



[54] POWER TRANSFER APPARATUS FOR CONCURRENTLY TRANSMITTING DATA AND POWER OVER DATA WIRES

[75] Inventors: David A. Fisher, Menlo Park; Lawrence M. Burns, Mountain View; Stephen E. Muther, Palo Alto, all of Calif.

[73] Assignee: 3Com Corporation, Santa Clara, Calif.

[21] Appl. No.: 09/416,067

[22] Filed: Oct. 12, 1999

Related U.S. Application Data

[63] Continuation of application No. 08/865,016, May 29, 1997, Pat. No. 5,994,998.

[51] Int. Cl.⁷ H04B 1/00; G08C 19/00

[52] U.S. Cl. 340/310.01; 340/310.02; 340/310.08; 340/825.72; 375/257; 375/259; 455/3.1; 455/3.3

[58] Field of Search 340/310.01, 310.02, 340/310.08, 825.72; 455/3.1, 3.3; 370/487, 490, 419, 442; 375/257, 259; 307/126, 128, 127

[56] References Cited

U.S. PATENT DOCUMENTS

- 5,033,112 7/1991 Bowling et al. 340/310.01
5,148,144 9/1992 Sutterlin et al. 340/310.01
5,368,041 11/1994 Shambroom 128/731

- 5,381,804 1/1995 Shambroom 128/731
5,457,629 10/1995 Miller et al. 340/825.52
5,477,091 12/1995 Fiofina et al. 340/310.01
5,684,826 11/1997 Ratner 340/310.01
5,994,998 11/1999 Fisher et al. 340/310.01

OTHER PUBLICATIONS

JVC Information Products Company of America, sales brochure and price list for "VIPSLAN-10 Infrared Wireless LAN System", May 1996.

Clegg, P., "VIPSLAND-10 Streaks Off the Wire", Lan Times, Sep. 1995.

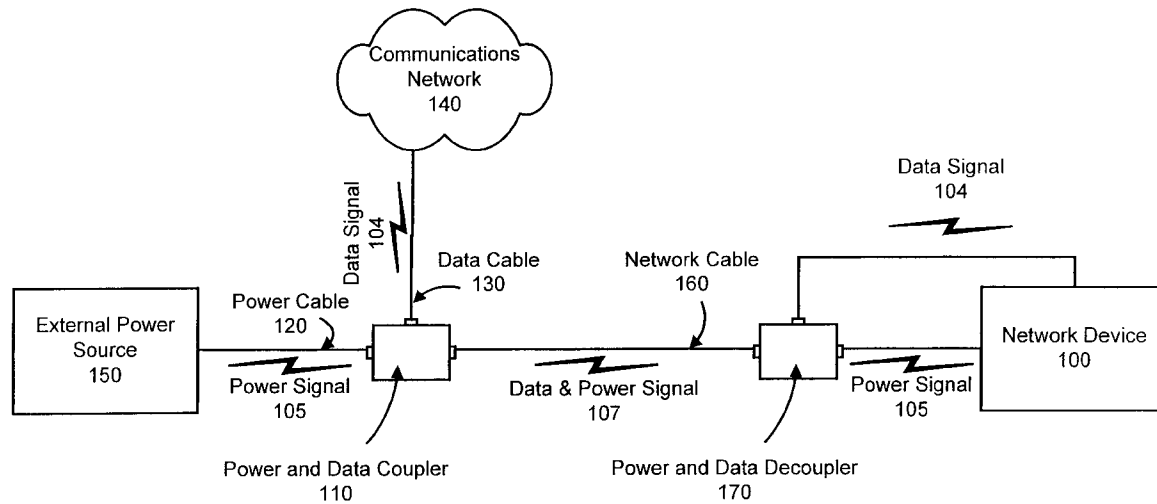
Primary Examiner—Donnie L. Crosland

Attorney, Agent, or Firm—Wilson Sonsini Goodrich & Rosati

[57] ABSTRACT

Electrical supply current, sufficient to power a wireless access point, is transmitted concurrently with a network data signal across a transmission line. A power and data coupler couples the network data signal and the power signal, received through a data input and a power input respectively, and transmits the coupled signal, to a distance of three meters or more, over the transmission line to a power and data decoupler. The power and data decoupler separates the power signal from the network data signal and supplies those signals to a power output port and a data output port, respectively, for use by a wireless access node. The power signal may be modulated at a low frequency relative to the frequency of the data signal, and the network data signal has a data transmission rate of one megabit/second or higher.

