[54] **METHOD AND AN APPARATUS FOR ESTABLISHING THE FUNCTIONAL CAPABILITIES FOR WIRELESS COMMUNICATIONS BETWEEN A BASE UNIT AND A REMOTE UNIT**

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[52] U.S. Cl. **370/95.3**; 370/29; 370/105.2; 370/107; 370/18; 370/110.1; 379/63; 455/32.1; 455/34.2; 375/115

[58] Field of Search 370/18, 50, 95.3, 105.2, 370/107, 110.1, 29; 379/63; 375/115; 455/32.1, 34.2

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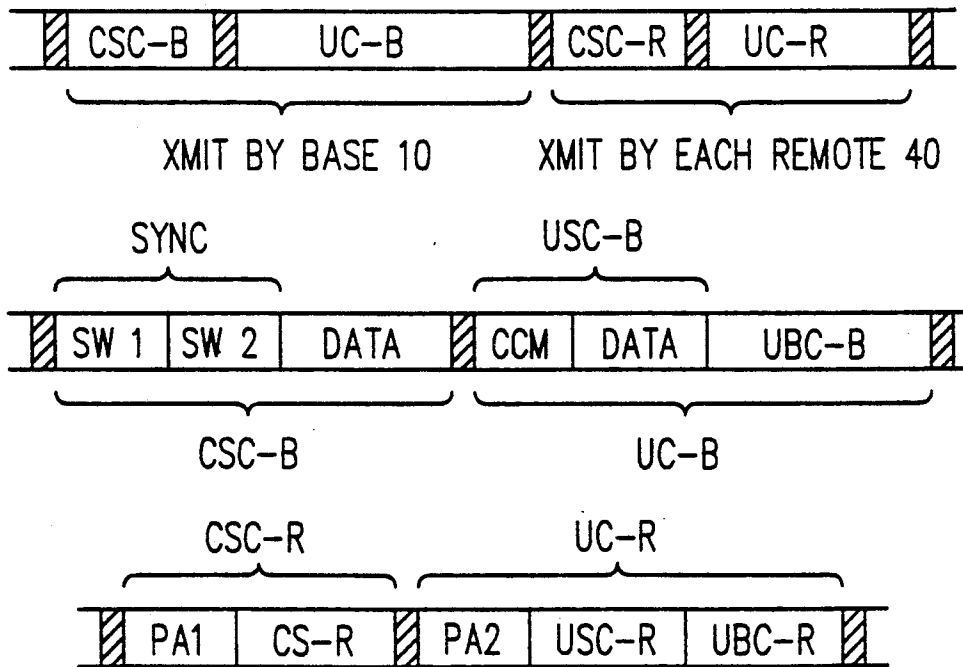|			
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Assistant Examiner—Russell W. Blum
Attorney, Agent, or Firm—Limbach & Limbach

