

[54] **CONTROL AND MONITORING OF DEVICES EXTERNAL TO A MARINE SEISMIC STREAMER**

4,967,400 10/1990 Woods ..... 367/21  
 5,058,080 10/1991 Siems et al. .... 367/79  
 5,631,874 5/1997 Mastin et al. .... 367/15

[75] Inventor: **Loring C. Chien**, Katy, Tex.

*Primary Examiner*—Christine Oda  
*Assistant Examiner*—Anthony Jolly  
*Attorney, Agent, or Firm*—Gunn & Associates, P.C.

[73] Assignee: **Syntron, Inc.**, Houston, Tex.

[57] **ABSTRACT**

[21] Appl. No.: **09/044,740**

A technique and a system provide control and monitoring of devices external to a marine seismic streamer by segmenting the conductor to which the external devices are coupled. The module which connects sections of the seismic data telemetry cable is modified to include a switch. The switch is controlled by a command signal on the seismic data telemetry cable to segment the twisted pair bus into a plurality of dedicated busses, each dedicated to a subset of the external devices, such as one or two such devices. In this way, the external devices can be communicated with in parallel, rather than in series as in conventional systems.

[22] Filed: **Mar. 19, 1998**

[51] **Int. Cl.**<sup>7</sup> ..... **G01V 1/22**

[52] **U.S. Cl.** ..... **367/21; 367/76; 181/110**

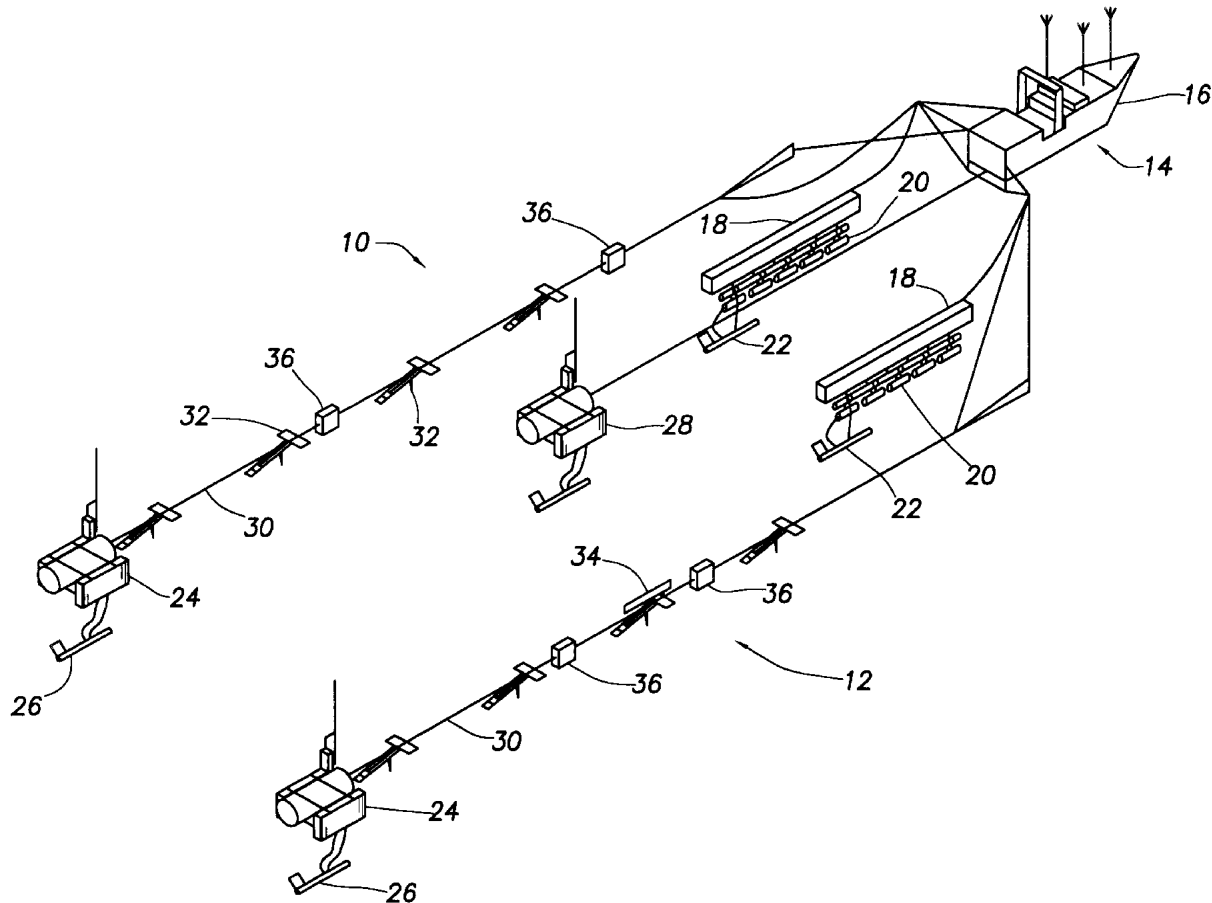
[58] **Field of Search** ..... 367/15, 16, 76, 367/21, 79, 78, 18, 20, 80; 340/854.1; 181/110, 112

