SPECIFICATION

Inventory Control System

Technical Field

The present invention relates to an inventory control system that enables centralized control, at a single place, of the inventory control of a plurality of users, via communication lines.

Prior Art

Generally, inventory control of various types of merchandise is carried out by each user individually. However, in inventory control, to avoid running out of stock, the time at which merchandise is ordered has to be managed for each merchandise. Also, in order to always maintain an optimal inventory state, it is necessary to constantly monitor sales quantities and quantities of returns and the like of each merchandise.

Being able to carry out inventory control for each user collectively, at one place, is desirable since it would greatly reduce the burden on each user.

But what is a suitable quantity of merchandise stock differs from user to user; moreover, the restocking time for each merchandise, and the restocking quantities, differ depending on each user's sales quantities.

Therefore, existing inventory control systems developed for each user cannot be utilized as they are for collectively controlling, at one place, the inventory of numerous users.

In view of these points, the object of the present invention is to provide an inventory control system that enables collective control, at a single place, of the inventory control of numerous users.

Disclosure of the Invention

The present invention relates to an inventory control system having a plurality of user terminal apparatuses and a control center apparatus connected to each user terminal apparatus via a communication line, in which in the control center apparatus, inventory control of each user's merchandise is carried out collectively.

Each time inventory merchandise in a warehouse in which the user terminal apparatuses are installed is retrieved or returned to the warehouse, a user code for

designating a user, a merchandise retrieval / return code indicating either merchandise retrieval or return, a person-responsible code designating a person responsible for handling of merchandise, a merchandise code designating merchandise targeted for handling, and quantity of merchandise targeted for handling are transmitted to the control terminal apparatus by the user terminal apparatus.

Also, the control center apparatus is characterized by being equipped with: receiving means for receiving information transmitted from a user terminal apparatus; by-user inventory data storage means that stores inventory status for each user; order item storage means that stores inventory quantity of each merchandise that needs to be restocked, for each user; order item control means that, based on information from the user terminal apparatus and content of the by-user inventory data storage means and the order item storage means, determines whether restocking of each merchandise is or is not required and, with respect to merchandise which requires restocking, generates restocking instruction data that includes restocking quantity; and inventory data update means that updates the by-user inventory data.

The user terminal apparatus can be given a configuration in which it is: equipped with code reading means that reads the merchandise retrieval / return code, person-responsible code, merchandise code; quantity input means for inputting quantity of merchandise targeted for handling; and transmission means that transmits to the control center apparatus information read by the code reading means and information input via the quantity input means, together with the user code.

In a typical embodiment configuration, the user terminal apparatus is equipped with a barcode scanner having an input section, and transmission means that transmits to the control center apparatus information output by this barcode scanner; merchandise retrieval / return code, person-responsible code and merchandise code are barcodes, the quantity of merchandise to be handled can be input from the input section; and barcode information read by the barcode scanner, input merchandise quantity information are sent, together with a user code furnished beforehand to the barcode scanner, to the control center apparatus via the transmission means.

In this case, the merchandise retrieval / return code and the person-responsible code can be formed on the surface of a barcode sheet prepared beforehand. Also the merchandise code can be formed on the surface of each merchandise's packaging paper or packaging box.

In cases where users have a plurality of warehouses, the user terminal apparatus includes a warehouse code for designating the warehouse where merchandise is retrieved or returned, and the warehouse code information is also transmitted to the control center apparatus.

It is also desirable for the user terminal apparatus to be equipped with detail issuing means for printing out information read by the reading means and the quantities input by the quantity input means.

Next, it is desirable for the user terminal apparatus to be equipped with restocking processing means that, based on restocking instruction data generated by the order item control means, generates restocking data that includes information on merchandise needing to be restocked, restocking quantity, restocking destination user information.

In this case, the inventory data update means may update the by-user inventory data based on the restocking data generated by the restocking processing means.

It is also desirable for the control center apparatus to have usage data generation means that generates usage data including type and quantity of merchandise retrieved from a warehouse by each user, based on information from the user terminal apparatus.

Moreover, it is also desirable for the control center apparatus to be equipped with inventory checking means that, each time the by-user inventory data is updated, generates total inventory data that includes types and quantities of each user's inventory merchandise stored at a warehouse, and types and quantities of inventory merchandise stored by the control center.

It is also desirable, furthermore, is the inclusion of sales processing means that, based on the usage data, generates sales data that includes merchandise accounts receivable for each user.

In this case, the control center apparatus can be configured to include closing data storage means that stores closing dates for merchandise accounts receivable

for each user, with the sales processing means generating sales data at each of the closing dates.

Moreover, a control center apparatus configuration can be employed that includes merchandise restocking time storage means that stores merchandise restocking times for each user, and the restocking instruction data and restocking data include information specifying the merchandise restocking time.

In addition to this, a control center apparatus configuration can be used which includes restocking format storage means that for each user, at merchandise restocking time, remembers whether or not to restock merchandise to the inventory maximum, with the merchandise restocking quantity included in the restocking instruction data and restocking data being decided based on the stored content of the restocking format storage means.

Next, the inventory control system of the present invention is characterized by having a distribution center terminal apparatus that, based on the restocking data, processes data relating to procedures for delivering merchandise to each user.

