

- [54] **PERSONAL COMMUNICATOR HAVING IMPROVED ZOOM AND PAN FUNCTIONS FOR EDITING INFORMATION ON TOUCH SENSITIVE DISPLAY**
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[57] **ABSTRACT**

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A mobile, hand-held personal communicator includes a casing for housing a cellular phone, modem, and data processing system. Graphics image files are stored and can be selectively displayed on a touchscreen display. A zoom function magnifies areas of a graphics image, such as a fax image, that has been received and stored in the PC. When the zoom function is selected, the user touches the screen, and a magnification frame or window appears. When the user removes his/her finger, the area within the frame is magnified. The user can also drag the frame around the screen, while still touching the screen, to select a specific area to be magnified when the user releases the screen. A pan function allows the user to shift the image within a viewing area. The user can pan the image by touching the display at an initial touch point, and moving his/her finger keeping it in contact with the screen, to shift the touch point to a new touch point. Upon releasing the new touch point, the image is redrawn in a new position corresponding to the change in position between the initial and new touch points.

Related U.S. Application Data

- [63] Continuation of Ser. No. 146,341, Nov. 1, 1993, abandoned.
- [51] **Int. Cl.⁶** **G06F 15/66**
- [52] **U.S. Cl.** **395/800; 395/139; 395/326; 382/298; 345/121; 345/130; 345/173**
- [58] **Field of Search** 395/800, 139, 395/157; 345/156, 173; 364/DIG. 1, 521, 518; 382/47, 8; 340/700, 731, 712

