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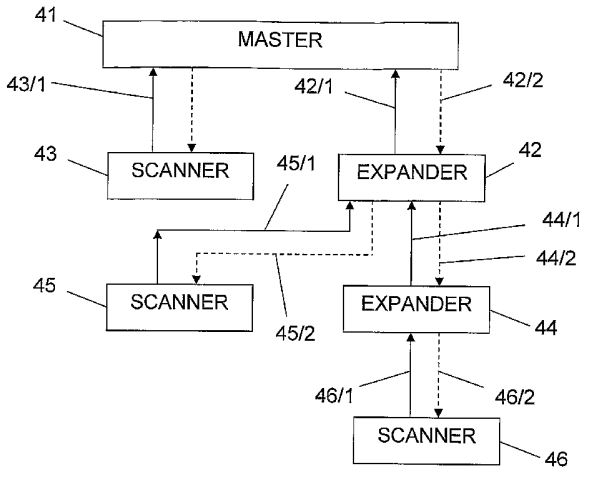
(54) Title: MODULAR SCANNING SYSTEM FOR CABLING SYSTEMS



(57) Abstract: Method and system for acquiring and updating the topology of a modular scanning system (Fig. 4), in which patch panels (Fig. 1, #14 and #15) are scanned (Fig. 1, #17/1). The result of the scanning of each panel is forwarded (Fig. 4, #46/1) to a memory cell of an expander (Fig. 1, #12). The output of each expander is forwarded (Fig. 4, #44/1) to a cell of a successive expander (Fig. 2, #22), and so forth (Fig. 3, #33), until the output of a final expander is forwarded (Fig. 4, #42/1) to a master (Fig. 1, #11). Each scanning unit forwards unique ID data to an expander, to which said scanning unit is connected. The unique ID data is relayed from the expander to higher level expanders, all of which are connected in series with respect to one another, until reaching a second level expander (Fig. 3, #32), from which the ID data is forwarded to the master where it is stored. This process is repeated while the ID data replaced with neighbors' data, for allowing the master to know which scanning unit is connected to which scanning unit. Finally, the topology map is generated in the master from the collection of ID data and neighbors' data stored therein.

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A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G06F 15/173, 11/00; G01R 31/08; G08C 15/00; H04J 1/16, 3/14; H04L 1/00, 12/26, 12/28
US CL : 709/223, 224, 242; 370/242, 243, 244, 245, 246, 254, 255, 256
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. : 709/223, 224, 242; 370/242, 243, 244, 245, 246, 254, 255, 256

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,226,120 A (BROWN et al.) 06 July 1993 (06.07.1993); whole document; title and abstract; all figures; col. 1, line 1 - col. 2, line 55; col. 3, line 60 - col. 4, line 35; col. 5, line 40 - col. 7, line 45; col. 9, lines 3-12; col. 13, line 40 - col. 16, line 50	1-20
Y	US 6,522,737 B1 (BARTOLUTTI et al.) 18 February 2003 (18.02.2003); whole document, title and abstract; Figs. 2 and 3; col. 1, line 1 - col. 4, line 15; col. 4, line 35 - col. 6, line 20	1-20
Y	US 6,425,007 B1 (MESSINGER) 23 July 2002 (23.07.2002); whole document; title and abstract; Figs. 1-4; col. 1, line 1 - col. 2, line 55; col. 3, line 1 - col.5, line 25	1-3, 6, 8-12, 14-17, 19, 20
Y	US 6,415,314 B1 (FEE et al.) 02 July 2002 (02.07.2002); whole document; Figs. 1, 5; col. 1, line 1 - col. 4, line 25; col. 4, line 50 - col. 7, line 50; col. 8, line 47 - col. 10, line 40	4, 5
Y	US 6,601,097 B1 (CHESTON et al.) 29 July 2003 (29.07.2003); whole document; Fig. 3; col. 1, line 1 - col. 2, line 15; col. 2, line 50 - col. 5, line 30	7, 13, 17, 18
A	US 6,199,172 B1 (DUBE et al.) 06 March 2001 (06.03.2001); whole document	1-20
A	US 5,726,912 A (KRALL, JR. et al.) 10 March 1998 (10.03.1998); whole document	1-20
A	US 6,453,014 B1 (JACOBSON et al.) 17 September 2002 (17.09.2002); whole document	1-20

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, P	US 6,784,802 B1 (STANESCU) 31 August 2004 (31.08.2004); whole document	1-20

709/211, 223, 224, 237, 242, 244, 249, 252; 370/242, 243, 244, 245, 246, 254, 255, 256; 702/182, 183, 184, 185, 186; 710/303