

United States Patent [19]

Jeffers et al.

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[54] **DIRECT BROADCAST SATELLITE SIGNAL TRANSMISSION SYSTEM**

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[73] Assignee: **General Instrument Corp., New York, N.Y.**

[21] Appl. No.: **35,262**

[22] Filed: **Apr. 2, 1987**

Related U.S. Application Data

[63] Continuation of Ser. No. 729,290, May 1, 1985, abandoned.

[51] Int. Cl.⁴ **H04N 7/167**

[52] U.S. Cl. **380/15; 380/19; 380/20; 358/84**

[58] Field of Search **380/10, 20, 15, 19; 358/84; 455/2**

[56] References Cited

U.S. PATENT DOCUMENTS

4,225,884	9/1980	Block et al.	358/122
4,292,650	9/1981	Hendrickson	358/122
4,388,643	6/1983	Aminetzah	358/122
4,388,645	6/1983	Cox et al.	358/147
4,393,404	7/1983	Cox et al.	358/147
4,394,687	7/1983	Hutt et al.	358/147

4,424,532	1/1984	den Toonder et al.	358/120
4,484,217	11/1984	Block et al.	358/114
4,531,020	7/1985	Wechselberger et al.	358/123
4,531,021	7/1985	Bluestein et al.	358/122
4,536,791	8/1985	Campbell	358/114
4,575,755	3/1986	Schoeneberger	358/120

OTHER PUBLICATIONS

"Zeitmultiplex analoger Signal-Komponenten für das Satelliter-Fernsehen," *Funk-Technik* 39 (1984), Heft 6, pp. 228-231.

McGowan, Michael J., "Process Bus Protocol Orchestrates Distributed or Centralized Control," *Control Engineering*, September, 1980, pp. 129-132.

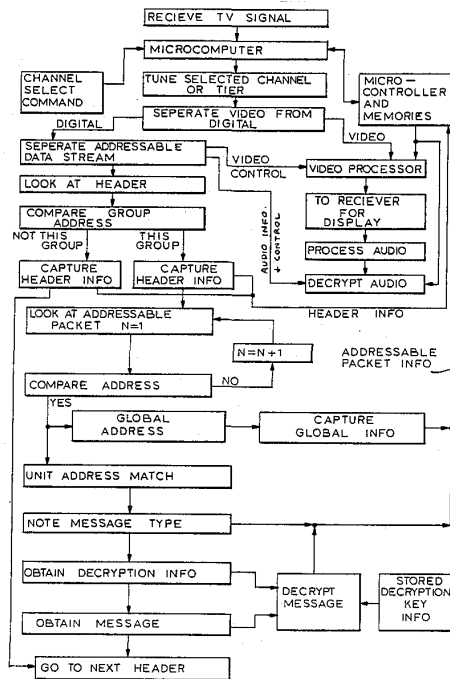
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Assistant Examiner—Melissa L. Koltak

[57] ABSTRACT

Audio and control signals are digitized and inserted in the horizontal blanking intervals of the distributed composite television signal. The control signals are in the form of a data stream which includes a header containing group address, sync, and program-related information applicable to all receiving units, and a plurality of portions which are addressable and contain information applicable to the control of particular individual receiving units in the addressed group. The information in the addressable portions can be altered on a real time basis such that the system operator has direct control over certain functions of individual receiving units from the transmission end.

