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# United States Patent [19]

[11] Patent Number: **5,761,610**

Sorensen et al.

[45] Date of Patent: **Jun. 2, 1998**

[54] **METHOD AND APPARATUS FOR DYNAMIC RADIO COMMUNICATION MENU**

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[75] Inventors: **Lars Stig Sorensen, Palatine; Timothy Mark Garton, Cary; Mark A. Kapouralos, Palatine; Kenneth W. Douros, Hoffman Estates, all of Ill.**

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[73] Assignee: **Motorola, Inc., Schaumburg, Ill.**

[21] Appl. No.: **663,746**

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*Attorney, Agent, or Firm*—Randall S. Vaas

[22] Filed: **Jun. 18, 1996**

### Related U.S. Application Data

[57] **ABSTRACT**

[63] Continuation of Ser. No. 308,899, Sep. 20, 1994, abandoned.

[51] Int. Cl.<sup>6</sup> ..... **H04B 1/38**

[52] U.S. Cl. .... **455/89; 455/95; 455/154.2**

[58] Field of Search ..... 455/89, 95, 154.2,  
455/186.1, 186.2; 379/58, 59, 96, 354,  
355; 345/146, 168, 169, 902

A radio communication device menu system includes a memory (232) storing menu items. A controller (220) is coupled to the memory. A user controlled input (106) is coupled to the controller for manually inputting control signals to the controller. A display (108) is also coupled to controller to display signals from the controller. The memory includes a short menu and an extended menu. The controller is responsive to a predetermined actuation pattern of the user controlled input to select one of the extended and short menus as the active menu, and for scrolling through the selected one of the short and the extended menus. According to another aspect of the device, the user controlled input includes a clear key which is held for a first predetermined time period to return to a higher level in the active menu and the clear key is held for a second predetermined time period to exit the active menu.

[56] **References Cited**

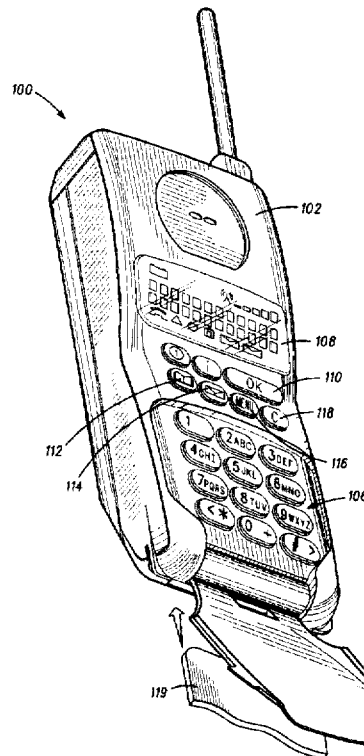
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**13 Claims, 15 Drawing Sheets**



