

- [54] METHOD AND APPARATUS FOR CONTROLLING TRANSMISSION POWER IN A CDMA CELLULAR MOBILE TELEPHONE SYSTEM
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- [52] U.S. Cl. 375/1; 370/18; 379/59; 455/33; 455/54; 455/69
- [58] Field of Search 455/33, 54, 59, 69; 370/18, 50; 379/58, 59

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[57] ABSTRACT

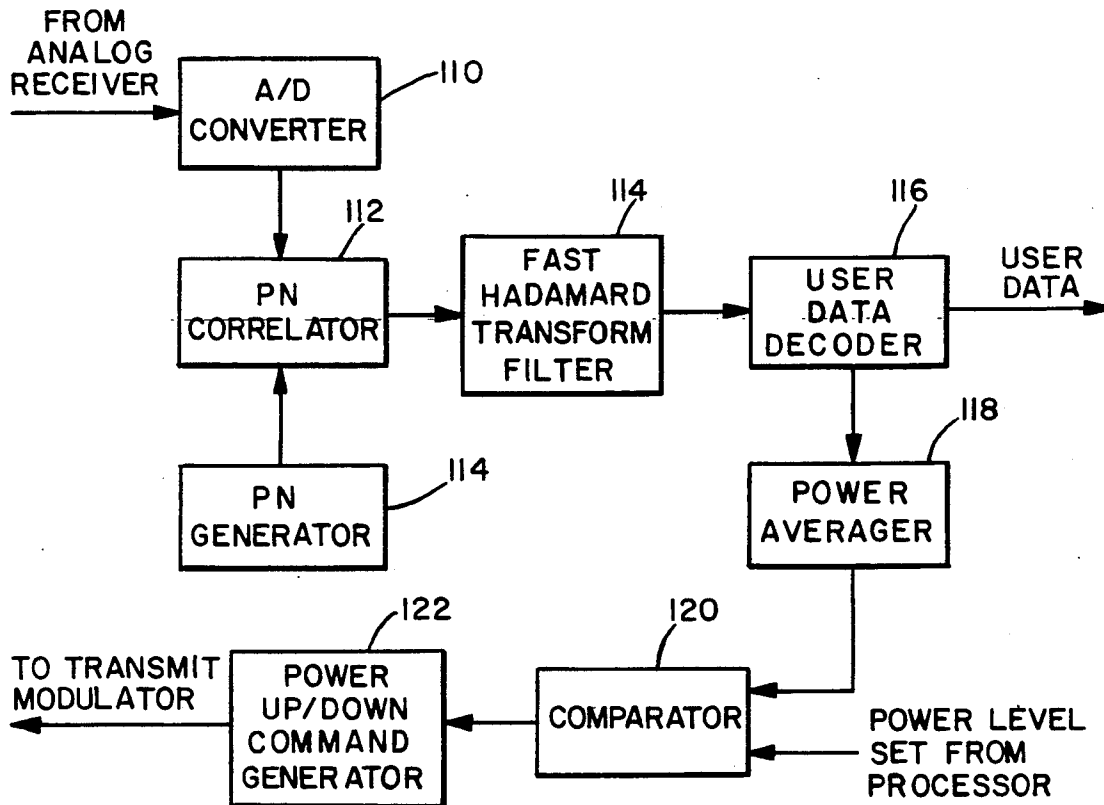
A power control system for a cellular mobile telephone system in which system users communicate information signals between one another via at least one cell site using code division multiple access spread spectrum communication signals. The power control system controls transmission signal power for each cellular mobile telephone in the cellular mobile telephone system wherein each cellular mobile telephone has an antenna, transmitter and receiver and each cell-site also has an antenna, transmitter and receiver. Cell-site transmitted signal power is measured as received at the mobile unit. Transmitter power is adjusted at the mobile unit in an opposite manner with respect to increases and decreases in received signal power. A power control feedback scheme may also be utilized. At the cell-site communicating with the mobile unit, the mobile unit transmitted power is measured as received at the cell-site. A command signal is generated at the cell-site and transmitted to the mobile unit for further adjusting mobile unit transmitter power corresponding to deviations in the cell site received signal power. The feedback scheme is used to further adjust the mobile unit transmitter power so as to arrive at the cell-site at a desired power level.

