United States Patent [19]

McNamara et al.

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[54] **LINE ISOLATION DEVICE FOR ASYMMETRICAL DIGITAL SUBSCRIBER LINE**

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[73] Assignee: **BellSouth Corporation**, Atlanta, Ga.

[21] Appl. No.: **08/812,296**

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[51] **Int. Cl.^{6}** **H04M 1/00**

[52] **U.S. Cl.** **379/399**; 379/397

[58] **Field of Search** 379/399, 419, 379/387, 397, 93.5, 93.07, 93.1; 455/3.1, 4.2, 6.3, 5.1; 333/17.1, 201, 202

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[57] **ABSTRACT**

A line isolation device (LID) for use in an ADSL system provides a single low pass filter that filters out the higher band ADSL signals for all of the Plain Old Telephone Services (POTS) terminal devices within a customer's premises. The LID may be easily added to an existing ADSL system by routing signals from a customer bridge through the LID. The LID has a low pass filter for removing the ADSL signals and also has a bypass path for carrying unfiltered ADSL and POTS signals to an ADSL transceiver unit. The filtered POTS signals are supplied back to the customer bridge and to binding posts on the customer bridge where all POTS terminal devices receive their POTS signals. The re-routing of the signals within the NID through the LID can be easily accomplished by disconnecting a testing jack on the customer bridge and routing the signals through the LID. Alternatively, the customer bridge may be completely removed from the NID and replaced with a customer bridge having an integral low pass filter. As a further alternative, an additional customer bridge having the low pass filter may be installed into an empty receptacle within the NID and appropriately connected to the existing customer bridge. The low pass filter is preferably a four-pole filter to provide a sufficient amount of attenuation at frequencies above the voiceband.
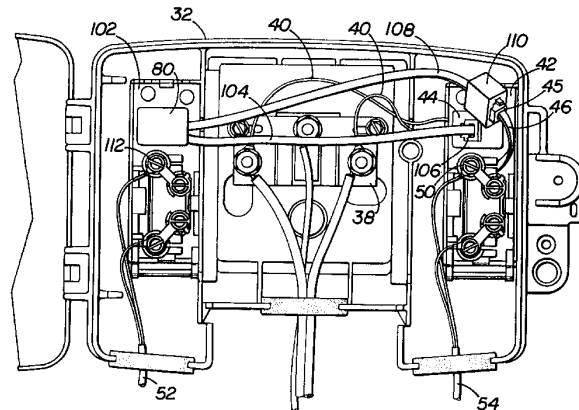
27 Claims, 4 Drawing Sheets

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(PRIOR ART)

FIG 1
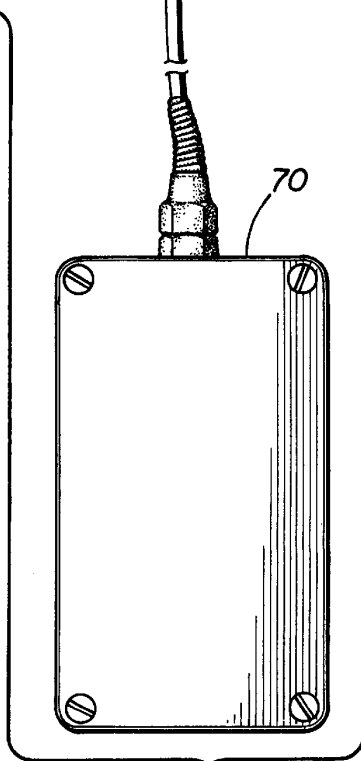

(PRIOR ART)