32 Claims, 9 Drawing Sheets



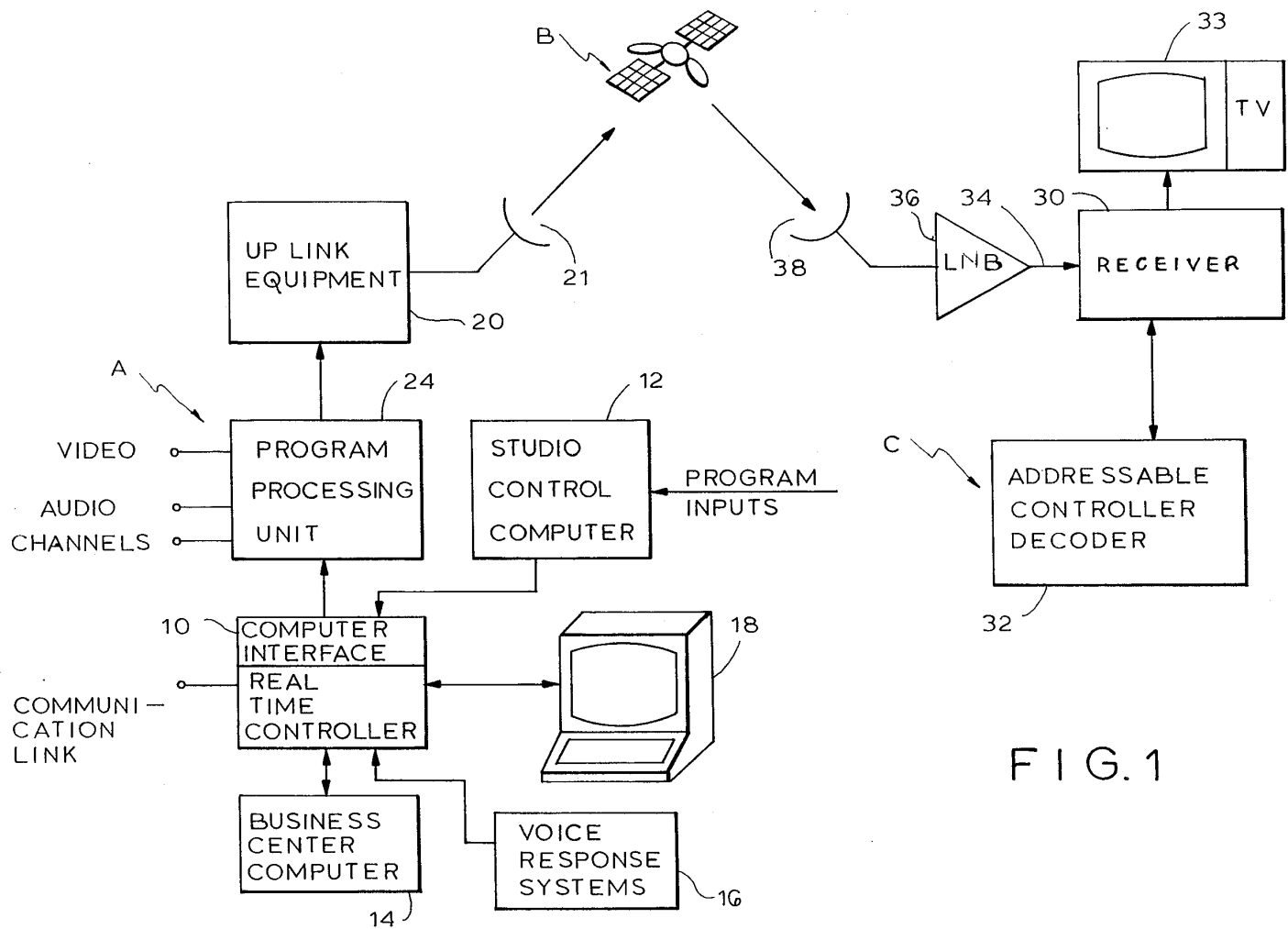


FIG. 1

