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Okano et al.

[45] Date of Patent: **Feb. 29, 2000**

[54] VOICE START RECORDING APPARATUS

4,893,197 1/1990 Howells et al. .

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4,926,484 5/1990 Nakano 381/110

5,259,035 11/1993 Peters et al. 381/110

5,293,273 3/1994 Glick .

5,337,251 8/1994 Pastor 381/56

5,485,522 1/1996 Sölve et al. 381/56

5,563,952 10/1996 Mercer 381/56

5,598,466 1/1997 Graumann 381/56

5,619,554 4/1997 Hogan et al. 379/76

[21] Appl. No.: **08/690,158**

FOREIGN PATENT DOCUMENTS

[22] Filed: **Jul. 19, 1996**

3149134A1 11/1981 Germany .

63-259700 10/1988 Japan .

[30] Foreign Application Priority Data

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Aug. 3, 1995 [JP] Japan 7-198741

Aug. 8, 1995 [JP] Japan 7-201933

Primary Examiner—Vivian Chang

Attorney, Agent, or Firm—Louis Weinstein

[51] Int. Cl.⁷ **H04R 29/00**

[52] U.S. Cl. **381/56; 381/110**

[58] Field of Search 381/56, 110; 704/210, 704/215, 233, 231; 379/88.01

[57] ABSTRACT

A voice start recording apparatus includes a voice level determining circuit for determining whether consecutive frames of input voice is sound or silent, each frame being a coded voice signal; a continuity monitoring circuit for monitoring continuity of sound frames or silent frames; and a recording control circuit for controlling the start and stop of a recording operation based on the output from the continuity monitoring circuit.

[56] References Cited

U.S. PATENT DOCUMENTS

3,873,772 3/1975 Dumler .

4,006,309 2/1977 Brickerd, Jr. .