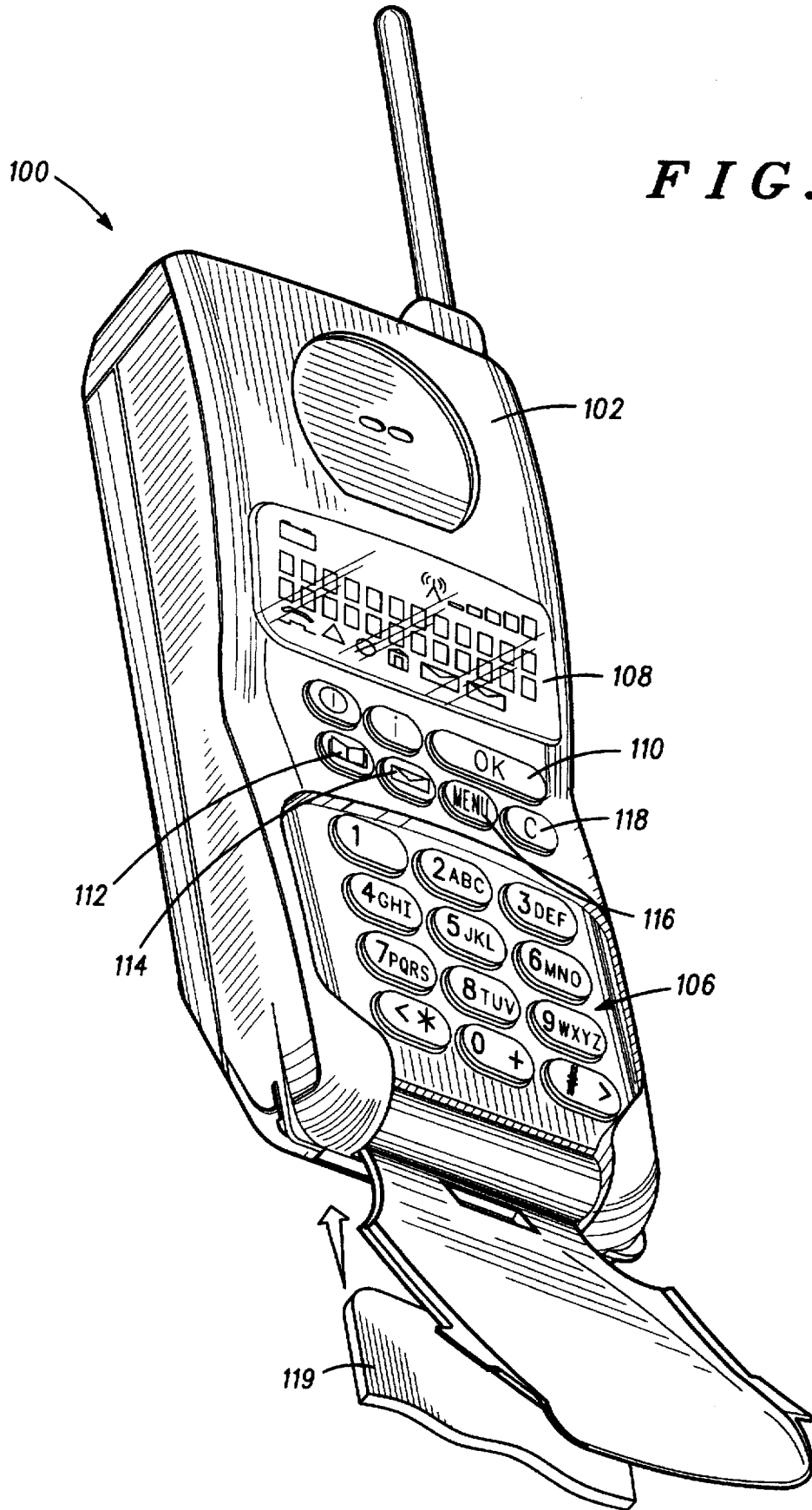


FIG. 2

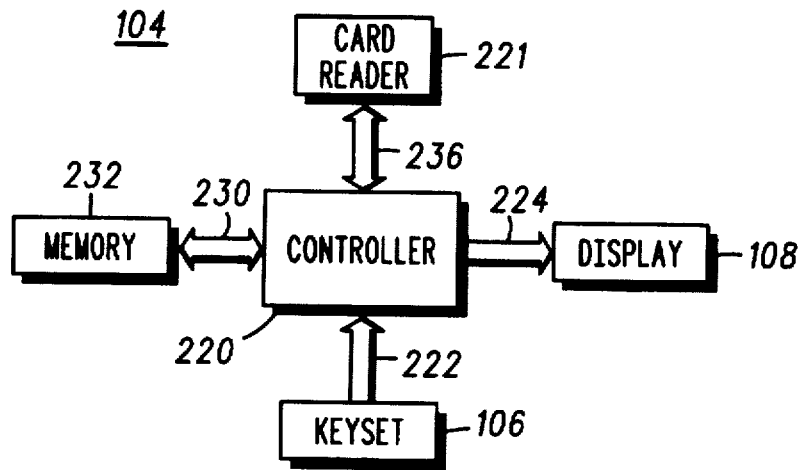
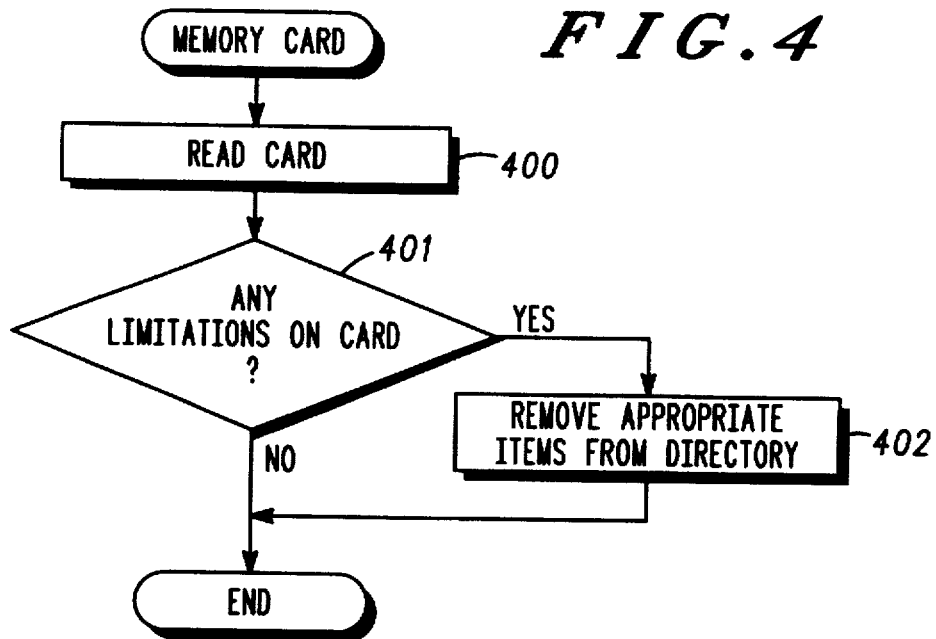


