



US005796376A

# United States Patent [19] Banks

[11] Patent Number: 5,796,376  
[45] Date of Patent: Aug. 18, 1998

[54] ELECTRONIC DISPLAY SIGN  
[75] Inventor: Archie A. Banks, Prince Edward Island, Canada  
[73] Assignee: CIE Research, Inc., Prince Edward Island, Canada  
[21] Appl. No.: 422,701  
[22] Filed: Apr. 14, 1995

4,581,612 4/1986 Jones .  
4,745,404 5/1988 Kallenberg .  
4,771,278 9/1988 Pooley .  
4,825,201 4/1989 Watanabe et al. .  
4,833,542 5/1989 Hara et al. .  
4,897,651 1/1990 DeMonte .  
4,901,155 2/1990 Hara et al. .  
5,079,636 1/1992 Brody .  
5,136,695 8/1992 Goldshlag et al. .

### FOREIGN PATENT DOCUMENTS

0242742 10/1987 European Pat. Off. .  
0247377 12/1987 European Pat. Off. .  
3513607 10/1986 Germany .

### Related U.S. Application Data

[63] Continuation of Ser. No. 406,660, Mar. 20, 1995, abandoned, which is a continuation of Ser. No. 149,714, Nov. 9, 1993, abandoned, which is a continuation of Ser. No. 809,670, Dec. 18, 1991, abandoned.  
[51] Int. Cl.<sup>6</sup> ..... B41J 2/105; B41J 2/01; B41J 3/00; B41J 29/38  
[52] U.S. Cl. .... 345/82; 345/1; 345/4; 345/903  
[58] Field of Search ..... 345/82, 1, 2, 4-6, 345/903; B41J 2/105, 2/01, 3/00, 29/56

Primary Examiner—Mark R. Powell  
Assistant Examiner—Vivek Srivastava  
Attorney, Agent, or Firm—Andrus, Scealess, Starke & Sawall

### [57] ABSTRACT

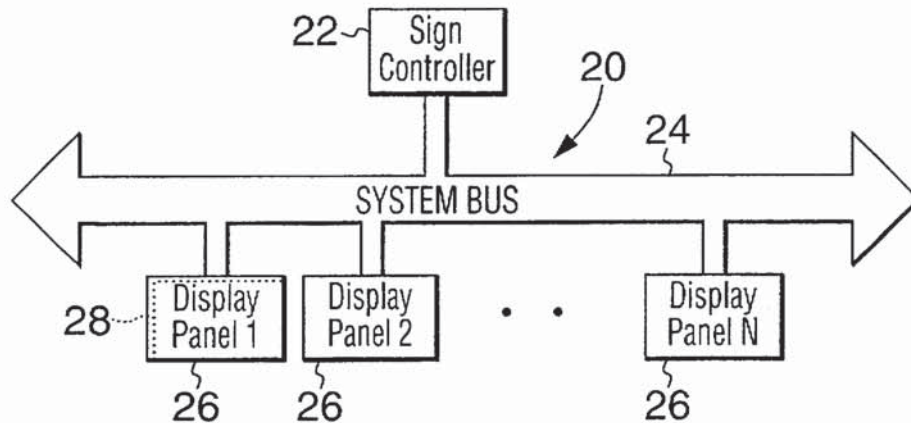
An electronic display sign constructed around a system bus architecture is disclosed. The electronic display sign is preferably a modular construction wherein a number of modules are connected together to form a large display sign which is capable of displaying images at rates which exceed thirty frames a second. Display data is formatted and transmitted to display modules by a sign controller which resides on one of the panels. Each display panel is preferably provided with its own power source.

### [56] References Cited

#### U.S. PATENT DOCUMENTS

3,811,071 5/1974 Ogle .  
4,006,476 2/1977 Rommey .  
4,384,279 5/1983 Fujita .  
4,445,132 4/1984 Ichikawa et al. .

