

[54] ELECTRO-OPTICAL AND ELECTRONIC SWITCHING SYSTEMS

[76] Inventor: Leonard W. Shinosky, Jr., 3714 White Pine Road, Apt. C, Baltimore, Md. 21220

[21] Appl. No.: 760,607

[22] Filed: Jan. 19, 1977

Related U.S. Application Data

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

[51] Int. Cl.<sup>2</sup> ..... 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

[56] References Cited

U.S. PATENT DOCUMENTS

2,729,704	1/1956	Levy et al. ....	179/15 A
2,941,074	6/1960	Poole .....	315/372
3,120,581	2/1964	Brooks et al. ....	179/18 GF
3,191,040	6/1965	Critchlow .....	179/18 GF
3,838,278	9/1974	Duguay et al. ....	250/199

3,849,604	11/1974	Benes et al. ....	250/199
3,852,640	12/1974	McCarthy .....	315/367
3,985,975	10/1976	Steensma .....	179/18 GF

OTHER PUBLICATIONS

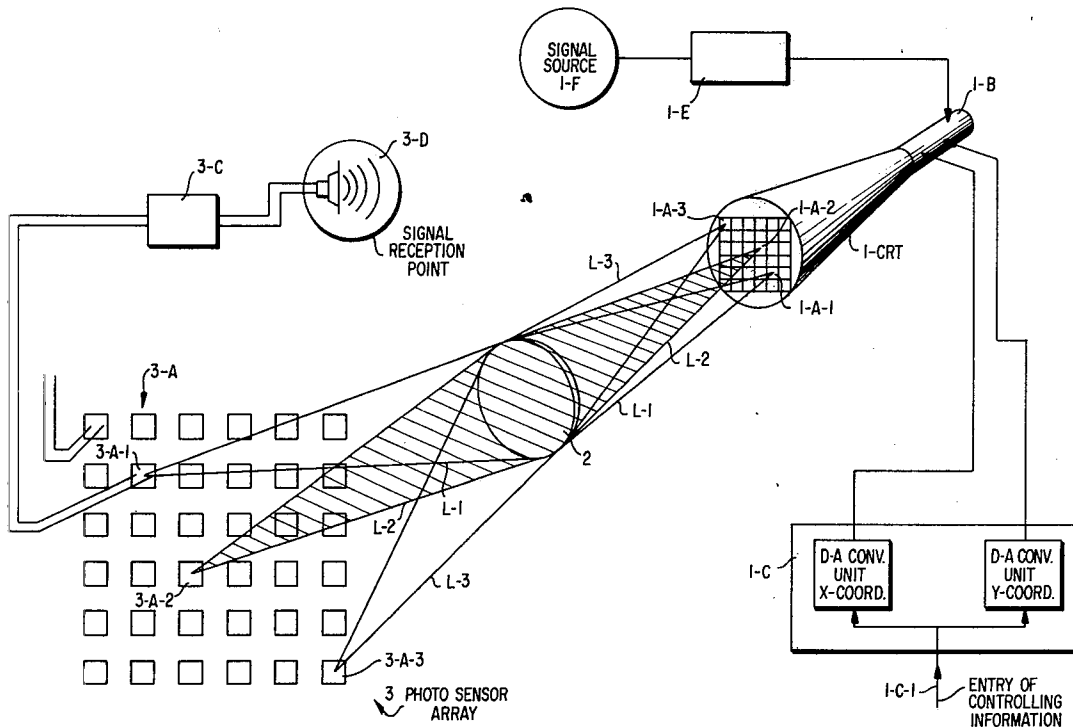
Lasers: Devices and Systems—Part II, Dulberger and Vogel, Electronics, Nov. 3, 1961, pp. 40-44.

