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United States Patent [19]

[11] Patent Number: **5,590,403**

Cameron et al.

[45] Date of Patent: **Dec. 31, 1996**

[54] **METHOD AND SYSTEM FOR EFFICIENTLY PROVIDING TWO WAY COMMUNICATION BETWEEN A CENTRAL NETWORK AND MOBILE UNIT**

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[57] ABSTRACT

[21] Appl. No.: **973,918**

A two-way communication system for communication between a system network and a mobile unit. The system network includes a plurality of base transmitters and base receivers included in the network. The base transmitters are divided into zonal assignments and broadcast in simulcast using multi-carrier modulation techniques. The system network controls the base transmitters to broadcast in simulcast during both systemwide and zonal time intervals. The system network dynamically alters zone boundaries to maximize information throughput. The preferred mobile unit includes a noise detector circuit to prevent unwanted transmissions. The system network further provides an adaptive registration feature for mobile units which controls the registration operations by the mobile units to maximize information throughput.

[22] Filed: **Nov. 12, 1992**

[51] **Int. Cl.⁶** **H04B 7/06**

[52] **U.S. Cl.** **455/51.2; 455/33.4; 455/34.1; 455/56.1; 455/59; 455/101; 375/299**

[58] **Field of Search** **455/33.1, 33.2, 455/33.4, 34.1, 34.2, 51.2, 54.1, 54.2, 59, 56.1, 63, 101, 102, 103; 370/953, 77; 375/260, 267, 299**

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12 Claims, 30 Drawing Sheets

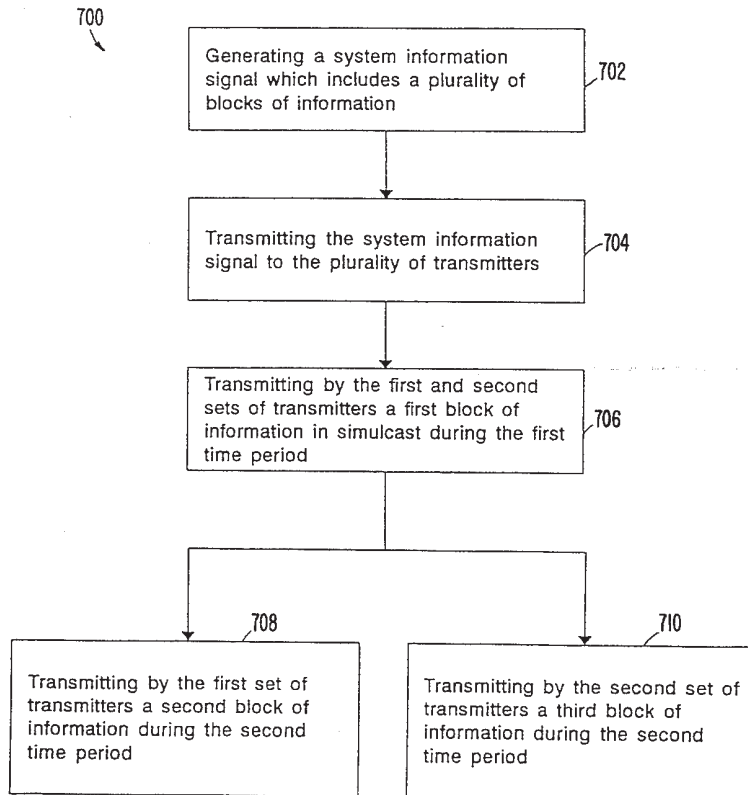
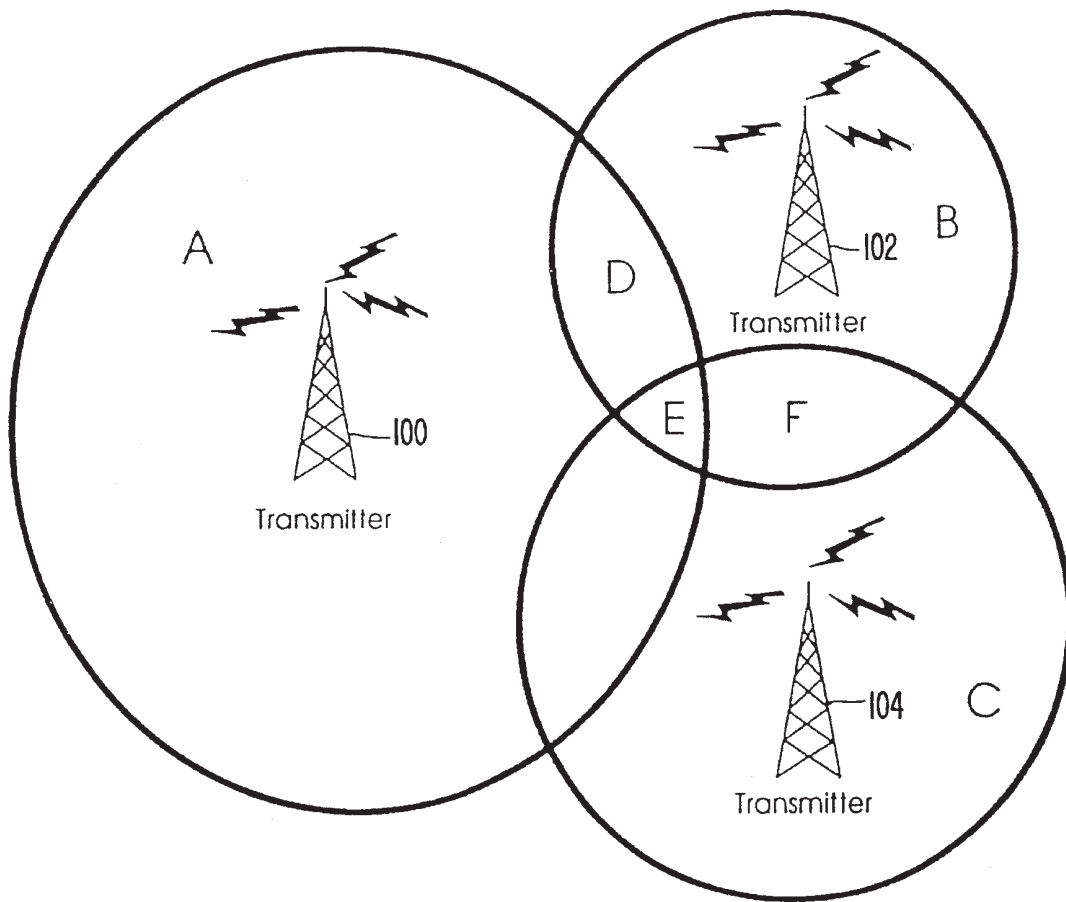


