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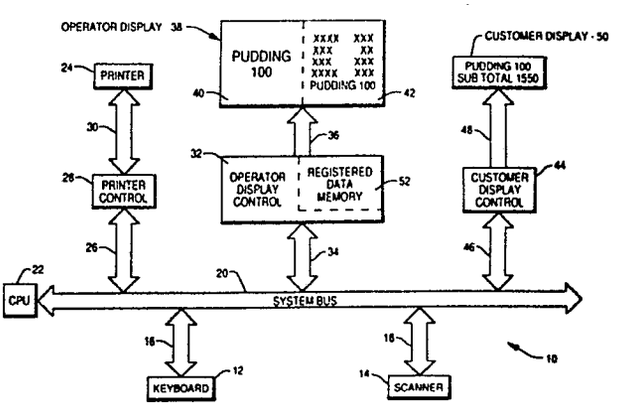
(54) Business machine.

(57) The invention relates to a business machine (10) for registering goods being purchased, such as a cash register or point of sale terminal, having display means (38) with a first portion (40) thereof for displaying currently registered goods and a second portion (42) thereof for displaying previously registered goods to enable the operator to confirm the registration of such previously registered goods. The display means (38) is provided for displaying previously registered goods and currently registered goods and a total of the prices of such previously and currently registered goods to inform the customer of the status of the registered goods.



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BUSINESS MACHINE

The invention relates to a business machine and more particularly to a business machine for registering goods being purchased and having the capability of displaying information pertaining to those registered goods.

In a cash register or like business machine, information regarding purchased goods or items is entered via a keyboard, a scanner or other input device, the information is printed on a receipt and/or a journal, and the information is displayed on a display unit. In the conventional cash register, only that information relative to an item or goods which is currently being input or which has just been input into the register is displayed on an operator display unit.

In the above-mentioned conventional cash register, it is sometimes necessary to confirm that items or information regarding such items have already been entered into the register. This requires checking the information which has been printed on a journal or on a receipt, except for that item or those items which are displayed on the operator display unit. In case the information has already been entered into the register and has been printed on the journal, it is necessary to look through the journal window to confirm which items have been included in the contents printed on the journal. A viewing through the journal window shows only the last item or several items which have been printed on the journal. If it is desired to confirm entering and printing of additional items, it is necessary to manually feed the journal to a position where such additional items can be viewed and confirmed. In similar manner, it may be desired to see the information or data which has been printed on the receipt, and it is necessary to manually feed the receipt through a slot in the register to confirm the items on the receipt. It is seen that this manner of confirming the data or information is time consuming and inefficient on the part of the operator.

Additionally, data or information which has just been entered into the register is displayed on the customer display unit. While the customer can view and confirm each item of data or information that appears on the customer display unit, the customer cannot check the current subtotal or the total price of the items. Therefore, it sometimes results in the subtotal or the total price being beyond an exit amount, or even an estimate of the total to be registered, and the customer cannot pay for all the items. Some of the items or articles of goods may have to be set back or cancelled and the records of the register need to be corrected. This correction of the journal and of the receipt requires additional time on the part of the operator which further slows the register operation.

One of the objects of the present invention is to provide a business machine for displaying information pertaining to registered goods in which the disadvantages referred to above are alleviated.

Accordingly, the present invention provides a business machine for registering goods being purchased including data input means for entering input data pertaining to said goods, processing means operably coupled to said data input means for providing processed data pertaining to said goods and display means operably coupled to said processing means for displaying said processed data, characterized by memory means coupled to said processing means for sequentially storing said processed data as associated input data is entered by said data input means, control means operably coupled to said memory means and to said display means to display on a first portion of said display means processed data pertaining to goods currently being registered and to display on a second portion of said display means processed data pertaining to goods previously registered, thereby enabling the operator to confirm said previously registered goods.

The present invention will be described further with reference to the single figure which illustrates a block diagram incorporating an embodiment of the present invention.