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

4,709,355 11/1987 Woods et al. .... 367/16

**18 Claims, 4 Drawing Sheets**



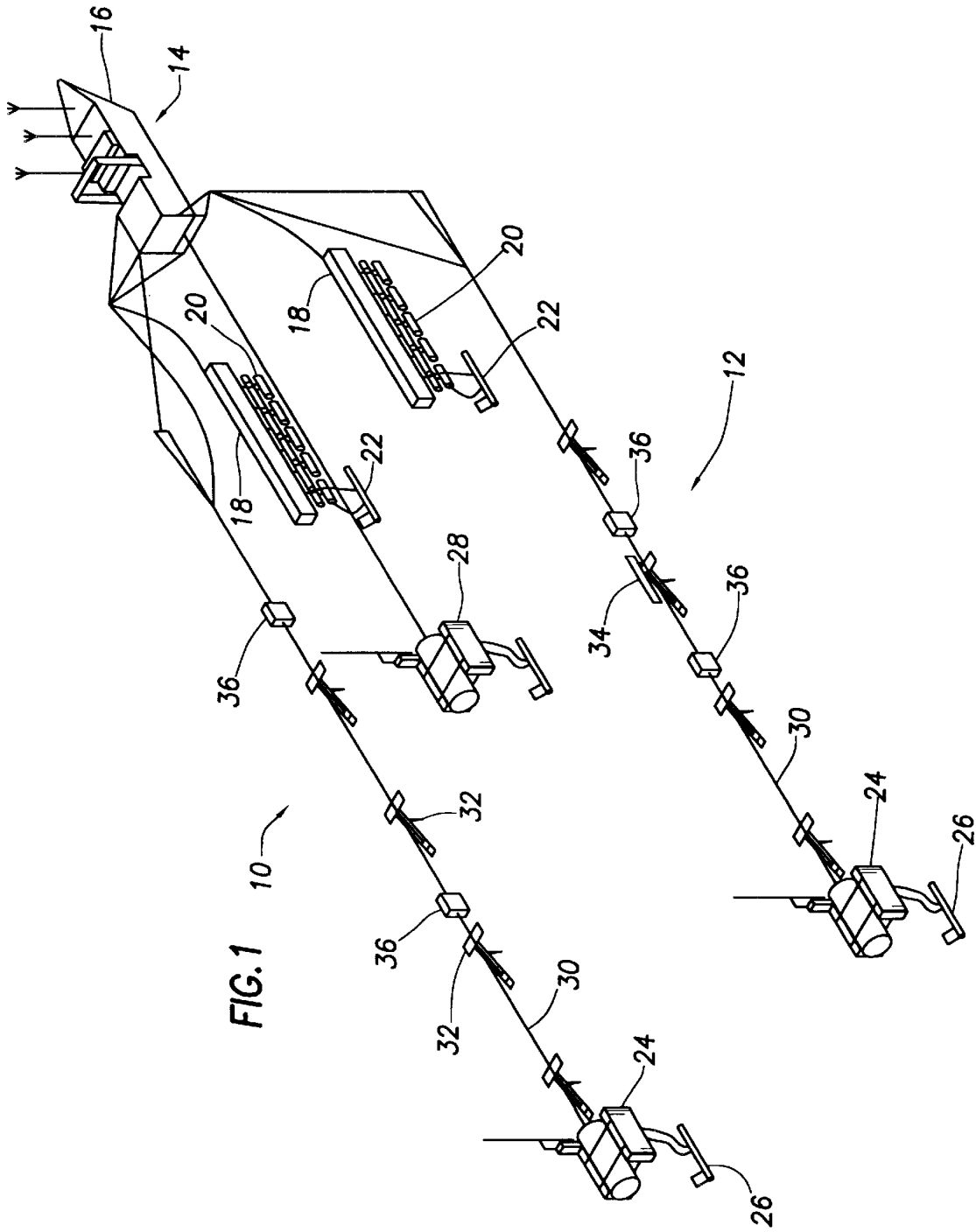


FIG. 1

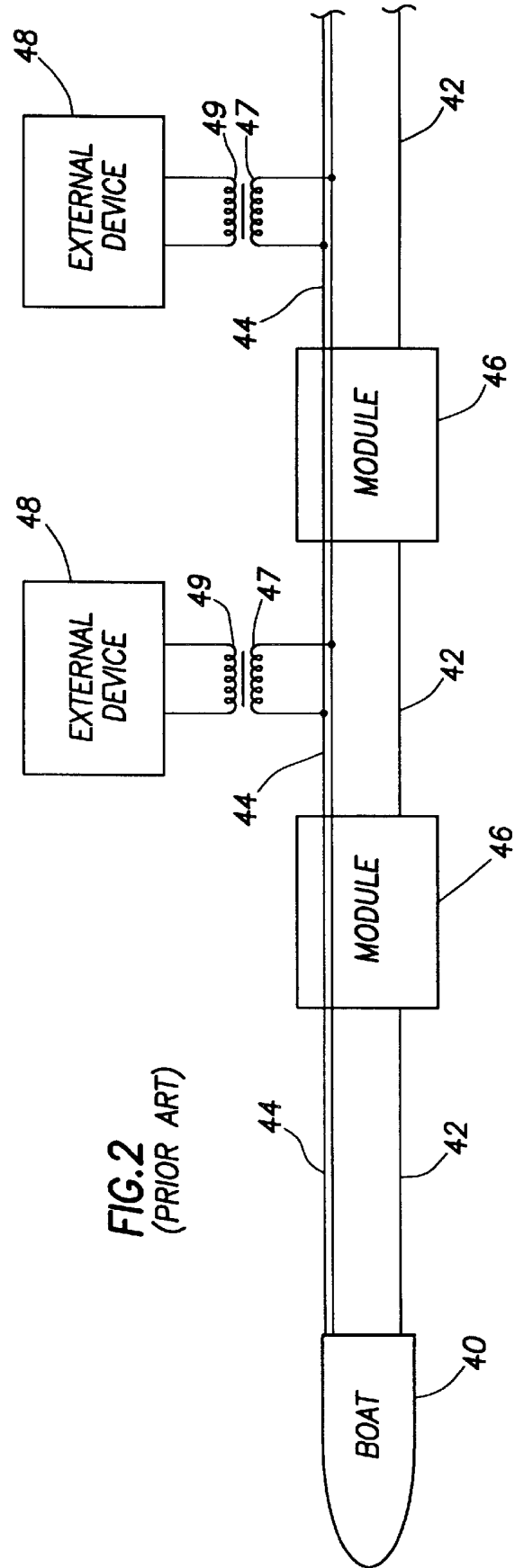


FIG. 2  
(PRIOR ART)

FIG. 3  
(PRIOR ART)

