

- [54] **LOCAL AREA NETWORK TRANSMISSION EMULATOR**
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- [73] Assignee: **Microcom Systems, Inc.**, Granada Hills, Calif.
- [*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,280,481.
- [21] Appl. No.: **253,753**
- [22] Filed: **Jun. 3, 1994**

Related U.S. Application Data

- [63] Continuation of Ser. No. 97,851, Jul. 27, 1993, Pat. No. 5,323,388, which is a continuation of Ser. No. 763,340, Sep. 20, 1991, Pat. No. 5,280,481.
- [51] **Int. Cl.⁶** **H04L 12/18; H04L 12/28**
- [52] **U.S. Cl.** **370/60; 370/85.13; 370/94.1**
- [58] **Field of Search** **370/60, 60.1, 85.1, 370/85.2, 85.3, 85.4, 85.5, 85.13, 85.14, 94.1, 94.2; 340/825.5, 825.51; 395/200.02, 200.06, 200.10, 200.20**

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,787,082	11/1988	Delaney et al.	370/85
4,818,984	4/1989	Chang et al.	340/825.54
4,868,866	9/1989	Williams, Jr.	380/49
4,926,420	5/1990	Shimizu	370/94.1
4,930,123	5/1990	Shimizu	370/94.1
5,093,827	3/1992	Franklin et al.	370/60.1
5,280,481	1/1994	Chang et al.	370/85.13
5,323,388	6/1994	Chang et al.	370/60

FOREIGN PATENT DOCUMENTS

0302646	2/1989	European Pat. Off.	H04L 11/16
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OTHER PUBLICATIONS

- IBM Technical Disclosure Bulletin, Short Hold Mode in ISDN, vol. 32, No. 10A, Mar. 1990, pp. 47-49.
- IEEE Std 802-1990 IEEE Standards for Local and Metropolitan Area Networks: Overview and Architecture (excerpt) (Dec. 31, 1990).
- U.S. Government Open Systems Interconnection Profile (GOSIP), Version 2.0, Oct. 1990.
- Haugdahl, J. Scott, Architecture Technology Corp., Inside NETBIOS, 2nd Ed. (1988).
- Leifer, Dory, Draft Internet RFC, University of Michigan (Sep. 1991).
- Digital ISDN Connectivity, LAN Bridges and Gateways (1990).
- Wellfleet Communications, Inc. Router/Bridge PRI, LANs, Bridges, Gateways and Routers (1991).
- Network Express, Inc. ISDN PRI Bridging, LANs, Bridges, Gateways and Routers (1991).
- The Software Link Networking with PC-MOS, ISDN LAN (1990).
- Interactive Systems ISDN LAN Bridging, LAN Bridges and Gateways (1990).
- PROMPTUS T-1 CommServer+ Flexible Bridge/Router + Multiplexer (Feb. 1990).
- EXCELLTECH INC. ISDN and ExcellNET (1989).
- Lanworks ISDN Router for NewWare (Mar. 1991).
- Intercomputer Communications Corporation (ICC) RIN Product Overview (Sep. 30, 1991).

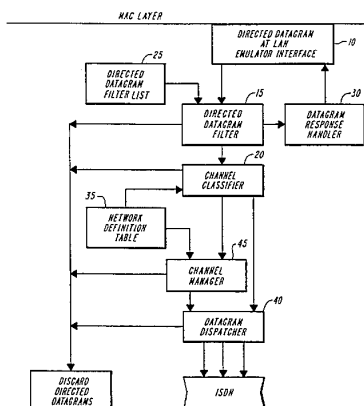
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Attorney, Agent, or Firm—Lappin & Kusmer LLP

[57] **ABSTRACT**

A method and apparatus for using switched telecommunications services to emulate a local area network (LAN) medium. The method and apparatus convert a public switched network or an equivalent private network into a LAN cabling method for connecting distant devices using the same communications software as used in traditionally wired LANs.