The present invention is directed to a user terminal apparatus used in an inventory control system in which, via a communication line, control of merchandise inventory of a plurality of users is collectively controlled at the control center end. The user terminal apparatus characterized in that it is equipped with code reading means that reads the merchandise retrieval / return code, person-responsible code, merchandise code; quantity input means for inputting quantity of merchandise targeted for handling; and transmission means that transmits to the control center information read by the code reading means and information input via the quantity input means, together with the user code.

In the case where a barcode scanner having an input section that functions as the barcode reading means and quantity input means, and transmission means that transmits to the control center apparatus information output by this barcode scanner, are included, the merchandise retrieval / return code, person-responsible code and merchandise code are barcodes, the quantity of merchandise to be handled can be input from the input section; and barcode information read by the barcode scanner, input merchandise quantity information are sent, together with a user code furnished beforehand to the

barcode scanner, to the control center apparatus via the transmission means.

A configuration can also be used in which the merchandise retrieval / return code and the person-responsible code are formed on the surface of a barcode sheet prepared beforehand, with the merchandise code being formed on a surface of each merchandise's packaging paper or packaging box.

It is also desirable for a warehouse code for designating a warehouse that carries out merchandise retrieval / return to be included, and for the warehouse code information also to be transmitted to the control center.

It is, furthermore, desirable for a detail issuing means to be included for printing out information read by the reading means and quantities input by the quantity input means.

Next, the present invention is directed to a control center apparatus used in an inventory control system in which, via a communication line, control of merchandise inventory of a plurality of users is collectively controlled at a control center end. The control center apparatus is characterized by being equipped with: receiving means for receiving information transmitted from the user terminal apparatus; by-user inventory data storage means that stores inventory status for each user; order item storage means that stores inventory quantity of each merchandise that needs to be restocked, for each user; order item control means that, based on information from the user and the content of the by-user inventory data storage means and order item storage means, determines whether restocking of each merchandise is or is not required and, with respect to merchandise which requires restocking, generates restocking instruction data that includes restocking quantity; and inventory data update means that updates the by-user inventory data.

Here, it is desirable to include a restocking processing means that, based on restocking instruction data generated by the order item control means, generates restocking data that includes information on merchandise needing to be restocked, restocking quantity, restocking destination user information.

It is also desirable for the inventory data update means to update the by-user inventory data based

on the restocking data generated by the restocking processing means.

It is also desirable to have usage data generation means that generates usage data including type and quantity of merchandise retrieved from a warehouse by each user, based on information from the user.

It is also desirable to include inventory checking means that, each time the by-user inventory data is updated, generates total inventory data that includes types and quantities of each user's inventory merchandise stored at a warehouse, and types and quantities of inventory merchandise stored by control center.

It is also desirable to include sales processing means that, based on the usage data, generates sales data that includes merchandise accounts receivable for each user.

Here, it is desirable to include data storage means that stores closing dates for merchandise accounts receivable for each user, with the sales processing means generating sales data at each of the closing dates.

It is also desirable to include merchandise restocking time storage means that stores merchandise restocking times for each user, with the restocking instruction data and restocking data including information specifying merchandise restocking time.

It is also desirable to include restocking format storage means that for each user, at merchandise restocking time, remembers whether or not to restock merchandise to the inventory maximum, with merchandise restocking quantity included in the restocking instruction data and restocking data being decided based on the stored content of the restocking format storage means.

Brief explanation of the drawings

Figure 1 is a diagram showing an example of the overall configuration of an inventory control system to which the present invention is applied.

Figure 2 is a diagram showing the general configuration of a user terminal apparatus and control center apparatus in the inventory control system of Figure 1.

Figure 3 is an operation explanatory diagram showing the processing procedure of the inventory control system of Figure 1.

(Explanation of the symbols)

1	Inventory control system
2	Control center apparatus
2A	Control center
3	User terminal apparatus
3A	User
4	Distribution center terminal apparatus
4A	Distribution center
5	Warehouse
6	Inventory control server
7	Main system
8, 9	Communication lines
31	Handy scanner
311	Display section
312	Input section
313	Data output terminal
32	Communications unit
321	Scanner mounting section
322	Control section
323	Printer
324	Communications section
325	Actual record sheet
33	Control barcode sheet
331	Department code
332	Person-responsible code
333	Retrieval code
334	Return code
335	User code
335	Warehouse code
61	Communications section
62	Inventory control / update section
63	Order item control section
64	Display section
65	Input section
66	Print section
67	User master
671	Warehouse data
672	Merchandise data
673	Person-responsible data
674	Department data
675	Restocking item data
676	Restocking time data
677	Restocking format data
678	Sales closing date data
68	Storage section
681	Inventory data

682 Usage data
683 Restocking instruction data
71 Restocking processing section
72 Inventory checking section
73 Sales processing section
74 Storage section
741 Restocking data
742 Total inventory data
743 Sales data
75 Display section
76 Input section
77 Print section

Best mode for carrying out the invention

Examples of embodiments of an inventory control system applying the present invention are explained below with reference to the drawings.

Figure 1 shows the general configuration of an example of an inventory control system. With reference to the drawing, inventory control system 1 has a control center 2A in which a control center apparatus 2 is installed, a plurality of users 3A, each provided with a user terminal apparatus 3, and a distribution center 4A provided with a distribution center terminal apparatus 4. In this example, each of the users 3A has a plurality of merchandise warehouses 5, each of the merchandise warehouses 5 being provided with a user terminal apparatus 3. The control center apparatus 2 comprises an inventory control server 6 and a main system 7.