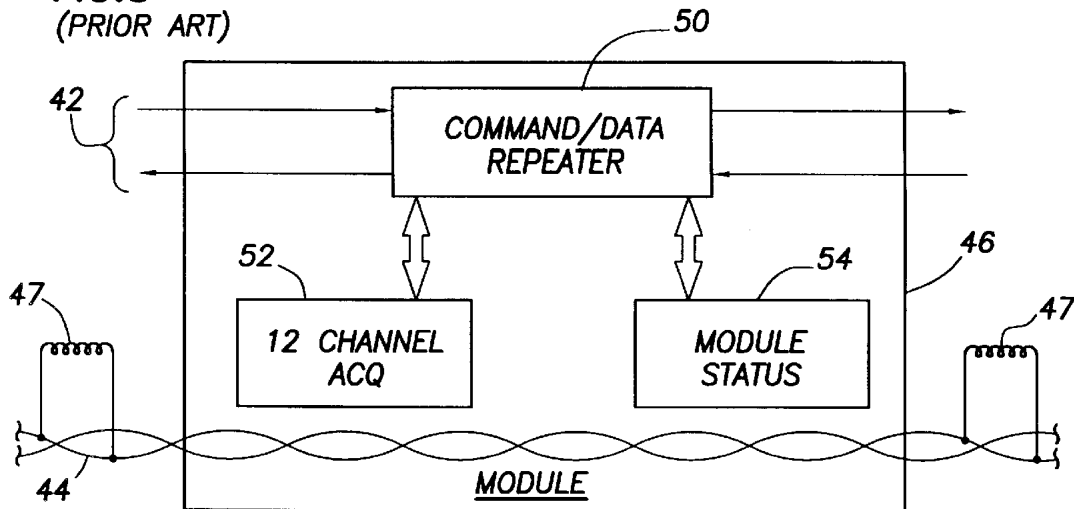
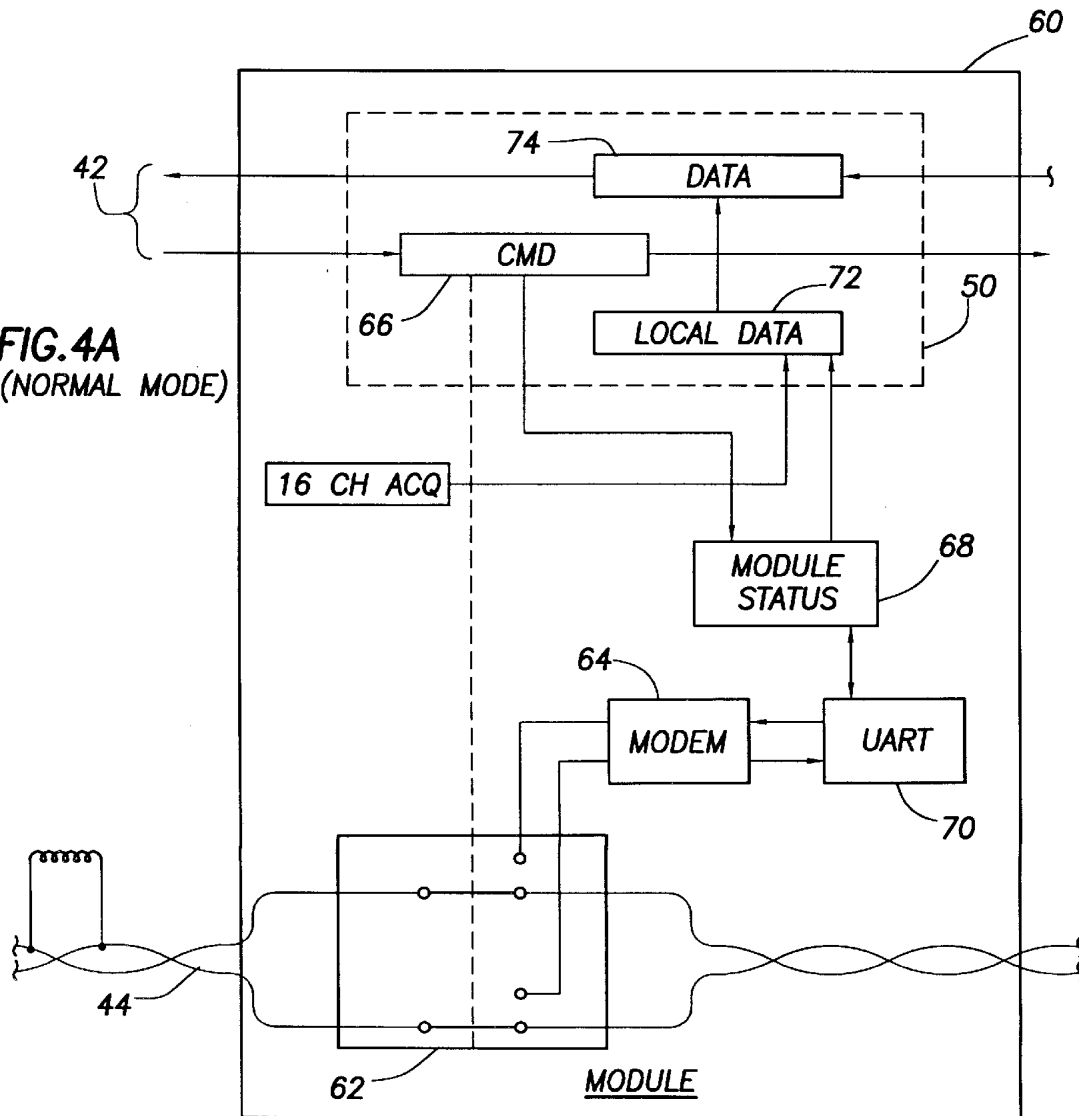