A cash register or point of sale terminal, generally designated as 10, includes a keyboard 12 for use by the operator in manually inputting data or information relative to prices of goods, items or articles purchased by the customer. A scanner, 14 is used to input data or information relative to prices of goods which include a universal product code (UPC) or like bar code and which scanner reads the bar code to input the data into the register 10.

Data or information is sent from the keyboard 12 by means of a bus 16 and data or information is sent from the scanner 14 by means of a bus 18 to a system bus 20 which is coupled to a central processing unit (CPU) 22. The central processing unit 22 reads out data or information relative to prices of items or articles from a price look up (PLU) file (not shown). The PLU file may be either internally or externally provided and the CPU 22 calculates the subtotal of the registered items or articles. The CPU 22 processes the input data or information into data to be printed on a receipt and/or a journal by a printer 24. The data from the CPU 22 is sent by means of a bus 26 to a printer control 28 which is coupled to the printer 24 by

means of a bus 30.

The processed data is also transmitted along the system bus 20 to an operator display control 32 by means of a bus 34. The operator display control 32 is coupled by means of a bus 36 to an operator display unit 38. The operator display unit 38 includes a first portion 40 and a second portion 42. The portions 40 and 42 may occupy separate screens or may occupy a split screen of the display unit 38.

The processed data is also transmitted along the system bus 20 to a customer display control 44 by means of a bus 46. The customer display control 44 is coupled by means of a bus 48 to a customer display unit 50. The CPU 22 can be coupled to additional registers (not shown) by means of the system bus 20.

Input data and item or article data are transmitted from the CPU 22 to the operator display control 32. The operator display control 32 includes a registered data memory 52 for storing individual input data and item or article data in the order in which the individual data are input and in which the items or articles are registered. Data transmitted from the CPU 22 is sequentially stored in the data memory 52 and displayed in a large size on portion 40 of the operator display unit 38. Information or data stored in the data memory 52 is also displayed in a small size on portion 42 of the operator display unit 38. The data or information is displayed on portion 42 of the operator display unit 38 in the reverse order in which the individual data is input into the data memory 52.

As mentioned above, the most recently registered data (pudding 100) is displayed in large size on the display portion 40 so that the operator can readily confirm the article data which has just been registered. The subtotal of prices of registered articles which is calculated by the CPU 22 or the most recently registered data may be displayed (pudding 100) in the lower row of items on the display portion 42. The number of items of the most recent registered data, that is, the number of items which are displayed on the portion 42 of the operator display unit 38, can be changed as required by the particular operation In case that data which have been stored previously to the storage of the registered article data which now appears on the portion 42 of the display unit 38 needs to be confirmed, the previously stored data can be read out from the data memory 52 by means of operating the keyboard 12 and displayed on the portion 42. As an alternative, the data in the data memory 52 can be sequentially read out and sequentially displayed, or displayed by shifts, on the portion 42.

The split display arrangement of the operator display unit 38, the designation of the number of data to be displayed, the read out of the specific item of data from the data memory 52 to be displayed, and the shift display on the portion 42 are well known in the art.

Data or information on the subtotal price of the transactions is transmitted to the customer display control 44 together with individual input data and article data. The customer display unit 50 is constructed such that data can be displayed in different areas thereof, such data being in the order of the data displayed in portion 42 of the operator display unit 38. The most recent input data relative to the name of the item or article and the article data (price) are displayed in an upper area of the customer display unit 50 and the subtotal is displayed in a lower area of the customer display unit 50. Of course, the upper and lower arrangement may be reversed from that just mentioned, as desired by the particular operation. The subtotal price may be considered a running or current total for the benefit of the customer at any time during the registering transaction.

The input data of the plurality of the most recent items or articles are displayed on the portions 40 and 42 of the operator display unit 38. An alternative arrangement provides that only the article data which has just been registered is displayed in normal operation and the data stored in the data memory 52 are displayed as required by a particular operation. Additionally, the data memory 52 may be provided as a part of the CPU 22 rather than the operator display control 32.