The inventory control server 6 of the control center apparatus 2 is connected with each user terminal apparatus 3 by a communication line 8. For example, a normal telephone line, VAN, the Internet or the like can be utilized as the communication line 8. The main system 7 of the control center apparatus 2 and the distribution center terminal apparatus 4 are also connected by a communication line 9. Based on merchandise restocking data from the control center apparatus 2, the distribution center 4A ships merchandise to the warehouses 5 of each user. In the drawing, the delivery route is indicated by double lines.

Next, Figure 2 shows the general configuration of a merchandise warehouse 5 in which a user terminal apparatus 3 is installed, and the general configuration of the control center apparatus 2. This example of a

merchandise warehouse 5 contains a plurality of merchandise groups 51; and, the user terminal apparatus 3 installed in this warehouse is equipped with a handy scanner 31 for reading barcodes, a communications unit 32, and a control barcode sheet 33 on the surface of which is printed or adhered a plurality of barcodes.

Printed or adhered on the surface of the control barcode sheet 33 barcodes that include a retrieval code 331 indicating retrieval of inventory merchandise 52, a return code 332 indicating returns to the warehouse, a department code 333 provided beforehand that indicates which department handles the merchandise in the user 3A, and a person-responsible code 334 provided beforehand for the person responsible for the handling.

The handy scanner 31 is for reading a merchandise code 53 provided beforehand on handling target merchandise, and for reading barcodes on the control barcode sheet 33. The handy scanner 31 of this example has an internal memory (not shown) in which are stored a warehouse code 335 provided to each warehouse beforehand, and a user code 336 provided beforehand to users utilizing the warehouse concerned, and is equipped with a liquid crystal display section 331 that displays read-off information and the like, an input section 312 that includes a numeric key-pad for inputting quantities of merchandises handled, and a data output terminal 313 for outputting read-off information and the like.

The communications unit 32 is equipped with a scanner mounting section 321, a control section 322, a printer 323 and a communications section 324. When the scanner 31 is mounted on the scanner mounting section 321, data output from the data output terminal 313 formed on the handy scanner is input to the control section 322. Under the control of the control section 322, the data that is input is output from printer 323 as a transaction record slip 325. Also, the data is transmitted from the communications section 324 to the control center apparatus 2, via the communication line 8.

The user terminal apparatus 3 may be configured by a personal computer provided with communication functions in place of the handy scanner 31 and communications unit 32, or together with these apparatuses, with information represented by the above-described barcodes being entered via a keyboard by an operator for transmission to the control center apparatus

2. Instead of inputting the above barcodes, an input method utilizing voice input or other such input method may be employed.

Next, the inventory control server 6 in the control center apparatus 2 is equipped with a communications section 61 that receives transmission data from user terminal apparatus 3, an inventory control / update section 62 that, based on the received data, performs inventory control processing and update processing of inventory amounts for each user's warehouse, an order item control section 63 that for each user's warehouse determines whether restocking of merchandise is required and, with respect to merchandise that does require restocking, generates restocking instruction data that includes restocking quantities, a display section 64, input section 65 and print section 66.

A user master 67 for each user is held in the memory of the inventory control server 6; this user master 67 holds data that includes warehouse data 671, merchandise data 672, person-responsible data 673, department data 674, restocking item data 675, restocking time data 676, restocking format data 677 and sales closing date data 678. User master 67 is set beforehand in the control center 2A from the input section 65.

Warehouse data 671 includes information such as warehouse location and the like. Merchandise data 672 includes type of inventory merchandise stored in each warehouse, maximum inventory amount and other such information. Person-responsible data 673 is data relating to the person in charge of handling merchandise in each warehouse, and includes information corresponding to information indicated by the person-responsible code 334 printed on or adhered to the control barcode sheet 33 of each warehouse. Similarly, the department data 674 is data relating to the department that handles the merchandise in each warehouse, and includes information corresponding to information indicated by the department code 333 printed on or adhered to the control barcode sheet 33 of each warehouse.

Restocking item data 675 is data relating to the inventory quantity required for restocking of merchandise in each warehouse; in cases where there is retrieval of merchandise, when the inventory quantity is less compared to the inventory quantity indicated by the restocking item data 675, it is determined that

restocking of merchandise is required. Restocking time data 676 is data showing the merchandise restocking time for each warehouse; based on the timing shown by this restocking time data 676, restocking instruction data is generated whereby restocking merchandise is delivered from the distribution center 4A two times each week, for example, on Monday and Thursday. Restocking format data 677 is data that shows, at the time of restocking of merchandise, what kind of quantity of merchandise to restock; a setting can for example be used whereby at merchandise restocking time, merchandise is always restocked to the inventory maximum.

Sales closing data 678 shows the closing date for merchandise accounts receivable, which can be set for each user.

For each user, the memory of the inventory control server 6 includes inventory data 681 for each warehouse, usage data 682 showing quantities of retrieved merchandise, and storage section 68 which holds restocking instruction data 683. Also included is storage section 69 that holds data received from each user terminal apparatus 3, merchandise control historical data that includes records of merchandise usage, restocking records and the like.

Next, via interface 70, the main system 7 of the control center apparatus 2 is supplied with inventory data 681, usage data 682 and restocking instruction data 683 generated in the inventory control server 6. This main system 7 is equipped with a restocking processing section 71 that generates / outputs restocking data forwarded or transmitted by the distribution center 4A, based on restocking instruction data 683, an inventory checking section 72 that, based on inventory data 681, checks inventory amounts of merchandise at each warehouse and merchandise inventories at the control center end, and generates / outputs total inventory data of the whole system that includes inventory amounts of all merchandise, and a sales processing section 73 that, based on usage data 682, tabulates sales by user and generates / outputs sales data.

