

- [54] **MOBILE STATION WITH INTELLIGENT ROAMING AND OVER-THE-AIR PROGRAMMING FEATURES**
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- [52] U.S. Cl. **455/432; 455/419; 455/552**
- [58] Field of Search 455/432-435, 455/461, 550-552, 403, 422, 426, 419, 418

Release Notes, *Recommendation GSM 02.11-DCS, Service Accessibility*, Version 3.0.1, Release 92, Phase 1, Released by ETSI/PT12 12 V, Feb. 1992.

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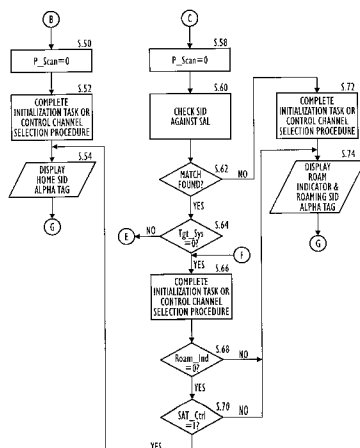
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[57] **ABSTRACT**

A method of intelligent roaming wherein a Systems Access List (SAL), programmed into the memory of a mobile station over-the-air or via a physical interface, is used to select a preferred system for service. When the mobile station is powered on, it scans the home band first, then a secondary band if a control channel is not found on the home band. If the mobile station determines that it is located in its home system, it remains on that band and obtains service from the home system. If the mobile station is not located within its home system, the SAL is searched to determine if there is a preferred system in the same area as the current system. If not, then the mobile station obtains service on the current system. If the SAL indicates there is a preferred system in the same area as the current system, then the SAL also indicates the exact band(s) where a preferred system may be located. The SAL may include information on the blocks of channels to scan. The SAL may indicate the air interface technology supported on each of the preferred bands, to assist the mobile station in finding a system of a given technology type. The SAL may include information for the mobile station to use in determining whether to display a roaming indicator and/or an alphanumeric name when operating on a given system.