30 Claims, 7 Drawing Sheets



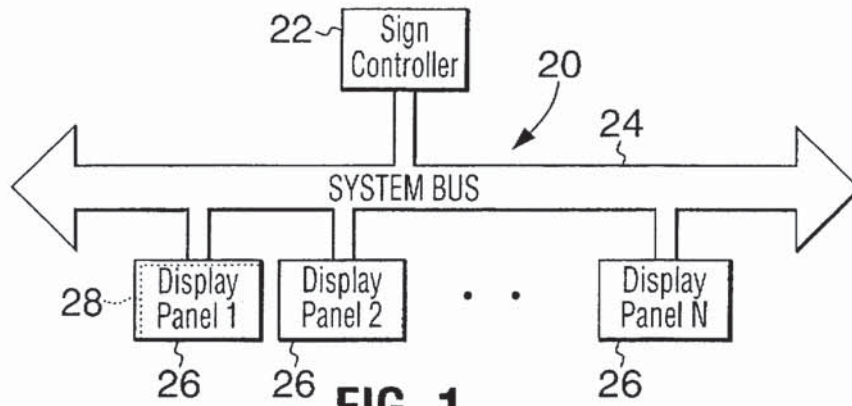


FIG. 1

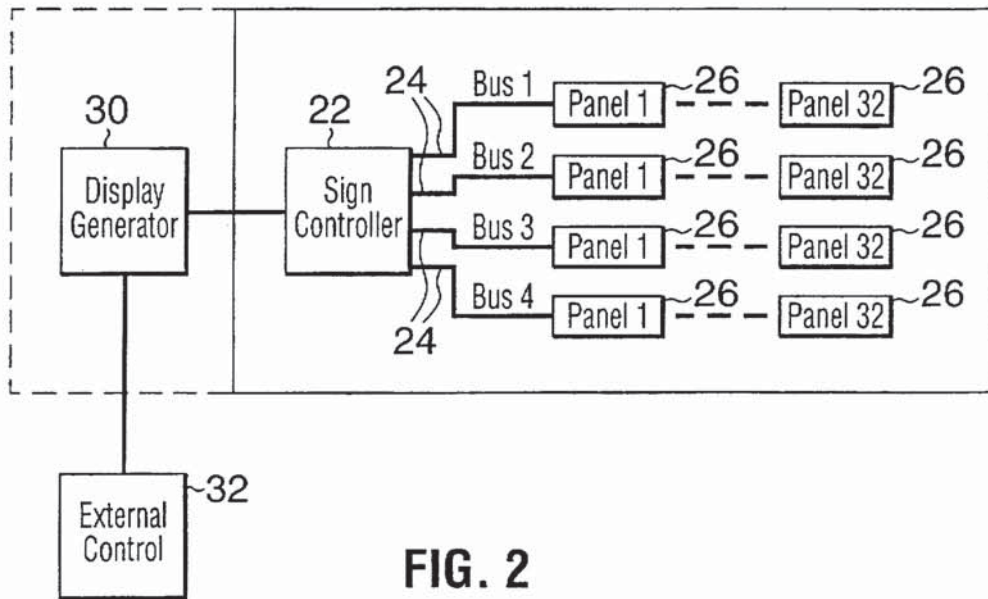