Also, there is a storage section 74 for holding data that includes restocking data 741 generated by each section, data total inventory data 742 and sales data 743. Also included are a display section 75 that displays the various types of data generated, a print section 77 that prints out restocking invoices, delivery

slips and invoices generated from the various types of data, and an input section 76.

Next, Figure 3 shows the processing procedure in an inventory control system 1 having the above configuration. The inventory control operation of the inventory control system 1 of this example will be explained with reference to the drawing. First, a merchandise retrieval / merchandise return operation in a warehouse 5 of user 3 is carried out as follows. The person in charge uses the handy scanner 31 to select and scan the department code 331 to which said person in charge belongs, on the control barcode sheet 33, and then selects and scans the person-responsible code 334 assigned to the said person in charge. When merchandise is to be retrieved, the merchandise retrieval code 333 is scanned, while when merchandise is to be returned, the return code 334 is scanned. Next, the merchandise code 53 of the merchandise 52 (see Figure 2) targeted for handling is scanned, and the number of items to be retrieved or returned is input via the input section 312 of the handy scanner 31.

Different types of merchandise can be continuously retrieved / returned by scanning merchandise retrieval code 333 or return code 334, scanning merchandise code 53 and repeating the operation of inputting the handling quantity the required number of times. As a result of this operation, record data of actual merchandise transactions is accumulated in an internal memory (not shown) of the handy scanner 31 (block B1). When the handy scanner 31 is mounted on the scanner mounting section 321, record data accumulated in the internal memory (block B2) is output from the data output terminal 313 of the handy scanner together with user code 335 and warehouse code 336 set beforehand in the handy scanner 31, and a record data sheet 325 is printed out by the printer 323 (block B3). At the same time, from the control section 322, via the communications section 324, record data is transmitted, via communication line 8, to the inventory control server 6 of the control center apparatus 2 (block B4).

Next, when the record data is received at the inventory control server 6 (block B5), inventory data 681, usage data 682 for each warehouse is generated by the inventory control / update section 62, based on the received data and the registration content of the user master 67. Also, based on this information, the order

item control section 681 generates restocking instruction data 683 (block B6). Inventory data 681 is generated by updating inventory data held in the storage section 68, based on handling merchandise information (merchandise type, quantity and the like) included in the received data. Usage data 682 is generated based on retrieved merchandise information. When a merchandise inventory quantity, as shown by the generated inventory data 681, is compared with restocking item data 675 set in the user master 67, and the inventory quantity has become smaller than the inventory quantity shown by said restocking item data, restocking instruction data 683 is generated the gist of which is that merchandise restocking is required.

Here, in this example, as described in the above, restocking time data 676 and restocking format 677 can be set in the user master 67. Therefore, the restocking instruction data 683 that is generated also contains data relating to restocking time and restocking format.

The generated inventory data 681, usage data 682 and restocking instruction data 683 are stored in main system 7 memory (not shown) by main association processing (block B7).

At restocking processing section 71 of the main system 7, restocking data 741 for instructing regarding delivery with respect to the distribution center 4 is generated, based on the restocking instruction data 681 received (block B8). Here, when restocking time is designated in the restocking instruction data 681, restocking data 741 includes information instructing the restocking merchandise to be shipped to the warehouse at the designated time. Also, when the restocking instruction data 681 specifies restocking format, and specifies that at the restocking time, restocking is always to be implemented that brings the merchandise inventory up to the maximum amount, the restocking data 741 includes the merchandise restocking quantity that brings the inventory quantity to the maximum.

When restocking data 741 is generated and sent to the distribution center 4 as a transmission or restocking invoice 771 (block B9), based on this restocking data 741, inventory data 681 in the inventory control server 6 is updated (block B10).

Next, based on the received inventory data 681, the inventory checking section 72 examines merchandise inventory amounts at each user warehouse, and the amounts

of merchandise inventory stored by the control center 2A, and computes total inventory data 742 that shows total inventory quantities by merchandise (block B11). This inventory checking enables the control center 2A to perform realtime computation of merchandise that should be restocked and the quantities. Thus, at each warehouse, there is no running out of stock.

Based on the usage data 683 received, the sales processing section 73 of the main system 7 tabulates sales by user and prepares sales data 743 (block B12). Sales data is sent to users in the form of a delivery slip 731. Here, when the sales closing date is set in the user master 67 of the inventory control server 6, the usage data 683 includes information relating to said sales closing date. At the sales processing section 73, based on said information, sales data is tabulated at the set sales closing date, delivery slips and invoice data are generated, and are printed out by the printing section 77.

Next, when the distribution center terminal 4 of the distribution center 4A receives restocking data 741, restocking merchandise is prepared (block B13), and at the designated restocking time, the specified amount of merchandise is restocked (block B14). Moreover, in this example, the distribution center terminal 4 is installed at the distribution center 4A and restocking data is received via a communication line But it is of course possible for restocking invoices 771 to be sent from the control center 2A and used as the basis for delivery processing.

Thus, by utilizing the inventory control system 1 of this example, at each of the warehouses 5 of users 3A, merchandise is always maintained at or above predetermined quantities. Thus, there is no running out of stock.

