AP-700

CONSOLE SOFTWARE

Operation Manual

Justware Corporation

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Introduction

Thank you for purchasing **AP-700 Console Software** (**AP-700CS**). This software is for Windows 98SE/ME/NT/2000/XP. This software includes the following tools: Format Design, Database Management, Batch Management and History Management, which can make various labels for AP-700. Each tool is designed that you can operate it without this manual by using the help function and menu driven screens. However, in order to utilize all the functions and full power of this software, it is very important for you to take the time to review the whole manual. This manual explains and illustrates how to use this software from various aspects and with many examples.

Note

1. If you encounter any problems setting up **AP-700CS**, you are entitled for a replacement.
2. It is not warranted that the functions contained in this software must meet your requirements or that the software operation will be uninterrupted or error free.
3. Software specification and information contained in this manual is subject to change without notice.

Check List

Please confirm contents of **AP-700CS** Package are as follows:

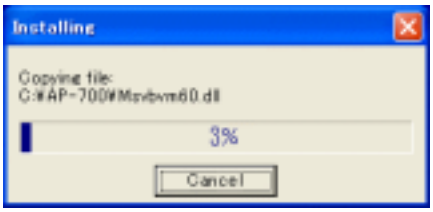
- 1 CD-ROM
- 1 ID USB Key (which has to be inserted into the USB port on AP-700 machine)
- 1 Operation Manual
- 1 Touch Pen

Operation Environment

- Model: Desk Top Personal Computer or Notebook
- CPU: Pentium 100MHz or higher
- OS: Windows98SE/ME/NT/2000/XP
- Memory: 64MB or more
- Display: Windows-Compatible True-Color Display (800x600 resolution or more)
- Drive: CD-ROM, CD-RW or DVD
- Hard Disk: 100 MB of Free Space
- Mouse: Windows-Compatible Pointing Device
- Interface: More then 1 USB and more then 1 LAN

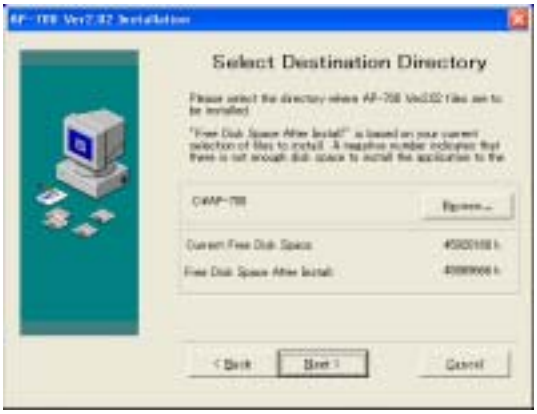
Installing AP-700CS

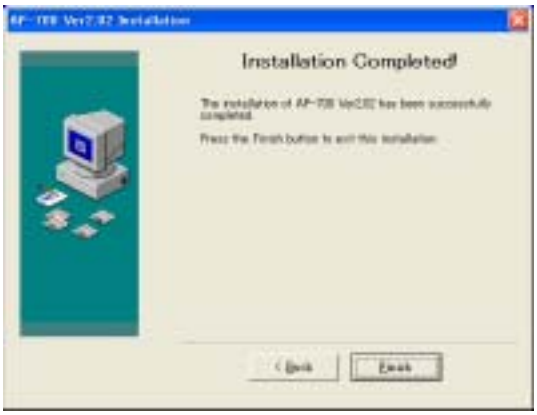
1. Start Windows.
2. Insert **AP-700CS** Installer CD-ROM in the CD-ROM drive.
3. Click the **Start** button and then click **Run**. A dialog box appears.
4. Type **d:\setup** in the **Open** box and click **OK** when done.
5. Select the Language.
6. Click **Browse** button to select the directory where **AP-700CS** is set up. Default directory is
   c:\AP-700
7. Click **Next** button to continue as shown on the right.
8. Select name of Program Manager group as AP-700.
9. Click **Next** button to start installation as shown on the right. The installing is begun.



10. A confirmation dialog box appears. Click **Finish** when done as shown on the right.

11. Click **Start** button on the taskbar and then point to Programs to view AP-700 menu. It consists of the following submenus: Format Design, Database Management, Batch Management, History management, Uninstall.





CHAPTER 1

AP-700 Console Software

In order to make a variety of labels, AP-700 Console Software offers powerful tools to design the label, manage the database and control the automatic labeler machine.

This chapter introduces the functions and the composition of AP-700 Console Software.

About AP-700 Console Software

Recently, due to the progress of computer technology, more efficient labeling systems are requested. AP-700 Console Software is developed for creating labels that satisfy the various requests, and for controlling the **Automatic Labeler Machine AP-700** efficiently.

The main features of AP-700 Console Software are as follows.

- AP-700 Console Software can create and print a variety of labels for different purposes.
- AP-700 Console Software can control three AP-700 machines to print and stick three different labels at the same time.
- AP-700 Console Software makes it easier to create and manage databases which are used to save the necessary data for making the label.
- AP700 Console Software can record the printed data to history files and can total and analyze the history data conveniently.
- AP700 Console Software can set up and control all the peripherals of the automatic labeler machine together.

Main Menu Window

When software is started, the following screens are displayed as **Main Menu**.

The operation is divided into the following three menus.

Print Labels

Printing and sticking labels using formats and databases.

Set up and Manage Data and Parameters

Start management tools (Format Design, Database Management, Batch Management, History Management, File Management), Set up system parameters, roll In/out, and date/time. Upload/Download files.

Exit Program

Exit the application program.

* All operations of the application are done by touch panel or key pad of AP-700.

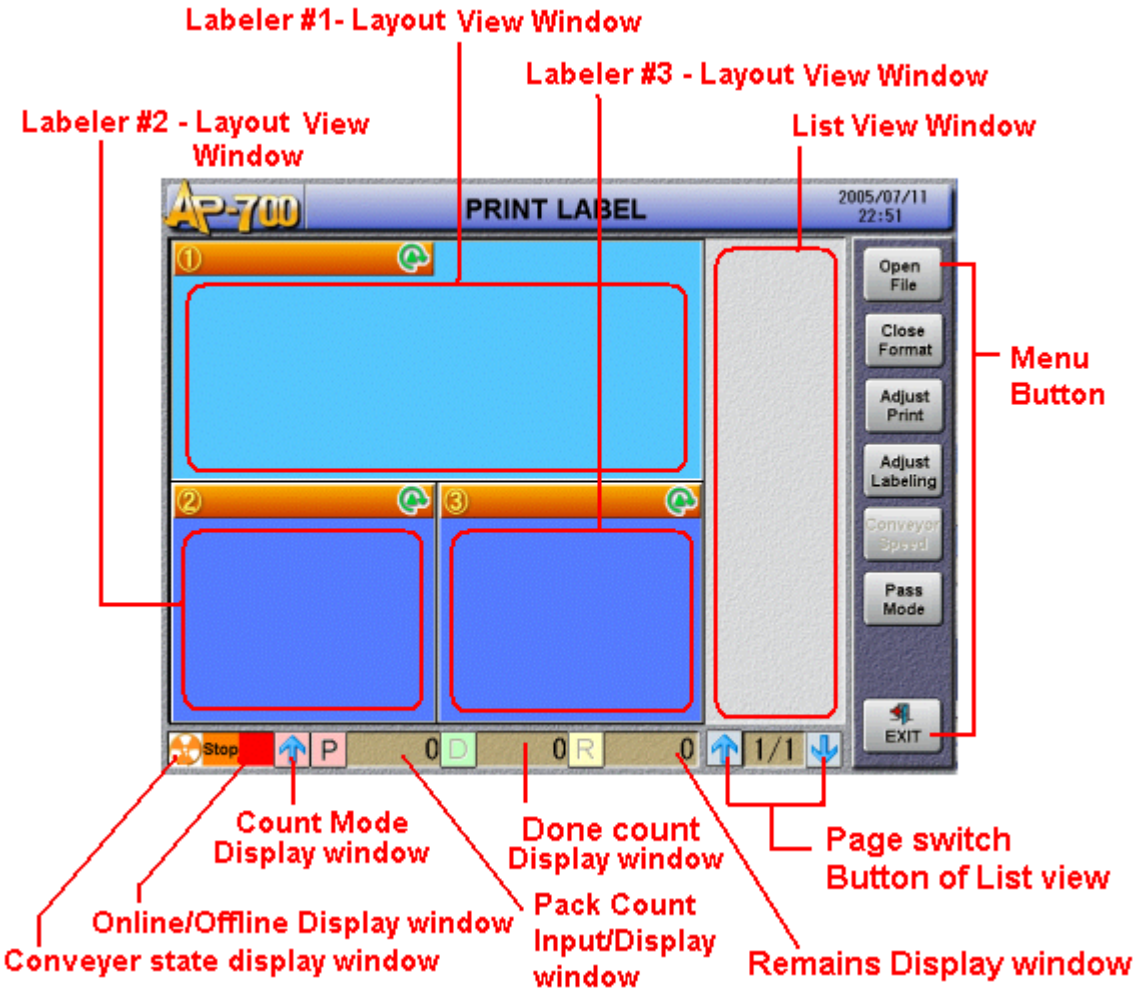
Label Printing

Printing and sticking labels after calling out the data such as label formats and databases.

Before Label Printing…

Please make and prepare the necessary data for making labels, such as formats and databases beforehand. Although how to create those data is described in this manual later, please read those instructions well before using the application.

Label Printing Window



Layout View Window / List View Window

The content (layout of format, data accuracy, etc) of a label format are shown in a layout screen before printing. The layout screen is divided corresponding to connected labeler.

Moreover, a layout screen is used to display result of a data field based on data called out from a database, data entered via keyboard, initial value of counter, date & time.

List view window is used to display the names, attributes and values of each data. Modification of data value is also possible here. The following icons are displayed and the input source of data is shown.

These icons show data from database 1, 2, and 3 respectively.

This icon shows data from keyboard.

This icon shows data from Call Data.

This icon shows each counter item.

Page Switch Button of List View Window

When the format has list of data, they are displayed in the List View Window. And the page number are displayed between the Page Switch Buttons. If there are two or more pages, switch pages with  buttons. Moreover, the list screen can be expanded or reduced by pressing **F4.**

Pack Count Input / Display Window

Touch 

button, and then input frame is displayed as shown in figure on the right.

Input Print Number of Label (Pack) in the frame.

When inputting Print Number, the display of count mode is shown as  (Count Down Mode)

When inputting “0” as Print Number, the display of count mode is shown as  (Count Up Mode)

displays the number that has been printed.

displays the number that has not been printed (remainder).

Conveyer State Display Window

The running state of the conveyer during printing labels is displayed.

The signs are three types as shown on the right.

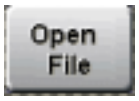
Moreover, during printing, the speed (Level1-5) of the conveyer is displayed on the right side of the sign.

Online / Offline Display Window

"Online" means that the labeler is connected to console and is able to print.

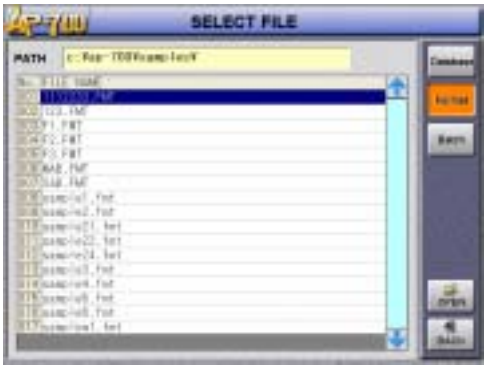
"Offline" means that the labeler is not connected to console and is not able to print.

Menu Buttons



Open File

First of all, please touch the layout view window to select the target labeler and then touch the **Open File** button. [**Select File**] window appears as shown in figure on the right.



When this button is pushed, the list including only database files is displayed. At the **Database priority** Mode, select this button please.

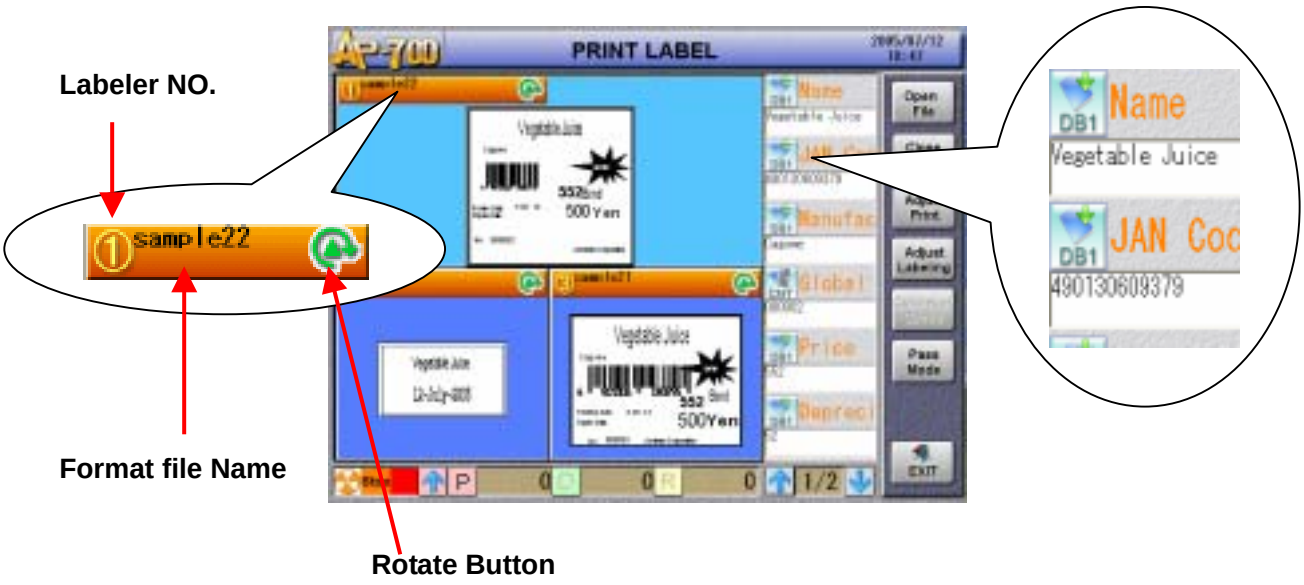
When this button is pushed, the list including only Format files is displayed. At the **Format priority** Mode, select this button please.

When this button is touched, the list including only Batch files is displayed.

Select a file from the list, and press the button 

.

The corresponding format will be displayed in the layout view window of the target labeler.



Close Format

When this button is touched, the format file of the target labeler will be closed and layout view will be cleared. Before touching this button, please touch the layout view window to select the target labeler.

Adjust Print Position

When this button is touched, a screen where the print position can be adjusted is displayed.

Firstly, specify a labeler, and then adjust print position.

The display will change into + and – or Left and Right whenever the button is touched.

Touch **Send** button to send the input numerical value to labeler.

Touch **Reset** button to set the current value to the initial value.

The adjustment value is recorded according to the labeler number and the format name.

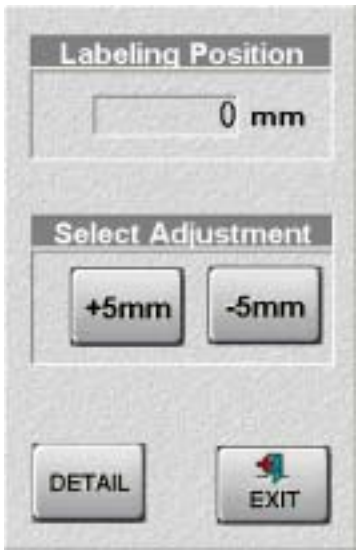
The adjustment value recorded will called out when using the same combination of the format and the labeler next time.

Press the **PRINT** key on the key pad to do the test print.

Adjust Labeling Position

Firstly, specify a labeler, and then touch the button.

The adjustment screen is displayed as shown in figure on the right.



Adjust the labeling position within the range of –350 ～ 350.

Whenever touching 

button once, it is adjusted by 5mm (-5mm).

Press 

to display the screen of Labeling Adjustment where the labeling position can be adjusted by each labeler.

Push the key **PRINT** on the key pad to do the test print.

Set Pass Mode

Touch this button to switch into the Pass Mode and the color of the button will be orange.

Even if the commodity passes on the conveyer, the label is not issued in this mode.

Data Entry and Modification

Touch white lines or the icons in the list window, data input window is displayed.

Push the Clear button to clear the input data.

Push the Enter button or icons again to fix the input data.

However, when touching the DB icons and the Table icons, a data list is displayed to select the input data.

AP-700 has a key pad as an input means besides the touch panel.

- **F4** key switches the size of the list display. (Refer Figure④ in next page)

- Keys [DB1], [DB2] and [DB3] correspond to database **1**, **2** and **3** respectively. Press each key, each database list is displayed.
- Input the **call code** first, and then touch **icons** of Database 1,2 and 3 or touch keys [DB1], [DB2] or [DB3], the data can be called out.
- [**FEED**] ・・・Feed Label
- [**PRINT**] ・・・Print Test Label

Figure ④

Press [**F4**] to change the display size of List Window.

How to Search Item in the Database Window

When buttons [DB1], [DB2], or [DB3] are pushed in the format that has set the database, the corresponding database list is displayed.

There is a box in the list to input the word to be searched.

Input the search word, and then touch the button.

The select bar moves to the target data if there is a matching data.

Touch this button to search the next same word continuously.

The error message is displayed when there is no more matching data.

Setup Menu

There are following ten menus in this routine.

Start the Format Design Tool.

Start the Database Management Tool.

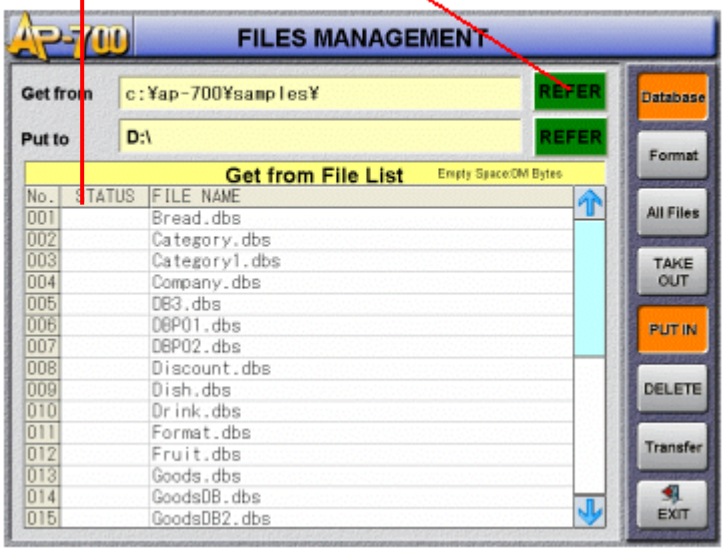
Start the History Management Tool.

Start the Batch Management Tool.

The files can be moved to the specified folder from the default folder of AP-700. The files of AP-700 in the memory card can be moved to the default folder oppositely.

When the files are selected, it shows [**Order**].
When the transfer ends, it shows [**Success**].

A folder selection screen is displayed on which you can select the folders.



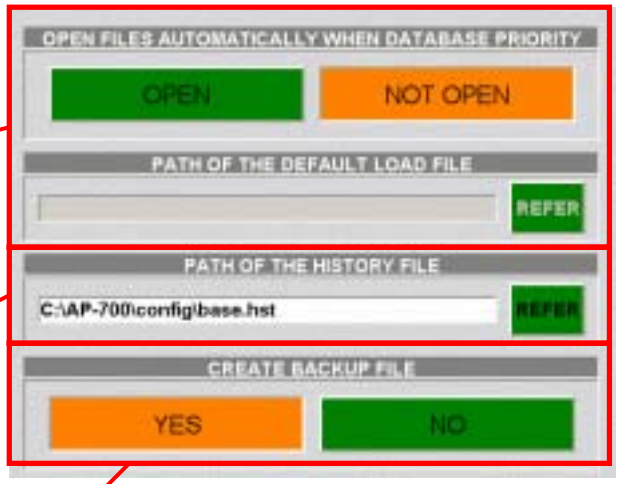
Select the file type. Touch [**All Files**] to display all files.