4,542,525 9/1985 Hopf 381/110

12 Claims, 14 Drawing Sheets

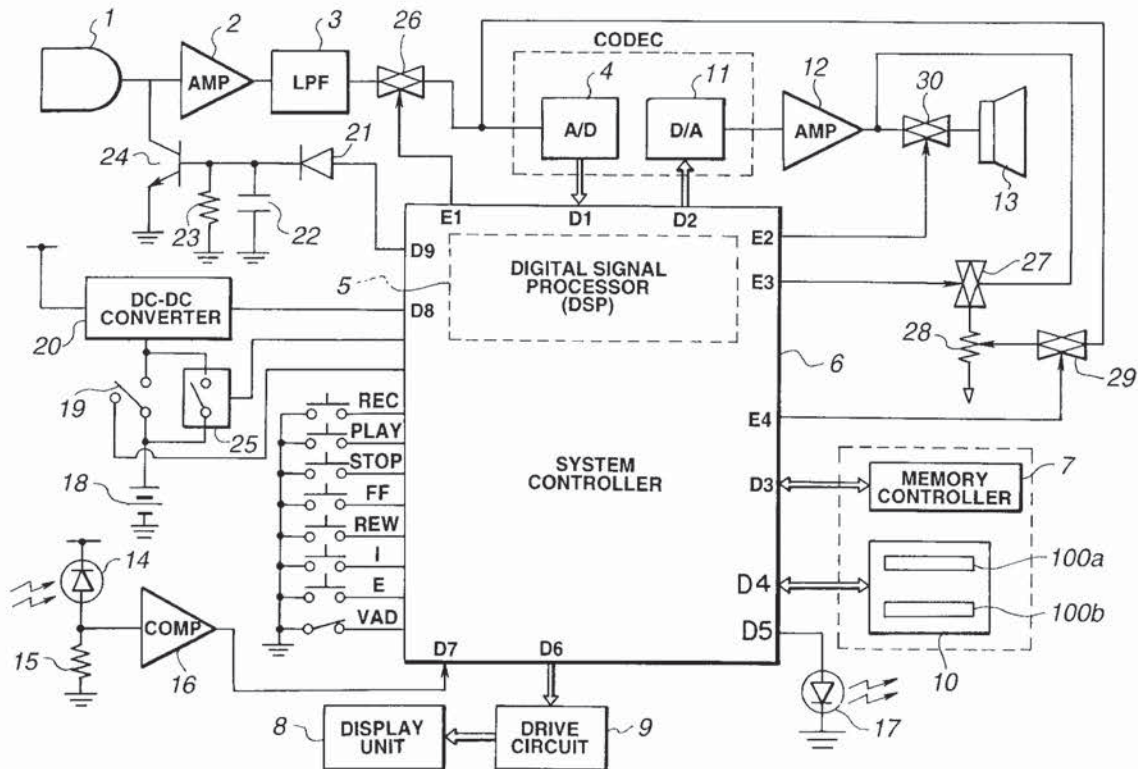


