United States Patent [19]

Russell et al.

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[54] **SUBSCRIBER LOOP BYPASS MODEM**

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[51] **Int. Cl.^{7}** **H04L 12/64**

[52] **U.S. Cl.** **370/352**; 375/222

[58] **Field of Search** 370/493, 494, 370/495, 352, 353, 354, 355, 356, 401, 420, 395; 375/222; 379/93.07

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[57] **ABSTRACT**

The present invention allows telephone subscriber loops carrying data traffic between computer systems to be switched to an alternative connection through a data network, thereby unloading data traffic from the telephone network. The invention operates by means of a break switch, which selectively switches a plurality of subscriber loops between a central office switching system and a data network. The break switch is coupled to a concentrator which takes a plurality of inputs from the break switch and connects them to a smaller number of modems in a modem pool. The concentrator allows a subscriber line to connect to different types of modems within the modem pool, depending upon requirements of a particular subscriber line user. The modem pool connects through a network interface to a packet-switched network, such as the Internet. A number of different methods can be used to transmit a command to switch a subscriber loop from the central office switching system to the packet-switched network. A loop current detector, which is coupled between the plurality of subscriber loops and the break switch, can monitor on/off hook status of the subscriber loop in order to determine whether to switch the connection to the data network. Alternatively, the command to perform the switching can originate from a remote host which transmits the command through the data network to the break switch.