Select the direction of movement.
[**TAKE OUT**]…OTHER FOLDER→AP700
[**PUT IN**] ……AP700→OTHER FOLDER

[**DELETE**]…Delete selected files in the list
[**Transfer**]…Transfer selected files in the list

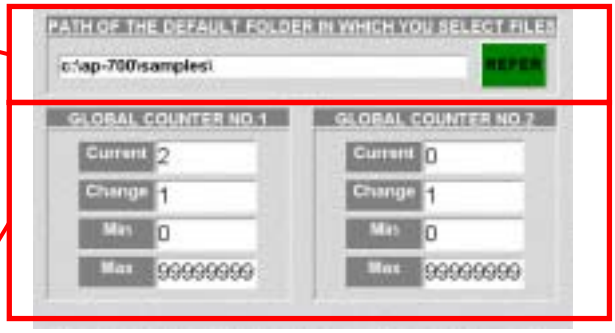
In case of Database Priority, Select [Open], and set the path and name of the database that will be automatically loaded when the application starts.

Set the path and name of the history structure file. It is not possible to print if it is not correctly set.



Select whether to make the backup file (extension is **BAK**) automatically when the file is changed or not.

Select the default folder for AP-700. Only the files in this folder can be used.
This parameter must be set, otherwise no file can be called.



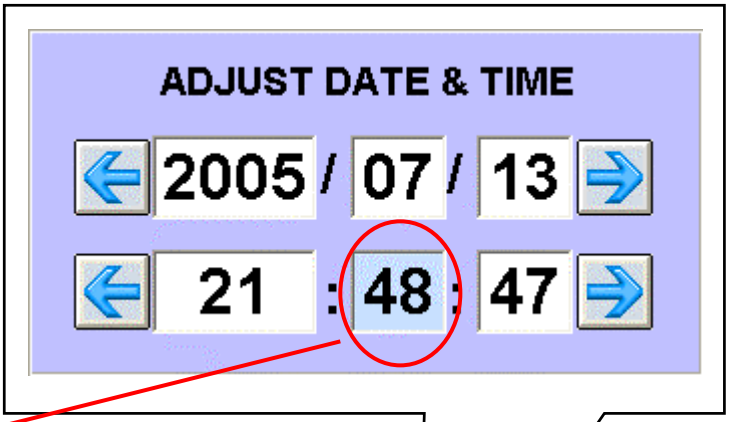
Set the current value, increment interval, minimum value and maximum value of the global counter. A current value can be changed on the label-printing screen.

Adjust the date and time.

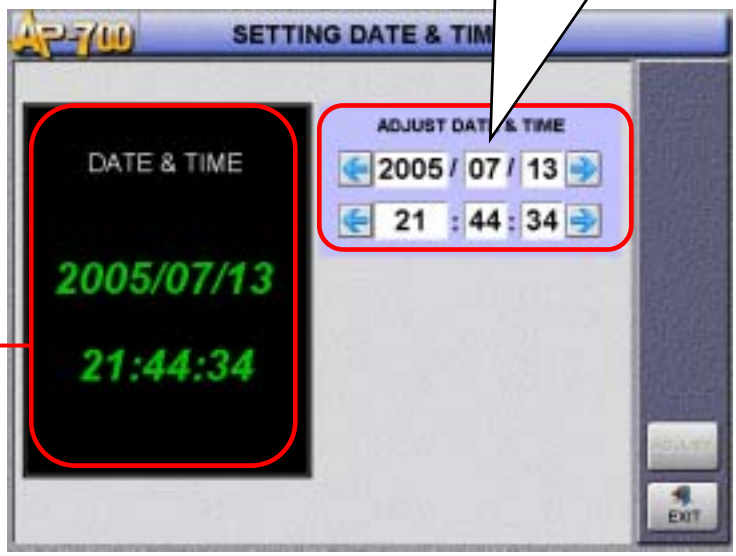
Select the part to be adjusted, and adjust date and time using  button.

Finally push 

button to fix the set up.



The part that becames blue after touching is adjusted.



It shows the current time.

CHAPTER 2

Label Design

Before printing a label, you have to create a label format first.
Logo, illustration, barcode and multiple fonts can be applied.
Label format can be created freely and flexibly.
This chapter introduces various features of label design.

About Label Design

Using the format design tool of AP-700 Console Software, you can make various label designs easily.

This chapter describes all the features that are available in format design tool of AP-700 Console Software to make label designs more efficient.

These sample labels displayed below are made by format design tool of AP-700 Console Software. They give the user an idea of what types of label designs can be created.

Features

Format Design Tool of AP-700 Console Software offers various features shown below to provide a faster, flexible and more effective tool in handling label design. By combining these features, it is possible to create label formats that satisfy any user's specific requirements.

Input Data can be entered via a keyboard directly or called out from a database file before printing of labels.

Refer Print the data of a selected object as a copy of the part of another object.

Combine Combine the data of several selected objects together and print the result on the label.

Image Objects such as logo, picture, symbolic mark etc. can be printed on the label.

Counter Three types of counter are supported.

1. Global Counter: Common counter that is not dependent on any item, label format or database.
2. Format Counter: Each label format has its own respective counter. Value of counter is not affected by another label format.
3. Database Counter: Each item in a database has its own counter.

Total Data of the selected object can be summed up and the total result can be printed on the label.

Date & Time Current date & time can be printed automatically on the label. Various date and time formats can be set up.

Period If a valid period is specified, the date & time of expiry will be calculated automatically and printed on the label.

History If necessary, the printed data can be recorded in a history file and can be referred in the future.

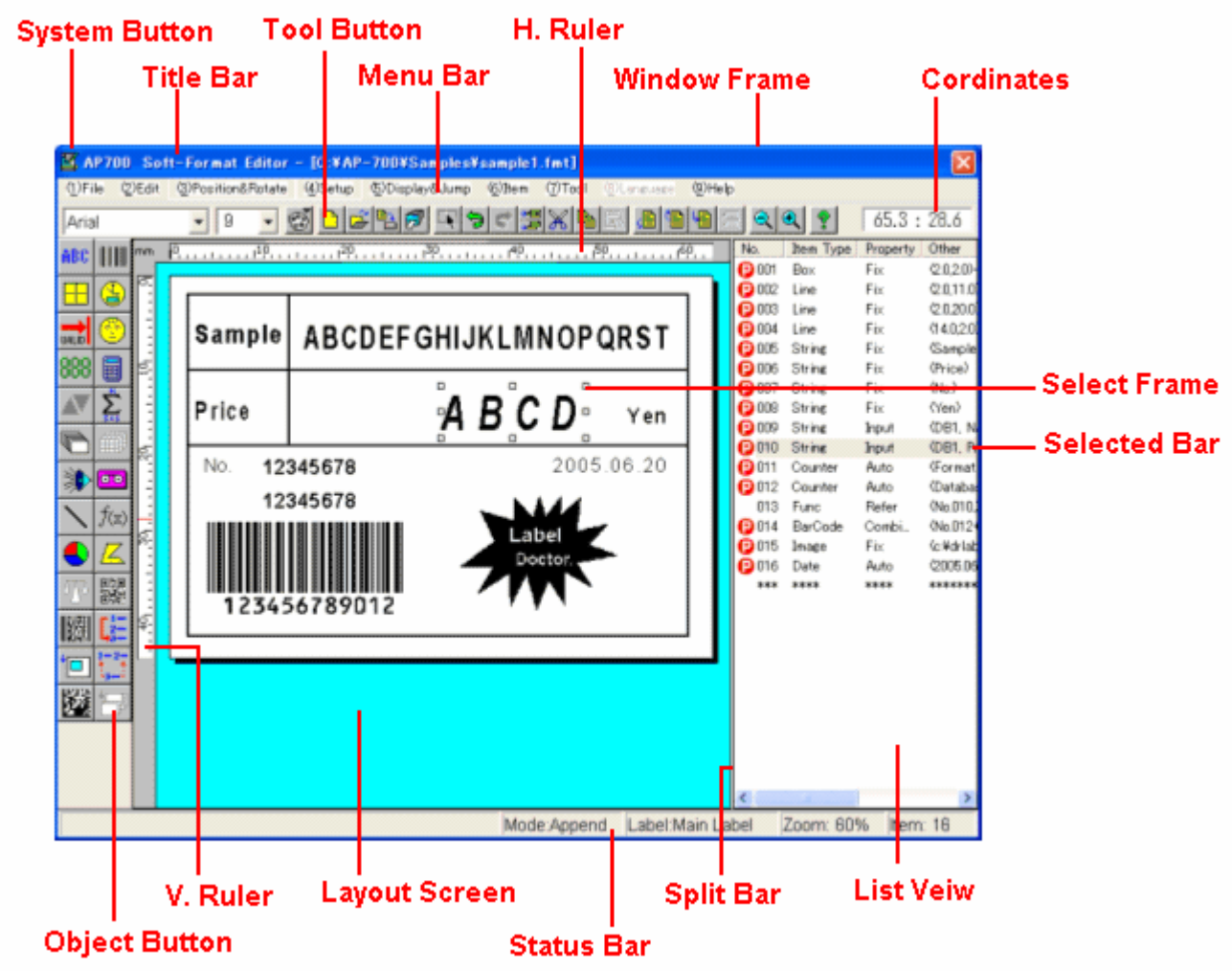
Barcode Support most commonly used barcode such as CODE39, EAN, JAN, UPC-A, CODE128, etc.

Database Each label format can be linked to three different databases at one time.

Format Editor Window

The following figure introduces the basic elements of the format design window.

Figure 2-1



Tool Bar: Display standard buttons for commonly used commands, such as copying, pasting and deleting items; changing zooms; and jumping backward and forward.
Refer to [Help] menu for further information.

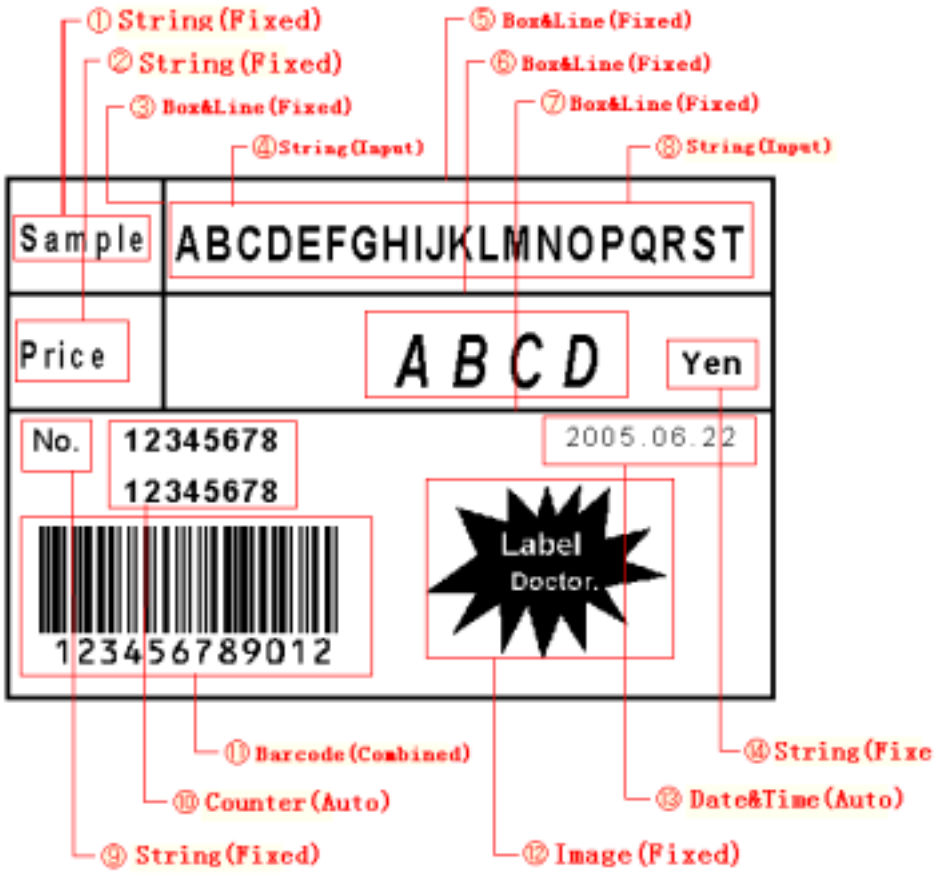
Object Button: Located in the left frame of the window and contains buttons of objects that will be used in creating label formats.

A click on any button changes the mouse pointer into the selected object's image. Move the object pointer to the layout screen and click on the desired position, a dialog box of the selected object will be displayed. Refer to [Help] for further information.

Object Types & Setting Up

Object Toolbar consists of many objects such as string, box & line, barcode, image, etc. Each object has its own attribute and design operation procedure. Consider the layout of a sample design below. Objects below are created using the object toolbar. The type and the attribute of each object are also shown.

Figure 2-2



Division of Objects

The format design is to set up the objects as mentioned previously. It is important to illustrate how to separate the content of the label into the objects. Several rules to separate the objects are shown as follows.

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1. To separate the objects by type.
   For example: “String”, “Barcode”, “Image”, “Date”, etc.

2. To separate the objects by attribute.
   For example: Objects ① and ④ in **Figure 2-2** are String objects, but their attributes are classified as “Fix” and “Input” respectively. A description of attributes is mentioned later.

3. To separate the objects by content.
   For example: Although objects ④ and ⑧ in **Figure 2-2** are linked to the same database file, object ④ refers to “Commodity Name” whereas object ⑧ refers to “Unit Price”.

4. To separate the objects by printing method.
   For example: Objects of the same types and attributes may have different printing position & angle, font size, etc.

5. To separate the objects by special function.
   For example: The content of an object may be the result of a function.

Property

A Property of an object can be one of the followings:

Fix The content and the design of the object do not change during the whole printing. (For example: Text, Title, Line, etc.)

Input The content of the object can be set via a keyboard directly or from a database file during printing of labels.

Refer The content of the object can be set as a copy of the part of another object during printing of labels.

Combine Object’s data is setup by combining some objects together during printing of labels.

Adding Objects

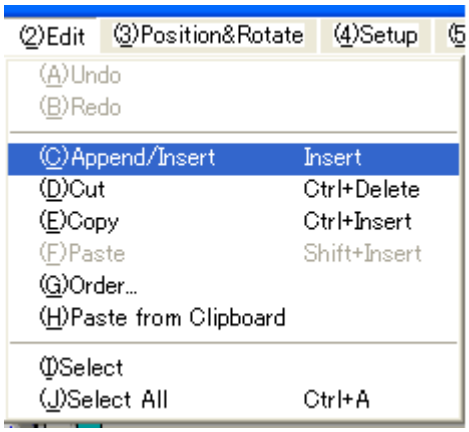
This section illustrates the importance of using the correct mode to add various new objects to a label design.

There are two modes (“Append” / ”Insert”) to add new objects.

In “Append” mode, the new object is added after the last object in object list.

In “Insert” mode, the new object is added before the selected object.

There are two ways to select “Append” / “Insert” mode.

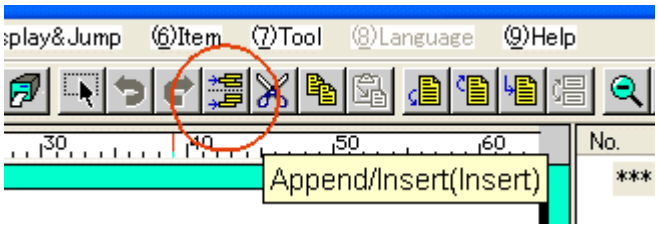


Click **(2) Edit** on the menu bar.

Point to **(C) Append/Insert** and then click.

Or

Click Append/Insert button on the Standard Toolbar.



Object Buttons

String

This object is used frequently as text, title, message, etc.

Barcode

This object is selected to print a barcode on a label.

Box & Line

This object is used to draw lines (horizontal・vertical) or rectangular frames on a label.

Date & Time

During printing of labels, current date & time can be printed automatically via this object.

Period

During printing of labels, the expiry date & time of the period can be calculated and printed automatically via this object. The past expiry date & time is also possible.

Image

This object is set to print images such as drawing photograph, logo, symbol, etc. on a label. The format design tool supports the image types of BMP, JPEG, GIF only. Although color images can be set, they will be printed in monochrome only due to the printer.

Counter

This object is set as a counter to print sequence number, increment / decrement data, etc. There are three types of counter called as “Global Counter”, “Format Counter” and “Database Counter”. Initial value of counter can be set in label printing program. Counter will circulate within specified limits and will be reset automatically to minimum value when reaching maximum value.

Global Counter→ This is a common counter that is used by all formats and all database items. For example: If the value of Global Counter reaches 10 during printing by format ①, then initial value of Global Counter will be set to 11 when printing by format ②.

Format Counter→ Each format has its own respective counter. The value of Format Counter is not affected by other formats. Click on **(C) Format Counter…** submenu of **(4) Setup** menu to set initial value, interval, minimum and maximum values of Format Counter.

Database Counter→ Each item in a database has its own counter. Since the items in the database are independent of each other, it is easy to manage the counter for every item. For example, by checking the counter of each item, it is very easy to know the total number of labels printed for each item.

Calculate

The result of this object is based on an arithmetic operation of two other objects during the process of printing labels. This object supports six types of arithmetical operations such as “Plus”, “Minus”, “Multiply”, “Divide”, “Remainder” and “Power”. For example, total price (weight * unit price), amount of discount (total price * discount rate), discount price (total price - amount of discount), label number (total number / unit number), increment rate (today’s sales / yesterday’s sales).

Total

This object is used to calculate total value of another object. For example, total number of labels printed today, total number of goods produced today, total weight of meat, total sales amount today, etc. The total value can be printed on a total label or every label and can be cleared during printing.

Print Number

This object is used to print the number of labels to be printed on the label.

Call Data

Call Data

This object is a very flexible one. During printing of labels, Call Data object extracts data from the given database and the given field based on the given condition and prints it on the label. In other words, Call Data is a table-reference data. Call Data object is used mainly for the following scenario.

- If criteria and result are not related, it is difficult to get a result from Calculation or Function object due to no formula. Therefore, result can be obtained easily by referring to a table. For example, international phone call charges are based on time zones such as 8:00~18:00 (No discount), 18:00~23:00 (20% discount) and 23:00~08:00 (40% discount). If discount rates from 00:00 to 23:00 are registered into a database in advance, these values can be called out easily via Call Data object. In this case, the Data & Time object will be the condition for calling out.
- If there is a direct relationship between criteria and result but it is very difficult or impossible to get a result due to complex calculations. Therefore, result can be obtained easily by referring to a table. For example, sine value of an angle. However, it is impossible to calculate since there is no such mathematical function available in the software. If the sine values of each angle based on a constant interval from 0° to 360° are registered into a database in advance, these values can be called out easily via Call Data object.

- Acts as an extension of a database input function. Although each label format can be linked to three databases, this object can extract and print data from a different database based on another String object's data from a keyboard. During printing of labels, a call code can be input via a keyboard and the corresponding data can be called out & printed from a referred database.

History

This object is configured to record the printing data of another object during label printing. When the printed data are recorded, operation check, result confirmation, data analysis and report output can be performed. More than one History object can be set in a label format and the printed data of any object can be recorded. In **AP-700C.S.**, there is a history structure file (**HST** extension) which should include all the necessary fields to record the printed data. Therefore, the history structure file has to be created first. The history data is recorded in the history file (**HDT** extension) which is created automatically based on history structure file. Run history management program to view the history files after label printing has been completed.

Diagonal

This object is used to draw a diagonal or straight line of any thickness from one point to another.

Function

Various conversions can be performed on a specified object data (string or value) via Function object which acts like a filter. For example, align string, insert or delete comma in price, convert decimal number into integer, etc. The result of a Function object cannot be printed directly on a label. A String object must be configured and linked to a Function object whose result is printed via the attached String object.

Ellipse

This object is used to draw an arc, ellipse or pie chart.

Polygon

This object is used to draw a polygon with less then 30 sides.

QR Code

This object is used to print a 2-dimensional barcode (QR Code) on a label. Please refer to the standard document of QR Code for further information.

PDF Code

This object is used to print a 2-dimentional barcode (PDF Code) on a label. Please refer to the standard document of PDF Code for further information.

Jump

This object is used in the case that you want to change the order of the printing process.

The condition for jump is to compare 2 specified objects by the given method of comparison. If the condition is met, then the process will go to the item of jump destination. If the condition is not met, then the next item will be processed.

By this object, it becomes easy to change the printing content of the label using one format design according to the condition.

Conditional Refer

Same as the Jump object, this object is used to change the printing content of the label by referring different item based on a given condition using one format design.

Set the “Truth” item and the “False” item corresponding to the comparing condition. And the printing content will change by the condition (the “Truth” item or the “False” item).