FIG. 1

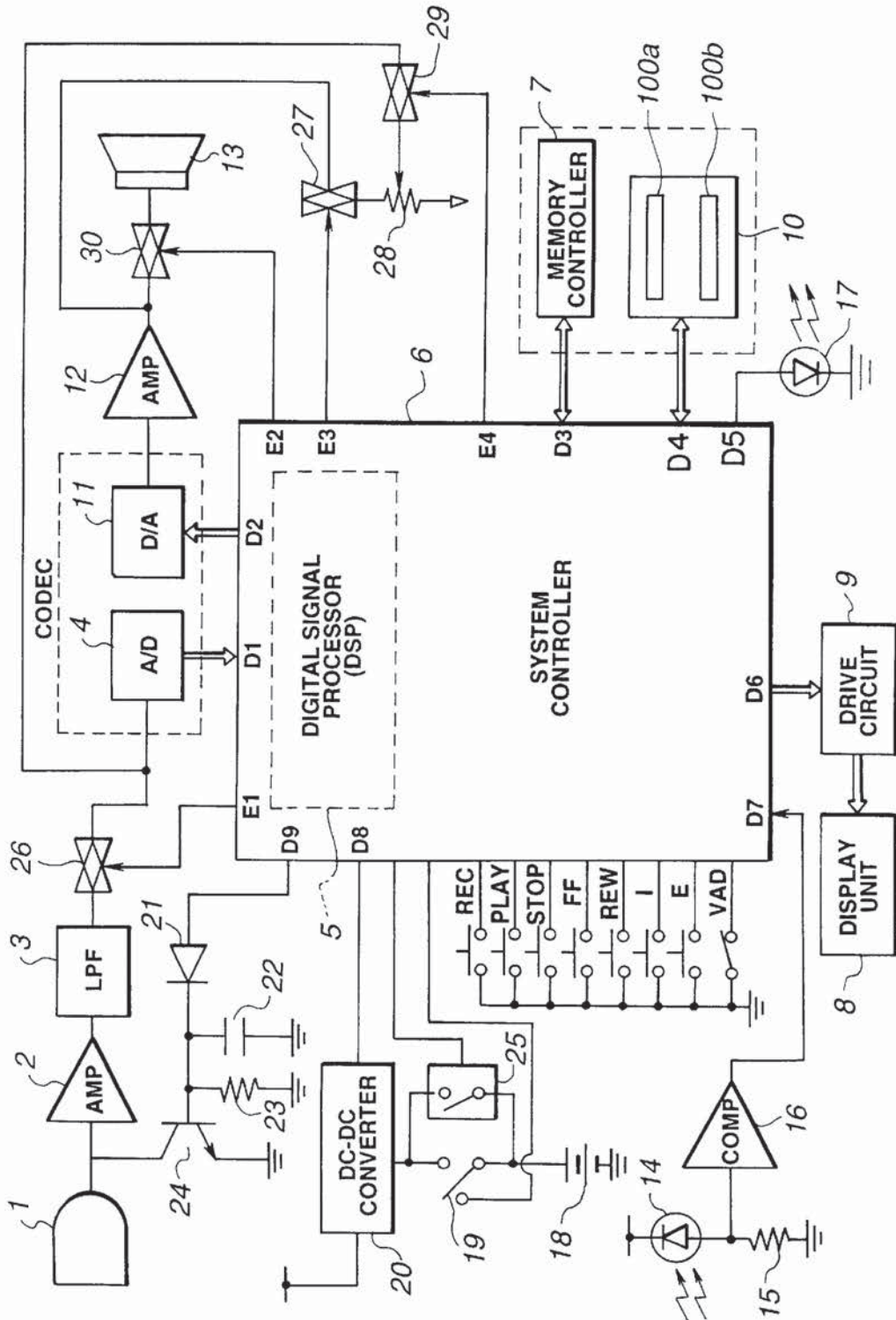


FIG.2

