Tutorial

DOC-OEMCS8-TU-EN-25/01/06

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About this Manual

Welcome!

Congratulations, you have just purchased the world's leading automatic identification software package!

This label design software allows you to create and edit complex labels—fast–and is capable of integrating all the electronic data from across your company, guaranteeing the full integrity of all your systems.

The application meets all your automatic identification needs, and fits perfectly into your production process.

On today's market, it is quite simply the **MOST USER-FRIENDLY AND INTUITIVE SOLUTION** for any company involved in complex barcode data entry, collection and editing in real time.

Documents supplied

Complete documentation is provided to help you make full use of all the resources offered by your label design software.

The *Quick Start Guide* takes you through product installation and provides an introduction to the basic functions of the software interface.

The *Tutorial* presents the basic concepts one by one, helping you to get the very most from the software. A wealth of examples enables you to put the ideas covered straight into practice.

The documentation has been designed for use in conjunction with the integrated Online Help.

The Tutorial

The purpose of this manual is to get you off to a quick start with the software by familiarizing you with its most common functions, then covering the more complex functions by means of examples of label creation.

The *Tutorial* is divided into six main sections :

- Discovering the interface
- Setting up the work environment
- Creating a document using fixed objects
- Creating a document using variable objects
- Printing
- Security and User Manager

The four appendixes provide detailed information and examples on some of the more complex functions:

- formulas
- ODBC and importing data
- counters
- ActiveX

This manual outlines the best and most effective way of carrying out specific tasks. For more detail on the different functions, step-by-step procedures and reference information, use the Online Help.

This manual has been designed to provide you with the most effective help possible, whether you are a beginner or an experienced user. The exercises are presented in increasing levels of complexity, allowing you to save time by moving directly to those at your level.

Note

We recommend that beginners work through the exercises step by step.
The examples provide a general approach to the many functions. However, given the richness of the software, they are not intended to be exhaustive.
The *Tutorial* is complimented by the Online Help, and is by no means intended as a substitute for it.

Typographical conventions

This manual distinguishes between different types of information by using the following conventions:

- terms taken from the interface itself, such as commands, appear in **bold**;
- keys appear in small caps, as in the following example: ”Press the SHIFT key”;
- numbered lists mean there is a procedure to be followed;
- when the conjunction ”or” appears next to a paragraph it means there is the choice of another procedure for carrying out a given task ;
- When a menu command contains submenus, the menu name followed by the command to select appears in bold. Thus, ”Choose **File Open**” or “Go to **File > Open**” means choose the **File** menu, then the **Open** command.

This symbol highlights important information about how a particular command or procedure works.

Following this symbol you will find hints and tips for optimizing tasks, speeding up commands, and so on.

This symbol indicates an introductory exercise for you to work through.

About your product

Some of the functions described in this manual may not be available in your product.

For the complete list of the specific features and functions available in your software, please refer to the specifications sheet provided with the product.

CHAPTER 1

Discovering the interface

Launching the program

1 Go to **Start > Programs**.

2 Select the name you gave to the program group when you installed it (by default, it is the name of the application).

The main window appears on the screen.

Description of the main window

This section presents a general overview of the main elements that make up the interface, as they appear in the main window at the beginning of a work session.

Menu Bar

The menu bar comprises eight drop-down menus: **File**, **Edit**, **View**, **Object**, **Datasource**, **Tools**, **Window** and **Help**.

To open a menu:

3 Select it with the left mouse button.

4 Then choose the required command.

To access commands via the keyboard, use the shortcut keys. Press ALT plus the key corresponding to the letter underlined in the menu name, then the key corresponding to the letter underlined in the command name.

Workspace

The workspace is the name given to the entire middle section of the window, located between the graduated rulers and the scroll bars. It includes the frame that sets the physical limits of the document in which you will place the objects to be printed, as well as a non-printable area where you can insert comments or objects that you do not wish to print.

Document

When you open a new session, the program displays a frame aligned with the top left-hand corner of the window. This frame represents the physical limits of the document to be printed. The objects that make up your document should be placed inside this frame.

Status bar

Located on the lower edge of the window, the Status bar displays the name of the selected printer, the communication port to which it is connected, the x and y coordinates of the mouse pointer and the cx and cy dimensions of the object selected.

Figure 1 The status bar

Standard toolbar

These tools allow you to execute routine tasks more quickly than using the menus.

To select a tool:

- Click on the button corresponding to the tool.

Figure 2 The standard toolbar

Text formatting toolbar

These tools allow you to modify text and/or paragraph formatting, i.e. change the font, character size, style options, text wrap, and so on.

Figure 3 The text formatting toolbar

To change the formatting:

1 Select an object in your document.

2 Click on the required options.

All these options can also be accessed in the Text dialog box by the command **Object > Text...**

Object formatting toolbar

These tools allow you to change the formatting of a selected object, i.e. place it in the background or foreground, designate it printable or non-printable, lock or unlock it, modify line thickness, or change the position of the barcode human readable.

Figure 4 The Object formatting toolbar

To change the formatting:

1 Select an object in your document.

2 Click on the required options.

Object toolbar

The **Object** toolbar displays the name of the selected object and allows you to access its properties.

Figure 5 The Object toolbar

To access the object's properties:

- Click on

View toolbar

The View toolbar offers you a number of display options.

Figure 6 The View toolbar

To change the view mode:

- Click on the required view mode:

Button	Name of tool	Use
	Name	displaying variable names
	Size	displaying variables sizes. The space occupied by the content of the variable is represented by a series of Xs.

Button	Name of tool	Use
	Contents	displaying variable values
	Form	displaying the **Form**
	Document Browser	displaying the **Document Browser**
	Zoom	allows you to enlarge or reduce object detail.
	Grid	displaying the grid on the screen

All these options can also be accessed via the **View** menu.

Design toolbar

The creation toolbar comprises a number of buttons, each one representing a tool for creating and manipulating objects.

Figure 7 The Creation toolbar

Button	Name of tool	Use
	Selection tool	selecting and manipulating objects of all types

Button	Name of tool	Use
	Text generation tool	creating fixed and variable text
	Barcode generation tool	creating fixed and variable barcodes
	Image import tool	inserting images
	External object insertion tool	inserting objects external to the application
	Line drawing tool	creating horizontal or vertical lines
	Rectangle drawing tool	creating rectangles or squares
	Circle or ellipse drawing tool	creating circular shapes
	Polygon drawing tool	creating free shapes made up of lines
	Oblique line drawing tool	creating diagonals
	Rounded rectangle drawing tool	creating rectangles with rounded corners
	Shapes Gallery tool	importing ready-to-use shapes into the document
	UCC/EAN 128 and Maxicode wizards	creating barcodes with the UCC/ EAN 128 and Maxicode wizards
	Plug-ins	Create Text Art, List Fields and Rich Text Fields

Document Browser

The **Document Browser** contains two tabs: **Data Sources** and **Objects**.The + and - symbols allow you to move up and down the tree, and display the list of variables associated with each data source or the objects available for each category.

The **Data Sources** tab displays the data sources and the number of variables associated. It allows you to insert variable objects simply by dragging and dropping them into your document. You can also add, delete and modify variable properties using the context menu.

The **Objects** tab displays the number of objects created and their properties by type, such as position, height and width. You can select an object and modify its position in this tab.

Figure 8 The Document Browser

About data sources

A data source contains a list of variables fed by data of the same origin.

When you select a data source, you are indicating what type of data is required and where it will come from. Data can be of internal origin (**Formula**, **Date**, **Counter**) or external to the application (**Databases**, direct keyboard input).

The different data sources available in the **Document Browser Data Sources** tab are the following: **Database**, **Table lookup**, **Date**, **Formula**, **Form**, **Counter**, and **Free**.

Graduated rulers

These display the position of the mouse pointer and allow you to place the various objects included in your document with total precision. They can be configured in inches or millimeters using the **Tools > Options... > Display** command.

- A double-click on the left half of the horizontal ruler reduces the display scale.
- A double-click on the right half of the horizontal ruler increases the display scale.
- A double-click on the vertical ruler displays the grid selection box.

Using the right mouse button, you can display the Zoom factor context menu by clicking on the horizontal ruler, or the Orientation context menu by clicking on the vertical ruler.

Rotation button

This button allows you to rotate the document on the screen through 90°, 180°, 270° or 360°. Screen rotation is merely a display feature, and has no effect on printing.

To rotate the document:

- Click on the rotation button with the left mouse button to rotate the document through 90° to the left.
- Click on the rotation button with the right mouse button to rotate the button through 90° to the right.

You can obtain the same document rotation effect by choosing the **View > Orientation** command, or by clicking on the vertical ruler with the right mouse button to display the context menu.

Color palette

The color palette, displayed along the lower edge of the workspace, allows you to modify the color of all your objects (text, barcodes, shapes and black-and-white images).

Figure 9 The color palette

To change the color of an object:

1 Select an object in your document.

2 Click on a color in the palette with the left mouse button to apply text, line or outline color.
-or-
Click on a color in the palette with the right mouse button to apply background color.

Note

The button shown below allows object background color to be removed

The Online Help provides full information on choosing the color palette, customizing it, and so on.

CHAPTER 2

Setting up the work environment

Before starting to create a document, you first need to set up your work environment.

The first step consists in selecting the printer on which you wish to print your labels. Not all printers share the same characteristics and, as a result, different page setup options, for example, will be available according to the model of printer chosen.

The second step involves choosing your work environment options, i.e. interface language, unit of measurement, and so on. We will review all the options available later in this chapter.

The final step consists of the document page setup, i.e. defining the dimensions of the document, orientation, margins, and so on.

Choice of printer

Your label design software allows you to print on a wide range of printers, the drivers for which are supplied with the software. You can also print on any Windows printer installed locally on your machine or on your company's network.

You must select the printer before you begin creating your document as the choice of printer will determine page setup options, the use of different character fonts, and so on.

Selecting the printer

The **Printer selection** dialog box can be accessed using the **File Select printer...** command, by the button or by pressing F5.

It can also be accessed via the **Printer...** button in the **Print** dialog box (F6 key).

To select a printer:

1 Click on the .
- or -
Go to **File > Select printer...**

You can also press the F5 key.

2 Select the printer from the list, then click on **OK**.

Note

The printers drivers provided by the application are indicated by the following icon:

Adding a printer

The **Add printer** dialog box is accessed using the **File Select printer...** command, then by clicking on **Add...**

This dialog box allows you to add the printer drivers supplied with the software.

To add a printer:

1 Go to **File > Select printer...**

You can also click on the button or press the F5 key.

2 Click on **Add...**

3 In the **Model** list, select the make then model of printer.

4 Select the communication port (serial, parallel, file or network), then click on OK (see **Printing**).

Click on the + sign next to the make of printer to display the different models.

Customizing the work environment

Your software offers a number of options for customizing your work environment.

Modifying display and work environment options

Options include the choice of language interface, units of measurement, dialog box display font, working folders, and currency conversion rate.

These choices are made in the Options dialog box.
To access this dialog box, choose **Tools > Options...**

To change the interface language:

1 Go to **Tools > Options...**

2 Click on the **Display** tab.

3 Select the required language, then click on OK.

Note

Once you click on OK, all the menus, commands and screen messages will appear in the selected language (except the Online Help and the Windows dialog boxes such as Open, Save, and so on).

To choose a unit of measurement:

1 Go to **Tools > Options...**

2 Click on the **Display** tab.

3 Select the unit, then click on OK.

To change the dialog box display font:

1 Go to **Tools > Options...**

2 Click on the **Display** tab.

3 In the **Display font area,** click on ...

4 Select the font and size, then click on OK.

To modify the grid scale:

1 Go to **Tools > Options...**

2 Click on the **Grid** tab.

3 Select the required grid scale.

4 Select the **Display** option, then click on OK.

Advanced tip!
Double-click on the vertical ruler to access the **Grid** tab directly.

To define a conversion rate:

1 Go to **Tools > Options...**

2 Click on the **Others** tab.

3 Enter the conversion rate in the box, then click on OK.

Note

The default conversion rate is between the French Franc and the Euro. To change to a different currency system, simply enter the corresponding rate.
The conversion rate defined in the box is the one used in the eurotocurrency and currencytoeuro formulas.

To define a working folder:

1 Go to **Tools > Options...**

2 Click on the **Default folders** tab.

3 In the **File type** list, select the type of file for which you wish to define a new default folder.

4 Enter the new access path or click on **Browse...**

5 Enter or select the access path for the new working folder.

6 Repeat this procedure for each file type as required, then click on OK.

Document Page setup

Document page setup consists of specifying the page size, orientation, number of documents per row and per column, document size, margins, and distance between documents. You can also create customized stocks and save them for future use.

Document stocks are created and modified using the **Page setup** dialog box.

- To access the **Page setup** dialog box, click on
  -or-
  Go to **File > Page setup...**

Note

Before creating a document stock, you must first choose the model of printer that will be used to print the document. Page format is defined using the Page setup dialog box, which also updates the printer settings. The page settings defined here will override those previously defined in the Printer setup dialog box.

Saving a customized stock

Once you have finished defining your stock, you can then save it for future use. Stocks are managed by saving them under different categories, in much the same way as the folders in **Windows Explorer**. Saving stocks in this way makes them much easier to relocate.

To save a customized stock:

1 Go to **File > Page setup...**
-or-
Click on the .

2 Configure the format.

3 In the **Stock** tab, select a type from the **Type** list, or enter a new one.

4 Select a stock name from the **Name** list, or enter a new one.

5 Click on **Save**.

Note

If you are not happy with the settings you have made, just click on Remove. The program closes the Page setup dialog box without saving the changes.
On the other hand, the predefined stocks supplied with the application cannot be modified.

By selecting the **Automatic Sizing Box** in the Page tab, your document is automatically sized to the selected printer's default.

Designing a CD sleeve: page setup and creating a customized stock.

1 Create a new document and call it FRONT.

2 Select the printer.

3 Go to **Tools > Options...**, click on the **Display** tab and select Millimeters as the unit of measurement. Click on OK.

