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(12) **United States Patent**
Lee

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(54) **MPEG DATA COMPRESSION AND DECOMPRESSION USING ADJACENT DATA VALUE DIFFERENCING**

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(73) Assignee: **Samsung Electronics Co., Ltd.** (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/031,212**

(22) Filed: **Feb. 26, 1998**

(30) **Foreign Application Priority Data**

Feb. 26, 1997 (KR) 97-5916

(51) **Int. Cl.**[7] **H04B 1/66**
(52) **U.S. Cl.** **375/240.15**
(58) **Field of Search** 348/384.1, 390.1, 348/342.1, 401, 402.1–405.1, 406.1, 416.1, 420.1, 423.1, 426.1; 364/578; 382/232; 375/240, 240.01, 240.02, 240.03, 240.09, 240.1, 240.11, 240.12, 240.13, 240.14; H04B 1/66

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(57) **ABSTRACT**

MPEG data is compressed by obtaining difference values between succeeding adjacent data values of MPEG video data and store the difference value if the difference value is less than a predetermined range. By storing the difference values rather than the data values if the difference value is less than a predetermined range, compression may be provided for MPEG data. More specifically, a series of data values of MPEG video data is separated from an MPEG bitstream. Difference values are obtained between succeeding adjacent data values of the MPEG video data. For each data value, the data value is stored if the difference exceeds a predetermined range, and the difference value is stored if the difference value is less than the predetermined range. A conversion flag is also stored for each data value, to indicate whether the data value or the difference value is stored. After the data value or difference value is stored for each data value, a determination is made if the data values and difference values that were stored exceed a predetermined size. Each data value is divided by 2, and the divided data values are stored if the data values and difference values that were stored exceed the predetermined size. On the other hand, if the data values and difference values that were stored are less than the predetermined size, dummy bits may be added to the data, so that the data that was stored equals the predetermined size. A mode flag may be used to indicate whether difference values or divided values are stored.

49 Claims, 10 Drawing Sheets

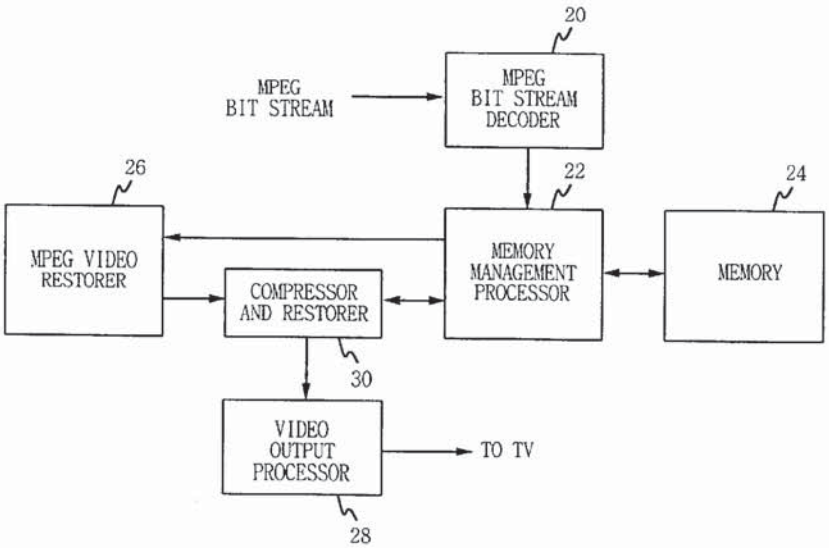

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FIG.1(Prior Art)

