

[54] **ELECTRO-OPTICAL AND ELECTRONIC SWITCHING SYSTEMS**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 573,177, April 30, 1975, abandoned.

[51] Int. Cl.² **H04B 9/00**

[52] U.S. Cl. **179/18 GF; 179/15 A; 250/199; 315/372**

[58] Field of Search **179/18 GF, 18 GE, 15 A, 179/15 AT, 15 AZ; 250/199; 315/367, 374, 372, 30; 340/166 R, 147 R**

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Primary Examiner—Thomas A. Robinson

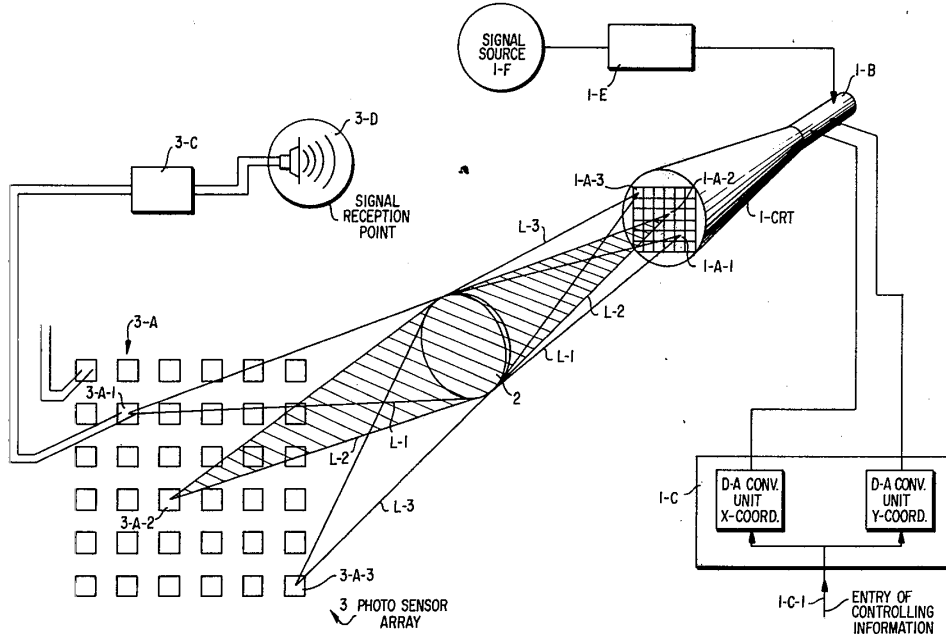
Attorney, Agent, or Firm—Griffin, Branigan & Butler