Industrial applicability

As described in the foregoing, in the inventory control system of the present invention, inventory data of each user is maintained at a control center that is connected to users by communication lines, in addition to which order item control of each merchandise of each user is implemented, and it is possible to set the order items for each user.

Therefore, in accordance with the inventory control system of this invention, inventory control in

respect of each user, in each user's desired format, can be collectively controlled from the control center end.

Scope of Claim

1. An inventory control system comprising a plurality of user terminal apparatuses and a control center apparatus connected to each user terminal apparatus via a communication line, in which in the control center apparatus, inventory control of each user's merchandise is carried out collectively; wherein

each time inventory merchandise in a warehouse in which the user terminal apparatuses are installed is retrieved or returned to the warehouse, the user terminal apparatus transmits to the control center apparatus a user code for designating a user, a merchandise retrieval / return code indicating either merchandise retrieval or return, a person-responsible code designating a person responsible for handling of merchandise, a merchandise code designating merchandise targeted for handling, and quantity of merchandise targeted for handling; and wherein

the control center apparatus has:

receiving means for receiving information transmitted from a said user terminal apparatus;

by-user inventory data storage means that stores inventory status for each user;

order item storage means that stores inventory quantity of each merchandise that needs to be restocked, for each user;

order item control means that, based on information from said user terminal apparatus and content of said by-user inventory data storage means and said order item storage means, determines whether restocking of each merchandise is or is not required and, with respect to merchandise which requires restocking, generates restocking instruction data that includes restocking quantity; and

inventory data update means that updates said by-user inventory data.

2. The inventory control system according to claim 1, in which

the user terminal apparatus has code reading means that reads the merchandise retrieval / return code, person-responsible code, merchandise code; quantity input means for inputting quantity of merchandise targeted for handling; and transmission means that transmits to said control center apparatus information read by said code

reading means and information input via said quantity input means, together with said user code.

3. The inventory control system according to claim 1, wherein

the user terminal apparatus has a barcode scanner having an input section, and transmission means that transmits to said control center apparatus information output by this barcode scanner;

said merchandise retrieval / return code, person-responsible code and merchandise code are barcodes, with the quantity of merchandise to be handled being capable of being input from the input section; and

barcode information read by said barcode scanner, input merchandise quantity information are sent, together with a user code furnished beforehand to the barcode scanner, to the control center apparatus via the transmission means.

4. The inventory control system according to claim 3, wherein

the merchandise retrieval / return code and said person-responsible code are formed on the surface of a barcode sheet prepared beforehand, and merchandise code is formed on a surface of each merchandise's packaging paper or packaging box.

5. The inventory control system according to claim 1, wherein

each user terminal apparatus has a warehouse code for designating a warehouse that carries out merchandise retrieval / return, and wherein the warehouse code information is also transmitted to said control center apparatus.

6. The inventory control system according to claim 1, wherein

each user terminal apparatus has detail issuing means for printing out information read by said reading means and quantity input by said quantity input means.

7. The inventory control system according to claim 1, wherein

the control center apparatus has restocking processing means that, based on restocking instruction data generated by said order item control means,

generates restocking data that includes information on merchandise needing to be restocked, restocking quantity, restocking destination user information.

8. The inventory control system according to claim 7,

the inventory data update means updates said by-user inventory data based on said restocking data generated by said restocking processing means.

9. The inventory control system according to claim 8, wherein

the control center apparatus has usage data generation means that generates usage data including type and quantity of merchandise retrieved from a warehouse by each user, based on information from said user terminal apparatus.

10. The inventory control system according to claim 9, wherein

the control center apparatus has inventory checking means that each time said by-user inventory data is updated, generates total inventory data that includes types and quantities of each user's inventory merchandise stored at a warehouse, and types and quantities of inventory merchandise stored by control center.

11. The inventory control system according to claim 9, wherein

the control center apparatus has sales processing means that based on said usage data, generates sales data that includes merchandise accounts receivable for each user.

12. The inventory control system according to claim 11,

the control center apparatus has closing data storage means that stores closing dates for merchandise accounts receivable for each user; and wherein

the sales processing means generates sales data at each of said closing dates.

13. The inventory control system according to claim 7, wherein

the control center apparatus has merchandise restocking time storage means that stores merchandise restocking times for each user; and wherein

said restocking instruction data and said restocking data include information specifying merchandise restocking time.

14. The inventory control system according to claim 7, wherein

the control center apparatus has restocking format storage means that for each user, at merchandise restocking time, remembers whether or not to restock merchandise to the inventory maximum; and wherein

merchandise restocking quantity included in said restocking instruction data and said restocking data is decided based on stored content of said restocking format storage means.

15. The inventory control system according to claim 7, further comprising:

a distribution center terminal apparatus that based on said restocking data, performs processing of data relating to procedures for delivering merchandise to each user.

16. A user terminal apparatus used in an inventory control system in which, via a communication line, control of merchandise inventory of a plurality of users is collectively controlled at a control center end; comprising:

code reading means that reads said merchandise retrieval / return code, person-responsible code, merchandise code; quantity input means for inputting quantity of merchandise targeted for handling; and transmission means that transmits to said control center information read by said code reading means and information input via said quantity input means, together with said user code.

