

**United States Patent** [19]

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**Harvey et al.**

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- [54] **SIGNAL PROCESSING APPARATUS AND METHODS**
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- [22] **Filed:** **Nov. 3, 1981**
- [51] **Int. Cl.<sup>4</sup>** ..... **H04K 9/00; H04N 7/08**
- [52] **U.S. Cl.** ..... **380/20; 380/9; 380/10; 380/54; 358/142; 358/143**
- [58] **Field of Search** ..... **455/4, 26, 30, 32-34, 455/37, 70; 358/147, 142, 146, 143, 183, 86, 122; 364/521**

*Attorney, Agent, or Firm—Darby & Darby*

[57] **ABSTRACT**

Apparatus and methods for automatically controlling programming transmissions and presentations on television and radio equipment and monitoring the programming transmitted and presented. ("Programming" here means everything transmitted over television or radio intended for communication of entertainment or to instruct or inform.) The Apparatus can handle programming transmitted either over-the-air (hereinafter, "broadcast") or over hard-wire (hereinafter, "cablecast"). The apparatus receive transmissions from as many as one hundred or more channels that are sequentially scanned by one or more scanners/switches that transfer the transmissions to one or more receiver/decoders that identify signals in the programming and separate the signals from the programming transmissions. The signals may then be transferred through one or more decrypters. The separated and possibly wholly or partially decrypted signals are then transferred through one or more processors and buffers to external equipment and/or data recorders. The data recorders are adapted to output data to remote sites on predetermined instructions. In all these functions, the apparatus are governed by one or more controllers. The methods co-ordinate and instruct equipment in the transmission and presentation of radio and television programming, especially in multi-media and multi-channel presentations, and in certain other functions.

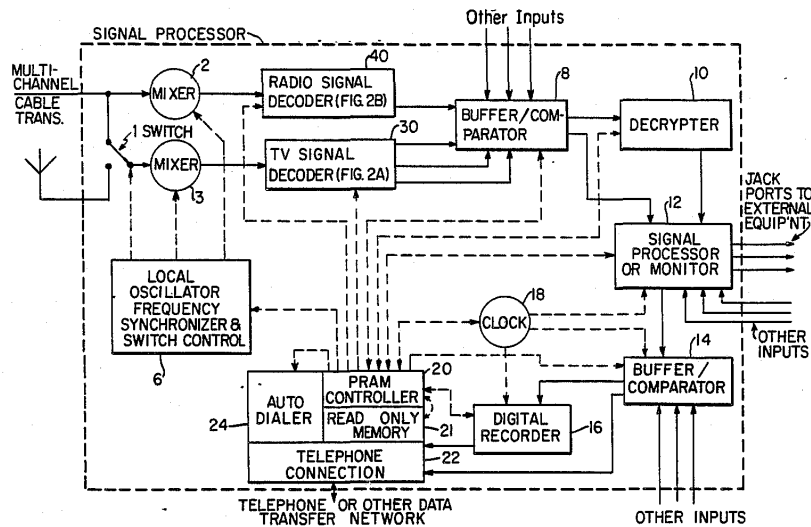
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*Primary Examiner—Salvatore Cangialosi*