73 Claims, 12 Drawing Sheets



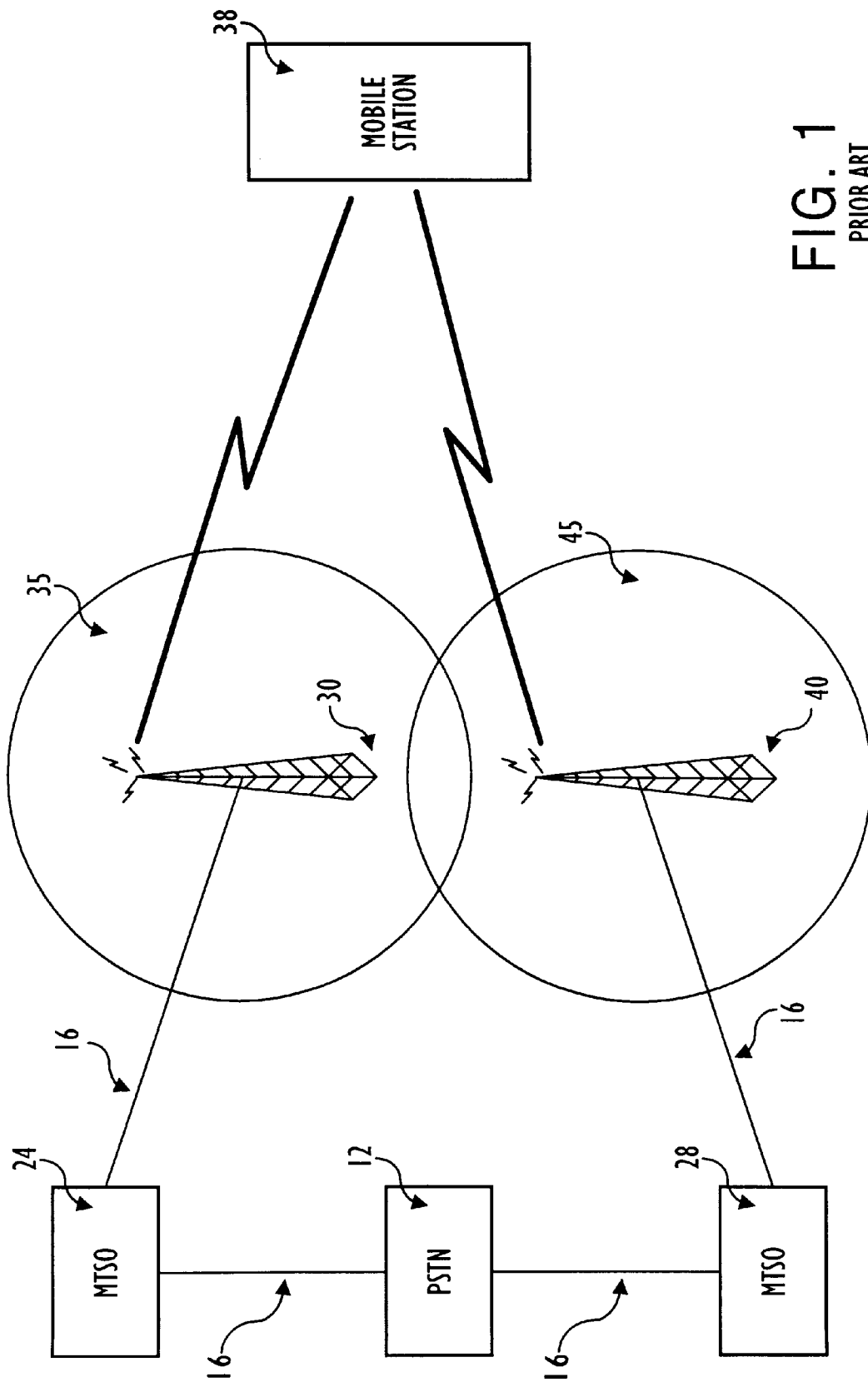


FIG. 1
PRIOR ART

