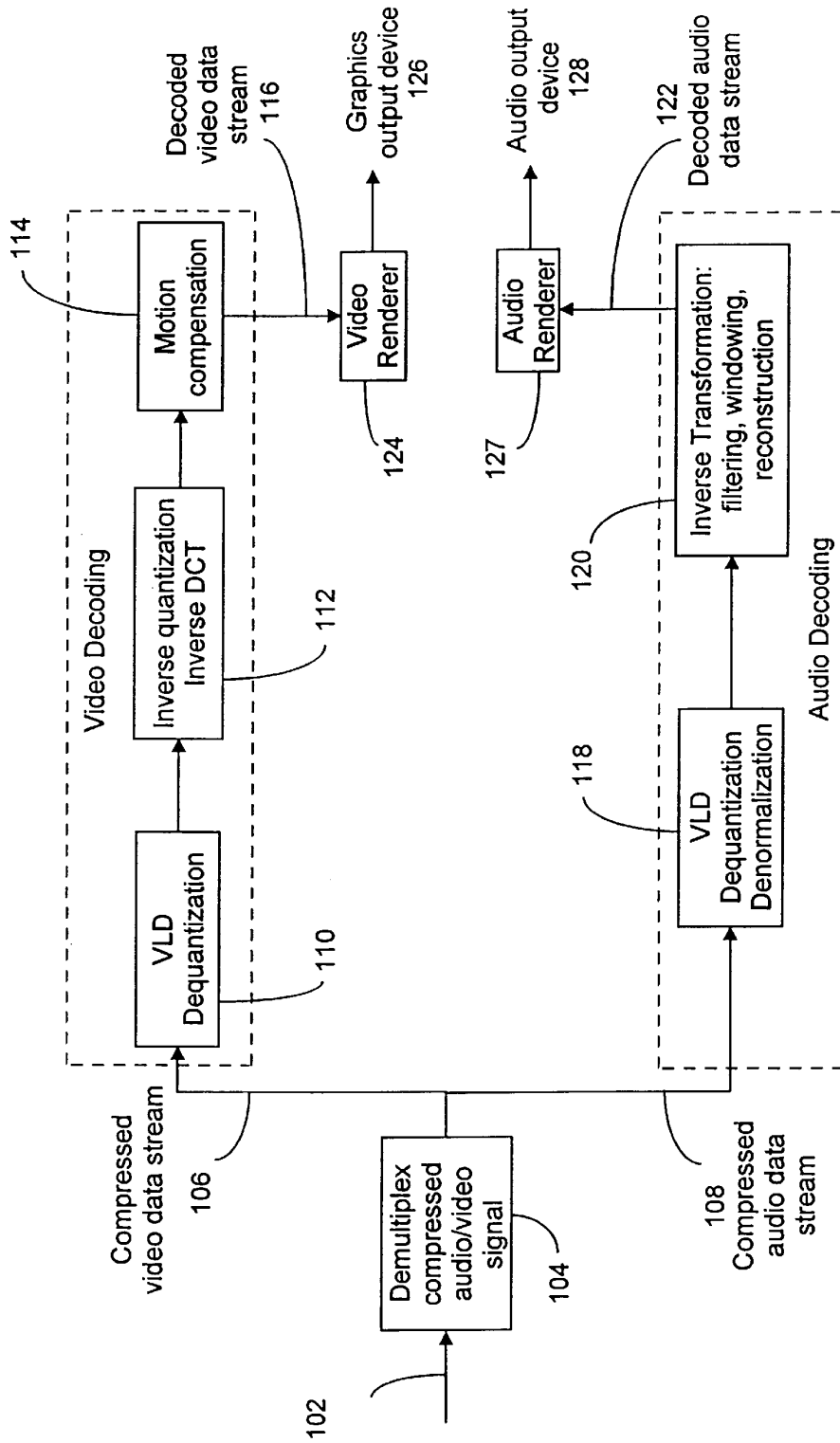
