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Sainton et al.

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[54] **ADAPTIVE OMNI-MODAL RADIO APPARATUS AND METHODS**

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Related U.S. Application Data

[63] Continuation of Ser. No. 167,003, Dec. 15, 1993, abandoned.

[51] **Int. Cl.**[6] **H04Q 7/32**

[52] **U.S. Cl.** **455/553**; 455/426; 455/557; 455/566

[58] **Field of Search** 455/33.1, 33.2, 455/33.4, 54.1, 54.2, 56.1, 74, 84, 89, 432, 434, 435, 552, 524, 553, 426, 557; 379/59, 60

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[57] **ABSTRACT**

A frequency and protocol agile wireless communication product, and chipset for forming the same, including a frequency agile transceiver, a digital interface circuit for interconnecting the radio transceiver with external devices, protocol agile operating circuit for operating the radio transceiver in accordance with one of the transmission protocols as determined by a protocol signal and an adaptive control circuit for accessing a selected wireless communication network and for generating the frequency control signal and the protocol control signal in response to a user defined criteria. Among the possible user defined criteria would be (1) the cost of sending a data message, (2) the quality of transmission link (signal strength, interference actual or potential), (3) the potential for being bumped off of the system (is service provider at near full capacity), (4) the security of transmission, (5) any special criteria which the user could variably program into his omni-modal wireless product based on the user's desires or (6) any one or more combinations of the above features that are preprogrammed, changed or overridden by the user. The disclosed invention allows wireless service providers to broadcast electronically as part of any "handshaking"0 procedure with a omni-modal wireless product information such as (1) rate information and (2) information regarding system operating characteristics such as percent of system capacity in use and/or likelihood of being dropped. The disclosed invention creates a user oriented source enrollment and billing service in the wireless data market by establishing uniform standard for "handshakes" to occur between cell service providers and omni-modal wireless products.

