

- [54] **FREQUENCY DIVISION MULTIPLEXED ACKNOWLEDGE BACK PAGING SYSTEM**
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- [73] Assignee: **Motorola, Inc.**, Schaumburg, Ill.
- [21] Appl. No.: **141,654**
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- [51] Int. Cl.⁴ **H04Q 9/00**
- [52] U.S. Cl. **340/825.44; 340/825.47; 379/57; 370/76**
- [58] Field of Search **340/825.44, 825.47, 340/825.48, 311.1; 370/92, 93, 94, 50, 69.1, 73, 76; 379/56, 57; 455/31, 89, 92**

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Attorney, Agent, or Firm—William E. Zitelli; Vincent B. Ingrassia

[57] **ABSTRACT**

An acknowledge back (ack-back) paging system is provided which includes a central station which transmits a group of message signals to a group of ack-back pagers which are addressed as a group. The users of the group of addressed ack-back pagers indicate a response to their respective pagers thus providing ack-back data. The pagers in the group of addressed ack-back pagers then simultaneously transmit back to the central station their ack-back data on different frequency sub-bands, a different frequency sub-band being allocated to each of the pagers in the group.

21 Claims, 9 Drawing Sheets

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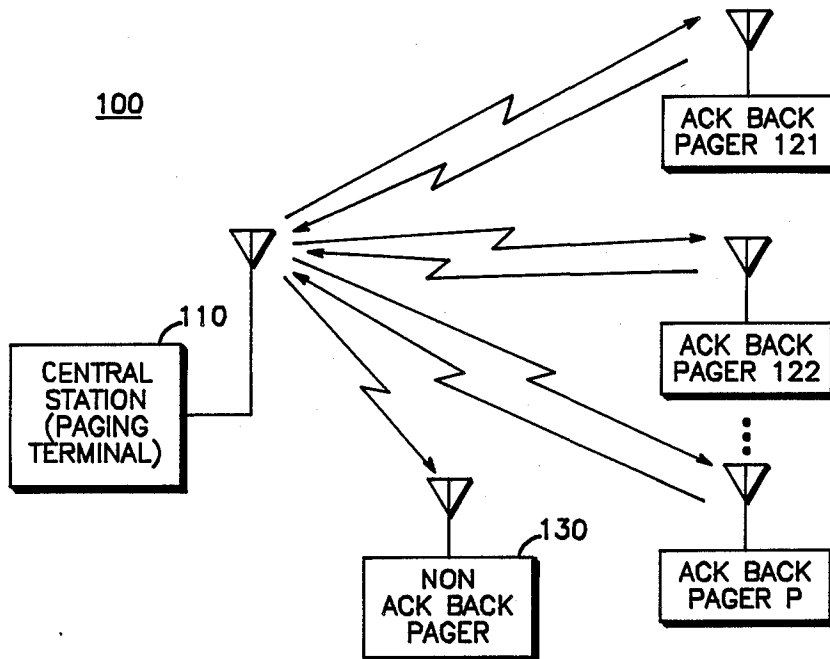
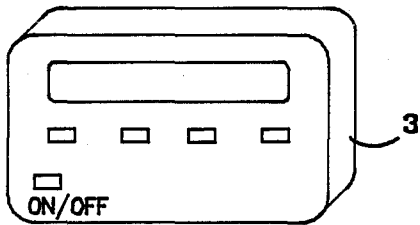
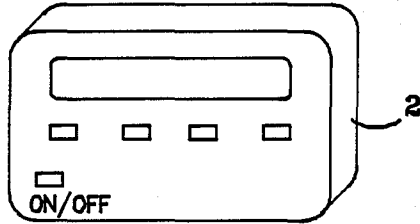
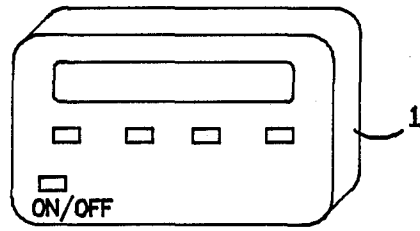