10 Claims, 5 Drawing Sheets



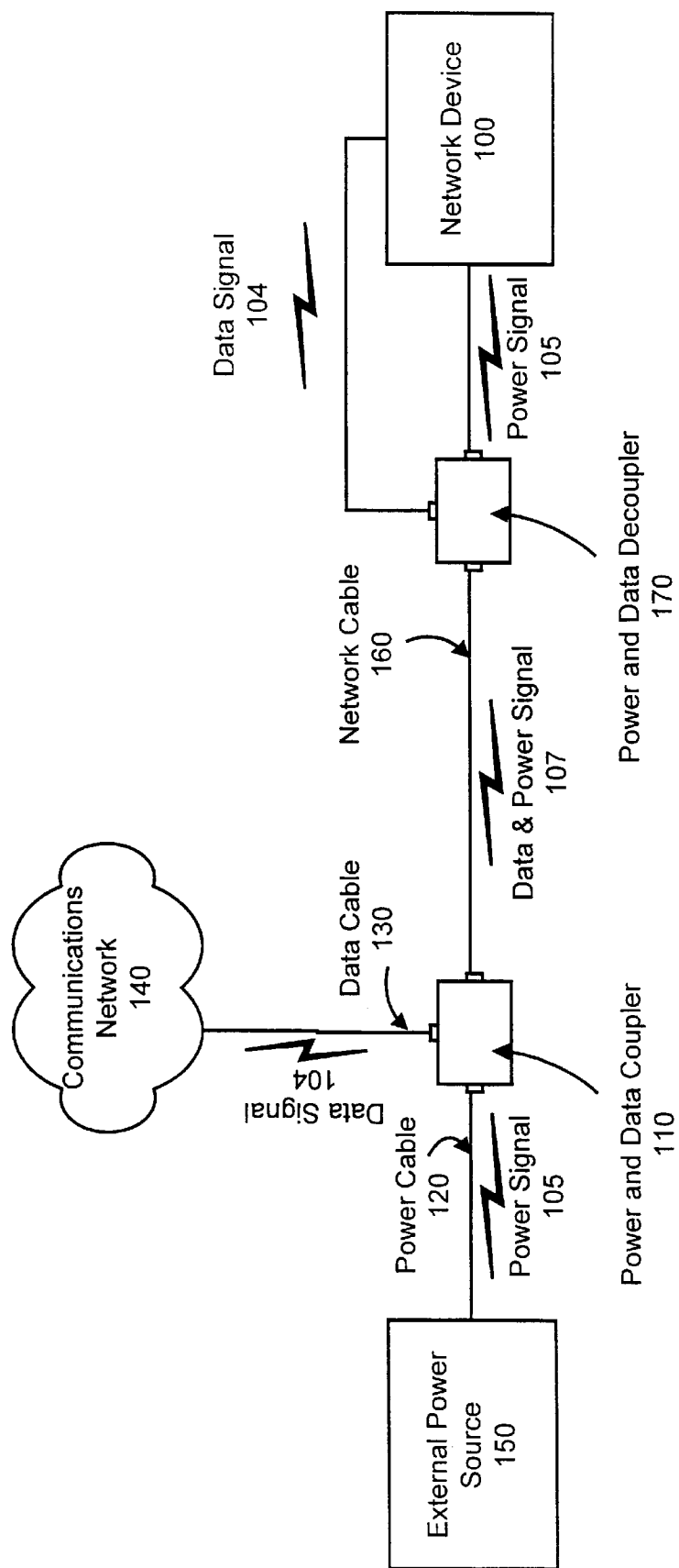


Figure 1