4 Go to **File > Page setup...**
-or-
Click on the .

5 Click on the **Label** tab and enter the following values:
Width and Height: 120,
Corner roundness: 100,
Number of labels:
Per row: 1,
Per column: 2.

6 Click on the **Page** tab and select the following values:
Page size: A4,
Portrait.

7 Click on the **Margins** tab and enter the following values:
Margins:
Left: 40,
Top: 10,
Gap:
Between rows: 15.

8 Click on the **Stock** tab and enter the following values:
Type: Jaquette,
Name: CDx2.

9 Click on **OK**.

Note

The printer used in this example is a Windows™ printer. If you wish to use a thermal printer, it may be that error messages will appear during page setup. You will thus need to modify the values suggested in the example because, as we have already seen, the choice of printer affects certain settings.

Removing a customized stock

When a stock you have created is no longer needed, you can remove it.

To remove a customized stock:

1 Go to **File > Page setup...**
-or-
Click on the .

2 In the **Stock** tab, select the type to be removed if you wish to remove the type and all the stocks it contains.
-or-
Select the individual stock to be removed.

3 Click on **Remove**.

Using a personal stock

You can design a personalized stock using a drawing tool to be used as a label stock for printing. To do so, you must save the stock as an **EMF** file and save it in C:\Program Files\TKI\8\Common\LFM. Once it has been saved in the **LFM** folder, you can access it from the **Page Set up** dialog box by going to the **Stock tab** and selecting the **Type** and **Name** of the file from the drop-down menus.

When saving an EMF file, remember that the name of the file should include the **Type** and the **Name** of the stock. i.e.: SD DVD Labelx2.emf This will allow you to select **SD from the Type** drop-down menu, and **DVD Labelx2 from the Name** drop-down menu.

CHAPTER 3

Creating a document using fixed objects

Creating and manipulating fixed objects

Creating fixed objects involves inserting objects such as text, barcodes, images, lines, rectangles and circles into your document.

- Use the creation tools to add objects to your document, and the **Object** menu commands to define their default properties.

Note

Each object created is automatically given a name by the application. When the object is selected, its name appears in the Document Browser's Objects tab, and in the Object toolbar.

Creating a Text object

A **Text** object can be one character, one word or an entire paragraph.

Character style and paragraph format can be defined using the **Text formatting** toolbar or the **Text** dialog box.

To create a Text object:

1 Click on the **Text generation** tool.

2 Click inside the workspace or on the text to be modified.
-or-
Click and draw a frame within the workspace.

A flashing cursor indicates the location of the next character.

3 Enter your text.

Creating a CD sleeve: inserting text

1 Click on the **Text generation** tool.

2 Click inside the workspace and type ”Volume:”.

3 Select the text then double click on it.

4 Enter the following values:
Font: Arial,
Height: 10 points.

5 Click on OK.

6 Repeat the above procedure to insert the text ”conducted by:”.

To position the ”Volume:” and ”Conducted by:” objects:

1 Select one of the **Text** objects in the document.

2 Click on the **Objects** tab in the **Document Browser**.

3 Using the mouse, open the branch of the tree marked with a red arrow (pointing to the object selected in the document).

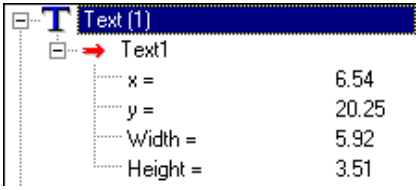


Figure 10 Text properties accessible in the tree

For the Text object...	Select	Press the F2 key, then enter...
”Volume:”	the x coordinate: the y coordinate:	“10” “40”
”Conducted by:”	the x coordinate: the y coordinate:	“10” “50”

4 Select the two Text objects and click on the **Lock** button.

Unicode can be used to create labels using a variety of linguistic characters. To use Unicode, just select a **Unicode font** for your text by going to the **Character tab** available in the **Properties** of your text object.

Creating a Barcode object

Your software offers a wide range of symbologies adapted to the requirements of the industry, as well as the option of creating 2D barcodes.

Selecting the symbology, defining its attributes and entering the message to be encoded are carried out using the Barcode dialog box.

- To access the **Barcode** dialog box, go to **Object > Barcode...**
  -or-
  Press the F8 key.

To create a Barcode object:

1 Click on the **Barcode generation** tool.

2 Click inside the workspace.

The **Barcode** dialog box appears.

3 Select the required barcode in the **Code** tab. You have the choice between **Printer** and **Graphic**.

4 Click on **Printer** to display the list of barcodes resident on the selected printer.
-or-
Click on **Graphic** to display the list of barcodes generated by the software.

Note

Some printers do not possess resident barcodes. The Graphic option is used to print barcodes on these printers. However, since such barcodes are sent to the printer as graphic files, this tends to slow printing down.

5 If necessary, specify the characteristics of the barcode (height, narrow bar width, ratio, check character, and so on).

6 Enter the data to be encoded in the **Data** box, then click on OK.

Creating a shape object

Your software comes complete with a range of tools to help you design perfect labels.

To draw a line:

1 Click on the **Line drawing** tool.

2 Click inside the workspace.

3 Holding down the left button, move the mouse horizontally or vertically.

To draw an oblique line:

1 Click on the **Oblique line drawing** tool.

2 Click inside the workspace.

3 Holding the left button down, move the mouse diagonally.

To draw a rectangle:

1 Click on the **Rectangle** drawing or Rounded rectangle drawing tool.

2 Click inside the workspace.

3 Holding the left button down, move the mouse diagonally.

To...	Hold down...
Draw a square,	the SHIFT key while you move the mouse.
draw a rectangle centered on the starting point,	the CTRL key while you move the mouse.

To draw a circle or ellipse:

1 Click on the **Circle** or **ellipse drawing** tool.

2 Click inside the workspace.

3 Holding the left button down, move the mouse horizontally until the required shape is achieved.

To...	Hold down...
Draw a circle,	the SHIFT key while you move the mouse.

To...	Hold down...
draw an ellipse centered on the starting point,	the CTRL key while you move the mouse.

Creating a CD sleeve: drawing a circle

1 Click on the **Circle or ellipse drawing** tool.

2 Click inside the workspace.

3 Holding the left mouse button down and pressing the SHIFT key, move the mouse horizontally to create the required shape.

4 Select the circle and choose **Properties...** in the context menu.

5 Click on **Position/Size...** and enter the following values : **Width** and **Height**: 20. Click on OK.

6 Go to **Object > Layout > Horizontally centered in document** then **Vertically Centered in Document** to align the circle with the center of the sleeve.

7 Select the circle then click on the **Lock** button.

To draw a polygon:

1 Click on the **Polygon drawing** tool.

2 Click inside the workspace.

3 Construct the required shape by clicking and moving the mouse.

4 Double-click to finish the shape.

To close the polygon, double-click on the starting point. You can now add a background color.

Importing an image

Your software allows you to insert images and company logos to help you perfect your label.

A number of formats can be imported: bmp, dib, rle, dxf, eps, fmf, img, jpg, pcd, pcx, dcs, png, tga, tif, wmf and wpg.

To import an image:

1 Click on the **Image import** tool.

2 Click inside the workspace.

The **Open** dialog box appears.

3 Select the image file to be imported in the **Document Browser** or **Gallery** tab, and confirm.

To help you find the image to be imported, display the file preview by clicking on .

Creating a CD sleeve: inserting the logo

1 Click on the **Image import** tool.

2 Click inside the workspace.

3 Using the **Open** dialog box, select the LOGO.BMP file located in the software installation folder: \TUTORIAL\IMAGES. Click on OK.

4 Select the logo then enter the following values: x: 90 and y: 60.

5 Lock the logo.

Your label should now look like this:

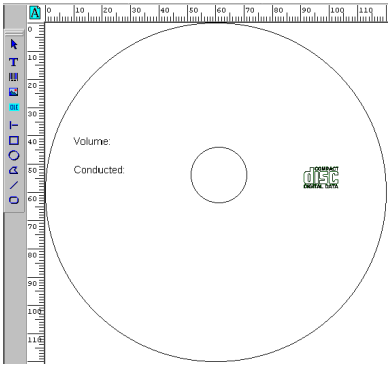


Figure 11 The example label

6 Save your document.

To finish this example, refer to **Appendix 2 - Connecting to databases**.

Creating Text Art

Text Art allows the user to change text characteristics such as outline color, and bend angle. Unsing Text Art, a text can be placed on a circle. The arc of the circle used to draw the text can be defined from 0 to 360 degrees. The angle of the start position can also be adjusted. This is useful for CD/ DVD labels, for instance.

To create a Text Art object

1 Click on icon from the creation toolbar and choose **TextArt** from the options menu.

2 Drag it into your label

3 Double-click on it or go to **Properties** in the context menu

4 Go to the **Shape settings** tab and select the background shape to which the text will be bent to.

i.e.: for a CD label, select ellipse

5 Select a **Border color** and **Background color** to the shape, if you wish.

6 Go to the **Text settings** tab and select the **font size** and **type** for the text.

Type your text in the text box
- or -
Select a data source.

7 You can select the **Border**, **Fill** and **Shadow colo**r (and **width**) for you text

8 Select the bend angle by writing in the start and end angle for your text

- or -

Drag the circle's handle around until you have selected the bend angle for your text

9 Choose how you would like to align you text (left, center, right, letter justified or word justified) as well as the

character spacing and whether the characters should be bent.

10 Click **OK** to view the result.

Creating a List Field

List field is used to spread data in a table. It has been designed for companies who need to create Order or Invoice documents. List field can be used in connection with bridging softwares that provide complex data from external sources (any ERP or Legacy systems).

To create a List Field object

1 Click on the icon in the creation toolbar

2 Select **List Field** from the options menu

3 Add a **Free** variable by right-clicking on Free in the **Document Browser** and selecting **Add**

- or -

By going to **Datasource > Free > Add** in the menu.

4 In the **Input** tab, choose **Select a File** and browse for the file containing the data that will be appearing in the List Field.

5 In the **Output** tab, set the **Maximum length** to 999 or any other value of your choice

6 Click **OK**

7 Double-click in the **List Field**

-or-

Right-click in the **List Field** and select **Properties** from the context menu

8 In the **List Field** tab

- Set the **font**, **size** and **color** of the text
- Select the **Datasource** from the drop-down menu
- Define the **Control characters** as in the linked

document

9 Go to **List Field Columns** tab and **Add** as many columns as are in the datasource file

10 Set the parameters of each column by clicking on a line and editing the fields below.

11 The background and border settings can be changed in the **Shape settings** tab (see Setting Shape Parameters on p. 3-30)

Creating a RTF Field

Rich Text Field Objects are used to manage RTF information such as chemical formulas (H_2O), or scientific expressions ($y=x^2$). The object can be linked to a database or external file containing RTF (the data can be fixed or linked). For fixed data, an RTF editor is provided, but any other RTF supporting editor can be used (i.e.; MS Word).

To add an RTF object

1 Click on the icon available inthe creation toolbar, and select it from the option menu.

2 Double-click on the RTF object

-or-

go to Properties available in the context-menu.

3 Select the **Rich Text Field** tab

4 Select a **Data source** (if applicable)

5 Click on **Edit Text** to enter your text

Use the icon to elevate a typed letter or character and the to strike out any character.

6 Click **OK**

Setting Shape parameters

It is possible to set the parameters of shapes such as line style and fill pattern.

To set shape parameters

1 Double-click on a shape object

-or-

Go to **Properties** available in the context menu of the selecte shape object

2 Select the **Shape settings** tab

To set the fill pattern

1 Checkmark the **Background** checkbox

2 Select a color and/or pattern

3 Set the **internal margin** - this is the space available between the fill color and the border

To set the border settings

1 Select a color and/or pattern

2 Select a **Dash Style** from the drop-down menu

3 Select the **Dashcap** from the drop-down menu

4 Select the **Border Width**

Other objects such as Text, Barcode, Image, and OLE embedded objects will also have the capability to select a shape for the background and apply tine style and fill pattern.

Setting the Object Order

Placing label objects in a particular order is done by using the **Object Order dialog box**. This feautre is especially useful when objects need to be sent to a printer in a specific order or for printers working in a stand-alone mode who are

waiting for external data in a specific order.

To order objects in a label

1 Go to **Objects > Order...**

A dialog box will pop-up with a list displaying all currently available objects.

2 Select an object and move it up and/or down using the up/ down arrows.

CHAPTER 4

Creating a document using variable objects

Your software allows you to create variable objects, the values of which can be fed by different data sources. The value of these objects, whether **Text**, **Barcodes** or **Images**, advances during printing.

Variables

Definition

A variable is a non-physical object, the value of which advances during printing. A variable can be fed in a number of different ways:

- by data extracted from an external database,
- by an external application,
- by data entered via the keyboard,
- by data calculated by the computer or printer.

Your software distinguishes between the different categories of data according to their source. You can thus create variables using a number of different **data sources**.

Data source

Database

A variable created using the Database data source is fed by data contained in one of the fields in the database merged with the current document.

To create Database variables:

Before a Database variable can be created, the current document must first be connected to the database. According to your requirements, you can connect to a database using either ODBC, OLE DB or by directly importing an ASCII table.

First: install the ODBC data source drivers on your computer. Then install the data source, specifying the database engine and the name and access path of the database to be connected.

Connecting to a database using ODBC

1 Go to **Data source > Databases > Create/Edit query...**

2 In the **Select a data source** list, select the ODBC data source already installed.

3 Select the table(s), then the fields you wish to work with. Click on OK.

The variables are created automatically.

You are recommended to select only those fields that will actually be used in your document. This reduces the amount of data exchange with the base, thus increasing processing speed.

To import an ASCII table

1 Go to **Data source > Databases > Open ASCII table...**

2 Enter the name of the data file (*.txt).

3 Enter the name of the descriptor file (*.dsc).

4 Click on OK to import the ASCII table.

The variables are created automatically.

The Online Help contains all information relating to data file structure and defining a descriptor file.

Table lookup

The **Table lookup** data source contains a list of variables created as and when you need them. The variable values are the result of searches carried out in databases other than those linked to the current document.

Searches are carried out in one or more fields of a table in the database. The data is extracted from one of the record fields found (called the ”result field”).