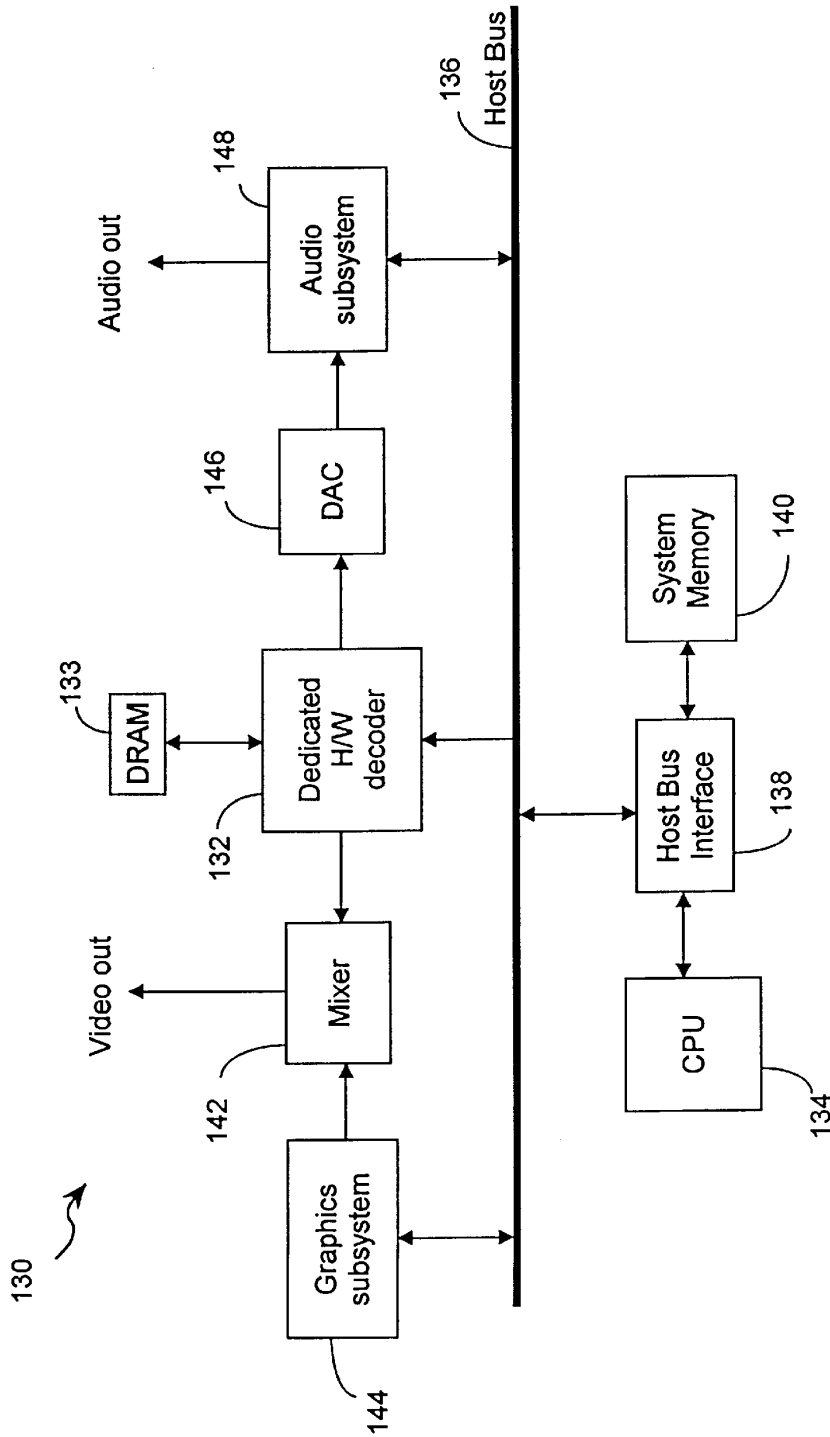


