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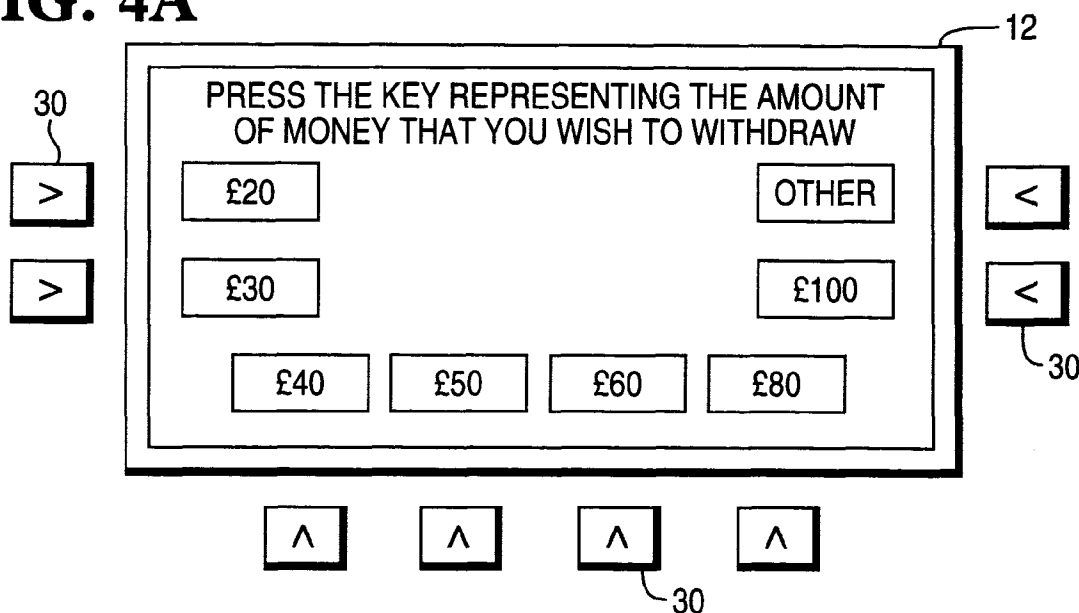
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(54) **Self-service terminal with functional display keys**

(57) An automated teller machine (10) including a display screen (12) and eight functional display keys (FDKs) (30) has these keys arranged so that there are two FDKs located adjacent one of the side edges of the screen, two FDKs located adjacent the other side edge

of the screen, and four FDKs below and adjacent the lower edge of the screen. This alleviates the problem of parallax with existing FDK arrangements which could cause a user of non-average height to press a wrong key.

FIG. 4A



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Description

The present invention relates to a self-service terminal, such as an automated teller machine (ATM).

The invention is concerned in particular with a self-service terminal of the kind including a keypad, functional display keys, and a display screen for displaying information. By functional display keys (FDKs) is meant keys which are associated with a display screen and operation of a selected one of which selects an option displayed on the screen. Selection of such option causes the terminal to carry out a transaction in accordance with the selected option, e.g. the dispensing of a selected amount of money. In a known self-service terminal of the kind specified, the FDKs are located on either side of the screen with the screen being recessed relative to the FDKs. A problem experienced with such known terminal is that, due to parallax, for users of non-average height the FDKs may not appear to be aligned with the information on the display. As a result the wrong key may be pressed by a user.

It is an object of the present invention to provide a self-service terminal of the kind specified in which the above mentioned problem is alleviated.

According to the present invention there is provided a self-service terminal including a display screen which serves to display information to a user of the terminal and which has an upper, lower and side edges, and a plurality of FDKs which are disposed adjacent edges of said screen, said screen being recessed relative to said FDKs, characterized in that not more than two FDKs are positioned adjacent each of said side edges of said screen, and that at least two FDKs are positioned adjacent at least one of said upper and lower edges.

One embodiment of the present invention will now be described by way of example with reference to the accompanying drawings in which:-

Fig. 1 is a perspective view of an ATM in accordance with the invention;

Fig. 2 is a block diagram of the ATM of Fig. 1;

Figs. 3A to 3C are views of a display and FDKs of a prior art ATM as seen by users of various heights using the ATM; and

Figs. 4A to 4C are views, as seen by users of various heights, of a display and the FDKs of the ATM of Fig. 1.