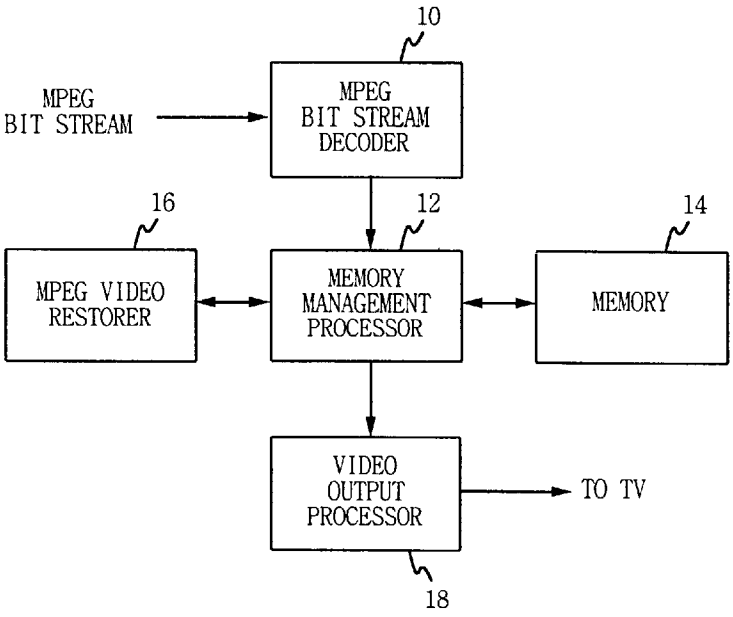

FIG.2

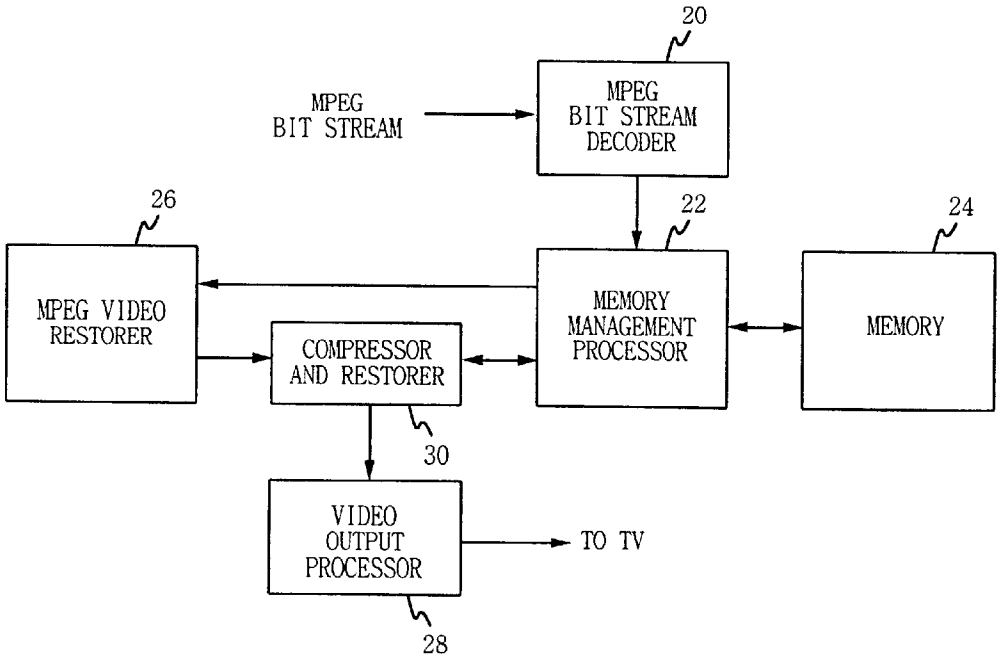

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