To create a Table lookup variable:

1 Select **Table lookup** in the **Document Browser’s Data Sources** tab.

2 Choose **Add...** in the context menu.

The variable created appears automatically within the selected data source.

Note

A new sub-branch specifying the name of the data source is automatically created within the Table lookup branch. A new sub-branch is created automatically each time a Table lookup variable is created with a result field derived from a different database.

To define the properties of a Table lookup variable:

1 Select the Table lookup variable, then choose **Variable properties**... in the context menu.

2 In the **Select a data source** list, select the ODBC or OLE DB data source in which you wish to search for the field, the resulting data of which will populate your Table lookup variable.

3 In the **Select table** list, select the table in which the search is to be carried out.

4 In the **Select result field** list, select the field, the value of which will be transferred to your variable.

5 Define the search conditions by selecting the table field(s) in which the **Key field** column searches will be carried out.

6 In the **Key value** column, select the current document variable(s) containing the search values.

Note

The variable containing the search value must be created before the variable that will use it. When several table records meet the condition, it is the first one encountered that will be displayed.

7 Click on **OK**.

The **Table lookup** variable is given the same name as the table selected.

The appendix entitled **Connecting to Databases** at the end of this manual provides an example of creating a CD sleeve. The example describes how to install an ODBC database, import data from a database using ODBC, create a **Table lookup** variable, carry out complex queries, and so on.

Date

The **Date** data source contains a list of variables created as and when you need them. These variables are fed by the computer or the printer's system date. They allow the date and time to be displayed, according to a predefined format. The value is updated automatically at the beginning of each print series.

You can insert the current date and/or time into a document, you can also add a fixed value to it.

To create a Date variable:

1 Select **Date** in the **Document Browser's Data Sources** tab.

- Choose **Add...** in the context menu.

The variable created appears automatically within the selected data source.

To define the properties of a Date variable:

1 Select the **Date** variable, then choose **Variable properties...** in the context menu.

2 In the **Date** tab, select the desired date format (day of the week, month, etc.) from the drop-down list. You may also create a user-defined date format by selecting **Customized** from the drop-down list.

3 A box in which you can configure a user-defined date format is displayed.

4 You can view the selected date format at the top of this dialog box.

5 Click on **OK**.

If you wish to display the time in your document, repeat the above process by selecting the data source from the drop-down list. You can also concatenate the date and time in the same variable.

appendix 1 at the end of the manual provides an example of creating **Date** variables.

Counter

The **Counter** data source contains a list of variables created as and when you need them. These variables are fed by data calculated either by the computer or your printer.

The content of the variable changes as printing advances, according to an initial value and an increment value.

To create a Counter variable:

1 Select **Counter** in the **Document Browser's Data Sources** tab.

2 Choose **Add...** in the context menu.

The variable created appears automatically within the selected data source.

To define the properties of a Counter variable:

1 Select the **Counter** variable, then choose **Variable properties...** in the context menu.

2 Choose between a **Shared variable** counter and an I**SO counter**. Check the **Shared Variable** box if you want to be able to reuse this variable in other documents.

3 Select the type of counter.

4 Enter a value in the **Increment** box. The default increment is +1.

5 Enter a start value in the **Min value** box. The default value is 0.

6 If you have selected a **Shared Variable** counter, you can reset the counter after a variable value has changed by selecting the **Reset after variable value change** check box and selecting the variable from the drop-down list.

7 Click on **OK**.

At the end of the manual there is an appendix entitled **Counters** which describes a wide range of example labels containing counters and demonstrates how to fine tune counter properties, set up complex, customized and linked counters, and so on.

Formula

The **Formula** data source contains a list of variables created as you need them. These variables are populated by combinations of operators, constants, variables, control variables, formulas and functions. Data can be either numerical or alphanumerical.

To create a Formula variable:

1 Select **Formula** in the **Document Browser Data Sources** tab.

2 Choose **Add...** in the context menu.

The variable created appears automatically within the selected data source.

To define the properties of a Formula variable:

1 Select the **Formula** variable, then choose **Variable properties...** in the context menu.

2 Enter the formula directly in the edit box.
-or-
Select the elements of your choice with the mouse, then click on Insert.

Advanced tip!
You can insert an element simply by double-clicking on it.

3 Click on **Test** to verify that the syntax is correct. If an error occurs, follow the instructions displayed on the screen and carry out any necessary changes.

4 Click on **OK**.

Form

The **Form** data source contains a list of variables created as and when you need them. These variables are fed by entering data directly into the **Form** via the keyboard.

If the name of a variable used in the formula contains any of the following characters: &+-*/ <>=^%,!\", the name must be enclosed in {}s.

At the end of this manual is an appendix entitled **Formulas** offering a wide range of example labels containing formulas. The examples demonstrate how to fine tune formula properties, set up complex formulas, calculate specific "modulos", and so on.

To create a Form variable:

1 Select **Form** in the **Document Browser's Data Sources** tab.

2 Choose **Add...** in the context menu.

The variable created appears automatically within the selected data source.

To define the properties of a Form variable:

1 Select the **Form** variable, then choose **Variable properties...** in the context menu.

2 Click the **Input** tab. Check the **Shared** box if you want to be able to reuse this variable in other documents.

3 Click the **Form** tab to define the characteristics of your variable.

4 Enter the prompt text you want to display on the form in the **Prompt** field.

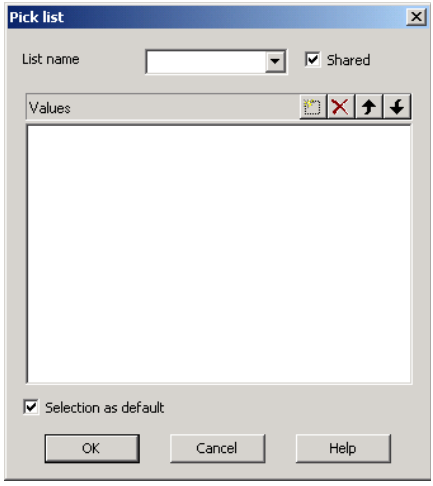
5 Enter an input syntax (for example: ##-##-## if it is a date that will be entered).

6 In the **Minimum Length** box, enter the minimum number of characters that must be entered for the text to be

validated.

7 If you check the **Force data to come from the list** box, it will be impossible to enter data directly in the box on the form.

8 The **Pick List** box contains values you can use when completing the form. The following dialog box is displayed:



This dialog box contains two options:

- creating values,
- or use pre-defined lists of shared values.

You can also display a default value in the text box of the form. To do so, check the Selection as default box.

9 Click on **OK**.

The Form

The **Form** allows you to enter data directly.

It is possible to change the appearance of the form and make it more readable by changing the color, adding borders or changing the font, and so on. The customized

form will be saved with your document.

- To access the **Form**, go to **View > Mode > Form**.
  -or-
  Click on the **Open form** button on the **View** toolbar.
- To change the appearance of the **Form**, click inside the **Form** and choose **Customize** from the context menu.
  -or-
  choose **Format cells...** to change the color, style, form borders, and so on.

Information on the **Shared Variables Manager** is provided in the on-line help system. This allows you to access all shared variables classified as free, counter or pre-defined form variables.

The **Form customization** dialog box offers the following options:

Option	Definition
Display rows	displays the rows.
Display row headers	displays the row numbers. In conjunction with **Enable row moving**, this option allows you to change the order in which data appears in the **Form**. Select the number of the row to be moved, then drag the mouse to the new location.
Lock form	prevents modification, moving, resizing or deleting of rows.
Distribute rows evenly	adjusts row height to the minimum necessary to display the tallest row.
Enable row moving	allows rows to be moved within the form, providing the **Display row headers** option is activated.

Option	Definition
Display form when printing	offers three options that come into effect when printing is launched: - **No**: the **Form** will not be displayed. - **For each label**: the **Form** will be displayed for each label in a print run. - **For each series**: the **Form** will be displayed once at the beginning of a print run.

Free

The **Free** data source contains a list of variables created as and when you need them. A variable is called **Free** if the origin of the data that feeds it is not specified.

To create a Free variable:

1 From the **Data Sources** tab in the **Document Browser**, select **Free**.

2 Choose **Add**... in the context menu.

To define the properties of a Free variable:

1 Select the **Free** variable, then choose **Variable properties**... in the context menu.

2 Select one of the following options: **Local** or **Shared**.

The Online Help further information on shared variables.

3 If you have chosen the **Local** option, enter the variable value in the box. This is the initial value of the variable, the one that will be printed first.
-or-
If you have chosen the **Shared** option, click on the ... button if you need to modify the current value of the variable. Click on **OK**.

4 Click on **OK**.

Specific examples of using **Free** variables can be found in the **Formula** and **Connecting to Databases** appendixes.

Variable objects

The previous chapter introduced the concept of objects. We are now going to take this one stage further and look at variable objects.

A variable object is a variable that takes on a physical appearance, whether text, barcode or image. Thus, the value of any variable from any source can be displayed in your document in the form of text, or encoded in a barcode.

Moreover, several objects can be associated with a single variable.

Creating variable objects

Creating a variable object involves associating an object with a document variable.

There are two ways of creating variable objects:

- creating a variable object from a fixed object ;
- creating a variable object using a creation tool.

To create a variable object from a fixed object:

1 Select a **Text** object in the document (the whole object must be highlighted).

2 Select **Properties...** in the context menu.

3 Click on the **Data source** tab.

4 Select the **Variable data** option, then select the data source that will feed the variable object.

5 Click on **OK**.

Do not forget to click the **Display field contents** button to view the variable values.

To create a variable object using a creation tool:

1 Click on the **Text generation**, **Barcode** or **Image import** tool.

2 Select the variable you wish to associate with the object in the **Document Browser's Data Sources** tab.

3 Drag and drop the variable to the required place in the workspace.

The variable object thus created displays the name of the associated variable.

4 To display the variable value, click on the **Display field contents** button

.

Advanced tip!

1 Select the variable you wish to associate with the text object in the **Document Browser's Data Sources** tab.

2 Drag and drop the variable to the required place in the workspace.

A context menu appears, listing the different objects.

3 Select the required object.

Note

The variable must be created before the variable object

Interchanging two variables:

To replace a variable already inserted into your document with another variable:

- Select the variable to be replaced, then the select the substitute variable in the **Document Browser**.

- Drag and drop the new variable onto the one to be replaced.

The new variable appears instantly.

CHAPTER 5

Printing

A powerful print engine

Your software is both a powerful, user-friendly creation tool and a print engine, bringing together the widest possible range of printers (thermal, thermal transfer and inkjet), never before available on the automatic identification market.

A number of solutions are available for printing your documents: individually, in batches, and so on.

Traditional printing

Whether printing a single label, a series of labels, or multiple copies of the same label, all print settings are made using the same dialog box: **Print**.

1 Go to **File > Print...** or click on or press the F6 key.

The **Print** dialog box appears on the screen

.

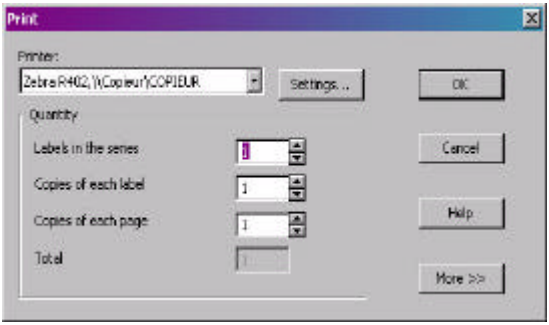


Figure 12 The Print dialog box - basic

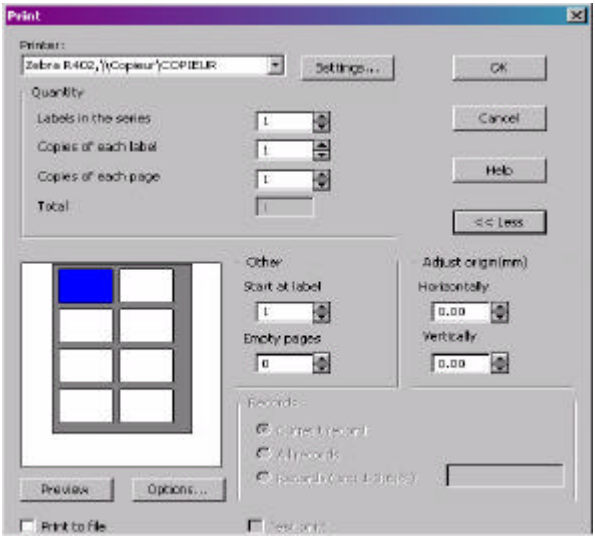


Figure 13 The Print dialog box - expanded

2 Click on **Print**.

The current label (the one displayed on the screen) is printed.

If the document includes a counter, the number entered in the **Labels** field allows you to determine the number of **different** labels to be printed, i.e. the number of counter increments.

If your document does not contain a counter, you can print multiple copies of the same label by entering the required number in the **Copies of each label** field.

Practical Workshop 1 - Label Series and Label Copies

To start, let's distinguish between **Labels** and **Copies of each label**.

Note

If the label does not include a counter, the Print dialog box will not display the Copies of each label field, but only the Labels field, which in this case serves the same purpose.

To highlight the difference between **Labels** and **Copies of each label**, we shall consider a label containing two types of counters, and configure the **Print** dialog box in different ways.

- Open the TUTORIAL\LABELS\COUNTER.TPL label.

This is a simple label containing two different counters:

- a classical counter that counts all labels, and resets when its value reaches 10:
  - **Type**
  - **Increment** +1
  - **Min value** 0
  - **Max value** 10
- an ISO counter allowing each label copy to be individually and exhaustively numbered. It also resets when its value reaches 10:
  - **Type**
  - **Increment** +1
  - **Min value** 0

The first counter, called **NumLabel**, identifies a particular label, whereas the ISO counter counts the total number of labels printed.

Labels in the series

In this example, we are going to print a series of 10 labels:

1 Enter the following values in the **Print** dialog box:
Labels : 10.
This means that there are 10 different labels in the series.

2 Click on **Print**.

The printed output is as expected: 10 labels have been printed and the two counters read the same value.