FIG. 1
PRIOR ART



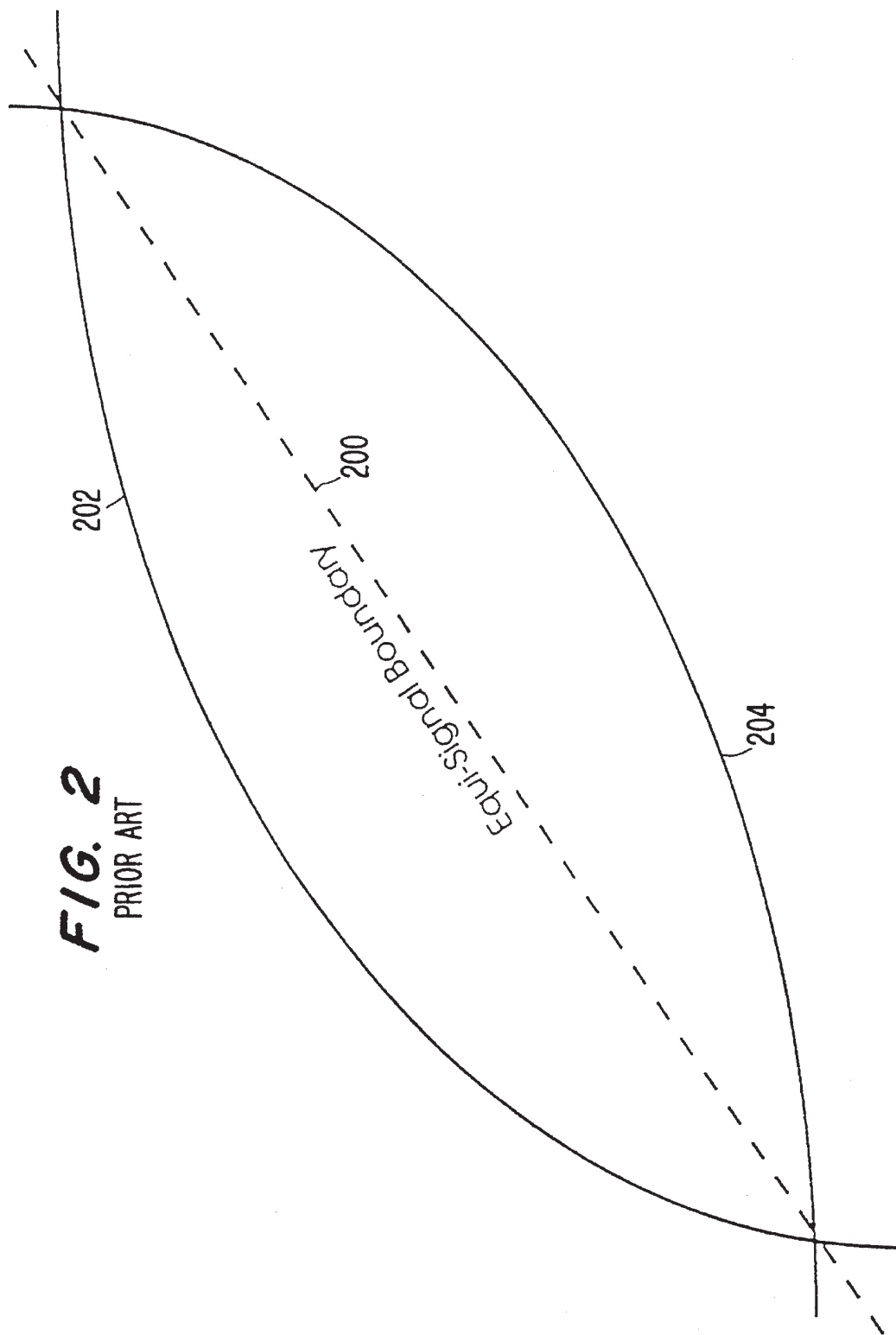