FIG. 1

10



⋮

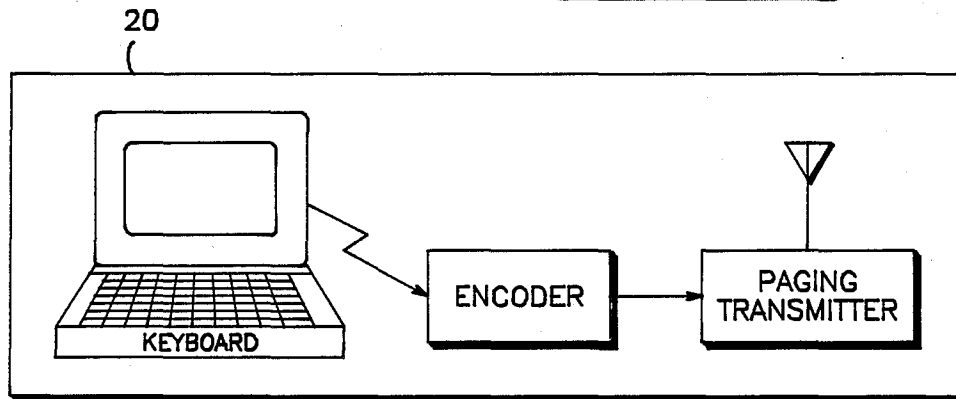
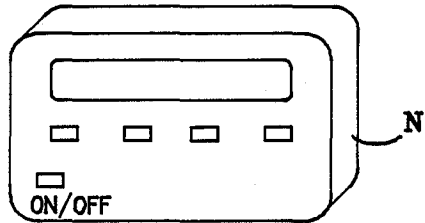


FIG. 2
100

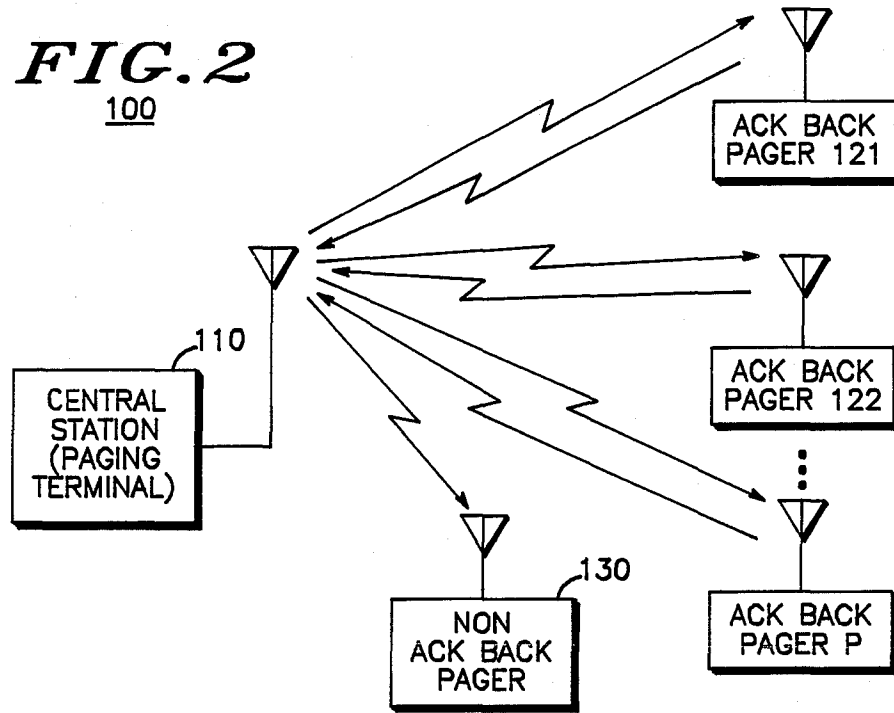
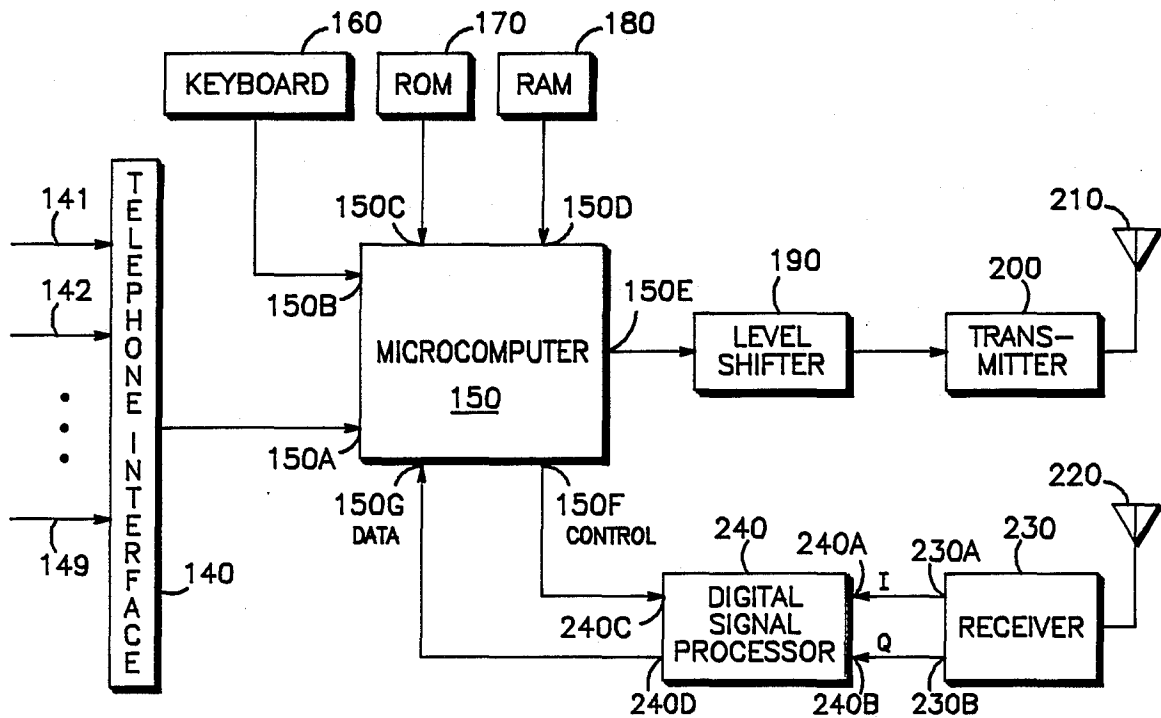