Copies of each label

Here we will print a series of five labels, but this time we want two copies of each one.

1 Enter the following values in the **Print** dialog box:
Labels: 5
Copies of each label : 2.

2 Click on **Print**.

10 labels have been printed, however the result is totally different from the one obtained in the last example.

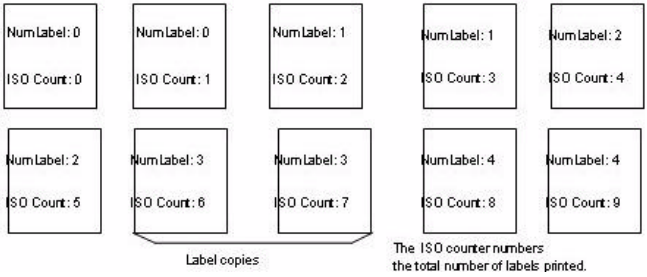


Figure 14 The printed output

Copies of each page

As we have just seen, it is possible to print multiple copies of the same label. In the next example, we will see that it is also possible to print multiple copies of the same page. We therefore need to know exactly what the printer understands as being a page.

The page is determined by the parameters specified when the printer driver is configured. The results obtained may be completely different depending on whether you print on an office printer or a thermal printer. It can be quite difficult to visualize a page on continuous paper, as used mainly by thermal printers.

Moreover, according to the dimension of the print media and the size of the label, the page dimensions may correspond to those of the label, and thus, by extension, the page copy may be the same as the label copy.

The page format and label size are defined in the **Page setup** dialog box.

1 Open the TUTORIAL\LABELS\COUNT01.TPL label.

2 Go to **File > Select printer...**

3 Select a Windows office printer.

4 Make sure that the paper format is A4, then click on OK.

5 Go to **File > Page setup...** or click on .

The **Page setup** dialog box appears.

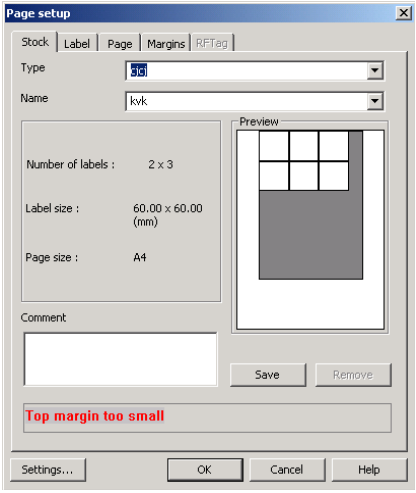


Figure 15 The Page setup dialog box

The preview gives you an idea of how the page will look when it is printed.

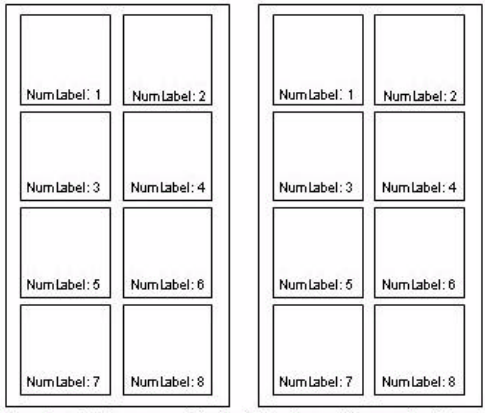
6 Close the dialog box.

7 Click on .

8 Enter the following values:
Labels: 8
Copies of each page: 2

9 Click on **Print**.

The result is as follows:



Warning! The same label printed on a thermal printer using continuous paper may give a completely different result.

Figure 16 An example of printed output

If your label contains an ISO counter, **Page copy** will be the same as **Label copy**.

Practical Workshop 2 - Print Merge

Print Merge is only available if your label is linked to a database (ASCII or ODBC).

The **Merge** function prints all the records contained in the database.

Print merge

1 Open the TUTORIAL\LABELS\IDENTITY.TPL label.

2 Make sure that the connection with the Librairies\Databases\identity.mdb database is properly established.

3 Go to **File > Print...** or click on or press the F6 key.

The **Print** dialog box appears.

4 In the **Records** section, Check the **All records** box.

All records in the database are printed, i.e. three labels.

Note

If you do not see the 'Records' section, click on the MORE >> button to expand the dialog box view and display more setting options.

Practical Workshop 3 - Printing using the form

It is often the case that variable data needs to be entered by an operator just prior to printing. Your application offers a quick and simple method of data entry: the **Form**.

Customizing the form

You are free to customize forms by choosing the background and border color for each cell in the grid, font type, font size, and so on.

1 Open a new document.

2 Add a variable using the **Form** data source in the **Document Browser**.

3 Rename it NAME (F2 key), then double-click on it.

4 Complete the dialog box with the following information:
- In the **Form** tab, type “Name” in the **Prompt** field.

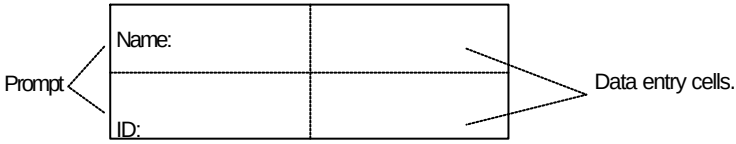
5 Click on **OK**.

6 Repeat the above procedure to create a variable called ID. Complete the dialog box with the following information:
- In the Form tab, type “ID” in the Prompt field.

7 Insert them into your document.

8 Display the **Form** either by going to **View > Mode > Form**, or by clicking on or by pressing F4.

The **Form** appears, as shown in the figure below:



Borders are not displayed by default. The dotted lines mark the different cells in the Form.

Figure 17 The default Form

9 Select a cell and display the context menu (right mouse button).

The following two commands are displayed: **Format cells...** and **Form customization...**

Format cells allows you to define:

- the font type and color for displaying the prompt;
- the cell background color;
- cell border color;
- text alignment with the cell.
- Set the above options as required.

Form customization allows you to:

- display row headers (when row headers are displayed, you can select an entire row and change its position);
- display the form as a grid;
- configure the way the **Form** behaves, i.e. whether it is displayed **For each label** or **For each series**. For the purposes of our example, select the **For each label** option for both variables.

Printing using the form

Now that the **Form** looks the way you want, we will launch printing.

1 Go to **File > Print...** or click on or press the F6 key.

2 Enter ”2” in the **Labels** field.

3 Launch printing.

The form is displayed, and you are invited to enter the data to be printed.

4 Enter ”Smith” and ”51”, for example, then click on OK.

Once the first label is printed, the form is displayed again.

5 Enter ”Mullang” and ”52”, for example, then click on OK.

Note

The Form is displayed for each label contained in the series. If you choose the ‘For each series’ option, the Form will only be displayed once, when printing of the label series is launched.

To sum up...

The Print dialog box contains differences...	When the label contains a counter: **Labels** allows you to specify the number of different labels in a series; **Copies of each label** allows you to determine the number of copies of the same label to be printed. When the label does not include a counter, this option serves the same purpose as the **Labels** field.
Copies of each page	A page copy can only be carried out if the label does not include an ISO counter and if the page contains more than one label.
Print Merge	This option prints all the records in a database, and is only available when the label is connected to a database.
Printing using the Form	The **Form** allows an operator to enter data by keyboard just prior to printing.

Practical Workshop 4 - Printing an RFID Label

An RFID label can only be printed if an RFID printer has been selected.

Setting up an RFID print job

1 Click th **Printer Selection** icon

- or -

2 Go to **File > Printer Selection**

3 Select an RFID compliant printer

4 Click OK

5 Click on the **Page Setup** icon

- or -

6 Go to **File > Page Setup**

7 Click the **RFTag** tab

8 Select a tag model from the drop-down box

9 Define the values for each parameter

10 Define the data structure by setting the **Value**, **Access**, **Datasource**, **Lock/Unlock**, **Verified/Unverified** (See the **Online help** for a detailed description of each field)

11 Click on **Print**

RFID label example

We will reproduce the **RFID.lab** label found in C:\Programs files\ CODESOFT 8\Samples\Labels.

1 Open a **New document** by going to **File > New** or by clicking on the **New document icon**

2 Select an **RFID compliant printer** by going to the **Printer Selection** dialog box

3 Click **OK**

4 Add:

- 3 lines
- 1 textbox: **Chemtech AG**
- 1 textbox: **Gartenstrasse 1D-80807 Munchen**
- 1 textbox: **R20 : Harmful by inhalation. S24/25 : Avoid contact with skin and eyes.**
- 1 textbox with the following settings:
  - Character tab:
    Graphic
    Font: CS Symbol 2
    Height: 13,20
  - Data Source tab:
    Fixed Data
    Value X

- 1 textbox with the following settings:
  - Character tab:
    Graphic
    Font: CS Symbol 2
    Height: 13,20
  - Data Source tab:
    Fixed Data
    Value F
- 1 textbox: **F**
- 1 textbox: **Xn**
- 1 Barcode:
  Graphic
  Symbology: QR Code
  Height: 13,20
- 1 Form:
  Input tab: **Name: Serial**
  Variable value: 13R65654
  Output tab: **Maximum Length: 8**
- 1 Form:
  Input tab: **Name: TagData**
  Variable value:
  5435645T6546345RT54
  Output tab: **Maximum Length: 25**

And place them as in the RFID. lab sample label

5 Go to the **Page Setup** dialog box by clicking on the **Page Setup** icon and select the **RFID tab**

6 Select the **Philips I-Code** (depending on the printer you have selected, this tag model may not be available)

7 Set the **Top millimeter at 18** and the **Left millimeter at 4**

8 Click **OK**

A new window opens allowing the user to set or define parameters for different block areas.

9 Set the **Data source** of **Block #1** (Serial Number) to

Serial. You will see that the value of this block will populate with the value of the Serial Form. In ASCII format, each block can only hold 4 characters of information. So, when you click on block #2, a window will pop-up asking if you would like the row to be replicated across 1 more block in order to complete the information across the next block. If you click the **check mark**, the last remaining 4 characters of the Serial form will automatically populate Block #2, if not, the last 4 characters will not be registered in the RFtag.

10 Set the **Data source** of **Block #3** (Special Function) to **TagData**. This will populate the value of Block #3 with the **4** first characters of the TagData form (5435). When you click on the block #4, the **Row Replication Range** pop-up window will ask if you would like to continue the information across the following 6 blocks. This will include the last 15 characters (645T6546345RT54) plus 6 empty spaces (since in the **Form** settings, the **Output** has been set to a maximum of 25 characters)

You can quickly access the **Page Setup** or the **RFTag programming** settings by clicking the **Objects tab** in the Document Browser and right-clicking on **RFTag**

11 Click OK

12 Go to the Print dialog box and click Print

Printing Options

Print Preview

Preview your label by clicking on the **More >>** in the Print dialog box. An expanded version of the Print dialog box will open. To preview your label, click on **Preview**. A new window will open showing you your label with data. Scroll through the records using the **Previous** and **Next** buttons, or print directly from this window.

Customizing your Printing

It is possible to define/customize the **Print dialog box** to simplify the printing process allowing the user to print directly without being prompted, to print or not to print the

objects found partially outside the label, or to default to the direct printing method when a database connection cannot be found and the print options have been set to **Database Query Result** or **Search in Database**.

To change any optins, you must;

1 Go to **File > Print > More > Options.**

Printing a specific record

You can search for a record using the **Go To** button available in your toolbar and print the label directly from the **Go To** dialog box. To do so,

1 Click on the **Go To** button available in your toolbar.

2 Select a **Database**, a search **Field** and enter a **Value** to search from

3 Click on the arrow to go to the found record (or the **Next** record)

4 Print using the **Print** button.

Optimizing printing

An increasing number of printers come equipped with a parallel port, and we would recommend using this rather than the serial port. If you want to print bitmap images, graphics or **Windows TrueType fonts**, using the parallel port will greatly enhance your system's performance in terms of data transfer capacity. Moreover, there is only one type of cable for all parallel links, whereas there is no standard for serial cables. You thus avoid any problems with printer cable requirements.

That said, given that many printers are still supplied with a serial link only, this section also covers most of the problems you are likely to encounter with serial communications, and explains how to configure Windows for trouble-free printer communications.

Furthermore, it is important to bear in mind that Windows printer drivers, and the program you use for printing, do not control serial communications between your computer and

the printer. The communication mode is controlled by:

- your printer's settings;
- the type of serial cable used;
- the serial communication settings used in the **Windows control panel**.

Optimizing printing speed

As we have already seen in the introduction, there is no universal configuration for optimizing printing speed, but rather a range of different settings that come into play. In the next example we will look at each of these in turn, hopefully giving you a better understanding of your own configuration, and thus enabling you to find the best settings for optimized printing.

For improving printing speed, there are four basic principles we need to bear in mind:

- use the parallel port wherever possible;
- use printer objects (fonts, barcodes, and so on) wherever possible;
- in the case of a serial link, and if the printer offers the option, make use of the **Windows Font Downloader**. This plug-in tool allows you to download any Windows font into the printer's memory—quickly and simply—thus turning it into a printer resource. For more information on this plug-in (provided with your application), refer to the documentation available on the application CD-ROM;
- use the "**Send modified data only**" command, available for the vast majority of printers and available in the Printer settings dialog box;

The **Direct access** option is offered when configuring the printer driver and selecting the port. The table below lists when this option may be used:

Port	Direct access	Non-direct access
Serial	yes	yes
Parallel	yes	yes
Network	no	yes

Using this option will depend on your particular requirements :

- In **Direct access**, the printer driver communicates directly with the printer: the user has no control over events until printing is completed (possibly involving something of a delay);
- Without the **Direct access** option, the printer driver transfers data to a print queue, which manages communication: the user regains control once all data has been transferred to the print manager (involving much less of a delay).

Parallel link and serial communication

Given the many advantages of using images, such as the wide variety of Windows graphics, you will get significantly better results by using a printer equipped with a parallel communications port. The majority of standard thermal printers are equipped with a serial link only (RS 232), with the parallel port as an optional feature.

Serial communication works fine, as long as you are only intending to print printer objects (barcodes, fonts, and so on). If you wish to print bitmap images, printing speed will be greatly reduced.

