

[54] METHOD FOR REMOTE POWER FAIL DETECTION AND MAINTAINING CONTINUOUS OPERATION FOR DATA AND VOICE DEVICES OPERATING OVER LOCAL LOOPS

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[51] Int. Cl.<sup>5</sup> ..... H04M 11/00

[52] U.S. Cl. .... 379/93; 379/94; 379/387; 379/413; 370/110.1

[58] Field of Search ..... 379/94, 2, 93, 387, 379/413; 370/110.1

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Primary Examiner—James L. Dwyer

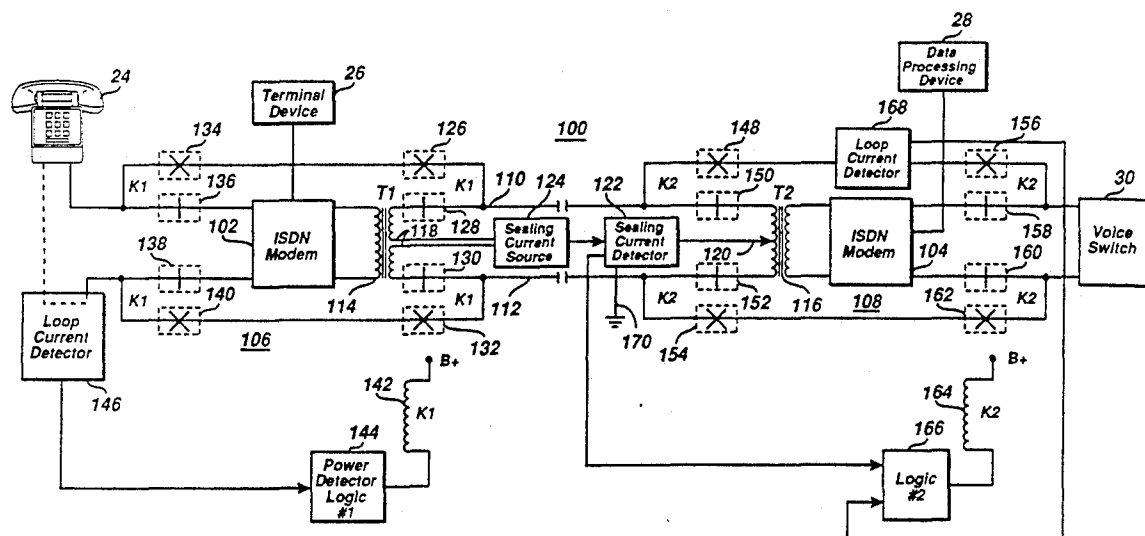
Assistant Examiner—Wing F. Chan

Attorney, Agent, or Firm—Eckert Seamans Cherin & Mellott

[57] ABSTRACT

First and second ISDN modems are disposed at a subscriber location and telephone system central office and are arranged to operate in a normal mode, and in a bypass mode upon power failure at the subscriber location. The modems are coupled through the telephone lines via interface transformers having centertaps. The centertap at the subscriber location is split and coupled to a sealing current source and that at the central office is coupled to a sealing current detector and ground. Sealing current flows between the respective transformers during normal operation. A drop in sealing current due to subscriber power failure is sensed at the central office, causing local logic to bypass the central office interface transformer and to couple the central office voice switch directly to the telephone lines. Loop current detectors at the subscriber location and at the central office determine whether the subscriber location voice telephone device is on-hook. If power is restored when on-hook, the local logic recouples the output interface transformer to the telephone lines and the voice telephone device is recoupled to the modem. At the same time, the central office detects whether sealing current has been restored and whether the subscriber voice device is on-hook, and recouples its output interface transformer to the telephone lines and the voice switch to the input interface of the central office modem, resulting in restoration of normal operation.