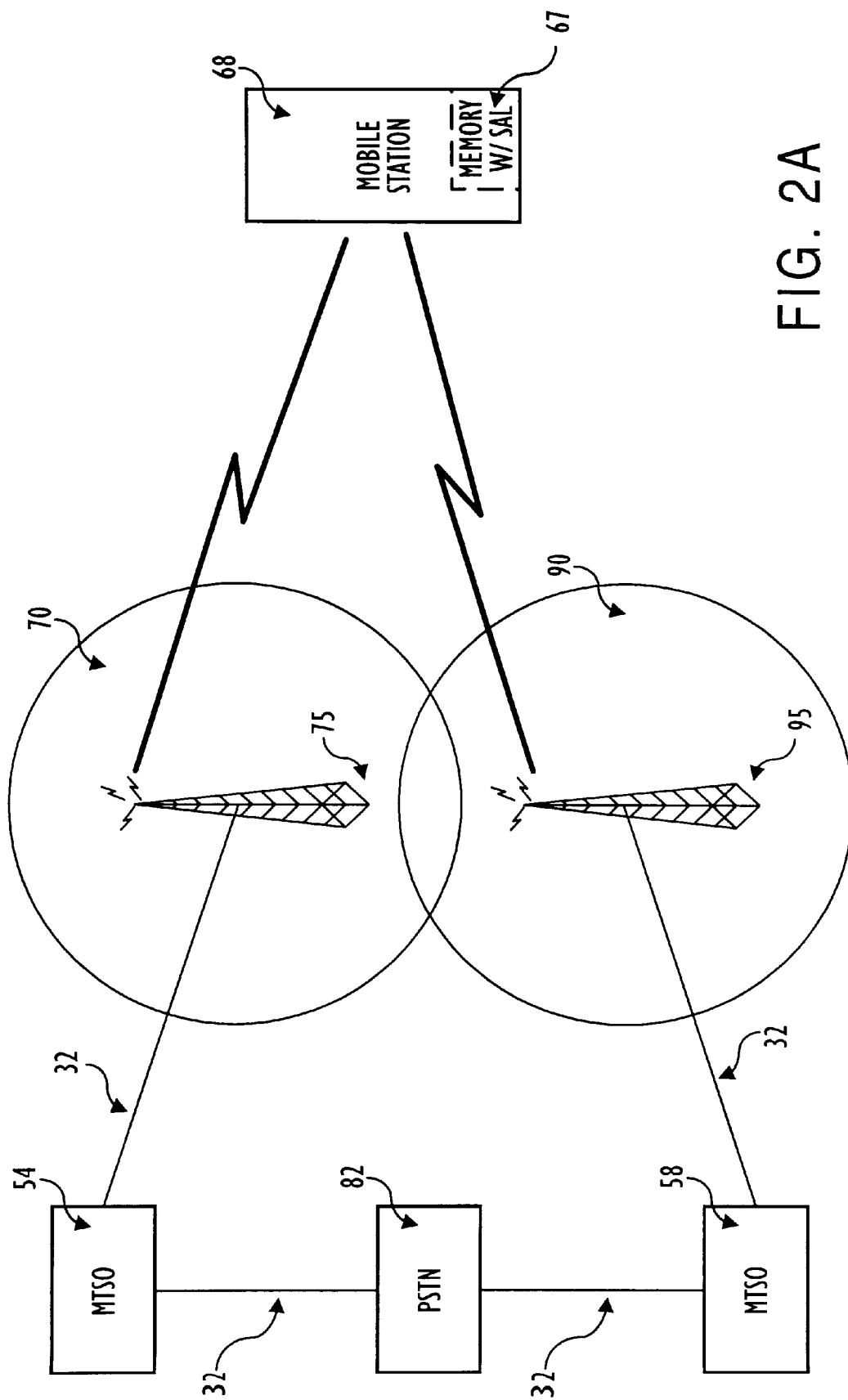


FIG. 2A

FIG. 2B

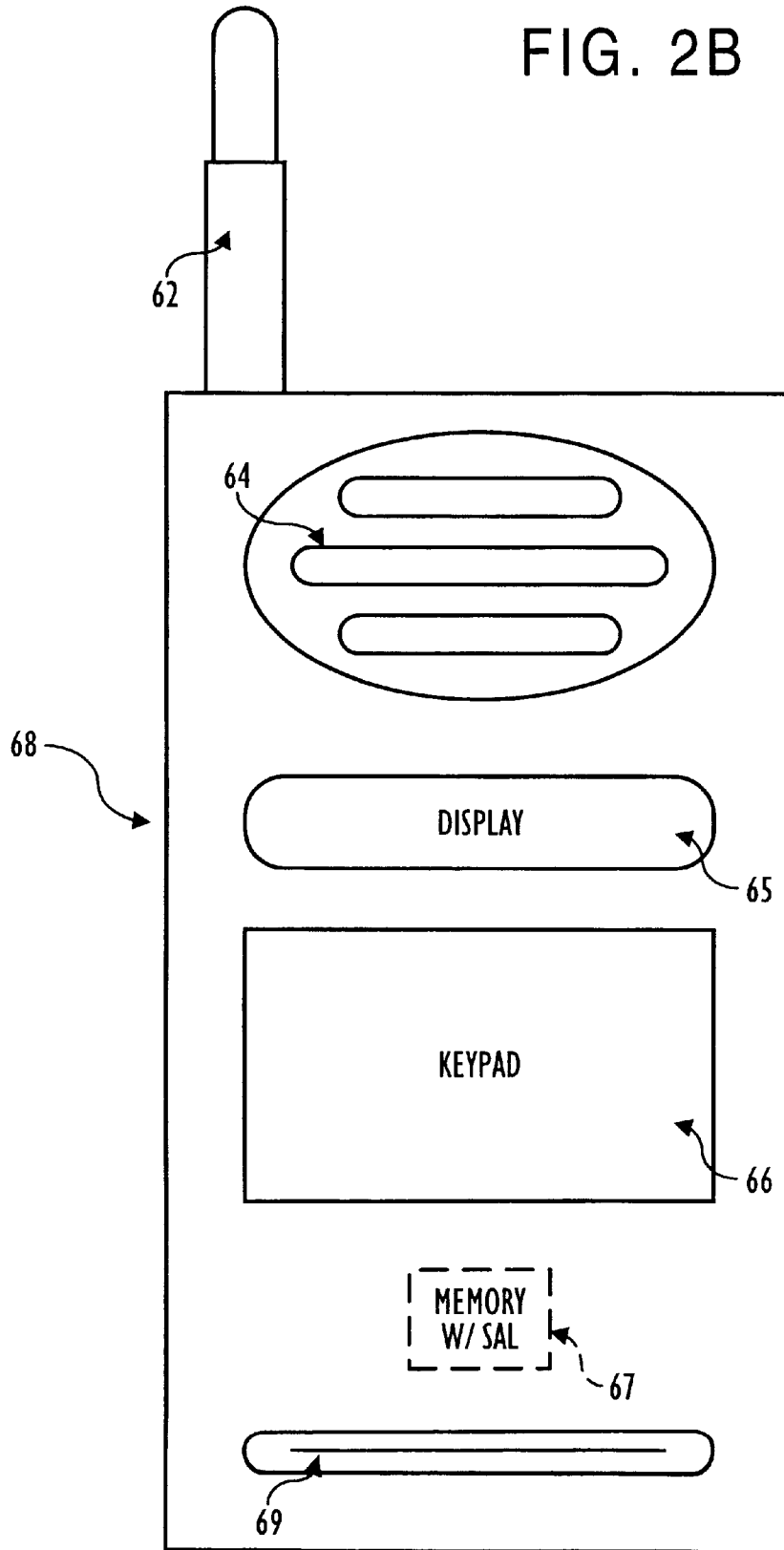
