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Mahany

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[54] **LOCAL AREA NETWORK HAVING MULTIPLE CHANNEL WIRELESS ACCESS**

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Related U.S. Application Data

[63] Continuation-in-part of application No. 08/772,895, filed as application No. PCT/US96/09474, Jun. 3, 1996, abandoned, which is a continuation-in-part of application No. 08/696, 086, Aug. 13, 1996, abandoned, which is a continuation of application No. 08/238,180, May 4, 1994, Pat. No. 5,546, 397, which is a continuation-in-part of application No. 08/197,392, Feb. 16, 1994, abandoned, which is a continuation-in-part of application No. 08/170,121, Dec. 20, 1993, abandoned.

[51] **Int. Cl.^{6}** **H04Q 7/00**
[52] **U.S. Cl.** **455/432**; 455/434; 455/435
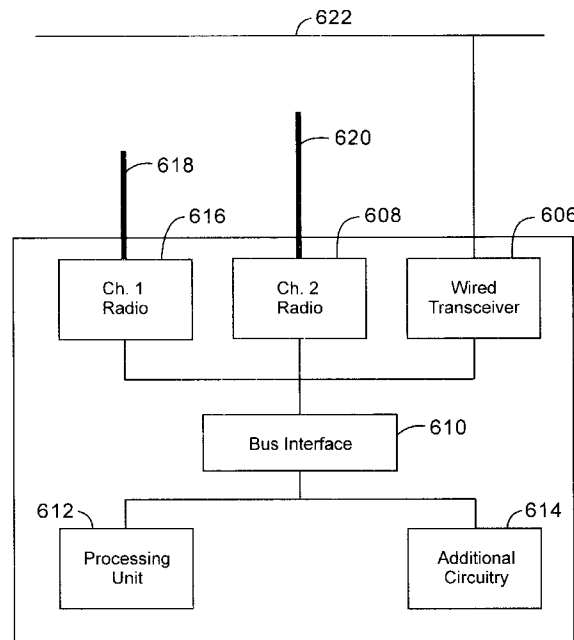[58] **Field of Search** 455/432, 435, 455/455, 450, 517, 582, 515, 553, 78, 434; 370/310, 311, 328, 329, 330, 335

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[57] **ABSTRACT**

A communication network having at least one access point supports wireless communication among a plurality of wireless roaming devices via a first and a second wireless channel. The access point comprises a first and a second transceiver. The first and second transceivers operate on the first and second wireless channels, respectively. Each of the plurality of wireless roaming devices are capable of communicating on the first and second wireless channel. In one embodiment, the first wireless channel is used to exchange data, while the second channel is used to manage such exchanges as well as access to the first channel. In an alternate embodiment, both channels are used to support communication flow, however the first channel supports a protocol that is more deterministic than that of the second channel. Allocation of ones of the plurality of wireless roaming devices from one channel to the next may occur per direction from the access point. It may also result from decisions made by each of the wireless roaming devices made independent of the access point. For example, a decision may be made based on the data type being transferred or based on the current channel load. Such factors may also be used by the access point for allocation determinations. In addition, allocation may be based on the type of roaming device involved, such as allocating peripherals to a slower channel.

