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(12) **United States Patent**  
**Matsumura et al.**

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(54) **IMAGE SIGNAL TRANSCODER CAPABLE OF BIT STREAM TRANSFORMATION SUPPRESSING DETERIORATION OF PICTURE QUALITY**

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**Toyohiko Yoshida**, Hyogo (JP)

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(73) Assignee: **Renesas Technology Corp.**, Tokyo (JP)

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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 388 days.

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(21) Appl. No.: **09/769,415**

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(22) Filed: **Jan. 26, 2001**

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(65) **Prior Publication Data**

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(30) **Foreign Application Priority Data**

Jan. 31, 2000 (JP) ..... 2000-022541

*Primary Examiner*—Young Lee

(51) **Int. Cl.**<sup>7</sup> ..... **H04N 7/12**

(74) *Attorney, Agent, or Firm*—McDermott Will & Emery LLP

(52) **U.S. Cl.** ..... **375/240.1**

(58) **Field of Search** ..... 375/240.01, 240.02, 375/240.03, 240.1, 240.11, 240.12, 240.13-240.16, 240.25, 240.26, 240.28, 240.29; 348/397.1-399.1, 390.1, 424.1, 424.2, 425.1, 425.3, 425.4, 426.1, 441, 452; 382/233-236, 238-239; 386/27, 33, 109, 111-112; H04N 7/12

(57) **ABSTRACT**

An MPEG2 decoder portion decodes an input bit stream and outputs a digital decoded image while extracting coding information and supplying the same to a control portion. An MPEG2 encoder portion re-encodes the digital decoded image output from the MPEG2 decoder portion. Coding information supplied from the control portion is reflected on a coding parameter in re-encoding. Transcoding between the MPEG2 standard and the DV standard can also be executed by arranging a decoder or an encoder corresponding to the DV standard in place of either the MPEG2 decoder portion or the MPEG2 encoder portion.

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**13 Claims, 12 Drawing Sheets**