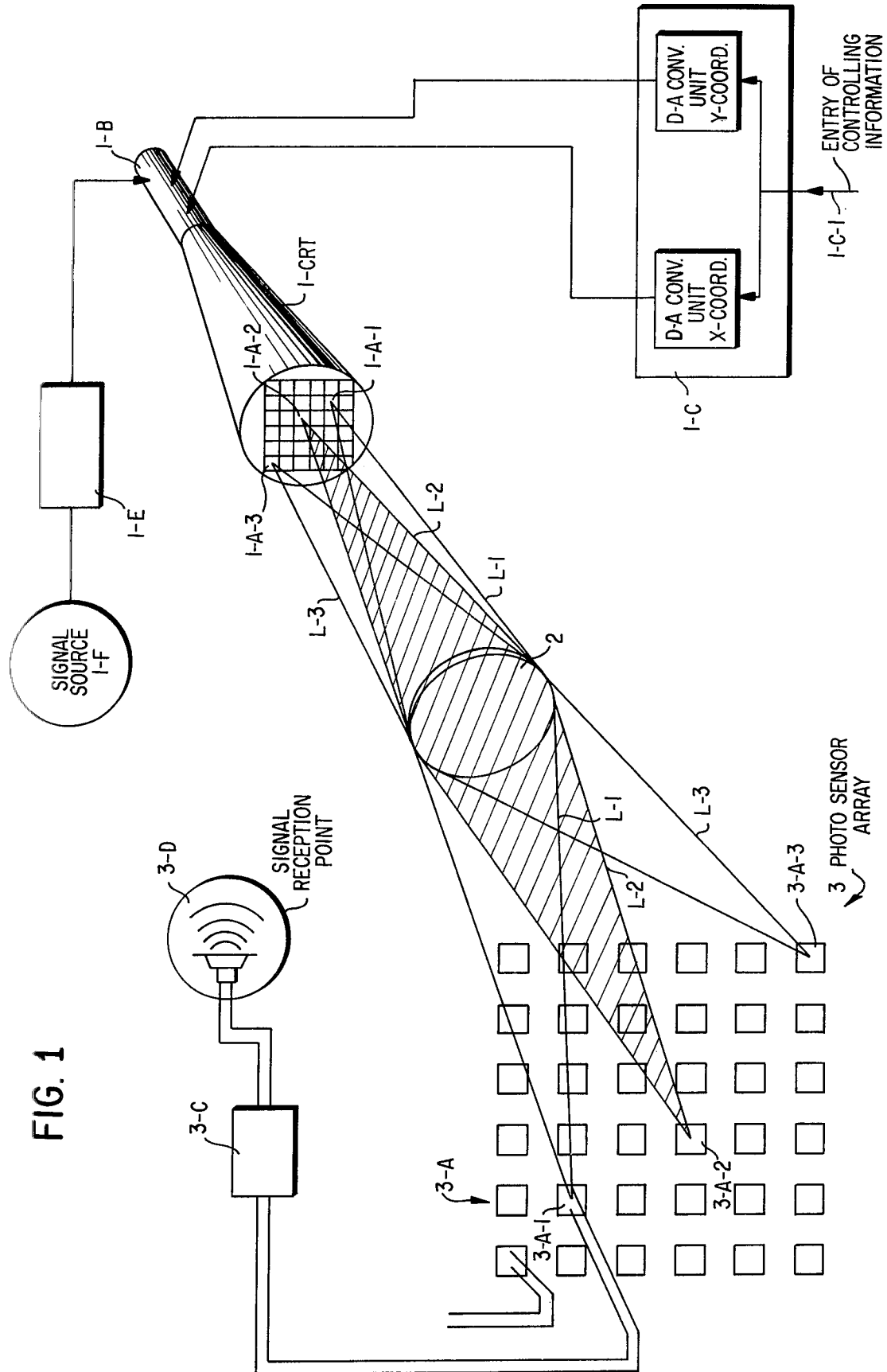
[57]

ABSTRACT

A switching system, specifically useful as a telephone central switching system, to establish a number of simultaneous but independent communication links between selected lines, comprising: (1) a CRT to transmit signals in the form of modulated light beams, (2) lenses to focus and direct the light generated, (3) an array of photosensors each connected to a different communication line, and (4) electronic controls to direct the beam as required. Also disclosed are electronic embodiments of the foregoing; time division multiplex and composite systems to expand the basic system; and also arrangements to facilitate adaptation of the system to telephone applications. The system avoids much of the hardware and circuit complications of prior switching systems.