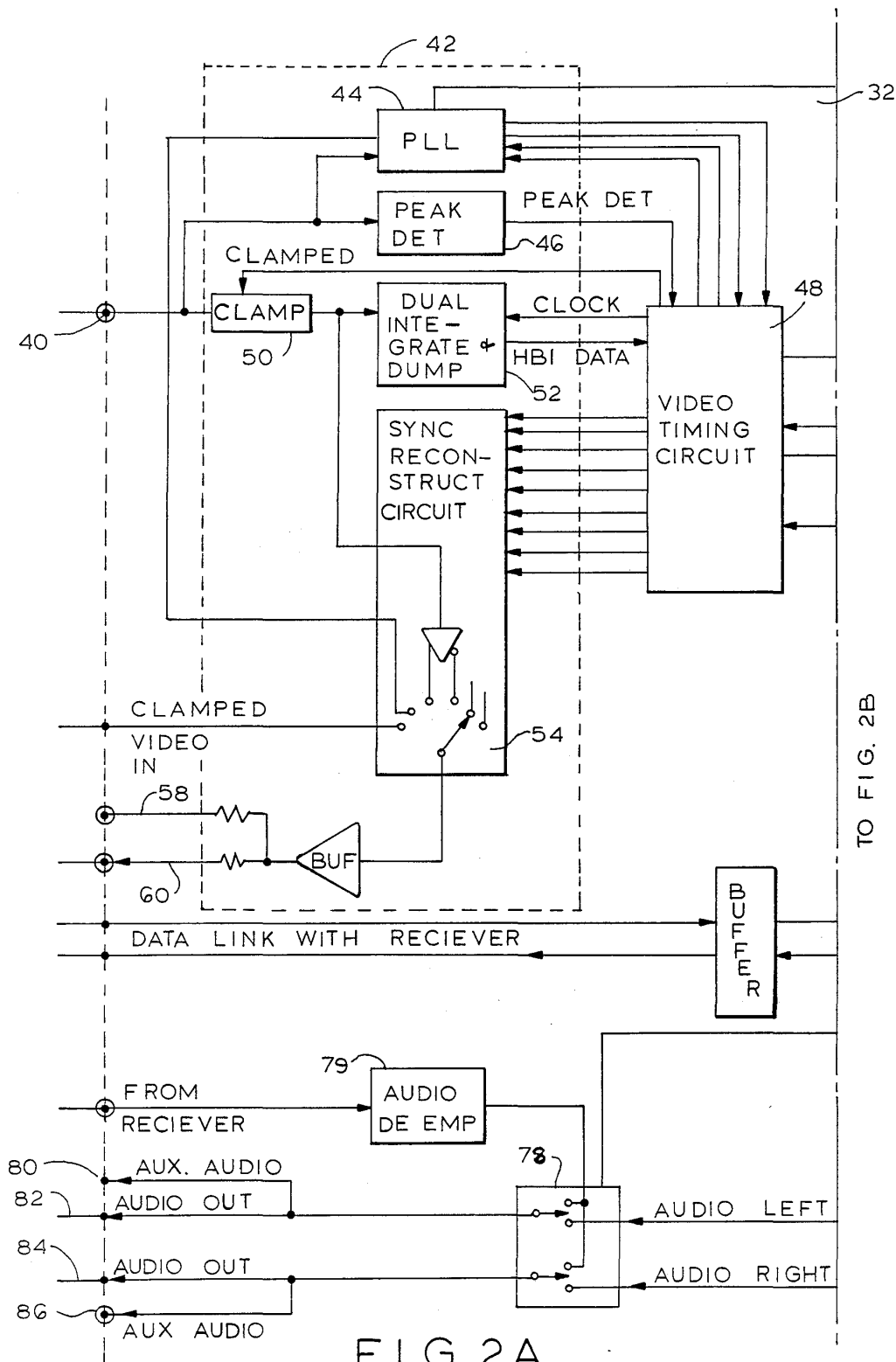
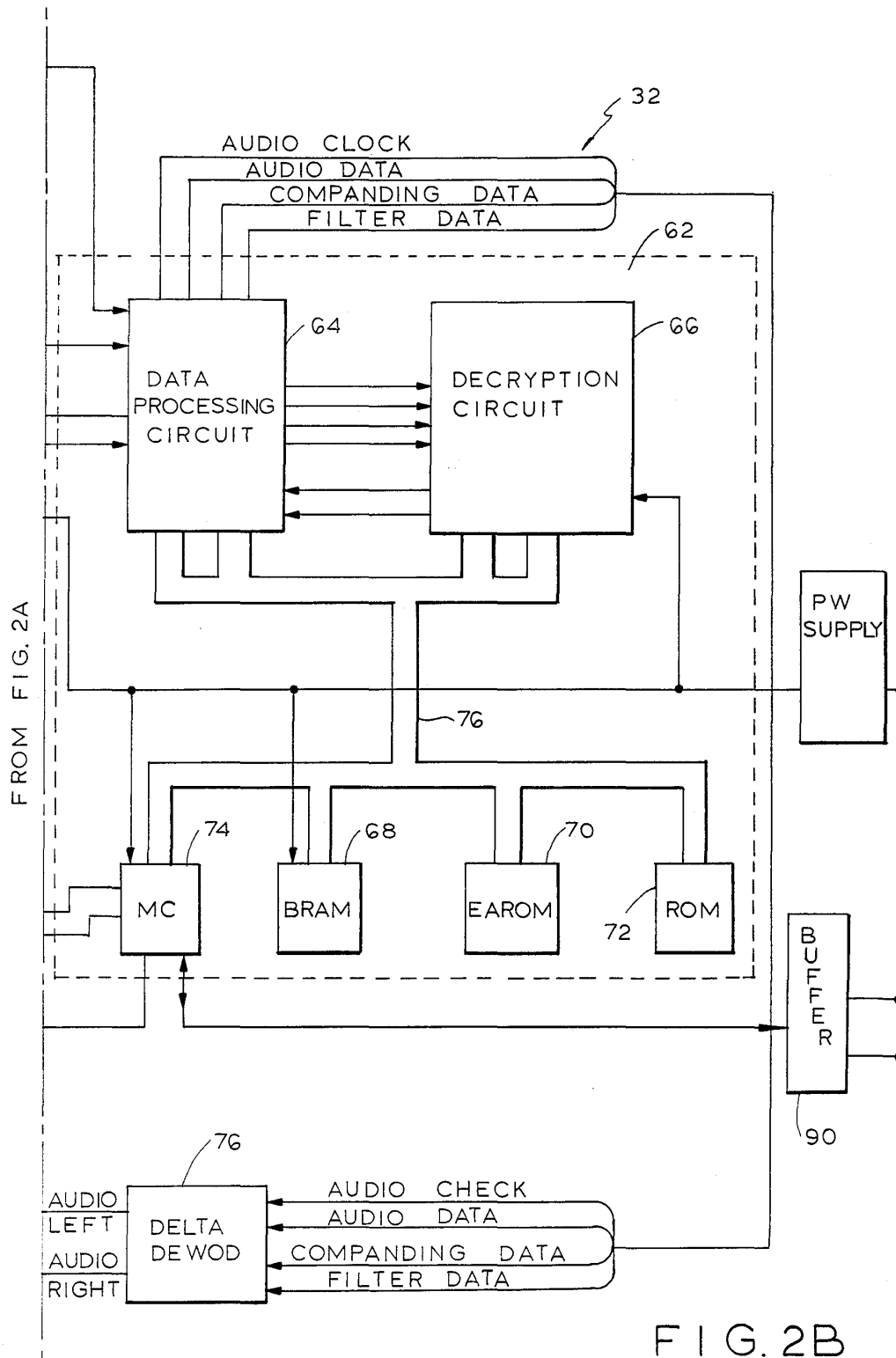