20 Claims, 4 Drawing Sheets



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OTHER PUBLICATIONS

- Teleos Solidifies PC Terminal Adapter Leadership: 1-7 (Nov. 26, 1990).
- IBM Product Announcement; IBM ISDN Interface Co-Processor/2 Model 2: 1-3 (Jan., 1991).
- 3Com NETBuilder Bridge/Router (1991).
- ICL/ISDN Upgrade Package for Personal Computers (Apr. 1988).
- OST ISDN Communications for Personal Computer PC SNET CARD Product Overview (Aug 10, 1990).
- Fujitsu ISDN INSIGHTS; Fujitsu Demonstrates ISDN LAN to LAN and WAN to LAN Connectivity (Fall of 1989).
- DigiBoard Product Profile; DigiBoard ISDN Netlink (Jan. 1991).
- National Institute of Standards and Technology, North American ISDN Users Forum, Application Software Interface Expert Working Group, Proposed Standard (Sep., 1991).
- Northern Telecom, ISDN PC Card NetBIOS Interface (Apr., 1988)
- IBM, ISDN PC Card, ISDNBIOS Programmers Guide (1991).
- AT&T ISDN PC Card Programming Interface (1989).
- Hayes Microcomputer Products, Inc. ISDN PC Card, ISDNBIOS Interface (Apr., 1991).
- ICL, ISDN PC Card Application Program Interface (Apr. 1988)
- OST, PC SNET Card Programmers Manual, 1991.
- Teleos Communications, Applications Interface User's Guide (1990).
- DigiBoard ISDN Netlink, ISDN NetBIOS LAN (1990).
- DigiBoard, NetLINK Technical Reference (Nov., 1990).