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27 Claims, 5 Drawing Sheets



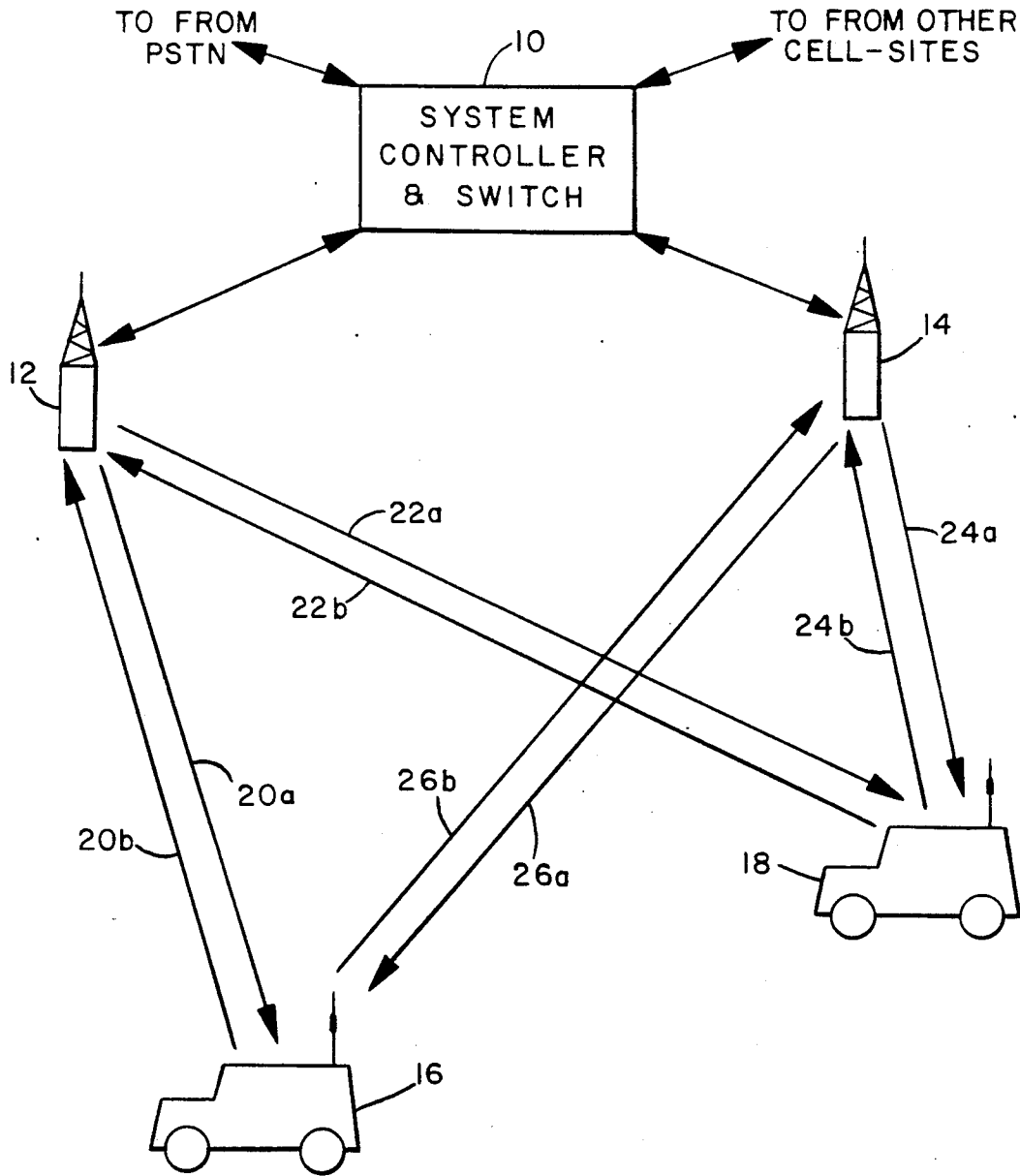