The present invention is constructed such that the previously registered data can be promptly confirmed with the provision of the data memory 52 for storing input data in the order in which the data are input. Confirmation of such data can be readily performed by the operator and the efficiency of the operation is thereby improved. The sequential storage of input data in the registered data memory 52 permits switching from the confirming operation of the registration of a system configuration by viewing the printing on the journal to an operation by viewing the display on the operator display unit 38, wherein the registration of the system configuration can be effectively performed.

Additionally, the price of each article and the subtotal of all the purchased articles are displayed on the customer display unit 50, so that the customer can see the subtotal of the registered articles at all times. If the customer sees that the amount of the registered items does or will exceed the estimate, the customer can cancel any remaining articles and not require changing of the registered data or information.

It is thus seen that the present invention provides memory means for sequentially storing therein input data relative to the name of the item or

article or goods purchased and price data associated with the input data and that such data stored in the memory means are displayed on the operator display unit for ready confirmation by the operator.

Additionally, the present invention enables a unit price of an item or article and a subtotal or current total of the prices of the items or articles which have been registered to be displayed on the customer display unit for benefiting the customer.

Claims

1. A business machine (10) for registering goods being purchased including data, input means (12, 14) for entering input data pertaining to said goods, processing means (22) operably coupled to said data input means (12, 14) for providing processed data pertaining to said goods, and display means (38) operably coupled to said processing means (22) for displaying said processed data, characterized by memory means (52) coupled to said processing means (22) for sequentially storing said processed data as associated input data is entered by said data input means (12, 14), control means (32) operably coupled to said memory means (52) and to said display means (38) to display on a first portion (40) of said display means (38) processed data pertaining to goods currently being registered and to display on a second portion (42) of said display means (38) processed data pertaining to goods previously registered, thereby enabling the operator to confirm previously registered goods.

2. A business machine (10) as claimed in claim 1, characterized in that said control means (32) is operable to display said data pertaining to goods currently being registered simultaneously on said display means (38) with said processed data pertaining to said previously registered goods.

