

- [54] VIDEO SIGNAL SCRAMBLING AND DESCRAMBLING SYSTEMS
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- [73] Assignee: M/A-COM Linkabit, Inc., San Diego, Calif.
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- [51] Int. Cl.⁴ H04N 7/16; H04L 9/00
- [52] U.S. Cl. 358/119; 178/22.05
- [58] Field of Search 358/119; 178/22.04, 178/22.05, 22.06

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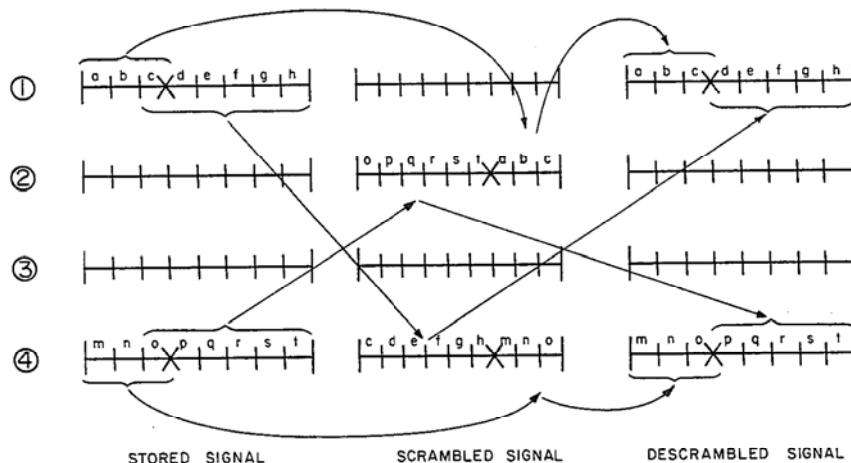
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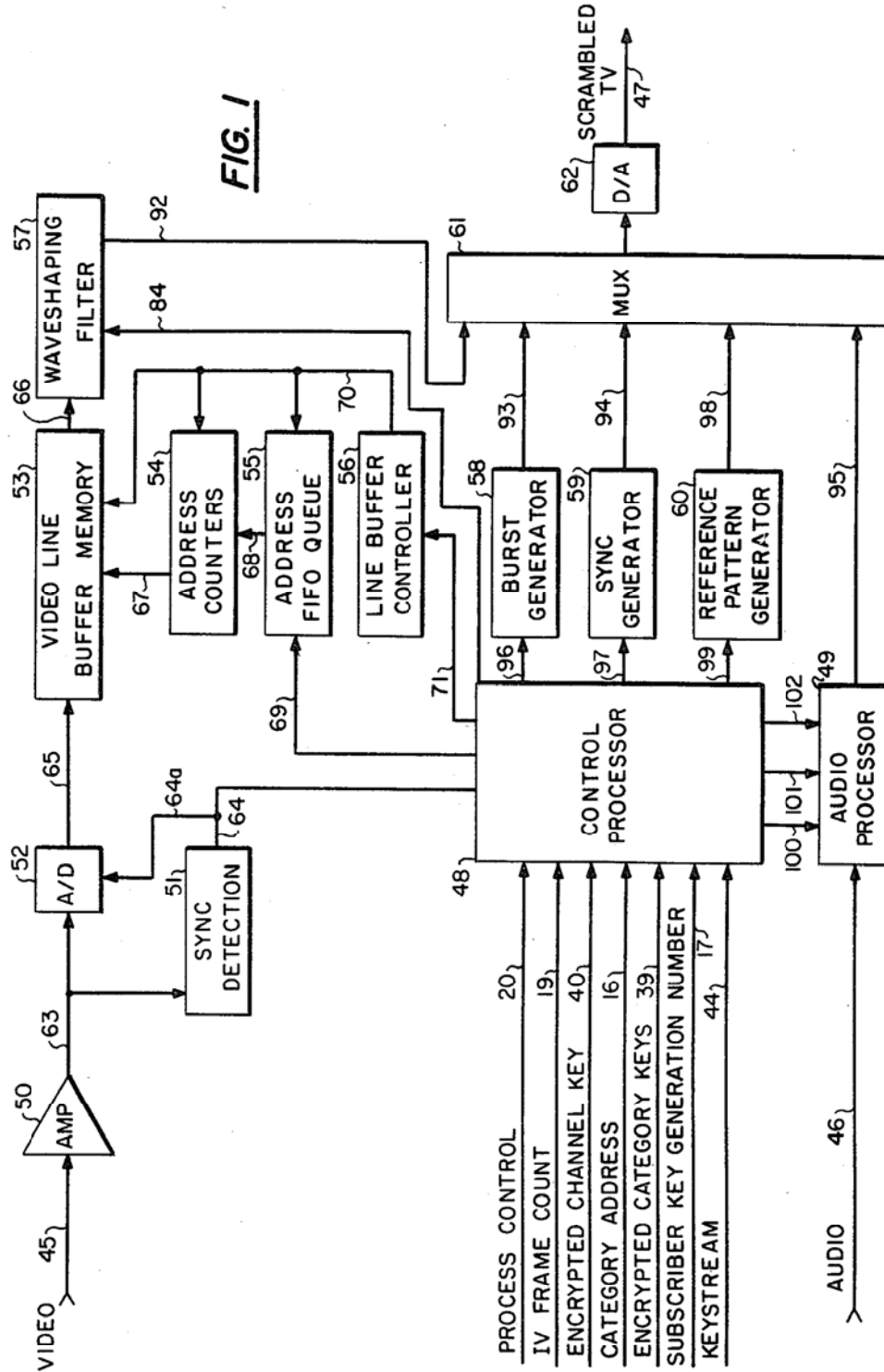
Primary Examiner—S. C. Buczinski
 Assistant Examiner—Linda J. Wallace
 Attorney, Agent, or Firm—Baker, Maxham, Callan & Jester

