

EXHIBIT 1017

(12) **United States Patent**
Lamb et al.

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(54) **POWER TRANSFER APPARATUS FOR USE BY NETWORK DEVICES INCLUDING TELEPHONE EQUIPMENT**

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(73) Assignee: **3Com Corporation**, Santa Clara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 33 days.

(21) Appl. No.: **08/865,015**

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(51) **Int. Cl.**⁷ **H04M 11/00**

(52) **U.S. Cl.** **379/93.36; 340/310.01**

(58) **Field of Search** 379/90.01, 93.01, 379/93.36, 102.04, 399, 206; 340/310.01, 310.02, 310.07, 310.08; 370/419, 442, 487, 490; 375/257, 259; 445/3.1-3.3

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Primary Examiner—Stella Woo

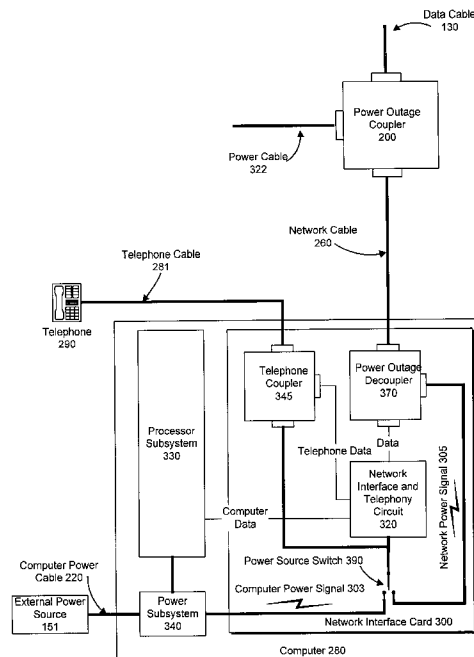
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(57) **ABSTRACT**

One embodiment of the invention includes an apparatus for providing electric power to a telephone across a transmission line where the telephone is coupled to a network device. A power and data coupler (“the coupler”) is coupled to one end of the transmission line. The transmission line is also adapted for transmission of a data signal. The data signal includes telephone signal data for communications with the telephone. The coupler has a data input and a power input. Power from the power input is coupled to the data signal from the data input and the combined power supply current and data signal is coupled to one end of the transmission line. The opposite end of the transmission line is coupled to a power and data decoupler (“the decoupler”). The decoupler has a power output and a data output. Both the data output and power output of the decoupler are coupled to the network device. The combined power and data signal is decoupled by the decoupler, and the data signal is supplied to the data output and the power is supplied to the power output. The invention also includes a circuit. The telephone circuit receives the power from the power output and receives the telephone signal data. The circuit couples the power and the telephone signal data together to make a combined power and telephone signal, which can be used by the telephone.