Data Matrix

This object is use to print 2-dimensional barcode (Data Matrix) on a label. Please refer to the standard document of Data Matrix for further information.

Sub Label

This item is used to save time or reduce mistakes when a group of items (such as a complicated calculation, or a combined barcode, etc.) are set repeatedly in different label formats. If the part of the printing content in two or more different labels is the same, then set the same part by objects into a format called “Sub Label Format”. The Sub Label format can be inserted into another label format called “Main Label Format”. It is used like a macro.

Label Design ◆ Part 1

Some samples of label formats are shown before on Page **18**. First of all, a sample label format based on Figure 2-2 of Page **21** is created. Sample1.FMT consists of seven objects such as Box & Line, String, Counter, Barcode, Date & Time, Image and Function. Furthermore, each String object has its own attributes such as Fix, Input, etc. Label size must be set before adding objects to a label format.

Setting Label Size

1

Click **(4) Setup** on the menu bar.
Point to **(A) Layout…** and then click.

2

A dialog box appears.
Width and height of a label are set up here.
When specifying the size of the label, select **Custom** from **Type**.

- Width = **64**
- Height = **45**

Click **OK** when done.

3

Refer to dialog box to set up other options.
Click **OK** when done.

* Click on **HELP** button for further information.

Setting Database

Database feature is discussed before on Page 20 where three databases can be linked to each label format. First of all, a sample database file (GoodsDB.dbs) based on Figure 2-2 of Page 21 is set here.

* Procedures to create a database are shown below.

1

Click **(4) Setup** on the menu bar.

Point to **(B) Database…** and then click.

2

A dialog box appears.

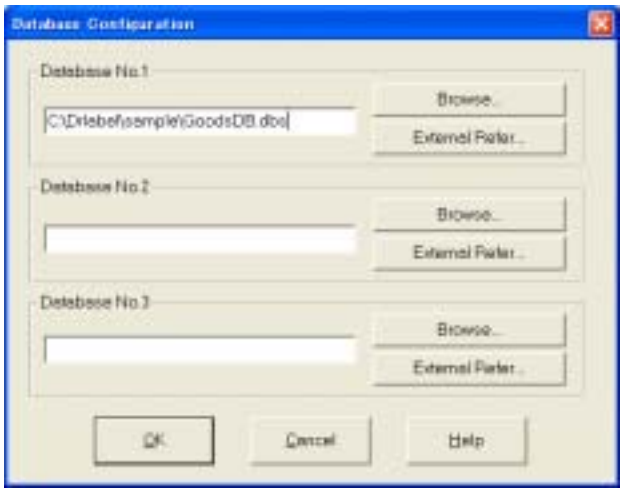
File name of a database is set up here.

--- **Manual Entry** ---

Type path and name of the database file.

Example:

C:\ AP700\ Samples\ GoodsDB.dbs



--- **Reference** ---

- “Browse” button refers to internal database files created by Database Management Tool.
- “External Refer” button refers to external database created by other database programs such as Access, Excel, etc.

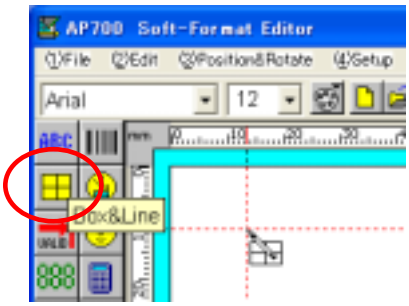
Setting Box & Line

1

A 3x2 frame is set up here.

Click **(6) Item** on the menu bar.

Point to **(C) Box & Line…** and then click.



2

Click on **Box & Line** button changes the mouse pointer into the selected object's image.

Move the object pointer to the layout screen as shown on the right.

Click and drag the object pointer to set up the desired frame size.

3

A dialog box appears.

Row and column of a frame are set up here.

- Row = 3
- Column = 2

Refer to dialog box to set up other options.

Click **OK** when done.

***** Click **HELP** button for further information.

4

Object List and Layout Screen are shown on the right. If the first object (001: Box Fix…) in Object List is selected, frame of the selected object is shown in blue on the Layout Screen.

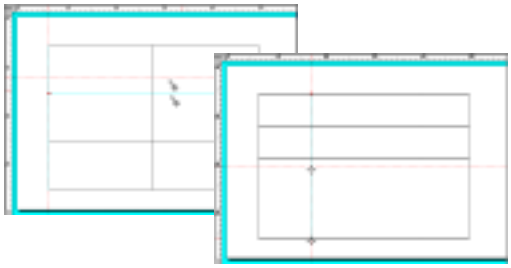
Object List

No.	Item Type	Property	Other
001	Box	Fix	(4.3,4.3)-(75.8,56.3)
002	CrsLine	Fix	(4.3,21.6)-(75.8,21.6)
003	CrsLine	Fix	(4.3,38.9)-(75.8,38.9)
004	CrsLine	Fix	(40.0,4.3)-(40.0,56.3)

Layout Screen

5

Use the mouse pointer to select any Line object in **Figure 2-2** on Page 21. Length and position of selected object (shown in blue) can be change by dragging the mouse pointer. During moving or resizing a line, a crosshair pointer (shown in red) will display the new position of the selected object.



Moving a Line: Move the mouse over the selected object until the mouse pointer changes to this

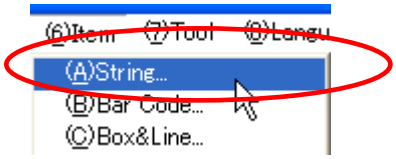
pointer  and then drag the line to the desired position.

Resizing a Line: Click on the selected line. Move the mouse over the selected line until the mouse pointer changes to the sizing pointer  and then drag to the desired length.

Setting String

String objects are printed on a label as text, title, message, etc. Object ①, ② and ③ of Figure 2-2 on Page 21 are set to Fix Property as their data do not change after creation

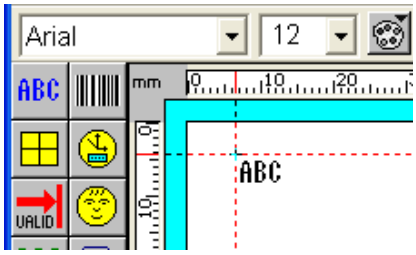
--- **Setting Fix Property** ---



1

Click **(6) Item** on the menu bar.

Point to **(A) String …** and then click.



2

Click on **String** button changes the mouse pointer into the selected object's image.

Move the object pointer to the layout screen as shown on the right.

3

Click on **Fix…** button of Property group to display another dialog box as shown on the bottom right.

4

Input the data of the object in the Fix String box.

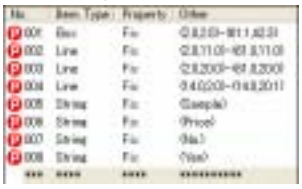
Click **OK** when done to return to previous dialog box.

5

Click on **Font…** button to change font properties such as size, style, etc.
Refer to dialog box to set up other options.
Click **OK** when done.

* Click on **HELP** button for further information.

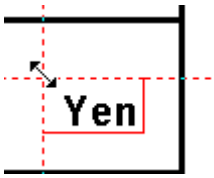
Object List



Layout Screen

6

Objects 6~8 (Price, Currency Symbol and No.) in Object List (shown on the right) are set up using the same procedure.



Font size can be changed by dragging the sizing pointer of the selected frame as shown in red.

---- **Setting Input Property** ---

Object ① and ② of the above figure are linked to an existing database file (GoodsDB.dbs) where data are extracted and printed.

7

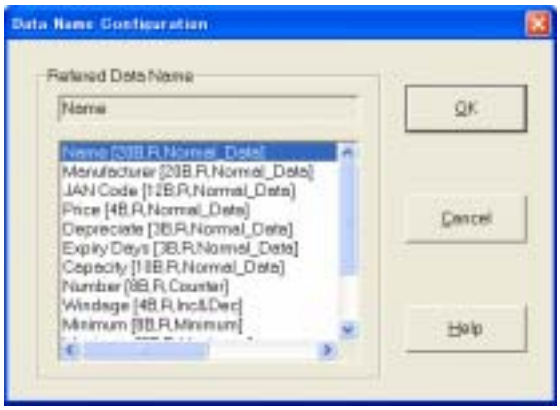
String object ① (Item) with property as Input is created using steps **1** and **2** of current procedure.
Click on **Input…** button of Property group and a dialog box appears as shown on the right.
Select **Database No.1** option as the Input Source.

8

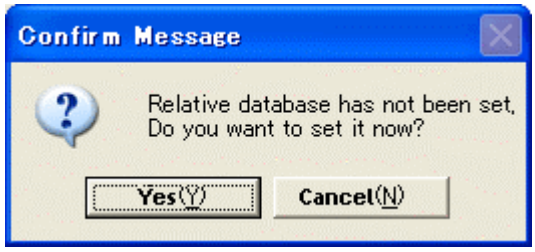
Input Data Name should be same as a linked database field name.

Example: If Input Data Name is Brand Name, this should be linked to the database field of Brand Name instead of Item Name.

Click on **Refer…** button to display a related database field list. Select a field from the list as shown on the right.



- If the related database file has not been specified, a dialog box appears as shown on the right. Click **Yes** to specify a database file. Refer to **Setting Database** for operation procedure.



9

Refer to dialog box as shown on right side of step **7** to set up other options.

Click OK when done.

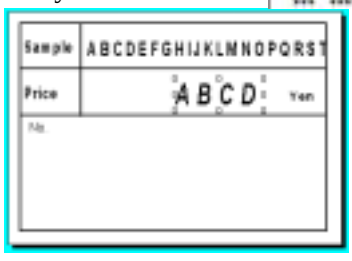
* Click on **HELP** button for further information.

10

String object ② (Price) with property as Input is also created using steps **7~9** of current procedure.

Object List

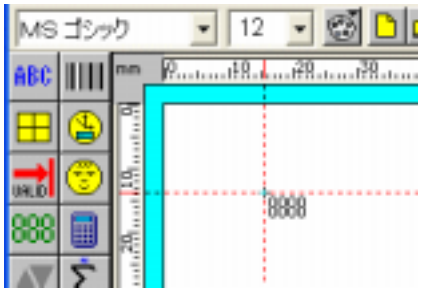
Layout Screen



Setting Counter

This object is set as a counter to print sequence number, increment / decrement data, etc. automatically. There are three types of counter such as Global, Format and Database. Although Object ⑩ of **Figure 2-2** on Page 21 is set up as a Format Counter, another Database Counter is also created here.

1



Click **(6) Item** on the menu bar.
Point to **(G) Counter…** and then click.

Click on **Counter** button changes the mouse pointer into the selected object's image.
Move the object pointer to the layout screen as shown on the right.
Click the object pointer to insert the object and a dialog box appears.

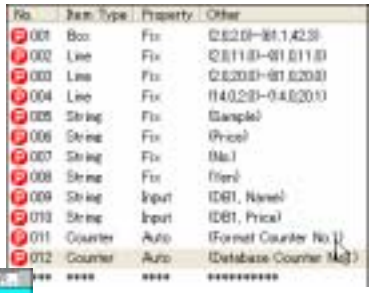
2

Firstly, select Format Counter NO.1 option under Counter Type group to create a Format Counter.
Secondly, select Database Counter No.1 option to create a Database Counter.
Database file (GoodsDB.dbs) is registered as a Goods Counter.
Click **OK** when done.
Since more than one counter type can not be selected at one time, set up each counter object individually.

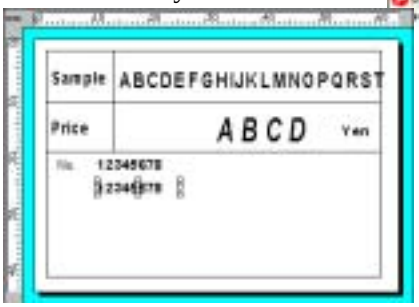
3

Both counters are created as shown on the right.

Object List



Layout Screen



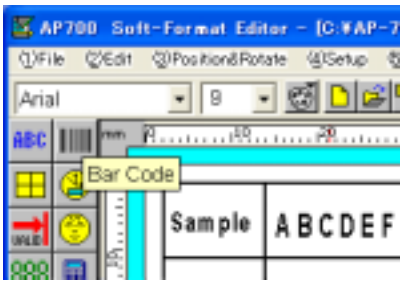
* Click on **HELP** button for further information.

Setting Barcode

Format design tool supports standard barcode format usually used in label printing. Refer to HELP for a detail explanation of each type of barcodes.

Object ⑪ of **Figure 2-2** on Page 21 is set up as a Barcode with Combine Property. Therefore, this Barcode object is created here based on the combination of Database Counter and String (Input) → Price objects that are created before.

1



Click **(6) Item** on the menu bar.

Point to **(B) Barcode…** and then click.

Click on **Barcode** button changes the mouse pointer into the selected object's image.

Move the object pointer to the layout screen as shown on the right.

Click the object pointer to insert the object and a dialog box appears.

2

Barcode object with property as Combine is created here.

Click on **Combine…** button of Property group as shown on the right.

3

A dialog box appears.

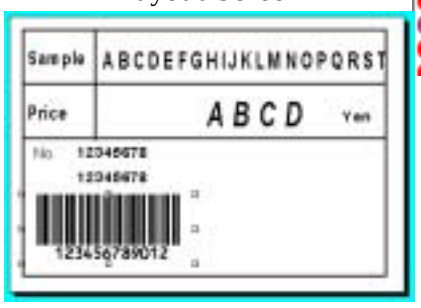
Objects to be combined are selected from the list as shown on the right.

Select object 10 and 12 for combination.

*Click on **HELP** button for further information.

Barcode object is created as shown in Object List and Layout Screen.

Layout Screen



Object List

Setting Image

Images (drawing, photograph, logo, symbol, etc.) can be printed on a label.

Format design tool supports BMP, JPEG, GIF image types only. Change image files of other types into these (BMP, JPEG, GIF) files before adding into a label design.

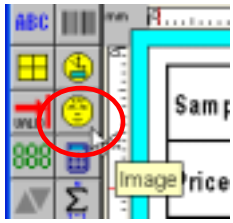
Although a color file can be added, it will be printed in monochrome only.

Object ⑫ of **Figure 2-2** on Page 21 refers to an image file (Pic1.bmp) located in **samples** folder that is set up as an image object with **Fix** Property.

1

Click **(6) Item** on the menu bar.

Point to **(F) Image…** and then click.



Click on Image button changes the mouse printer into the selected object's image.

Move the object pointer to the layout screen as shown on the right.

Click the object pointer to insert the object and a dialog box appears.

2

Image object with property as Fix is created here.

Click on **Fix…** button of Property group as shown on the right.

3

Type **C:\ AP700\ samples\ Pic1.bmp** in Fixed Image File Name box as the path and name of the specified image file.

Otherwise, click **Browse…** button to specify an image file.

Click **OK** when done to return to previous dialog box.

4

Refer to dialog box as shown on right side of Step **2** to set up other options.

Click **OK** when done.

* Click on **HELP** button for further information.

5

Image object is created as shown in Object List and Layout Screen.

Layout Screen

Object List

Setting Date & Time

Current date & time can be printed automatically during printing of labels.

Object ⑬ of **Figure 2-2** on Page 21 is set up as a Date object. Moreover, various date and time formats can be set too.

1

Click **(6) Item** on the menu bar.

Point to **(D) Date & Time…** and then click.

Click on Date & Time button changes the mouse pointer into the selected object's image.

Move the object pointer to the layout screen as shown on the right.

Click the object pointer to insert the object and a dialog box appears.

2

Click on Format… button as shown on the right.

A dialog box appears.

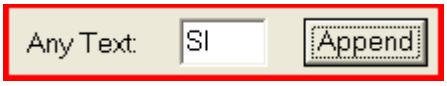
3

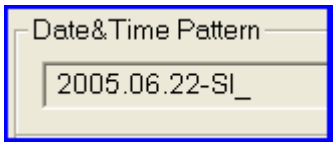
Select desired date and time format from the various options as indicated by this mark ○ on the right.

Otherwise, type desired text in Any Text box as shown in **red** figure.

Click Append button to insert desired text in Date & Time Pattern box as shown in **blue** figure.

Click OK when done to return to previous dialog box.





4

Refer to dialog box as shown on right side of step 2 to set up other options.

Click OK when done.

* Click on **HELP** button for further information.

Date & Time object is created as shown in Object List and Layout Screen.

Object List

Layout Screen

Setting Function

In the case of **Interleaved 2 of 5** Barcode object, a Function object has to be set up.

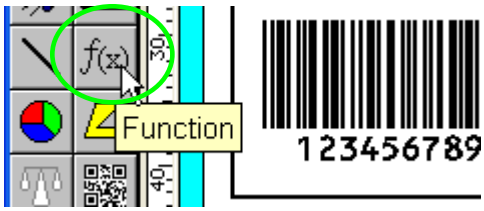
Various conversions can be performed on a string or a value via Function object. **Interleaved 2 of 5** barcode can accept digit characters only but no alphabet characters. Object ⑩ is set as a String object (price) with a length of 4 digits. If the price string has less than 4 digits, barcode cannot be displayed correctly as remaining digits are treated as spaces.

As a result, remaining digits must be replaced with the digit 0.

1

Click **(6) Item** on the menu bar.

Point to **(P) Function…** and then click.



Otherwise, click on **Function** button under Object Toolbar.

2

A dialog box appears.

Click on **Refer…** button to Processed Item Index.

3

A dialog box appears.

Select object ⑩ **010:String Input (DB1, Price)** from the list as shown on the right.

Click **OK** when done to return to previous dialog box.

4

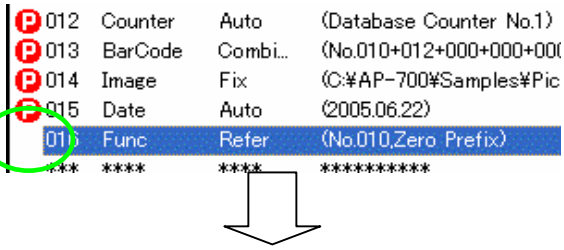
Refer to dialog box as shown on right side of step**2** to set up other options.

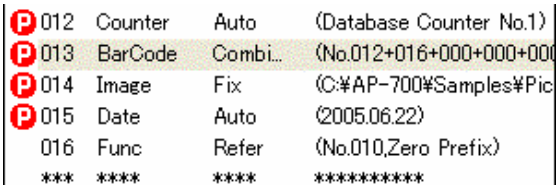
Click **OK** when done.

- String Length (bytes) of object ⑩ is also displayed. Although string length can also be changed, it must be an even number in the case of **Interleaved 2 of 5** barcode.
  If it is changed from 4 bytes to 5 bytes, the error message on the right will be displayed.

5

Function object is added in Object List as indicated by this mark ◯ on the right.





Barcode object 13 is derived from a combination of objects 10 and 12. Change the current combination to objects 12 and 16 respectively.

Double-click on object **13 (013:Barcode Combine**) in Object List.

Click on **Combine…** button.

Type **16** in Index of **Combined Item 2** box to replace current number.

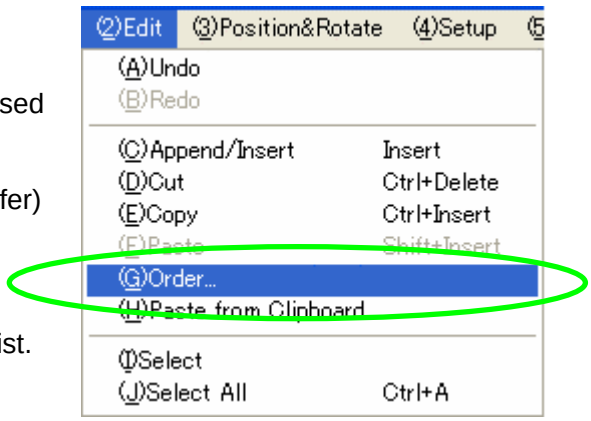
Click OK when done.

6

Rearrange order sequence of objects in Object List.

During printing of label, each object must be processed in the correct sequence based on the label format.

It is necessary to move object 16 (016: Function Refer) just before object 13 (013:Barcode Combine).



Click on object 16 (016: Function Refer) in Object List.

Click **(2) Edit** on the menu bar.

Point to **(G) Order…** and then click.