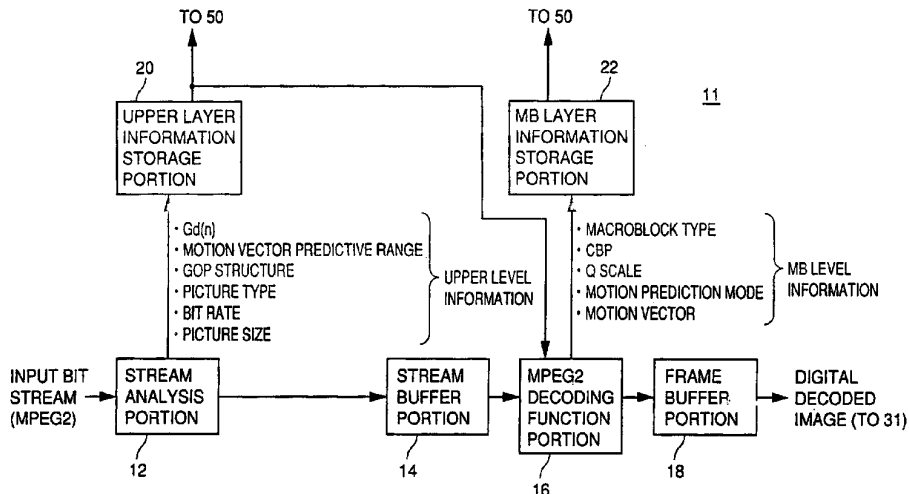


FIG. 1

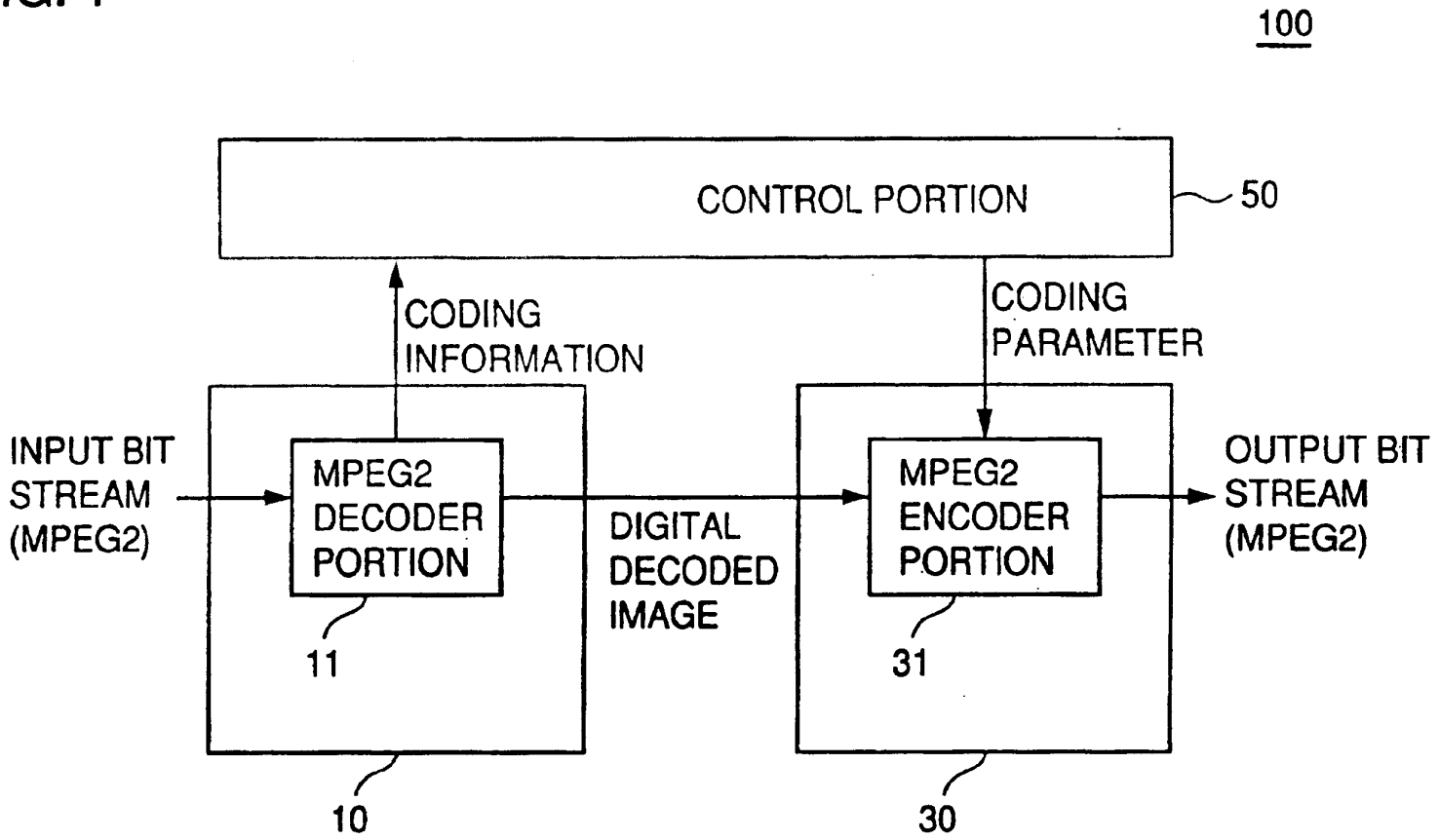


FIG. 2