15 Claims, 3 Drawing Sheets



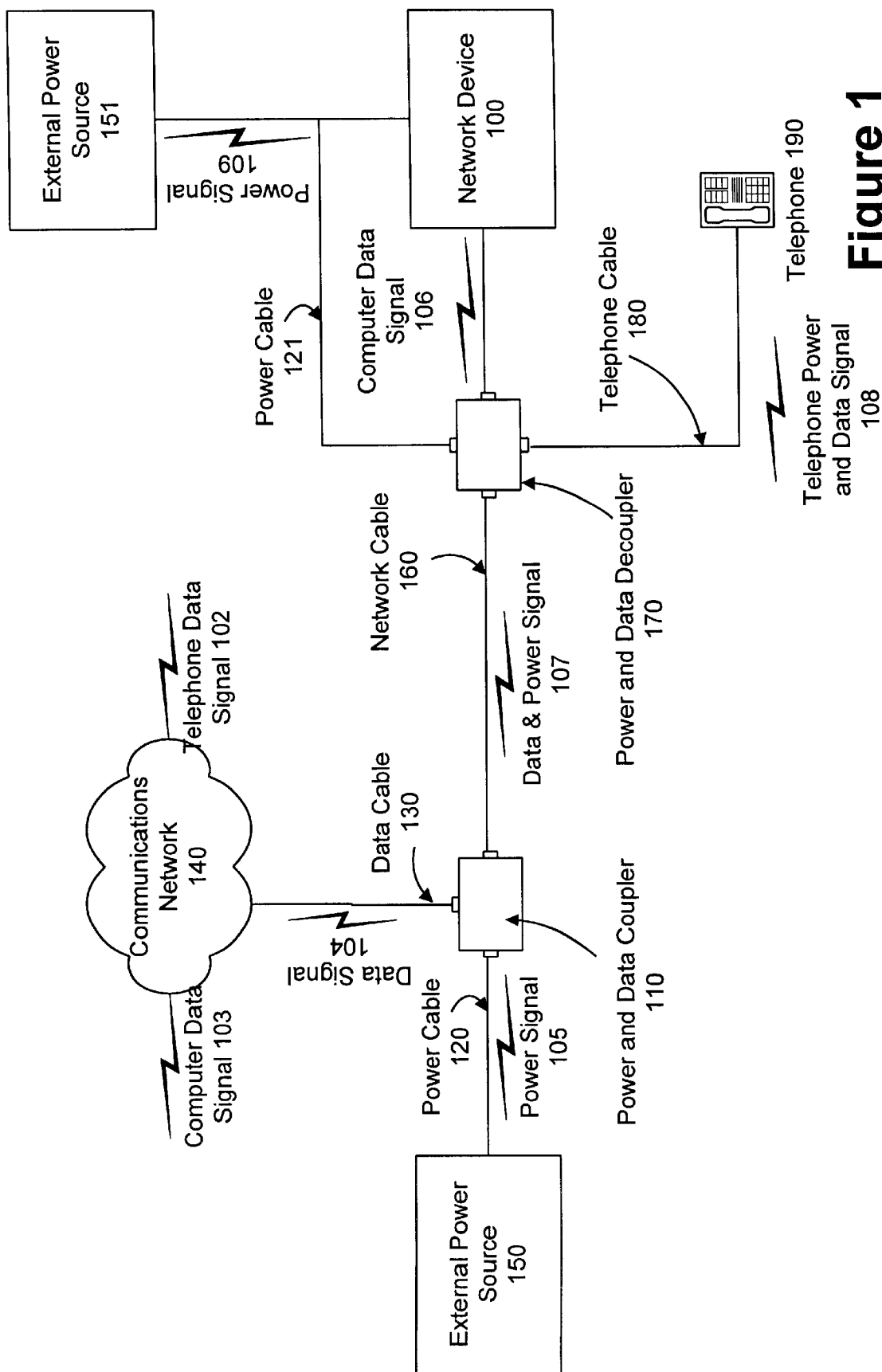


Figure 1

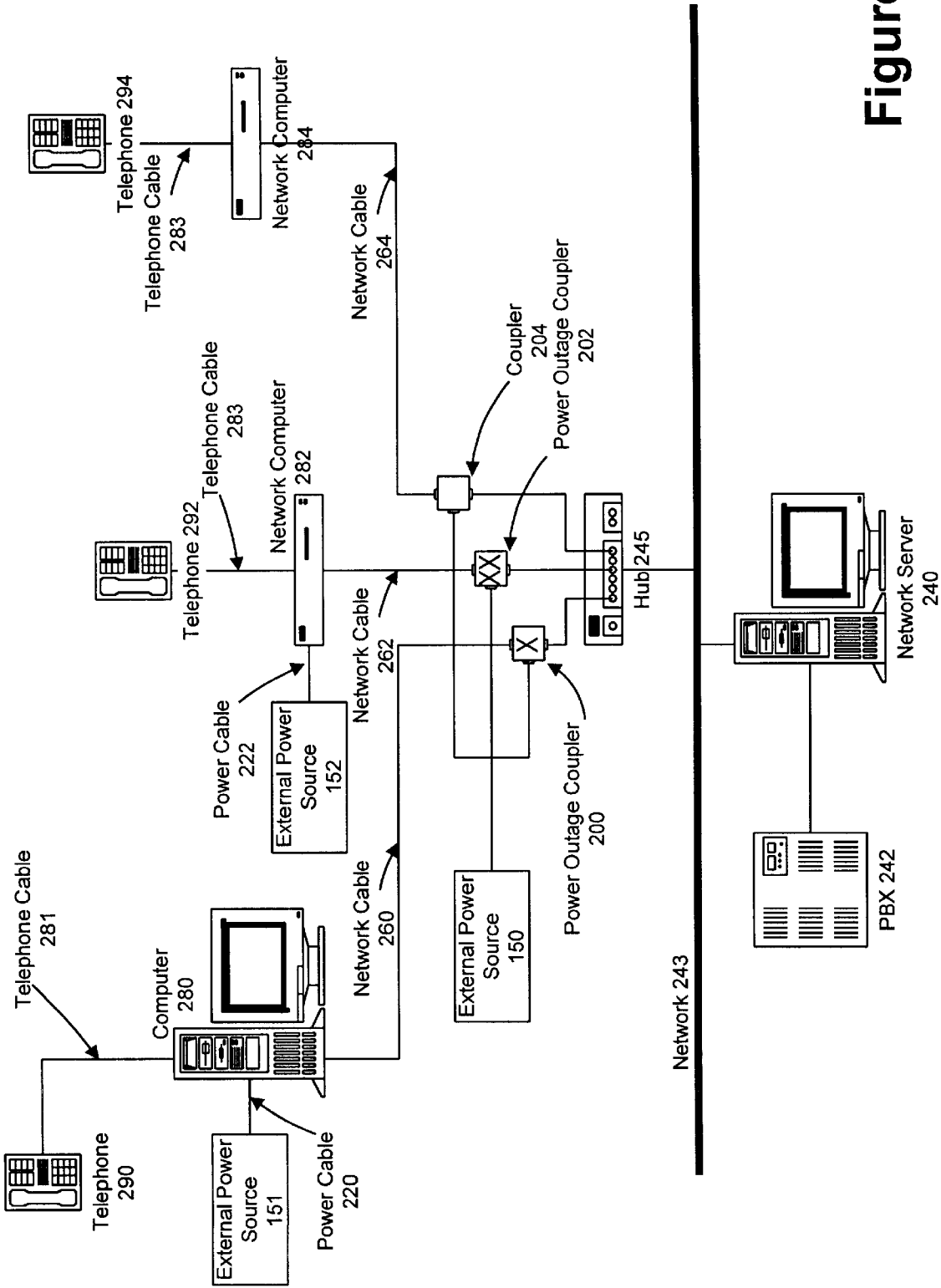