FIG. 1

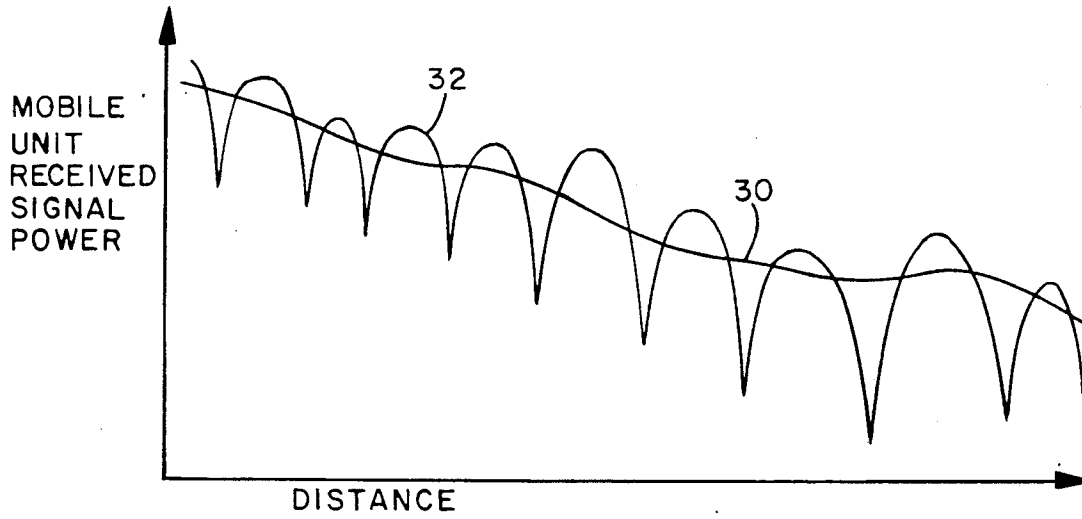


FIG. 2A

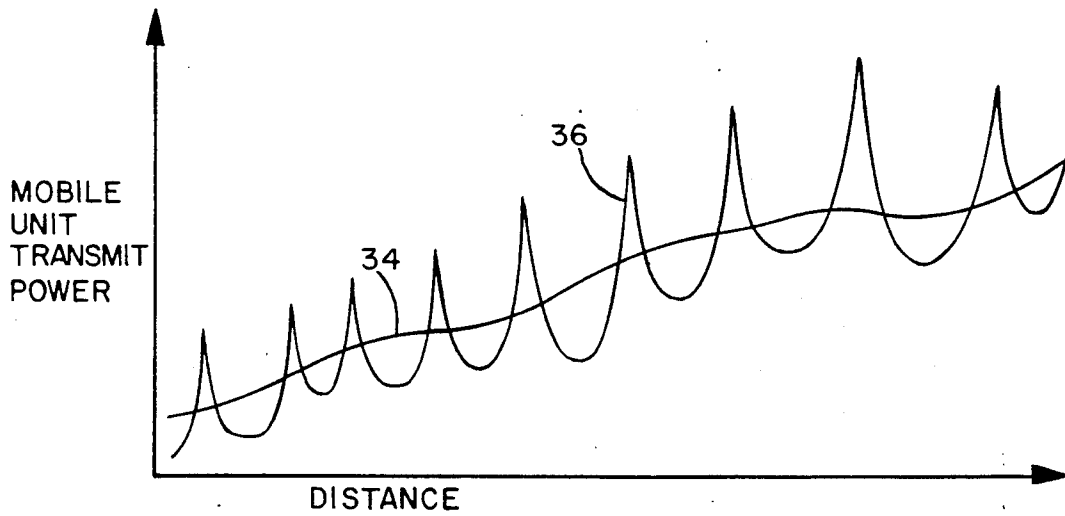


FIG. 2B

