

# United States Patent [19]

Dufresne et al.

[11] Patent Number: **4,920,533**

[45] Date of Patent: **Apr. 24, 1990**

[54] CATV SUBSCRIBER TERMINAL TRANSMISSION CONTROL

[75] Inventors: **Michel Dufresne**, Boucherville; **Samir Sammoun**, Brossard; **Dave Gregory**, Calgary; **Jean-Paul Champagne**, Brossard; **Alain Tessier**, Piedmont; **Pierre Scott**; **Francois Methot**, both of Montreal, all of Canada

[73] Assignee: **Videotron LTEE**, Montreal, Canada

[21] Appl. No.: **262,802**

[22] Filed: **Oct. 26, 1988**

[30] Foreign Application Priority Data

Nov. 2, 1987 [CA] Canada ..... 550764

[51] Int. Cl.<sup>5</sup> ..... **H04N 7/08**

[52] U.S. Cl. .... **370/85.2; 370/94.1; 455/5; 358/86**

[58] Field of Search ..... 370/85, 89, 94, 124, 370/69.1, 123; 325/45, 46; 455/3, 4, 5, 6; 340/825.5; 358/84, 86; 380/10, 20

[56] References Cited

### U.S. PATENT DOCUMENTS

4,533,948 8/1985 McNamara et al. .... 455/5  
4,536,875 8/1985 Kume et al. .... 370/85  
4,553,161 11/1985 Citta ..... 358/86  
4,623,920 11/1986 Dufresne et al. .... 380/10  
4,752,954 6/1988 Masuko ..... 358/84  
4,773,065 9/1988 Kobayashi et al. .... 370/85

Primary Examiner—Douglas W. Olms

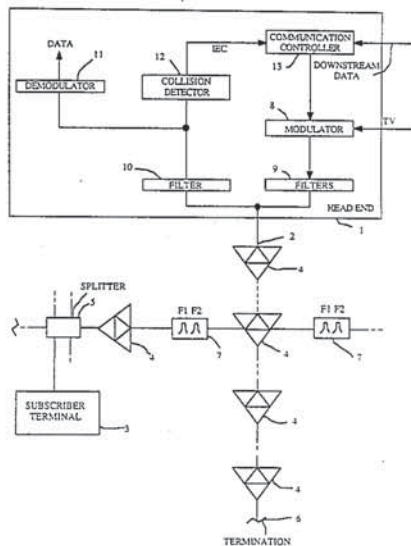
Assistant Examiner—Alpus H. Hsu

Attorney, Agent, or Firm—Antonelli, Terry & Wands

[57] **ABSTRACT**

A bidirectional cable communication system comprising a head end, a bidirectional transmission network connected to the head end for transmitting signals downstream from the head end to a plurality of subscriber stations and for transmitting data signals upstream to the head end from the subscriber stations, means at the head end for detecting collisions between signals received from the subscriber stations and for generating a collision signal, means at the head end for transmitting downstream on the transmission system status bits of data signal indicative of the collision, whereby upon detection thereof by a subscriber station it can be enabled to cease transmission.

**30 Claims, 6 Drawing Sheets**



**EXHIBIT**

Ex. 1009

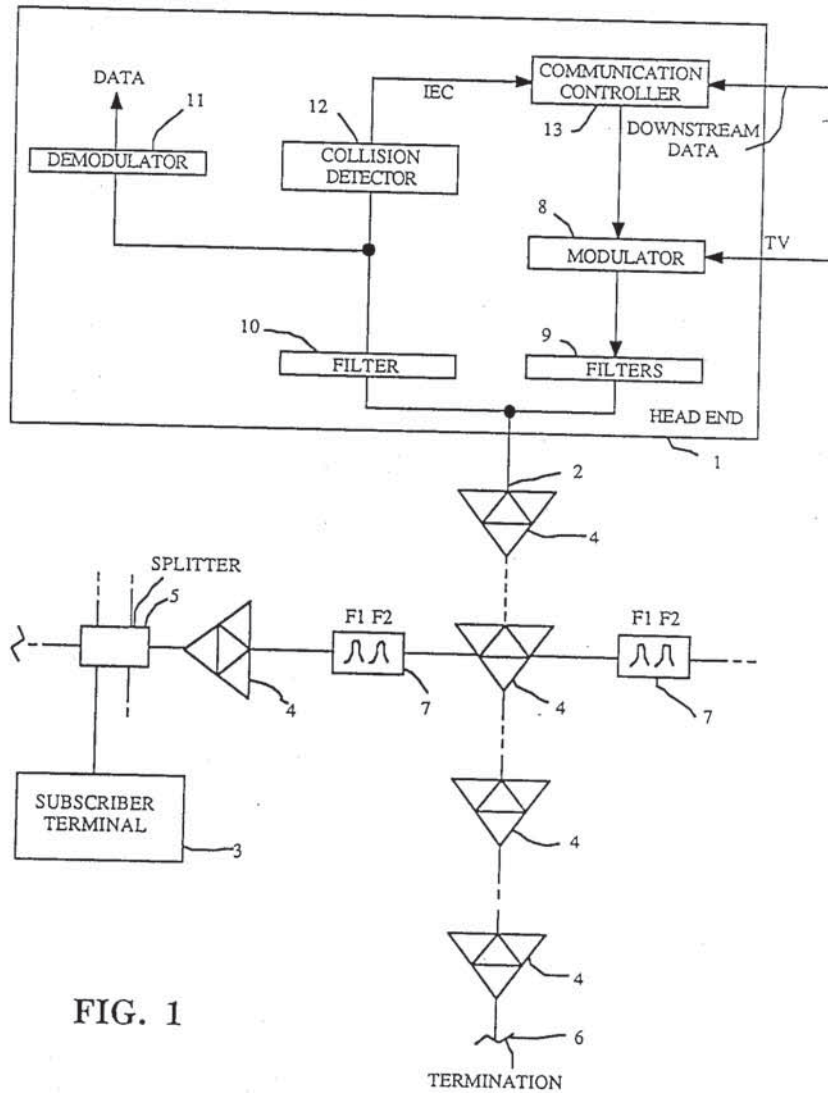


FIG. 1



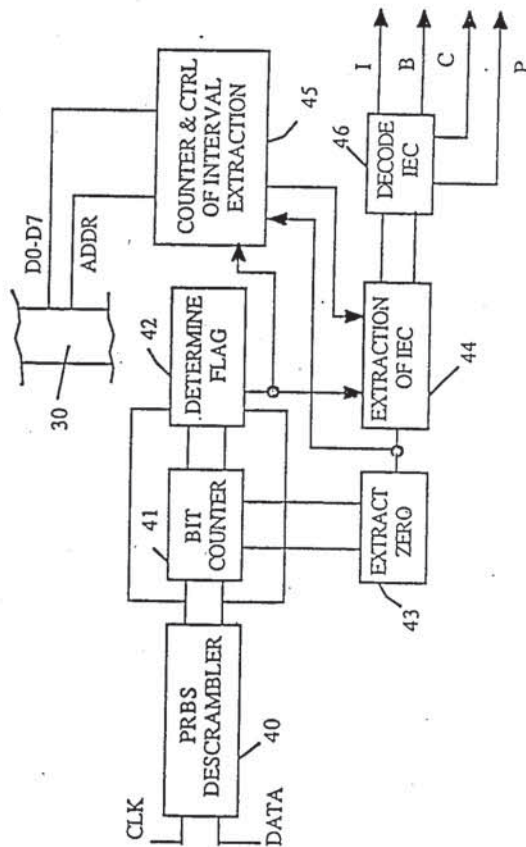


FIG. 5





# 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.