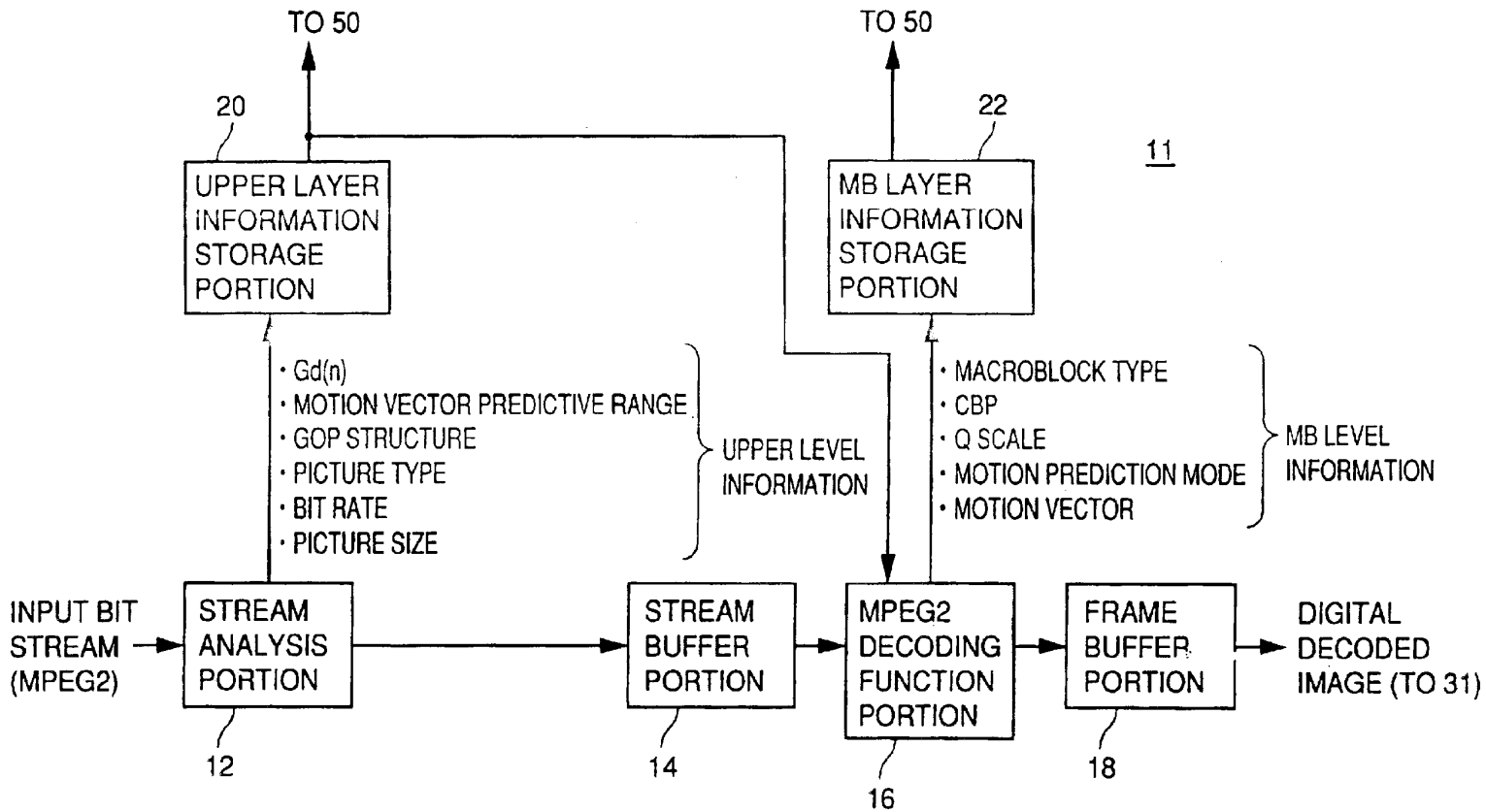


FIG. 3

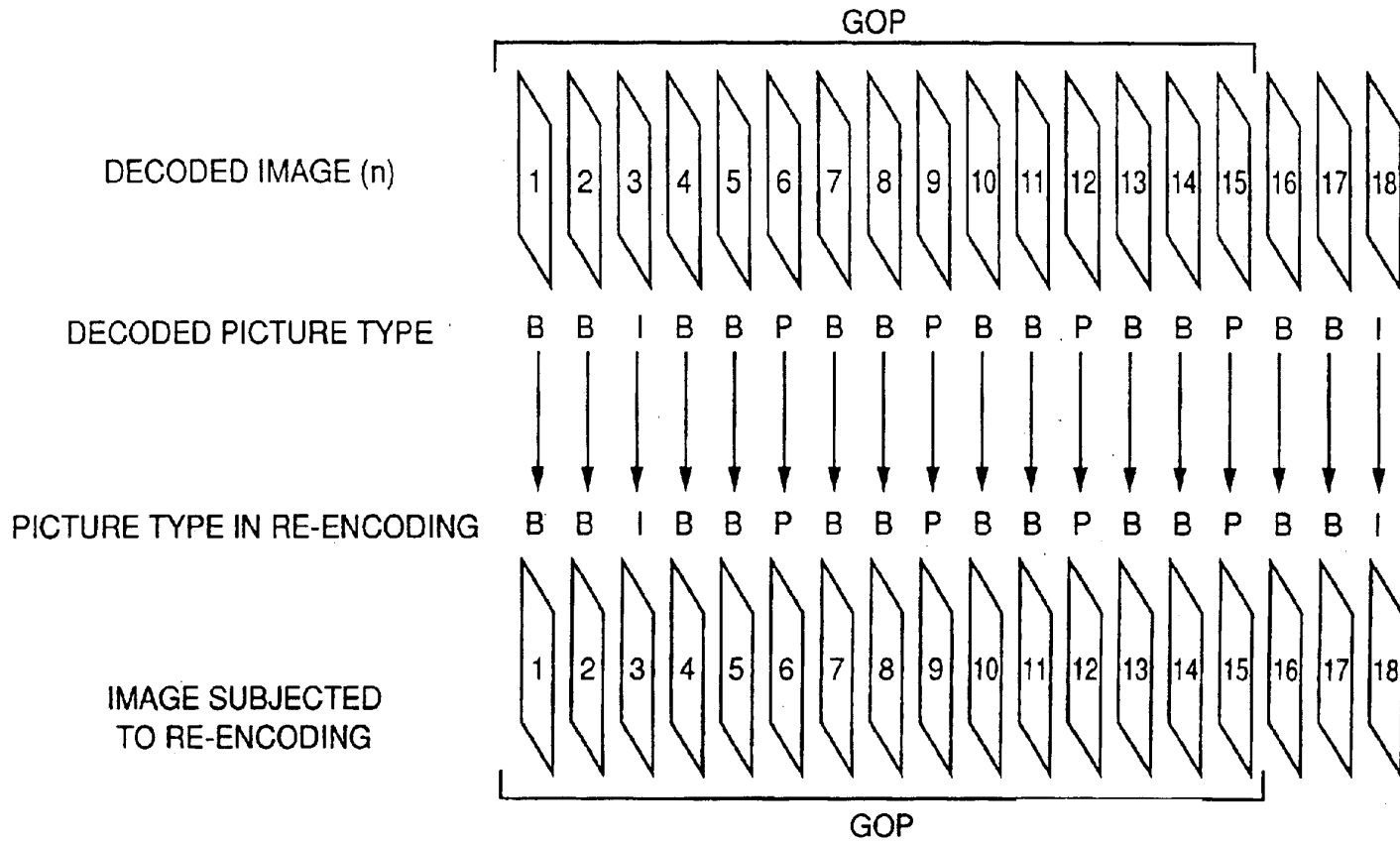