FIG. 4



CALL RELATED FEATURES	PHONE SETUP	MESSAGES	PHONE BOOK	NETWORK SELECTION	CALL METERS	ACCESSORY SETUP
LAST TEN CALLS CALLS MADE CALLS RECEIVED RESTRICT BY PHONE NUMBER RESTRICT TO NEXT CALL RESTRICT TO NEXT CALL CALL DIVERTING DIVERT WHEN UNAVAILABLE ON(EP1) OFF	INCOMING CALL ALERT RINGS ONLY VIBRATE ONLY NO RING/RV ADJUST RING VOLUME HIGH MEDIUM LOW PHONE LOCK AUTOMATIC LOCK(EP2) ON OFF LOCK NOW(EP2) CHANGE UNLOCK CODE REQUIRE SIM CARD PIN ON OFF CHANGE PIN CODE CHANGE SECURITY CODE EXTENDED MENU ON OFF	INCOMING CALL ALERT RECEIVED MESSAGES CALL BROADCAST ON OFF MESSAGE SETTINGS MESSAGE ALERT TONE ON OFF VOICE MAIL NUMBER	FIND BY NAME FIND BY LOCATION SHOW BY PHONE NUMBER AND ENTRY ADD TO PHONE MEMORY ADD TO SIM CARD MEMORY CHECK CAPACITY CHECK PHONE CAPACITY CHECK SIM CAPACITY PREVENT ACCESS TO PHONE MEMORY TO SIM CARD MEMORY TO PHONE AND SIM MEMORY	AVAILABLE NETWORKS REGISTER NOW MAKE PREFERRED NETWORK SEARCH REGISTRATION PREFERENCE AUTOMATIC MANUAL SEARCH FREQUENCY PERIODIC CONTINUOUS	SHOW LAST CALL RESETTABLE CALL METERS SHOW TOTAL CALLS SHOW HOME CALLS SHOW ROAMING CALLS RESET ALL METERS SET AUDIBLE CALL TIMERS SINGLE ALERT TIMER ON(EP3) OFF REPEATITIVE TIMER ON(EP3) OFF SHOW METER DURING CALLS ON OFF	MUTE CAR RADIO ON OFF AUTOMATIC ANSWER ON OFF AUTOMATIC HANDSFREE ON OFF SAFETY TIMER ON(EP6) OFF AUXILIARY ALERT ON OFF
DETAILED DIVERTING DIVERT VOICE CALLS DIVERT ALL VOICE CALLS ON(EP1) OFF IF BUSY ON(EP1) OFF IF NO ANSWER ON(EP1) OFF IF NOT RECEIVED ON(EP1) OFF DIVERT FAX CALLS ON(EP1) OFF DIVERT DATA CALLS ON(EP1) OFF	LANGUAGE SELECTION DANISH DUTCH ENGLISH FINNISH FRENCH GERMAN GREEK HUNGARIAN ITALIAN NORWEGIAN PORTUGUESE SPANISH SWEDEN TURKISH AUTOMATIC CHANGE GREETING(EP3) BATTERY SAVING MODE	SET METER FORMAT COST OF CALLS TIME OF CALLS SET CALL COST RATES HOME RATE(EP4) ROAM RATE(EP4) SHOW LIFETIME METER				

FIG. 3A

CALL RELATED FEATURES (CONTINUED)	PHONE SETUP (CONTINUED)	
INT 1 CALLS EXCEPT HOME ALL CALLS TURN OFF CALL BARRING INCOMING CALLS WHEN ROAMING BARRING ALL CALLS OFF CHANGE BARRING PASSWORD	ON OFF SELECT KEYPAD TONES NORMAL TONES SINGLE TONES NO TONES PHONE STATUS STATUS REVIEW MASTER ROSET(EPS) MASTER CLEAR(EPS)	
CALL RESTRICTIONS KEYPAD DIALING ON OFF PHONE NUMBER LENGTH ON(EP7) OFF INCOMING CALLS ON OFF		

FIG. 3B

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