FIG. 3
110



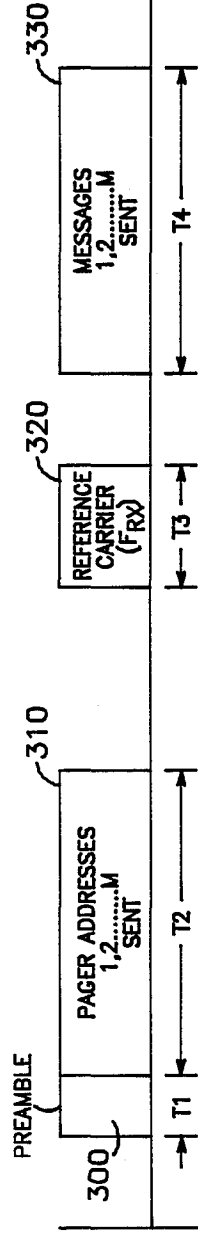


FIG. 4A

CENTRAL STATION TRANSMITTER

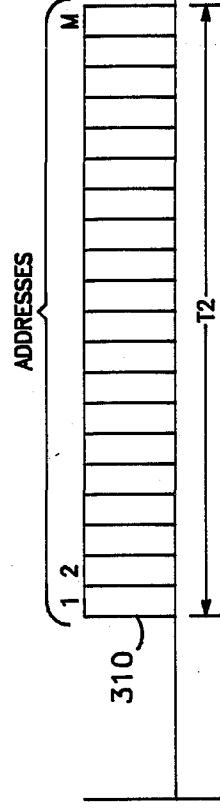


FIG. 4B

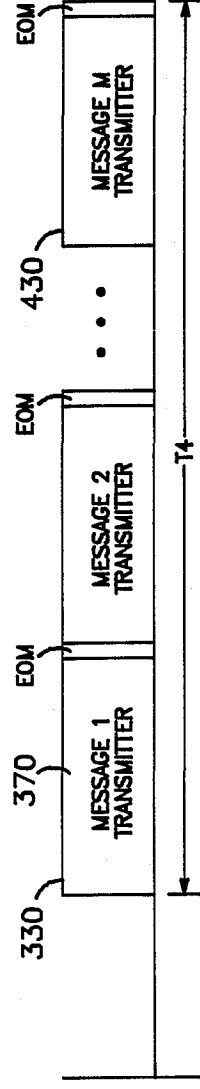


FIG. 4C

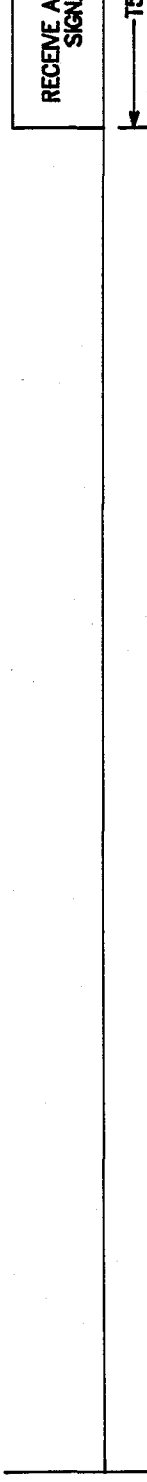