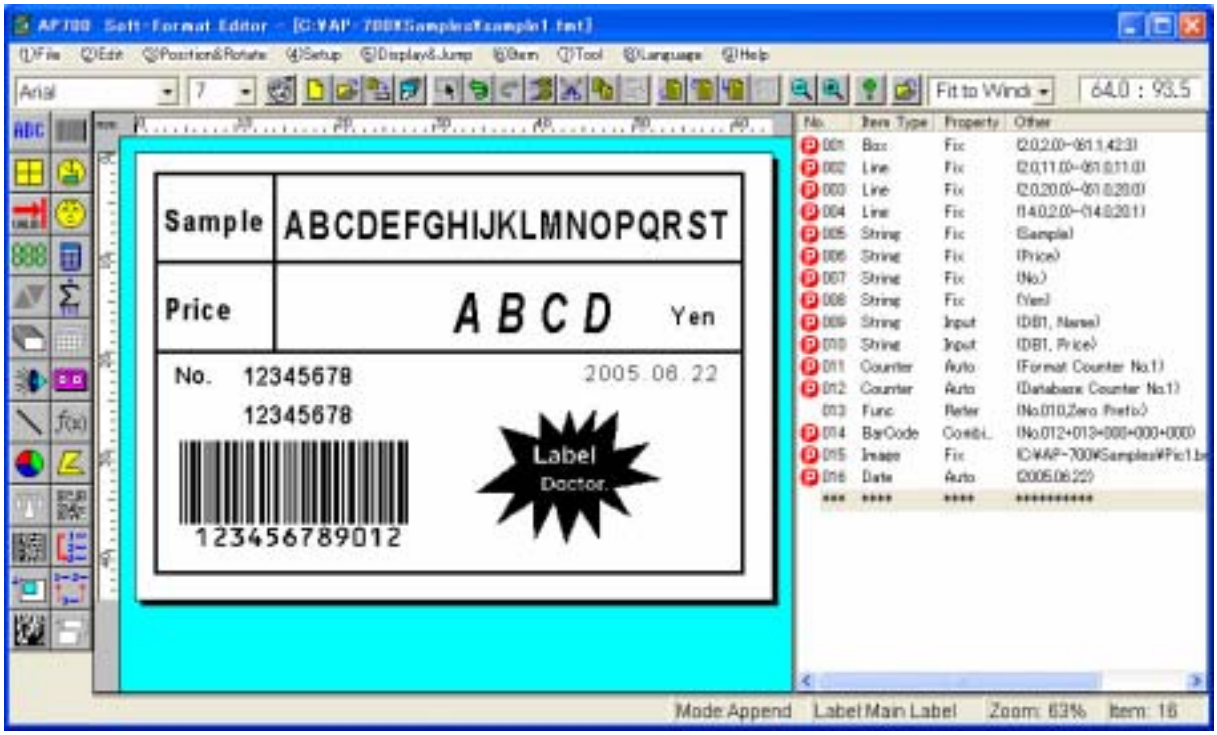
7

A dialog box appears.
Select object 13 (013: Barcode Combine)
from the list as shown on the right.
Click Move button when done.

Also you can directly drag the object 16 on Item List to the position of object 13 and release. The object 16 will come to the above of the object 13.

Saving Label Format

Based on Figure 2-2, label formats must be saved upon completion as shown below.

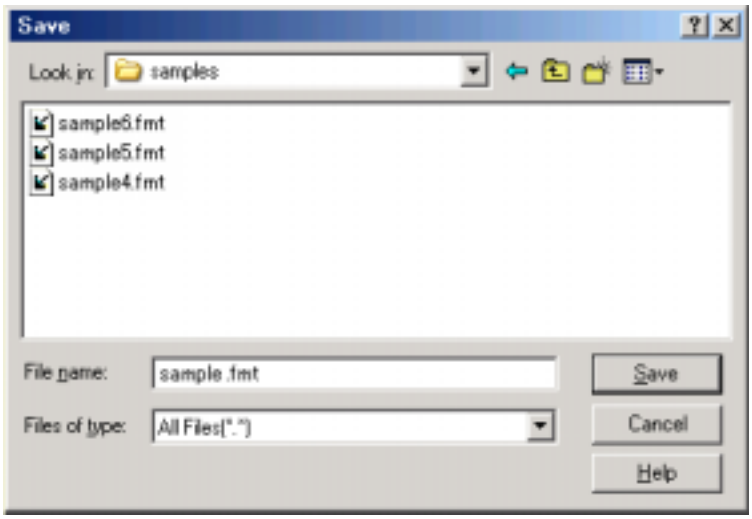


1

Click **(1) File** on the menu bar.

Pont to **(D) Save As…** and then click.

A dialog box appears.



2

Type **sample.fmt** in Filename box.

Click **Save** button when done.

Label Design ◆ Part2

Although some features have been illustrated in **Label Design Part 1**, an understanding of the remaining features is necessary.

This chapter describes the remaining available features in Format Design Tool to make sample labels (**Sample2.fmt**, **Sample3.fmt**, **Sample4.fmt**) as shown below. Refer to other sample labels (**Sample5.fmt**, **Sample6.fmt**, **Sample21.fmt**, **Sample22.fmt**) in **C:\ AP700\ Samples** folder for further information.

Printing Calculated Data

Example: Discount Price of **500YEN** is calculated based on the Total Price of **552YEN** as shown in Sample2.fmt format file. Let's examine the operation procedure for setting Calculate object.

1

Refer to Object List as shown on the right. Setting String object is illustrated in Label Design Part 1. Objects 006 & 008 are configured as String objects with Input property. However, object 006 is linked to Usual Price field whereas object 007 is linked to Discount Amount field of Database 1 respectively. Object 007 is also configured as a String object with Fixed property.

①

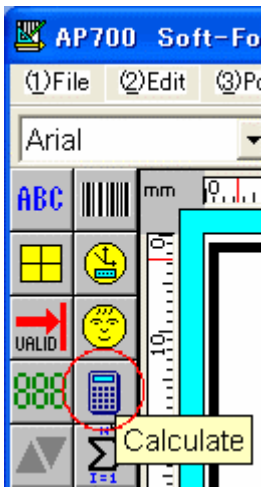
P 005	Counter	Auto	(Global Counter No.1)
P 006	String	Input	(DB1, Price)
P 007	String	Fix	(Standrd Price)
008	String	Input	(DB1, Depreciate)
P 009	Calc	Refer	(No.006-No.008)

Object 009 will refer to objects 006 & 008 for its result but object 008 will not be printed on the label as indicated by missing print symbol (P).

②

2

Click **(6) Item** on the menu bar.
Point to **(H) Calculate…** and then click.



Click on Calculate button changes the mouse pointer to the selected object's image.
Move the object pointer to the layout screen as shown on the right.

Click the object pointer to insert the object.
A dialog box appears.

3

Type **6** in Calculated Data/Referred Item Index box and click corresponding checkbox (☑).

Otherwise, click **Refer…** button to select object **006** from the list as shown in Page 43.
Therefore, Calculate object is currently linked to object 006 as shown on the right.

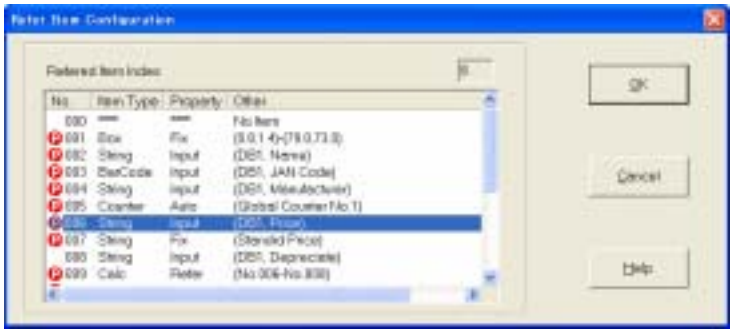
Select Minus option under Operator group.
Type 8 in next Calculated Data/Referred Item Index box and click checkbox (☑).
Otherwise, click **Refer…** button to select object **008** from the list.

③

Note: If both checkboxes ☑ (next to **Refer…** button) are not selected, data entry in both boxes will be treated as numerical values instead of object numbers. In this case, result of Calculate object is –**2** (6-8).

4

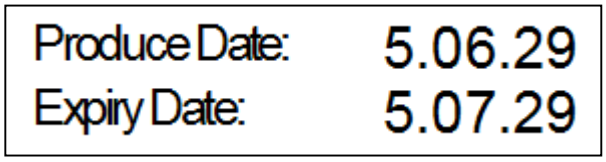
Refer to dialog box on Figure ③ to set up other options.
Click OK when done.
* Click on **HELP** button for further information.



Printing Date & Time of Expiry

If a valid period is specified manually via keyboard or linked to a database, date & time of expiry can be calculated automatically and printed on label as shown in figure ①.

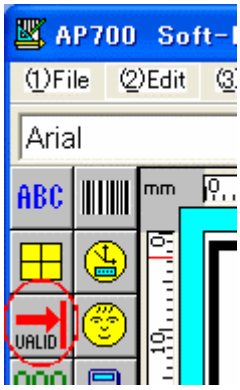
①



1

Click **(6) Item** on the menu bar.
Point to **(E) Period…** and then click.

②



Click on **Period** button changes the mouse pointer into the selected Object's image. Move the object pointer to the layout screen as shown on the right.
Click the object pointer to insert the object.
A dialog box appears.

2

③

Select **Input** option under Property group as shown in figure ③.

Click on **Input…** button and a dialog box appears as shown in figure ④.

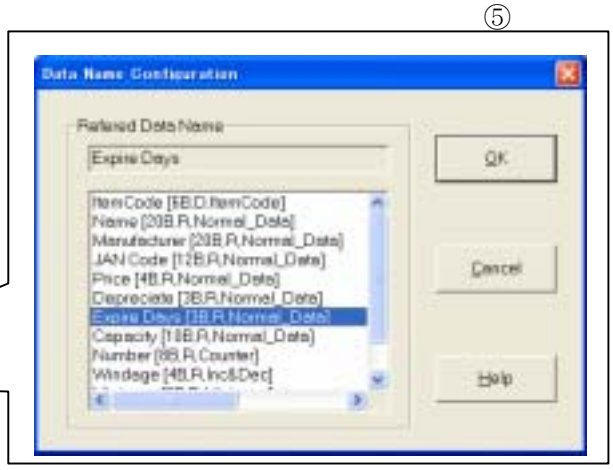
Select **Database No.1** option as the Input Source. In this case, it is linked to GoodsDB2.dbs database file.

Input Data Name should be the same as the name of a linked database field (example: Expiry Days).

Click on **Refer…** button to display a related database field list. Select a field from the list as shown in figure ⑤.

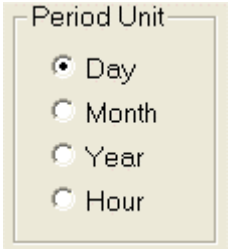
④

⑤



3

Select **Day** option under Period Unit group as Expiry Days field of GoodsDB2.dbs is registered in days.



If Period Unit option is not selected correctly based on relevant field in database, Expiry Period will not be printed correctly.

4

Click on **Format…** button as shown in figure ③.

A dialog box appears as shown in figure ⑥ on Page 46. Although the operation procedure to set up various options is similar to setting Date & Time under Label Design Part 1 on Page 37, additional information is stated here.

Note: 0XX means a zero prefix as indicated by this figure  .

⑥

Example: If Day Format is specified as **026**, it looks abnormal.
However, this Day Format (**026**) is chosen to display 1~9 as 01~09.
If there is one digit only, **0** is inserted. Otherwise, **0** will not be inserted if there are two digits (10~31).

5

Refer to dialog box as shown in figure ③ to set up other options.
Click **OK** when done.

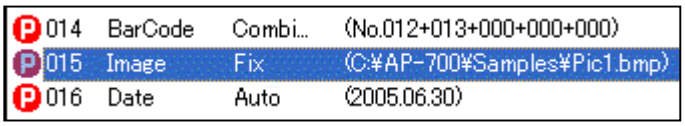
* Click on **HELP** button for further information.

Setting Image Using Database References

Although Setting Image is explained in Label Design Part 1 on Page 36, this section illustrates setting Image object with Property as Input. The image file is called out from a database and printed on a label.

1

Image object 015 in sample label (Sample1.fmt) is set up with Property as Fix. Change Property of Image object to Input.

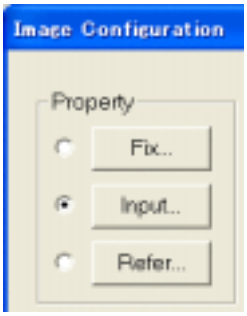


Double-click on object 015 from Object List as shown in figure ①. A dialog box appears.

2

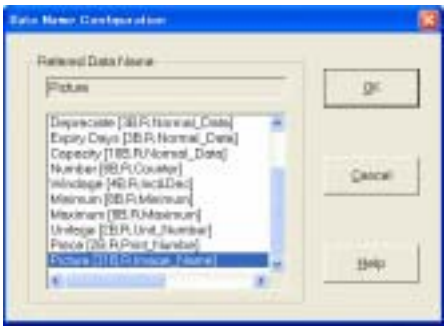
②

Click on **Input…** button of Property group.
Select **Database No.1** option as the Input Source as shown in figure ② -1(page 49).
Click on **Refer…** button of Input Data Name group to display a related database field list.
Select **Picture** field (Image Name) from the list as shown in figure ② -2(page 49).
Click **OK** when done.



Refer to figure ②-3(page 49), name of selected database field is shown in Input Data Name box.

②-3



②-2

②-1

3

Object **015** is displayed in Object List as shown in figure ③.

③

P 014	BarCode	Combi...	(No.012+013+000
P 015	Image	Input	(DB1, Picture)
P 016	Date	Auto	(2005.06.30)

Setting Total

Total value of an item can be calculated during printing of labels. Example: Number of labels printed today, number of goods produced, total sales today, etc.

1

Click **(6) Item** on the menu Bar.
Point to **(J) Total…** and the click.

Click on **Total** button  changes the mouse pointer into the selected object's image. Move the object pointer to the layout screen as shown on the right. Click the object pointer to insert the object and a dialog box appears.

①

2

Type **9** in Total Item box as shown in figure ①.
Result of Total object is a summation of object 009 (Calculate・ Refer) values which calculates Discount Price of each item. Other options are set up as shown in figure ①.
Note: Tick ☑ **Print** checkbox to print total result on a label. Otherwise, please do not tick.

3

Total object 020 is displayed in Object List as shown in figure ②.

P 015	String	Fix	(Expire Date:)
P 016	String	Fix	(No.)
P 017	Total	Refer	(No.009)

Setting History & Viewing Records

History object is set up to capture number of labels issued for each item, content of each label, etc.

1

Click **(6)Item** on the menu bar.

Point to **(N)History…** and then click.

Otherwise, click on **History button**  and a dialog box appears as shown in figure ①.

①

2

Object List of sample label Sample 22.fmt is shown in figure ②.

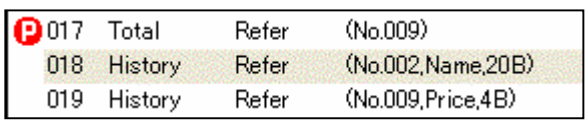
Click on **Refer…** button in figure ① to display a list of objects as shown in figure ③.

Select object **002** from the list to create a history file based on database field **Name**.

Click **OK** when done.

Click on **Refer…** button of Data Name in figure ① to display a list of Database field Name of History Structure file (extension is .HST), and then select the field name from the list. Object 022 (History・Refer) is added to Object List as shown in figure ②.

②



P 017	Total	Refer	(No.009)
018	History	Refer	(No.002,Name,20B)
019	History	Refer	(No.009,Price,4B)

③

Note: To record the history data, it is necessary to set a History structural file (HST) beforehand. Please refer chapter 4 for how to set the HST.

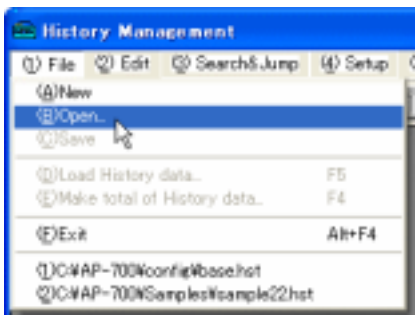
Object 023 (History・Refer) is created similarly with reference to object 019. However, Database field Price is displayed in History Data Name box.

3

When an actual label is issued, a history data file (extension is HDT) is created.

The History Data file can be referred by using the History Management Tool.

Open the History Management Tool, and then click **(1) File** on the menu bar. Point to **(B) Open…** and then click.



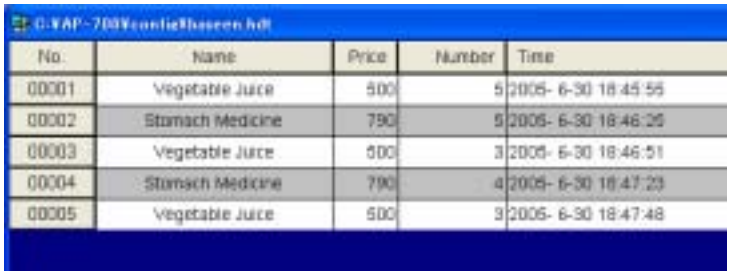
④

Otherwise, click on **Open** button and a dialog box appears. Select history structure file (extension HST) and then click OPEN button.

After the HST file is opened, click **(1) File** on the menu bar, and then click **(D) Load History Data**, Otherwise, click on button and a dialog box appears as shown figure ④.

Select history data file (extension HDT) and then click OK button. [When every day is selected in setting of HST, two or more HDT will be displayed.]

⑤



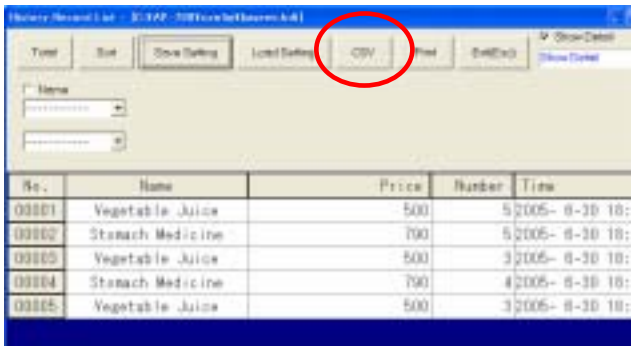
No.	Name	Price	Number	Time
00001	Vegetable Juice	500	5	2005- 6-30 18:45:55
00002	Stomach Medicine	790	5	2005- 6-30 18:46:26
00003	Vegetable Juice	500	3	2005- 6-30 18:46:51
00004	Stomach Medicine	790	4	2005- 6-30 18:47:23
00005	Vegetable Juice	500	3	2005- 6-30 18:47:48

History data file appears as shown in figure ⑤. The list will display information such as Item Name, Price, number of labels issued and Time.

4

Using general-purpose printer can print history record list. And it can be also converted into a text file (.CSV) that can be used by external programs such as Excel, Lotus 1-2-3, Access, etc. To Analyze or total the history data, Click **(1) File** on the menu bar and point to **(E) Analyze History Data** and then click. Otherwise, click on button and the history data list will be displayed as shown in figure ⑥.

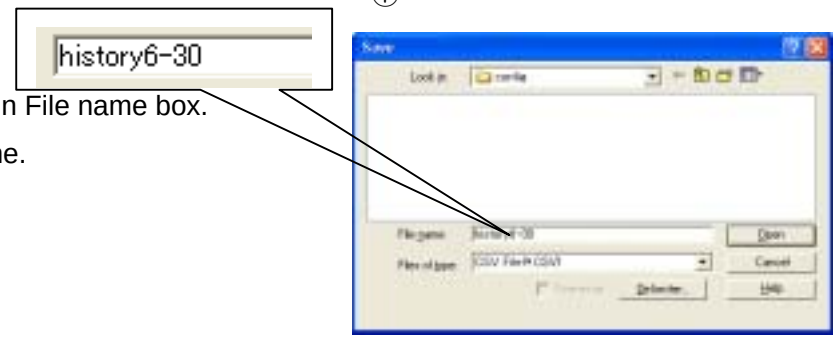
⑥



Click on **CSV** button in History Record List dialog box.

A dialog box appears as shown in figure ⑦.

⑦



Type an arbitrary file name in File name box.

Click Save button when done.