FIG. 2

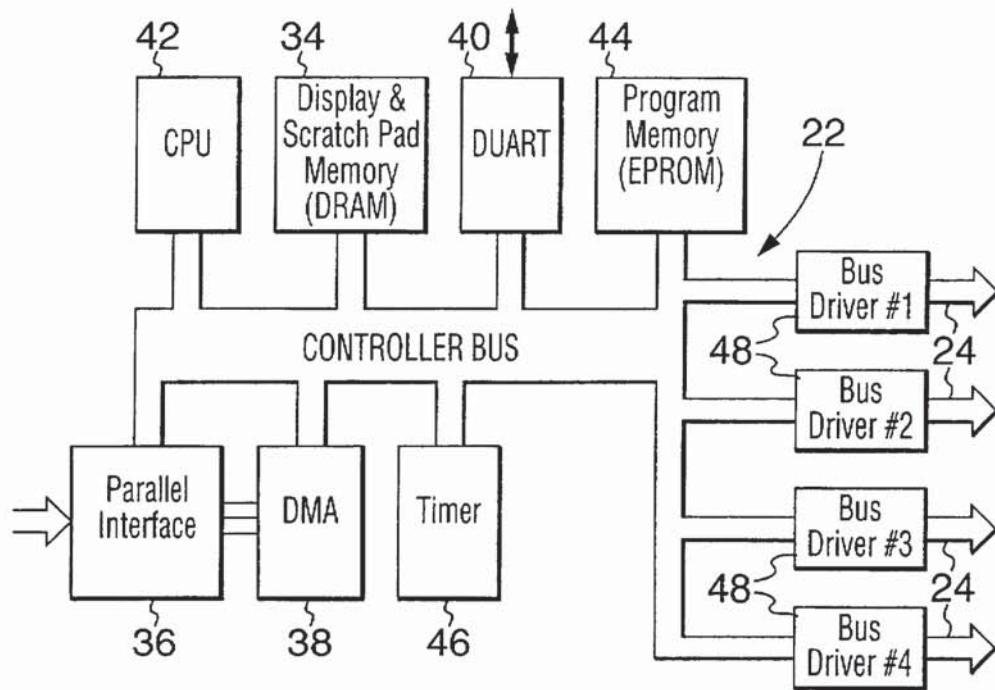


FIG. 3

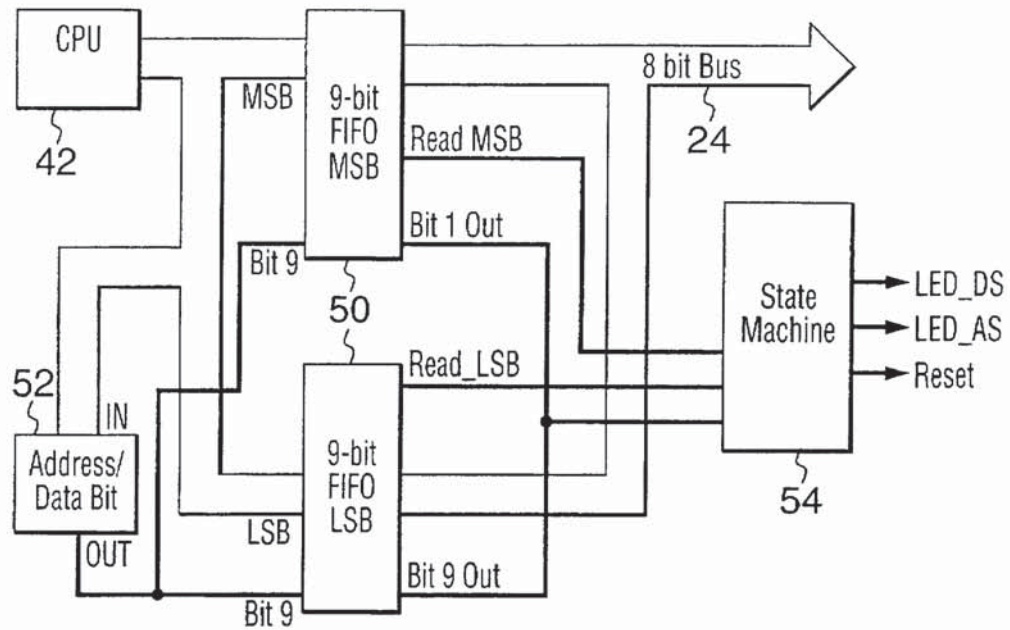


FIG. 4

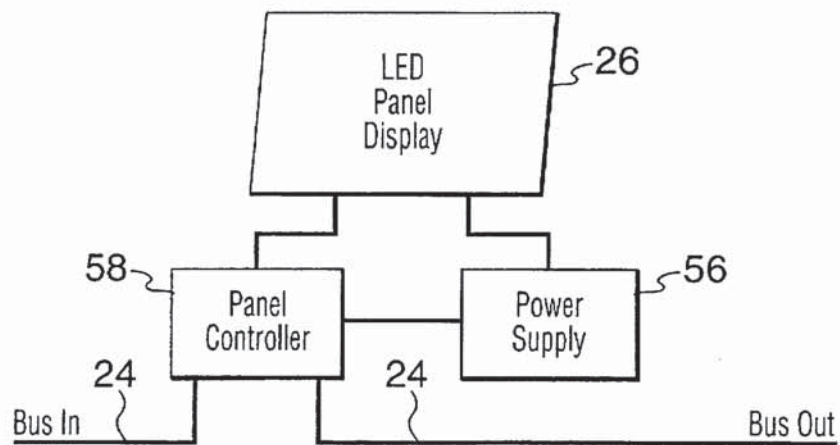
