

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

**(10) Patent No.: US 6,314,137 B1**  
**(45) Date of Patent: Nov. 6, 2001**

- (54) **VIDEO DATA COMPRESSION SYSTEM, VIDEO RECORDING/PLAYBACK SYSTEM, AND VIDEO DATA COMPRESSION ENCODING METHOD**
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- (73) Assignee: **Hitachi, Ltd., Tokyo (JP)**
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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- (21) Appl. No.: **09/050,568**
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- (30) **Foreign Application Priority Data**  
 Mar. 31, 1997 (JP) ..... 9-080082
- (51) **Int. Cl.<sup>7</sup>** ..... **H04N 7/12**
- (52) **U.S. Cl.** ..... **375/240; 375/240.01**
- (58) **Field of Search** ..... 348/402, 409, 348/14.1, 14.08, 159, 385.1, 705, 176

**(57) ABSTRACT**

A video data compression/playback system efficiently compresses a plurality of video data pieces through inter-frame predictive-encoding. Mixed video data VSMIr composed of time-divided video data received by video input terminals are divided into video data pieces each of which corresponding to video input terminals and the video data pieces are written into memories respectively by a memory control circuit for recording mode. The mixed video data written into the memories is read, a specified number of frames at a time. An MPEG encoding circuit performs inter-frame predictive-encoding for each specified number of frames.

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**13 Claims, 20 Drawing Sheets**