Note

For printing images, use the parallel link wherever possible.

For printing images...

For example, your company logo, not a printer object, must be transferred to the printer. The more images you send to the printer, the slower printing becomes—especially if you are using a serial connection. The solution is to send the image in question just once, when printing of the label series is first launched.

The majority of printers allow this operation.

Use the **Send modified data only** option: the image is sent to the printer only once, when printing starts, which can take a little time. However, once the first label is printed the data transfer process runs much faster, improving performance

for printing a number of label series.

Note

The label background is stored in the printer's memory. As a result, the fixed image does not need to be transferred via the cable once the first label is printed.

Substituting TrueType fonts

The **TrueType font substitution** will be used at the time of printing to dynamically change a **TrueType font** to a printer font. The purpose of this feature is to allow the user to design a single label that can be printed on different kinds of printers; using the **TrueType font substitution** option, the same **TrueType font** at design time will be redefined with the best possible printer font at the time of printing to optimize the print speed.

Troubleshooting

The table below lists the problems most frequently encountered during printing, and offers some solutions to help you resolve them.

Problem	Cause	Solution
Nothing is printed	The printer is not plugged in.	Plug the printer in.
	For a parallel link : - The printer is not configured for a parallel link.	Make sure that this setting has been configured in the printer control panel (refer to the manufacturer's handbook).
	For a serial link: The serial communication settings are incorrect.	Make sure that the communication settings between the PC and the printer are the same (for the serial communication settings required by the printer, refer to the manufacturer's handbook).
	The serial cable is not suitable.	Make sure that the cable matches the specifications of your printer (refer to the manufacturer's handbook).
	In both cases (serial or parallel): - The cable is connected to the wrong port.	Check the connection.
Page is not printed	For direct thermal printing : the print media has been inserted the wrong way round (the print head is heating the wrong side of the paper).	Reinsert the media the right way round.

Problem	Cause	Solution
	For thermal transfer printing : The ribbon has not been inserted, or was inserted incorrectly.	Check the ribbon and refit if necessary (refer to the manufacturer's handbook).
	The required print mode has not been selected on the printer.	Check that the print mode (thermal or thermal transfer) has been correctly selected on the printer (refer to the manufacturer's handbook) or in the Printer setup dialog box
A graphic object (image, Windows font, graphic barcode, etc.) has not been printed.	The printer is out of memory.	Check the **Clear memory at next print time only** option; If the problem persists, check the amount of memory space allocated to images (**Images** tab of your printer driver).
	The printer does not have enough memory.	Increase the amount of printer memory either by adding an extra memory card, or by increasing the RAM (refer to the manufacturer's manual or check with the dealer from which you purchased the printer).
	Some printers will not recognize an object if it overlaps the edge of the printable area, even by only a few millimeters.	Adjust the position of the object on the label.
The thermal printer is jammed	The print media used is not the same as the one defined in the Page setup dialog box (continuous paper or with gap).	Check that the right print media was selected during page setup: **Continuous**, **With gap**.

CHAPTER 6

Security Made to Measure

User Manager is a tool that allows you to manage access rights to the label design software. It also allows you to set up group work strategies by organizing user accounts into user groups. You can create and/or remove user accounts with **User Manager**.

Note

Any changes made to user access strategies will take effect the next time the user runs the application

There are many advantages to a strategy of working in user groups. Managing user accounts in this way allows you to adapt the application to the requirements of your company, adding extra levels of security according to the different services, thus guaranteeing the integrity of your documents and data.

You can use separate accounts for creating, modifying or simply printing documents.

User Manager

User Manager allows you to manage access rights to the various documents by means of user accounts. The administrator can create as many accounts as required, each one having its own specific rights. Users can be added to one or more accounts.

An account entitled **Guests** is created automatically when **User Manager** is launched. It contains no default access rights.

Note

Adding the security plug-in disables all commands linked to the Password function.

Note

User Manager can only be activated once it has been configured by the administrator.

A user-friendly interface for optimized management of access rights...

The interface has been designed to make administering the different user groups as simple as possible. Presented in the form of a tree, like **Windows Explorer**, and using context menus, drag and drop, and so on, working with User Manager is totally intuitive. In this chapter, we will take a closer look at how the User Manager interface works.

The administrator

User Manager cannot be run without an administrator. The administrator alone is authorized to manage the various groups: assigning and removing access rights, adding users or other administrators, creating groups, and so on.

Who is the administrator?

The administrator is the one who runs User Manager for the first time.

Note

An administrator is the only one who is authorized to add or remove another administrator.

Without profile management

The computer on which your label design software and **User Manager** are installed does not manage user profiles.

In this case, each time the label design software is launched, a dialog box is displayed asking for a user name and password.

If **User Manager** does not recognize the user, i.e. he/she is not registered in one of the user groups, he/she will automatically be defined as a **Guest** and will thus only be granted those rights the administrator has assigned to the **Guests** account.

With profile management

The computer on which your label design software and **User Manager** are installed does manage user profiles.

In this case, **User Manager** administers the user profiles declared on the network. When the label design software is launched, **User Manager** checks whether it recognizes the user, i.e. that the user is registered in one of the user groups. If not, the user will automatically be defined as a Guest and will thus only be granted those rights the administrator has assigned to the Guests group as assigned by the administrator.

Note

If the workstation on which your label design software is installed is connected to an NT network, the administrator will have direct access to the names of all users on the network. This reduces the risk of creating users with incorrect names.

Administration

In this section, we will look at all the various functions available in **User Manager**.

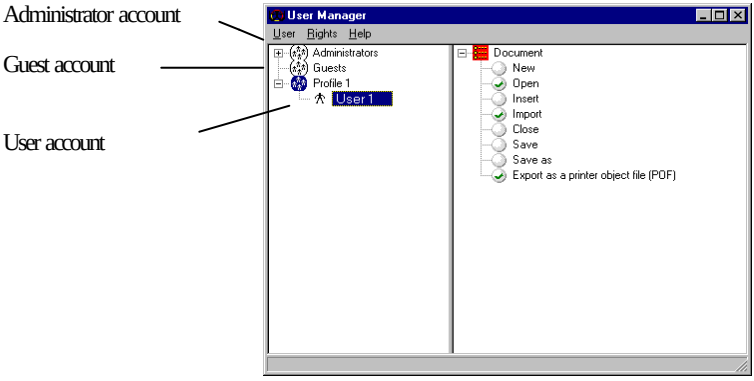


Figure 18 User Manager

Adding a user

To add a new user to an existing profile:

- Choose **User New User**.

A new branch is created within the profile, allowing you to enter the name of the new user, see below:

Figure 19 Adding a new user

Adding a new profile

Adding a new profile allows you to define the various rights associated with a particular area of activity within your organization.

To add a new profile:

1 Choose **User New profile**.

The new profile is thus created.

2 Give it a name, and configure its rights, see below.

Note

By default, a new profile is assigned all rights.

To define a new profile:

As we have already seen, when a new profile is created, all rights are assigned to it. The administrator can then remove those rights that do not apply to the profile in question by simply clicking on them with the mouse.

To delete a group of rights:

- Select the group of rights to be deleted then choose **Rights Delete**.

The group disappears from the tree.

To delete specific rights:

- Click on the group of rights to be modified then click on the individual rights one by one with the mouse to disable them.

To move a user from one account to another

- Select the user, then drag and drop it into the new account.

CHAPTER 7

Appendix 1 - Formulas

Calculations with Formulas and Functions

Your software offers a wide range of calculation functions, allowing you to carry out date calculations, character string manipulations, and so on. A formula can contain variables, constants, functions, operators, and so forth.

To carry out such calculations within a document, you will need to create a variable: the **Formula** variable.

With its own specific dialog box, this variable allows you to define the required function(s) for a given formula.

You can create as many **Formula** variables as there are calculations to be carried out in your document.

This appendix is complemented by numerous examples that will help you to put the various types of formulas into practice. The examples entitled **Practical Workshop** come in different levels of difficulty, as indicated by the following icons:

	Very easy
	Easy
	Difficult

Different Types of Formulas and Operators

Numerical formulas

Calculations are carried out on numerical values and give numerical results. Values can be either variables or constants.

2*Var0 = 14

The variable Var0 refers to the value of a batch number; 2 is a constant. The result varies according to Var0, but is always the value of Var0 multiplied by 2.

Logical formulas

Logical formulas allow you to check whether or not one or more conditions have been met.

Var0>Var1

This formula checks whether the value of Var0 is greater than that of Var1. If yes, the value returned will be 1 (true), if not it will be 0 (false).

Text formulas

Text formulas involve characters that are, strictly speaking, not part of the calculation, but which generate the character strings.

”NOM: ”&Var0

The result obtained is NOM: Smith if Smith is the value of Var0.

About functions

Functions are ready-to-use formulas, which sometimes look rather complicated. A function can be integrated into a formula.

A function uses values and arguments to generate new values. It is not necessarily a case of performing a calculation in the strict sense of the word, rather logical analysis or manipulation of character strings, for example.

There are six groups of functions in the formula definition:

- check digit calculation functions;
- conversion functions;
- date and time functions;
- logical functions;
- mathematical functions;
- character string functions.

Operators

Calculations are carried out in a strict order of priority, which is why it is sometimes necessary to enclose certain elements of the formula in brackets to indicate, or change, the order in which operations are carried out.

Operator	Example	Meaning	Priority
Arithmetical operators			
^	5^2 = 25	exponent	1
%	20%3 = 2	modulo	2
*	5*2 = 10	multiplication	3
/	6/2 = 3	division	4
+	20+5 = 25	addition	5
-	20-5 = 15	subtraction	6
Text operators			
&	“string1”&”string2	concatenation of two strings	7
=	Var0=Var1	equals	8
>	Var0>Var1	greater than	9
<	Var0<Var1	less than	10
>=	Var0>=Var1	greater than or equal to	11
<=	Var0<=Var1	less than or equal to	12
<>	Var0<>Var1	different from	13

The priority rating indicates how the application works when different operators are combined in the same formula. In the following formula:

4+5*6-9/2

First the multiplication is carried out (5*6), followed by the division (9/2), then the addition (4+30), and finally the subtraction. The result would be remarkably different if the correct order of priorities had not been followed. The result of the calculation is 29.5, whereas if the calculation had been carried out in the order it is written, the result would be 22.5. When two operators have the same priority rating, the calculation is carried out from left to right. Brackets allow you to isolate certain calculations. For example:

(4+5)*(6-9)/2

Gives -13.5, and not 29.5

Creating a Formula

The value of a **Formula** variable is determined by a combination of operators, constants, variables, formulas and functions. The result can be numerical, alphabetical or alphanumerical.

Formula dialog box

The **Formula** variable dialog box allows you to enter the expression. The dialog box is divided into three tabs:

- **Formula**: allows you to determine the characteristics of the formula;
- **Output**: allows you to adjust the final formatting of the variable for display in your document (see Online Help **Output tab**);
- **Counter**: allows you to assign the variable a **Counter** attribute (see Online Help **Counter** tab);

To access the Formula variable dialog box:

1 In the **Data Sources** tab of the **Document Browser**, select **Formula**.

2 Choose **Add...** in the context menu.

A sub-branch called **Formula0** appears.

3 Select it and double click.

The **Formula** dialog box appears (see Figure 19).

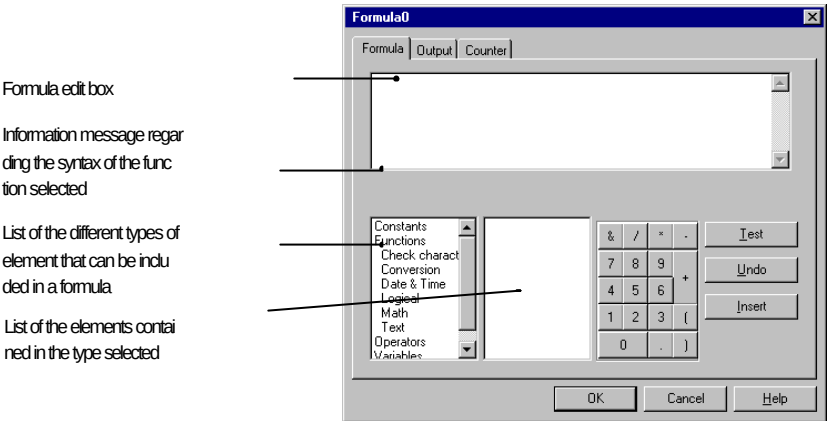


Figure 20 The Formula dialog box

Defining the formula

The first step involves creating the expression that defines the formula.

You can enter elements into the formula edit box either by typing them in directly using the keyboard, or by selecting them on screen with the mouse.

To enter the expression:

1 Select the elements that make up the expression one by one, clicking on Insert to add them to the expression.

2 Once you have finished entering the expression, click on the **Test** button. This allows you to check whether there are any errors in the syntax of the expression.

3 Click on OK.

To rename the variable:

- To rename a variable, select it, click on it once to select the default name, then enter the new one.
  - or -
  PRESS THE F2 button and enter the new name.

To create the variable object and insert the Formula into the document:

- Click on the **Text generation** tool, select the formula then drag and drop it into the workspace.

Do not forget to select the **Content view mode** in order to check the result of your formula.

If the result is truncated, check the settings in the **Output** tab: the maximum length value may be too low to display the full result of your formula.

The Online Help provides an exhaustive list of all the functions, and provides explanatory notes and examples specific to each one.

Practical Workshop 1 – Complex Formulas

Logical functions

You can use logical functions to check whether or not one or more conditions have been met. For example, you can use the if function to determine whether or not one condition has been met: one value will be returned if the condition has been fulfilled, another if it has not.

The example below presents a document designed for labeling boxes. It contains a name and address, plus information on the contents. All boxes for shipping need to be numbered, up to and including the total number of boxes in the series, a value determined in advance. Box numbers are entered manually using the Form when printing is launched. To check for possible errors, a formula displays an ”ERROR” message when the box number (BOX# variable) is greater than the total number of boxes in the series (TOTAL # OF BOXES variable).