28 Claims, 17 Drawing Sheets

Fig. 1

Fig. 2

36

43

RADIO

MAC
PROCESSOR

41

CPU
PROCESSOR

42

RADIO

MAC
PROCESSOR

30

45

Break In The Lan
Infrastructure

35

39

RADIO

MAC
PROCESSOR

37

CPU
PROCESSOR

38

RADIO

MAC
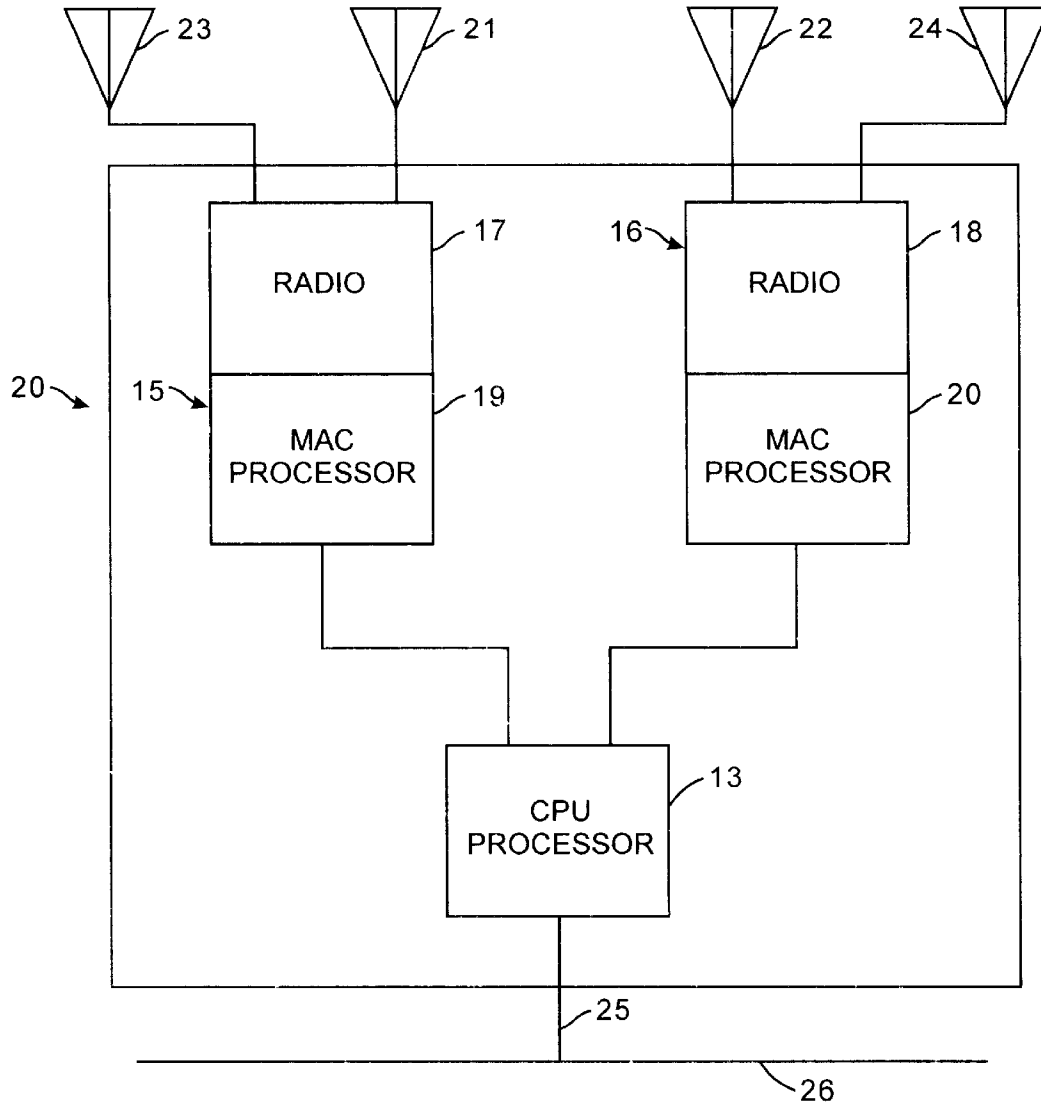PROCESSOR

33

To The Host
Computer
Network
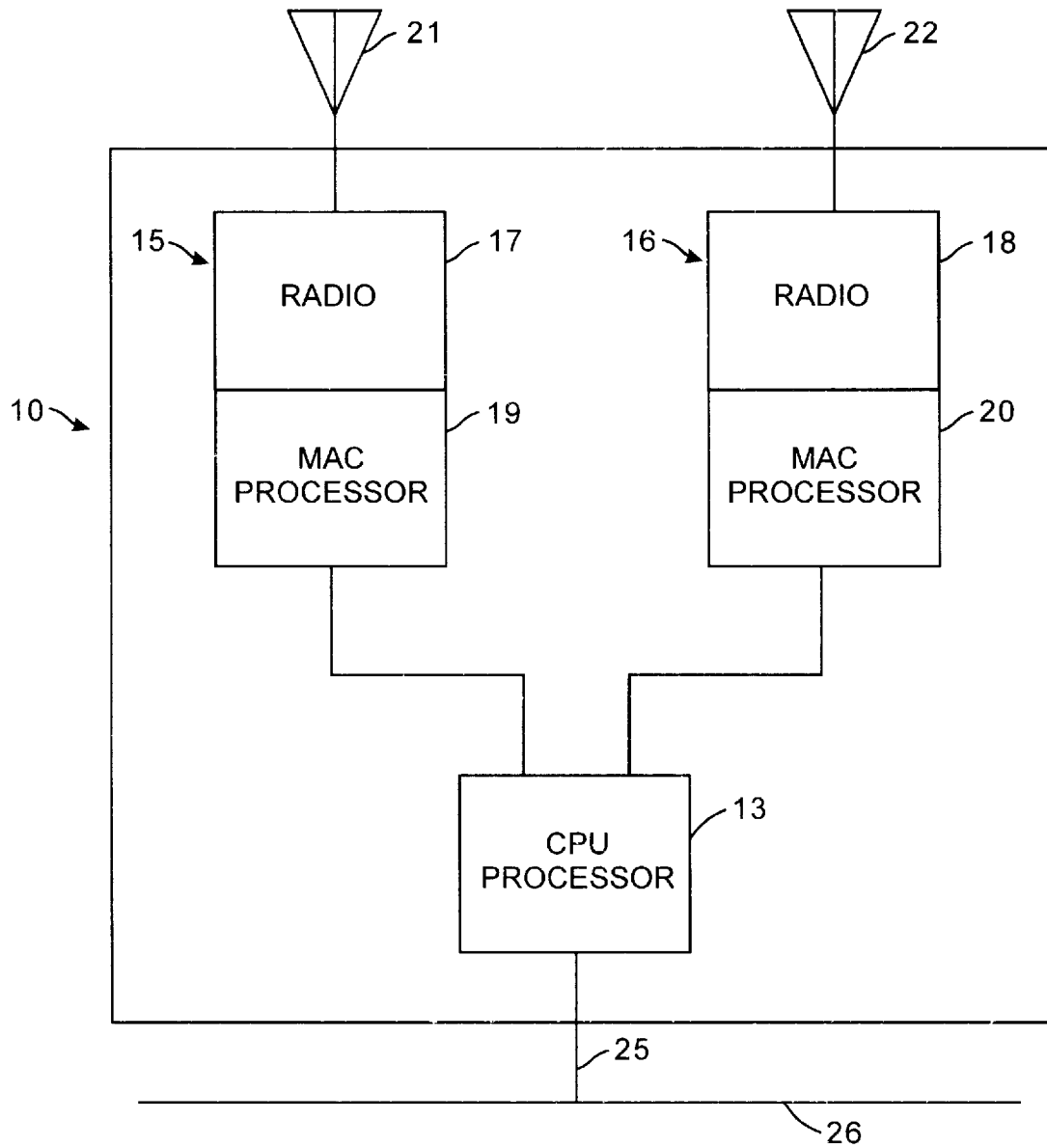
