United States Patent [19]

Seth-Smith et al.

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[45] **Date of Patent: May 9, 1989**

[54] **COMMUNICATION OF INDIVIDUAL MESSAGES TO SUBSCRIBERS IN A SUBSCRIPTION TELEVISION SYSTEM**

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[73] Assignee: **Scientific-Atlanta, Inc.,** Atlanta, Ga.

[21] Appl. No.: **883,301**

[22] Filed: **Jul. 8, 1986**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 653,061, Sep. 21, 1984.

[51] **Int. Cl.**[4] **H04N 7/167;** H04N 7/08; H04N 7/04

[52] **U.S. Cl.** **380/10;** 358/86; 358/142; 358/147; 358/149; 358/260; 358/294; 380/20

[58] **Field of Search** 380/10, 20, 21, 43; 358/147, 256, 260, 294, 84, 86, 142, 149

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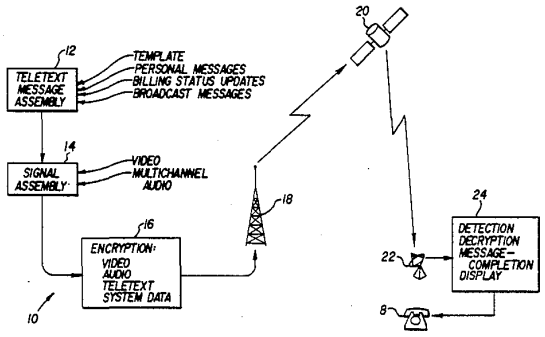
[57] **ABSTRACT**

A subscription television system in which individual decoders are enabled to receive individually addressed messages is disclosed. The composite signal, including video and teletext, also comprises addressed packets, which are detected by decoders and which indicate that a message addressed to a particular subscriber is forthcoming, and system control data. The decoder detects an addressed packet addressed to itself, whereby it is enabled to select the appropriate teletext message and to display the same. In a preferred embodiment, both address packets and teletext are encrypted. The addressed packet is decrypted using a decoder-specific code and a system key transmitted as part of the system control data, while the teletext packet is decrypted using the system key, but cannot be received until the addressed packet has been decrypted. Therefore, redundant levels of security are provided to the system. Messages for display to the user can be selected in response to user initiated commands, in response to decoder initiation, or in response to the transmitter. In each case, the bulk of the data to be displayed is repetitively transmitted by the transmitter and is adapted to the particular user after receipt by supply of user-specific information generated or stored by the decoder. In this way, the memory requirements of the decoder are substantially minimized, while extensive flexibility in the choice of messages to be transmitted is provided.

