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(54) **NETWORK SYSTEM AND OPTIONAL TETHERS**

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CPC .. **H04L 1/24** (2013.01); **H04B 3/54** (2013.01); **H04B 2203/5445** (2013.01); **H04B 2203/5458** (2013.01); **H04B 2203/5466** (2013.01); **H04B 2203/547** (2013.01); **H04B 2203/5491** (2013.01); **H04B 2203/5495** (2013.01)  
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(58) **Field of Classification Search**

None  
See application file for complete search history.

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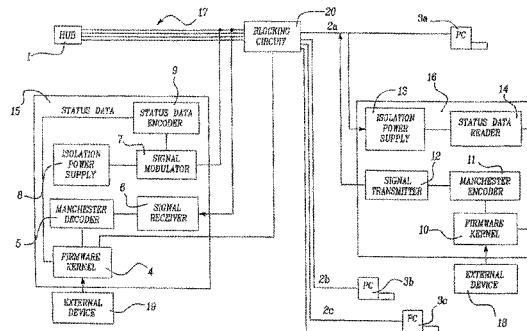
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(57) **ABSTRACT**

A BaseT Ethernet system having a piece of central network equipment, a piece of BaseT Ethernet terminal equipment, and data signaling pairs of conductors having first and second pairs used to carry BaseT Ethernet communication signals between the piece of central network equipment and the piece of BaseT Ethernet terminal equipment. The first and second pairs physically connect between the piece of BaseT Ethernet terminal equipment and the piece of central network equipment. The piece of central network equipment having at least one DC supply. The piece of BaseT Ethernet terminal equipment having at least one path to draw different magnitudes of current flow from the DC supply through a loop formed over at least one of the conductors of the first pair and at least one of the conductors of the second pair. The piece of central network equipment to detect at least two different magnitudes of the current flow through the loop.

**219 Claims, 13 Drawing Sheets**



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