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Nelson et al.

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(54) **HANDHELD COMPUTER APPARATUS**

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(Continued)

(52) **U.S. Cl.** **345/163; 345/7**

Primary Examiner—Jimmy H. Nguyen

(58) **Field of Search** 345/7-9, 163,
345/169, 156-158, 347, 352, 357

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(57) **ABSTRACT**

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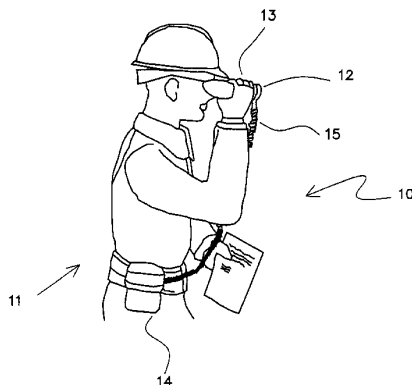
A computer apparatus includes a computer processing unit including a processor device for operating upon data and providing data for display. The apparatus further includes a handheld input/output display unit. The display unit includes a housing sized to be grasped by a user's hand. A computer display is located within the housing at a position to allow the user to view the computer display through an eyepiece. A display driver is used for presenting data from the processing unit on the computer display. Navigational input tools are integrated with the computer display in the housing and operatively connected to provide user input to the processing unit. The navigational input tools are positioned for operation by one or more fingers of the user's grasping hand. The computer processing unit may be integrated within the housing of the handheld input/output display unit. The navigational input tools may include a mouse having a force actuated pointer and at least one button, e.g., a single button mouse or a two button mouse, or may include a three button interface.

(Continued)

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19 Claims, 23 Drawing Sheets



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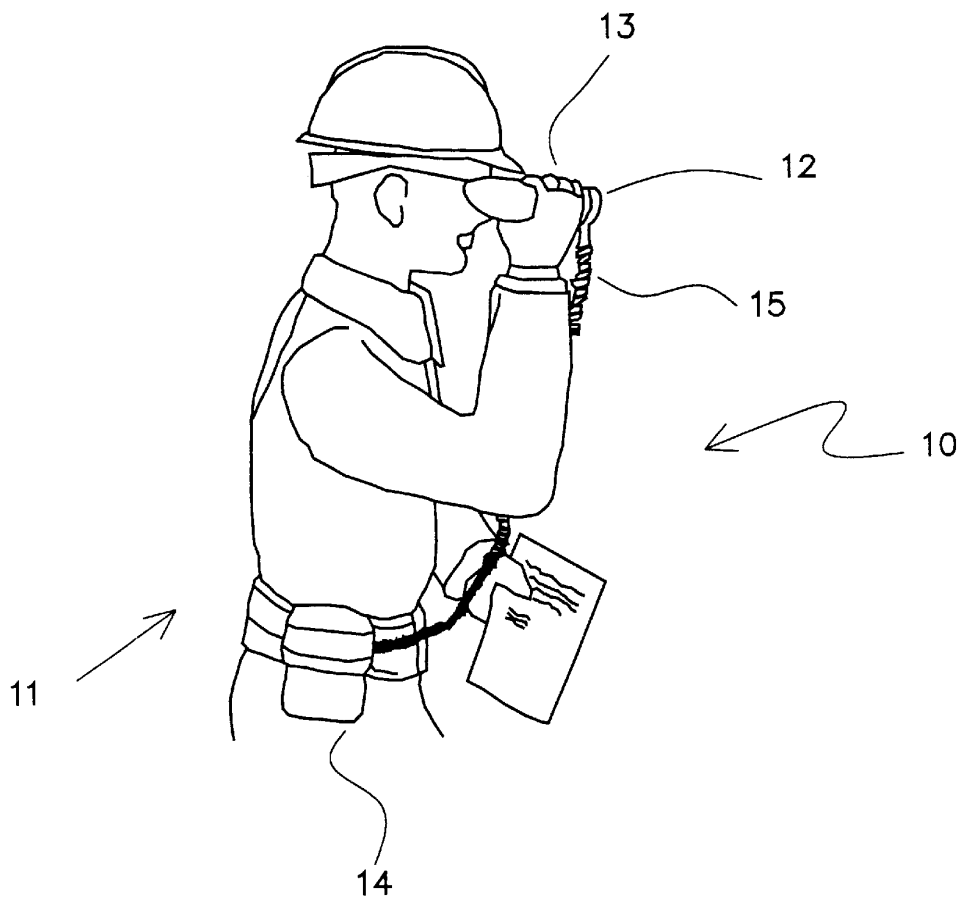