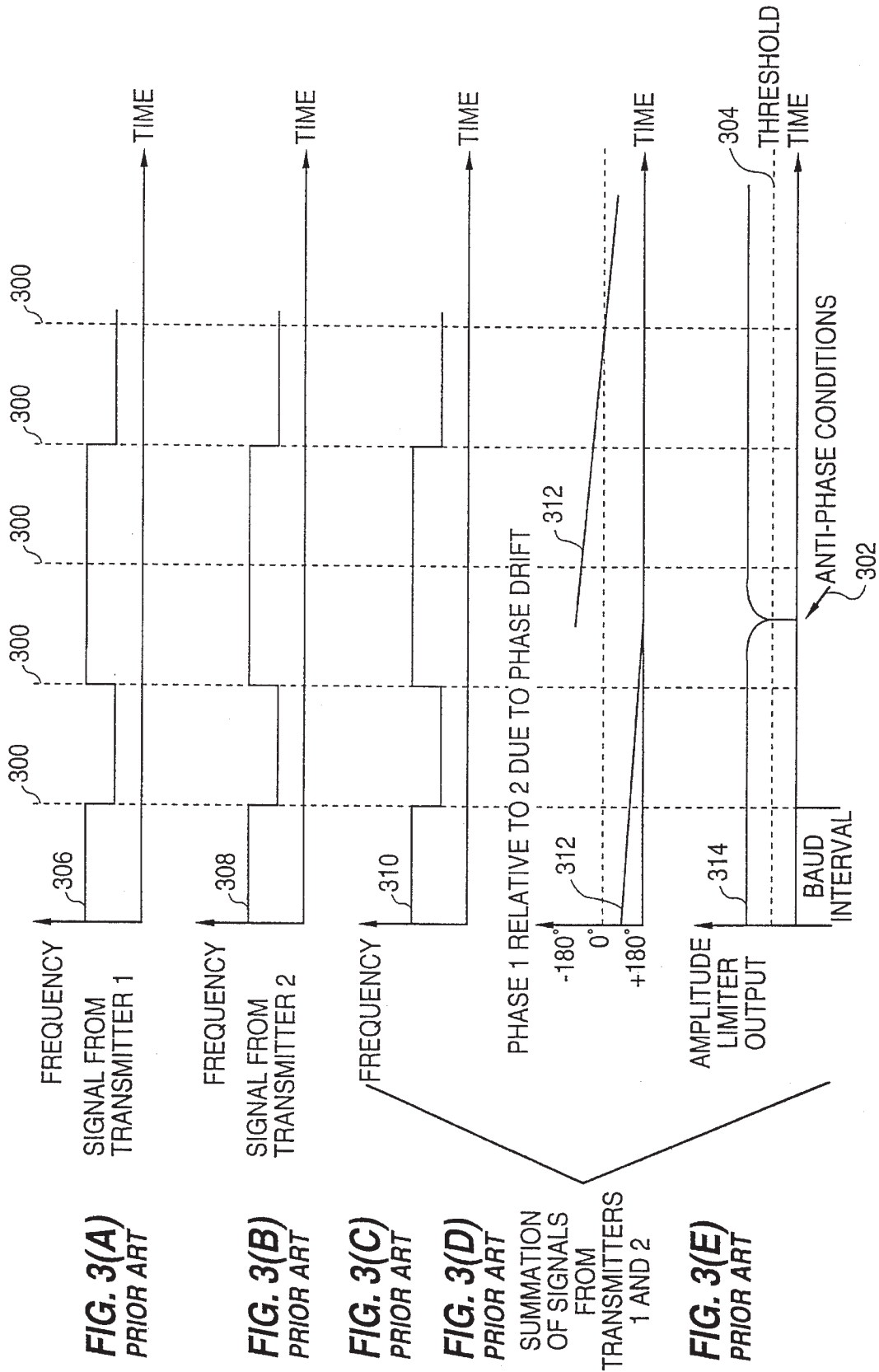
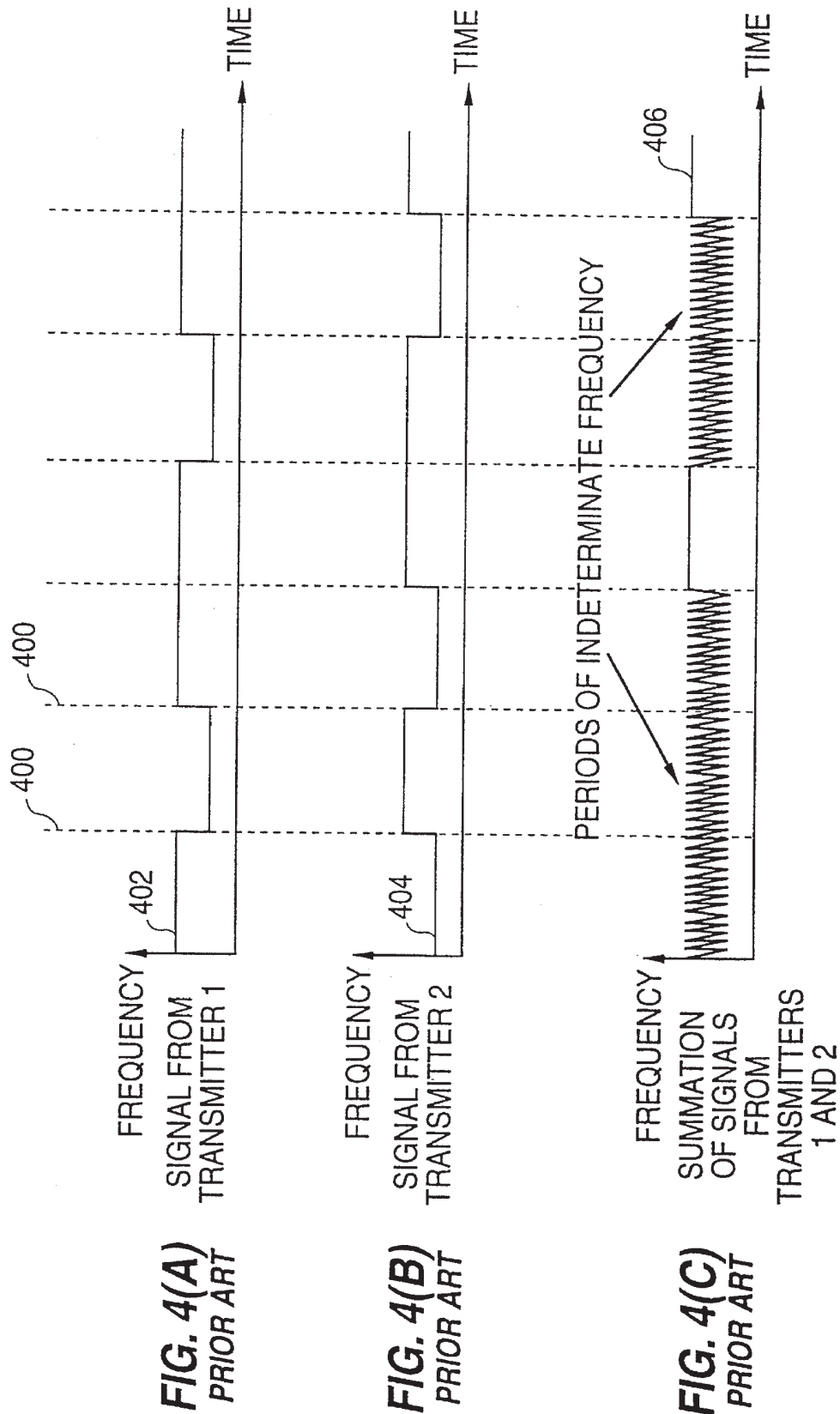


FIG. 2
PRIOR ART





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