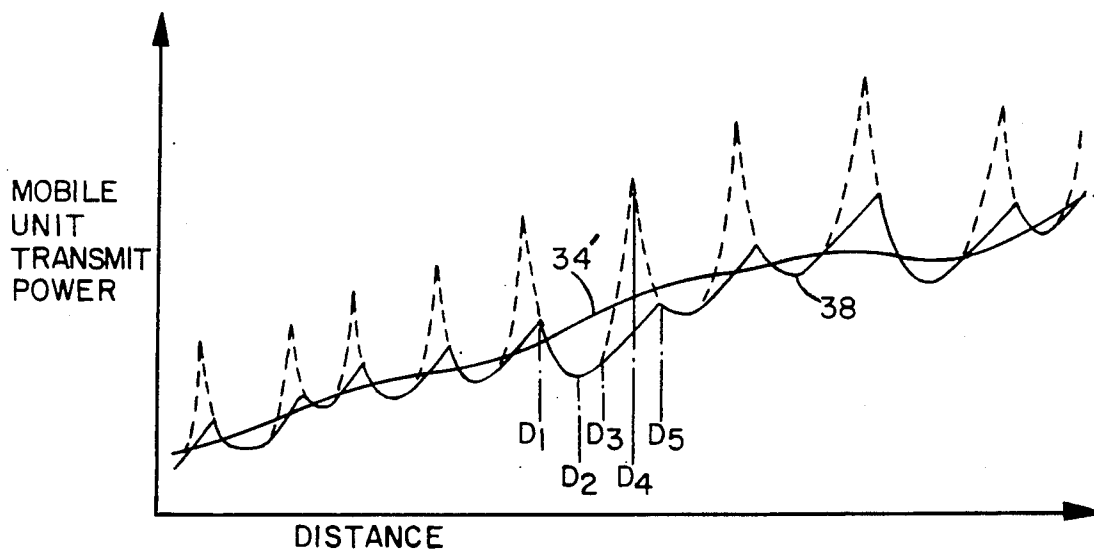


FIG. 2C

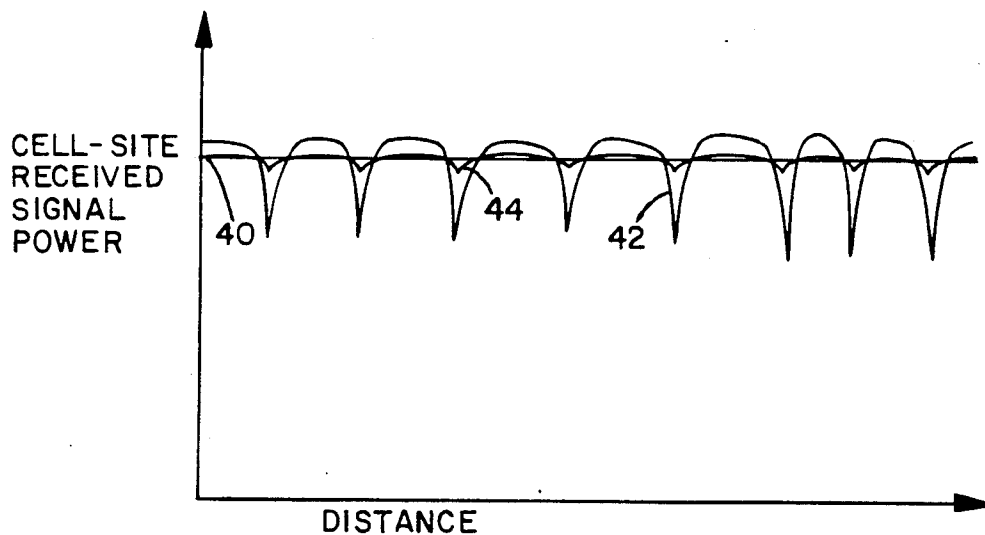


FIG. 2D

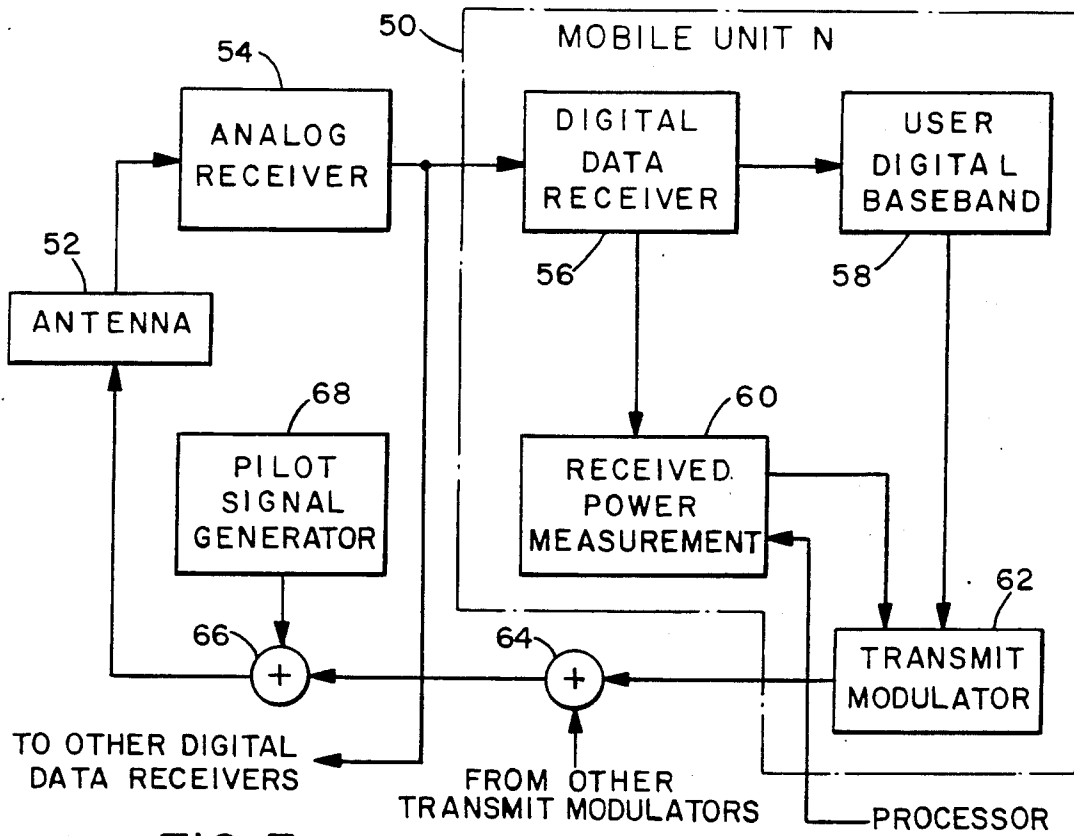