[57] **ABSTRACT**
 Systems for scrambling and descrambling video information lines. The scrambling system includes a memory; a storage system for sequentially storing groups of

four video information lines in the memory; and a retrieval means for forming groups of four scrambled video information lines by retrieving the stored video information from the memory in a sequence different from the sequence within the stored group in which the information was stored. The retrieval system forms the scrambled video information lines by retrieving a portion of a first stored video information line from a first position therein to form a portion of a first scrambled video information line occupying a second position therein; retrieving a portion of the first stored video information line from the corresponding second position therein to form a portion of a second scrambled video information line occupying a position therein other than the corresponding second position; and forming the portion of the first scrambled video information line occupying the corresponding first position therein by retrieving a portion of a stored video information line other than the first stored video information line from a position therein other than the corresponding first position. The sequence of formation of the scrambled lines, the respective sizes of the retrieved portions, and the combinations of stored video lines within the stored groups for forming the first and second scrambled video lines are varied from one group to the next in response to a keystream of control bits. The descrambling system functions conversely to the scrambling system.

25 Claims, 8 Drawing Figures





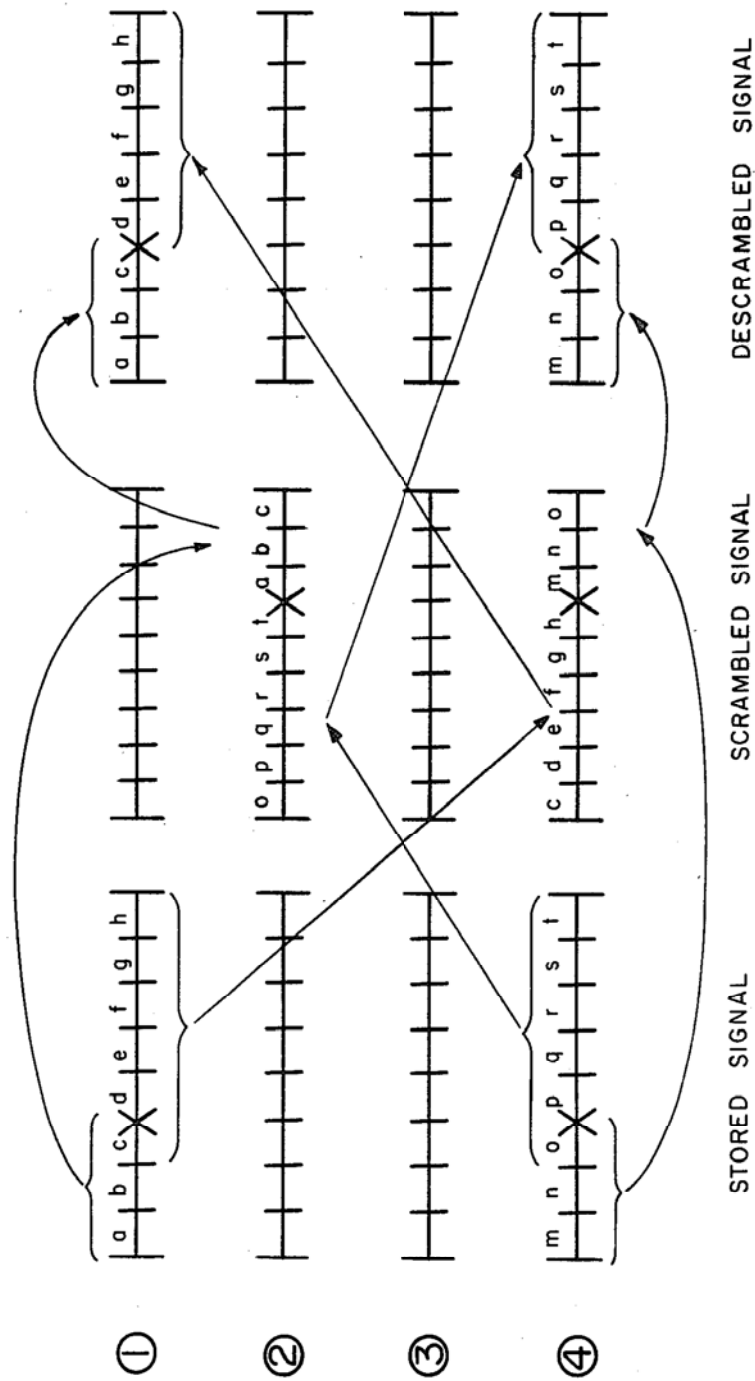


FIG. 2

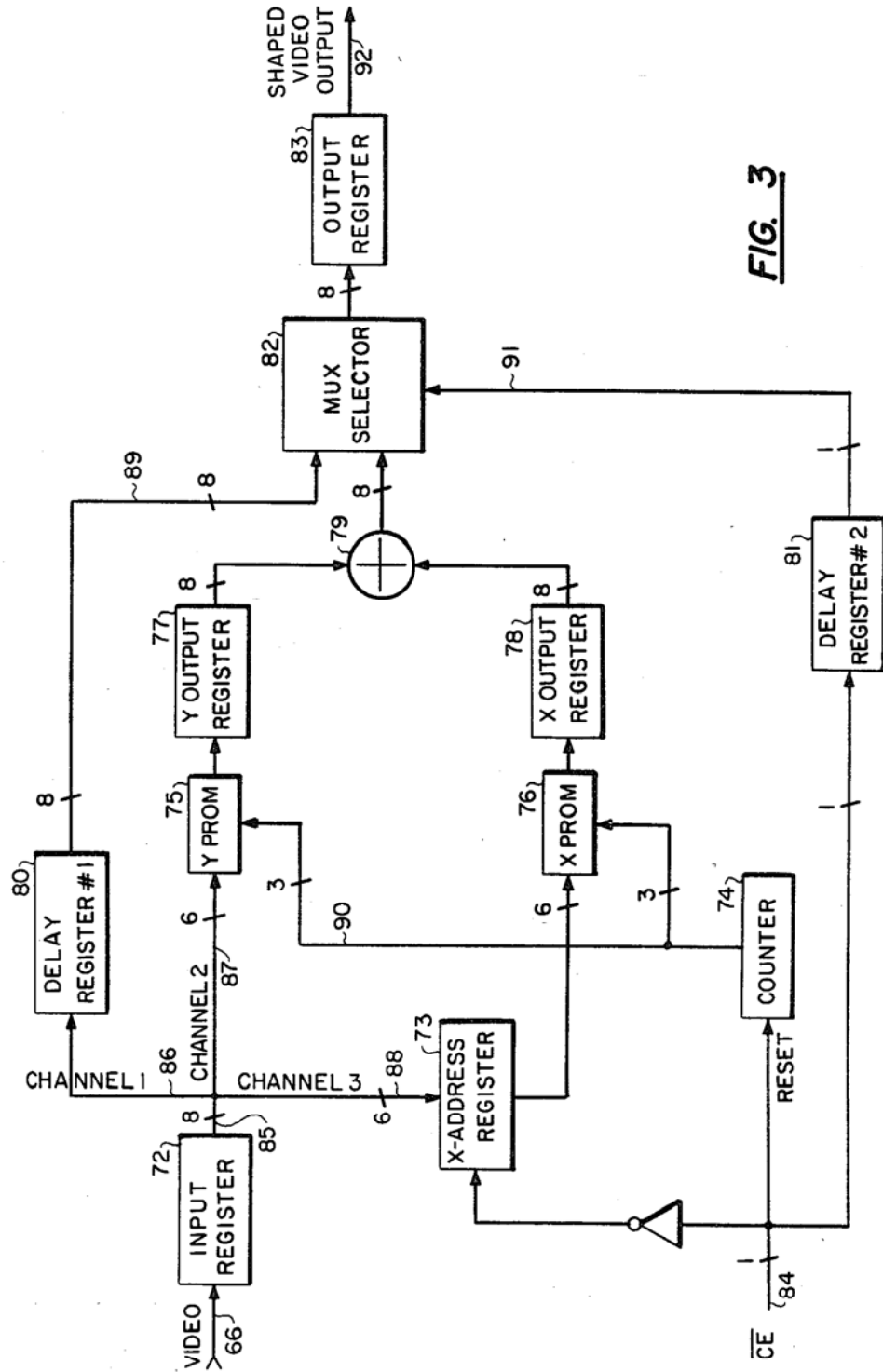
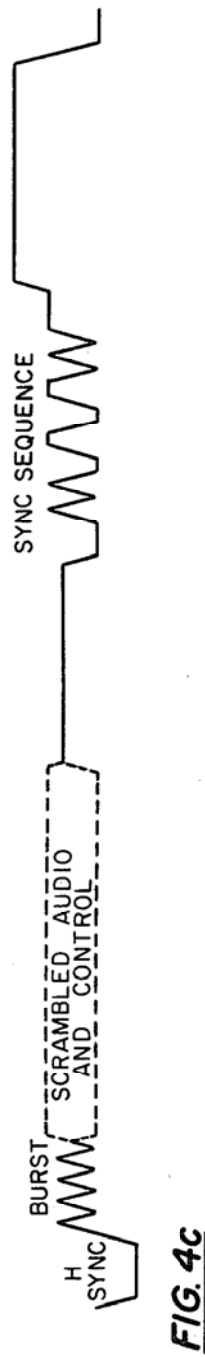
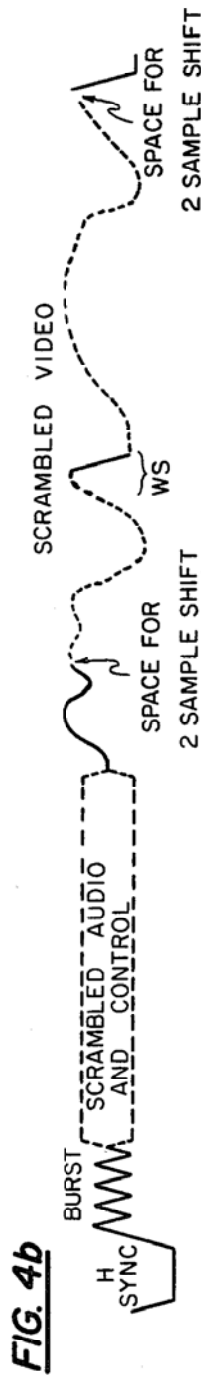
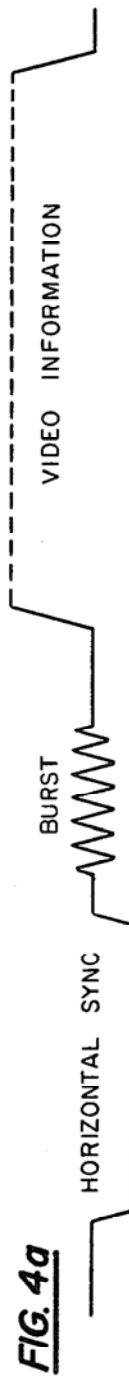


FIG. 3



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