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9 Claims, 5 Drawing Sheets

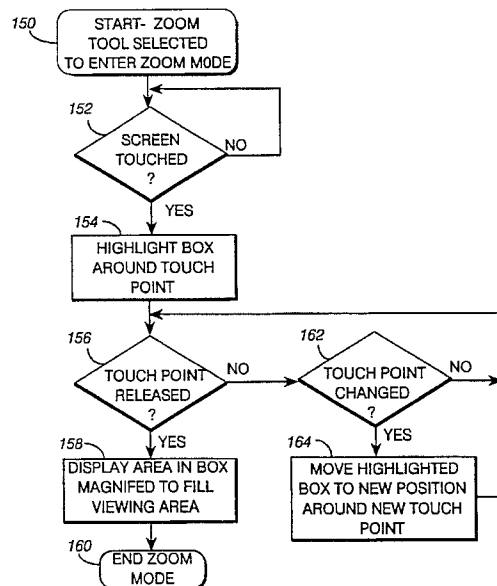


FIG. 1

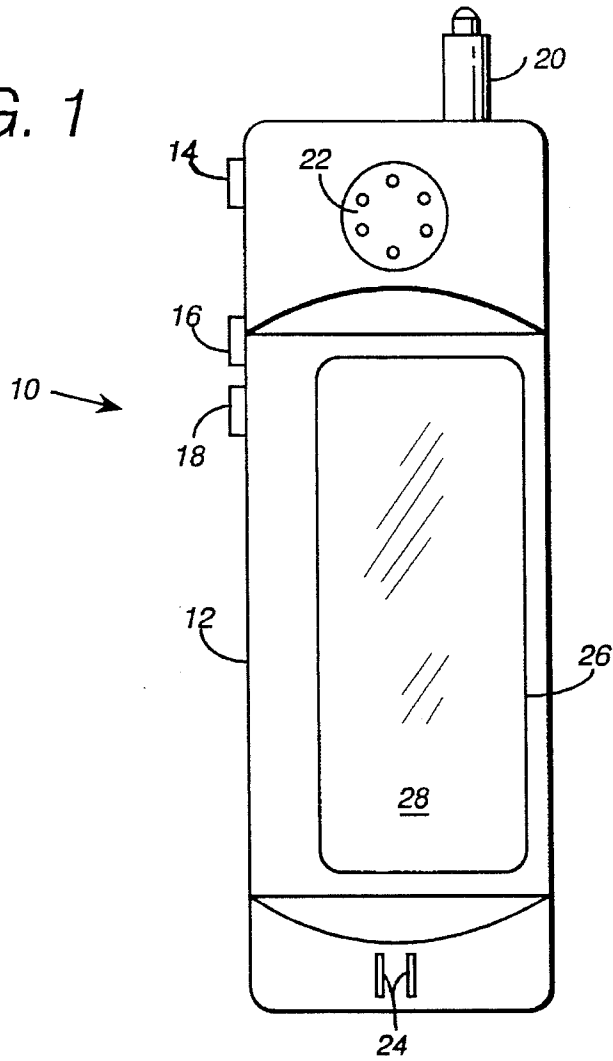


FIG. 2

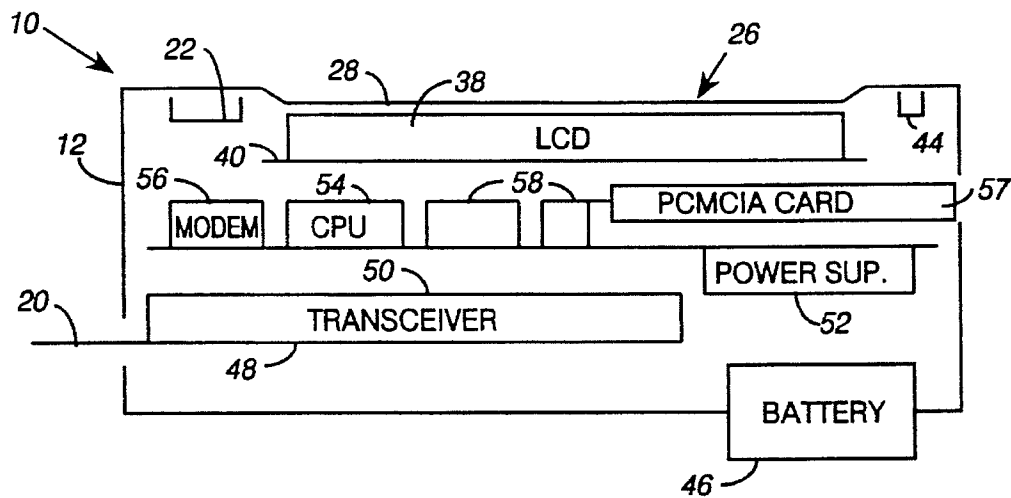


FIG. 3