1 Open the OVERRUN.TPL label located in the TUTORIAL folder.

2 Choose **File Print...** then launch printing by clicking on the **Print** button.

The **Form** appears. We will now enter a value for the BOX# variable deliberately greater than the TOTAL # OF BOXES variable, set at 11.

3 Enter ”12”, then click on OK in the **Form**.

You will notice that the printed label contains the message ”ERROR” (see the following Figure).

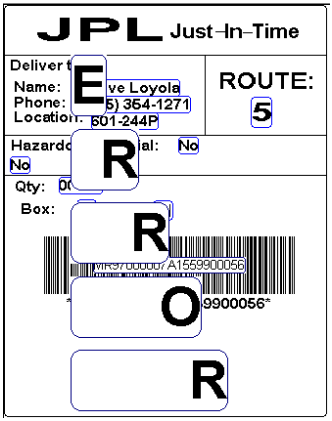


Figure 21 The example label

The formula that displayed this message is the following:

if(value(BOX #) >value(TOTAL # OF BOXES),”E\n R\n R\n O\n R”,””)(/n: new line)

The IF function

Returns one value if the condition you specify is TRUE, and another value if it is FALSE.

Use the if function to carry out a conditional test on values and formulas.

Syntax

if(”expr”,”val_if_true”,”val_if_false”)

”expr” represents any value or expression, the result of which can be TRUE or FALSE.

val_if_true is the value returned if ”expr” is TRUE. The val_if_true argument can be another formula.

val_if_false is the value return ed if ”expr” is FALSE. The val_if_false argument can be another formula.

Note

It is quite possible to link a number of if functions such as «val_if_true» and «val_is_false» to create more complicated tests (see example below).

```
if(dayofmonth > 10,
    if(dayofmonth > 15,
        if(dayofmonth >25, "Risk of being cut off!","Pay
                the bill now!"),


        "Think about paying the bill!"),
"Everything's fine!")
```

```
Or, in English:
"If dayofmonth > 10 then
    If dayofmonth > 15 then
        If dayofmonth > 25 then
            Risk of being cut off!
        If not
            Pay the bill now!
    If not
        Think about paying the bill!
If not
    Everything's fine!"
```

This example tests the day of the month:
- If the day of the month is between 1 and 10, the message ”Everything’s fine!” is displayed;
- if the day of the month is between 11 and 15, the message ”Think about paying the bill!” is displayed;
- if the day of the month is between 16 and 25, the message ”Pay the bill now!” is displayed;
- if the day of the month is greater than 25, the message ”Risk of being cut off!” is displayed.

If you wish to test the above formula, enter it in the formula edit box. Do not forget to create the intermediate variable ”dayofmonth” first.
This intermediary variable is created in the **Free** branch (**Data Sources tab** of the **Document Browser**).
In order to ensure that messages are displayed in their entirety, enter a value of at least 22 in the **Maximum length** box in the **Formula** dialog box **Output** tab.

The Online Help provides examples for all the logical functions available in your software (see Online Help Logical Functions).

Practical Workshop 2 Calculating a Specific ”Modulo”

Your software comes with integrated modulo calculation functions for generating barcode check characters.

However, it may be that you need to calculate a specific check character, and, as a result, the integrated functions do not meet your requirements.

You will thus need to create the function yourself.

In the next sequence we will see how it is possible to use formulas to create any kind of check character calculations.

This example illustrates how a control character can be calculated for a 2/5 interleaved barcode.

Method for calculating a check character

The method involves multiplying the first character of the data string by 1, the second by 2, the third by 1, and so on.

- Open the label named CHECK01.LAB located in the TUTORIAL folder.

The check character calculation will be carried out on the Lot Number data.

To calculate the weight

1 Click on the Formula branch of the Document Browser Data Sources tab, and add a new Formula.

2 Enter the following formula:
mid(LOT NUMBER,1,1)&
mid(LOT NUMBER,2,1)*2 &
mid(LOT NUMBER,3,1)&
mid(LOT NUMBER,4,1)*2 &
mid(LOT NUMBER,5,1)

The result is 2120103; so we have:
2*1 = 2
6*2 = 12
0*1 = 0
5*2 = 10
3*1 = 3
The concatenation of the results gives 2120103.

3 Name the formula ”WEIGHTED”.

To add the result of the weight calculation:

The following steps involve adding together the figures resulting from the previous formula.

1 Create a second Formula, and name it ”SUM”.

2 Enter the following expression in the text box:
mid(weighted,1,1)+mid(weighted,2,1)+
mid(weighted,3,1)+mid(weighted,4,1)+
mid(weighted,5,1)+mid(weighted,6,1)+
mid(weighted,7,1)

The result is 9; so we have:
2+1+2+0+1+0+3= 9.

To calculate the check character:

Using the previous result, we will calculate the value of the check character.

1 Create a third Formula, and name it ”CHECK DIGIT”.

2 Enter the following expression in the text box:
if((sum % 10)>0,10-sum % 10,0)

The result is 1; so we have:
sum % 10 = 9 (% = modulo).
9 being greater than 0, we carry out the subtraction:
10- 9 = 1.

Note

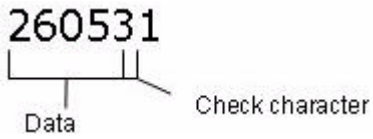
If the result had been equal to 0, the value of the check character would have been 0.

To calculate the data to be encoded:

Creating the barcode must include the data to be encoded, i.e. the value of the ”LOT NUMBER” variable concatenated with the check character (CHECK DIGIT).

1 Create a forth Formula, and name it ”DATA”.

2 Enter the following expression in the text box:
LOT NUMBER & CHECK DIGIT.
The data to be encoded is now:



To create the barcode:

1 Click the Barcode tool on the design toolbar. Next, select the DATA formula, then drag and drop it onto the label.

2 Select the barcode and choose **Object properties...** from the context menu.

The **Barcode** dialog box appears.

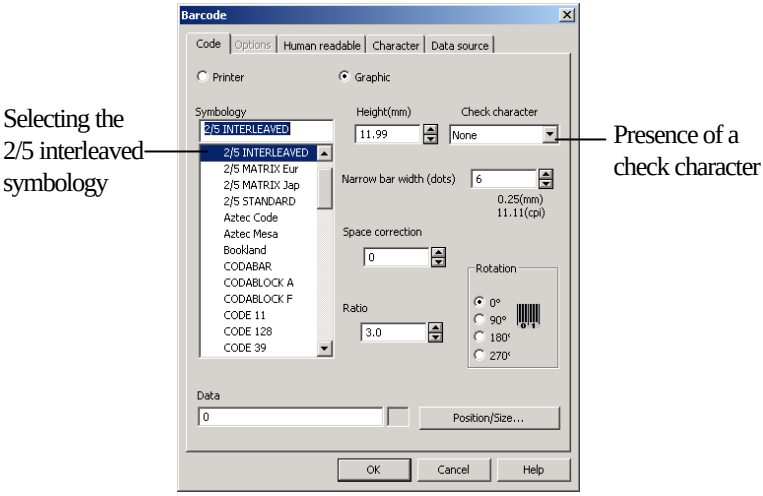


Figure 22 The Barcode dialog box

3 Configure the dialog box so that it looks like Figure 21.

The label is now finished. The label stock is located in TUTORIAL\CHECK.TPL.

Practical Workshop 3 – Date Calculations

Calculating an expiry date using the system date

Your software includes an option that allows you to add a fixed or variable time period to the system date. This function is extremely useful for calculating the use by date of a product, for example.

We will now create a label containing two **Date** variables. The first for the date of manufacture, the second for the expiry date.

To create the Date variables:

1 Using the **Document Browser Data Sources** tab, select **Date**.

2 Click on **Add...** in the context menu.

A sub-branch Date0 appears.

3 Select it and press the F2 key to rename it.

4 Enter DATE OF MANUFACTURE.

5 Select it again, and double-click.

The **Date** dialog box appears (see Figure 1).

6 Click the 03/June/1998 date format.

7 Click on OK.

We now need to create the EXPIRY DATE variable:

1 Repeating the above procedure, create another Date variable, and name it EXPIRY DATE.

2 Display the **Date** dialog box by double-clicking EXPIRY DATE.

3 As for the DATE OF MANUFACTURE, insert the 03/June/1998 date format.

Let us say that the shelf life of this product is one year and two days, i.e. 367 days. After that, the product will no longer be fit for human consumption.

4 Select the **Options** tab, check the **Fixed** option in the **Add a value** box and enter 367.

5 Select **Days** as the **Unit**, then click on **OK**.

Both variables have now been created, all that remains is to insert them into the document (see Figure 22).

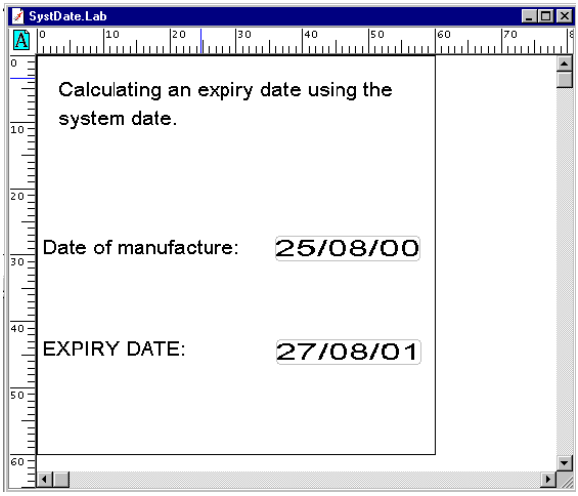


Figure 23 Calculating an expiry date

The label is now finished. The label stock is located in TUTORIAL\SYSTDATE.LAB.

Practical Workshop 4 – Date Calculations

Calculating an expiry date using a non-system date

In this section, we are going to reproduce the same document without using the system date. Let us suppose that the operator enters the date of manufacture just prior to printing the label. This method means that the expiry date must be calculated using the date of manufacture.

A number of formulas will thus be required to create the document. All calculations will need to be carried out using days as the unit of measurement.

The main functions used will be **day()**, **month()**, and **year()**. The method involves adding a time period to the day, month and year.

These three functions extract the current day, month and year if the argument is a system date, i.e. **today()**. However, they can also return the same result if the argument entered is the number of days elapsed since a reference date (see the example below).

Thus day(0)&”/”&month(0)&”/”&year(0) returns the result:

30/12/1899 = your application’s reference date.

If you want the formula to return the current date, the solution is to calculate the number of days elapsed since the reference date.

The formula must contain the sum of: " 99*365 = total number of days for 99 years of 365 days;

" quotient(99-1.4) = number of extra days for leap years;

" +1 = allows you to set the reference date at 31/12/1899 so as to start at a date minus one day;

" + the number of days elapsed during the current year, let us say that it is 20 January 1999.

The expression is thus: day(99*365+quotient(99-1.4)+1+20)&”/”&month(99*365+quotient(99-1.4)+1+20)&”/”&year(99*365+quotient(99-1.4)+1+20) and the result is 20/01/1999, which is the current date we have taken for this example.

To create the intermediate variable required for entering the date of manufacture:

We will start by creating the variables on which we will base our calculations.

1 Create a new document.

2 Add an intermediate variable (**Form** branch), and rename it Date.

3 Configure the properties dialog box for this variable with the following values:
- select the Localoption;
- enter ”28021999” as the date of manufacture in the box;
- check the **Delete spaces** box;
- select the **Form** tab and type ##/##/#### as the **Input** format.
- enter 8 as **Minimum length**.
- select the **Output** tab and enter ”8” as the **Maximum length**.

4 Click on OK.

To create the Var variable for entering the shelf life of the product:

- Repeat the previous steps, modifying the parameters as follows:
  - enter ”SHELF LIFE days” as the variable name;
  - select the **Local** option;
  - enter 367 in the edit box as the value for the shelf life;
  - check the **Delete spaces** box.

To create the Day, Month, and Year intermediate variables:

These three variables are extracted from the **Date** variable, i.e. the date of manufacture. As we shall see later, they will be required for calculating the expiry date.

1 In the **Document Browser**, create a **Formula** variable, and name it DAY.

2 Enter the following expression in the formula edit box:
left(date,2): this function extracts two characters from the

Date argument, starting from the left. Given that the current value of the Date variable is ”28021999”, this formula will thus give a result of ”28”.

3 Click on **OK**.

4 Repeat the previous step to create the Month Formula, entering the following expression: mid(date,3,2).
This function returns two characters, starting from the third character in the Date string, thus giving a result of 02.

5 Click on **OK**.

6 Repeat the previous step to create the Year Formula variable, entering the expression: right(date,4)-1900.
This function extracts four characters from the Date argument, starting from the right. This gives us a result of 1999. Subtracting 1900 makes it possible to work with three digits instead of two for Year 2000 compliance.

7 Click on **OK**.

Note

The result of this formula cannot be used directly. We will discuss how to employ it a little later on.

To create the intermediate variable for calculating the number of days elapsed during the current year:

The last element to be determined is the number of days elapsed in the current year. This variable will allow us to calculate this number, also checking whether or not the current year is a leap year.

In order to create this variable, we must first create an intermediate variable which we will call daystring. This variable will include a character string defining the number of days in a year of 365 days. The trick is to add the number of days elapsed to each consecutive month, starting from 1 January (see below).

000	031	059	090	120	151	181	212	243	273	304	334
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov

1 Using the **Free** data source, create the intermediate variable daystring.

2 In the variable dialog box, enter the above string (00003105909012015118121224327330433 4) as the **Local** value, without including any spaces.

3 Click on OK.

The daystring variable will be used to calculate the number of days elapsed since 1 January of the current year. We now need to create the formula that will carry out this calculation.

4 Using the **Formula** tab, create a variable and name it Julian.

5 Enter the following expression into the edit box:
day+mid(daystring, (month-1)*3+1.3)+if(and((month > 2),(mod(year,4)=0)),1,0)

DAY: this is the day of manufacture (the variable we defined earlier).
mid(daystring,(month-1)*3+1.3): the formula allowing us to extract from the
DAYSTRING variable, the characters corresponding to the month preceding the month of the date of manufacture.
if(and((month > 2) ,(mod(year,4)=0)),1,0): allows us to check whether the current year is a leap year, in which case if the date of manufacture is after February, an extra day needs to be added.