FIG.3A

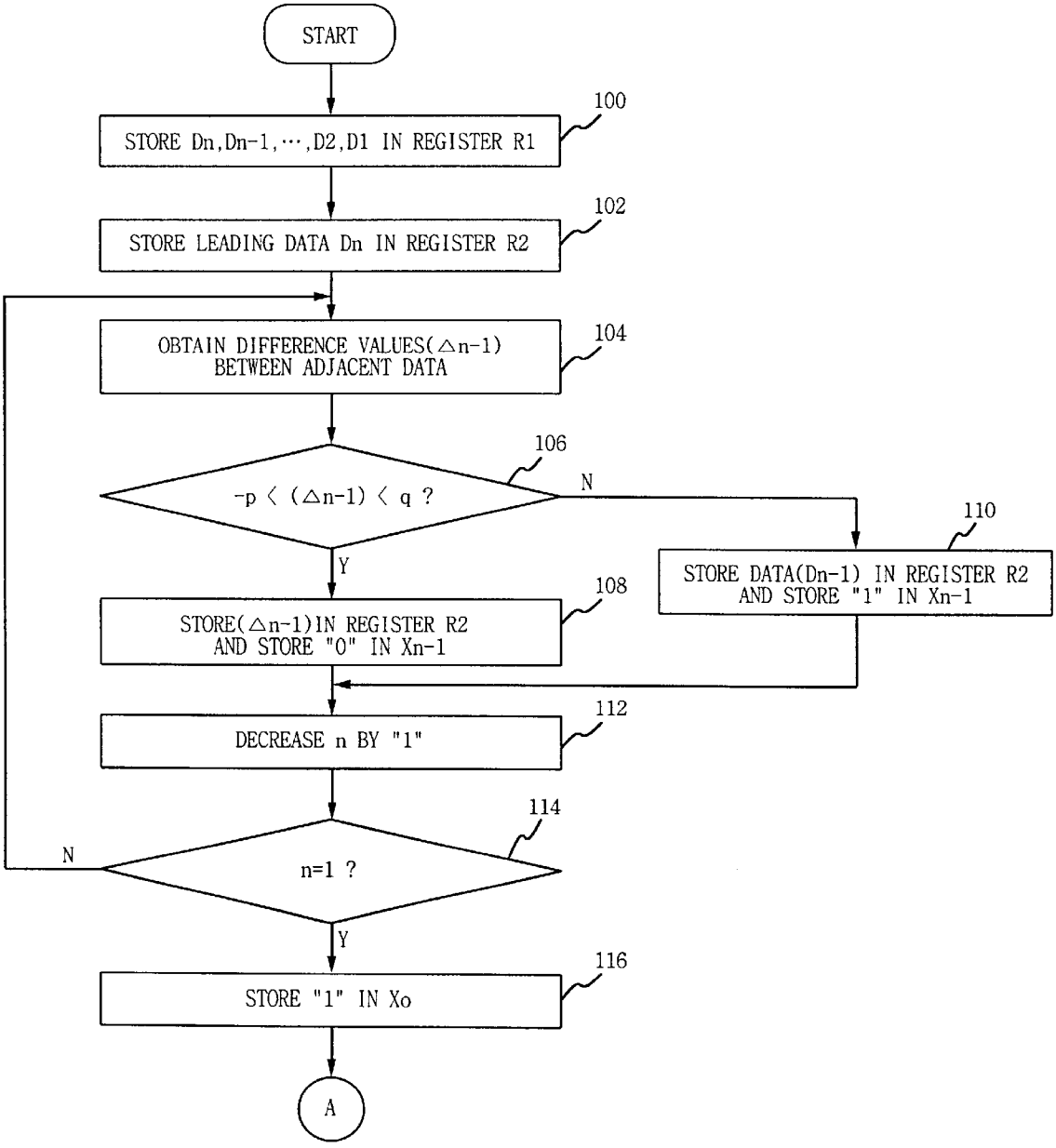

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FIG.3B