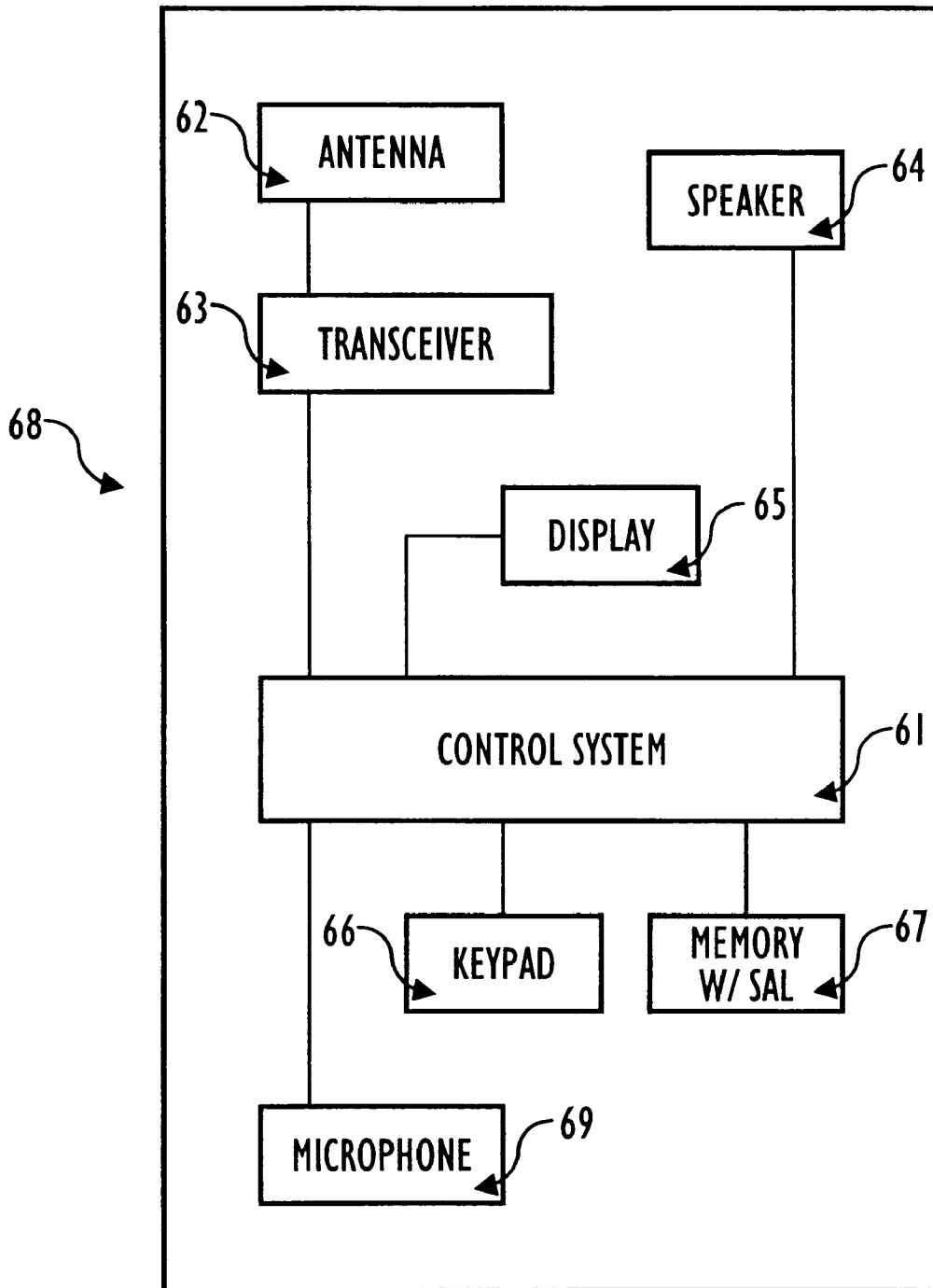


FIG. 2C



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