Realizing Database Relationship Using Call Data

This section illustrates the calling out of data from one database that is linked to another database. The relative information about each item (manufacturer) is registered in database file **GoodsDB3.dbs** located in **C:\ AP700\ Samples** folder. Manufacturer Code and other relative information (Name, Address, etc) are registered in another database file **Manufacturer.dbs**. However, GoodsDB3.dbs and Manufacturer.dbs database files are linked mutually via **Manufacturer No.** and **Code** respectively. Example: Manufacturer No. is retrieved from GoodsDB3.dbs which in turn call out the associated manufacturer's name and address via the Manufacturer Code. Refer to sample label Sampel6.fmt for further

①

GoodsDB3.dbs

②

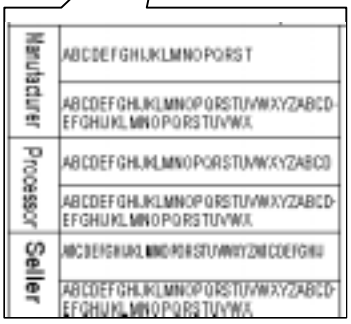
Manufacturer.dbs

1

Sample label Sample6.fmt is shown in figure ③. The relative information about Manufacturer and Seller are expanded as shown in figure ④. Content of relevant objects is displayed in figure ⑤. String object **036** is set up with Property as **Input** shown in figure ⑤. GoodsDB3.dbs is specified before as Database No.1 (DB1). Although object 036 call out **Manufacturer No.** from Database No.1 (GoodsDB3.dbs), its data will not be printed.

③

④



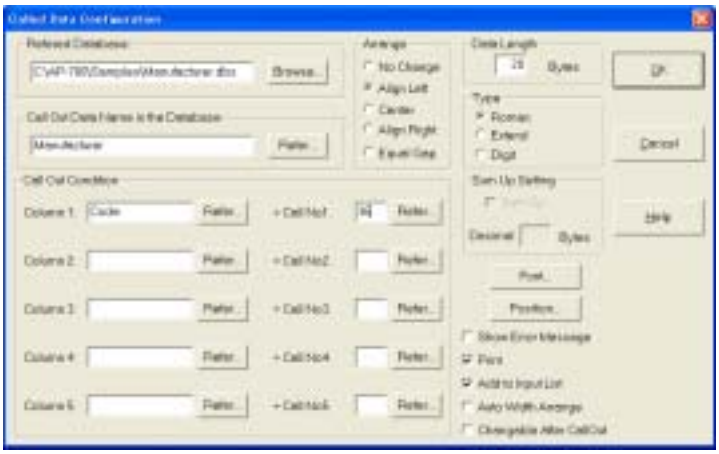
⑤

	036	String	Input	(DB1, Manufacturer No.)
P	037	Call	Refer	(No.036,Manufacturer,20B)
	038	Call	Refer	(No.036,Address,50B)
P	039	String	Refer	(No.038,Refer All)
	040	String	Input	(DB1, Processor No.)
P	041	Call	Refer	(No.040,Processor,30B)
	042	Call	Refer	(No.040,Address,50B)
P	043	String	Refer	(No.042,Refer All)
	044	String	Input	(KEY, Seller No.)
P	045	Call	Refer	(No.044,Seller,36B)
	046	Call	Refer	(No.044,Address,50B)
P	047	String	Refer	(No.046,Refer All)

2

Call Data object 037 is set up to print Manufacturer Name that is called out from another referred database (**Manufacturer.dbs**). Although Call Data object is explained in Page 25, object 037 data is retrieved via object 036 (**GoodsDB3.dbs ・ Manufacturer No.)** which in turn extracts its corresponding data from the database field **Manufacturer.dbs ・ Manufacturer** according to the condition **Manufacturer.dbs・Code= GoodsDB3.dbs・Manufacturer No.**. Refer to figure ⑥ for further information.

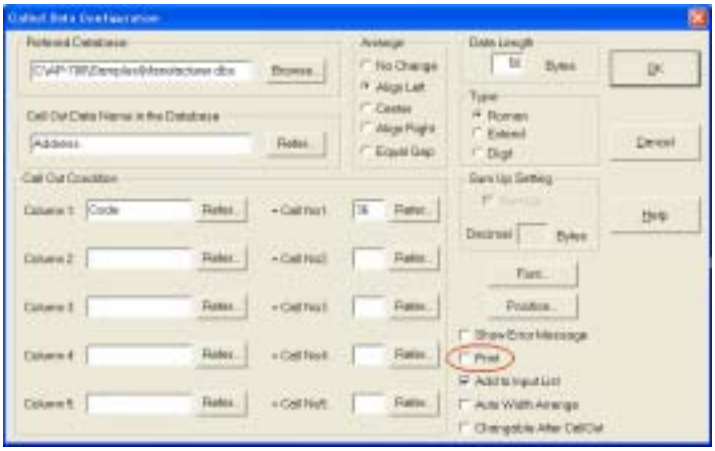
⑥



⑦

3

Call Data object 038 is set up to print Manufacturer Address that is called out from another referred database (**Manufacturer.dbs**). Object 038 is set up similarly like object 037 as shown in figure ⑦. However, click on **Refer…** button to select **Address** as Referred Data Name in Database.

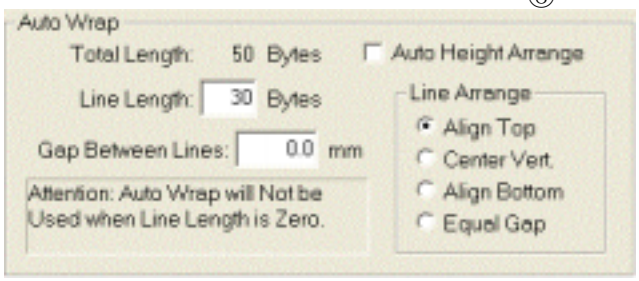


Moreover, do not tick the ☑ **Print** checkbox. Although data length of this object is limited to 50 bytes, it still went out of the printing area. Therefore, String object 039 is set up to refer and print object 038 data with auto wrap.

⑧

4

String object 039 is set up with total reference to object 038. Although the total length is set to 50 bytes, length of each line is limited to 30 bytes only as shown in figure ⑧.

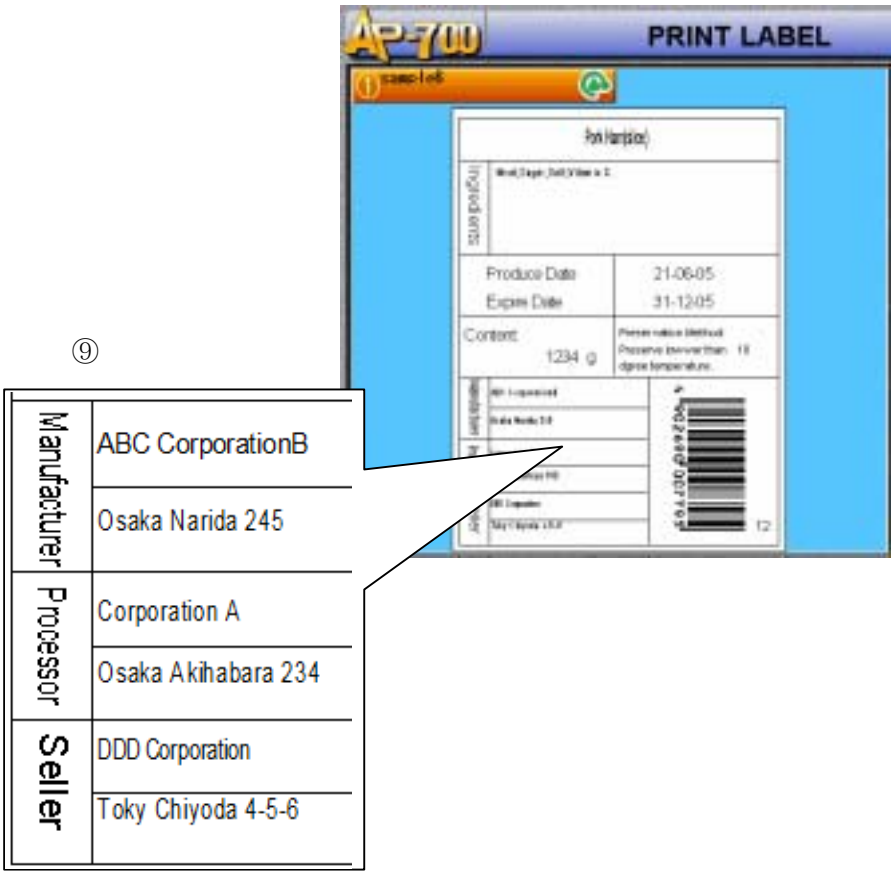


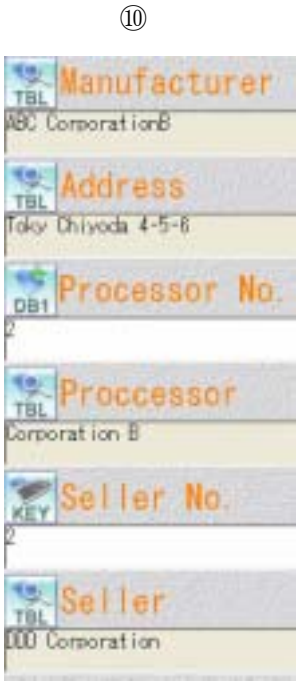
5

Referring to figure ⑤, String object 040 & Call Data object 041 (Processor) are set up similarly like steps **1~4** to print Manufacturer Name and Address that is called out from another referred database (**Manufacturer.dbs**).

6

Content of objects 036~047 are displayed in the layout screen of Label Printing program as shown in figure ⑨. Call Code of Manufacturer, Processor and Seller objects are displayed in list screen as shown in figure ⑩.





Calling Data Out From Additional Database

Although data can be called out and printed from database No.1 to No.3, it is also possible to call data from additional databases besides the above 3 databases. Call Data object is used in this scenario. Setting Call Data objects, with reference to additional databases, is explained in Page 49.

1

Referring to figure ⑤, String object 044 (Seller No.) is set up with Manual Input via keyboard but its data is used as a Call Code for Call Data object 045 to print **Seller Name**. String object 047 is set up to print **Seller Address** that is called out from another Call Data object 046 whose data is also called out using Call Code of object 044.

Although Input Source of String object 044 is Keyboard, **Input Data Name** box should be set with the same name as the referred field (Seller No.) in GoodsDB3.dbs database shown in figure ①.

2

Call Data objects 045~046 are set up similarly like steps **2** & **3** on Page 50 with String object 044 as a **Call Code**. Call Data Configuration dialog box of object 045 is shown in figure ② and it will call out data of Seller. Figure ③ shows that the address of Seller is called out by object 046.

②

③

3

String object 047 is set up similarly like step **4** on Page 50 with total reference to Called Data object 046 (Seller Address).

4

During printing of labels, a Call Code is entered via a keyboard that is used to call out and print Seller Name & Address from a referred database (Seller.dbs). Refer to figure ⑨ and ⑩ for further information.

Printing According to Condition (JUMP)

Jump object is used to avoid printing some items when using one format during label printing. By deciding two compared objects, comparison method and Jump-To-Item, once the condition is satisfied, the print order will jump to the item specified in the Jump item. E.g., for the products that are sold every day from Monday to Sunday, the prices on Tuesday become cheaper than the other days as special prices. This can be realized easily by using two different formats. It also can be realized by using Jump object in one format. However, pay attention to the case that the index of jump-to-item is before the index of Jump item. In this case, the program will repeat the process between the Jump-to-item and Jump item forever when printing labels. Therefore it is suggested to avoid this kind of setting. When such a process repeated 50 times, the jump-to-item would be reset to the next item of the Jump item compulsorily. When the jump-to-item has to be set before the Jump item, add another jump item between the two items and specify an item as the jump-to item whose position is after the two items.

①-a

①-b

1

Two labels in the above figure (①-a, b) are printed by the same format. (①-a) is a label which is printed on weekdays except Tuesday, and (①-b) is printed on Tuesday, the bargain sale day.

Why the contents printed are different by one format? It is because the jump item is set to the format.

Please refer ①-c shown on right.

This is the Object list of the format (①-a, b).

The String object is set up to display the regular price, and the Calculate object is also set up to display half the price in the format.

①-c

No.	Item Type	Property	Other
P 001	String	Fix	(Product:)
P 002	String	Input	(DB1, Name)
P 003	String	Fix	(Price:)
P 004	String	Fix	(yen)
005	String	Input	(DB1, Price)
P 006	BarCode	Input	(DB1, JAN Code)
007	String	Input	(KEY, WEEK)
008	Jump	Auto	(No.007<>"Tues"->No.013)
P 009	Polygon	Fix	26 corner polygon(31.0,8.0)-(58.0,27.0)
P 010	String	Fix	(Sale!!)
P 011	Calc	Refer	(No.005*0.500000)
012	Jump	Auto	(Jump Absolutely->No.014)
P 013	String	Refer	(No.005,Refer All)
P 014	String	Input	(DB1, Manufacturer)
***	****	****	**********

String object 005 calls the price from the database. However, it is not to be printed. It becomes a referred item of the Calculate object 011, which is set to print half the price.
Object 013 is set to print ordinary price as referring 005. Object 007 is set to input the condition for jumping.

2

The jump item is set before the item that doesn't want to be printed on a certain condition. So, in this sample, set the jump item before object 009~011 because they are only wanted to be printed on Tuesday.

Click **(6)Item** on the menu bar.
Point to **(V)Jump…** and then click.

Otherwise, click on **Jump button**  and a dialog appears as shown in figure on the right.

Firstly, select the [**Jump Type**].
[**Jump Absolutely**]: jump to the item specified unconditionally.
[**Jump with Condition**]: when the condition set in [Jump Condition] is satisfied, jump to the item specified.

Next, set [**jump condition**].
Input compared value directly, or select the index of referred item by clicking Refer Button.
And then select the comparison method from the list in the center.

Select [**Digital**] to compare value as digital, or [**String**] to compare value as string.
Because character string "Tues" is to be a comparison in this example, [**String**] is set.
Set the jump destination in [**Jump To**].
Click Refer button to select the jump-to-item from list. In this example, object **013** is set.

3

Object 009~011 is not printed when “Tues”(Tuesday) is input to object 007 at label printing.
Jump-Item is also seen in 012. It is set for not printing object 013 of the ordinary price when “Tuse” is input to object 007. The items are processed in set order and printed usually. Therefore, [**Jump Absolutely**] should be selected in [**Jump type**] in this case.

Referring According to Condition (Conditional Refer)

Conditional Refer is used to select two different printing contents during label printing, by deciding two compared objects, comparison method and True/False referring item corresponded with the condition of comparison. Like the Jump item, this item is very useful when in one format the print content of the label need to be changed according to a certain condition.

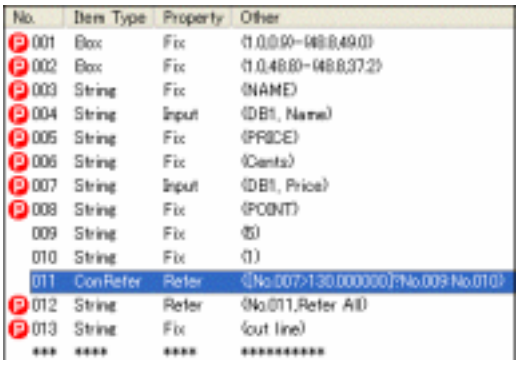
The label of the following conditions is shown as an example.
"Five points are printed in a commodity that is higher than 130 cents, and 1 point is printed in a commodity that is cheaper than 130 cents."

①

1

In this sample, "The price is higher than 130 cents" is the condition, and corresponding answer of "Truth and False" is [5 and 1]. Each character string [**5**] and [**1**] are set as a string object not to be printed.

Refer to the object **009** and **010** in the figure ① on the right.



②

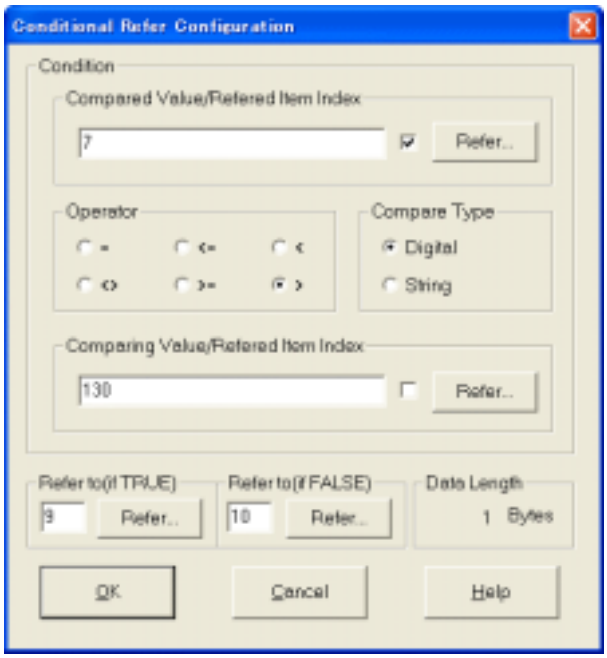
2

Click **(6) Item** on the menu bar.
Point to **(X) Conditional Refer…** and then click.
Otherwise, click on **Conditional Refer** button  and a dialog appears as shown in figure ② on the right.

Firstly, Input compared value directly, or select the index of referred item by clicking Refer button.

Next, select [**Operator**].

In this sample, it become like this.
Price **[object 007] > 130**



3

Next, set items of [Refer-to-(Truth/False)].

In this sample, the result is that "**Five points are printed in a commodity that is higher than 130 cents and 1 point is printed in a commodity that is cheaper than 130 cents**".

Therefore, object **009** of the character strings **5** is set to Truth, and object **010** of the character strings **1** is set to False.

Click Refer button to select the index of the item referred to when the condition is true/false.

Lastly, to print this result, setting the string item that refers to this object 011.

(Refer to the object **012** in the figure ①.)

4

At the label printing, two kinds of print contents in one format are selected and printed according to the called price data.

PRICE 89 < 130

One point is printed because it is cheaper than 130cents.

PRICE 135 > 130

Five points are printed because it is higher than 130cents.

CHAPTER 3

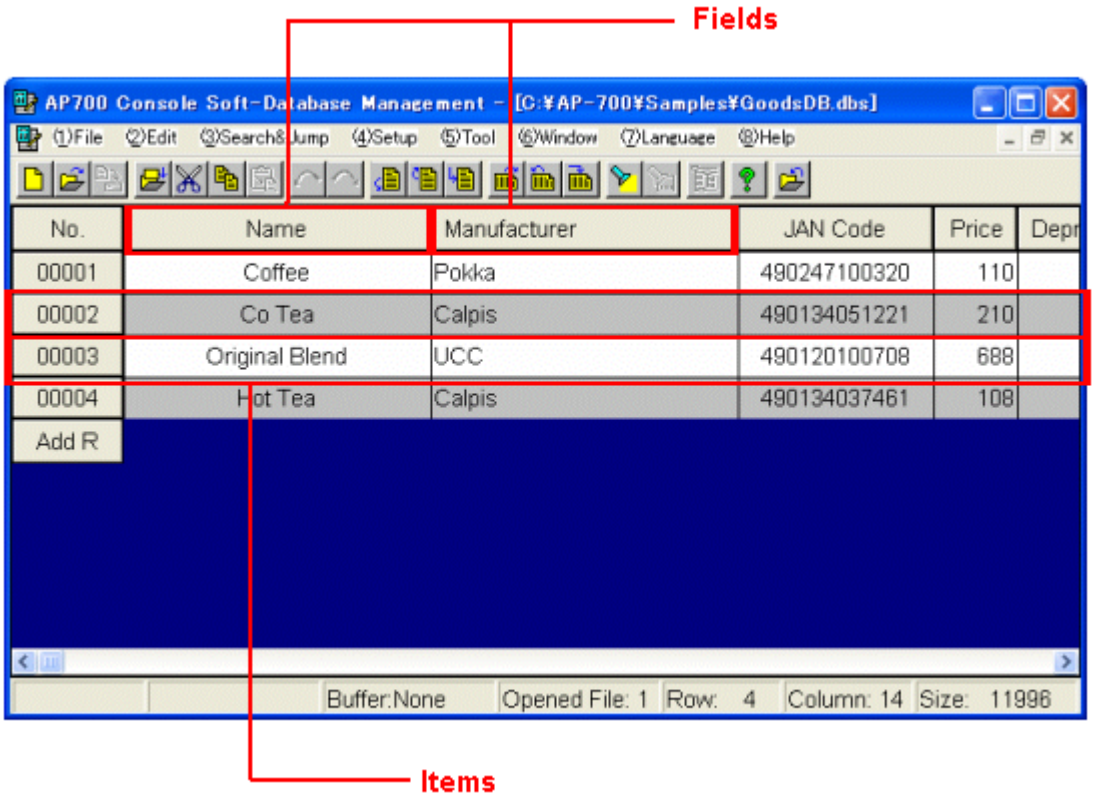
Database Management

During printing of labels, Productivity can increased by using a database as it is unnecessary to input data manually everytime. Moreover, it is possible to communicate with the database in factory, shop, etc. and to access the data in a remote host computer over a network.