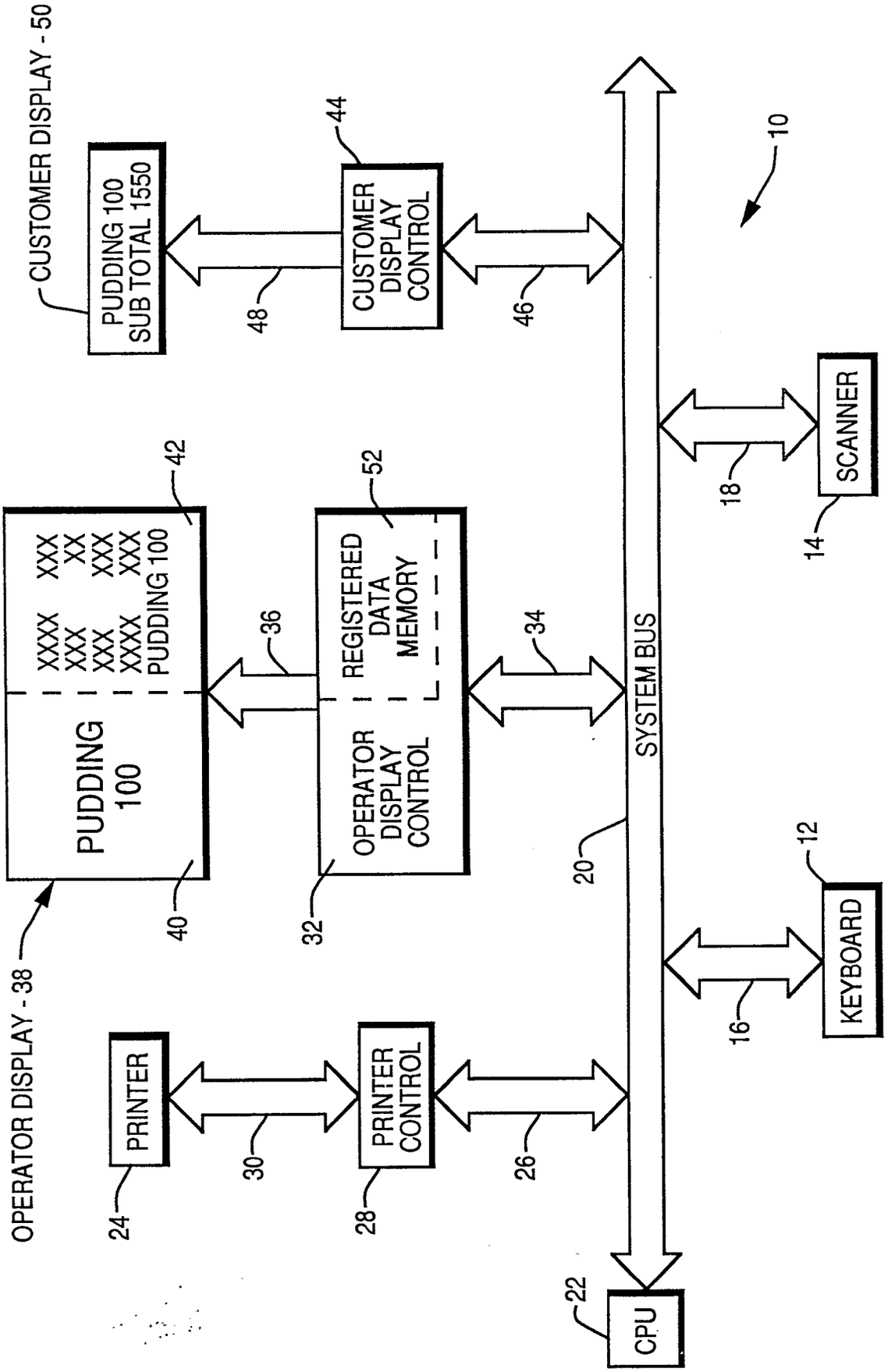
3. A business machine (10) as claimed in claim 1 or claim 2, characterized in that said control means (32) is operable to display on said first portion (40) processed data pertaining to goods currently being registered and to display on said second portion (42) processed data pertaining to goods currently being registered and also processed data pertaining to goods previously registered.

4. A business machine (10) as claimed in any one of claims 1 to 3, characterized in that said first portion (40) of said display means (38) provides a display of said currently processed data in a first size and said second portion (42) of said display means (38) provides a display of said previously processed data in a second size smaller than said first size.

5. A business machine (10) as claimed in any one of claims 1 to 4, characterized in that said control means (32) provides said previously processed data to said second portion (42) of said display means (38) and said second portion (42) displays such data with respect to a plurality of goods on a last-in first-out basis.

6. A business machine (10) as claimed in any one of claims 1 to 5, characterized in that said printing means (24) prints previously processed data on a journal and said operator can confirm the printed data by observing said second portion (42) of said display means (38).

7. A business machine (10) as claimed in any one of claims 1 to 6, characterized by a customer display means (50) and control means (44) therefor coupled to said processing means (22) and to said data input means (12, 14), said customer display means (50) providing a display of processed data pertaining to goods previously registered and a display of data pertaining to a current total of the prices of such individual goods.


CUSTOMER DISPLAY - 50
PUDDING 100
SUB TOTAL 1550
44
CUSTOMER
DISPLAY
CONTROL
48
46
10
SYSTEM BUS
SCANNER
18
14
42
52
XXXX XXX
XXX XX
XXX XXX
XXXX XXX
PUDDING 100
REGISTERED
DATA
MEMORY
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34
PUDDING
100
OPERATOR
DISPLAY
CONTROL
OPERATOR DISPLAY - 38
40
32
20
12
KEYBOARD
16
PRINTER
PRINTER
CONTROL
24
30
28
26
CPU
22