17. The user terminal apparatus according to claim 16, comprising:

a barcode scanner having an input section that functions as said barcode reading means and said quantity input means, and transmission means that transmits to said control center apparatus information output by this barcode scanner; wherein

said merchandise retrieval / return code, person-responsible code and merchandise code are barcodes, with said quantity of merchandise to be handled being capable of being input from said input section; and wherein

barcode information read by said barcode scanner, and input merchandise quantity information are sent, together with a user code furnished beforehand to the barcode scanner, to said control center apparatus via said transmission means.

18. The user terminal apparatus according to claim 17, wherein

said merchandise retrieval / return code and said person-responsible code are formed on the surface of a barcode sheet prepared beforehand, said merchandise code are formed on a surface of each merchandise's packaging paper or packaging box.

19. The user terminal apparatus according to any of claims 16 to 18, further comprising:

a warehouse code for designating a warehouse that carries out merchandise retrieval / return, the warehouse code information also being transmitted to said control center apparatus.

20. The user terminal apparatus according to any of claims 16 to 18, further comprising:

detail issuing means for printing out information read by said reading means and quantity input by said quantity input means.

21. A control center apparatus used in an inventory control system in which, via a communication line, control of merchandise inventory of a plurality of users is collectively controlled at a control center end; comprising:

receiving means for receiving information transmitted from a said user terminal apparatus;

by-user inventory data storage means that stores inventory status for each user;

order item storage means that stores inventory quantity of each merchandise that needs to be restocked, for each user;

order item control means that, based on information from said user and content of said by-user

inventory data storage means and said order item storage means, determines whether restocking of each merchandise is or is not required and, with respect to merchandise which requires restocking, generates restocking instruction data that includes restocking quantity; and

inventory data update means that updates said by-user inventory data.

22. The control center apparatus according to claim 21, further comprising:

restocking processing means that, based on restocking instruction data generated by said order item control means, generates restocking data that includes information on merchandise needing to be restocked, restocking quantity, restocking destination user information.

23. The control center apparatus according to claim 21, further comprising:

said inventory data update means updates said by-user inventory data based on said restocking data generated by said restocking processing means.

24. The control center apparatus according to claim 21, further comprising:

usage data generation means that generates usage data including type and quantity of merchandise retrieved from a warehouse by each user, based on information from said user.

25. The control center apparatus according to claim 23, further comprising:

inventory checking means that each time said by-user inventory data is updated, generates total inventory data that includes types and quantities of each user's inventory merchandise stored at a warehouse, and types and quantities of inventory merchandise stored by control center.

26. The control center apparatus according to claim 23, further comprising:

sales processing means that based on said usage data, generates sales data that includes merchandise accounts receivable for each user.

27. The control center apparatus according to claim 26, further comprising:

closing data storage means that stores closing dates for merchandise accounts receivable for each user; wherein

said sales processing means generates sales data at each of said closing dates.

28. The control center apparatus according to claim 21, further comprising:

merchandise restocking time storage means that stores merchandise restocking times for each user; wherein

said restocking instruction data and said restocking data include information specifying merchandise restocking time.

29. The control center apparatus according to claim 21, further comprising:

restocking format storage means that for each user, at merchandise restocking time, remembers whether or not to restock merchandise to the inventory maximum; wherein

merchandise restocking quantity included in said restocking instruction data and said restocking data is decided based on stored content of said restocking format storage means.

ABSTRACT

An inventory control system (1) is equipped with a control center apparatus (2) (inventory control server 6, main system 7) connected by communication lines (8) to user terminal apparatuses (3) located in each of numerous warehouses (5), and a distribution center terminal apparatus (4). Based on actual data relating to inventory merchandise retrievals, merchandise returns in each of the warehouses (5) of the users 3, inventory data (681) in the inventory control server (6) is updated. Also, based on the merchandise inventory quantity (restock item data) of merchandise set in the user master (67) that it is considered necessary to restock, it is determined whether or not merchandise restocking is required. Based on the result of this determination, in cases where restocking is required, restocking instruction data (683) is supplied to the main system (7), based on which a distribution center (4A) is instructed by the main system (7) to restock merchandise, and restocking merchandise is delivered from the distribution center (4A) to the warehouse (5) of the user (3). An inventory control system can be realized in which inventory control of numerous users can be collectively controlled, in the desired format of each user.