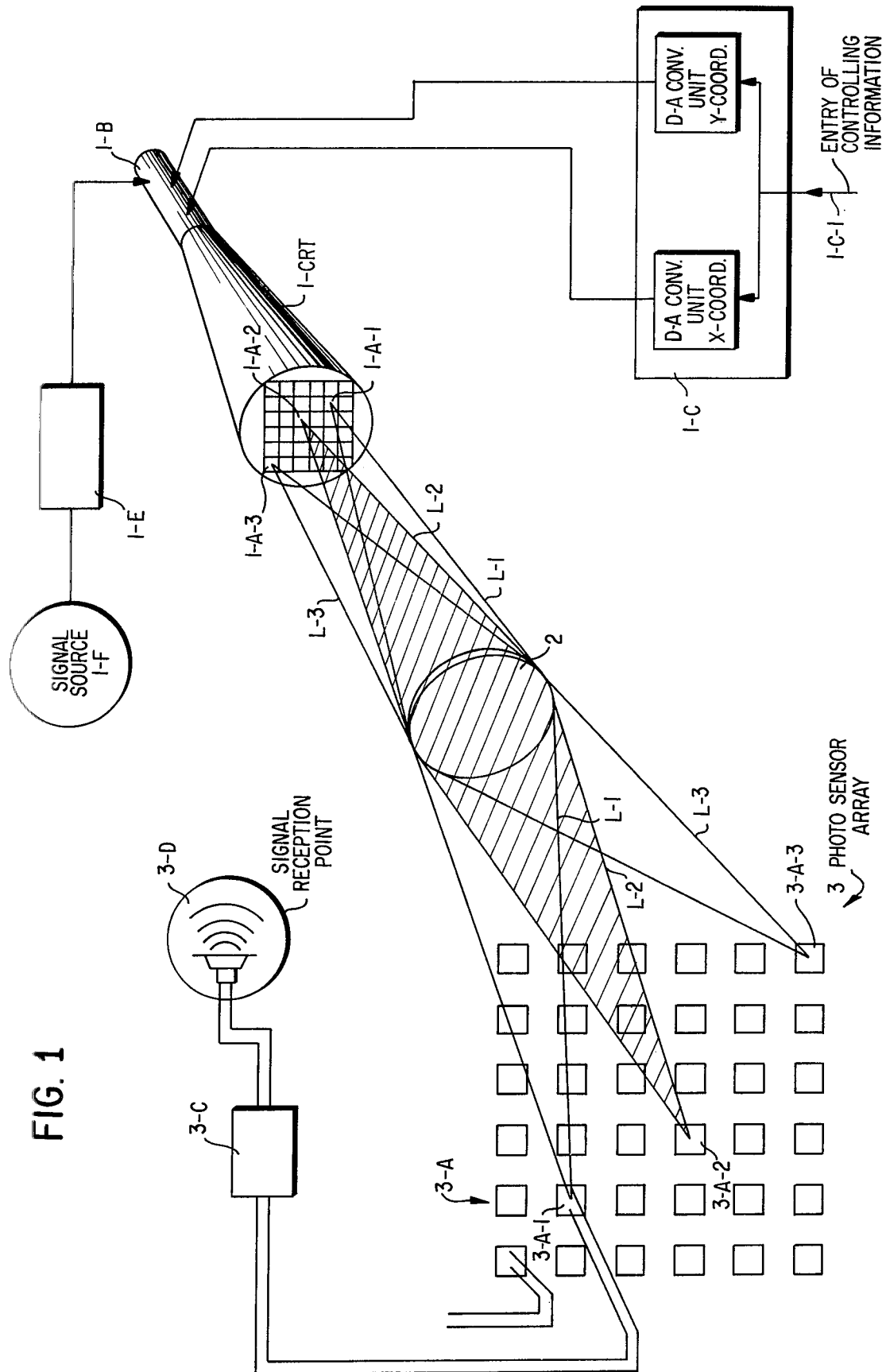
Primary Examiner—Thomas A. Robinson  
Attorney, Agent, or Firm—Griffin, Branigan & Butler

