

#### US005406307A

# United States Patent [19]

Hirayama et al.

4,763,356

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## [54] DATA PROCESSING APPARATUS HAVING SIMPLIFIED ICON DISPLAY [75] Inventors: Tomoshi Hirayama; Hiroshi Yasuhara, both of Tokyo, Japan [73] Assignee: Sony Corporation, Tokyo, Japan [21] Appl. No.: 621,898 [22] Filed: Dec. 4, 1990 [30] Foreign Application Priority Data Dec. 5, 1989 [JP] Japan ..... 1-316109 [51] Int. Cl.<sup>6</sup> ...... G09G 1/06 [52] U.S. Cl. ...... 345/120; 345/179 [58] Field of Search ...... 340/706, 707, 709, 710, 340/712, 721, 723, 724; 178/18, 19; 345/119, 120, 163, 179, 182; 395/155, 157, 159 [56] References Cited U.S. PATENT DOCUMENTS 4,686,522 8/1987 Hernandez et al. ...... 340/721 4,720,703 1/1988 Schnarel et al. ...... 340/721

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Primary Examiner—Alvin E. Oberley Assistant Examiner—Chanh Nguyen Attorney, Agent, or Firm—Hill, Steadman & Simpson

#### 57] ABSTRACT

A data processing apparatus is provided, in which an information is inputted by using a pen from a display portion in which an input device (tablet) is stuck to a display device (display panel). If the user touches an icon displayed on this display portion for indicating various functions with a point of the pen and drags the pen along the surface of the display portion to a display position and releases the point of the pen from the panel surface of the display portion, an enlarged processing display form (i.e. window) is automatically displayed at a desired position of the display portion. Further, if the user touches the window with the point of the pen and drags the pen along the panel surface of the display portion up to the position of a desired icon, the enlarged window is automatically reduced and is stored in a vacant icon.