Fig. 1

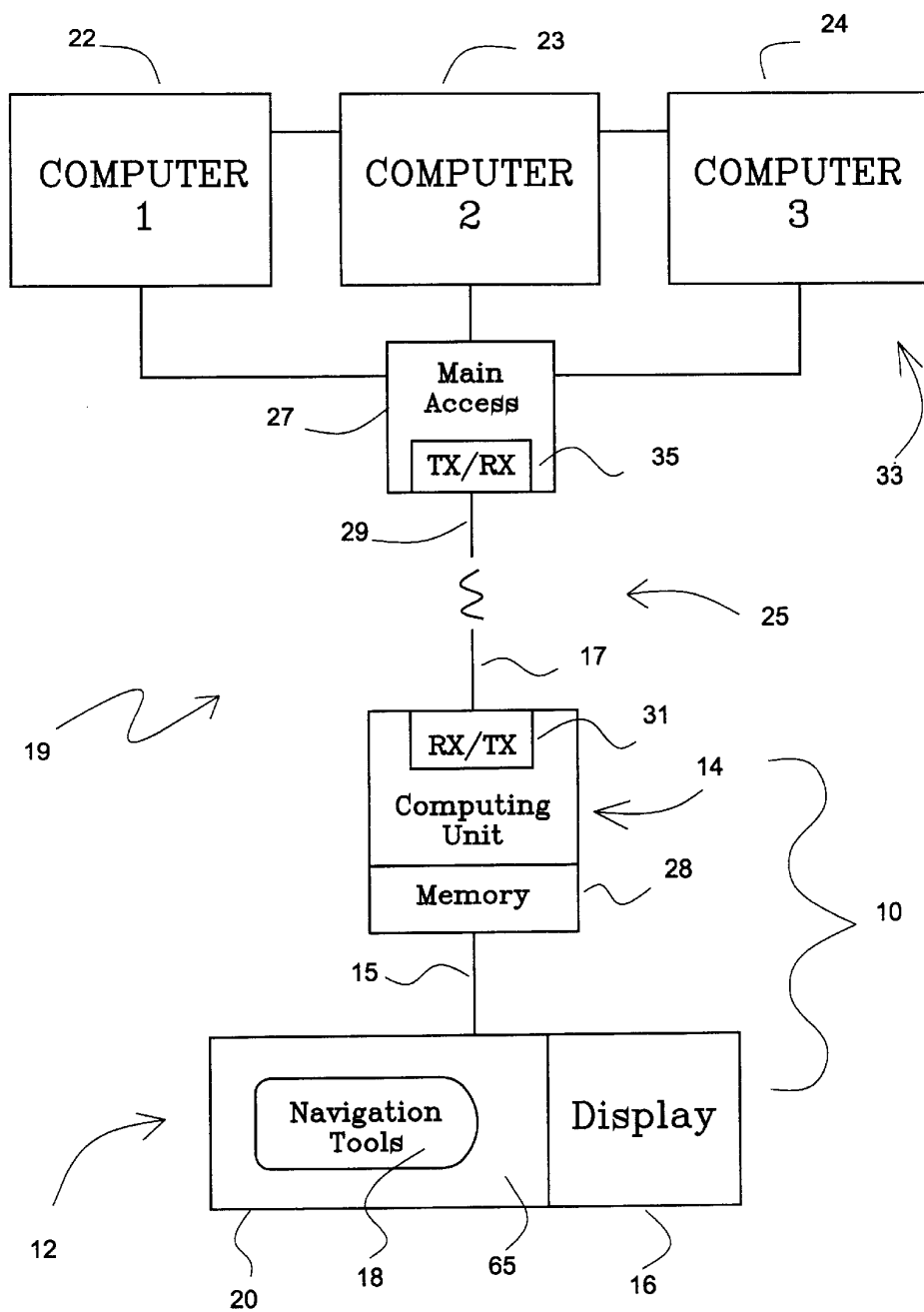


Fig. 2

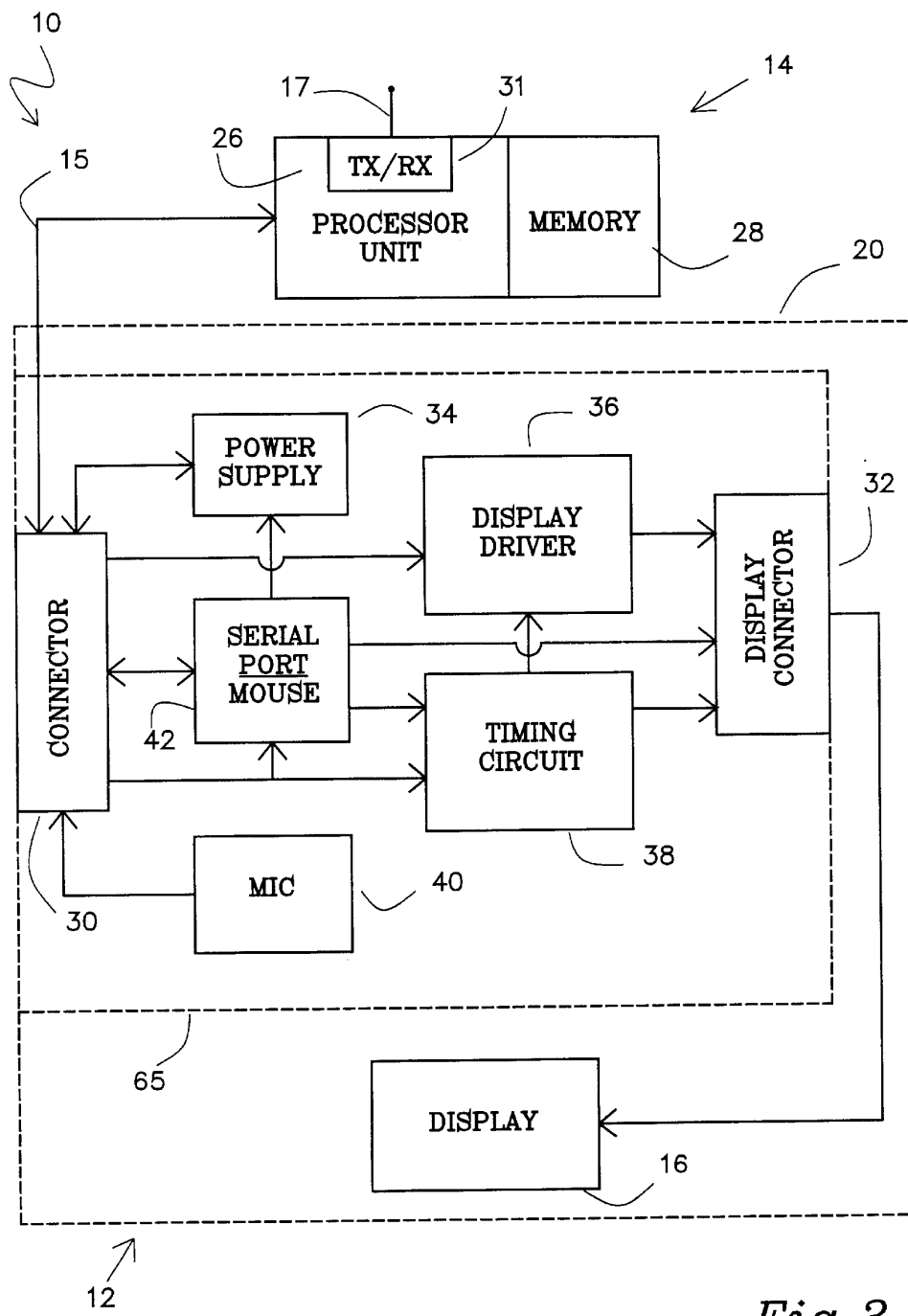


Fig. 3

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