15 Claims, 16 Drawing Sheets

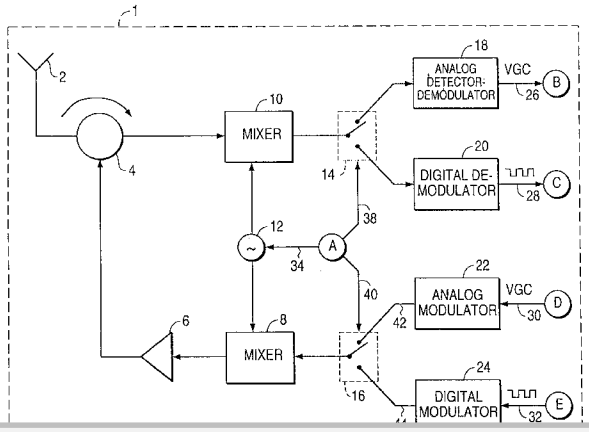

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FIG. 1A

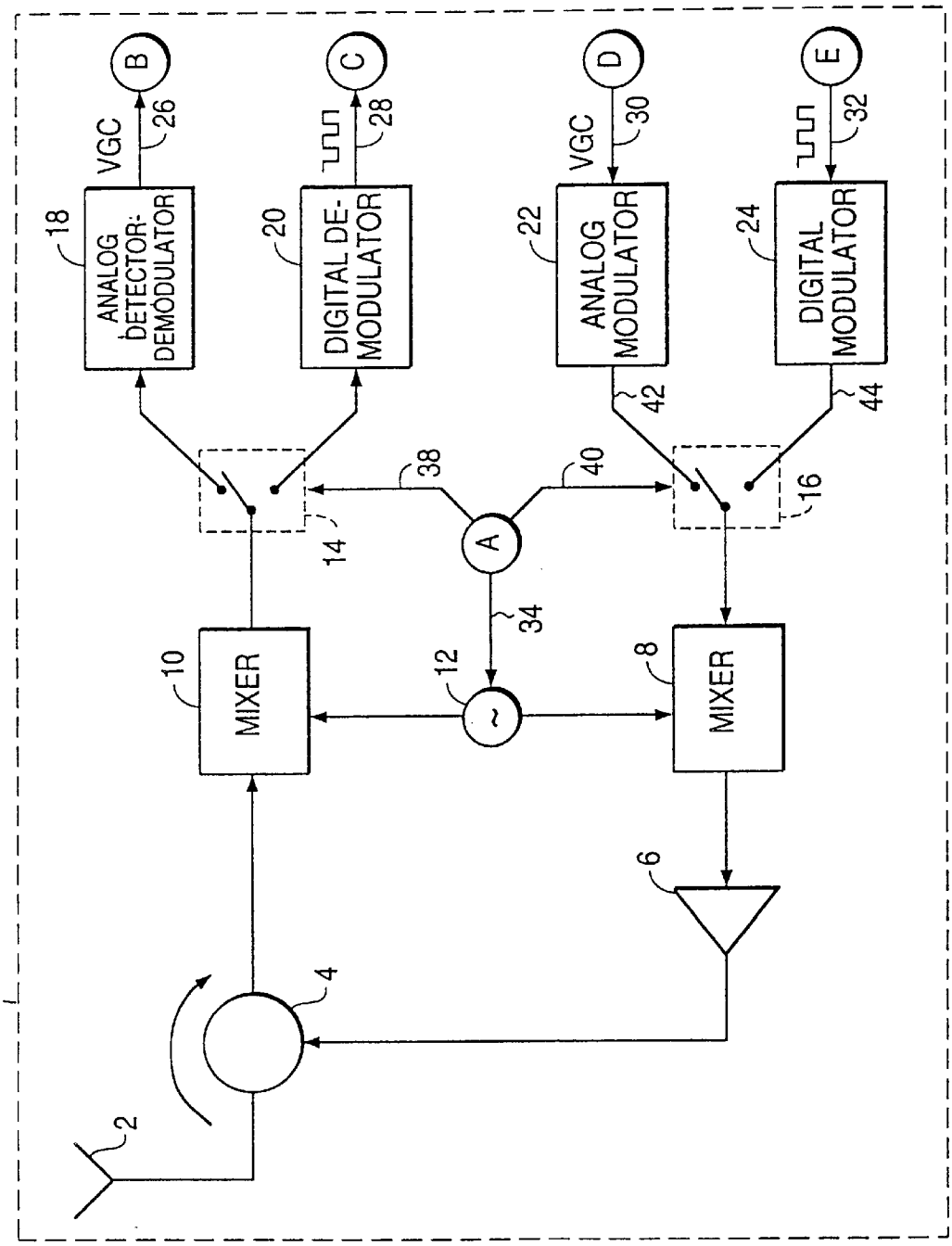


