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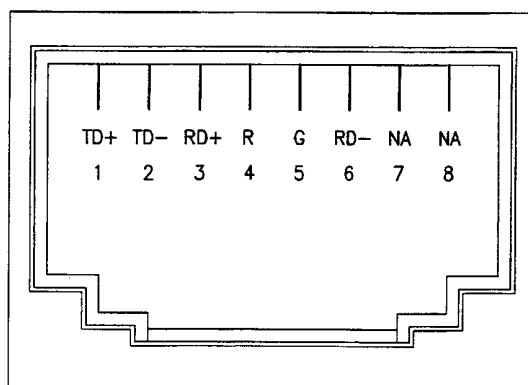
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(54) Title: METHODS AND APPARATUS FOR PROVIDING A "QUALITY OF SERVICE" NETWORK PARALLEL TO AN EXISTING ETHERNET NETWORK USING EXISTING CATEGORY FIVE CABLE



(57) Abstract: A combination LAN and PBX system utilizes the unassigned pair of wires in Category 5 cable to provide a "parallel network" for a PBX over existing ETHERNET cable. The PBX network is unaffected by ETHERNET traffic even though it is carried via the same cable. The apparatus includes a PBX hub (10) and a plurality of phone modules. The PBX hub couples to the customer's ETHERNET hub (22) and has a plurality of slots for receiving "gateway modules". The gateway modules include modules for coupling the PBX hub to POTS lines (34), T1 lines (36), xDSL modems (38), cable modems (40), etc. Each phone module has two RJ-45 jacks and an RJ-11 jack. The RJ-45 jacks enable the phone module to be coupled to an ETHERNET LAN at a point where some other device is coupled to the LAN without interrupting the connection of the other device. The RJ-11 jack couples an ordinary single line phone (via the red and green conductors of the RJ-11 jack) to the unidentified pair of the Category-5 cable. According to a preferred embodiment, the phone modules include a circuit for detecting a failure of the parallel network (e.g. a power failure) and for automatically coupling the single line phone (42, 44, 46, 48, 50) to the POTS line (34) carried by the Category-5 wire. Traffic on the PBX network is packetized in frames which have a variable payload length and one or more fields for maintaining QOS.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04L 12/66 ; H04N 7/15 ; H04B 7/212
US CL : 370/352 ; 348/15 ; 370/442

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. : 370/352 ; 348/15 ; 370/442

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 5,982,767 A (MCINTOSH et al.) 09 NOVEMBER 1999, ALL	1,2, 4, 5, 6, 9, 11, 12, 13, 17, 18,
Y	US 5,565,910 A (ROWSE et al.) 15 OCTOBER 1996, ALL	1,2,5,4, 5
Y, P	US 6,266,340 B1 (PICKETT et al.) 24 JULY 2001, ALL	1,2,4,,5,6,9,11,12,13,17

 Further documents are listed in the continuation of Box C. See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Z"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

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