FIG. 4D

CENTRAL STATION RECEIVER

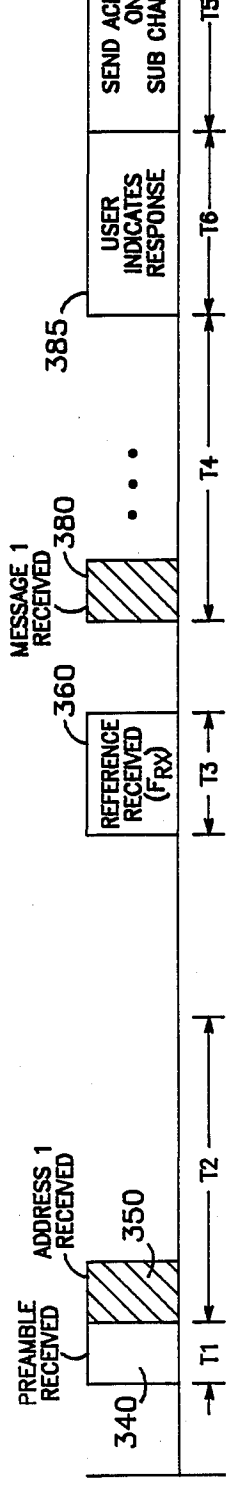


FIG. 4E

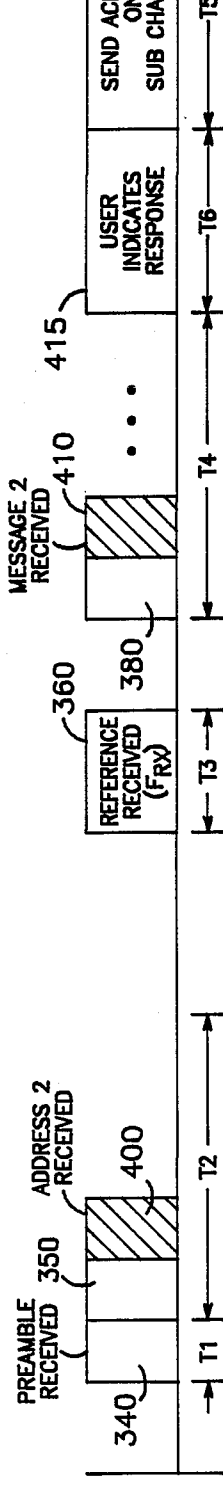


FIG. 4F

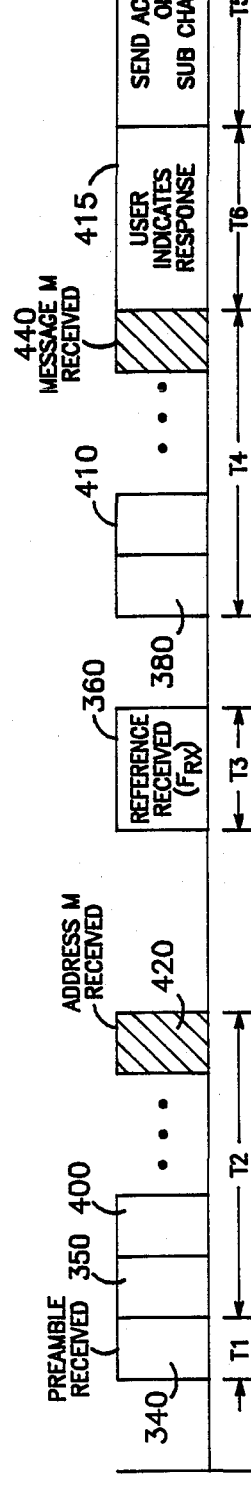


FIG. 4G

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