7 Claims, 10 Drawing Sheets



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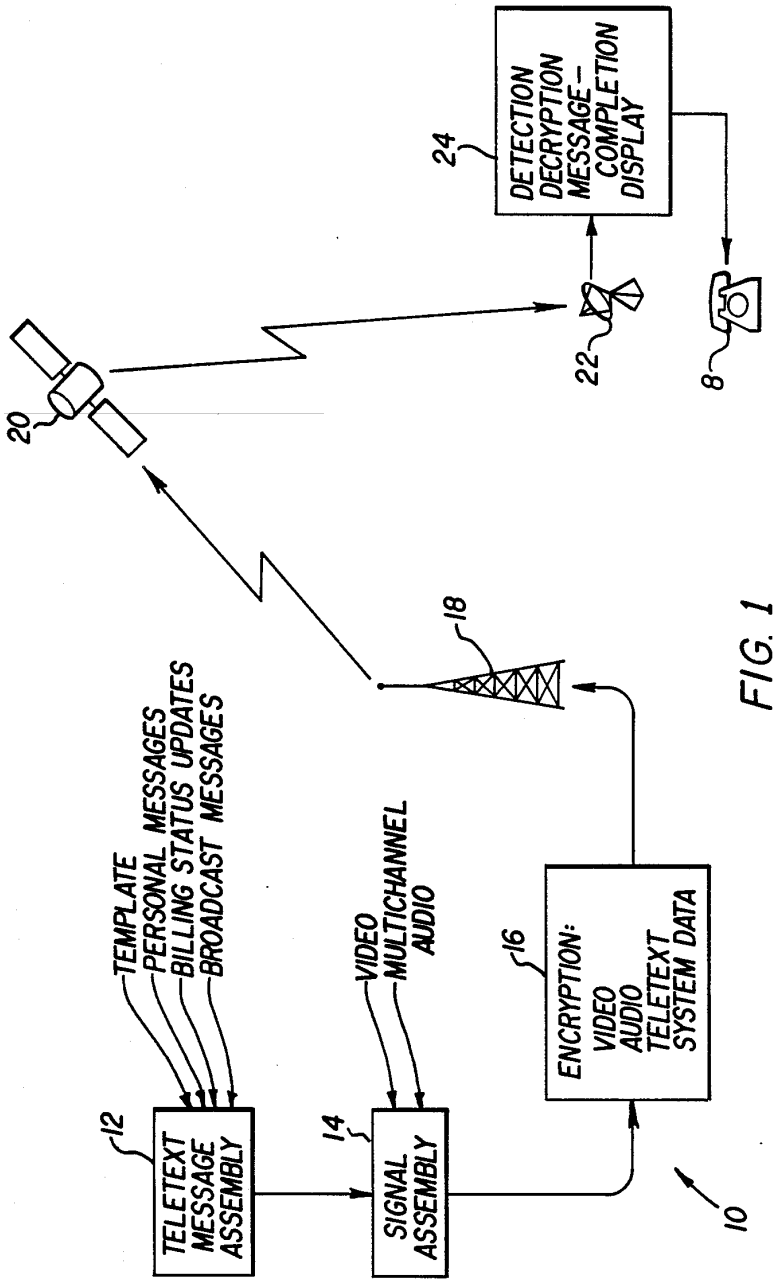

FIG. 1

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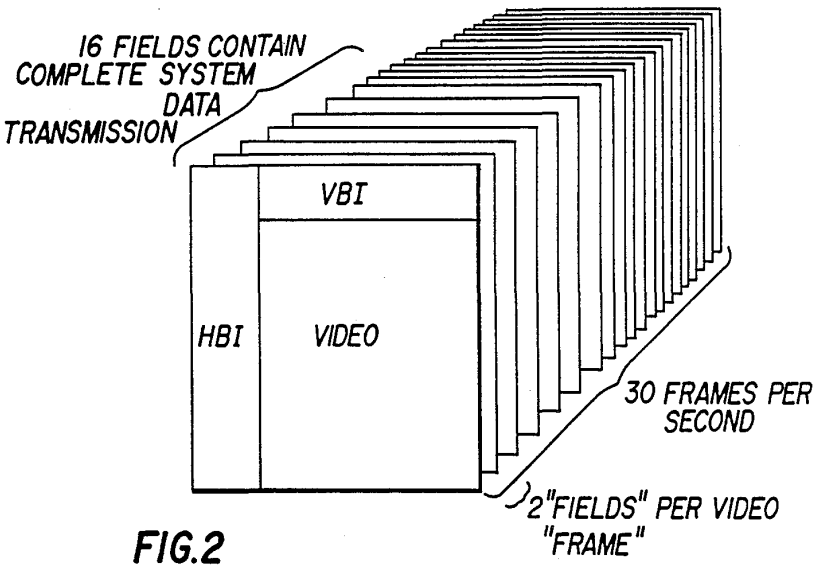