FIG. 1

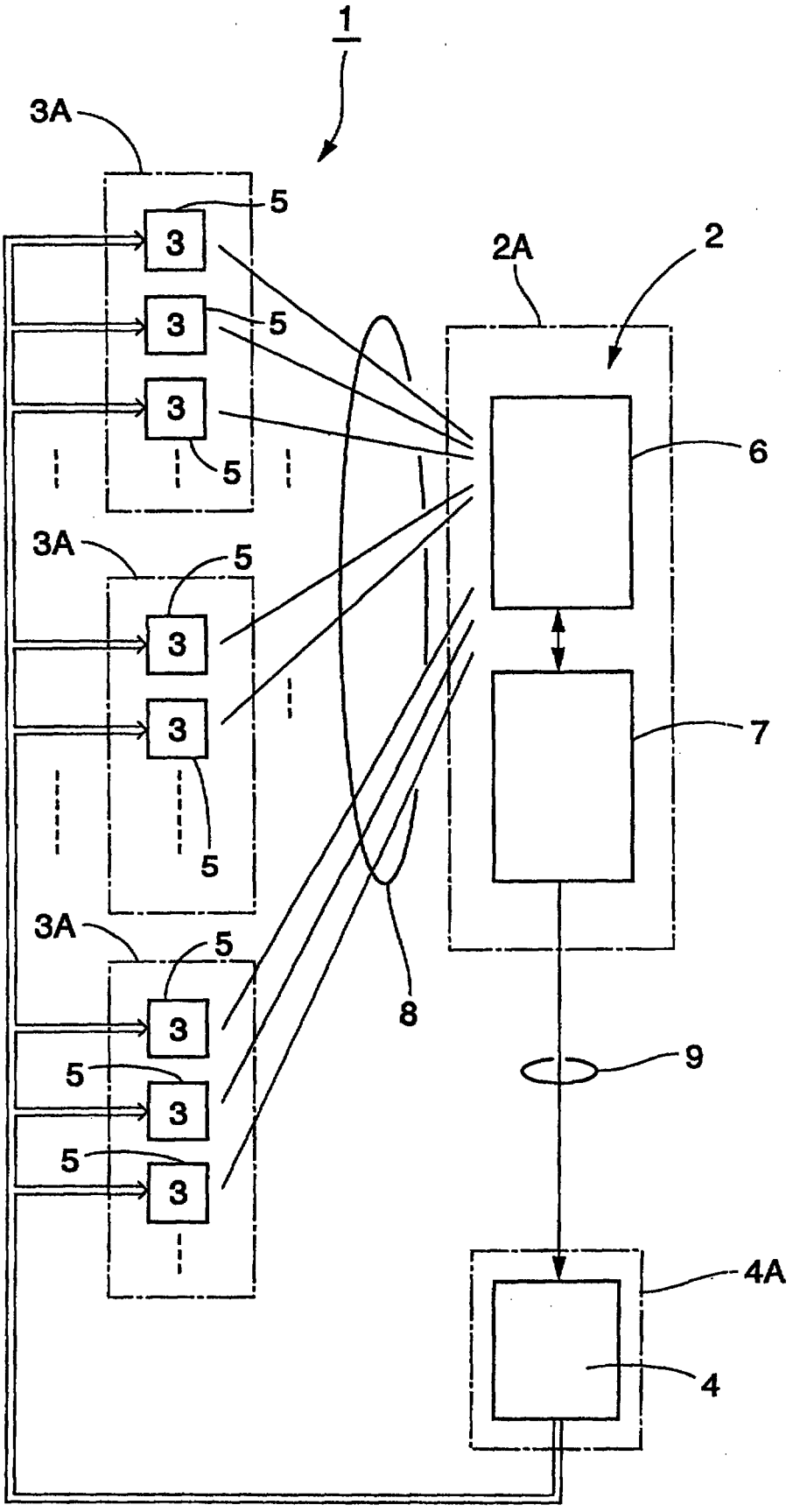


FIG. 2

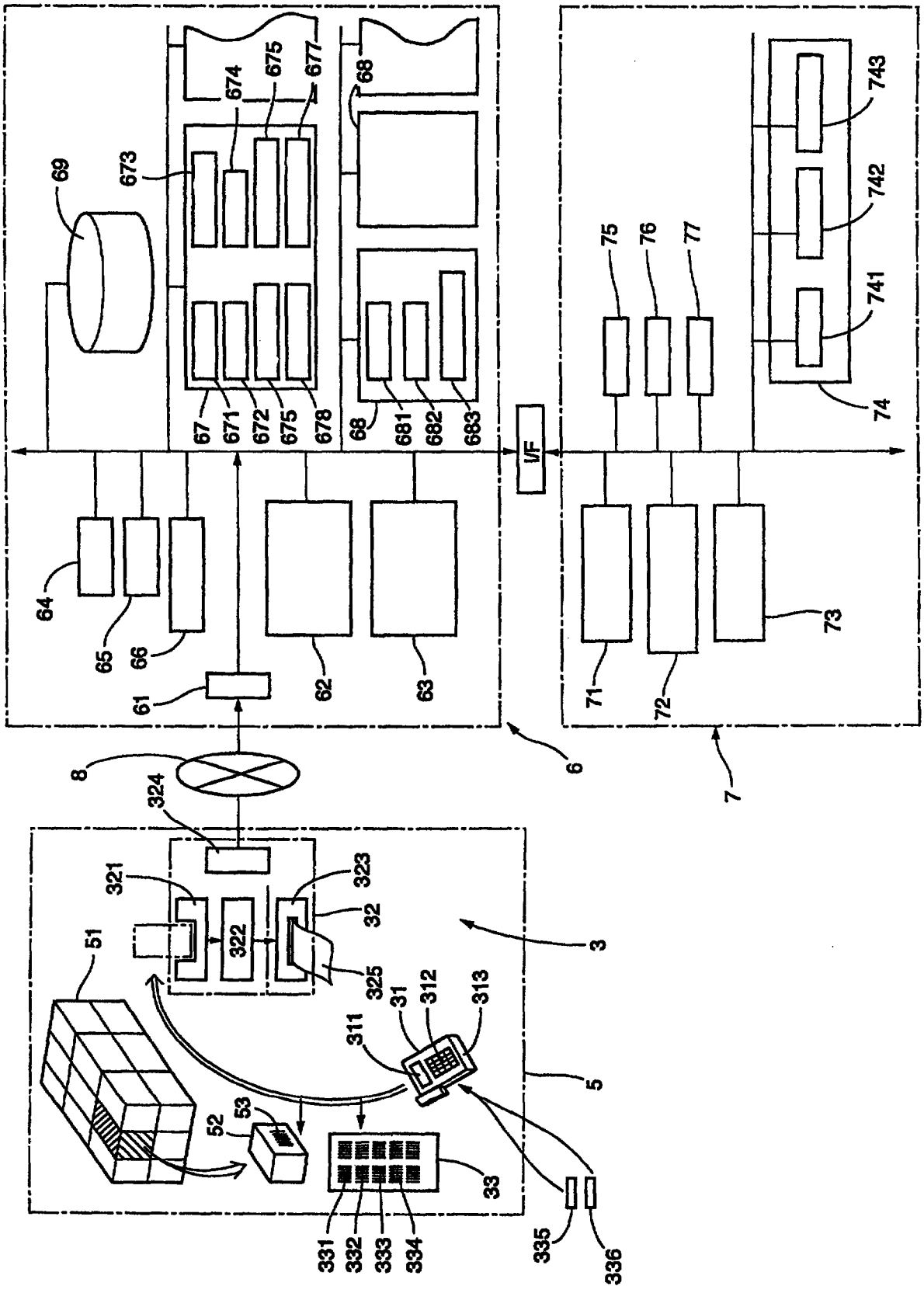
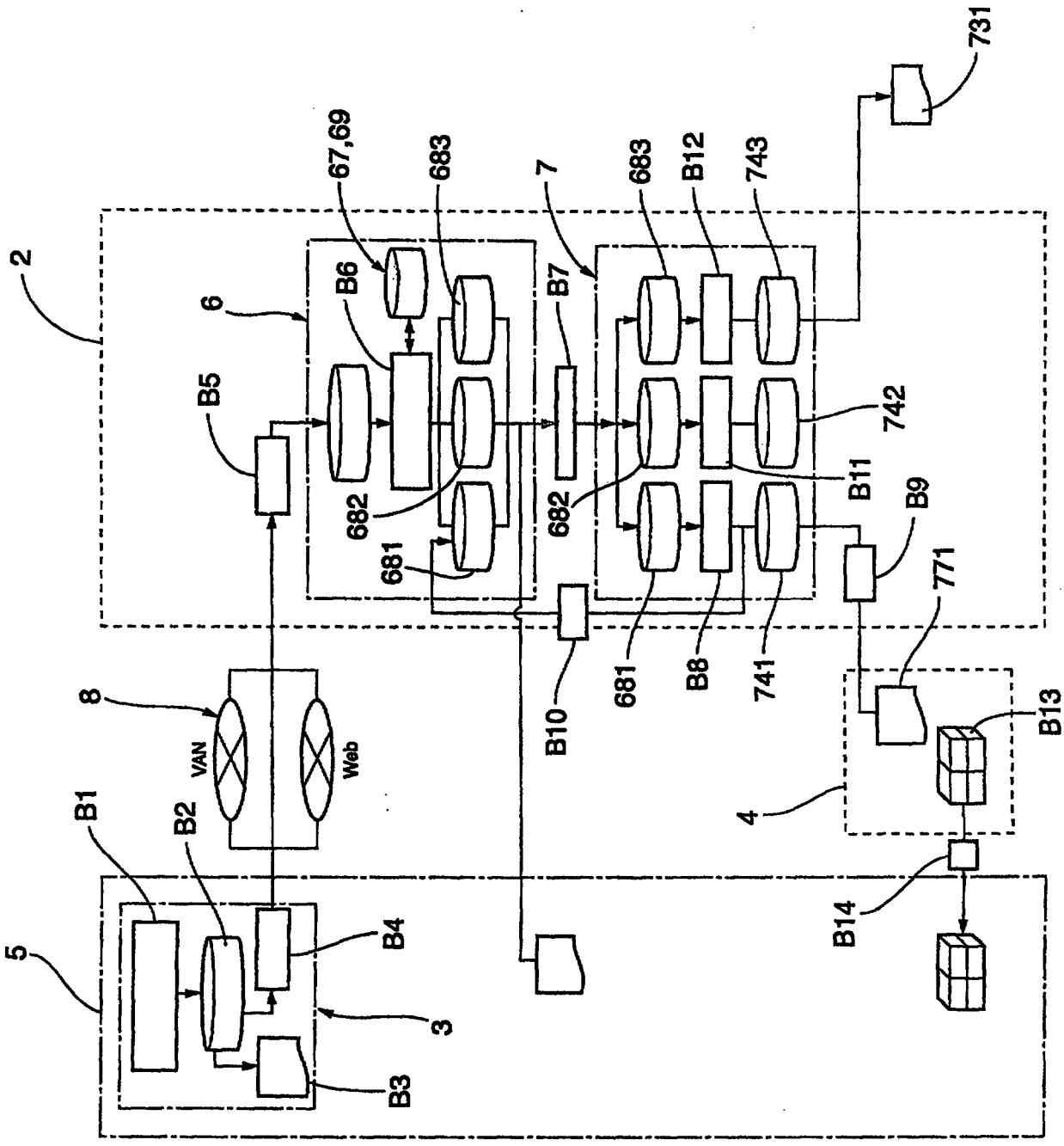

I/F
6
7
8
3
5
51
52
53
61
62
63
64
65
66
67
671
672
675
678
68
681
682
683
69
673
674
675
677
68
71
72
73
74
75
76
77
741
742
743
321
322
323
324
325
32
31
311
312
313
33
331
332
333
334
335
336

FIG. 3


2
6
7
5
3
4
8
VAN
Web
67,69
683
682
681
B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
B14
731
742
743
741
771