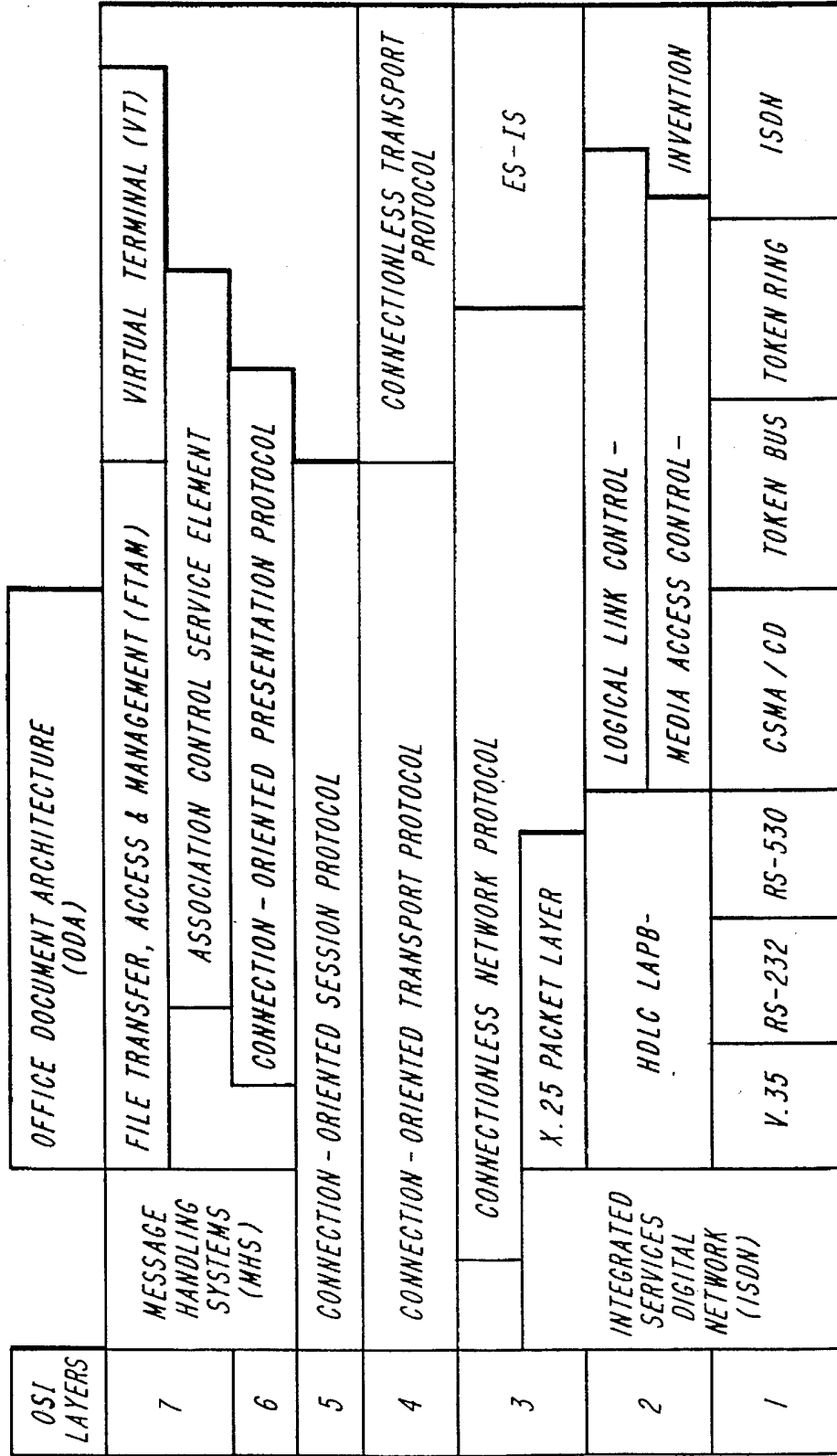


FIG. 1

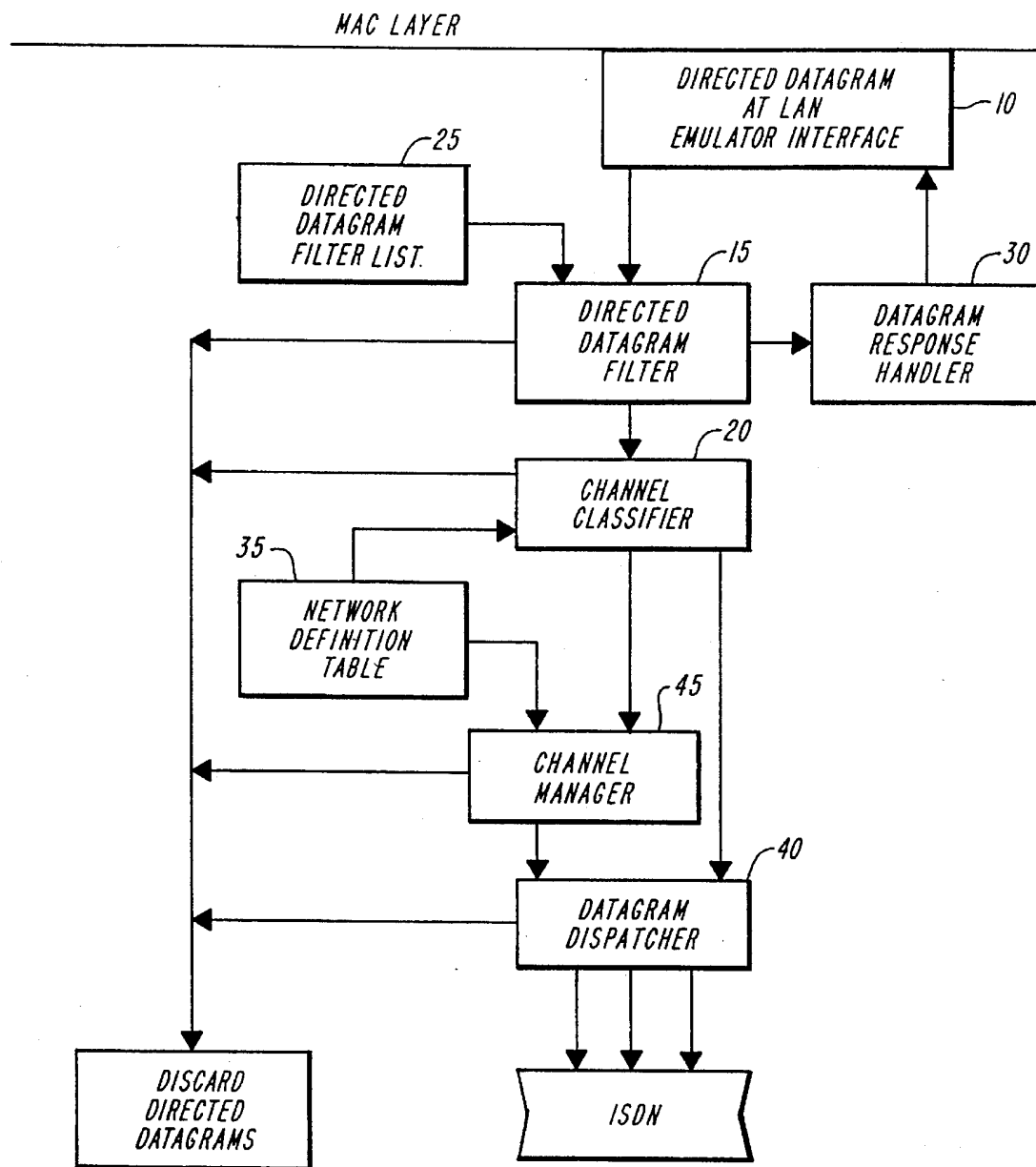


FIG. 2