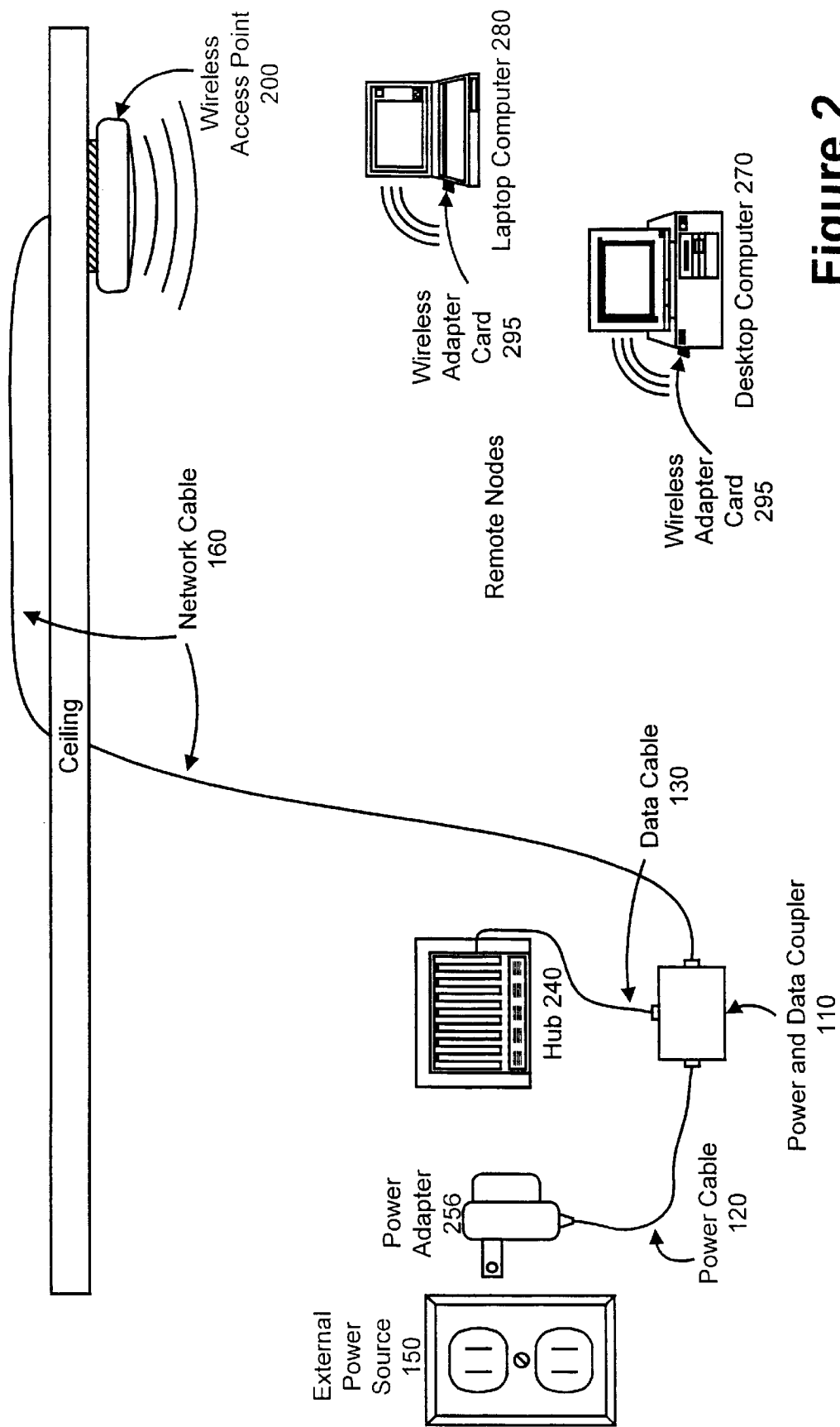


Figure 2

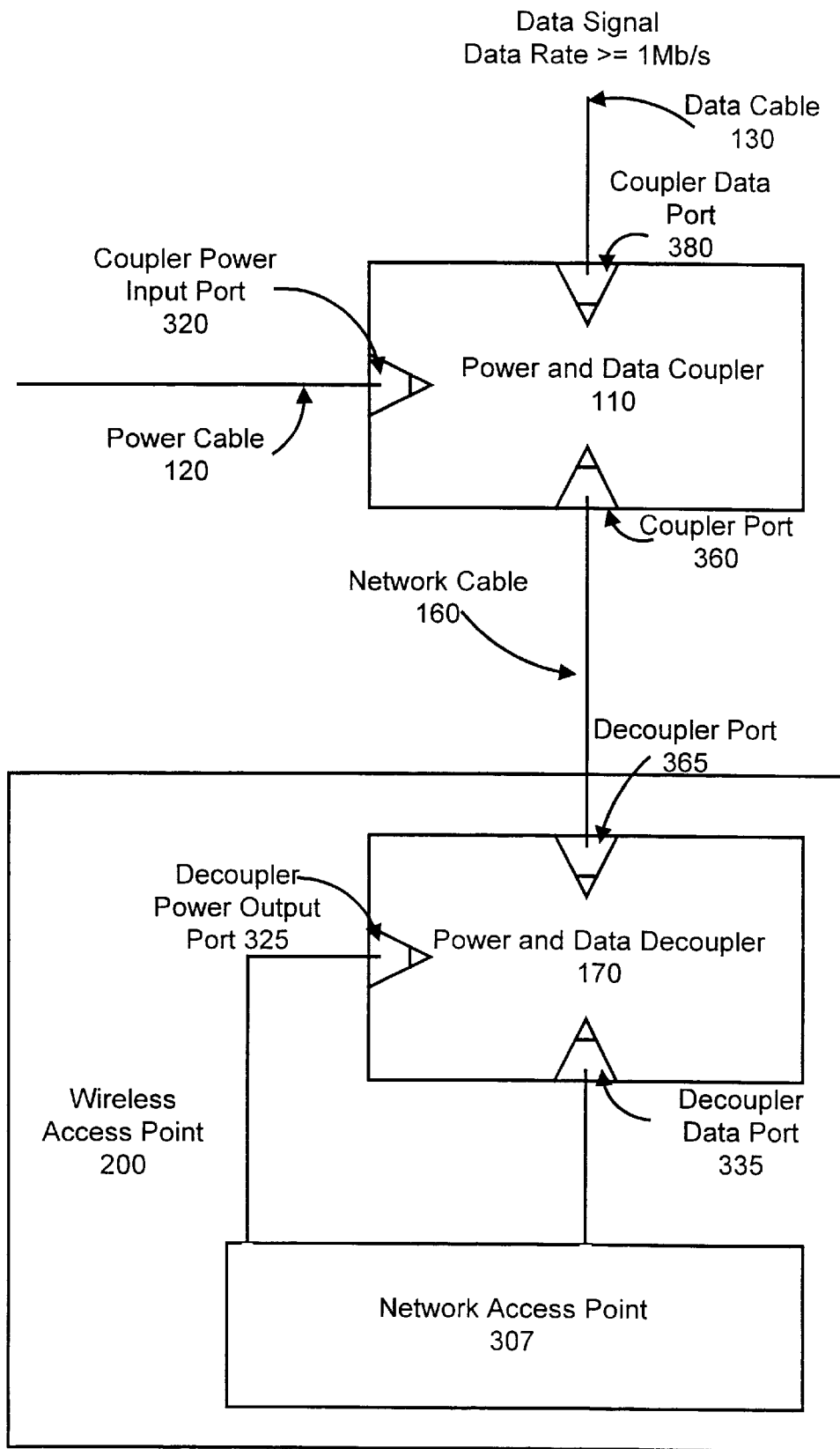


Figure 3

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.