Since the date of manufacture in our example is the 28021999, 31 + 28 = 59 days have passed since 1 January.

The Julian formula thus confirms this result.

To create the formula for calculating the expiry date:

All the elements are now in place for defining the expression that will calculate the expiry date.

1 Create a formula, and name it Expiry date.

2 Enter the following expression into the edit box:
right(”00”&day(year*365+quotient(year-1.4)+1
+julian + EXPIRY days),2)&”/”&

right(”00”&month(year*365+quotient(year-1.4)
+1+julian + EXPIRY days),2) & ”/” &
right(year(year*365+quotient(year-1.4)+1+julian +
EXPIRY days),4)

As we have already seen in the introduction to this example, the functions that allow such calculations to be made are :
- **day**(”days elapsed in the last year -1” + ”product life span in days”) and;
- **month**(”days elapsed in the last year -1” + ”product life span in days”) and;
- **year**(”days elapsed in the last year -1” + ”product life span in days”).

In our example, the EXPIRY DATE given will be 01/03/2000.

Note

The label we have just produced is also available as a sample label in the TUTORIAL\labels\exprdate.tpl folder.

Adding comments so that everything is clear.
When a number of different people are involved in developing a document, it can be very useful to include certain comments so that each user understands the reasons why a given calculation has been included. The entire area outside the borders of the label is non-printable, allowing you to insert, among other things, the necessary explanations and comments.

The Online Help provides full information and further examples of all the functions used in this example.

CHAPTER 8

Appendix 2 – Connecting to databases

A few reminders

This chapter should give you some idea of just how powerful your software really is. We are now going to link your label (the container) with a database (the content) using ODBC connections(Open Data Base Connectivity) and OLE DB (Object Linking and Embedding Database).

Database

Databases allow you to store data, which is organized into two-dimensional tables called a relationship. Each row in a table is called a record. The purpose of a record is to manage an object, the properties of which are organized across the different columns of the table in the form of fields.

A database can contain a number of tables. To link the different tables in a given database, we use joins. A concrete example later in the chapter demonstrates how joins are created.

ODBC

This is the database access standard. ODBC offers a straightforward method for linking an application, such as your label design software, to a number of different databases.

OLE DB

This is a connection standard for accessing all database standards and data stored in messaging systems.

The software provides a number of ODBC drivers, offering you access to the very latest databases. The drivers are listed below:

- Microsoft Access Driver (*.mdb)
- Microsoft Excel Driver (*.xls)
- Microsoft FoxPro Driver (*.dbf)
- ...

Multiple Database Connection

You can connect your labels to several databases using any of the methods described in the following workshops. A drop-down box is available in your **Merge Database Browser toolbar** allowing you to easily select and switch from one database connection to another. Once saved, all database connections will remain available to that label whenever it is opened. Each label must have its associated database connections configured and saved to it.

To sum up...

What is a database?	A database allows you to store data in the form of tables. A table contains records that allow you to manage objects, the properties of which are organized across a number of fields.
How do I access a database?	By using ODBC or OLE DB.
Where does the data come from?	From an ODBC data source.The data source includes all the necessary information for accessing the database, such as its name and access path, and the type of database engine associated.

Practical Workshop 1 - Installing an ODBC Data Source and Importing Data

Before the data can be accessed, the first step involves installing the necessary data source.

Installing the ODBC data source

This first example demonstrates how to install a data source for an Access database.

To install the data source:

1 Open the Recto_00.tpl label located in the product installation folder \TUTORIAL\labels.

It is a sleeve for a CD containing the title of the work and the tracks recorded.
The data to be inserted into the label is located in the database entitled Volmusic.mdb.

2 Go to **Data source > Databases > Create/Edit query...**.

The **ODBC query definition** dialog box appears.

3 Click on ... to the right of the **Select a data source** list.

The **ODBC data source administrator** dialog box appears.
ODBC is a component completely separate from your label design software. You can also access the ODBC data base administrator via the Windows control panel: choose **Start Settings Control panel** and click on the icon below:

4 In the **User DSN** tab, click on **Add**..., then select the **Microsoft Access Driver (*.mdb)**. Click on **Finish**.

The **ODBC installation for Microsoft Access** dialog box appears.

5 Enter a prompt in the **Data source name** box, for example Classical music source and, if need be, give a brief description

A data source is now associated with a database. The next step involves selecting the database we need for our example, i.e. Volmusic.mdb.

To select the database:

1 Still in the **ODBC installation for Microsoft Access** dialog box, click on **Select** in the **Database** zone.

2 Select the database located in the installation folder of your label design software

\TUTORIAL\DATA?F28@A@Z1@Lfr>Volmusic.mdb and confirm.

3 Close the **ODBC installation for Microsoft Access** dialog box by clicking on OK, then exit the **ODBC data source administrator**, again clicking on OK.

Online Help is available for each **ODBC driver**, do not hesitate to consult it!

Importing data

Now that the data source has been installed, we can import the data from the database and insert it into the label.

To import the data:

1 If the **ODBC query definition** dialog box is not displayed on the screen, choose **Merge Create/Edit query...**

2 Choose Classical music source from the **Select a data source** list, then select the volumes table.

The dialog box displays the following information:

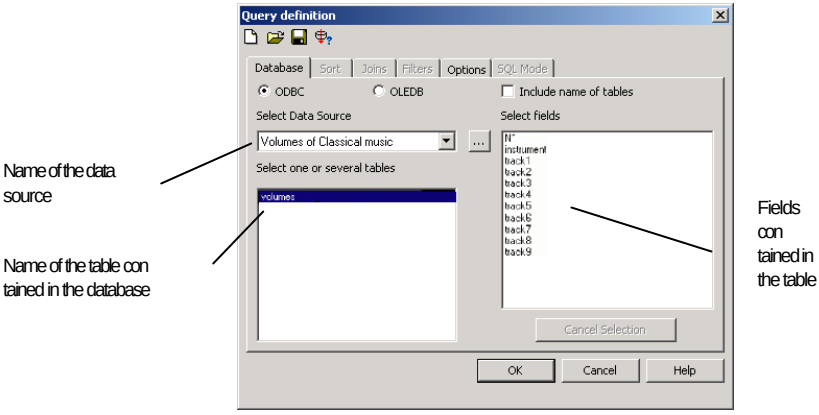


Figure 24 The Defining an ODBC query

3 Click on **Select all**, then on OK.

All Database variables will now be created automatically from the fields in the database.

The variables are listed within the **Database** branch in the **Document Browser Data Sources** tab.

4 Save your document.

The application asks you if you wish to save the query.

5 Click on **Yes**, select .\TUTORIAL\QUERY and enter VOLMUSIC.CSQ as the query name.

Creating variable objects

All that remains to be done is to associate the variables we have created with an object (text, barcode, etc.) so that they can appear in the label. For the purposes of our example, we are going to create variable Text Objects.

Reminder! It is important to distinguish between variablesand variable objects. A variable is a non-physical object, the value of which changes. A variable object has a physical appearance (text, barcode, etc.).
When an object (text, barcode, etc) is associated with a variable, it is called a variable object.
A given variable can take on different physical appearances: it can be associated to both a Text object and a Barcode object at the same time.
Moreover, you can create as many variables as you wish without creating variable objects. Such variables can be useful for creating formulas, for example. We will look at this later on in the chapter.

To create the variable text object ”Instrument”:

1 In the label, select the fixed text ”Title” (the whole text must be highlighted).

2 Go to **Object properties**... in the context menu.

3 Click on the **Data source** tab.

4 Check the Variable data option, then select the Instrument field located within the Database (18) branch.

5 Click on OK.

You have just changed a fixed object into a variable object.

- To view the different values that the object can take, use the **Navigation bar**.

You will notice that the variable object takes the following values respectively: “The Oboe”, “The Flute”, “The Horn”, “The Harpsichord”, “The Piano”, “The Trumpet”, “The Organ”, “The Cello”, “The Guitar” and “The Violin”.

Do not forget to click the **Display field contents** button to view the variable values.

To create the variable image ”Picture”:

1 Select Picture located within the **Database** branch of the **Document Browser**.

2 Drag and drop Picture into the document.

A context menu appears.

3 Choose **Image**.

The image appears on the screen.

4 Select it and choose **Properties** from the context menu.

5 Click on the **Options** tab.

6 Check the **Other folder** option and select the folder .\TUTORIAL\IMAGES, then click on OK in the **Image** dialog box.

7 Select the image and position it towards the top of the document. Readjust its size if necessary.

To create the variable object “N°”:

1 Select the **Text generation** tool, then select the N_ variable located within the **Document Browser Database** branch.

2 Keeping the variable selected, drag it into the label and drop it next to the ”Volume:” text.

3 Save your document.

To concatenate variables :

In order to finish the sleeve we need to create the variable objects by associating them with the variables Track1 through Track15.

Using the method outlined above, associating each of the 15 variables to an object, thus creating 15 variable objects.

To save time, and to facilitate data management later, we will just create one variable object containing all the data we need.

To do this, we are going to use the **Formula** variable, creating an expression which is the concatenation of all variables: Track1 through Track15.

1 Select **Formula** in the **Document Browser Data** Sources tab, then choose **Add**... in the context menu.

A Formula0 variable is automatically created.

2 Select it and double click.

The **Formula** dialog box appears.

3 Select **Variables** from the list of different elements that can be included in the formula.

You will notice that Variables contains all the variables available in you application for the current label:
- the application control variables (see NO TAG) ;
- plus the variables you have just created by merging the document with the Volmusic.mdb database.

We now need to concatenate the variables Track1 through Track15. In order to obtain an organized display, we will also insert text strings containing the track number followed by a full stop and a space into the formula.
(example: “1. “).

4 Enter the expression: ”1. ”& track1 & ” - 2. ”& track2 & ” - 3.”&track3 &” - 4. ”& track4 & ” - 5. ”& track5 & ” - 6. ”& track6 & ” - 7. ”& track7 & ” - 8. ”& track8 & ” - 9. ”& track9 & ” - 10. ”& track10 & ” - 11. ”& track11 &” - 12. ”& track12 & ” - 13. ”& track13 &” - 14. ”& track14 & ” - 15. ”& track15

5 Click on OK.

6 Name it ”Tracks”.

We now need to associate the Tracks formula variable to a Text object so that it can appear in the label.

To create a variable Text object:

1 Select the **Text generation** tool, then the Tracks formula variable.

2 Drag the formula into the label and drop it below the Instrument variable.

If you want to view the content of the variable, do not forget to select the **Value view mode**.
Moreover, if the variable value is truncated, check the display settings in the **Output** tab of the variable’s dialog box. Enter 255 in the Maximum length box.
Finally, to make a paragraph of several lines, check the **Wordwrap** option (**Paragraph** tab of the **Text** dialog box) and adjust the size so that it fits nicely into the lower half of the sleeve.

3 Save your document.

Creating the Table lookup

The **Table lookup** variable allows you to search for specific data in a database or table other than the one merged with the current label.

It may be, for example, that certain object properties are stored in another database. Storing data in different databases or tables makes them lighter and easier to work with, avoiding data repetition.

In our example, it happens that the Volmusic.mdb database only contains part of the data we need. In order to complete the sleeve, we need the following information: Conducted by:

This information is stored in a second Access database called CndtedBy.mdb. This database contains the name of the conductor who directed the recording of each volume.

To create the Table lookup variable:

1 Select **Table lookup** in the Document **Browser Data Sources** tab, then click with the right mouse button and choose **Add**...

Within the **Table lookup** branch, a sub-branch is automatically created specifying the name of the data source.
In this way, as many sub-branches are created as there are **Table lookup** variables with result fields originating from different databases.

2 Double-click on the sub-branch.

The **Table lookup** dialog box appears on the screen.

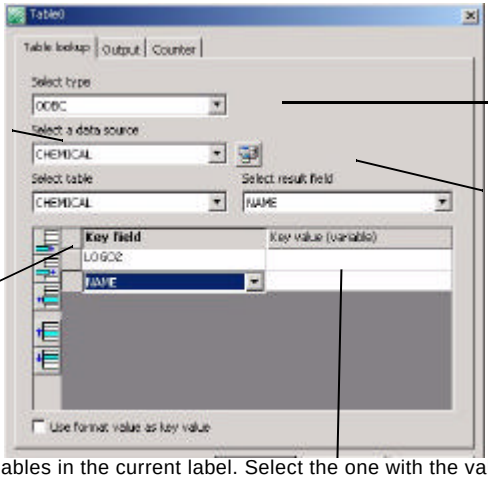
3 Connect the CndtedBy.mdb database using the **ODBC data source administrator**.

4 Once the connection has been made, select the name of the data source in the **Select a data source** list in the **Table lookup** dialog box.

5 Complete the different fields as shown in the figure below.

Allows you to select the table that contains the data you are looking for

Allows you to search for the data by selecting the field in the external table in which the search will be carried out



Allows you to connect to another data

Allows you to select the field in the table that contains the data you are looking for

Lists all the variables in the current label. Select the one with the value that will allow the result field to be displayed. In our example the key value is the volume number: N°. This information is also stored in the CNDTEDBY.MDB database and corresponds to the name of the conductor.

Figure 25 Creating a Table lookup

6 Once the dialog box has been completed, click on OK.

7 Select the **Table lookup** variable that you have just created, then click on it once to select the default name and enter Name.

8 Select the **Text generation** tool, then, keeping the Name Table lookup variable selected, drag and drop it under the ”Conducted by” text.

9 Save your document.

To sum up...

