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**Pham et al.**

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(54) **UTILIZATION OF THE INTERNET  
PROTOCOL TO FACILITATE  
COMMUNICATION INVOLVING MOBILE  
DEVICES**

6,473,413 B1 \* 10/2002 Chiou et al. .... 370/331  
6,574,266 B1 \* 6/2003 Haartsen ..... 375/133

**FOREIGN PATENT DOCUMENTS**

EP 0695059 A1 1/1996  
EP A-0 695 059 1/1996  
WO WO 99/14897 3/1999

**OTHER PUBLICATIONS**

Geneseo.edu—website: “PMDF System Manager’s  
Guide—PMDF-REF-5.1; Overview of PMDF” (pp. 1 of 1;  
1 of 2 and 2 of 2) (not included).

Haartsen, Jaap, “Bluetooth—the universal radio interface  
for ad hoc, wireless connectivity”, *Ericsson Review*, Se,  
Ericsson (3) :110–117, (1998).

Haartsen, Jaap, “Bluetooth—The universal radio interface for  
*ad hoc*, wireless connectivity,” *Ericsson Review*, No. 3, pp.  
110–117, (1998).

“Specification of the Bluetooth System, Core, Version  
1.0B,” *Bluetooth SIG Specifications*, pp. 18–42, (Dec. 1,  
1999).

(Continued)

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(\*) Notice: Subject to any disclaimer, the term of this  
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(51) **Int. Cl.**<sup>7</sup> ..... **H04Q 7/24**

(52) **U.S. Cl.** ..... **370/338; 370/401**

(58) **Field of Search** ..... 370/310, 310.2,  
370/328–338, 351–3, 389–402, 431–437,  
445, 403–409, 475, 395.2

(56) **References Cited**

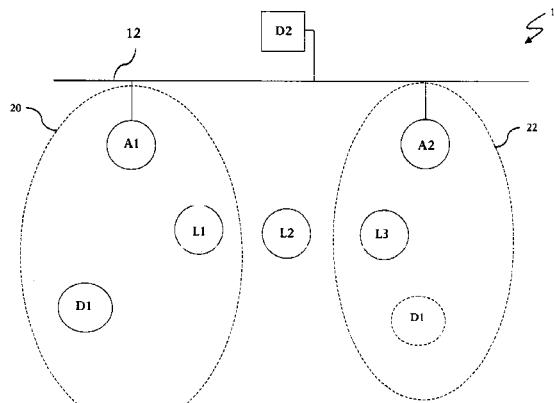
**U.S. PATENT DOCUMENTS**

5,490,139 A \* 2/1996 Baker et al. .... 370/312  
5,572,528 A 11/1996 Shuen  
5,636,216 A 6/1997 Fox et al.  
5,652,751 A 7/1997 Sharony  
5,678,531 A \* 10/1997 Byers et al. .... 126/25 R  
5,696,903 A 12/1997 Mahany  
5,699,353 A 12/1997 Kent  
5,708,655 A 1/1998 Toth et al.  
5,742,598 A 4/1998 Dunn et al.  
5,754,547 A 5/1998 Nakazawa  
5,812,531 A 9/1998 Cheung et al.  
5,825,772 A 10/1998 Dobbins et al.  
5,835,061 A 11/1998 Stewart  
5,845,081 A 12/1998 Rangarajan et al.  
5,850,592 A 12/1998 Ramanathan  
5,854,899 A 12/1998 Callon et al.

(57) **ABSTRACT**

A data communication system capable of forwarding  
IP-addressed data to devices as such devices move among  
networks having different IP addresses is disclosed herein.  
The system includes first and second networks containing  
first and second pluralities of nodes. At least one of the first  
plurality of nodes is adapted to receive data transmissions  
from an external IP-based network. Upon joining the first  
network, this device is assigned an IP address which remains  
with it irrespective of whether it moves beyond the range of  
the first network. When this device roams into the vicinity of  
the second network, data addressed to the device which is  
received at the first network is forwarded via at least one  
node of the second network to the device.