This chapter introduces various features of Database Management.

About Database

In order to print an item label, information about an item (example: Code, Name, Ingredient, Production Place, Price, etc.) must be gathered beforehand for every item and save in a database file. During printing of labels, data can be called out and printed from the database file.



Database must be created carefully with only the relative data that referred to the same subject. If unrelated data is registered in a particular database, neither data management nor calling out of data can be preformed correctly.

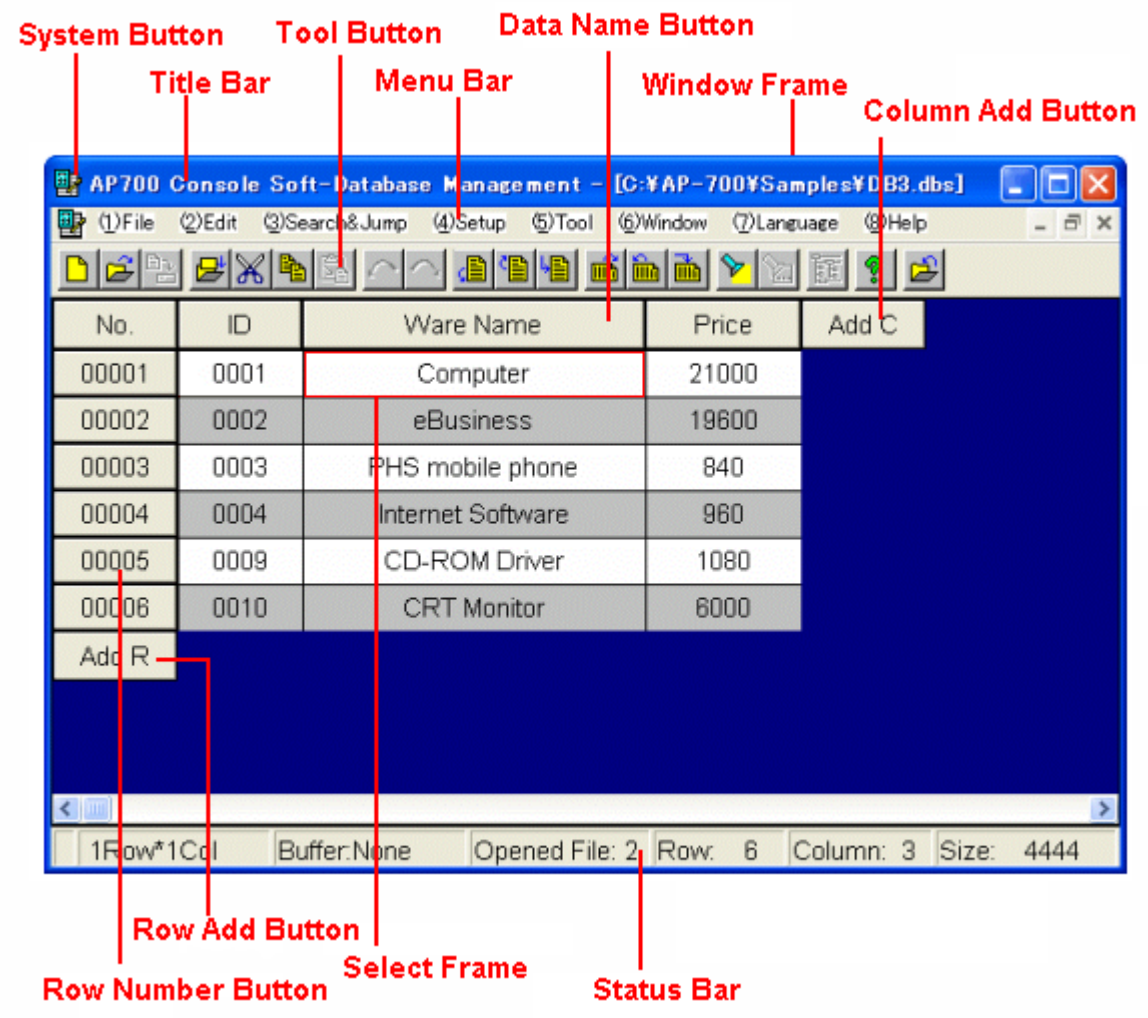
The number of columns that can be set to a database is 250 columns, and the number of items (rows) that can be registered is up to 999999.

During registration, an item can be added, inserted, deleted, etc.

Database Management Window

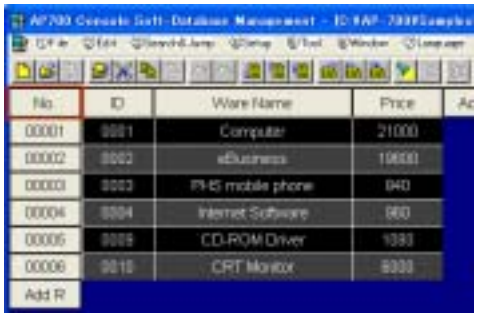
The following illustration introduces the basic elements of Database Management window.

Figure 3-1



"No." Button

Click "No." button to select all items as shown on the right.



If Call Code of a database is not set, items can be called out via this Number.

Data Name Button

The name of every field in the database is displayed.

Click this button to select a database column.

Double-click to display Column Configuration dialog box.

Add Column / Row Button

Click Add Column button to add a new field and a Column Configuration dialog box appears.

Click Add Row button to add a new item.

Select Frame

This frame is displayed in red to indicate a selected cell.

List Screen

Database data is displayed here. Items and fields can be added, deleted or copied to a buffer.

Row Number Button

Each item is allocated in a unique number.

Click this button to select an item in the database.

Select Bar

This bar is used to display a selected field or item.

Setting Database

In order to create a database, it is necessary to set up the structure of a database such as column name, property and data length.

Setting Database

Run Database Management program.

Click **(1) File** on the menu bar.

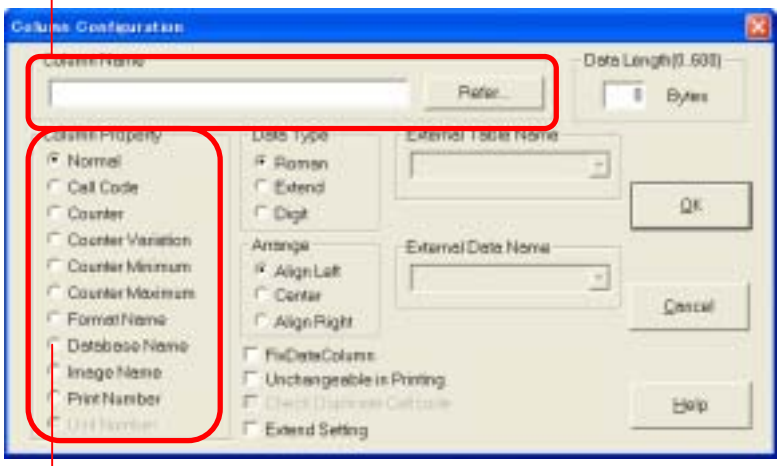
Point to **(A) New** and then click as shown on the right.

List Screen of new database file (**Noname01.dbs**) appears.

Click on Insert **Column** button and a dialog box appears.

Column Configuration Dialog Box

Column Name



During printing of labels, data is called out from a database via this name. Therefore, the column name must be the same as the name of the input data of an object specified in a label format.

If the column name is changed, then the names of the related data in all formats have to be changed too, otherwise the labels cannot be printed out.

If you don't know the names of the related data in a format, click **Refer…** button to specify the format and then select the **Column Name** from the list of data names. This method can reduce mistakes.

Column Property

Normal and special data fields can be set in a database via this Database Management program. Special data field can be set up once only except for Image Name option.

Each option under Column Property is explained in the following page.

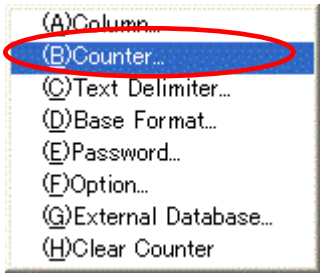
Call Code

This is the data that will be searched when calling out an item from the database.

Counter

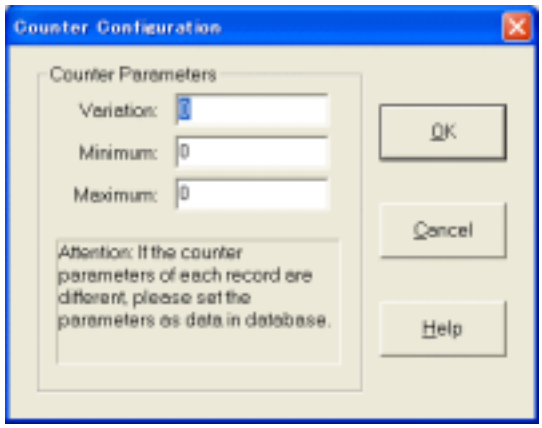
A counter is assigned to each item. This counter is updated whenever a label is printed.

Counter Variation



This is the Increment or decrement value of item counter.
This is not required if the increment or decrement value of all item counters is the same. In that case, click **(4) Setup** on the menu bar. Point to **(B) Counter…** and then click. A dialog box appears. Type a number in the **Variation** box.

Counter Minimum

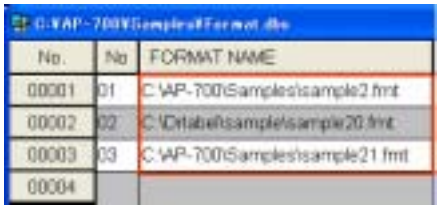


This is the Minimum value of item counter.
This is not required if the minimum value of all item counters is the same. In that case,
click **(4) Setup** on the menu bar.
Point to **(B) Counter…** and then click. A dialog box appears. Type a number in the **Minimum** box.

Counter Maximum

This is the Maximum value of item counter.
This is not required if the maximum value of all item counters is the same. In that case,
click **(4) Setup** on the menu bar.
Point to **(B) Counter…** and then click. A dialog box appears.
Type a number in the **Maximum** box.

Format Name



This field is related to a label format file. If Print Mode is set to **Database Priority** (call out data from database first and then a related label format is loaded later), this field is necessary.
Since the field data consists of drive, folder and file name of a label format file as shown on the right, this data field must have a sufficient data length to accommodate every label format filename.
In AP-700, since 3 labelers can be controlled at the same time, 3 formats corresponding to the 3 labelers can be set. The order of the 3 formats is the same as the order of the 3 labelers.

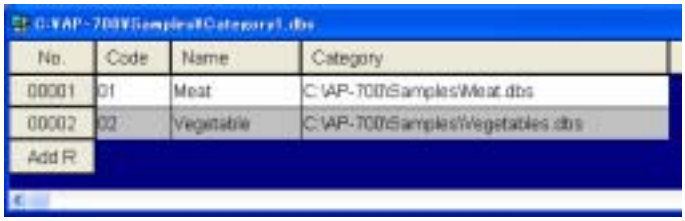
Database Name

This field is related to another database file. Since the field data consists of drive, folder and file name of a database file, this data field must have a sufficient data length to accommodate every database file name.

Example:

Category field data of Category.dbs database is shown in figure ①.

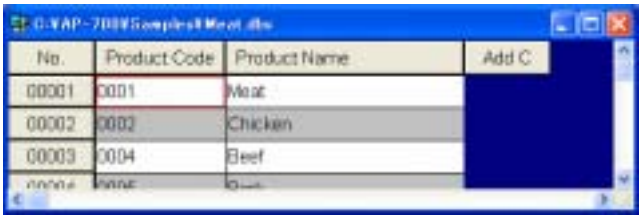
①



Click File Browse button  on the Toolbar and an Open dialog box appears.

Select the relevant database file from the appropriate folder.

②



Item Number 00001 in figure ① is linked to Meat.dbs database as shown in figure ②.

A label format can be made to print Meat items such as Pork and Beef.

Moreover, Item Number 00002 is linked to Vegetables.dbs database as shown in figure ①.

A label format can also be made to print Vegetable items such as Spinach and Onion.

③

Image Name

This field is related to an image file.

Since the field data consists of drive, folder and file name of a database file, this data field must have a sufficient data length to accommodate every image file name.

Print Number

This field is related to the number of labels to be printed for each item.

Unit Number

This field is related to the number of items in per box for each item.

Data Length

Length of field data is associated with number of characters per field. Data length is set up automatically if the column name is associated with a label format reference.

Data Type

Default option is Roman instead of Kanji unless current Windows Operating System can support double-byte characters such as Chinese, Japanese or Korean. During data input, the input methods for single-byte and double-byte characters will be converted automatically based on Data Type option.

Arrange

Alignment of field data is set via this option. Select **Align Left** option if the field data is a string of characters. Select **Align Right** option if the field data is a number.

Unchangeable in Printing

If this checkbox is ticked, it is impossible to make any changes on the field data when in printing program.

List Screen Operation

It is possible to add, copy, delete, list and edit database data on List Screen.

Scrolling List Screen

List Screen can be scrolled via a mouse, shortcut keys or menu bar cum toolbar.

Mouse

Scroll through the list screen horizontally or vertically by using a mouse to drag the horizontal or vertical scroll bar. Position of select frame is unaffected by this scroll operation.

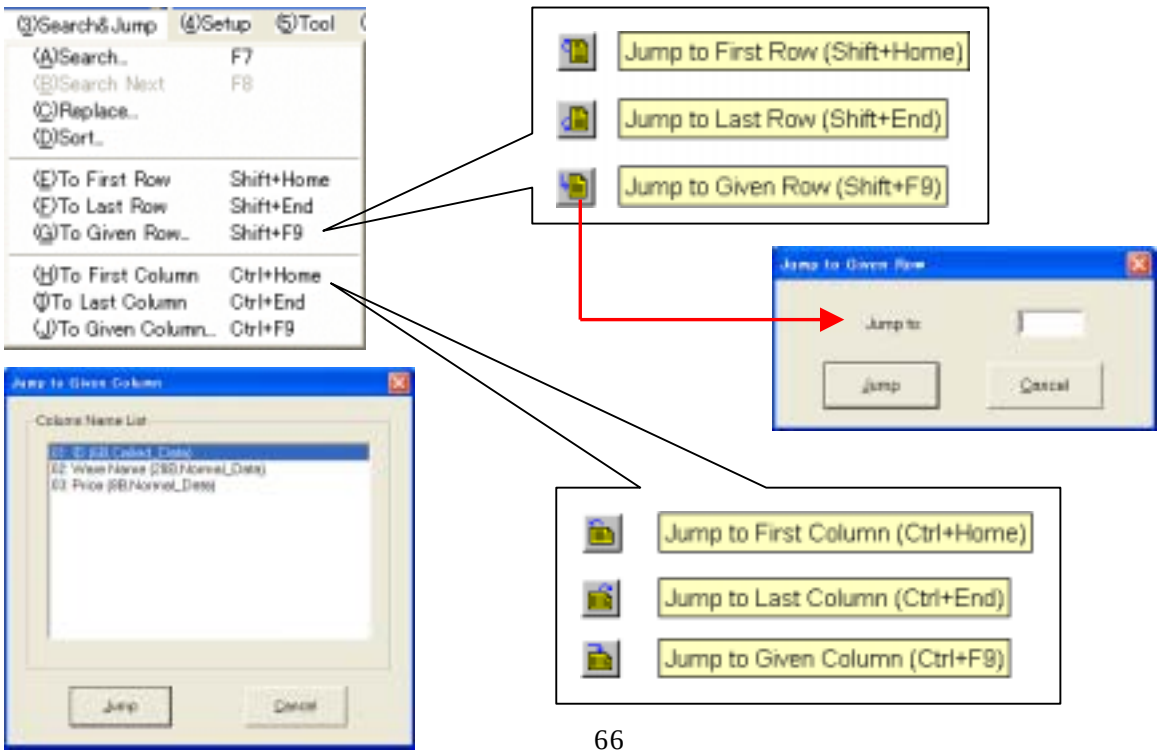
Shortcut Keys

Use [**Page Up**] or [**Page Down**] keys to scroll list screen by 10 rows each time. Otherwise, use [**Shift**]+[**Page Up**] or [**Shift**]+[**Page Down**] keys together to scroll list screen horizontally by 2 columns each time. Position of select frame is affected by this scroll operation.

Moreover, moving a select frame via arrow (← → ↑ ↓) keys can scroll list screen horizontally or vertically.

Menu Bar cum Toolbar

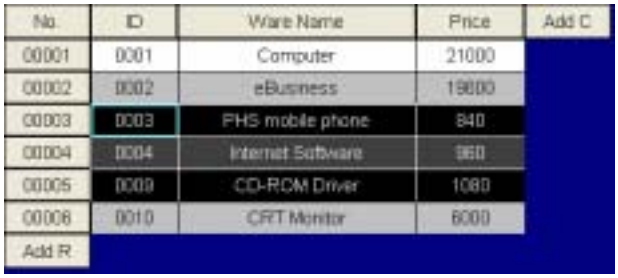
Click (**3**) **Search & Jump** on the menu bar or quick access buttons on the toolbar as shown below.



Selecting Item & Field

Item (Selecting Row)

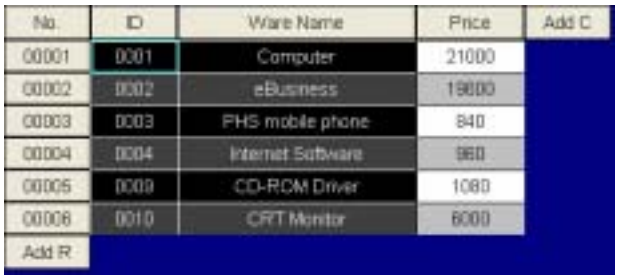
Click any **Row Number** button to select one item only. Use ↑ or ↓ arrow to move Item Selection Bar vertically. Otherwise, use [**Page Up**] or [**Page Down**] key to scroll one page each time.



Click any **Row Number** button and drag to select a group of items. Alternatively, click any **Row Number** button to select first item of group. Then press [**Shift**] key and click any **Row Number** button to select last item of group.

Field (Selecting Column)

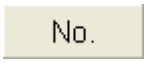
Click any **Data Name** button to select one field only. Use ← or → arrow to move Field Select Bar horizontally. Otherwise, use [**Shift**]+[**Page Up**] or [**Shift**]+[**Page Down**] key to scroll two columns each time.



Click any **Data Name** button and drag to select a group of fields Alternatively, click any **Data Name** button to select first field of group. Then press [**Shift**] key and click any **Data Name** button to select last field of group.

Selecting All Items

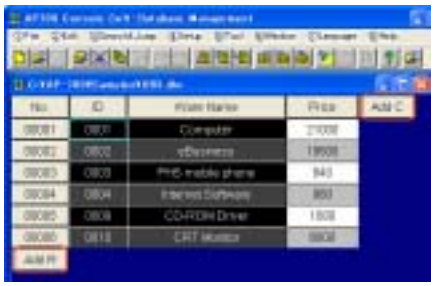
Click (**2**) **Edit** on the menu bar. Point to (**G**) **Select All** and then click.

Otherwise, click Item button  on list screen.

Setting Item & Field

Add Item

Click **Add Row** button  as shown on the right.



Otherwise, click (**2**) **Edit** on the menu bar.
Point to (**A**) **Add Row** and then click.

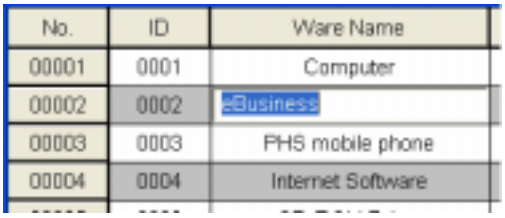
Add & Edit Field

Click **Add Column** button  as shown on the right.

Otherwise, click (**2**) **Edit** on the menu bar.
Point to (**B**) **Add Column** and then click.