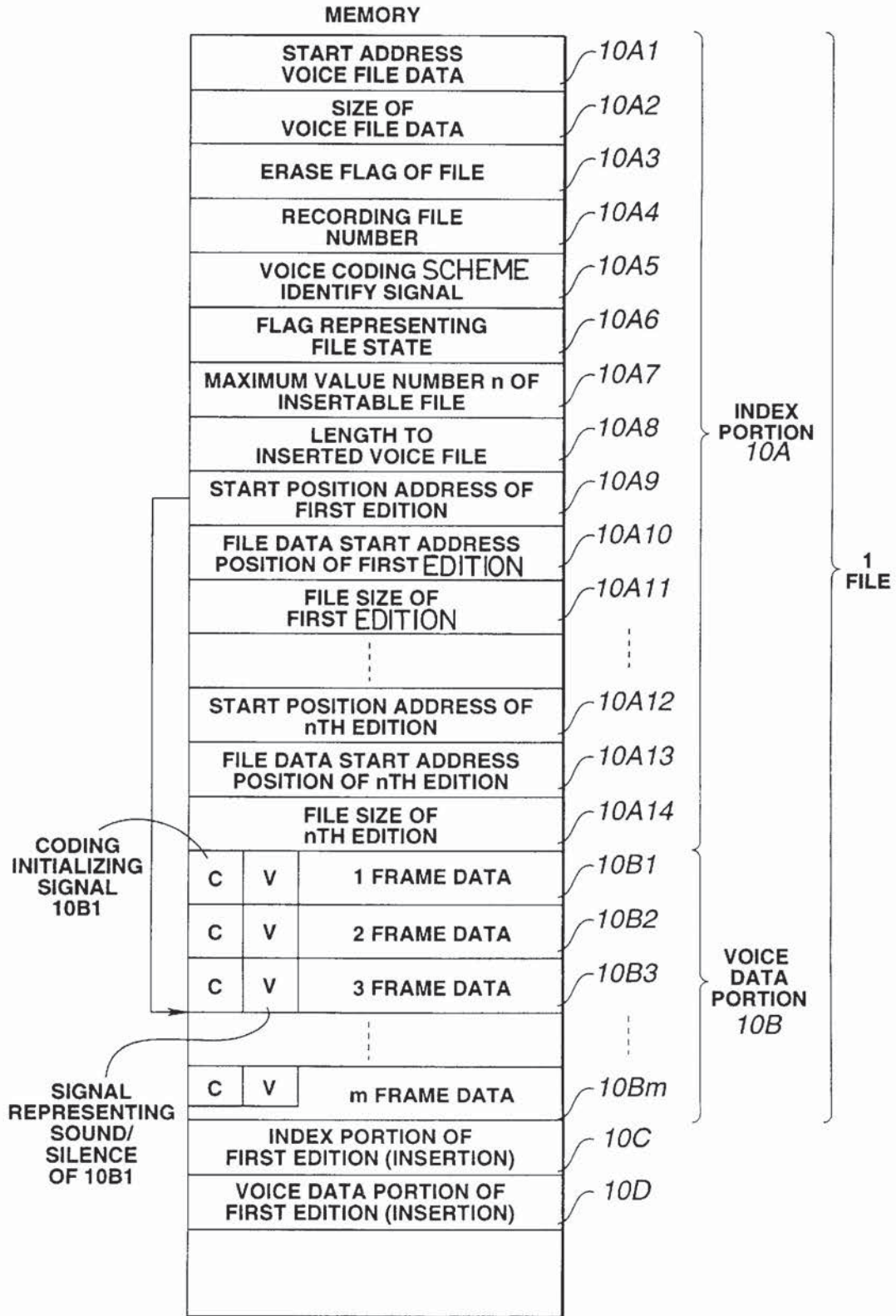


FIG.3

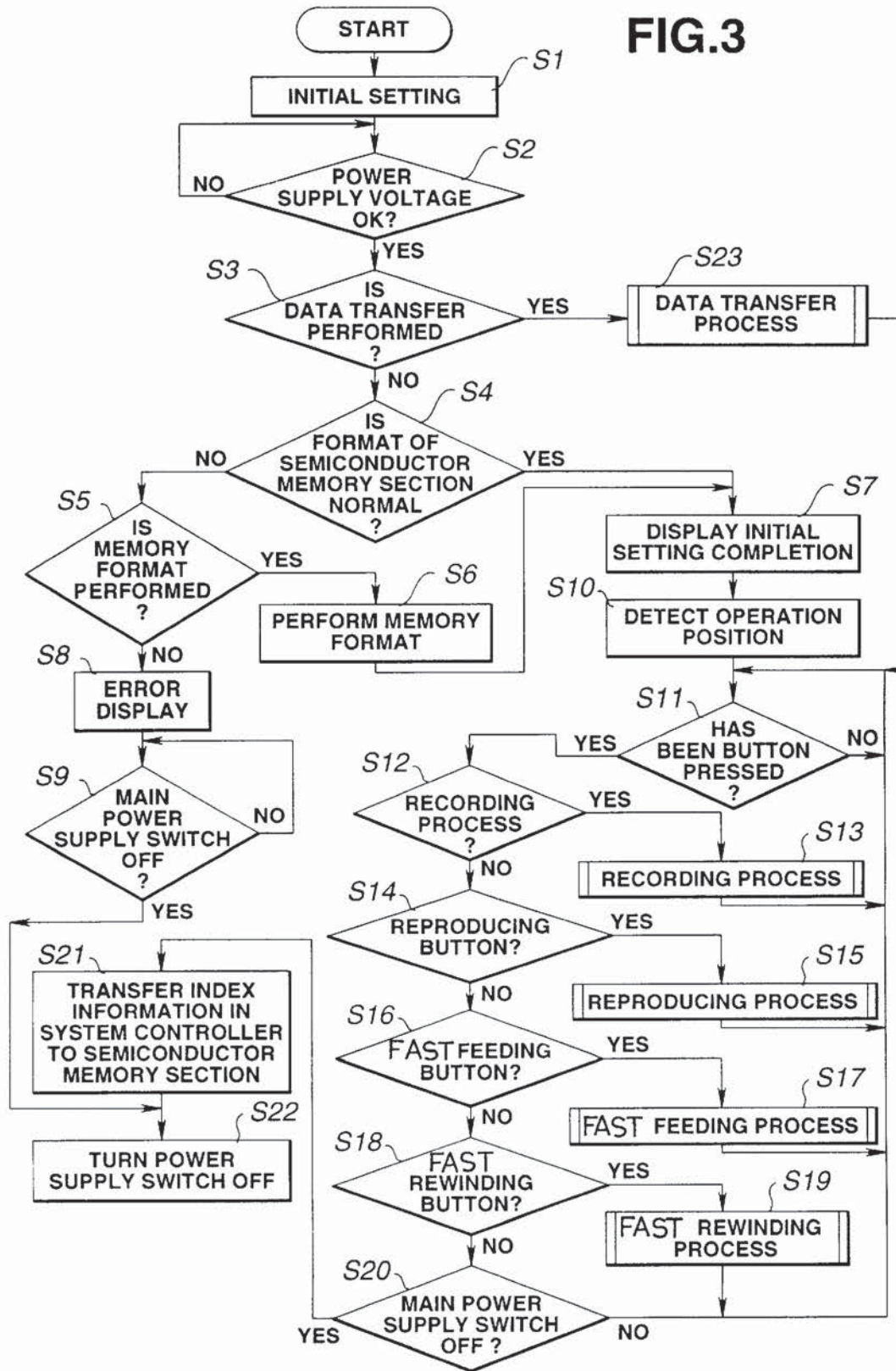