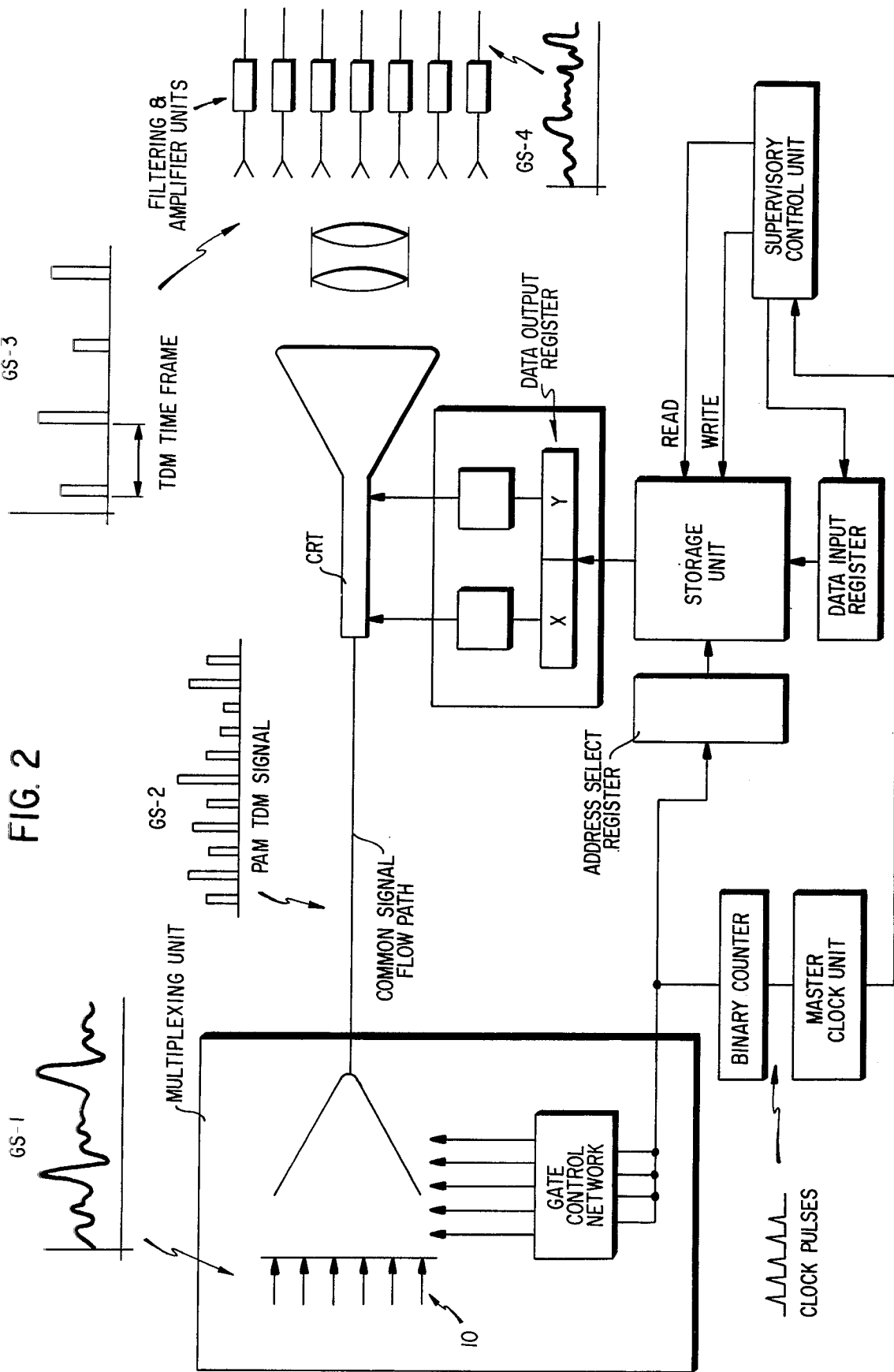
[57] ABSTRACT

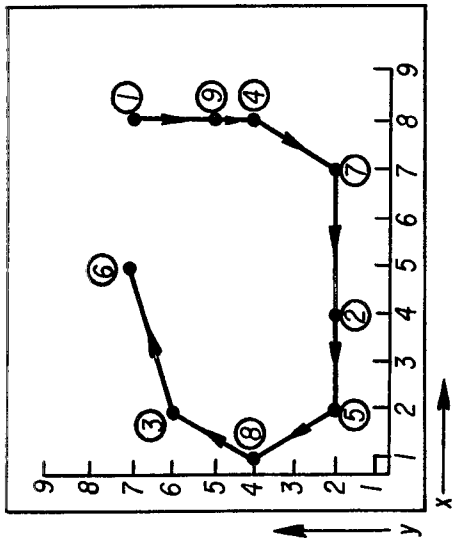
A switching system, specifically useful as a telephone central switching system, to establish a number of simultaneous but independent communication links between selected lines, comprising: (1) a CRT to transmit signals in the form of modulated light beams, (2) lenses to focus and direct the light generated, (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





