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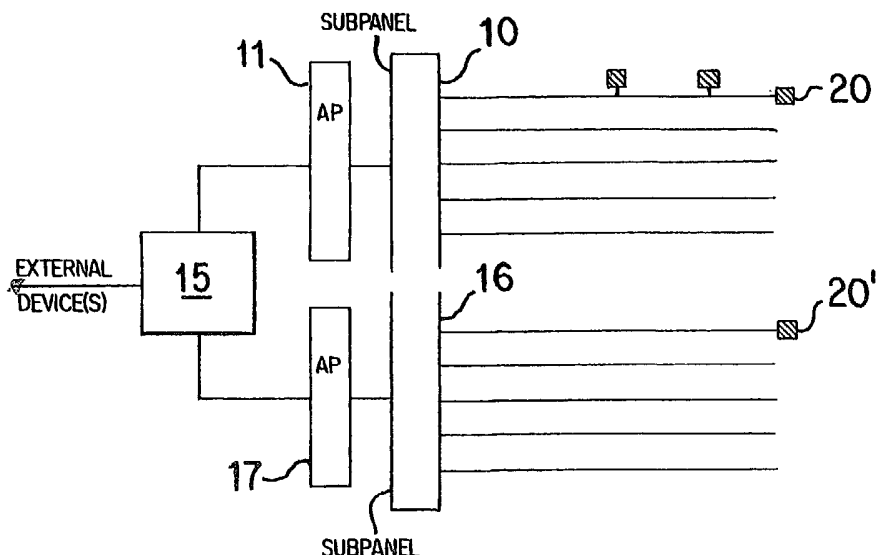
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(54) Title: NETWORK TOPOLOGY AND PACKET ROUTING METHOD USING LOW VOLTAGE POWER WIRING



(57) Abstract: A network topology and packet routing method for implementing a Local Area Network (LAN) using low-voltage (120/240VAC) power wiring as the transport medium. An Access Point (AP) having a Power Line Carrier (PLC) interface and one or more IEEE 802.3 Ethernet interfaces connects to the logical center of the Power Line medium via its PLC interface. Multiple User Terminals (UT) send to and receive from their associated AP, which in turn routes data packets toward the appropriate destination. Large networks may contain more than one AP, in which case each UT selects its AP based on a metric representing connection quality between the UT and AP.



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PCT/US04/13938

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 12/28

US CL : 370/419

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 370/419,420,445

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,394,402 A (ROSS) 28 February 1995 (28.02.1995), column 1, lines 19-32, column 4, line 63 to column 5, line 9, and column 6, line 49 to column 7, line 9.	1,6,11,14
Y	US 5,740,175 A (WAKEMAN et al) 14 April 1998 (14.04.1998), column 1, lines 15-28.	1,6,11,14
Y	US 5,903,553 A (SAKAMOTO et al) 11 May 1999 (11.05.1999), column 3, lines 14-60 and column 5, lines 12-33.	1,6,11,14
Y	US 6,130,896 A (LUEKER et al) 10 October 2000 (10.10.2000), column 2, lines 37-45, column 2, line 58 to column 3, line 41, and column 4, lines 19-32.	1,6,11,14
Y	US 6,396,841 B1 (CO et al) 28 May 2002 (28.05.2002), column 1, lines 12-15, column 1, lines 35-51, and column 4, line 55 to column 5, line 33.	1,6,11,14
Y	US 6,483,870 B1 (LOCKLEAR, JR et al) 19 November 2002 (19.11.2002), column 3, lines 35-66, column 4, lines 33-37, column 4, line 47 to column 5, line 24, column 6, lines 23-35, and column 7, lines 31-41.	1,4,5,6,9,10,11,14
Y	US 6,504,851 B1 (ABLER et al) 07 January 2003 (07.01.2003), column 6, lines 20-67, column 7, lines 37-51, and column 10, lines 41-64.	1,4,5,6,9,10,11,14
Y	US 2002/0186699 A1 (KWOK) 12 December 2002 (12.12.2002), sections 0024-0025.	1,6,11,14



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