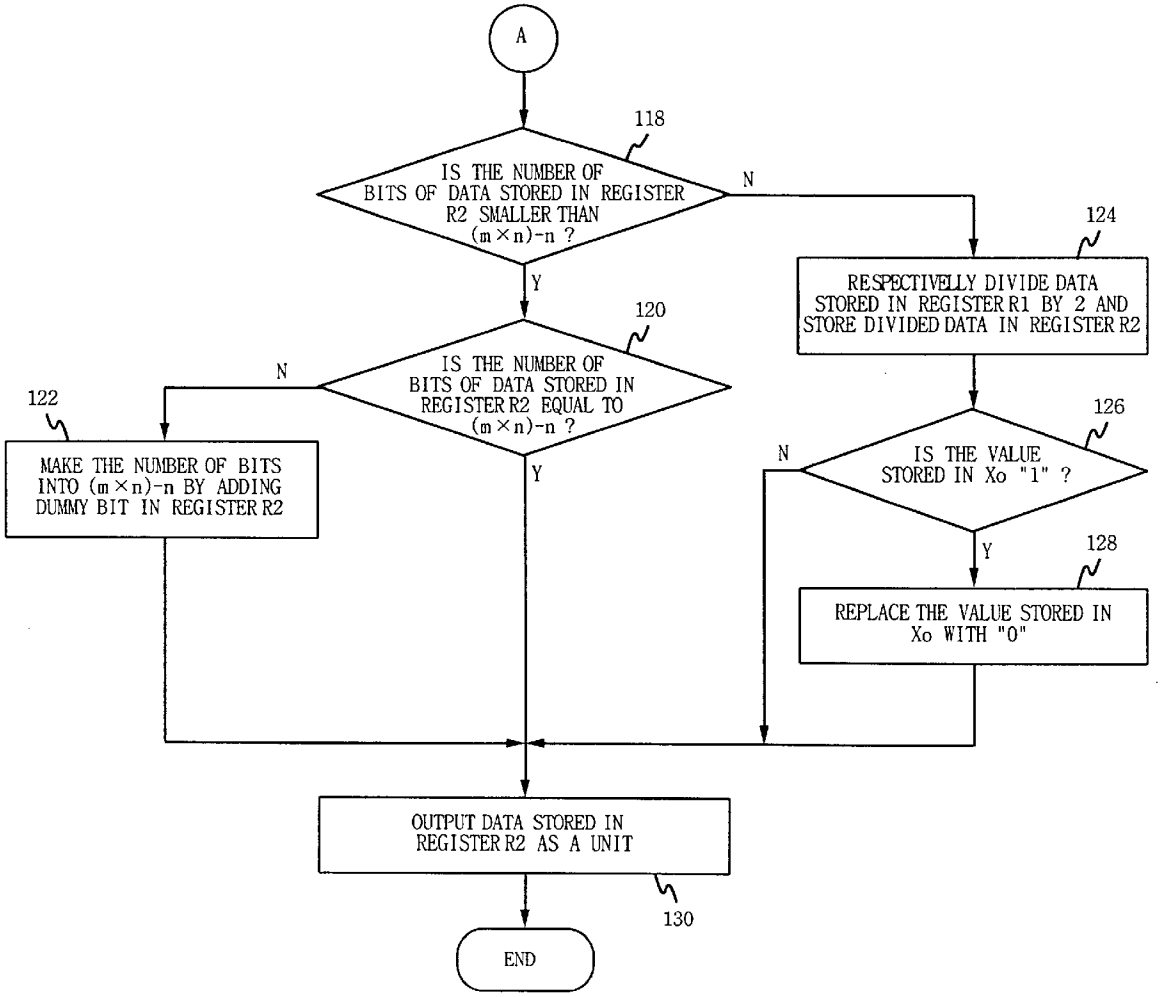

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FIG.4A

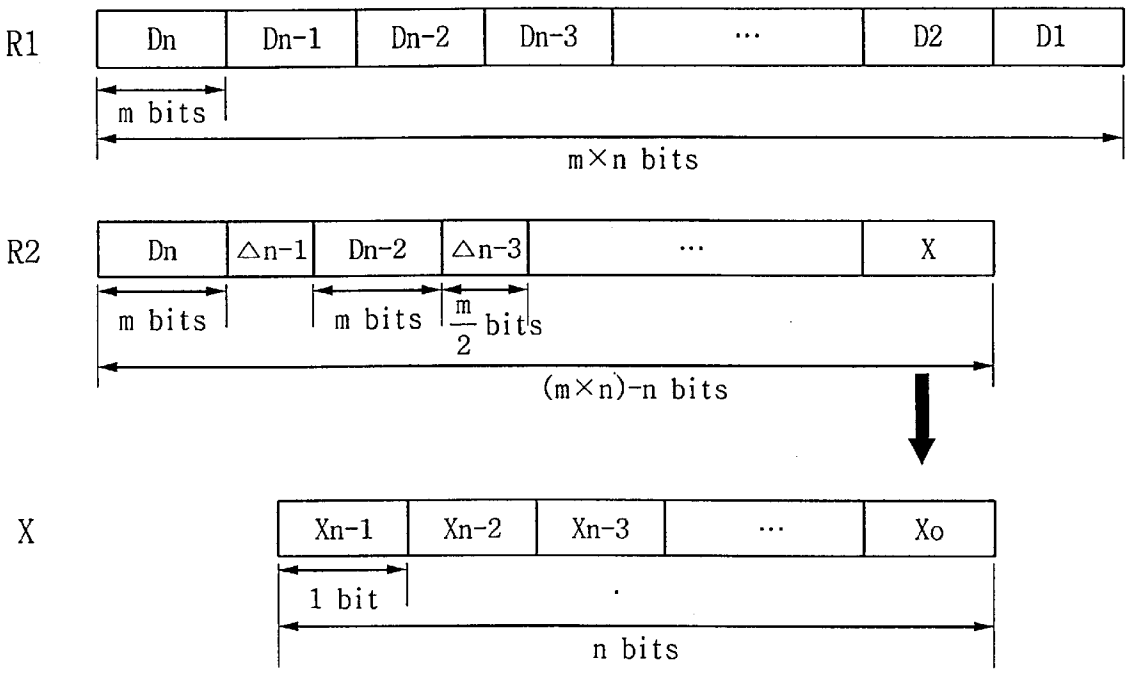