Referring to Figs. 1, 2 and 4A to 4C, the ATM 10 shown therein includes a display screen 12 for displaying user information, a key pad 14 for inputting data, a card reader 16 for receiving a user identity card via a card slot 18, a cash dispenser 20 where currency notes stored in the dispenser 20 are delivered to a user during a transaction via a slot 22, a receipt printer 24 for printing a receipt acknowledging a deposit made by a user and for issuing the receipt to the user via a slot 26, and data processing means 28 to which the screen 12, the key

pad 14, the card reader 16, the cash dispenser 20 and the receipt printer 24 are connected. Eight FDKs 30 are located adjacent the display screen 12 and are also connected to the data processing means 28.

As shown in Fig. 1 and Figs. 4A to 4C, two of the FDKs 30 are located adjacent one of the side edges of the screen 12, two of the FDKs 30 are located adjacent the other side edge of the screen 12, and the remaining four FDKs 30 are located below and adjacent the lower edge of the screen 12. It should be understood that the screen 12 is recessed relative to the fascia surface 32 in which the FDKs 30 are located. The screen 12 is also recessed relative to the FDKs 30, which are themselves recessed slightly relative to the surface 32.

To make a transaction, a user inserts his identification card in the card slot 18 of the ATM 10. Data contained in a magnetic strip on the card is read by the card reader 16 and transmitted by the data processing means 28 to a host computer 34. If the host computer 34 authorizes the card then the user can proceed with his transaction.

Referring to Figs. 3A to 3C, shown therein are the screen 12' and eight FDKs 30' of a prior art ATM similar to the ATM 10 shown in Fig. 1 except that four of the FDKs 30' are located adjacent one side edge of the screen 12', and the other four FDKs 30' are located adjacent the other side edge of the screen 12'. The screen 12' displays eight options relating to the amount of money to be withdrawn. These options are displayed when the user has chosen to withdraw some currency as part of his transaction. The eight displayed options are respectively displayed immediately adjacent the eight FDKs 30'. Operation of one of the FDKs 30' serves to select the corresponding (i.e. immediately adjacent) displayed option. Where a user is of average height, the viewing angle is substantially at right angles to the screen 12' and to the user the FDKs 30' appear aligned with the options displayed as shown in Fig. 3A. Where a user is of below average height or is in a wheelchair then the FDKs 30' appear to the user to be offset upwards with respect to the options displayed, as shown in Fig. 3B. This is due to parallax. Where a user is of above average height, then the FDKs 30' appear to the user to be offset downwards with respect to the options displayed, as shown in Fig. 3C.

Referring now to Figs. 4A to 4C, shown therein are the screen 12 and the eight FDKs 30 of the ATM 10 in accordance with the invention. As previously mentioned, by each side edge of the screen 12 are two FDKs 30 and below the lower edge of the screen 12 are four FDKs 30. The latter four keys 30 are located where the problem of parallax has substantially no impact. As with the arrangement shown in Figs. 3A to 3C, where the user has chosen to withdraw some currency as part of his transaction, the screen 12 displays eight options relating to the amount of money to be withdrawn. Where a user is of average height, the FDKs 30 are aligned with the corresponding options displayed, as shown in Fig. 4A.

Where a user is of below average height or is in a wheelchair, then the FDKs 30 by each side edge of the screen 12 appear to be offset upwardly with respect to the corresponding options displayed, as shown in Fig. 4B. Where a user is of above average height, then the FDKs 30 by each side edge of the screen 12 appear to be offset downwardly with respect to the corresponding options displayed, as shown in Fig. 4C. However, since the number of FDKs 30 by each side edge of the screen 12 are only two keys in number, the user of the ATM 10 is presented with a simple decision. This reduces the chance of the wrong key 30 being pressed.

Most financial institutions have developed software applications to run with four FDKs 30 by either side edge of the screen 12. By keeping the same number of FDKs 30 the revised arrangement would be compatible with existing software applications.

The revised arrangement makes the location of the top FDKs lower, thus enhancing the usability of the ATM 10 for disabled users in wheelchairs.

An alternative arrangement to that described with reference to Fig. 1 and Figs. 4A to 4C is to have no FDKs 30 adjacent the side edges of the screen 12, but instead to have four FDKs 30 above and adjacent the upper edge of the screen 12 and four FDKs 30 below and adjacent the lower edge of the screen 12.

Another alternative arrangement to that described with reference to Fig. 1 and Figs. 4A to 4C is to have two FDKs 30 adjacent each of the side, upper and lower edges of the screen 12.

acterized in that there are a plurality of FDKs (30) located adjacent the upper edge of the screen (12), no FDK being located adjacent sides of the side edges of the screen.

5. A self-service terminal according to any one of the preceding claims, characterized in that said self-service terminal (10) is an automated teller machine.