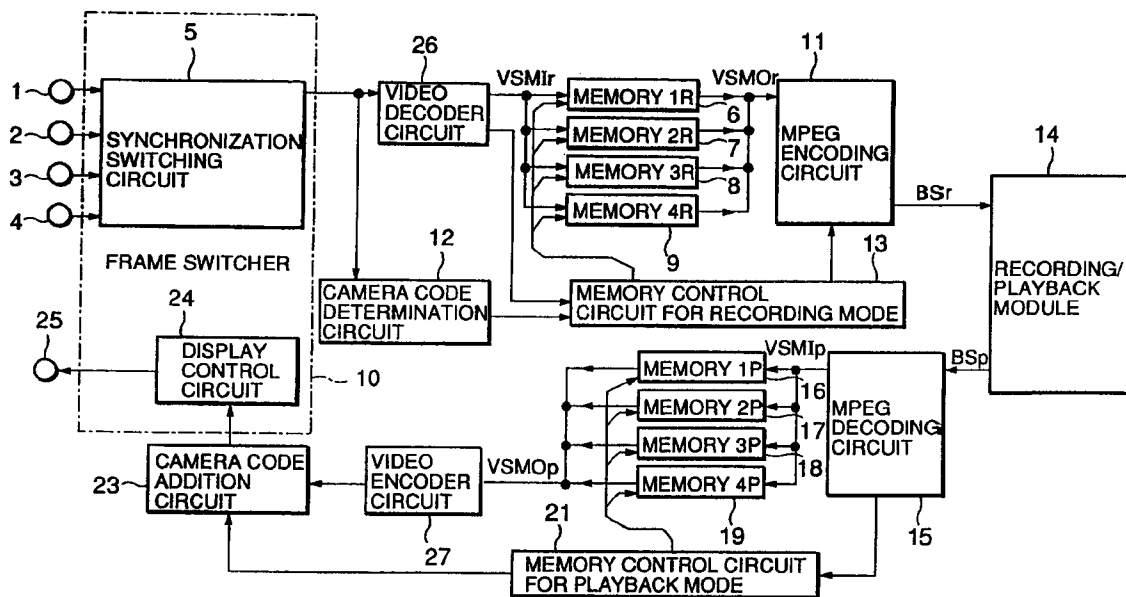


FIG. 1

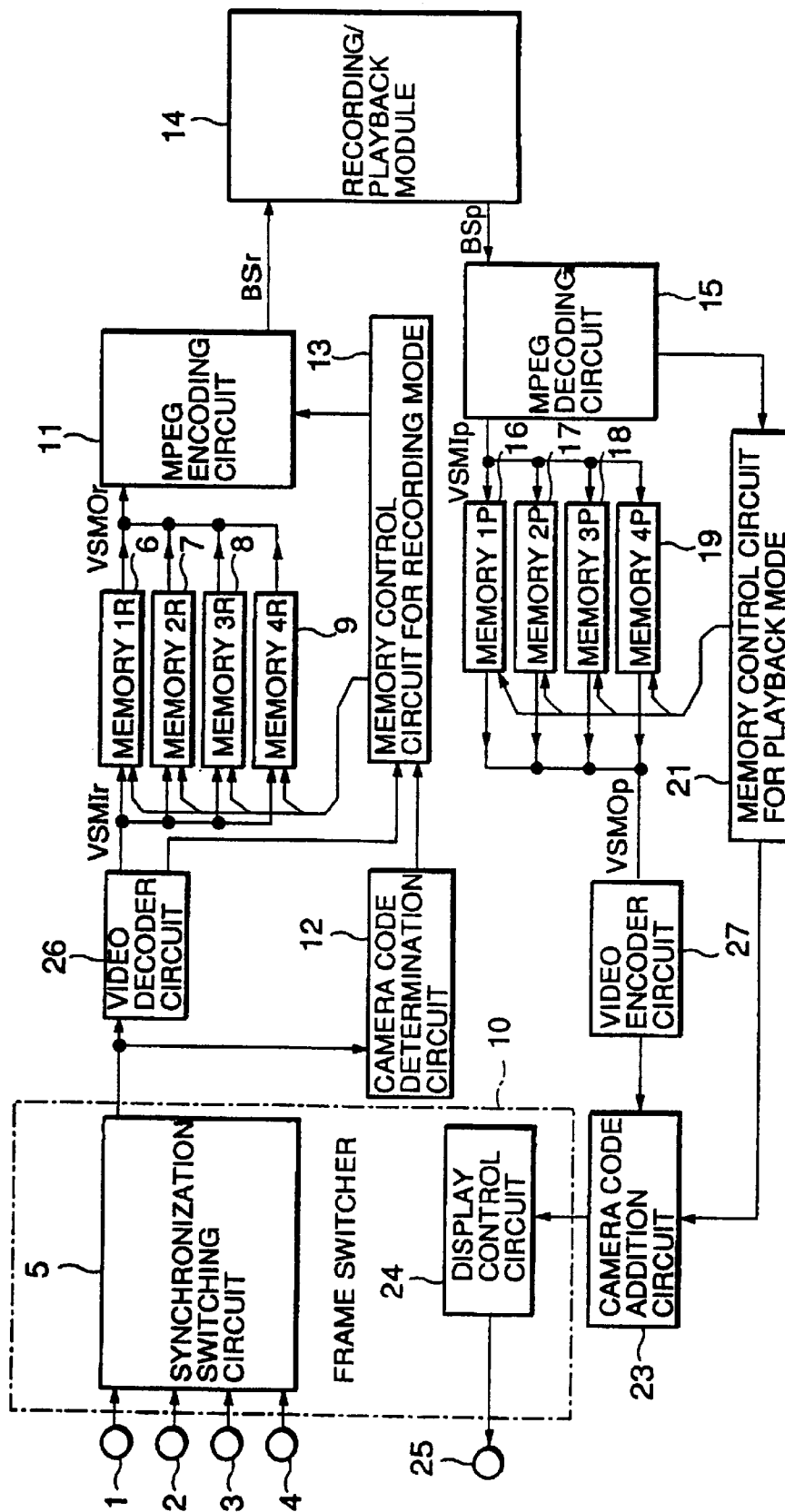


FIG. 2