67 Claims, 6 Drawing Sheets
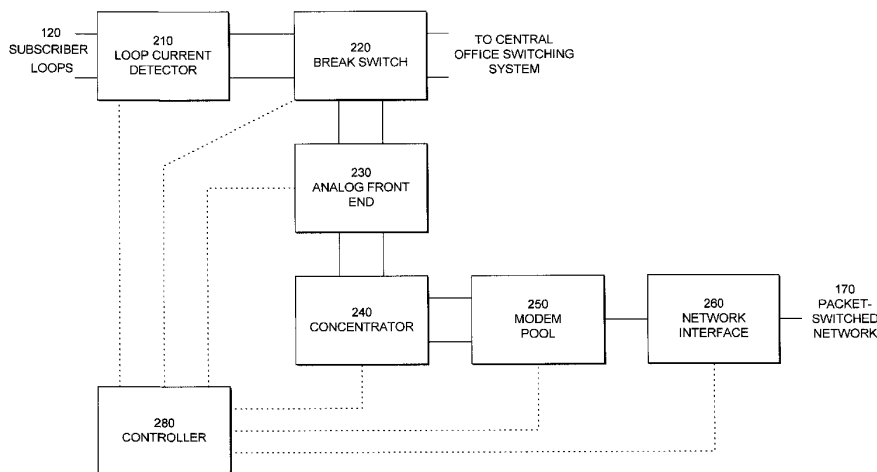
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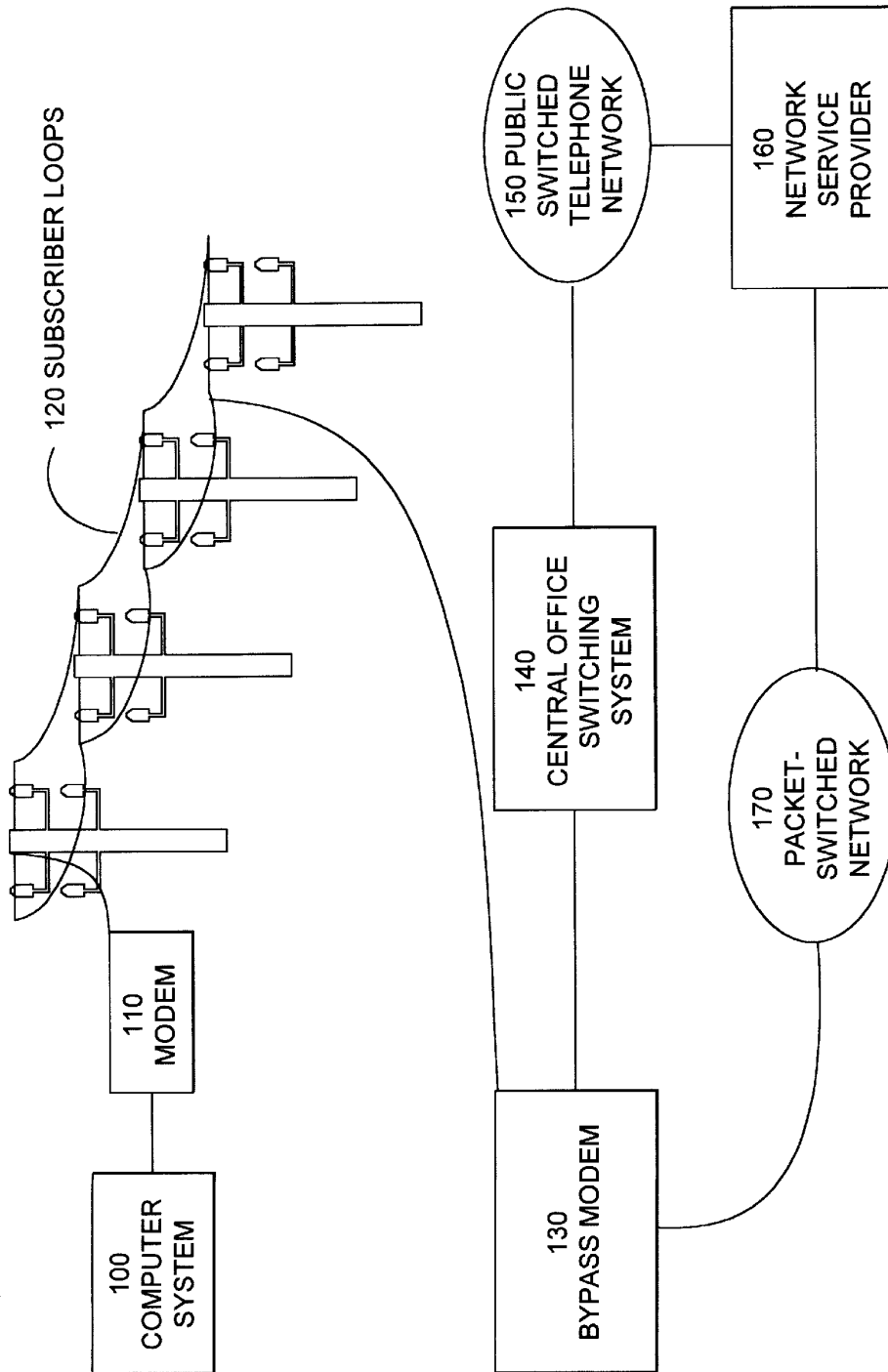