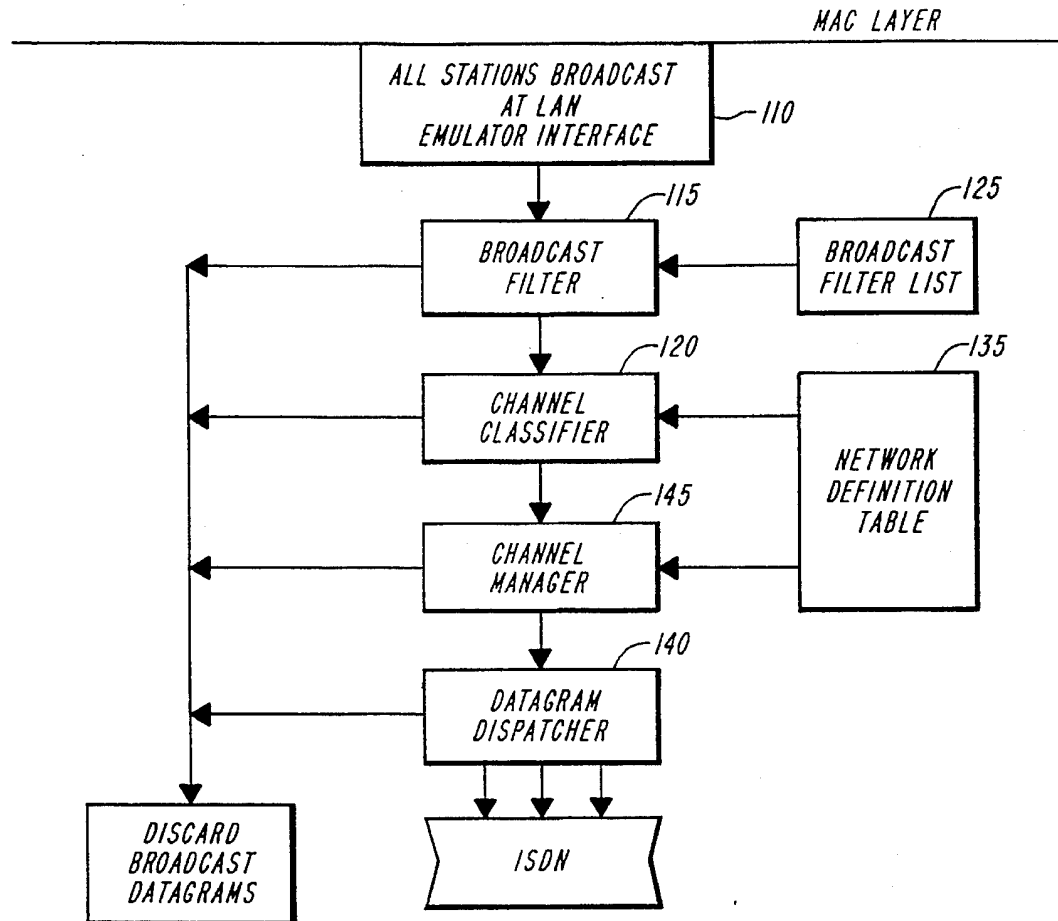


FIG. 3

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