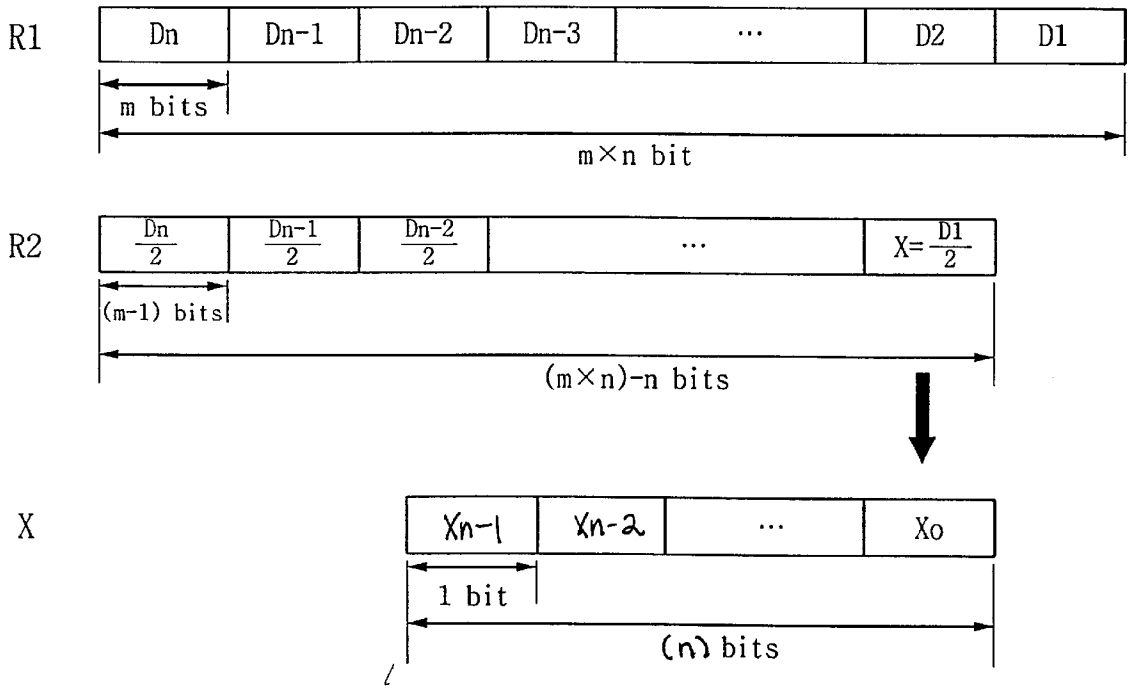


FIG.4B



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