FIG. 2A



FROM FIG. 2A

FIG. 2B

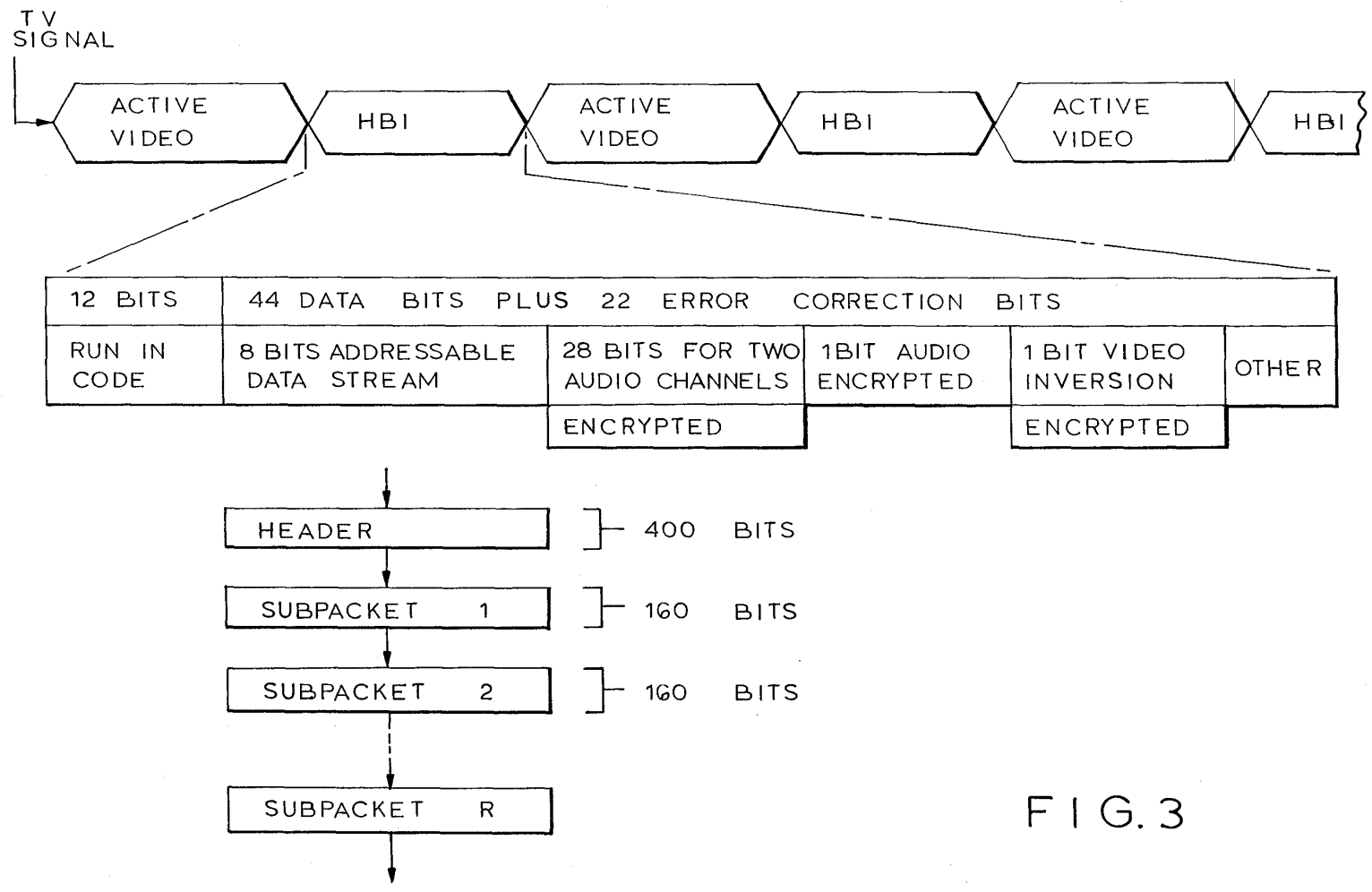


FIG. 3

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