FIG 2A

FIG 2B

(PRIOR ART)
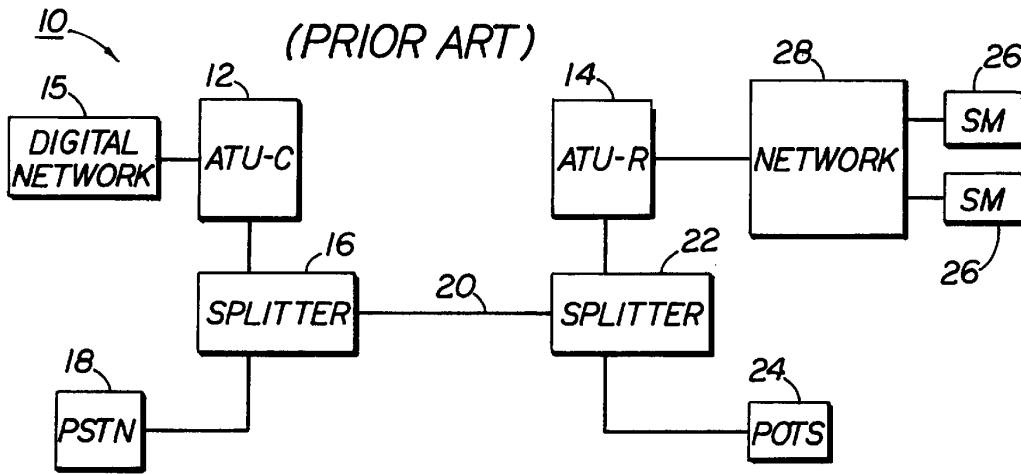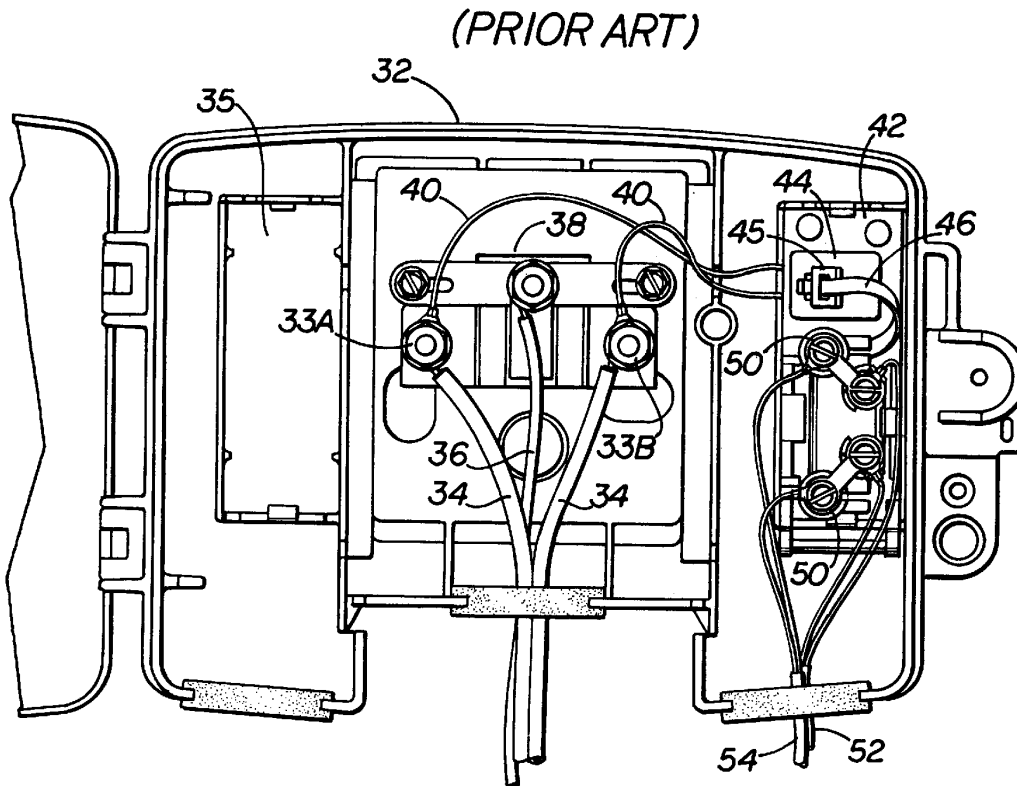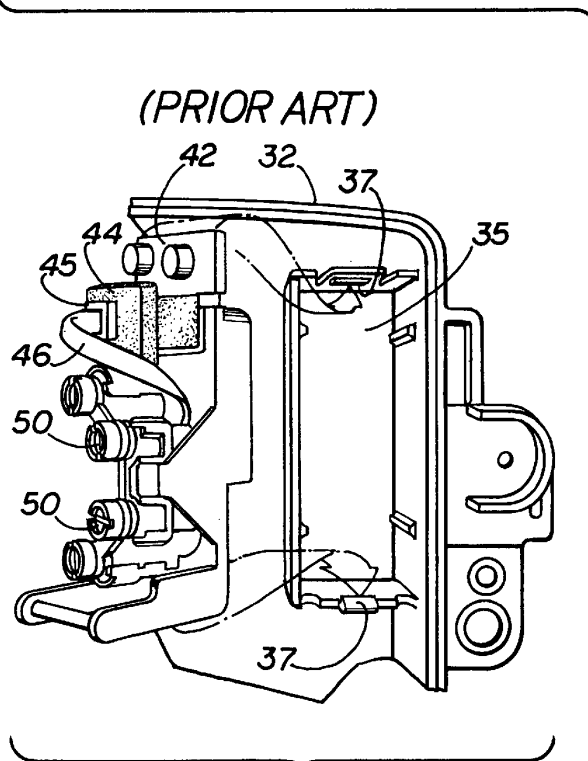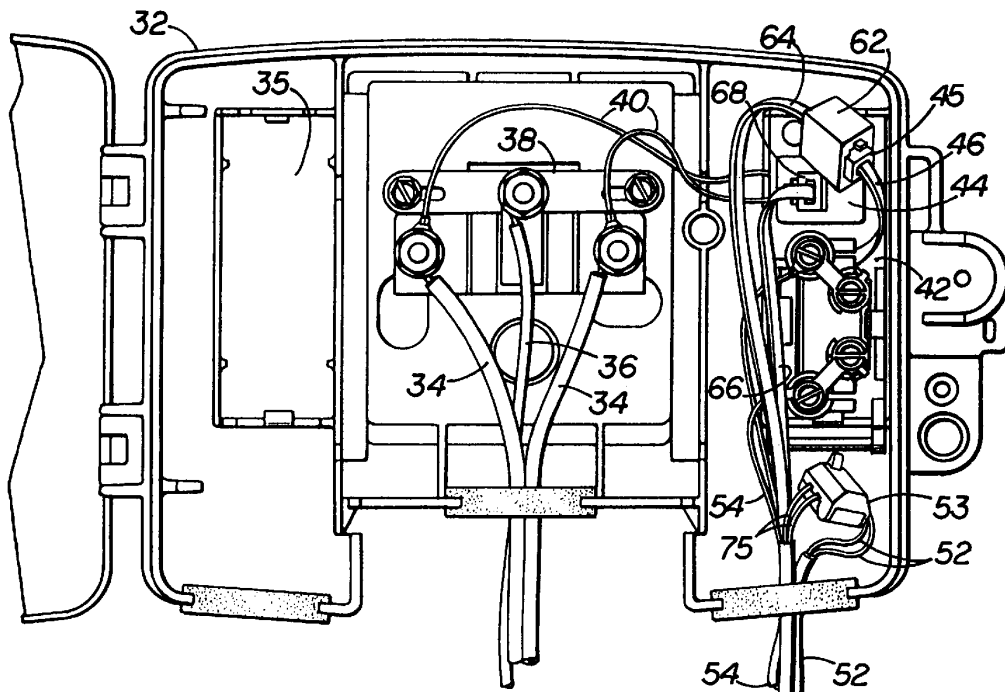