Claims

1. A self-service terminal (10) including a display screen (12) which serves to display information to a user of the terminal and which has an upper, lower and side edges, and a plurality of functional display keys (FDKs) (30) which are disposed adjacent edges of said screen, said screen being recessed relative to said FDKs, characterized in that not more than two FDKs (30) are positioned adjacent each of said side edges of said screen (12), and that at least two FDKs are positioned adjacent at least one of said upper and lower edges.
2. A self-service terminal according to claim 1, characterized in that a plurality of FDKs (30) are located adjacent the lower edge of the screen (12).
3. A self-service terminal according to claim 1 or claim 2, characterized in that there are two FDKs (30) located adjacent one of the side edges of the screen (12), two FDKs located adjacent the other side edge of the screen, and four FDKs below and adjacent the lower edge of the screen.
4. A self-service terminal according to claim 2, char-

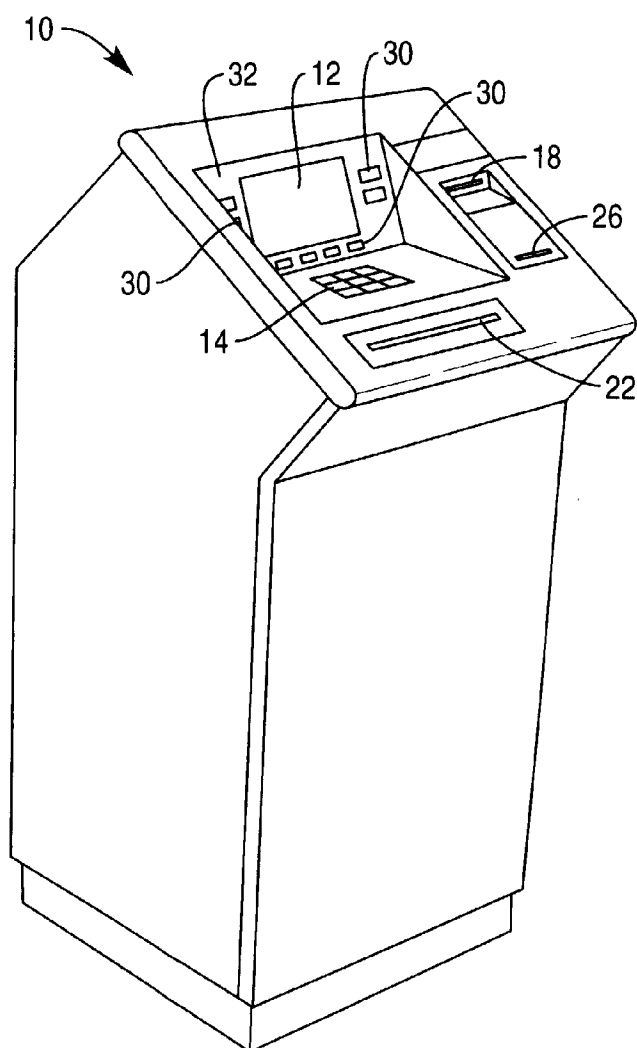


FIG. 1

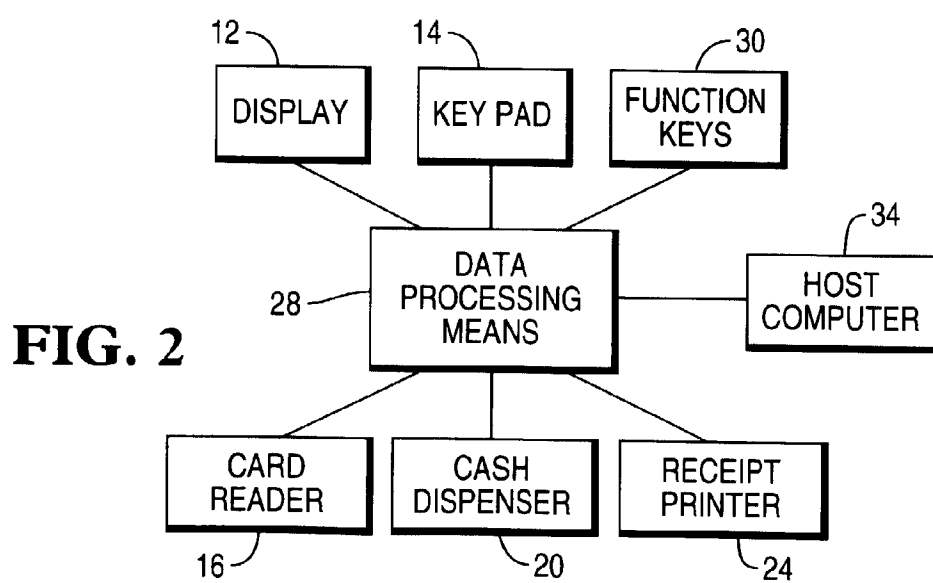


FIG. 2

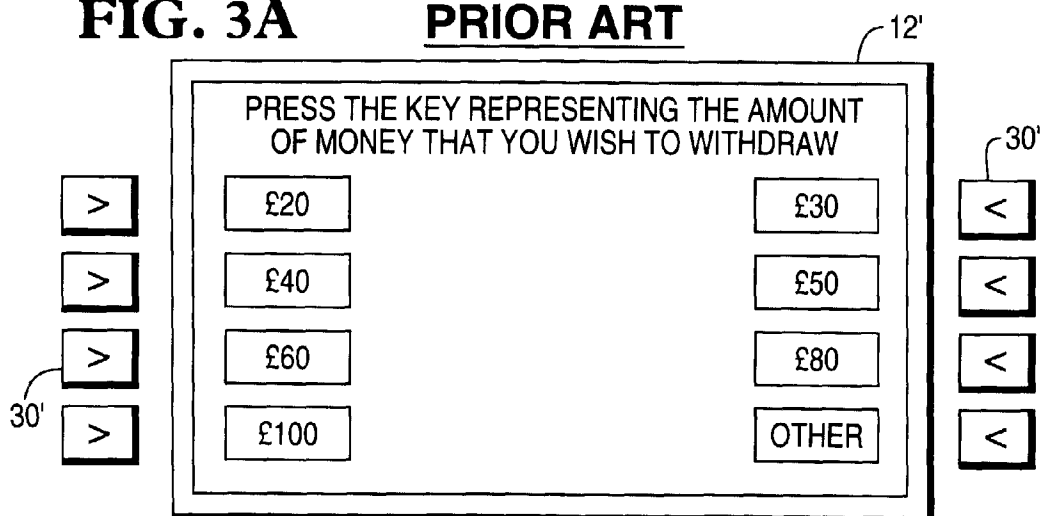
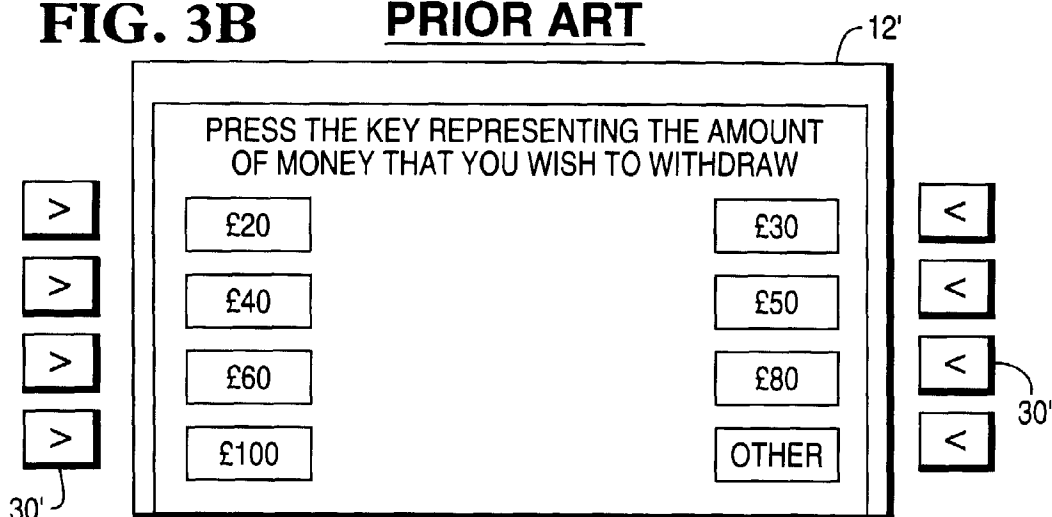
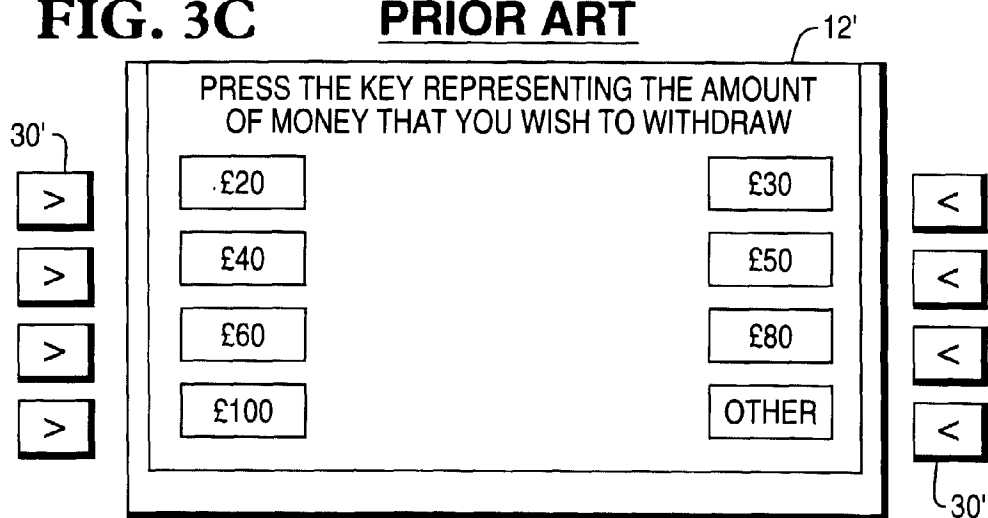
FIG. 3A PRIOR ART**FIG. 3B** PRIOR ART**FIG. 3C** PRIOR ART