10 Claims, 5 Drawing Sheets



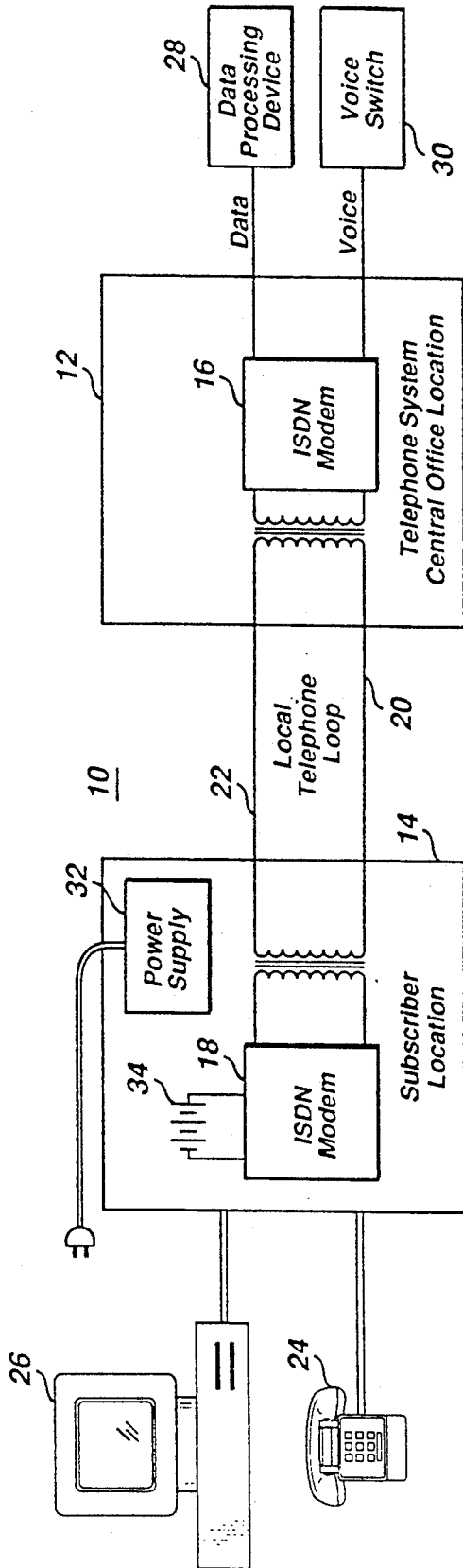
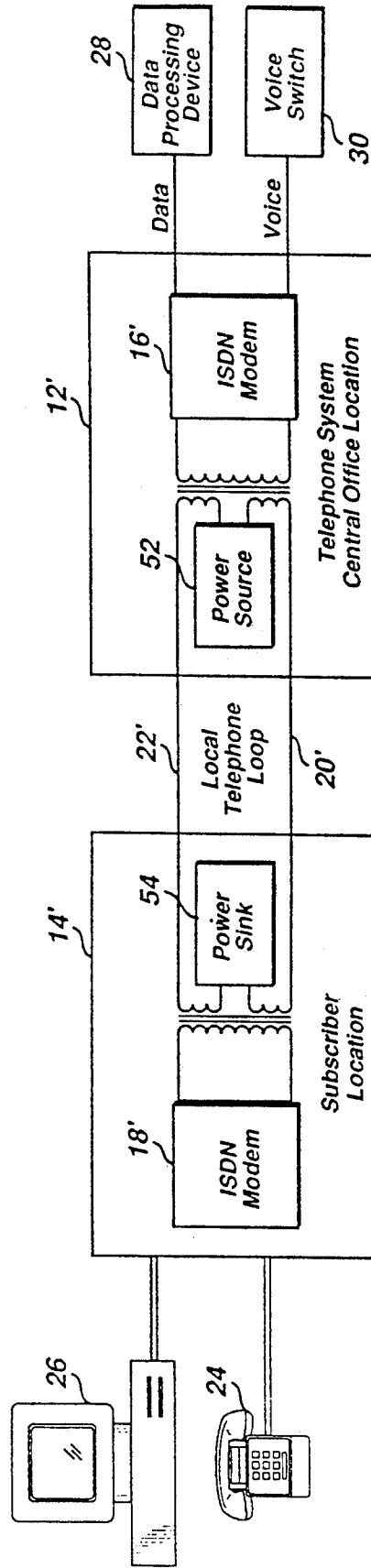


Figure 1A

PRIOR ART

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**Figure 1B**  
**PRIOR ART**