**13 Claims, 22 Drawing Figures**



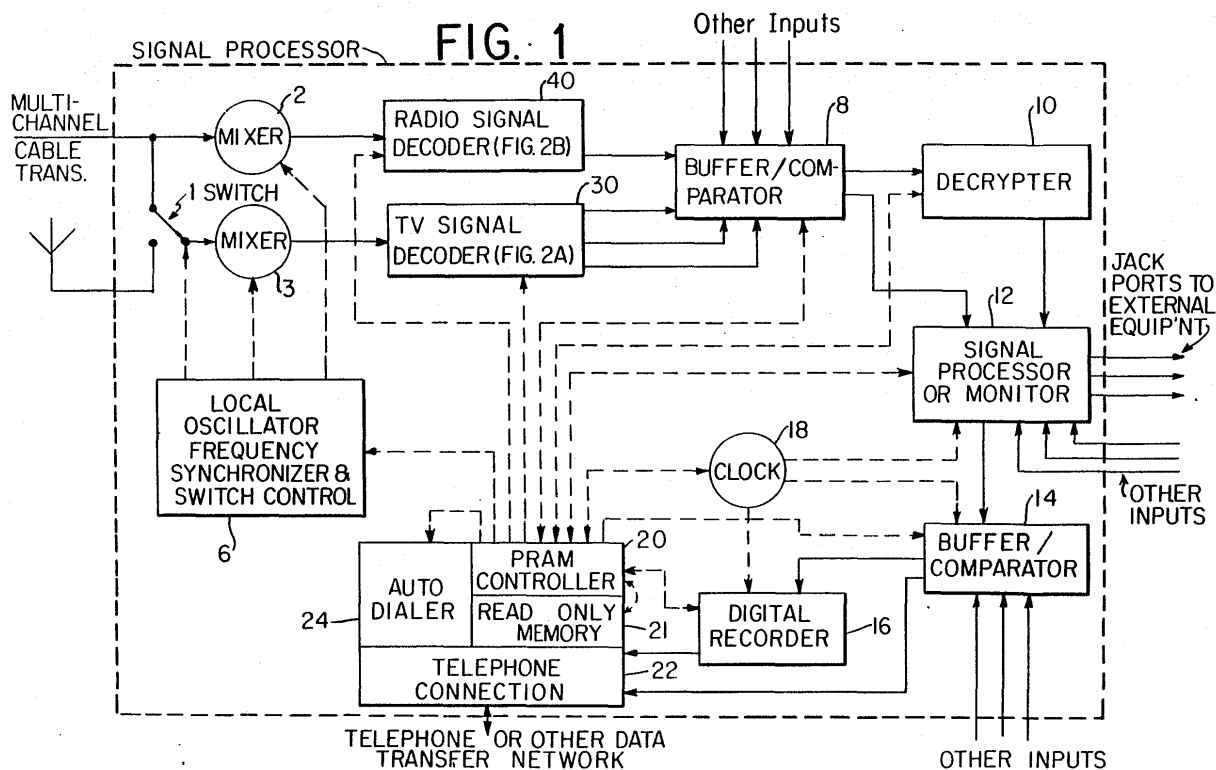
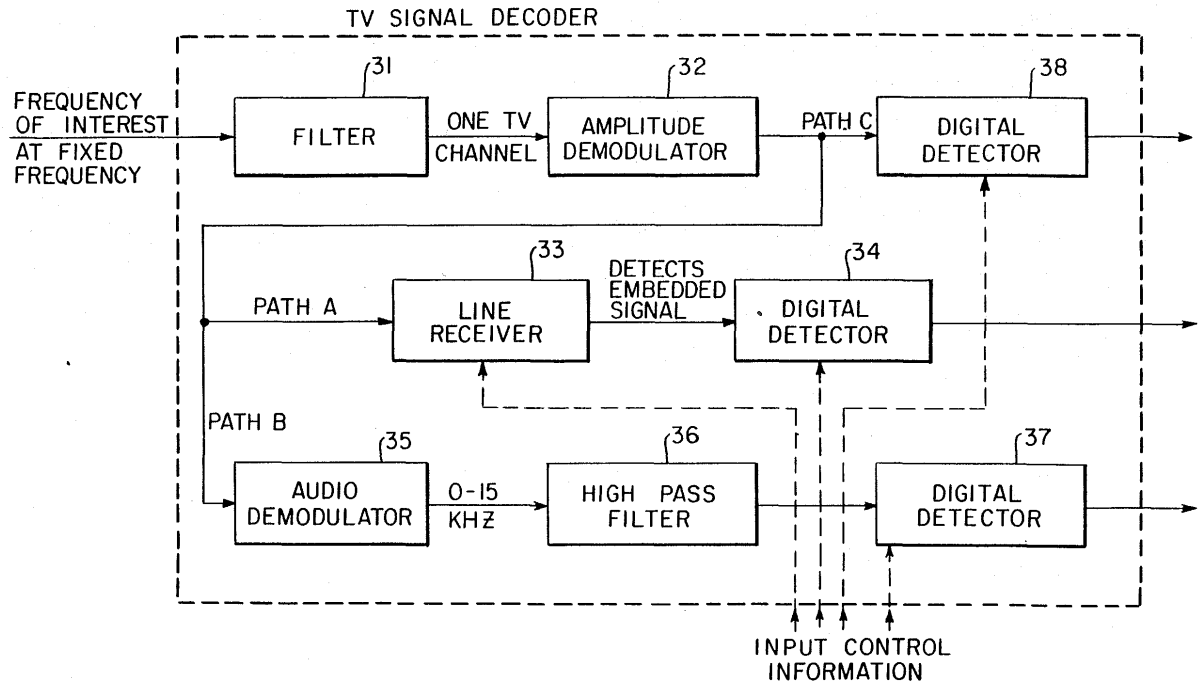