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7 Claims, 6 Drawing Sheets

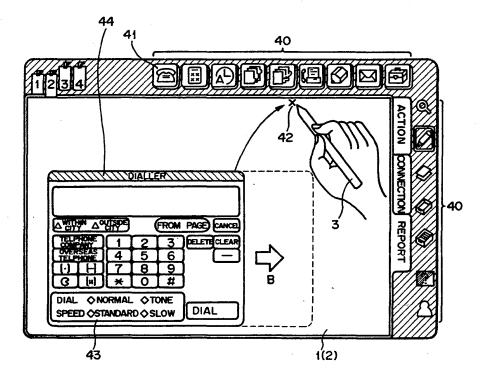




FIG. 1

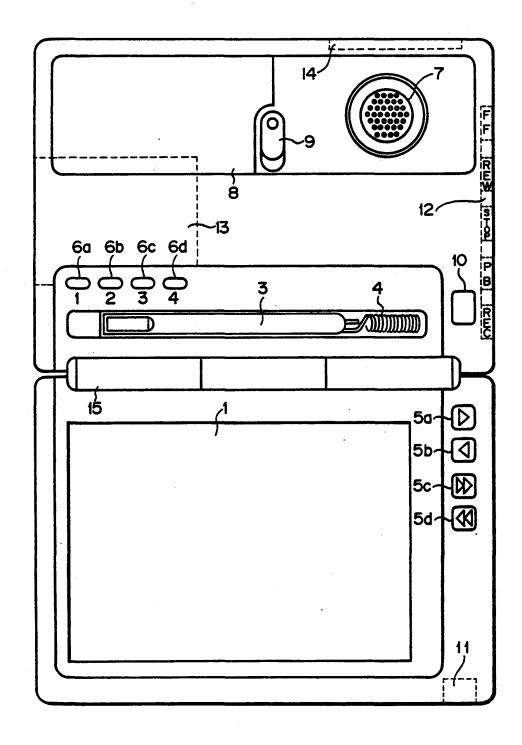
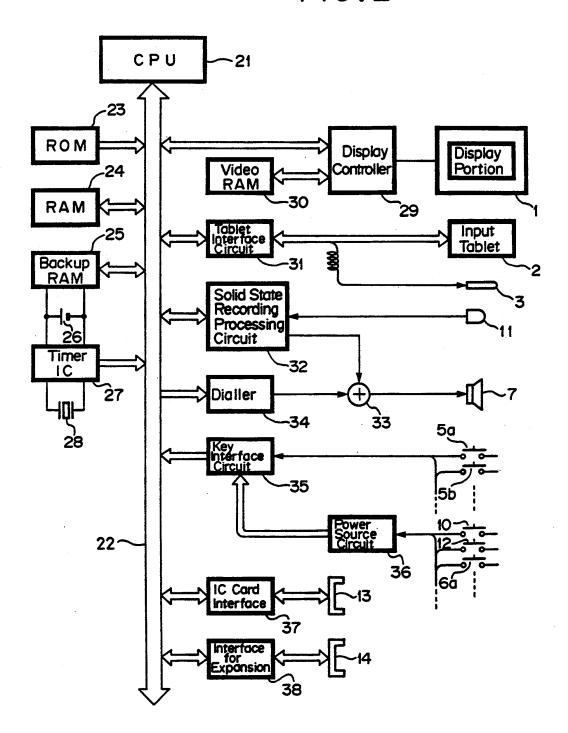
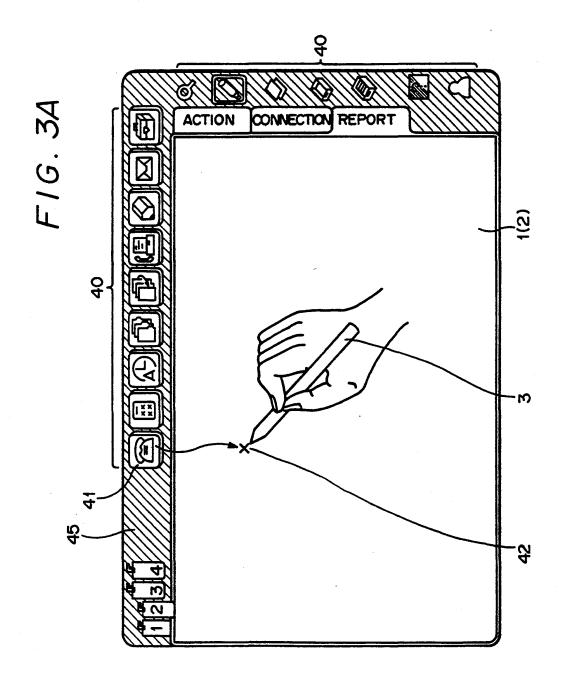




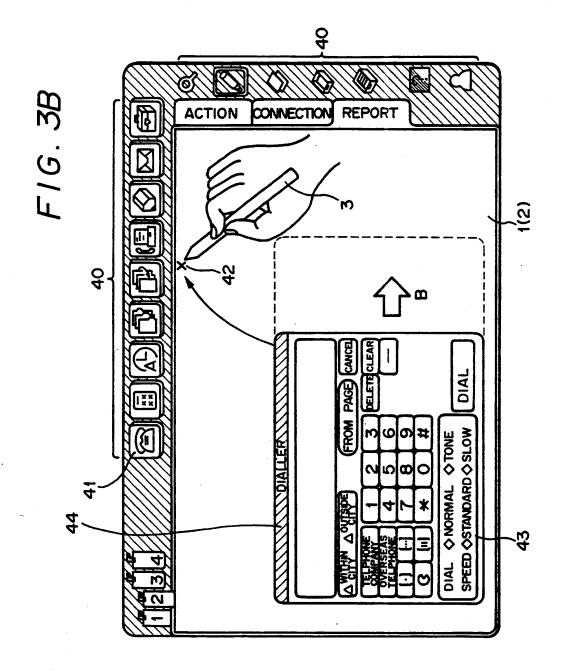
FIG. 2













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