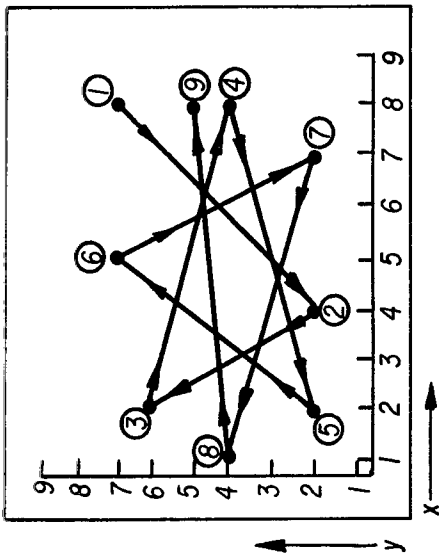




MULTIPLEX STORAGE ADDRESS	LINE NUMBER	TIME SLOT NUMBER	SWITCHING (DEFLECTION INFORMATION)	SWITCHING STORAGE ADDRESS
1	1	1	x 8 y 7	1
2	9	2	8 5	2
3	4	3	8 4	3
4	7	4	7 2	4
5	2	5	4 2	5
6	5	6	2 2	6
7	8	7	1 4	7
8	3	8	2 6	8
9	6	9	5 7	9

FIG. 2B

FIG. 2C



LINE NUMBER	TIME SLOT NUMBER	SWITCHING (DEFLECTION INFORMATION)	STORAGE UNIT ADDRESS
1	1	x 8 y 7	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