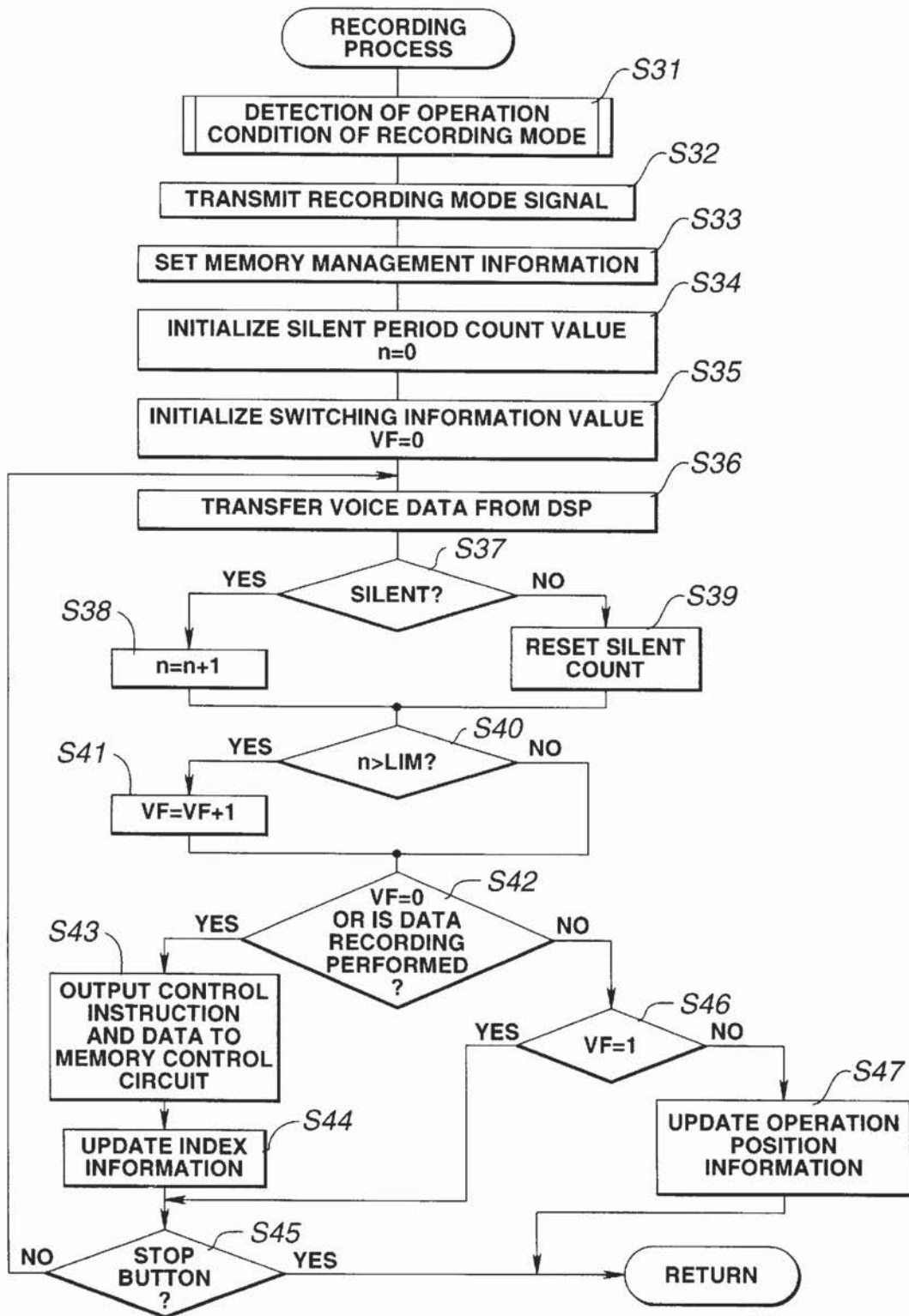


FIG.4



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