FIG. 1B

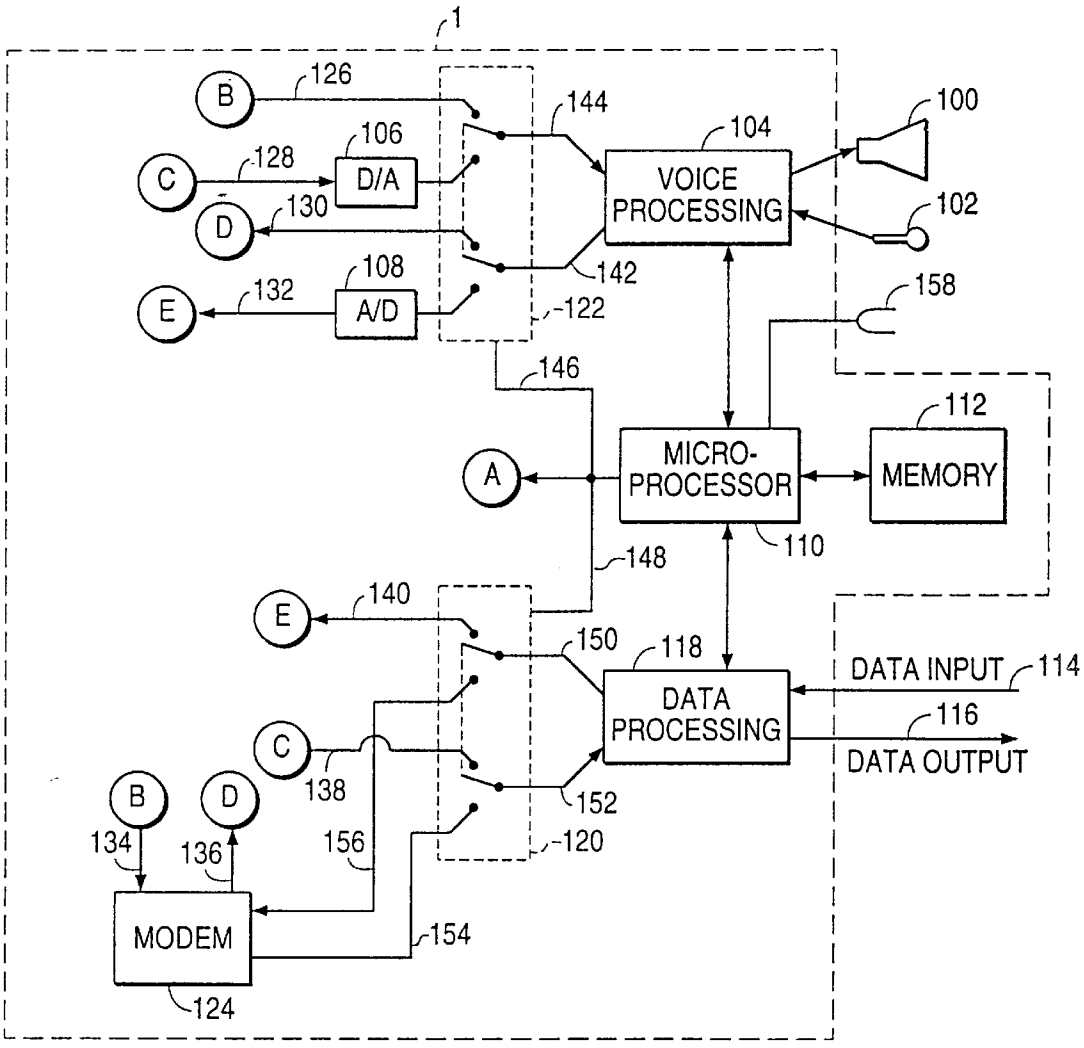
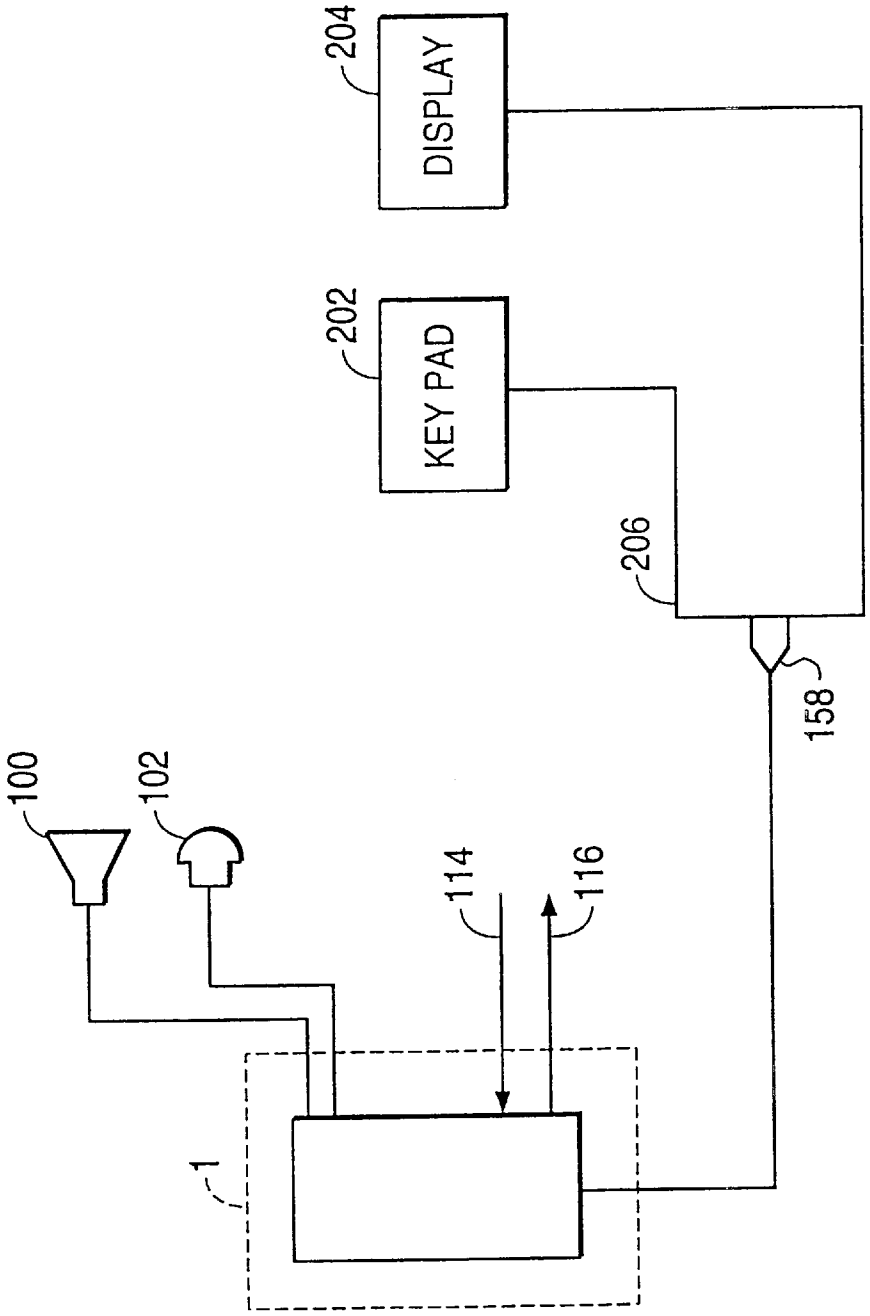


FIG. 2



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