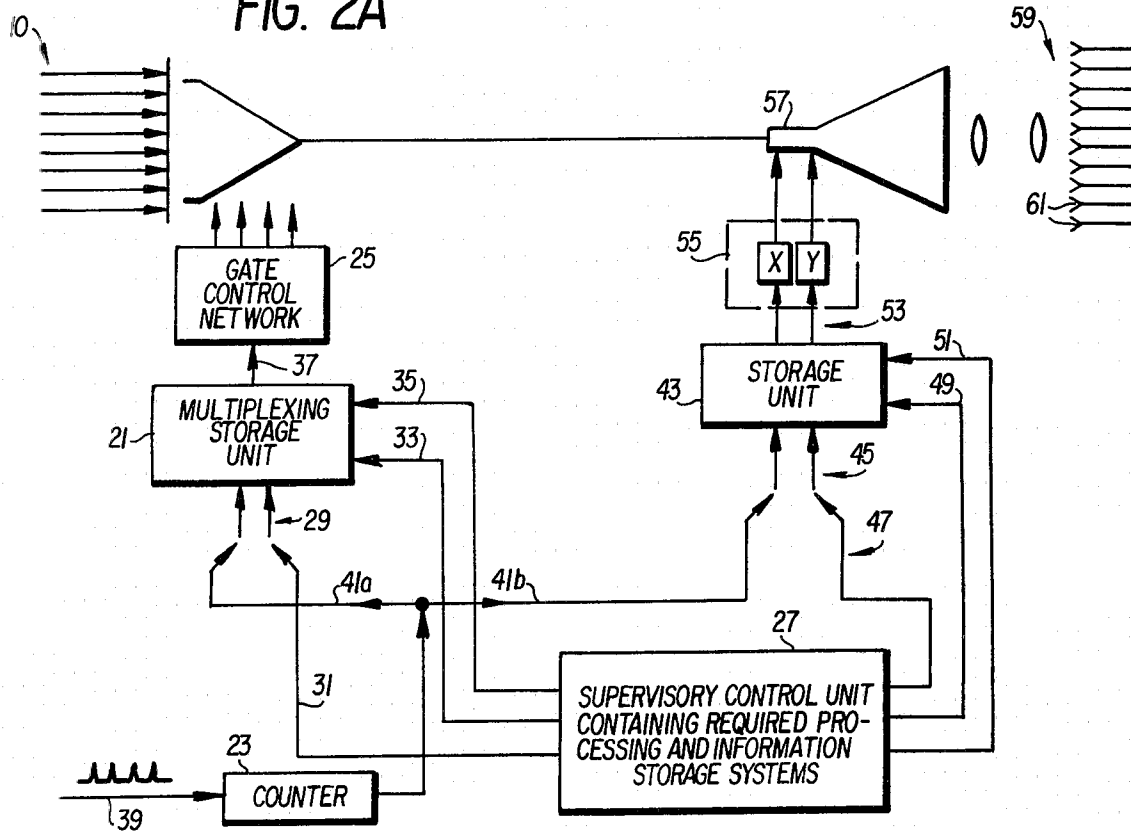
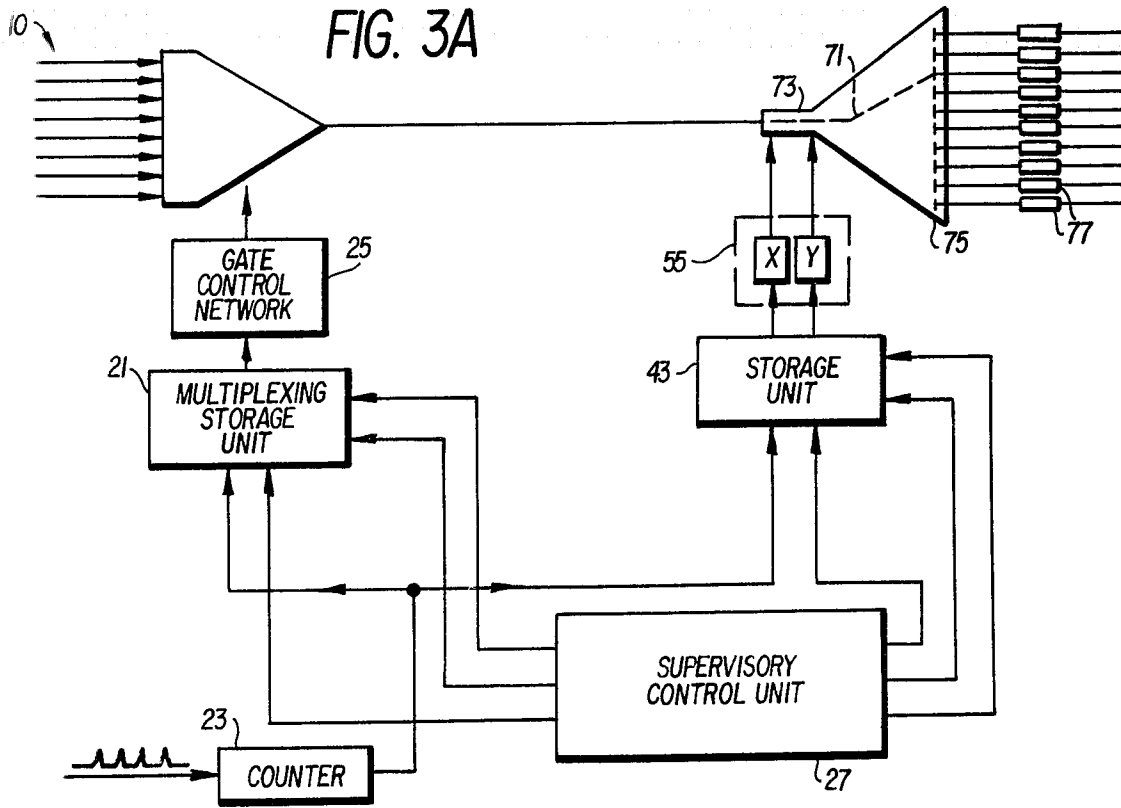


FIG. 3A



# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.