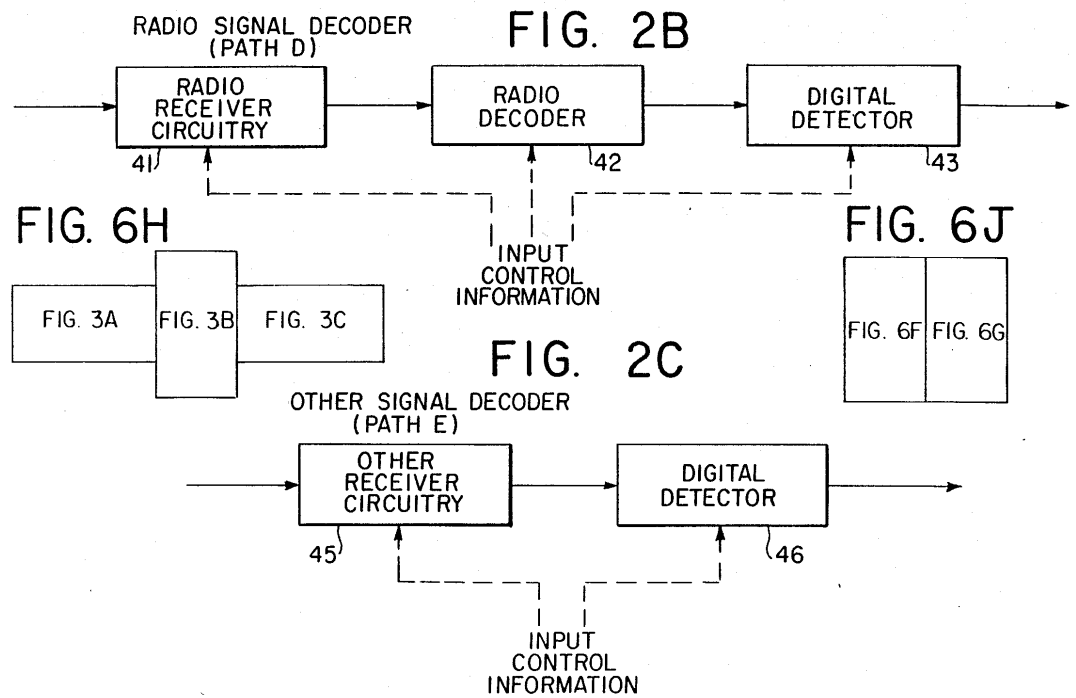
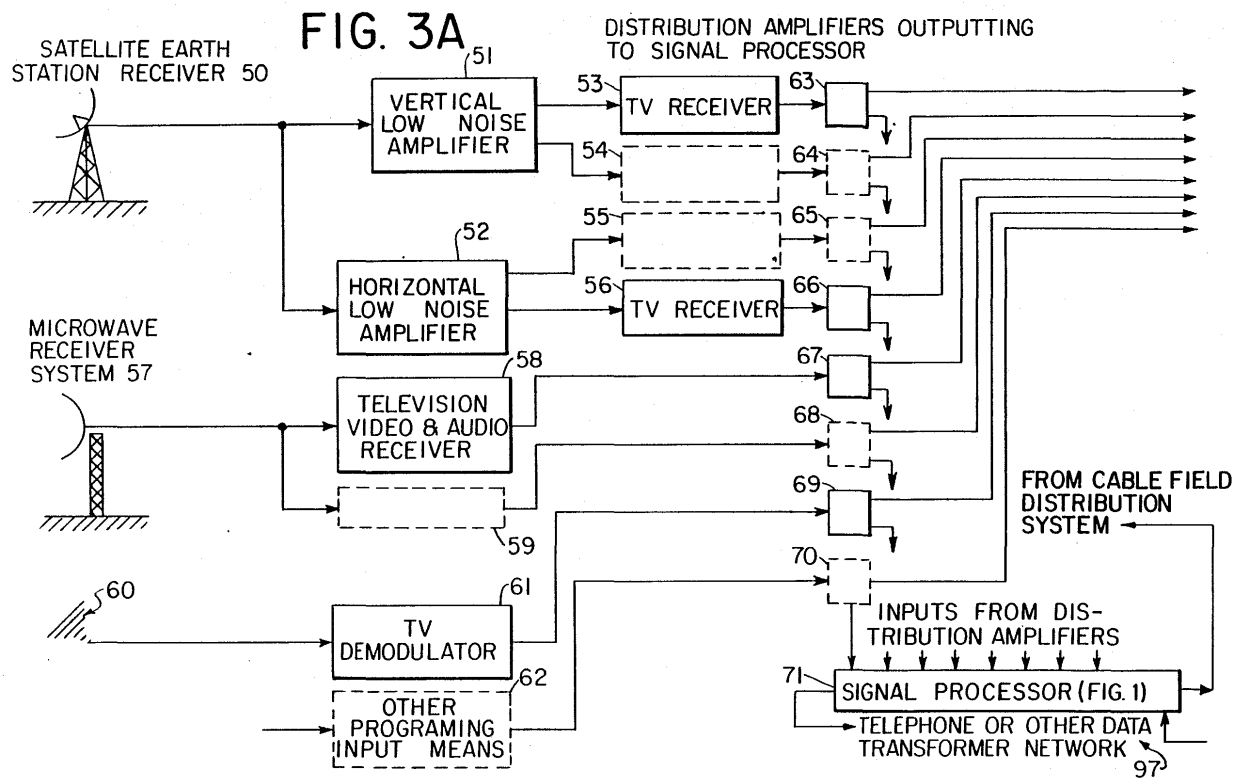


FIG. 2A







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