FIGURE 1



PRIOR ART
FIGURE 2

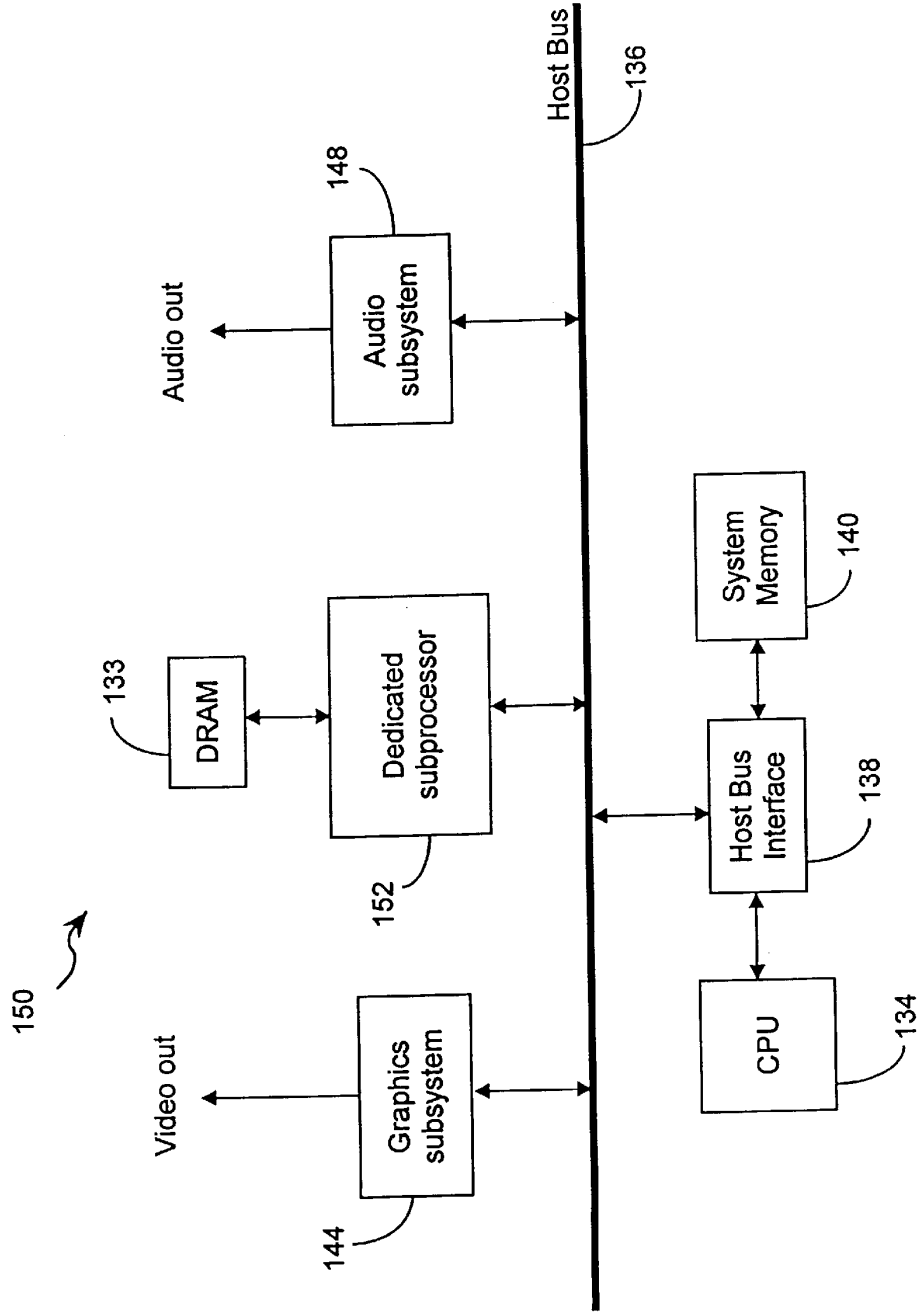


FIGURE 3