FIG. 4A  
(NORMAL MODE)



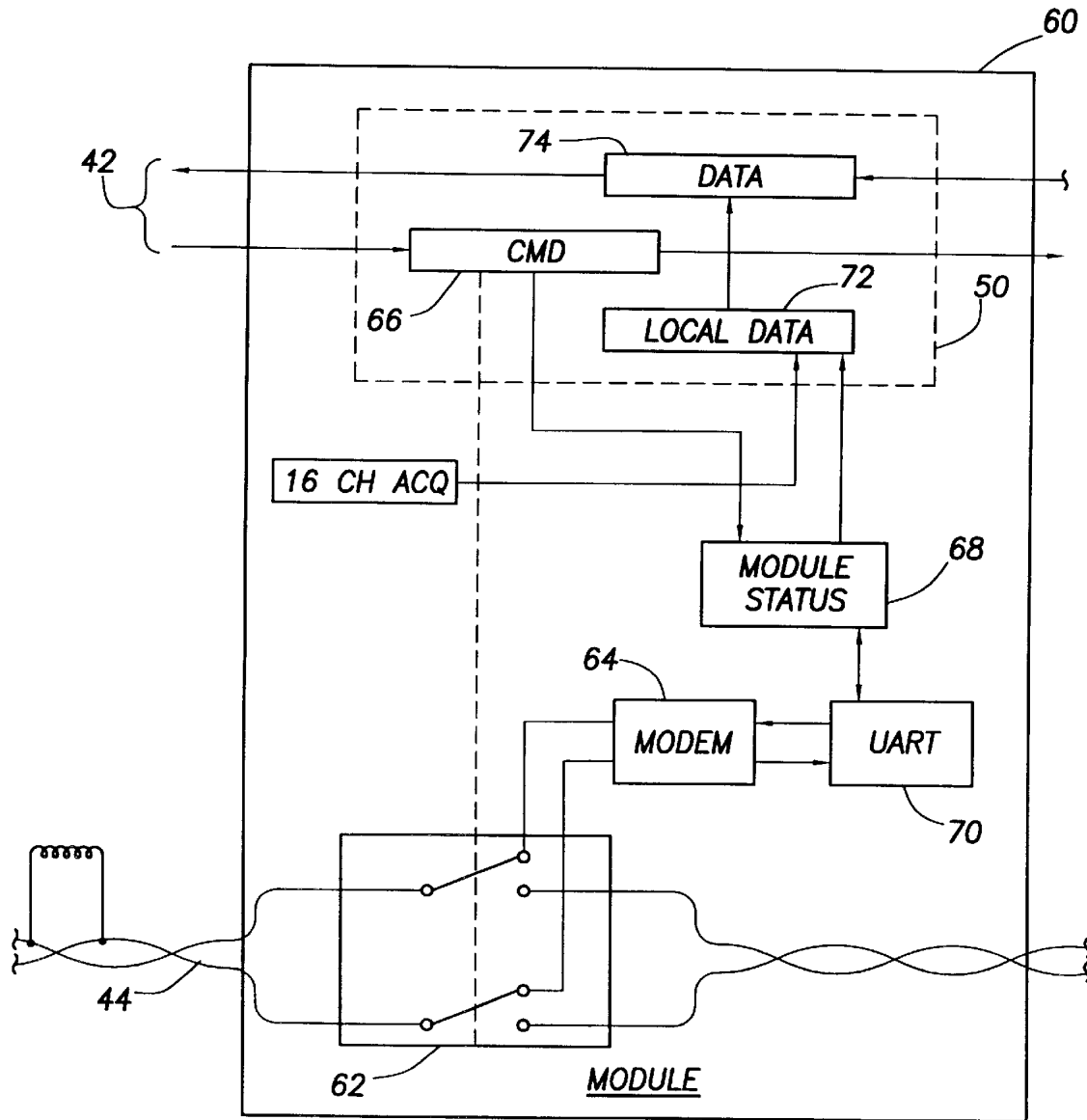


FIG. 4B  
(ENHANCED MODE)

# 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.