42 Claims, 9 Drawing Figures





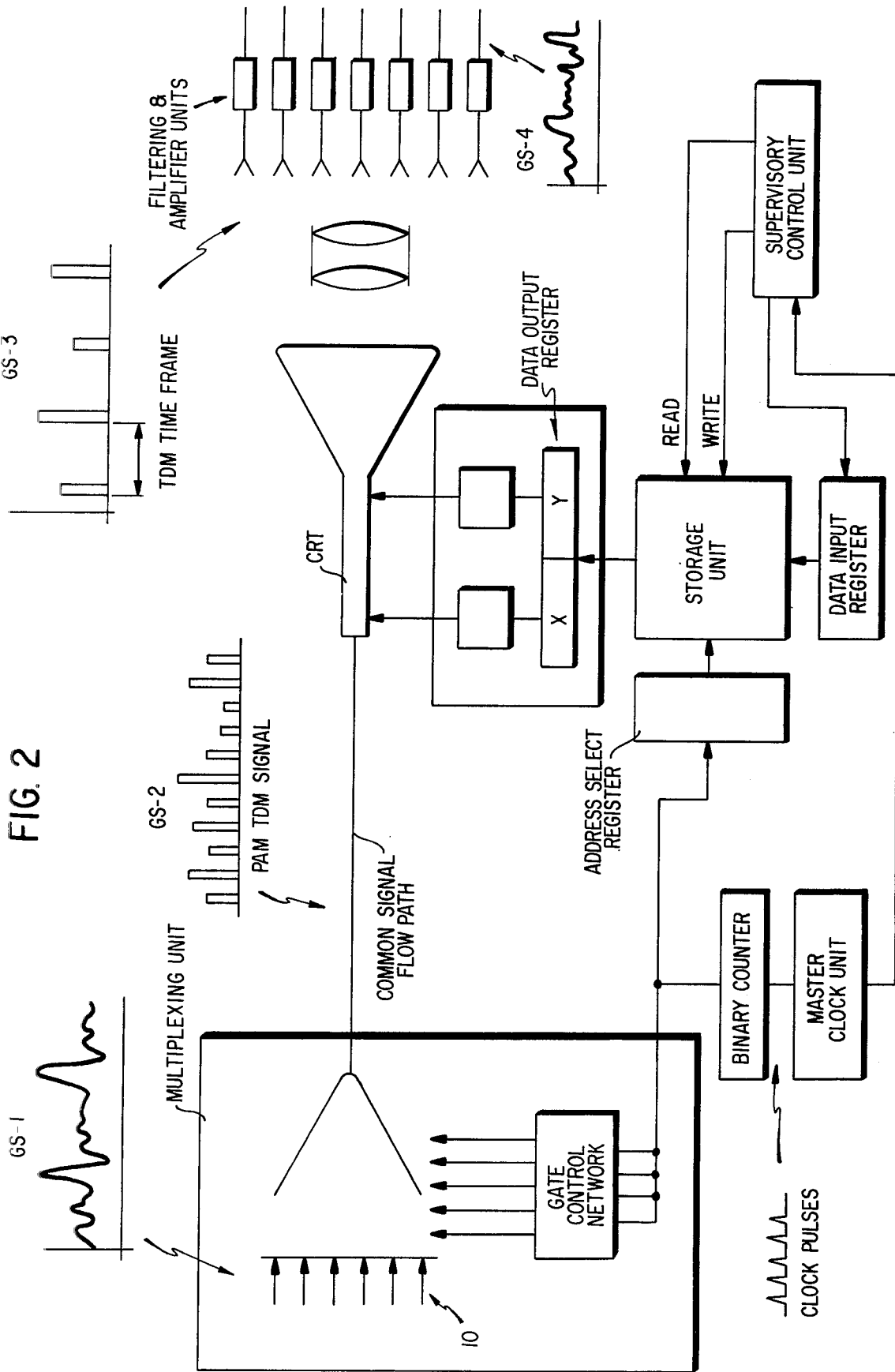


FIG. 2

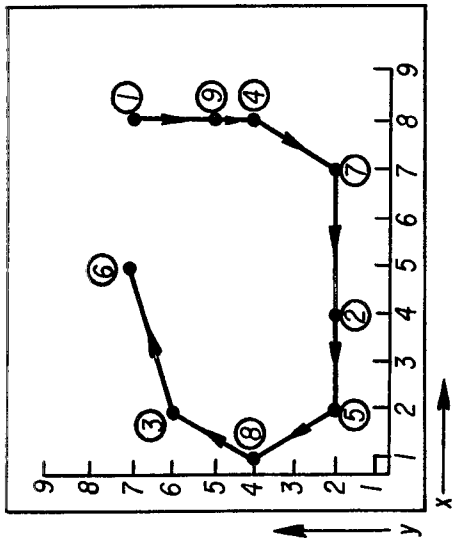
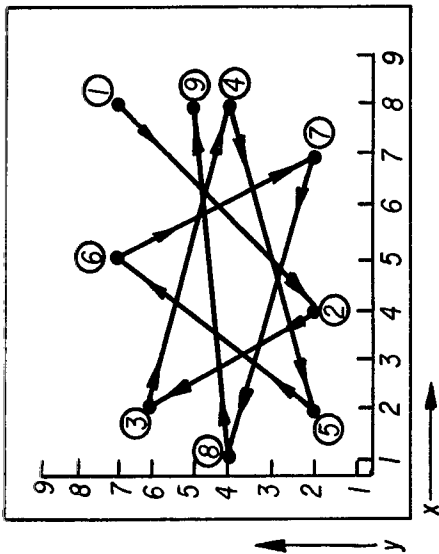


FIG. 2B

MULTIPLEX STORAGE ADDRESS	LINE NUMBER	TIME SLOT NUMBER	SWITCHING (DEFLECTION INFORMATION)	SWITCHING STORAGE ADDRESS
1	1	1	x 8 y 1	1
2	9	2	8 8	2
3	4	3	8 8	3
4	7	4	7 2	4
5	2	5	4 2	5
6	5	6	2 2	6
7	8	7	1 4	7
8	3	8	2 6	8
9	6	9	5 7	9

FIG. 2C



LINE NUMBER	TIME SLOT NUMBER	SWITCHING (DEFLECTION INFORMATION)	STORAGE UNIT ADDRESS
1	1	x 8 y 1	1
2	2	4 2	2
3	3	2 6	3
4	4	8 4	4
5	5	2 2	5
6	6	5 7	6
7	7	7 2	7
8	8	1 4	8
9	9	8 5	9