Fig.3

Fig. 4

DOCKET ALARM
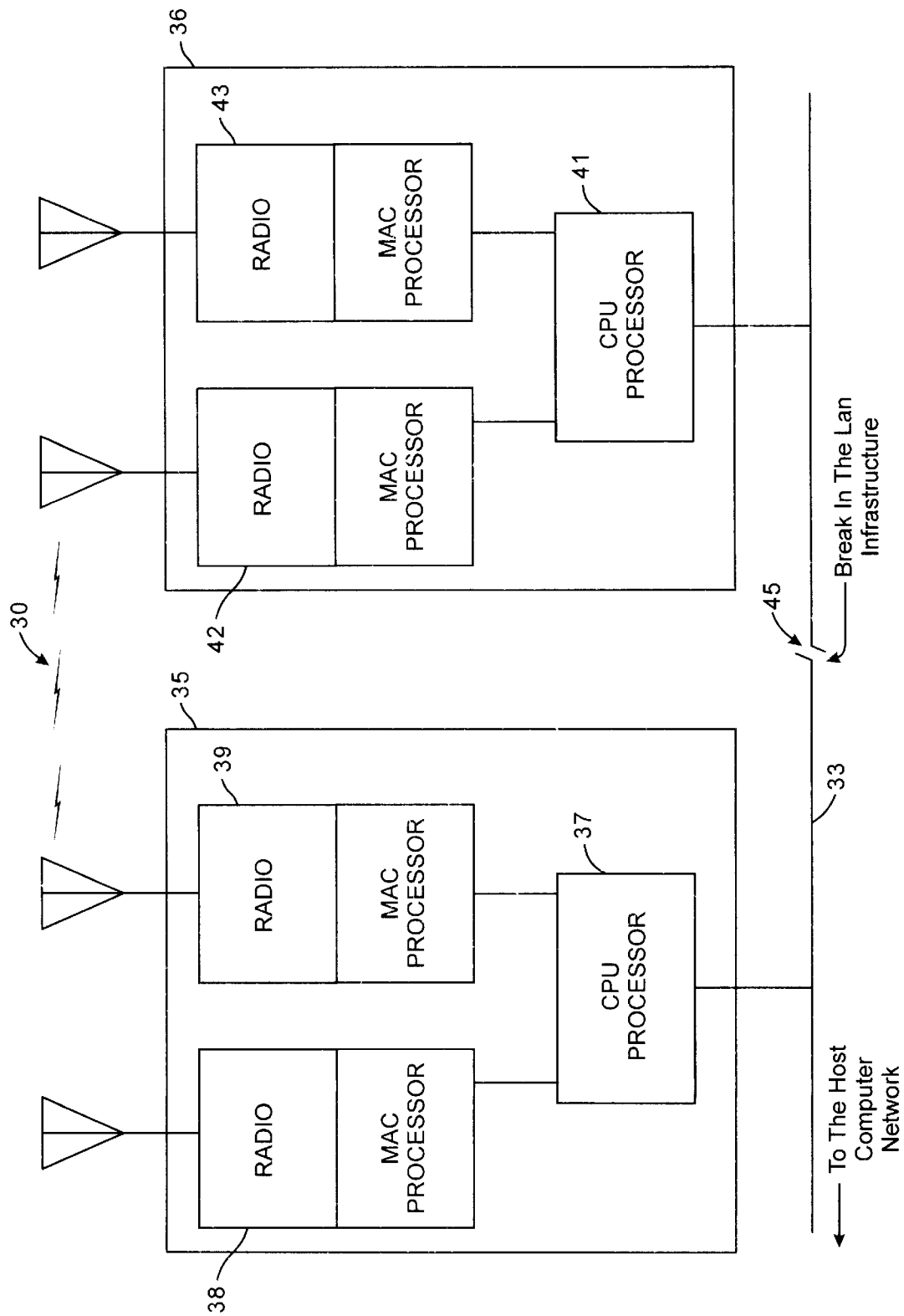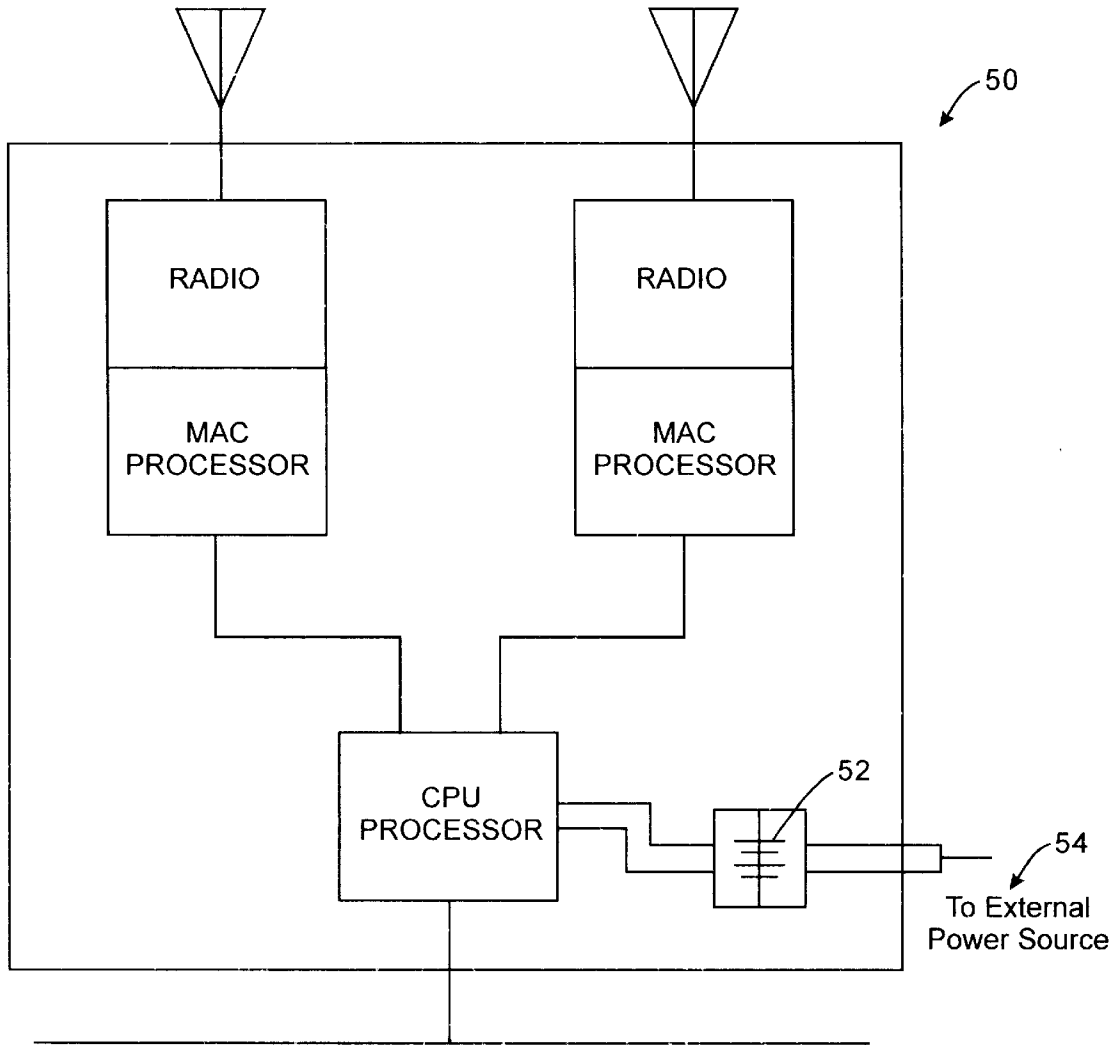
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