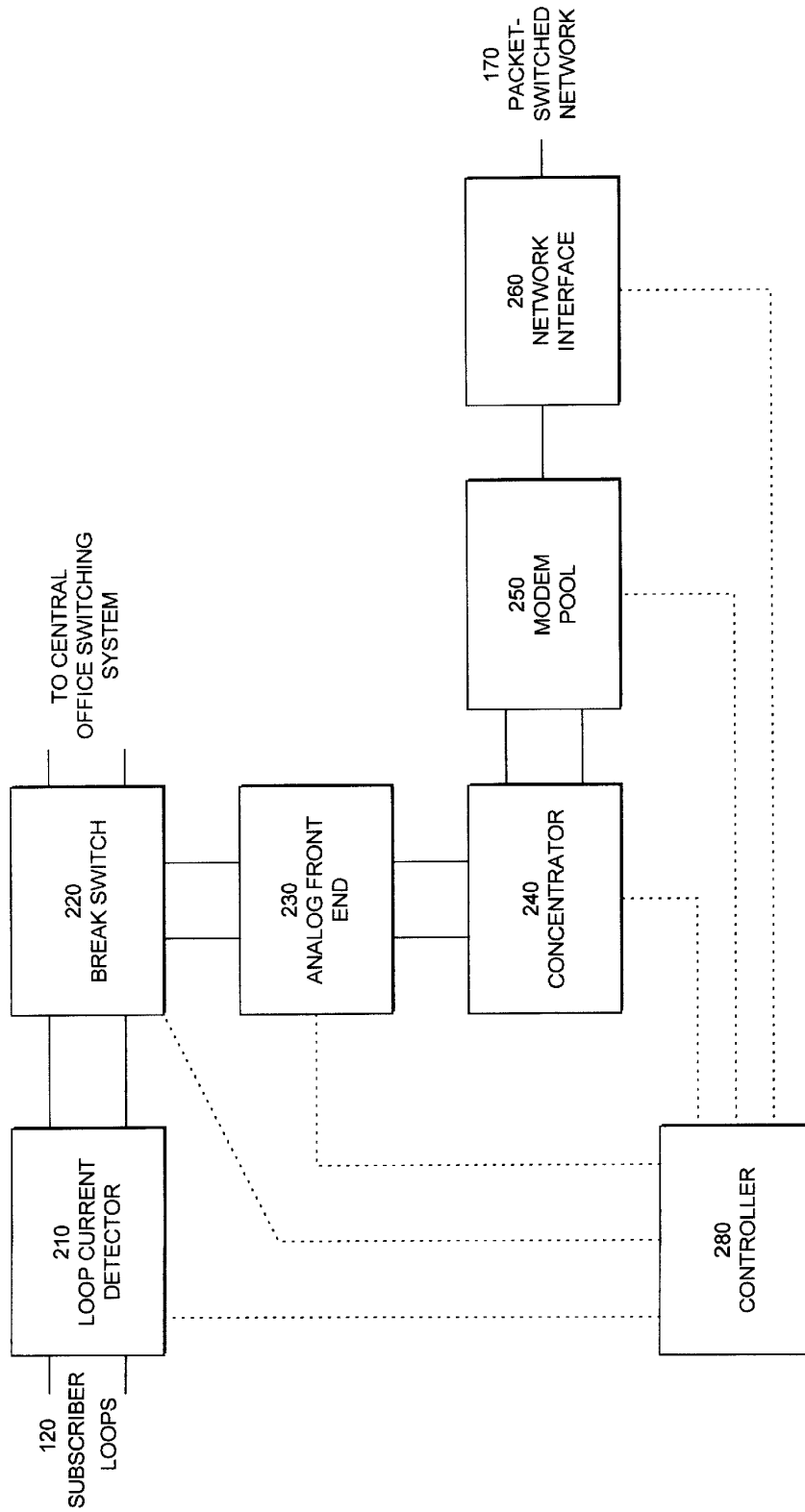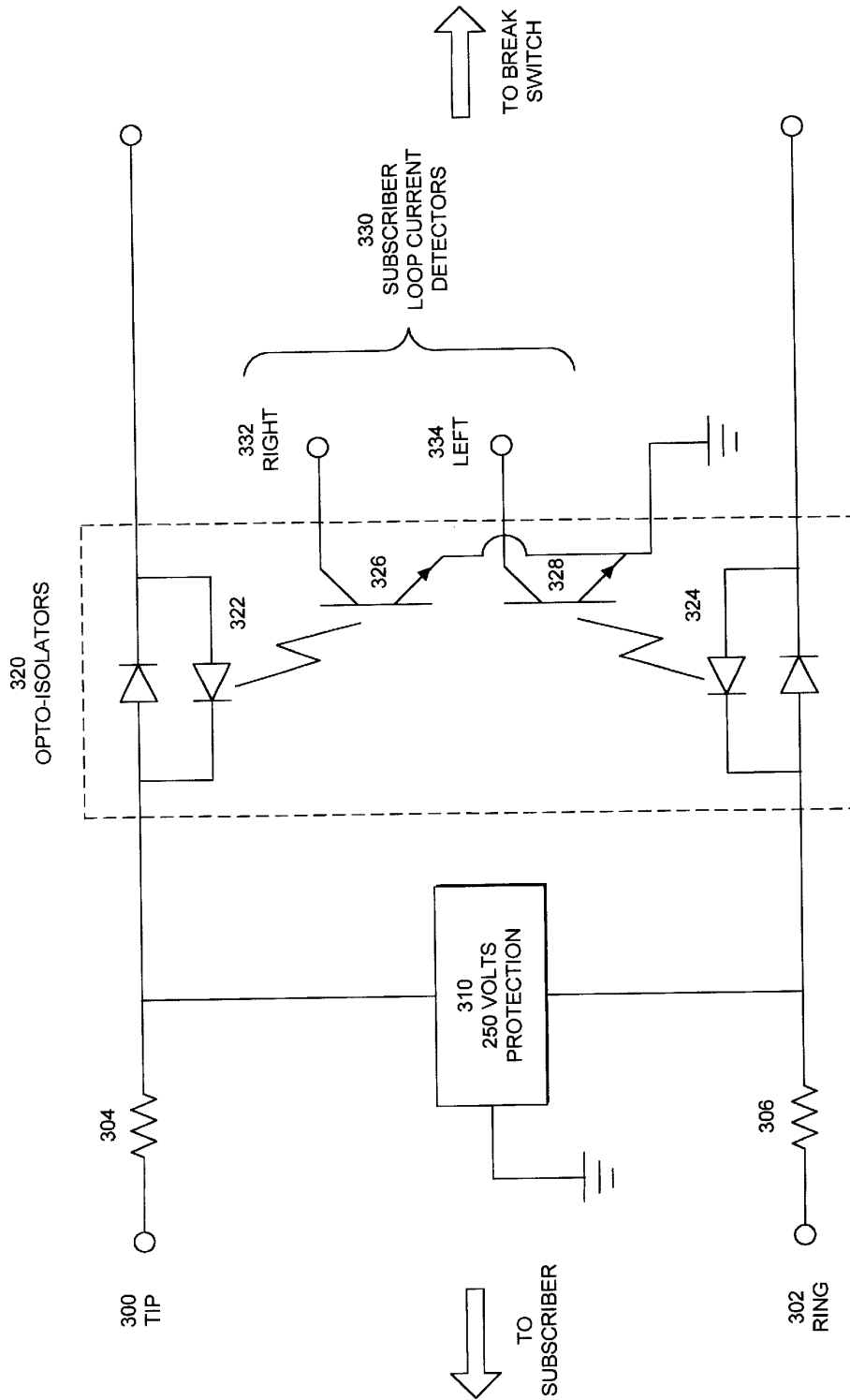
FIG. 1

FIG. 2

FIG. 3

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