FIG. 2A

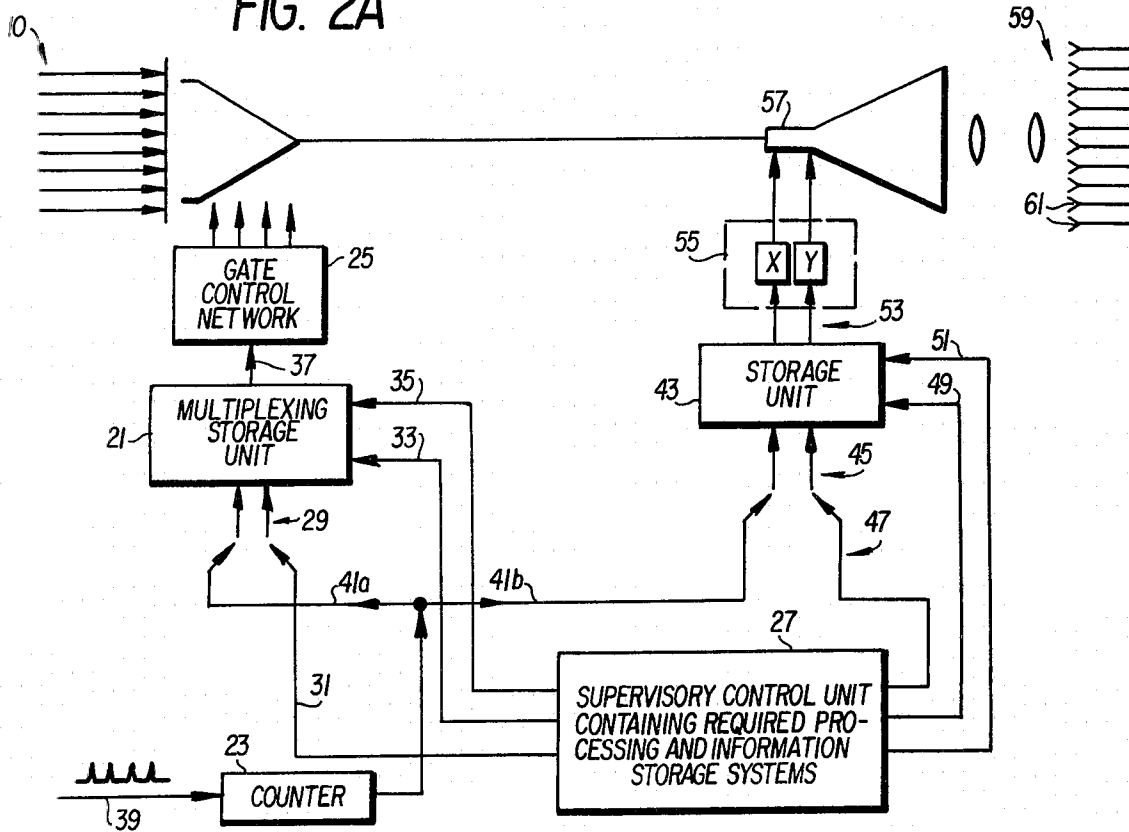
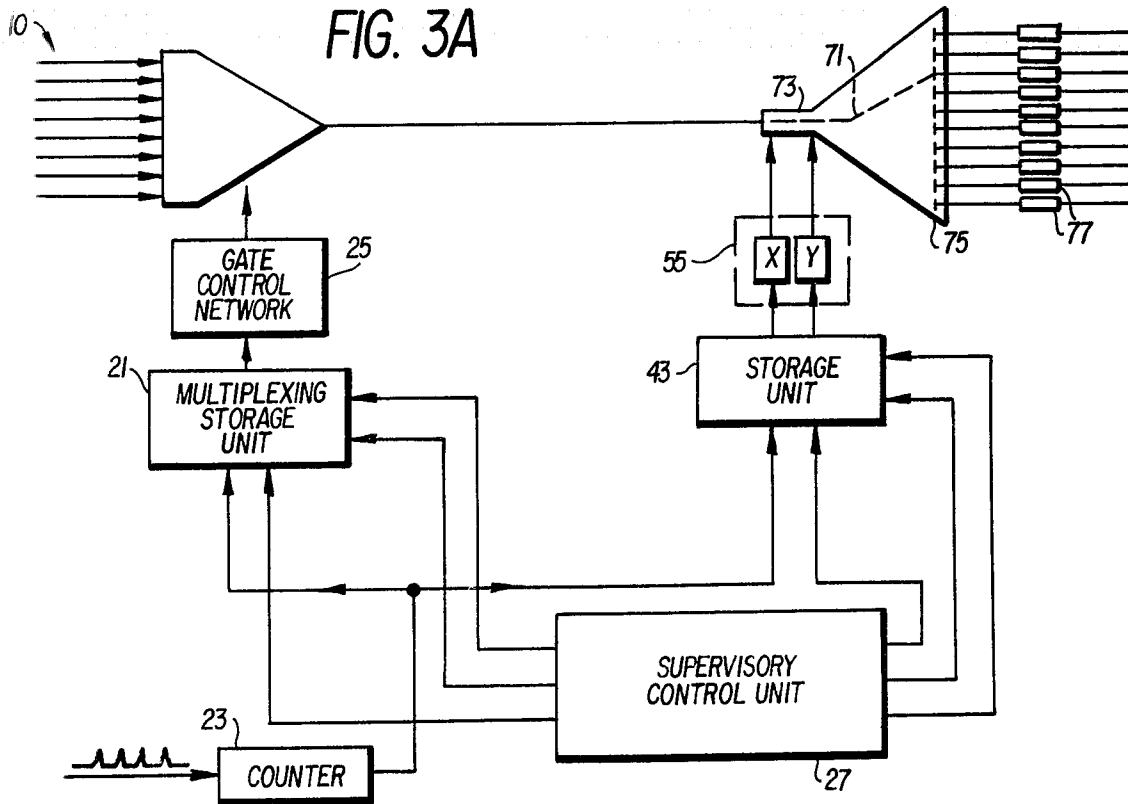


FIG. 3A



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