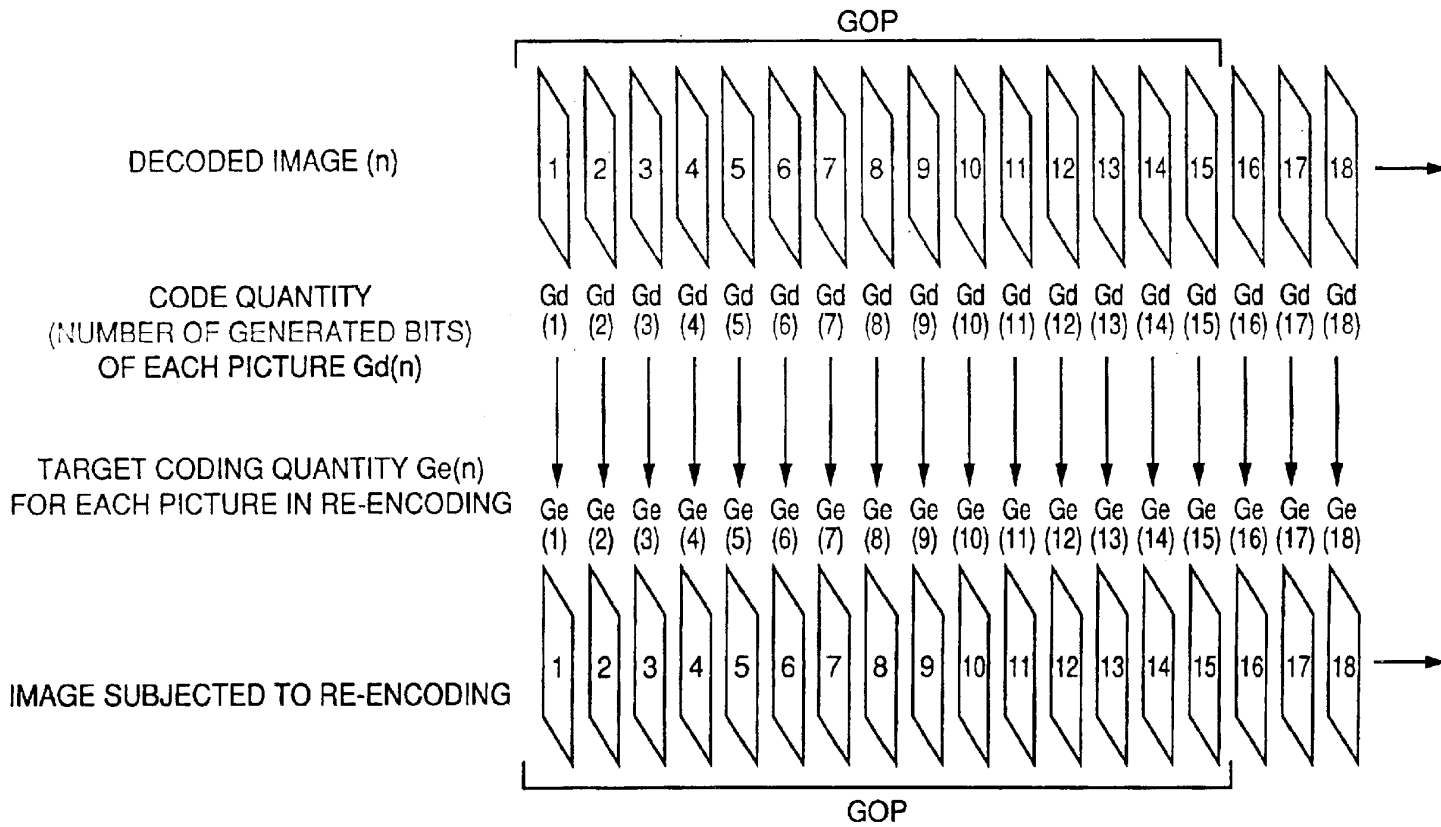


FIG. 4



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