[57] **ABSTRACT**

In a wireless communication system between a base unit and a remote unit, the base unit transmits periodically a sync signal in a first selected time period in a selected frequency channel. The remote unit scans the frequency channels to detect the sync signal. The remote unit transmits a response signal in the selected frequency channel. The response signal is transmitted in a second selected time period different from the first selected time period. In addition, the remote unit transmits a first control signal encoded by a first code in the selected frequency channel in a third selected time period, different from the first and second selected time periods, containing a set of functional capabilities of the remote unit. The base unit receives and decodes the first control signal to derive the set of functional capabilities of the remote unit and compares it to its own set of functional capabilities to determine a common set of functional capabilities. The base unit transmits a second control signal encoded by the first code in the same selected frequency channel in a fourth selected time period containing the common set of functional capabilities. Thereafter, communication between the base unit and the remote unit is based upon a functional capability selected from the common set.
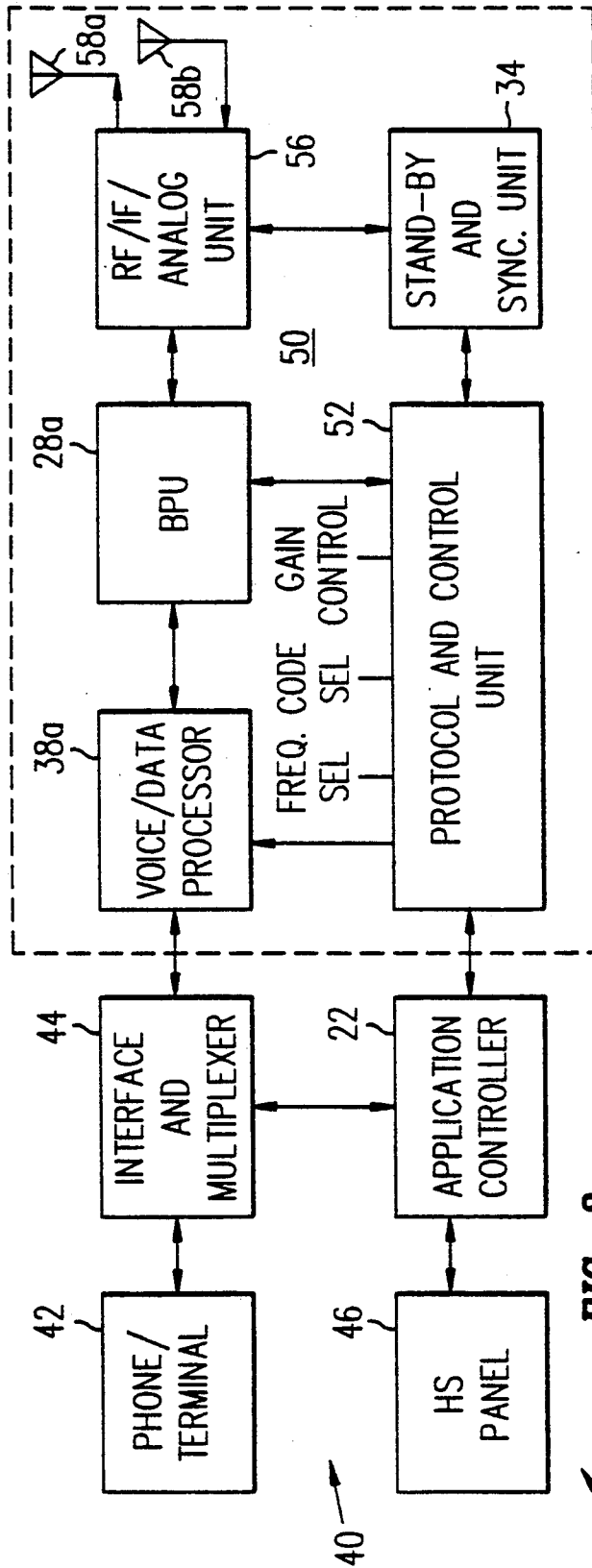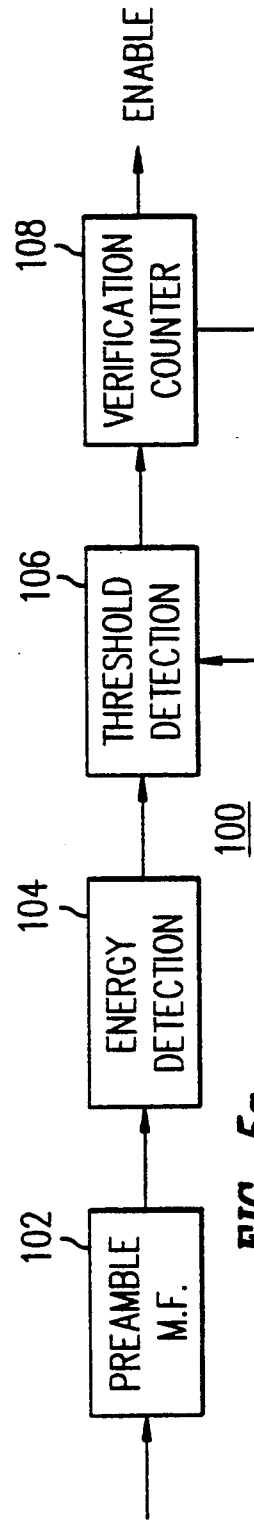
13 Claims, 7 Drawing Sheets
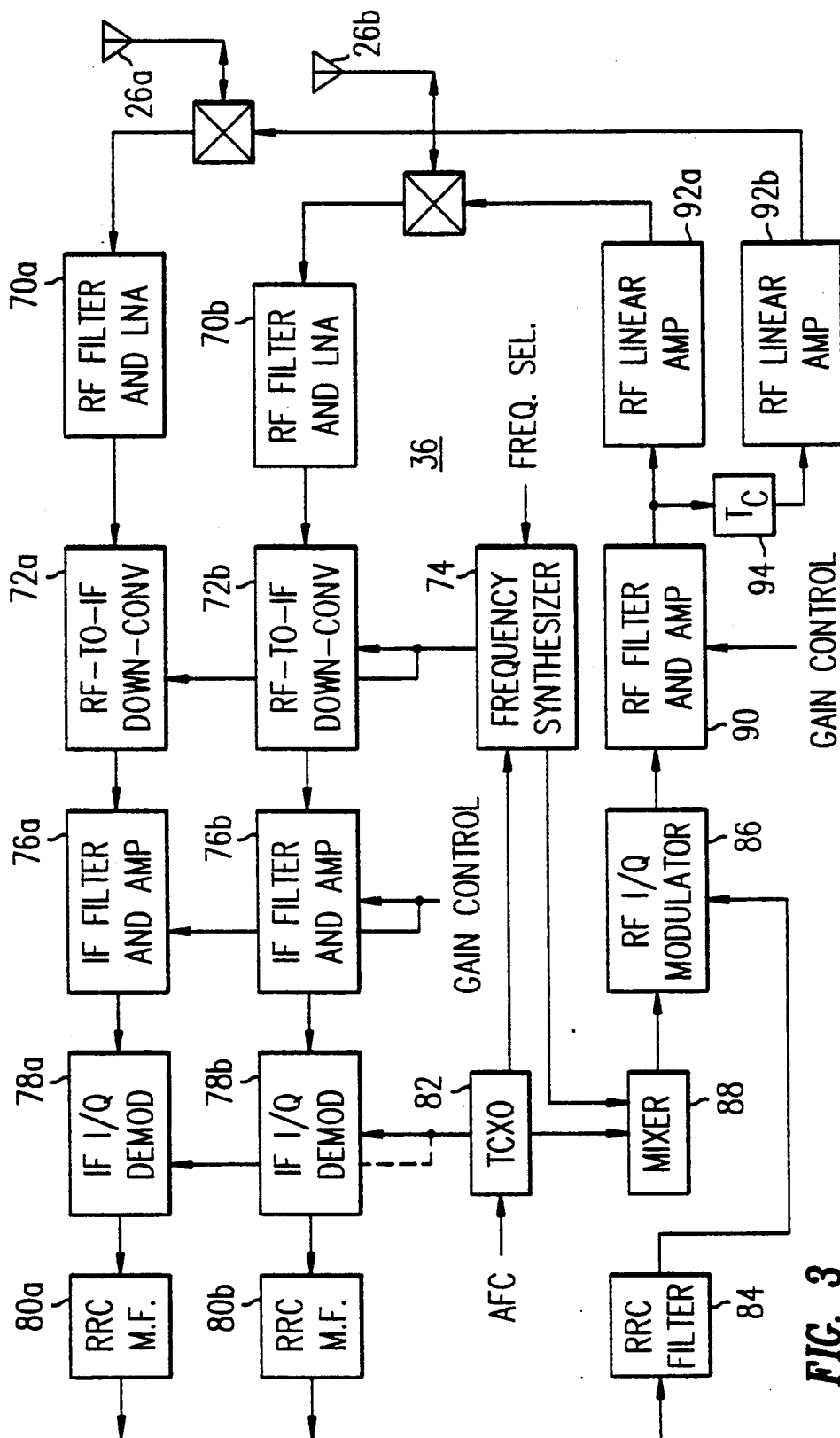
FIG. 1