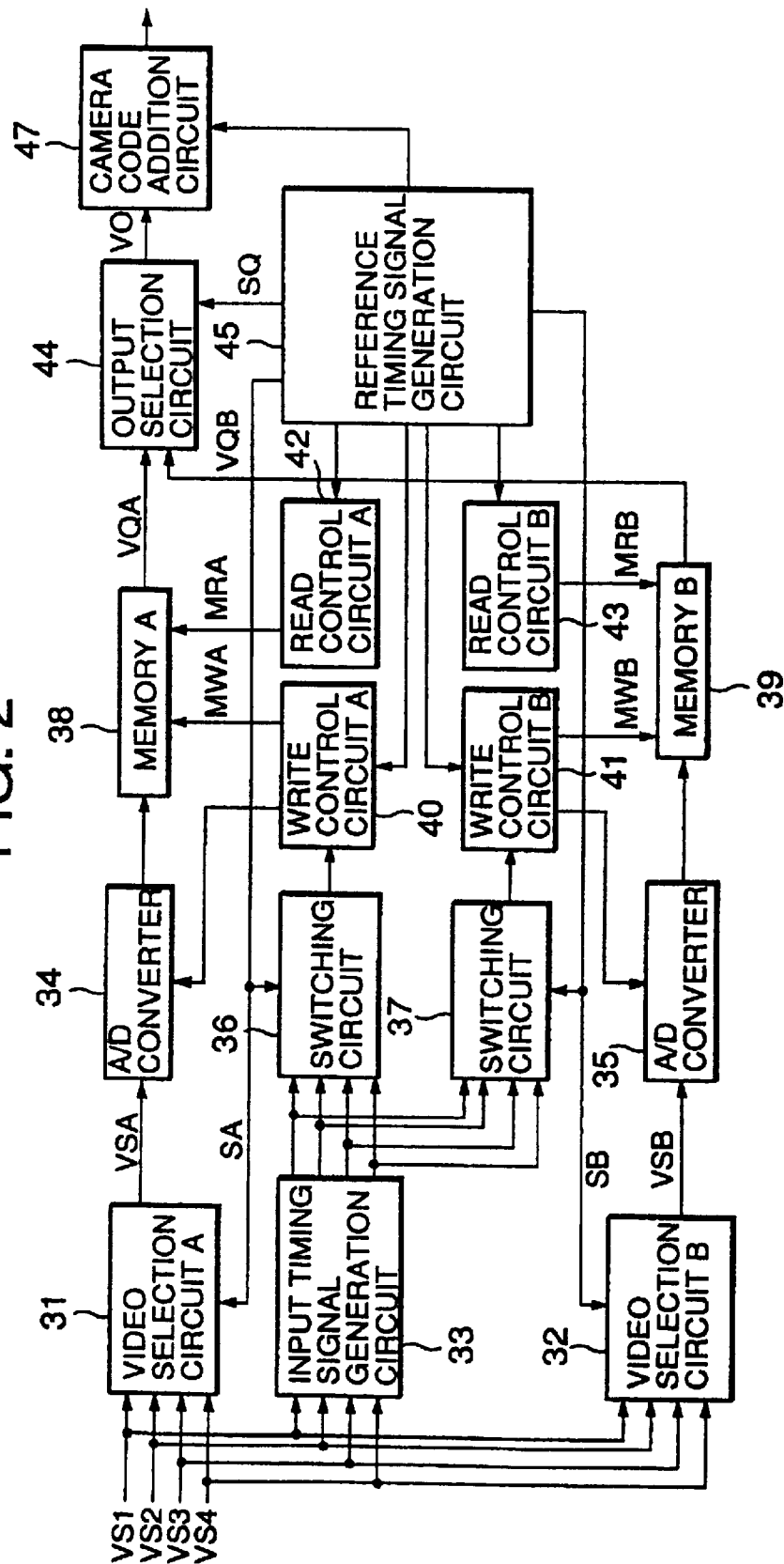


FIG.3

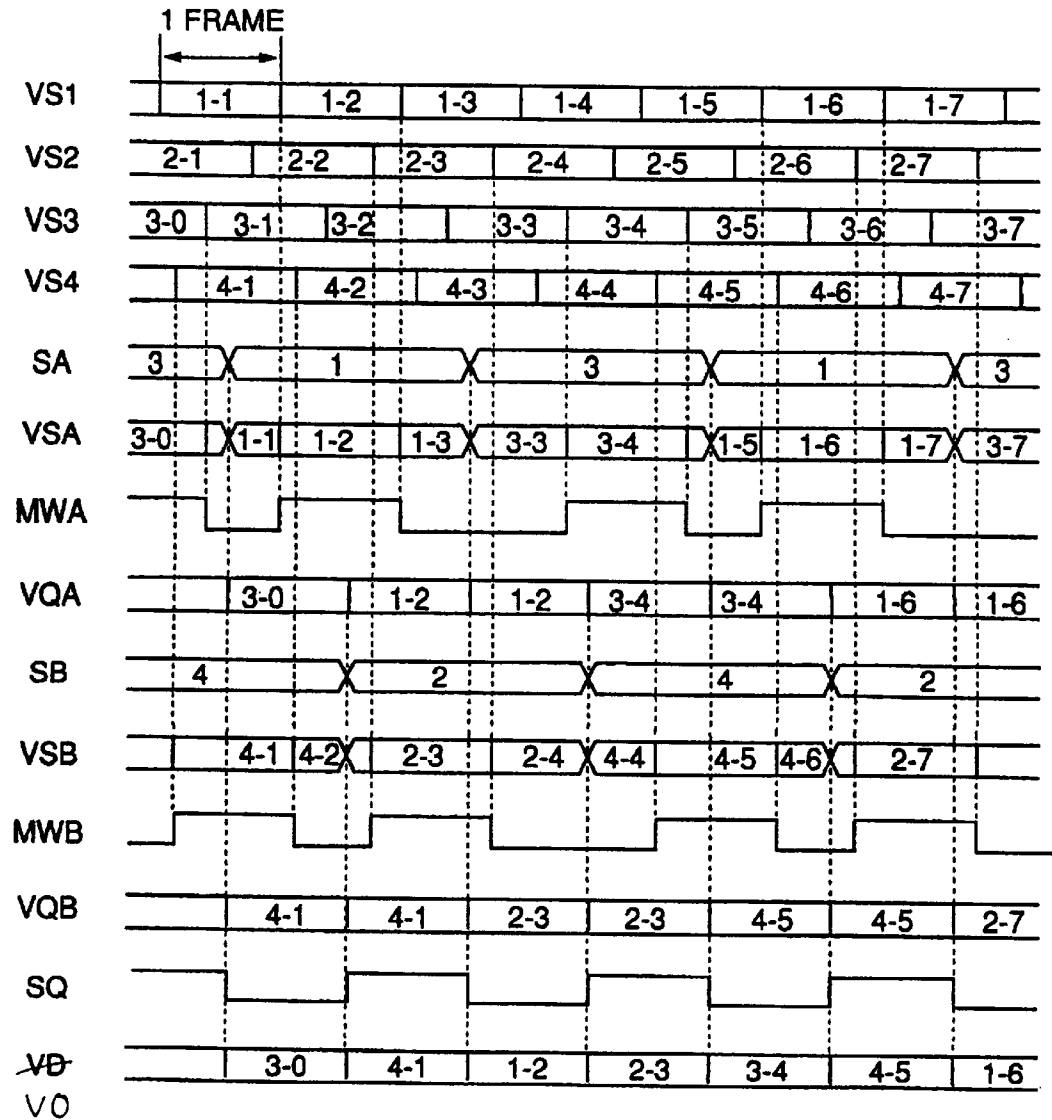


FIG. 4

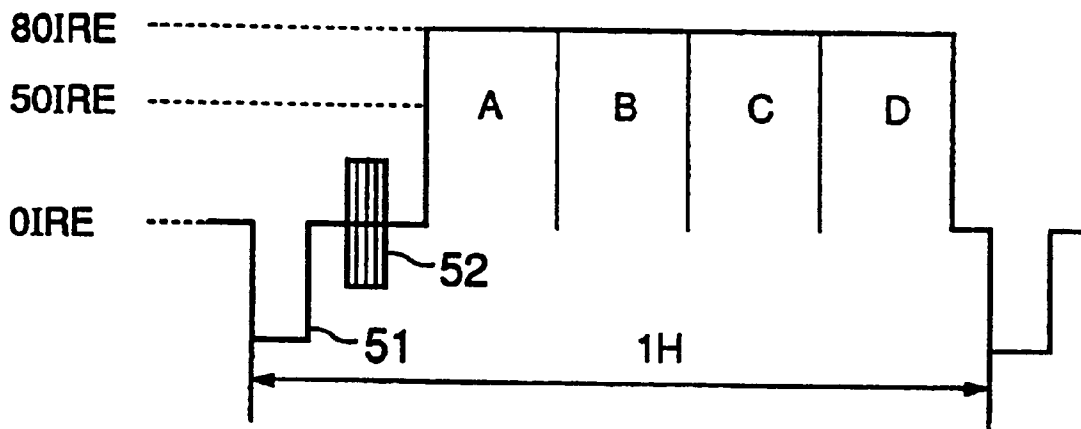