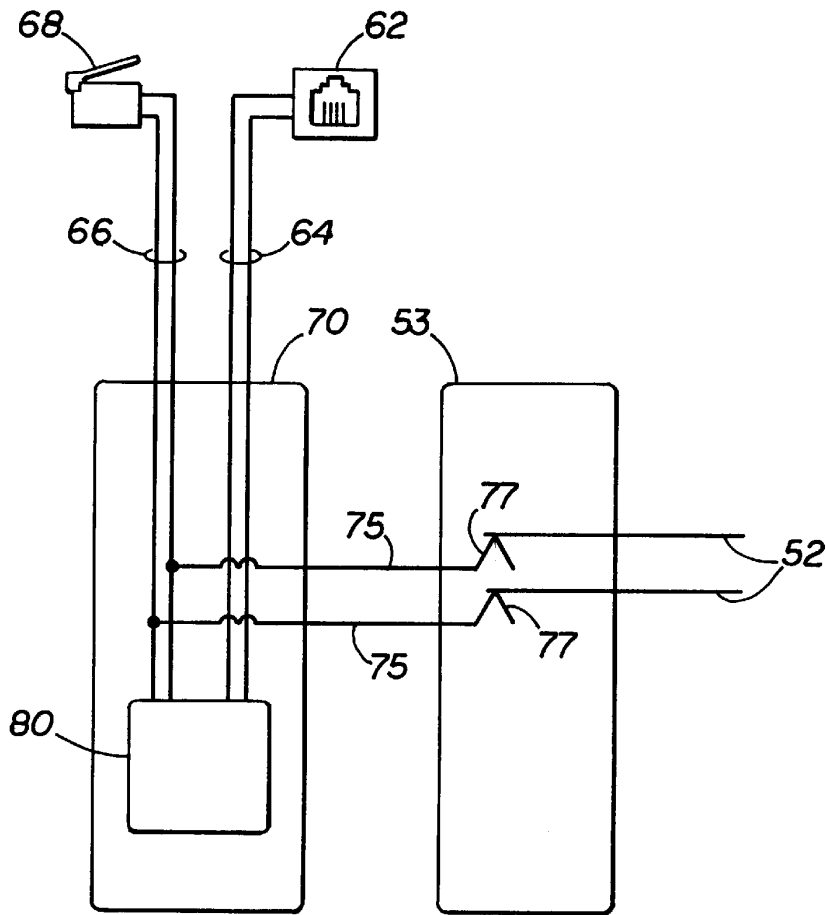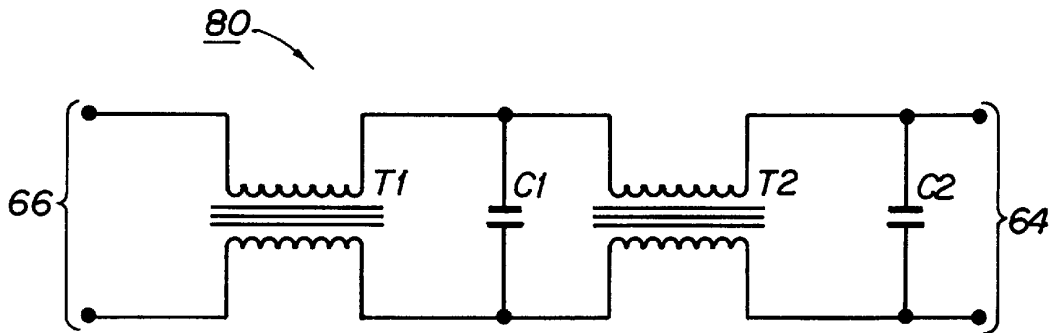
FIG 3

FIG 4

FIG 5

DOCKET ALARM

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