Figure 2

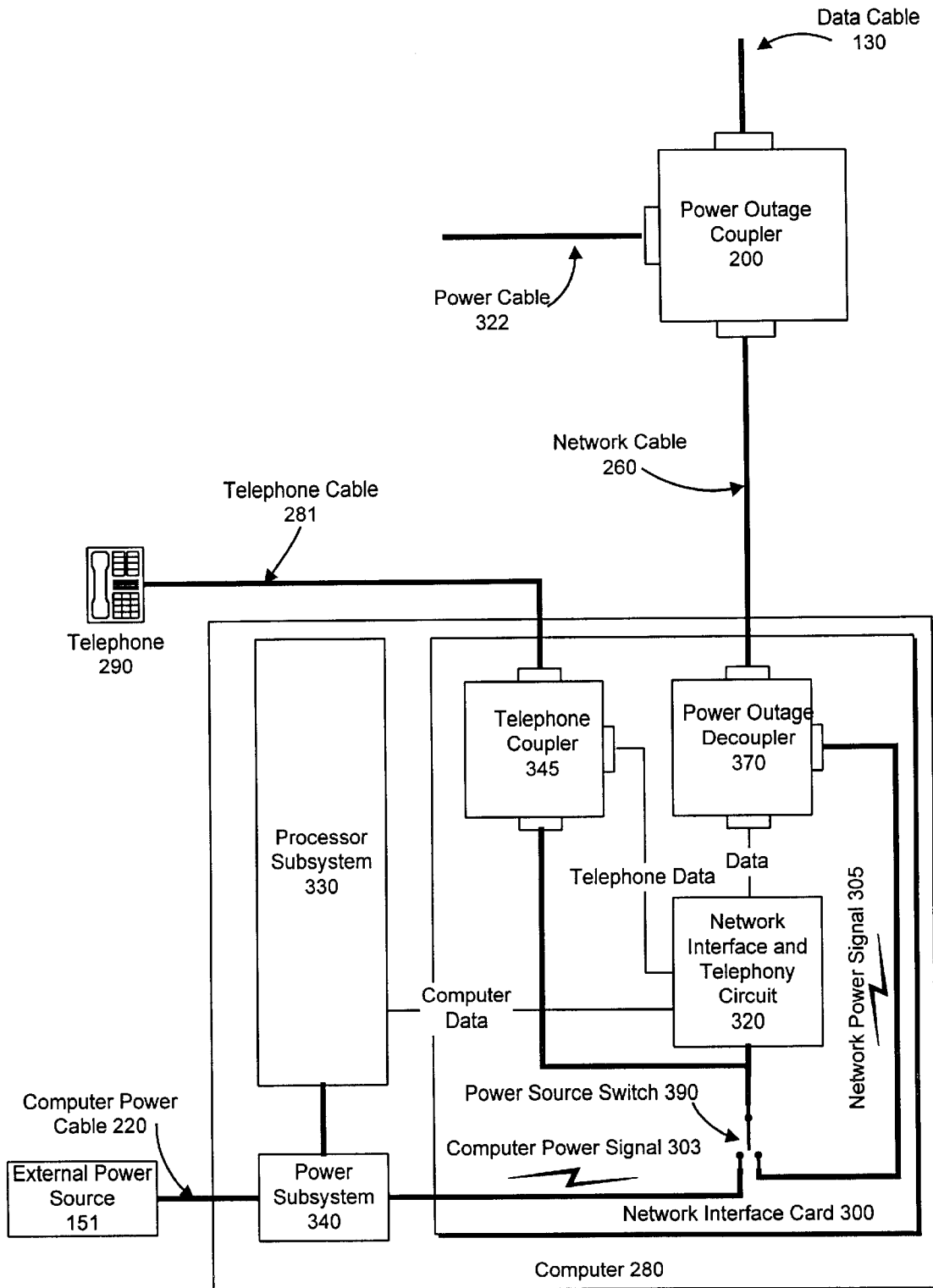


Figure 3

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