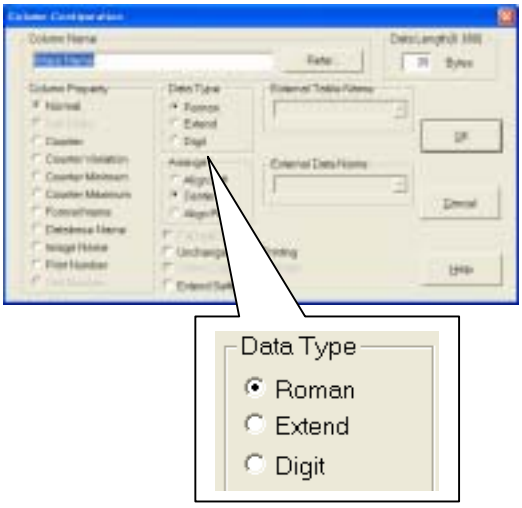
Double-Click on any **Data Name** button to edit selected field.
A Column Configuration dialog box appears and clicks **OK** when done to save changes.
Alternatively, click (**4**) **Setup** on the menu bar. Point to (**A**)**Column…** and then click.

Add & Edit Data



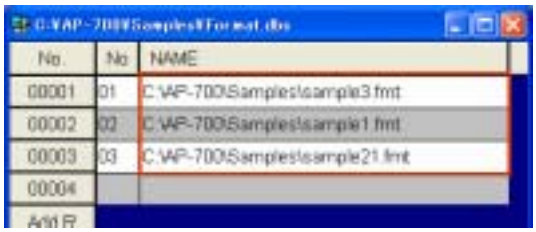
Whenever any cell is chosen, the cell will be surrounded by a Select Frame in red. There are 3 ways to add and edit data.

1. Double-click on any cell to add or edit data.
2. Move **Select Frame** to any cell to add or edit data.
Press [**Shift**]+[**Enter**] keys together.
3. Move **Select Frame** to any cell and type to add or edit data. The first character is displayed in the cell.



During data input, input method for single-byte and double-byte characters will be converted automatically based on Data Type option (Roman or Kanji) as shown on the right.
Press [**Esc**] key to cancel Add or Edit Data operation.

Selecting File



Type file name directly in any related cell wherever **Column Property** of a field is set as Format Name. Database Name or Image Name. However, it is inconvenient if the file name is not known.

Otherwise, click **File Browse** button  on the toolbar.

Alternatively, click **(2)Edit** on the menu bar.
Point to **(H) File Browse…** and then click as shown below.

An **Open** dialog box appears.
Select the relevant file from the appropriate folder.
Click **Open** button when done to input file name to cell automatically.

Moving Item & Field

There are 3 steps to be taken for moving an item or field.

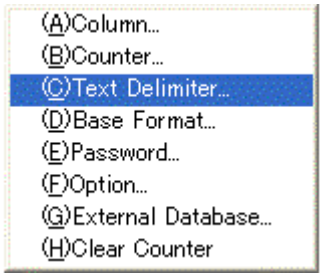
1. Click any Row Number buttons or Data Name buttons and a Select Bar is displayed.
2. Click **(2) Edit** on the menu bar. Point to **(D) Cut** and then click. Otherwise, click Cut button on the toolbar.
3. Click any Row Number buttons or Data Name buttons as new position of Select Bar.
4. Click **(2) Edit** on the menu bar. Point to **(F) Paste** and then click to paste selected item or field. Otherwise, click **Paste** button on the toolbar, Selected item is inserted above the Item Select Bar whereas selected field is inserted on left side of Field Select Bar.

Importing & Exporting Text File

AP-700CS database files cannot be accessed directly by external programs such as Access, Excel, Oracle, SQL Server, etc.

Fortunately, any file created by external database software in text format (**.TXT**) can be imported via this Database Management Program. Moreover, database files created by this program can be exported into a text file that can be modified by external database software.

Setting Text Delimiter



During import or export, text files accessed or created by external database software use text delimiters to differentiate between data fields. Database Management Program can create text files easily using various text delimiters such as comma, space, etc.

Click **(4) Setup** on the menu bar.

Point to **(C) Text Delimiter…** and then click.

Text Delimiter

Text delimiters are used to differentiate between data fields during import of export of text files. Any alphanumeric character or symbol can be used as a text delimiter besides common text delimiter options. Select **Other Sign** option and type an alphanumeric character or symbol in box. Select **Fixed Length** options only if the text file consists of fixed length character strings without text delimiters. However, text files must have the same data length as specified in AP-700CS Database.

Text Mark

This parameter is needed to differentiate field data from text delimiter whenever any field data consists of the same alphanumeric character or symbol as the text delimiter.

Example: “Wine”, “1,900”

A comma delimiter (..e ”**,**” 1..) is used to separate the two fields whereas the comma in unit price (1,900) is actually a Digit Grouping symbol.

Any alphanumeric character or symbol can be used as a text mark besides common text mark options. Select **Other Sign** option and type an alphanumeric character or symbol in box. However, select **None** option only for text mark whenever any field data does not consist of the same alphanumeric character or symbol as the text delimiter.

Note: Text delimiter and text mark must not be the same alphanumeric character or symbol. Otherwise, it is impossible to access the text file.

With Data Name

Select this option only when the first line of text in a text file is considered as a field header that specifies the name of each field. Otherwise, the first line of text is treated as field data.

Exporting Text File

①

Goods.dbs database is exported to a text file as shown in figure ①.

Click **(1) File** on the menu bar.
Point to **(F) Export to Text File…** and then click.
A dialog box appears as shown in figure ②.
Type **goods.txt** in File name box. Select a desired folder for the text file. Click **Save** button when done.

②

Note: Click **Delimiter…** button and a dialog box appears. Select relevant text delimiter and text mark options. Click **OK** when done.
If **goods.txt** file is opened via Notepad program, it is displayed in figure ③ with Comma (**,**) as text delimiter and Double Quotation Marks (**“”**) as text mark.

③

Importing Text File

Click **(1) File** on the menu bar. Point to (A) New and then click to create a new database file. Otherwise, another database file (.dbs) is displayed in a database window.

Click **(1) File** on the menu bar.
Point to **(G) Import from Text File…** and then click. A dialog box appears as shown in figure ②.
Type a file name in File name box or select a text file from desired folder. Click **Open** button when done. Click **Delimiter…** button to select relevant text delimiter and text mark options with reference to goods.txt file. Click **OK** when done.
If **Overwrite** ☑ Overwrite option is checked, **goods.txt** file is imported into Goods.dbs database with 4 items as shown in figure ④. Otherwise, Goods.dbs database will have 8 items instead of 4 items.

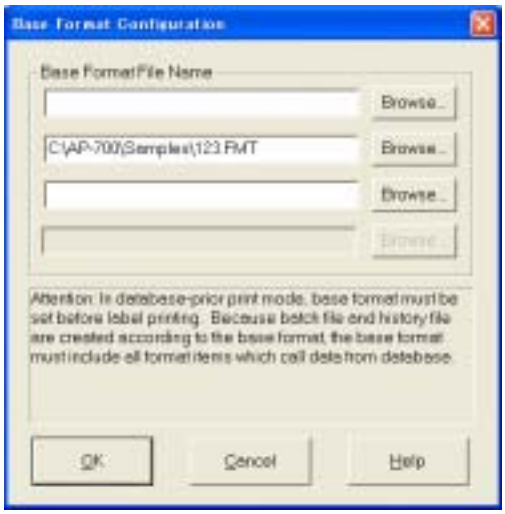
Setting Database for Database-Priority Print Mode

Database created based on Database-Priority Print Mode is a little different from a normal database. It is necessary to set a column whose property is Format name. That Column is needed for calling out the format when printing label.

Note: It is unnecessary to set up this column in a database in Format-Priority Print Mode where a label format is called out first before calling out related data from a database.

Setting Base Format

②



Click **(4) Setup** on the menu bar.
Point to **(D) Base Format**… and then click.
A dialog box appears as shown in figure ②.

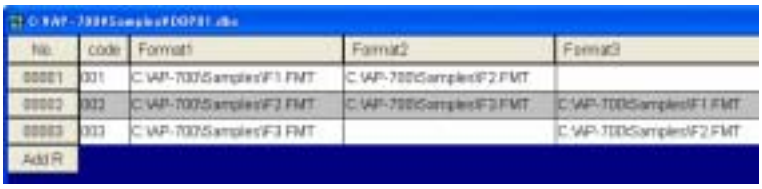
Base Format File Name

Type file name in **Base Format File Name** box.
Otherwise, click **Browse…** button to select from any folder.
Each File Name box from the top corresponds to the printer of 1, 2, and 3.

Note: In Database-Priority Print Mode, both Batch files (Label Print data) and History file are created based on a base format. Therefore, content of all formats registered in database should be included in a base format especially History objects and objects with Property as Input in label formats. Otherwise, label cannot be printed correctly.

Setting Multiple Formats

To make a database for Database-priority Print Mode, it is necessary to set a column, the property of which is format name. Because it is possible to print by calling out three formats or less in AP-700, three format columns can be set as shown in figure ①.



The point that should be noted is that the database which is set in each format in the same row has to be all the same.

Moreover, this database for Database-Priority Mode is set automatically as [DB1] database in each format.

Even if a database were set in each [DB1], it would be ignored and cannot be called when printing label.

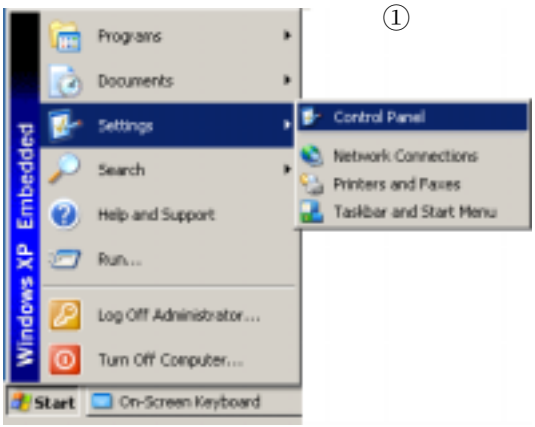
- It is possible that each format does not use the same number of Databases. Example: Format #1 uses only DB2, but Format #2 uses DB1, DB2 and DB3. However, DB2 must be the same database in this case.
- It is possible that the same format in different rows may use different database. Example: Format #1 in Item #1 use DB2 (Drink.dbs), but Format #1 in Item #2 use DB2 (Vegitable.dbs).

Accessing External Database

AP-700CS can refer not only databases that were created via Database Management Program of AP-700CS (internal database), but also general-purpose databases (external database). However, in case of using external databases, ODBC driver of databases must be installed and data source name of ODBC must be registered beforehand.

Registering ODBC Data Source

①



1

Click **Start** button on the taskbar.

Point to **Settings** and then click **Control Panel**.

Double-click on the icon **ODBC Data Sources**

A dialog box **ODBC Data Source Administrator**

Appears as shown in figure ②.

Data Sources (ODBC)

2

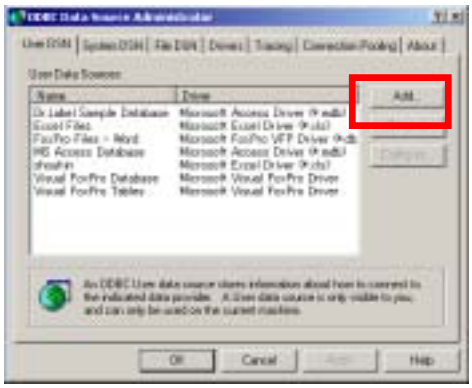
Click **Add…** button in Use DSN tab as shown in figure ②.

Another dialog box **Create New Data Source** appears as shown in figure ③.

Select **Microsoft Access Driver (*.mbd)** option from the list.

Click **Finish** button when done to add new data source driver.

②



③

3

A dialog box **ODBC Microsoft Access Setup** appears as shown in figure ④. Click **Select…** button to select database from desired folder.

④

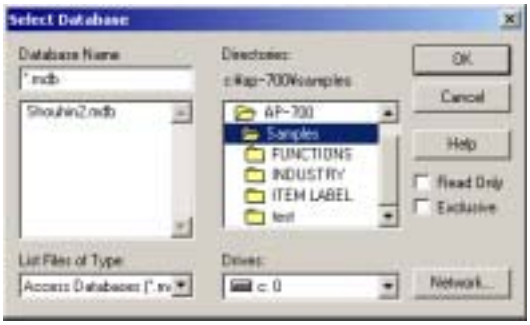
4

A dialog box **Select Database** appears as shown in figure ⑤.

Select database file from desired folder.

Click **OK** when done to return back to **ODBC Microsoft Access Setup** dialog box.

⑤



5

File name of specified database is displayed as shown in figure ⑥.

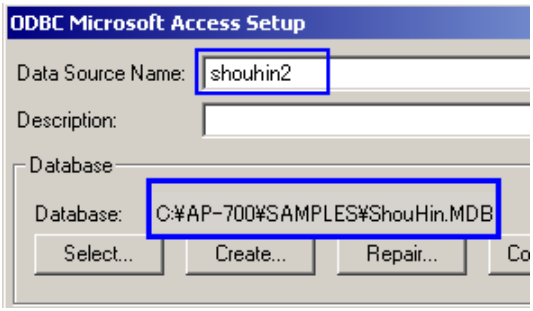
Type any name in **Data Source Name** box.

Click **OK** when done to return back to **Create New Data Source** dialog box.

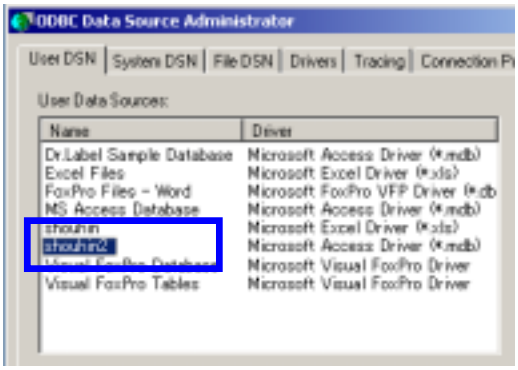
Path and name of new Data Source is displayed in User Data Sources list shown in figure ⑦.

Click **OK** when done and registration of ODBC new data source name is completed.

⑥



⑦



Accessing External Database via Database Management

6

Setting external database via Database Management program of AP-700CS is illustrated here.

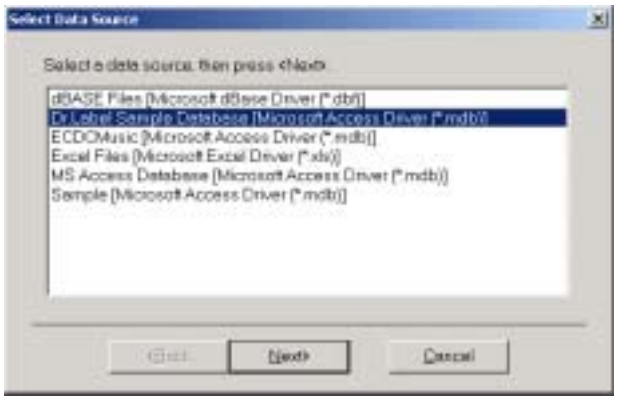
Click **(1) File** on the menu bar. Point to **(I) Load from External Database…** and then click.

A dialog box appears with a list of **ODBC (32bit) data source name** as shown in figure ⑧.

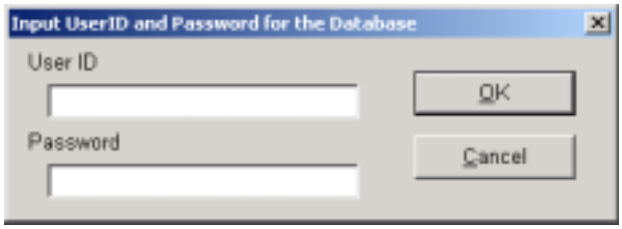
Select a data source from the list. Click **Next** when done. A dialog box appears asking for User ID and pass word as shown in figure ⑨. Click **OK** to bypass user ID and password entry.

Otherwise, type user ID and password. Click **OK** when done.

⑧



⑨



7

A dialog box appears as shown on the right.

Select a table from the list.

Click **Next** when done to display another dialog box as shown in figure ⑪.

⑩

8

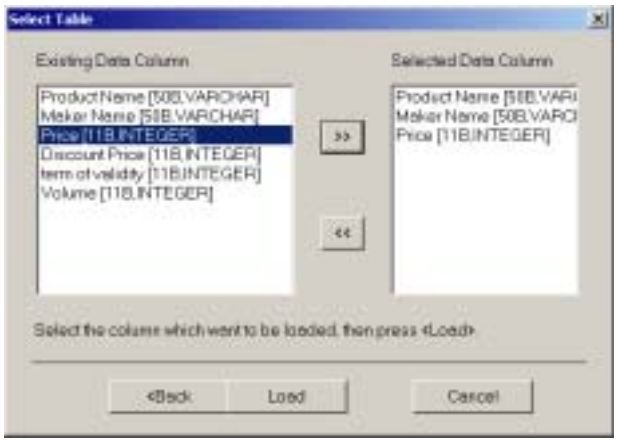
Refer to figure ⑪. Select a data field from **Available Field** list on the left.

Click  button to add any selected data fields to **Selected Field** list on the right.

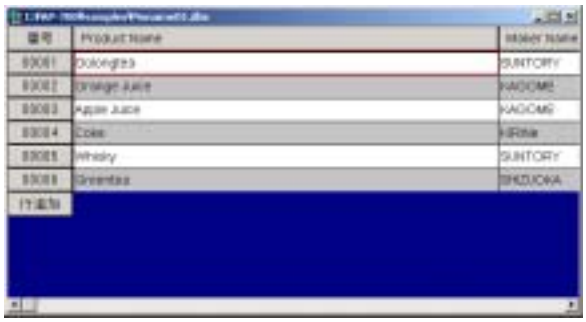
Click  button to remove any selected data fields from **Selected Field** list.

Click **Load** button when done. External database is loaded as shown in figure ⑫.

⑪



⑫



Setting External Database Link

To call directly the data of external general-purpose databases, it is necessary to set up **External Database Configuration** to an empty local database.

9

Firstly, make an empty local database.

Click **(4) Setup** on the menu bar. Point to **(D) External Database…** and then click.

A dialog box appears as shown in figure ⑬.

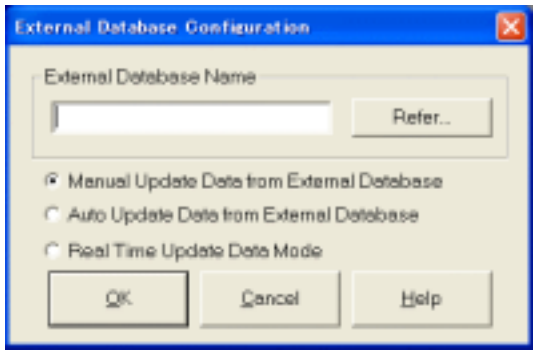
Click [**Refer…**] button to select external database.

After selecting external database, select type of loading way.

Click **OK** when done.

Setup of external database is completed.

⑬



Manual Update Data from External Database

If this parameter is checked, the auto update will not be performed. To load the external database, user has to open a database of AP-700CS in [Database Management] and select [**Update from External Database**] from menu.

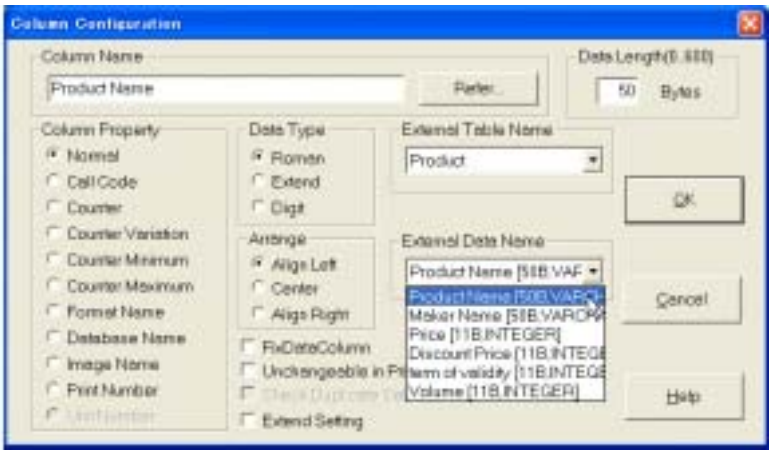
Auto Update Data from External Database

If this parameter is checked, all the data are loaded automatically from linked external database when a database of AP-700CS is opened in [Label Printing]. In this case, if the external database has any change before loading, it will always have influence on local database. However, in label printing, there are a lot of cases where the same database is opened many times, but the database won't be loaded for second time after it has been loaded once. Moreover, because it is not influenced by local databases linked, even if there is a change in an external database, the data of printing might not be the latest data. It takes a minute to open a local database.