FIG. 2

FIG. 5a

FIG. 3

FIG. 4

DOCKET ALARM
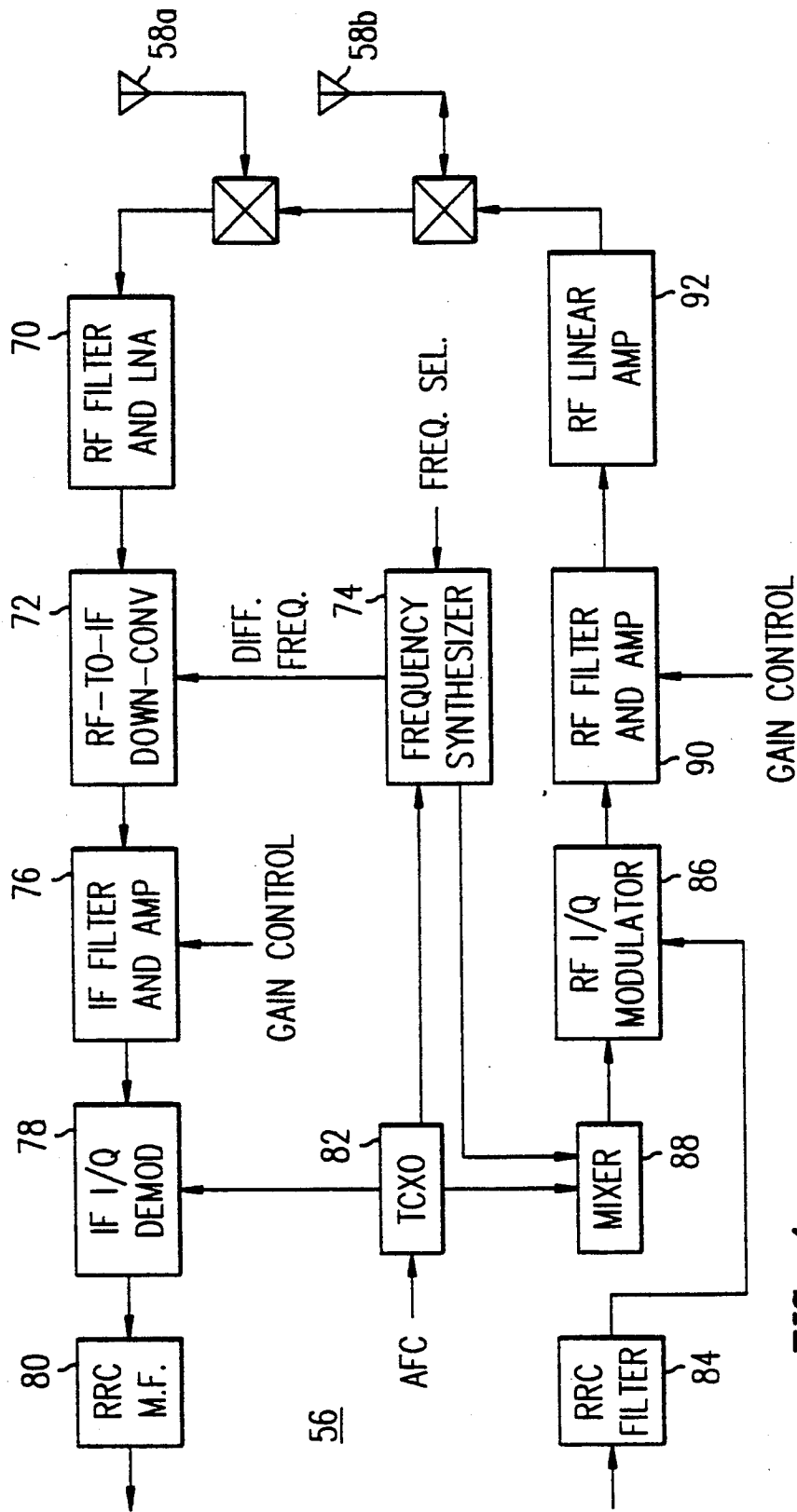
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