FIG. 4A

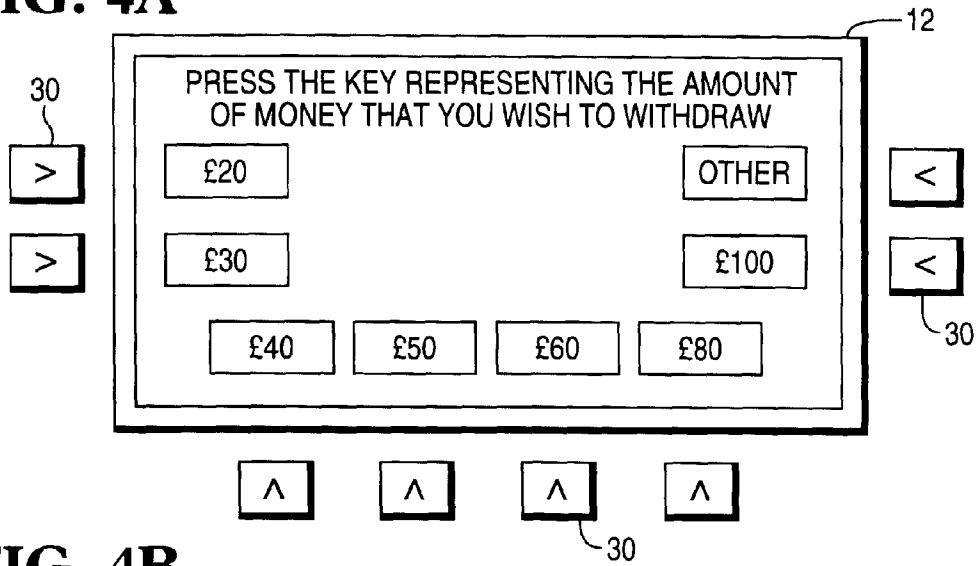


FIG. 4B

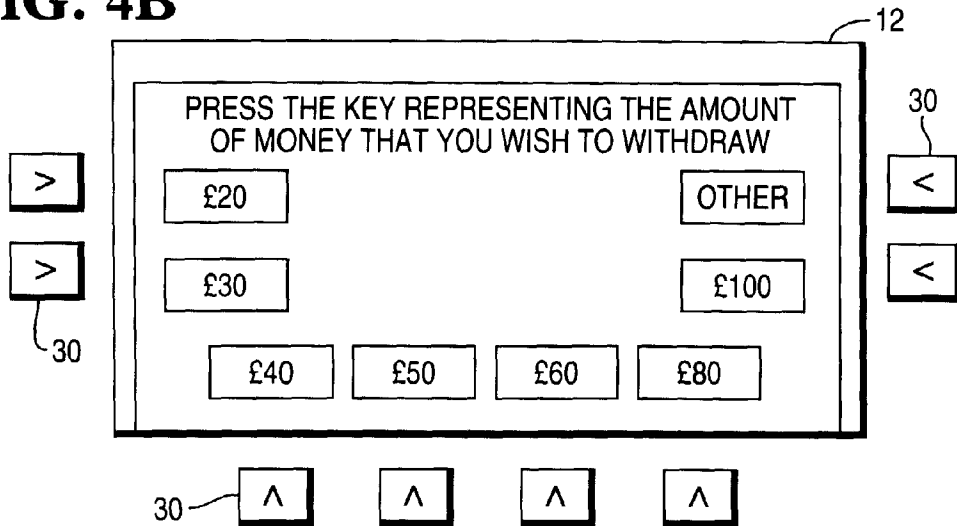


FIG. 4C