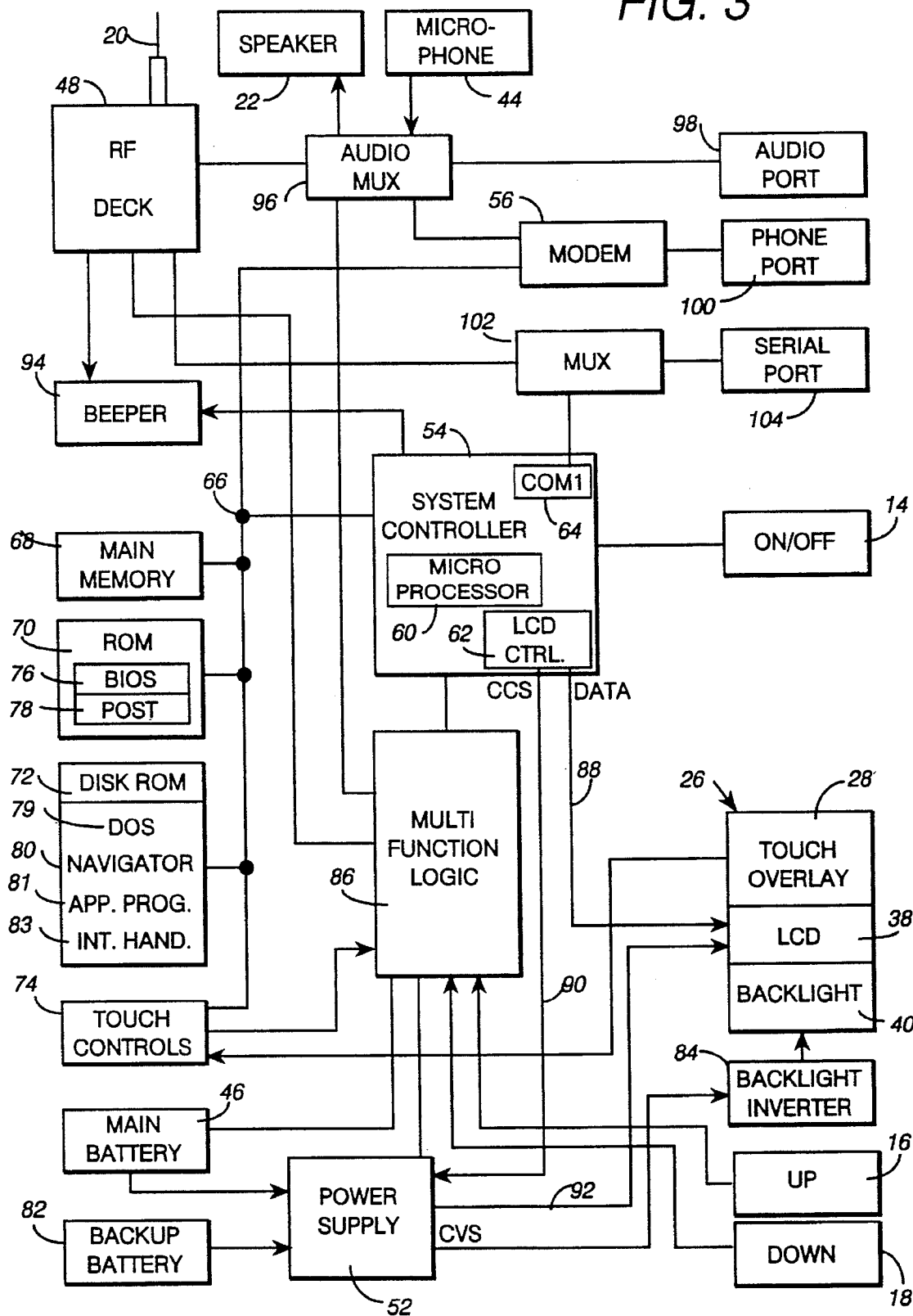
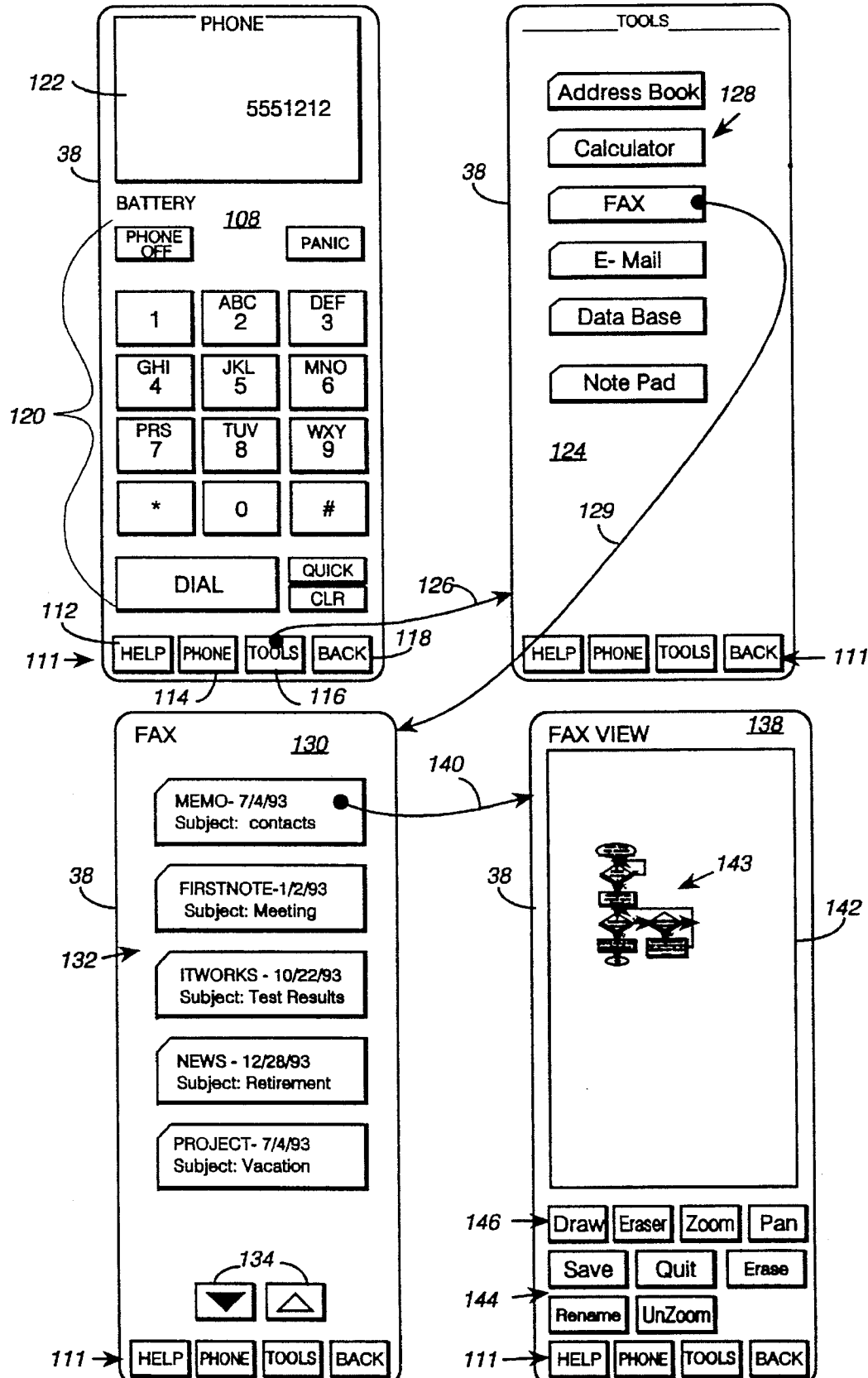
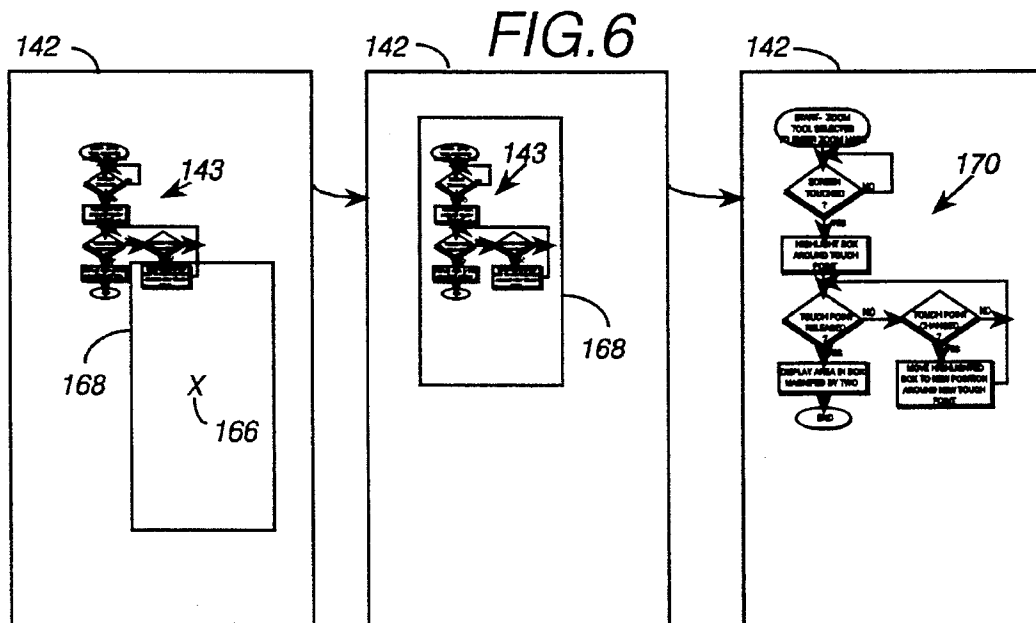