FIG.2

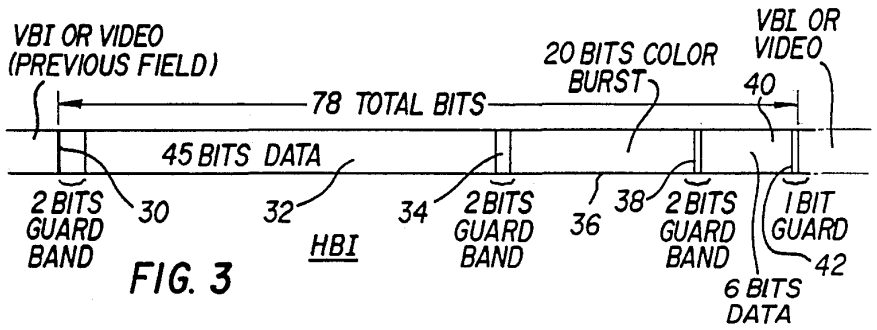

FIG. 3

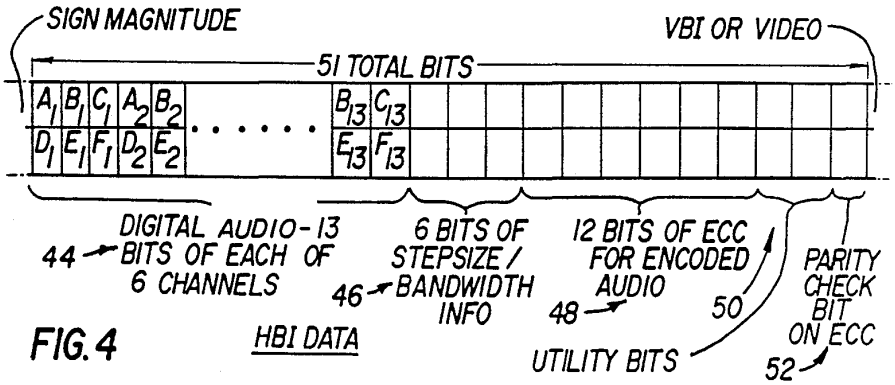

FIG.4

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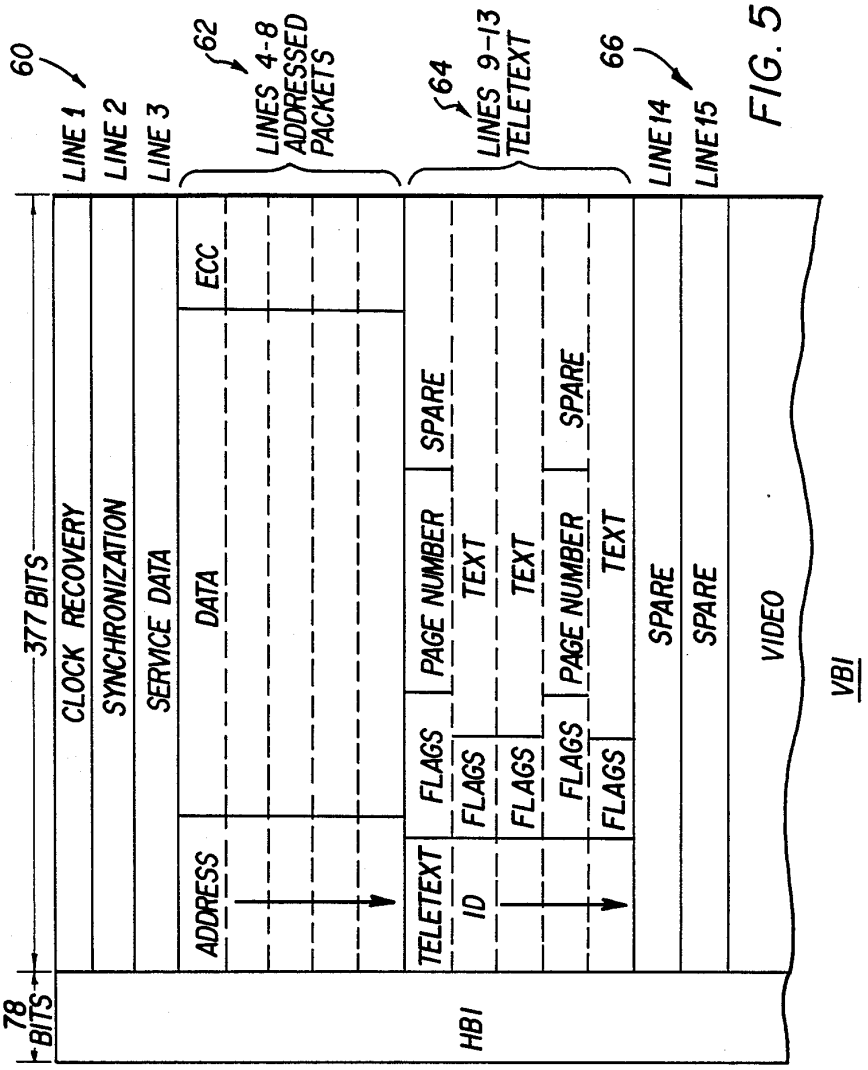

FIG. 5

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