**16 Claims, 3 Drawing Sheets**



OTHER PUBLICATIONS

Bluetooth Adopter's website: "Specification of the Bluetooth System" v.0.8 Jan. 22, 1999 (pp. 1-224).

Geneseo.edu—website: "PMDF System Manger's Guide—PMD-REF-5.1; Overview of PMDF" (pp. 1 of 1; 1 of 2 and 2 of 2).

Haartsen, Jaap, "Bluetooth—The universal radio interface for *ad hoc*, wireless connectivity," *Ericsson Review*, No. 3, pp. 110-117, (1998).

\* cited by examiner

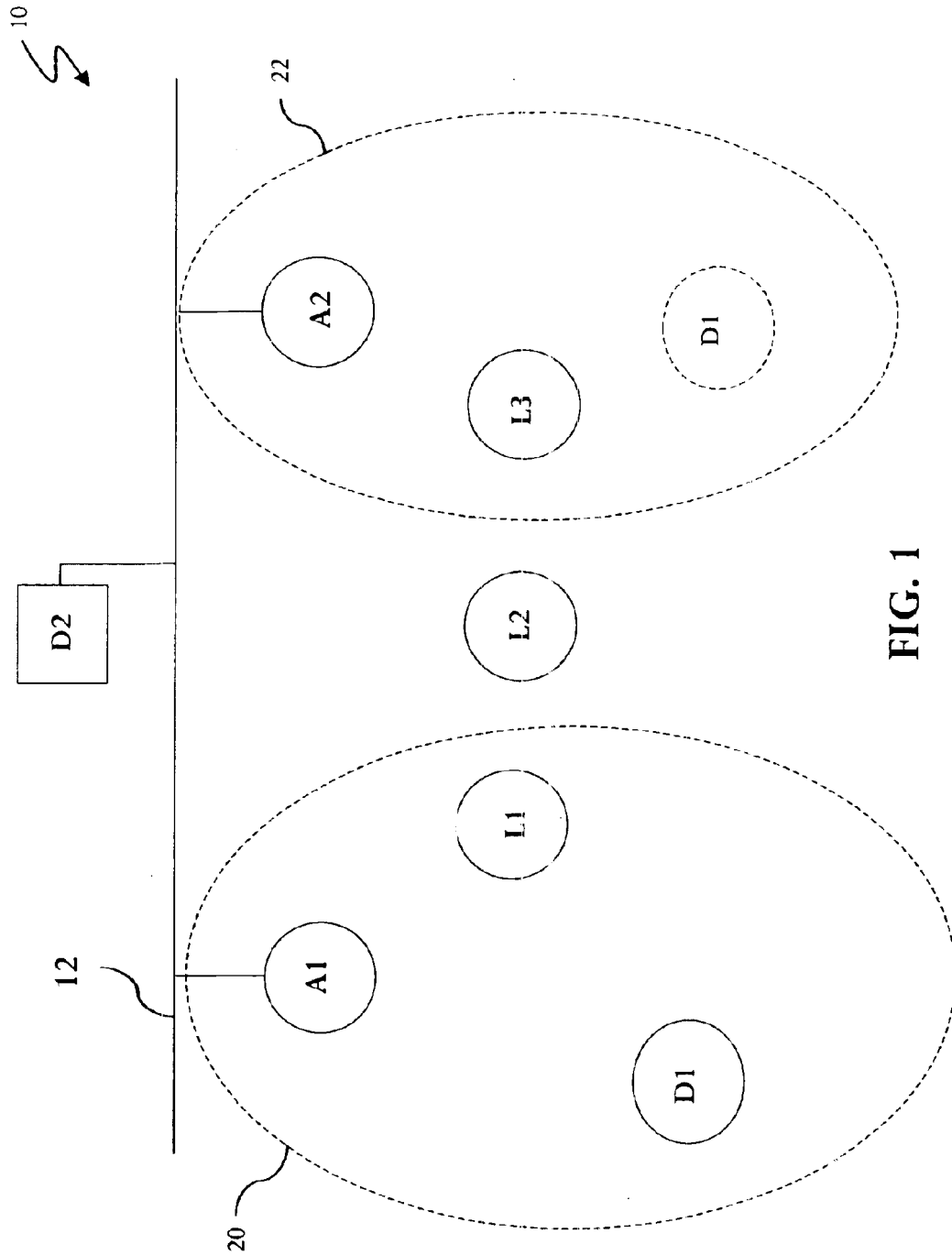


FIG. 1

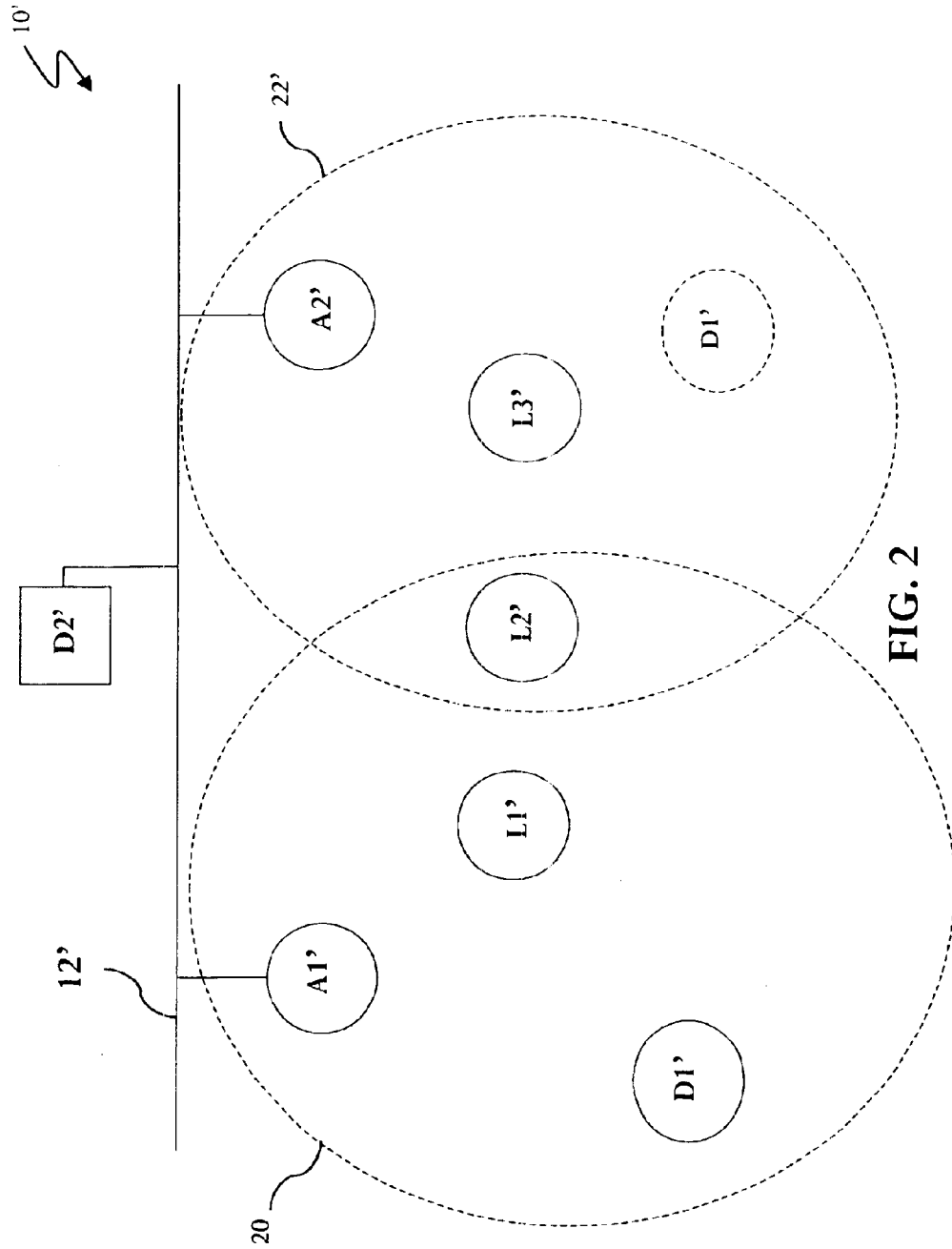


FIG. 2

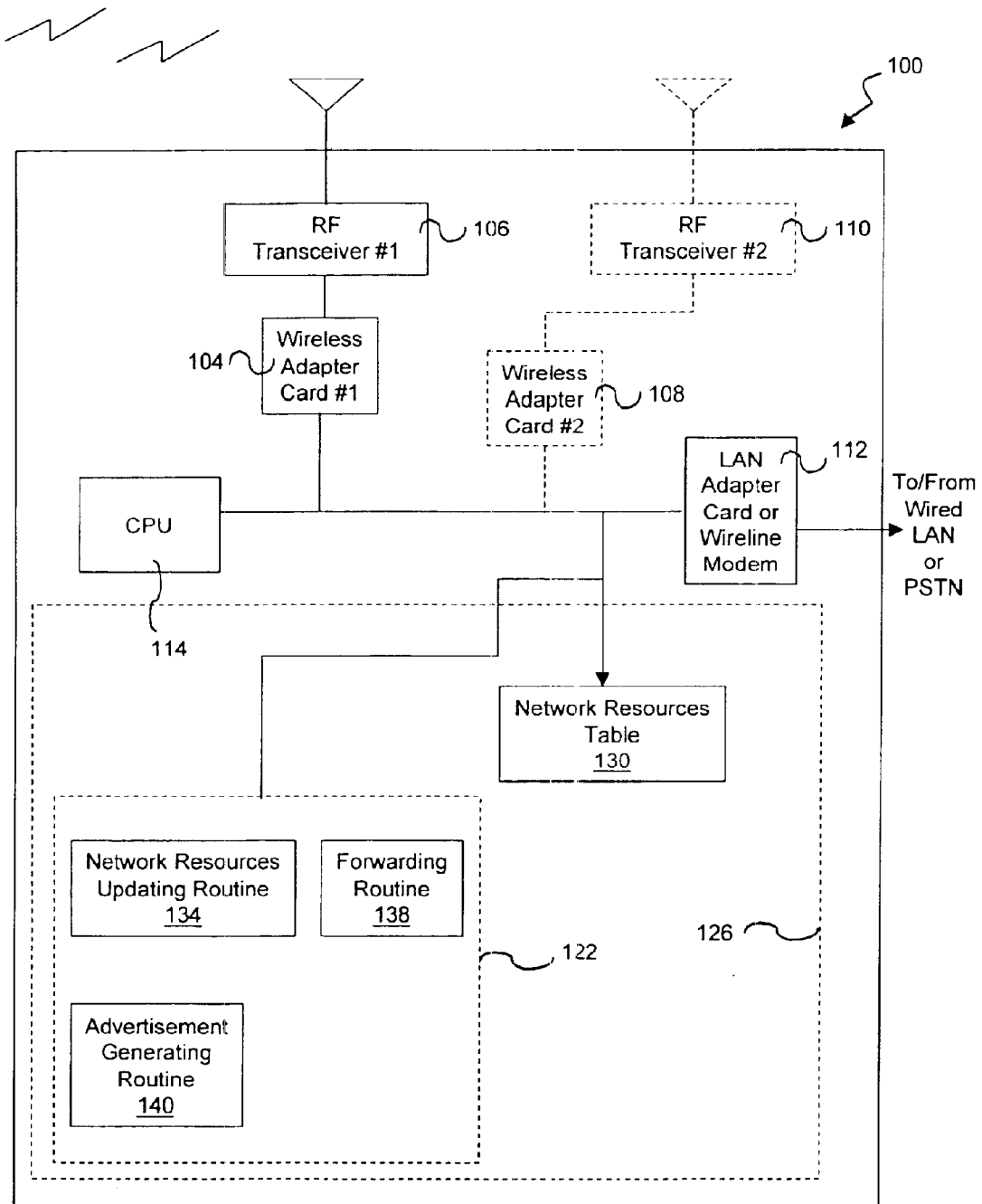


FIG. 3

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