FIG. 3

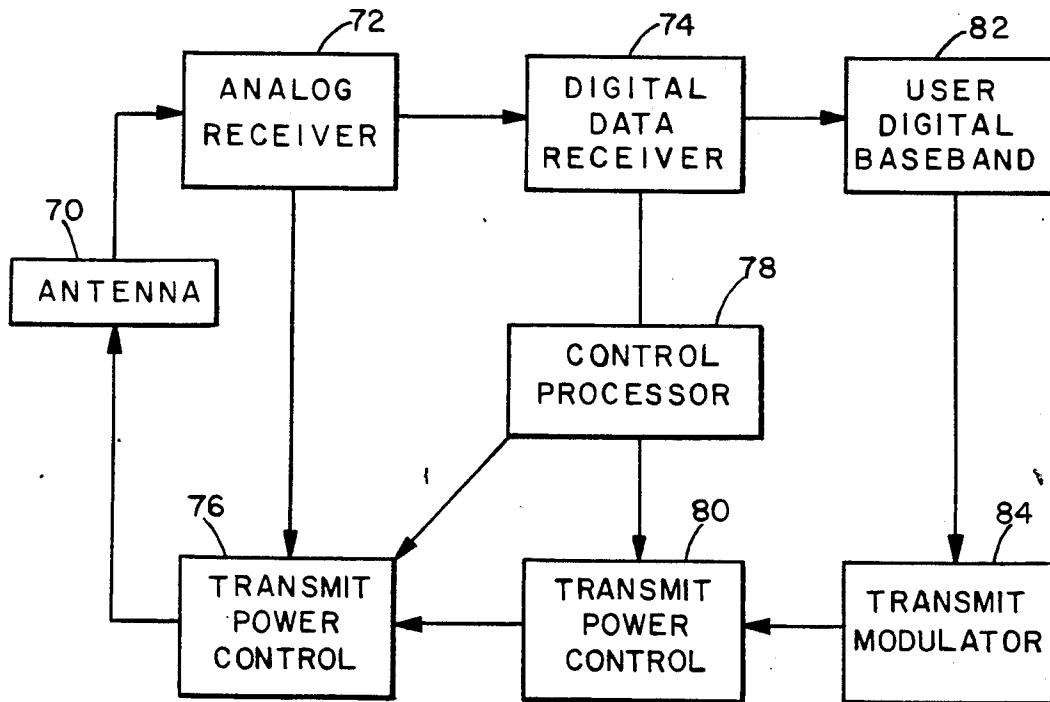


FIG. 4

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