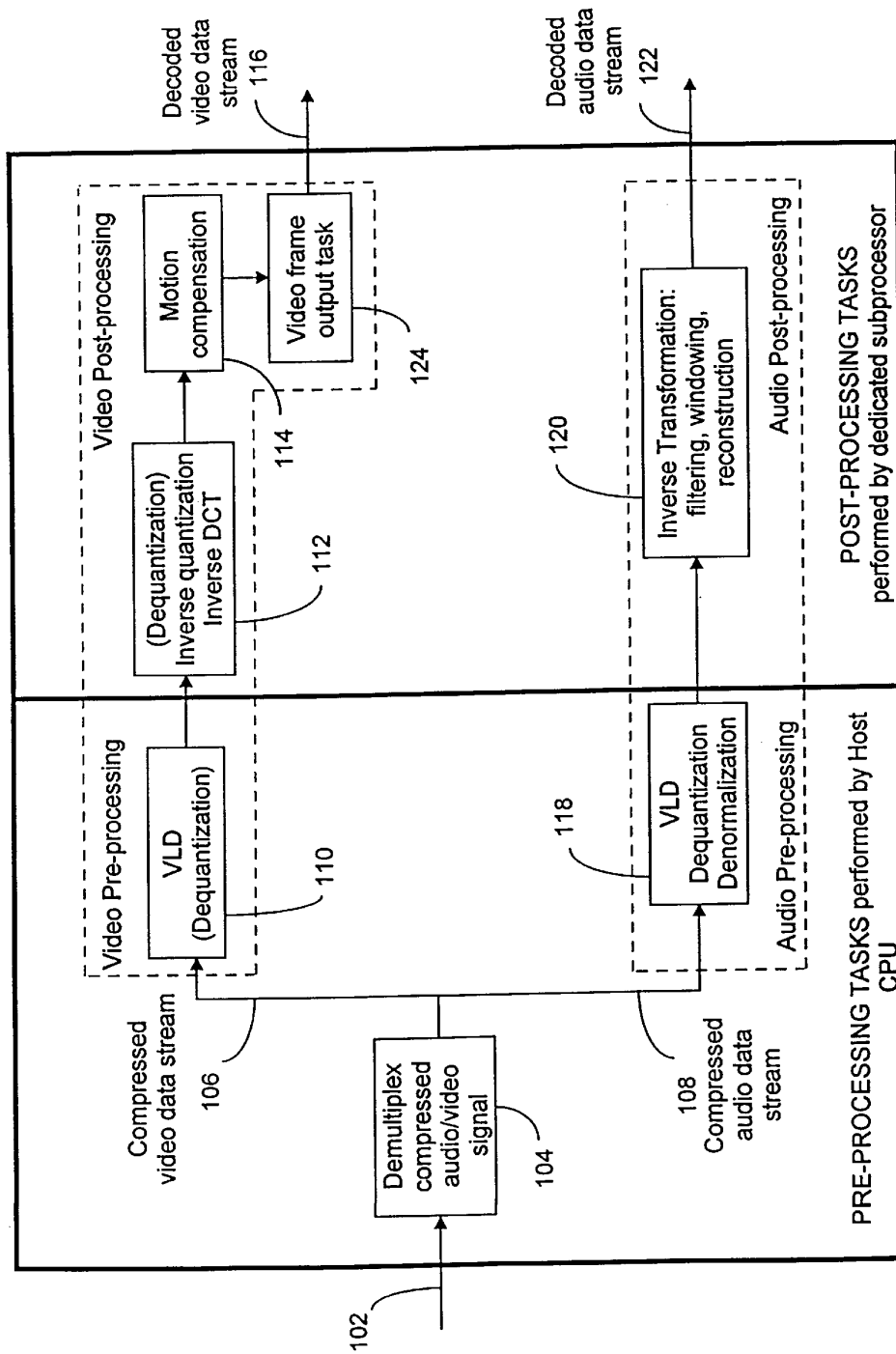


FIGURE 4

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