Real Time Update Data Mode

If this parameter is checked, as soon as a specified data of external database is opened, the data will be loaded. In this case, the data to be called is only one row data in external database. However, the newest data can be loaded always.

The external table name and data name are displayed in the Column Configuration of internal database that linked the external database as shown in figure on the right.



CHAPTER 4

Batch Management

Batch Management program facilitates printing of a large amount of labels based on records in a batch data file with BHT extension. This chapter introduces various features of Batch Management.

About Batch Management

A batch data file is also known as a schedule file for storing print data in advance. Example: A batch data file is automatically loaded to print ten labels of Item 1, five labels of Item 2 and one label of Item 10. Hence, a batch data file can improve the efficiency of label printing with lesser mistakes whenever it is utilized correctly. It is most appropriate to use a batch data file in the following cases.

- When printing many items, call out and then print one item at a time is inefficient.
- When current item has many labels to print, the print operation for the next item cannot be done until the current print job is completed.
- Creation of print data and operation of printing label are in different place or time.
  Example: Print data is created in headquarter today but it is printed at the stores tomorrow.
- Different persons handle creation of print data and operation of printing label.
- Same print data is printed repeatedly for many times.

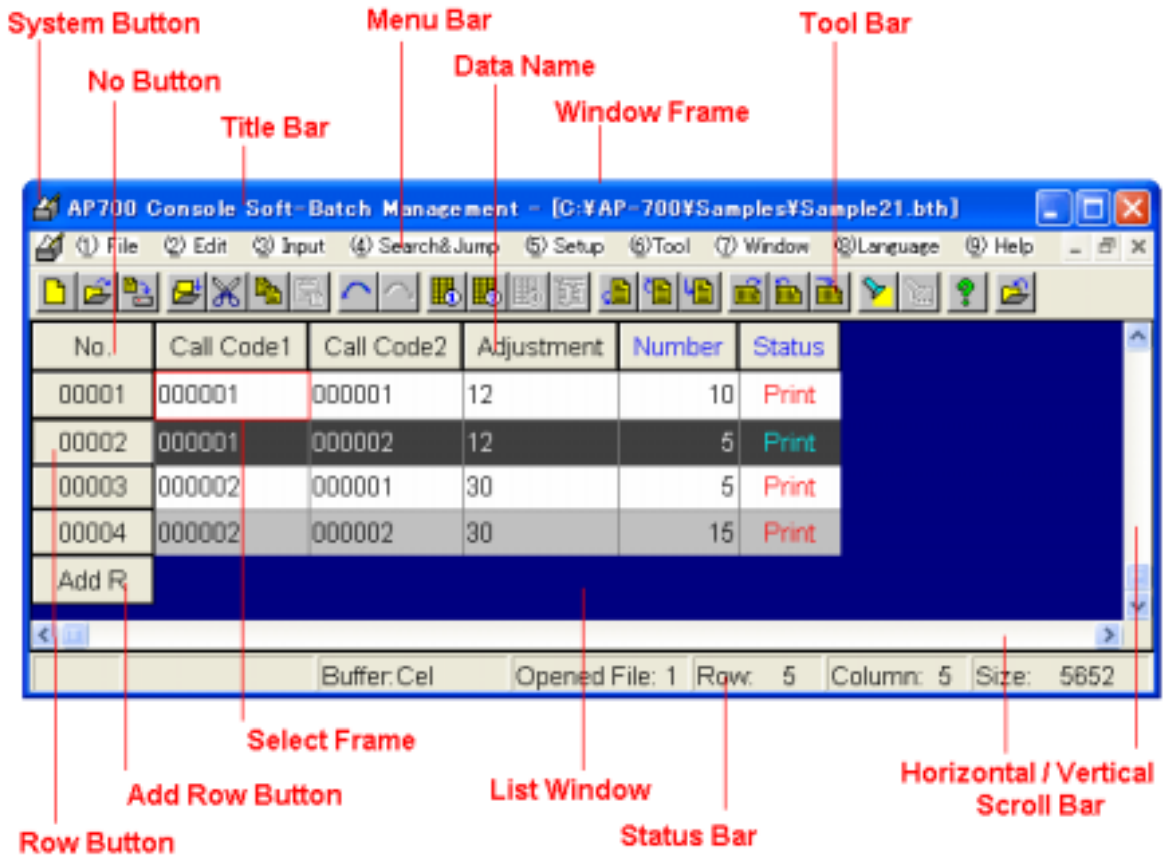
A batch data file is similar to a database. However, the data structure of a database file can be set up freely, but the data structure of a batch data file cannot be set up freely because it is based on label format. Please pay attention to it.

During creation of a new batch data file in Format-Priority Print Mode, the structure of a batch data file will be created automatically based on a corresponding label format name specified. Similarly in Database-Priority Print Mode, the structure of a batch data file will be created automatically based on the base format of a corresponding database name specified.

Batch Management Window

The following illustration introduces the basic elements of the Batch Management window.

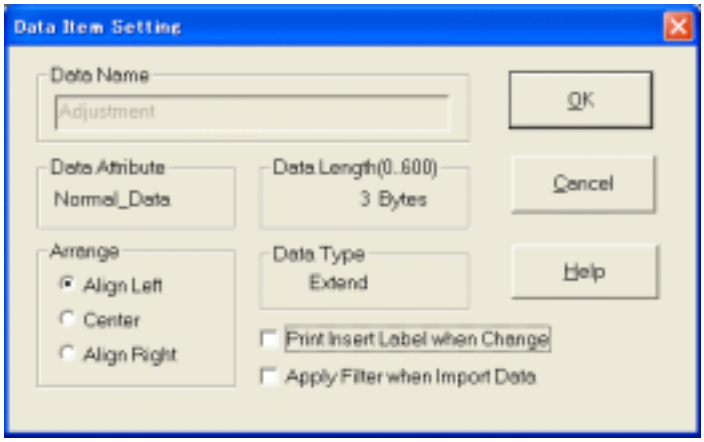
Figure 4-1



Operation & Setup

Data Field Information

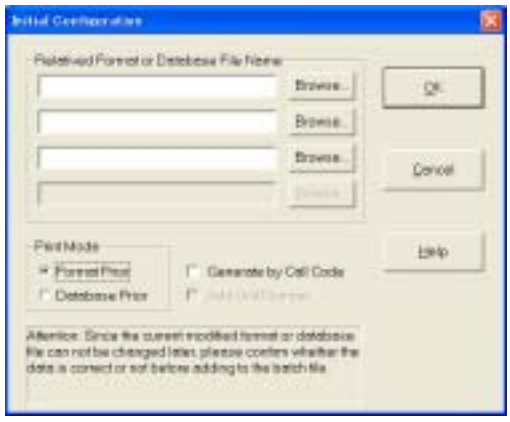
Double-click on any data name button in the list window to view data name, attribute, length, type and alignment. [**Data Item Setting**] dialog box has all relevant information.



Initial Setup

The batch data file must correspond to the label format or database. In **Format-Priority** Print Mode, a batch data file corresponds to a label format and the structure of the batch data will be arranged automatically based on the content of the label format specified in initial setup. Similarly in **Database-Priority** Print Mode, a batch data file corresponds to a database and the structure of the batch data will be arranged automatically based on the content of the base format of the database specified in initial setup.

When creating a new batch file, selecting a corresponding label format or database is done first in [**Initial Setup**].



The structure of a batch data file cannot be changed after initialization is finished once. Therefore, point to **(A) New** under **(1) File** menu and then click to create a new structure of the batch data file again.

Relative Batch or Database File Name

Set up the name of a corresponding label format or database here. Select Print Mode option before performing this setup. A label format name is chosen for **Format-Priority** Print Mode whereas a database name is chosen for **Database-Priority** Print Mode.

Each File Name boxe from the top corresponds to the labeler of 1, 2, and 3. (In case of **Format Prior**)

Print Mode

Select Format-Priority or Database-Priority Print Mode.

- Under **Format-Priority** Print Mode, a label format is loaded first before calling out the related data from a database.
- Under **Database-Priority** Print Mode, the print data is called out from a database and then a related label format is loaded automatically.

Generate By Call Code

Tick this option to insert Item Call Code field in a batch data file. This option will minimize size of batch data file by calling out data from database during label printing. In this case, to change the batch data will not affect the original data in the database.

Display Setting

When a batch file is called, the type and the order of item that is displayed on the Label Printing can be selected.

Click **(5) Setup** on the menu bar.

Point to **(E) Display Setting…**and then click.

A Dialog is displayed to select items as shown in figure on the right.

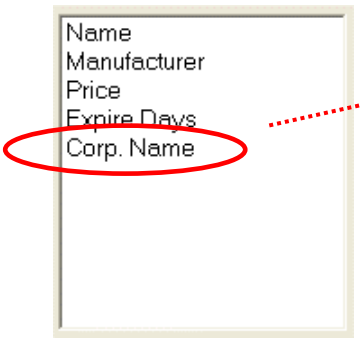
Select items to display from **Exist Column**, and add to **Display Column** by using >> Button.

When deleting items, use << button.

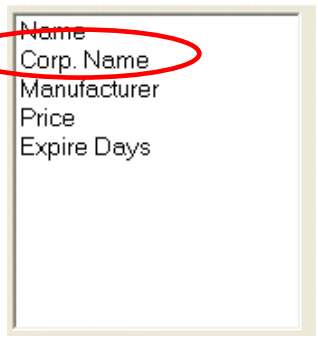
The result of the selected display can be confirmed only on the screen of **Label Printing**.

Example:

①



①”



①

Sample21-2.bth

No.	Status	Number	Name	Manufacturer	Price	Expire Days	Corp. Name
0001	Print	5	Product AAA	Yoshiaki Tanaka	400	12	AAA Company
0002	Print	4	Procuct BBB	Hirofumi Yoshioka	450	7	BBB Company

①”

Sample21-2.bth

No.	Status	Number	Name	Corp. Name	Manufacturer	Price	Expire Days
0001	Print	5	Product AAA	AAA Company	Yoshiaki Tanaka	400	12
0002	Print	4	Procuct BBB	BBB Company	Hirofumi Yoshioka	450	7

CHAPTER 5

History Data Management

[AP-700 Console Software] makes it possible to record the printed contents on labels to a history data file freely. History data management is the tool used to inquire, manage and total the history data recorded, such as what kind of the items were printed, when and how many labels were printed.

History Data Management

In the [**AP-700CS**], for managing the history data, firstly, the history structure file (Extension is.**HST**) must be created. The history structure file is to set the way in which the history data file name is decided, the storage period of the history data, and the data item recorded by default, etc. The actual history data is recorded in the history data file (.**HDT**).

Create History Structure File

1

Click (A) **New** on the menu bar. Click **(1) File** or,  button in the toolbar. A dialog box [**Initial Configuration**] appears as shown in figure ①.

①

2

Firstly, choose the type of the record form of the history file from [Record File by]. If [**Fixed**] is selected, all the records will be saved into one history data file. The history data file name is just the same as the history structure file name (Format Prior Mode), or database file name (Database Prior Mode). If [**Each of Day**] is selected, the history data file name is the fix name mentioned above + date. Therefore, everyday a new history data file is created for management. In this condition, the desired storage period of data files can be specified at the [Recorder Retainment Period].

3

By ticking the check boxes at the [**Add Column**], the desired columns can be set to history data file automatically. Click [**OK**] to complete the initial configuration.

For other columns outside the range of [Add Column], they can be added by pressing  button. Once the button is pressed, [**Data Item Setting**] dialog appears as shown in figure ②, where the columns that are matched with the desired history data can be input and selected. At the [**Data Type**]. Columns that have already been chosen at the "**Add Column**" in [**Initial Configuration**] cannot be chosen. When setting history data in Format

②

Design Tool, the data name set here is displayed when input by referring to.

Finally, click **(C) Save** from menu **(1) File** or tool button to save the file. The history structure file can be set in the history setting file's path and name from menu [system configuration](refer to P12).

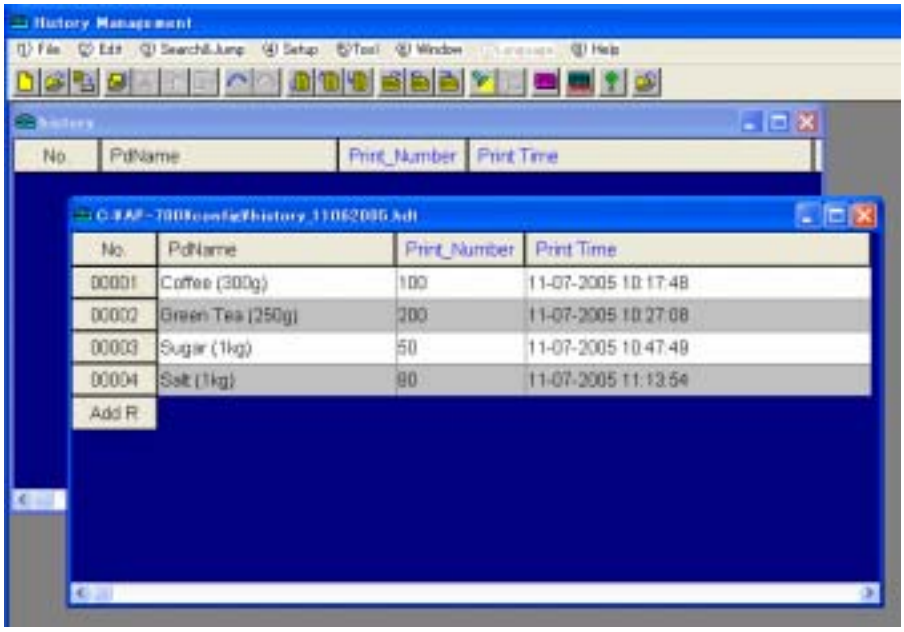
Inquiry of History Data

To inquire the history data, firstly, open the **history structure file** (.**HST**). Secondly, click **(D) Load History Data** from menu **(1) File** or button to open [**Select Table**] dialog.

As shown in Figure ③, several history data files are listed in the dialog, because the file type of recording is set as [**Each of day**] in the initial setting. Select a file and click [**OK**] button, the history data file is opened.

③

To manage the history data, although "**Remove Column**" and "**Delete Column**" can't be performed, the other operations (such as "Data Modification" or "Data Search") are the same as those in the database management. Please refer to [**Chapter 3 Database Management**].



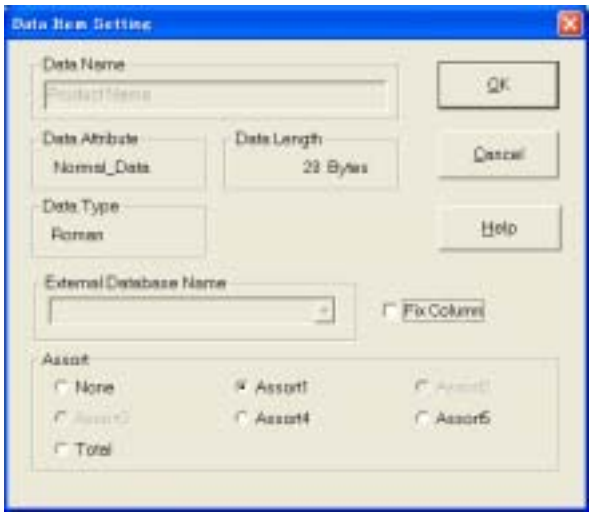
About Data Total Analysis Window

Operation Procedure of History Data Total

When a **history data file** (**.HDT**) is displayed in the list window, double click each data item at the top row of the list to open [**Data Item Setting**] dialog. [**Assort**] option for Data Total Analysis can be set in [**Data Item Setting**].

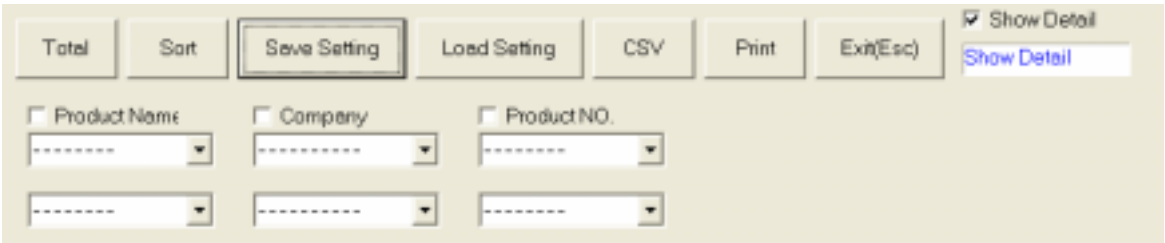
Set [Assort] for Data Total Analysis

④



Here, only the [**Assort**] option can be set. An assort object is the data item that becomes an assortment when totaling data assorted. The assort object varies from 1 to 5, which stands respectively for large assortment, large medium assortment, medium assortment, medium small assortment, and small assortment. For example, if the sales revenues are desired to total by month, shops, and goods separately, set month as Assort1, shops as Assort2, goods as Assort3. [**Total** (Total Object)] is the data item whose value will be totaled. Still in the above example, sales revenues are the total objects. Only the data item whose property is numeric can be set as Total Object.

Set Total Range



To total the history data, firstly, open the history data file, then click **(E) Load Current History** from the menu **(1) File** or  button. By then the **History record list** is displayed, and the

Assort Objects set in [**Data Item Setting**] are displayed in order. The check box at the left of the name of the assort object indicates whether to total the assortment. Tick the desired data item name and click 

button at the upper left of the window, the total operation can be performed according to the assortment, such as employee, shop, goods.
Besides, with the two combo boxes below the assort object, the displaying and total range of the assortment can be decided. In the given conditions, the corresponding total and details can be displayed.

Sort

As for sorting the items, firstly move the select bar/select frame to the data cell whose column is to be sorted so that the data item can be specified as sort object.

Next, click the menu [**Search & Jump**]'s sub item [**Sort**]. By then, the [**Sort**] dialog is displayed and the data item name specified is displayed in [**Column for Sort**]. The column for sort can be selected from the combo box respectively. Five sort objects at Max are allowed at one time. When the type of data item is string, select [**Ascii Code**] option; when number, select [**Value**] option. The sort order can also be chosen. [**Ascendant**]: sort from low to high. [**Descendant**]: sort from high to low.

Click [**Sort**] button to commit the sorting. When it was finished, the result is displayed in the list view. Pay attention that, once the data is sorted, there is no way to recover the original order. However, as long as the sorting result is not saved, you can recover it by reloading the original database file.

It is the same way sorting in the **History record list**.

Display Total and Details

Sum 5	kz12	AP－700P	120	331245	100	28-06-2004 17:27:29
Sum 4	kz12	AP－700P	120	331245	100	28-06-2004 17:27:29
Sum 3	kz12	AP－700P	120	331245	100	28-06-2004 17:27:29
Sum 2	kz12	AP－700P			295	
Sum 1	kz12	AP－700P			295	
Total					540	

Total can be divided into “**Assort Total**” and “**Amount**”. Assort Total is calculated in total 1-5 for the items which are specified as the assort objects at **Data Item Setting**. The objects to be calculated are the items set as the total objects. The total assortment are set with an order of priority as assort object1, assort object 2, assort object 3, assort object 4, assort object5. The order of priority means that the item in the higher order is settled firstly while items in the later order are settled later.

As shown in the left figure, there are [**Sum1**] and [**Sum2**]. AP-700C and AP-700P are separately calculated. The **Product name** is set as assort object1 and the **Price** is set as the total object. The total value is displayed in red. And then, the total result of the total object **Price** based on assort object2 **Product No** is shown by [**Sum2**].

No.	Product Name	Product NO.	Price
00001	AP－700C	695987456	50
00002	AP－700C	695987456	50
00003	AP－700C	695987456	100
Sum 2	AP－700C	695987456	200
00004	AP－700C	FJKLLM112	30
00005	AP－700C	FJKLLM112	20
Sum2	AP－700C	FJKLLM112	50
Sum1	AP－700C		250
00006	AP－700P	031015	15
00007	AP－700P	031015	15
00008	AP－700P	031015	5
Sum2	AP－700P	031015	35
00009	AP－700P	GFBK-A152	30
00010	AP－700P	GFBK-A152	12
Sum2	AP－700P	GFBK-A152	42
Sum1	AP－700P		77
Total			327

[**Total**] is the sum amount of each total result based on assort objects.

Example:

[Total (327)]=[Sum1 (250)]+[Sum1 (77)]=[Sum2 (200)]+[Sum2 (50)]+[Sum2 (35)]+[Sum2 (42)]