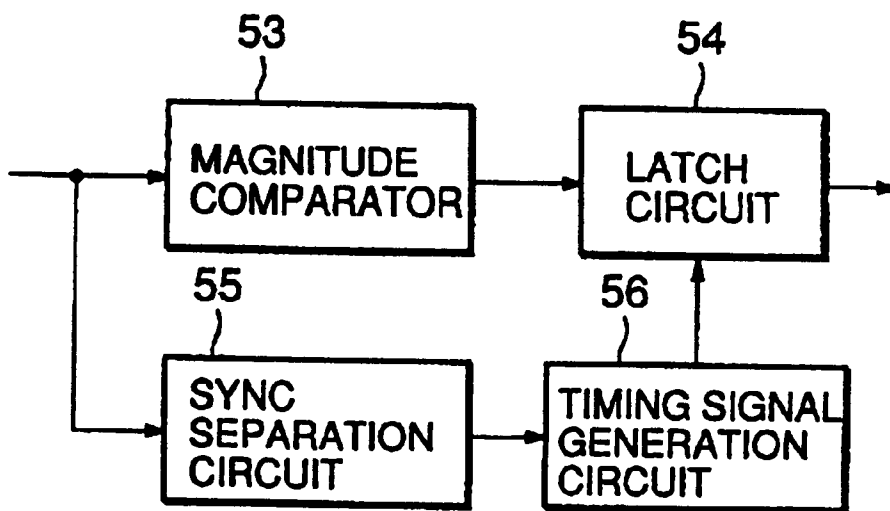


FIG. 5



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