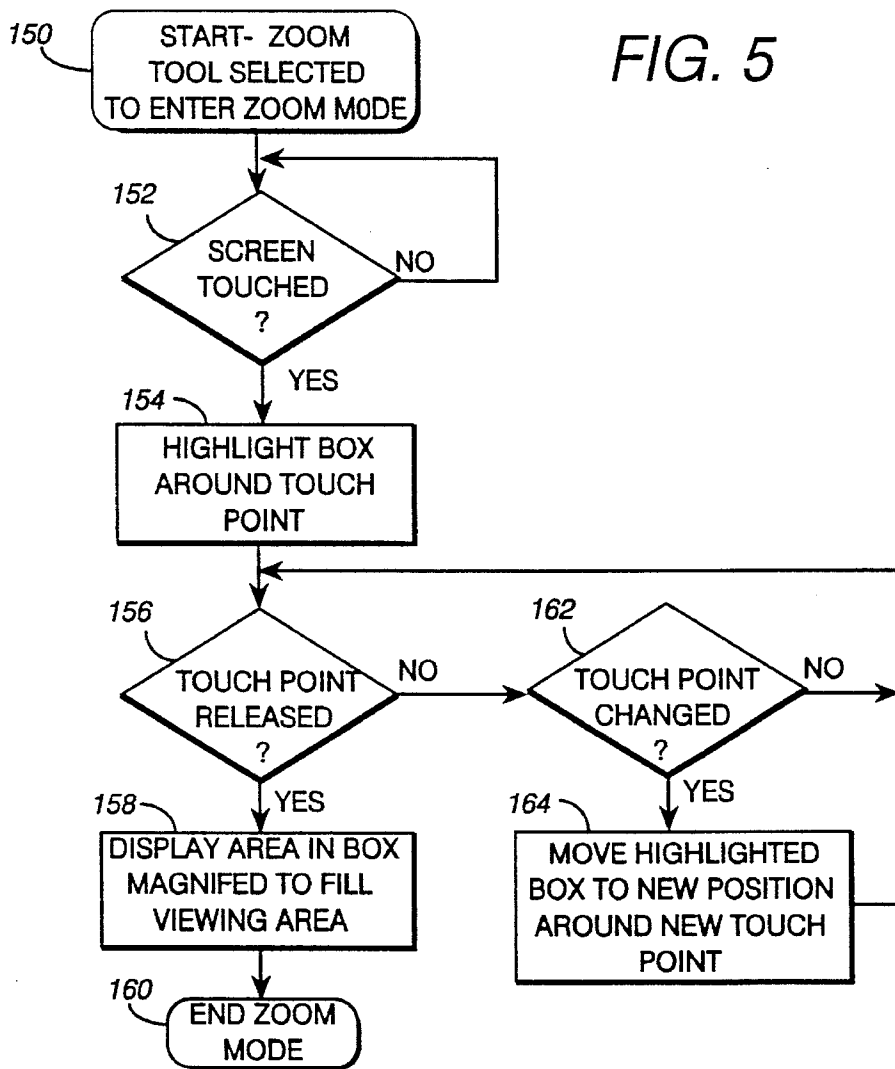


FIG. 4





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