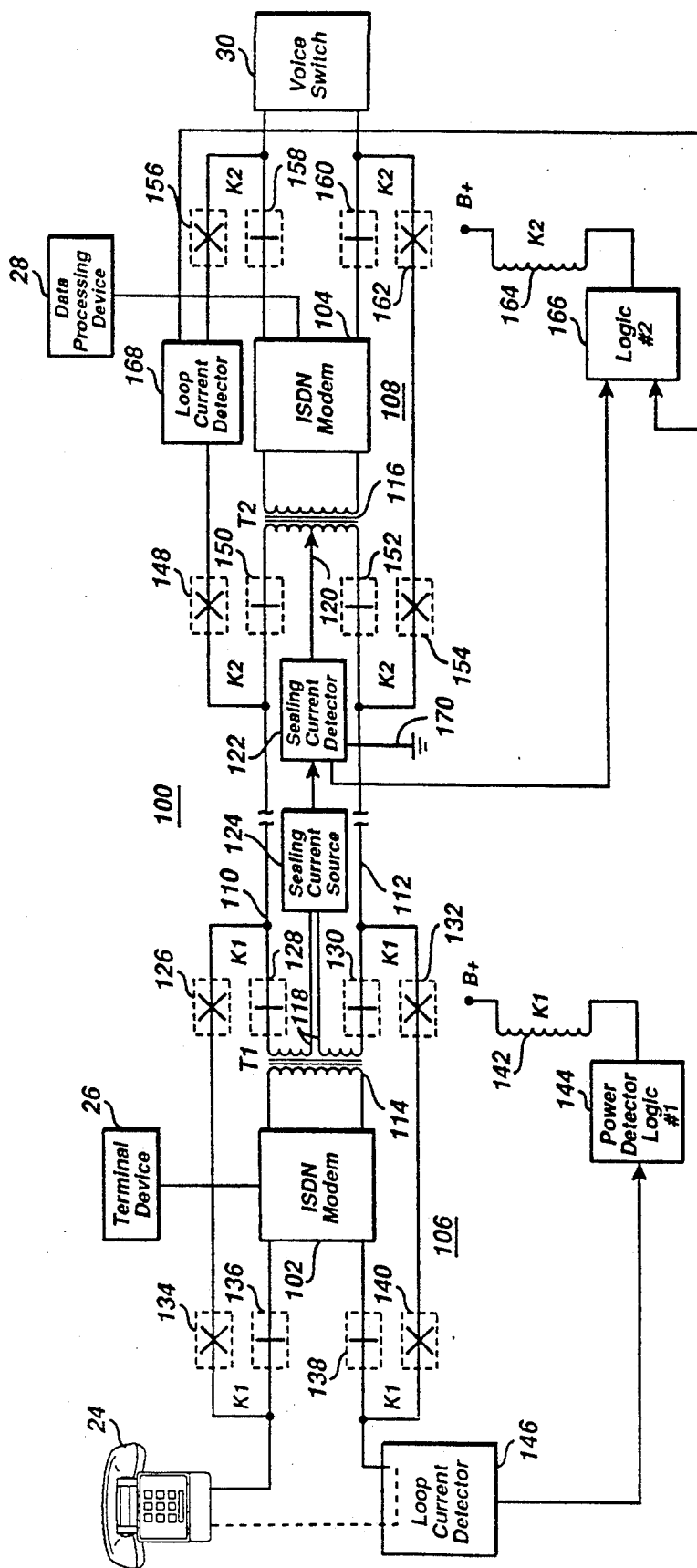


Figure 2

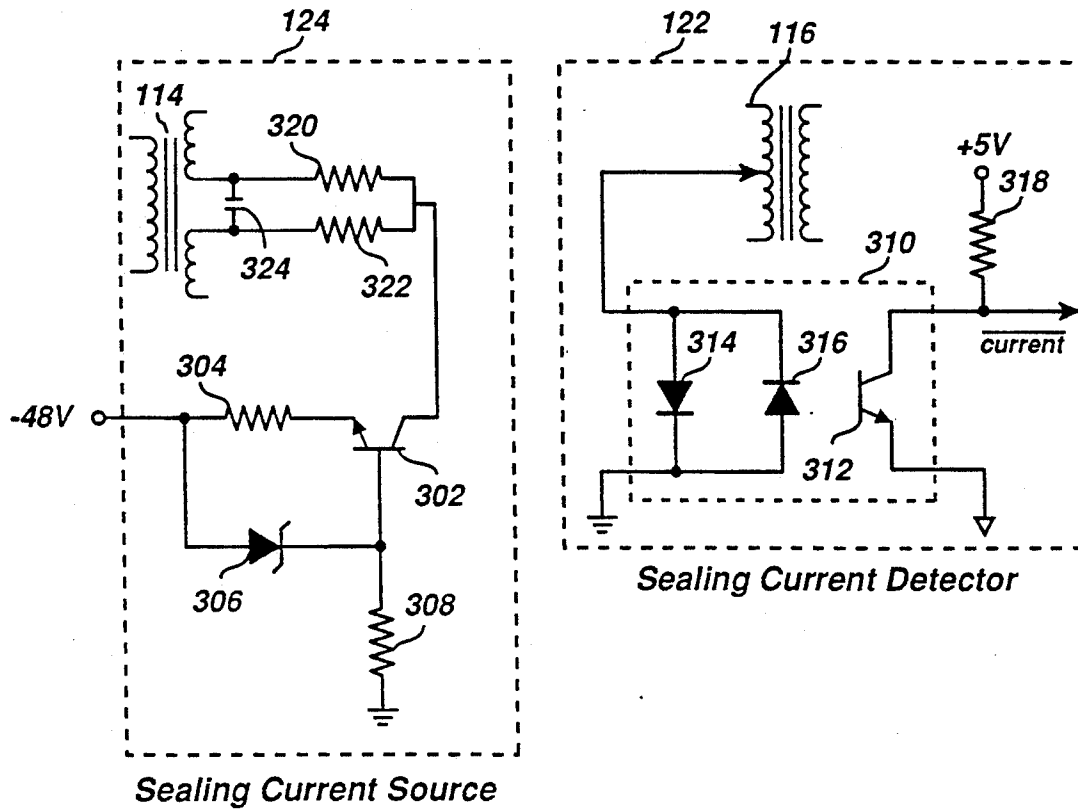


Figure 3

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