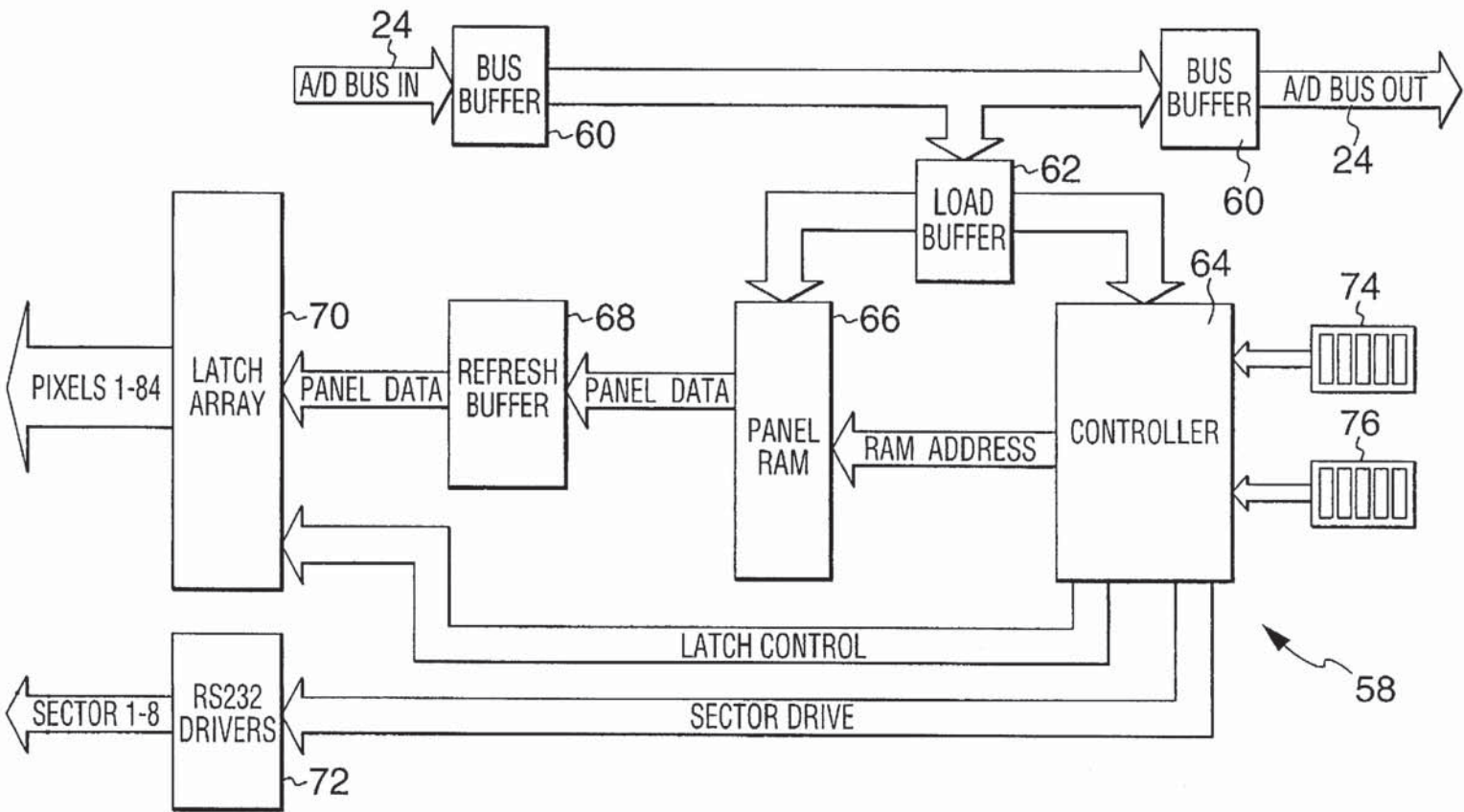


FIG. 5



# 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.