What is a variable ?	A variable is a non-physical object, the value of which advances as printing progresses. There are different types of variables. The value of a variable depends on the type of data source.
What are the different types of variable ?	There are eight different types of variables: - Database - Table lookup; - Formula; - Counter; - Date ; - Form ; - Free. - Shared.
Which data sources can feed these variables?	- The **Database** variable is fed by the data contained in a field of the database merged with the current label. - The **Table lookup** variable is fed by the data contained in a field of a data source other than the one merged with the current label. - The **Formula** variable is fed by the result of an expression that can contain variables, constants, and so on (see NO TAG, appendix 1 – Formulas). - The **Counter** variable is fed by the result of a calculation carried out by the computer or the printer. - The **Date** variable is fed by the system date of your computer or printer. - The **Form** variable is fed by keyboard input.
What is a variable object?	A variable object is a variable that takes on a physical appearance, whether text, an image or a barcode.

Practical Workshop 2 – Complex Queries and Joins

In this next sequence, we are going to look at the concept of queries and joins. To do this, we are going to create the reverse side of the CD sleeve containing the volume number, artist's name, tracks list, and track times.

To create the reverse side of the sleeve, we are going to use a third Access database that holds the supplementary information we need, i.e. the track times and the artist. This database is called VolDur.mdb and contains two tables:

- Duration
- Author

Constructing an internal join

The first step involves connecting the new label verso_00.tpl to the database VolDur.mdb.

To create the data source:

1 Open the label verso_00.tpl located in the TUTORIAL\labels folder and Go to **Data source > Databases > Create/Edit query....**

2 Create a new data source using the **ODBC data source administrator**.

3 Name the new source "Duration source".

4 Once the new source is installed, select it in the **Select a data source** list in the **ODBC query definition** dialog box.

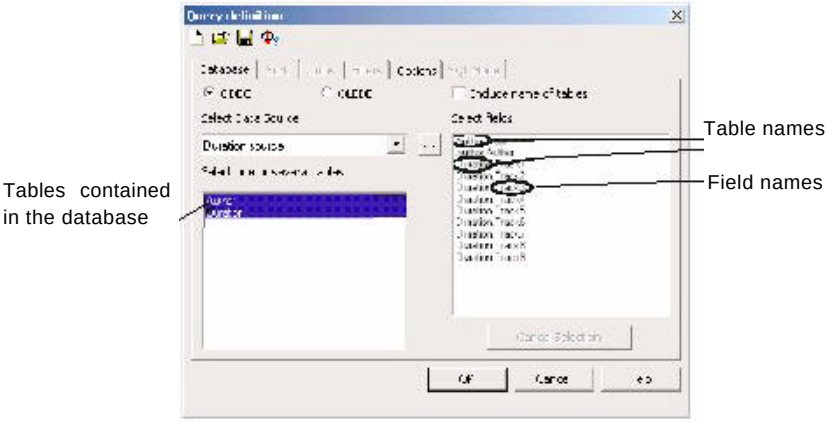


Figure 26 Selecting the Duration source data source

5 Select the two tables: Author and Duration.

All the fields contained in the two tables appear in the list on the right hand side.

6 Check the **Include name of tables** option.

This option displays the source of a given field.

7 Click on **Select all**, then on the **Joins** tab.

8 Enter the expression for defining the join as shown in the figure below.

	Table gauch	Champ	Jointure	Table droite	Champ
1	Author	Num	Interne	Duration	Num
2					

1

Author Table

No.	Author
1	Author1
2	Author2
3	Author3
4	Author4
5	Author5
6	Author6
7	Author7
8	Author8
9	Author9
10	Author10

Duration Table

Track13	Track14	Track15	No.
Duration	Duration	Duration	1
Duration	Duration	Duration	2
Duration	Duration	Duration	3
Duration	Duration	Duration	4
Duration	Duration	Duration	5
Duration	Duration	Duration	6
Duration	Duration	Duration	7
Duration	Duration	Duration	8
Duration	Duration	Duration	9
Duration	Duration	Duration	10

Joins allow a number of tables to be linked together.

Creating a join linking two tables allows you to obtain the data contained in the Author table and that in the Duration table at the same time.

2

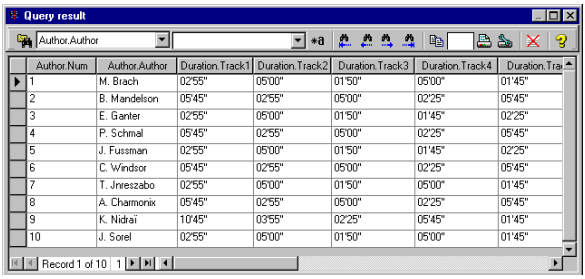
To display the result of the query, click on

Query result

Track13	Track14	Track15	No.	Author
Duration	Duration	Duration	1	Author1
Duration	Duration	Duration	2	Author2
Duration	Duration	Duration	3	Author3
Duration	Duration	Duration	4	Author4
Duration	Duration	Duration	5	Author5
Duration	Duration	Duration	6	Author6
Duration	Duration	Duration	7	Author7
Duration	Duration	Duration	8	Author8
Duration	Duration	Duration	9	Author9
Duration	Duration	Duration	10	Author10

Figure 27 Constructing an internal join

9 Once you have displayed the result of the query (see below), close the Query result grid, then click on OK in the ODBC query definition dialog box.



Author.Num	Author.Author	Duration.Track1	Duration.Track2	Duration.Track3	Duration.Track4	Duration.Tra
1	M. Brach	02'55"	05'00"	01'50"	05'00"	01'45"
2	B. Mandelson	05'45"	02'55"	05'00"	02'25"	05'45"
3	E. Ganter	02'55"	05'00"	01'50"	01'45"	02'25"
4	P. Schmal	05'45"	02'55"	05'00"	02'25"	05'45"
5	J. Fussman	02'55"	05'00"	01'50"	01'45"	02'25"
6	C. Windsor	05'45"	02'55"	05'00"	02'25"	05'45"
7	T. Jnreszabo	02'55"	05'00"	01'50"	05'00"	01'45"
8	A. Charmonix	05'45"	02'55"	05'00"	02'25"	05'45"
9	K. Nidrai	10'45"	03'55"	02'25"	05'45"	01'45"
10	J. Sorel	02'55"	05'00"	01'50"	05'00"	01'45"

Figure 28 The Query result grid

The **Database** branch now displays the 18 variables created.

10 Save your document and the query, naming it, for example, VolDur.csq.

Inserting variables resulting from a query

In this next sequence, we are going to insert the variables into the label. We could associate each track length variable with a **Text** object, but that would be time-consuming and laborious. As in the previous exercise, we are going to create a formula concatenating the **Duration** variables.

To concatenate the variables:

1 Select Formula in the Document Browser Data Sources tab, then choose Add... in the context menu.

A Formula0 variable is automatically created.

2 Select it and double click.

3 Select Variables from the list of different elements that can be included in the formula.

4 Enter the following expression where /n stands for

carriage return:
“Duration.Track1&”\n”&Duration.Track2&”\n” &Duration.Track3&”\n”& Duration.Track4&”\n”&Duration. Track5&”\n”& Duration. Track6&”\n”& Duration.Track7&”\n”& Duration. Track8&”\n”& Duration.Track9&”\n”& Duration.Track10&”\n”& Duration.Track11&”\n”& Duration. Track12&”\n”& Duration.Track13&”\n”& Duration.Track14&”\n”& Duration. Track15”

5 Name the variable ”TrackDuration”.

We now need to associate the TrackDuration formula variable with a Text object to include it on the label.

To create a variable Text object:

1 Select the Text generation tool, then, keeping the TrackDuration formula variable selected, drag and drop it into the document.

2 Save your document.

If the value of the variable is truncated, check the output settings. The maximum length probably needs adjusting.

Inserting the titles using the Table lookup variable

To complete the reverse side of the sleeve, we now need to insert the titles of the different tracks opposite their respective track lengths.

To insert the titles:

1 Create a Table lookup variable in the Document Browser, and name it Track1.

2 Complete the dialog box with the following data:
- Select a data source: Classical music source;
- Select table: Volumes;
- Select result field: Track1;
- Key field : N ;
- Key value (variable): Author.Num.

3 Repeat the above procedure to create all 15 Table lookup variables, remembering to select the corresponding Result field: Track1 for the Track1 variable, Track2 for the Track2 variable, and so on.

You will by now have noticed that the Table lookup variables are classified according to their source. A sub-branch is automatically created and is named after the table the data was extracted from. When you need to create a number of variables using data from the same source, add them directly to the corresponding sub-branch. In this way, the properties dialog box will be pre-configured—you will not need to specify the data source or the table each time.

4 Once all the variables are created, save your document.

To create the concatenation formula

In the same way as for the data for the track lengths, we are going to create a formula associating the data for the track titles by inserting the carriage return function to produce the same display format as last time.

1 Create a second formula and name it ”TrackTitle”.

2 Enter the expression:
Track1&”\n”&Track2&”\n” &Track3&”\n”& Track4&”\n”& Track5&”\n”& Track6&”\n”&Track7&”\n”& Track8&”\n”& Track9&”\n”&Track10&”\n”& Track11&”\n”&Track12&”\n”& Track13&”\n”&Track14&”\n”& Track15”

3 Click on OK.

4 Select the Text generation tool, then drag and drop the TrackTitle formula next to the TrackDuration formula.

Use the alignment tools to correctly position the data within your document.
Select the two formulas and choose Object Alignment Top.
Once the data is perfectly aligned, lock its position: Object Lock / Unlock.
If the data does not fit within your document, you will need to modify the text properties. For example, choose Arial 10 point.

To finish off the document

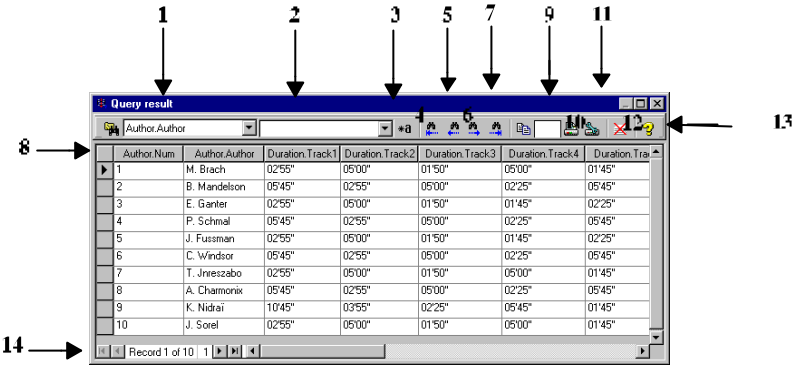
All that remains now is to insert the volume number and artist.

1 Select the **Text generation** tool, then the **Author.Num Database** variable. Drag and drop it next to the ”Volume:” text.

2 Repeat the above operation to position the artist’s name next to the ”Author:” text.

Practical Workshop 3 - The Query Result grid

The Query result grid allows you to view the result of a query, search for a particular term or all occurrences, and print the required records.



Search functions:

1 *Search field*

2 *Search value*

3 *Search any part of the data field*

Moving between occurrences of the search results :

4 *First occurrence*

5 *Previous occurrence*

6 *Next occurrence*

7 *Last occurrence*

Printing:

8 *Enter the number of labels in the series to be printed.*

9 *Select the row(s) you wish to print, and enter the number of label copies to be printed for these record(s).*

10 *Print*

11 *Printer setup*

12 *Reset all print quantities defined in the first column*

13 *Help*

Figure 29 The Query Result Grid

CHAPTER 9

Appendix 3 – Counters

Numbering your documents

The **Counter** variable is integrated into your label design software. The flexibility of the counter variable makes it suitable for a number of different applications such as counting a series of labels or totalling the number of labels printing in a day.

You can use this variable to create ascending, descending, linked and shared counters.

This section is complemented with numerous examples allowing you to review some of the options available when working with counters. The examples entitled Practical Workshop are set at different levels of difficulty, the level indicated by one of the following icons:

	Very easy
	Easy
	Difficult

Creating a counter

The content of a **Counter** variable advances from one label to the next during printing, according to an initial value and an increment value.

The **Counter** variable dialog box is used to define the attributes of the **Counter** variable.

To create a counter:

1 Select **Counter** in the **Document Browser Data Sources** tab.

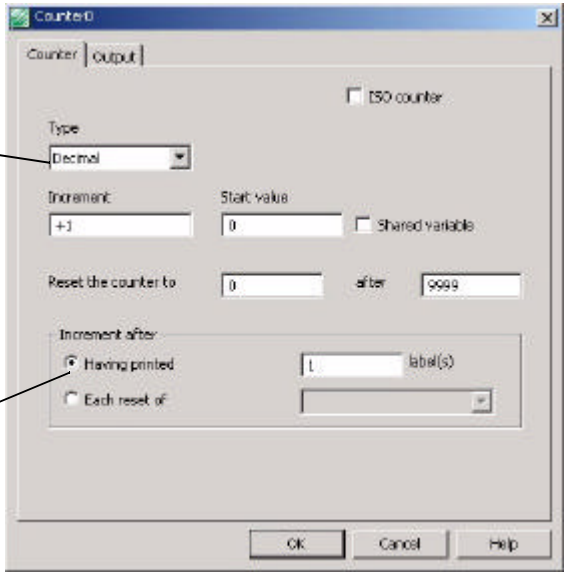
2 Choose **Add...** in the context menu.

3 Double-click on the counter thus created.

The **Counter** dialog box appears.

Offers a list of six counting bases, plus a Customer option: Binary, Octal, Decimal, Hexadecimal, Alphabetical, Alphanumeric

Allows each label copy to be individually and exhaustively numbered



Allows the event that triggers the counter increment to be determined

Figure 30 The Counter dialog box

The dialog box comprises two tabs:

The **Counter** tab allows you to define the type of counter and its characteristics (see **Online Help**, **Counter** Tab);

The **Output** tab allows you to format the final output of the variable for display in your document (see **Online Help**, **Output** Tab).

Practical Workshop 1 – Counter for a Series of Labels

In this sequence, we are going to create a label containing a counter dedicated to counting labels in a series. The number of labels in the series is fixed.

Numbering labels in a serie

To create a numbering system for a label series:

1 Open a new document and name it SERIALCT.TPL.

2 Select **Counter** in the **Document Browser Data Sources** tab.

3 Choose **Add**... in the context menu.

The **Counter** variable dialog box appears (see Figure 29).

4 Complete the dialog box with the following values:
- **Type**: Decimal;
- **Increment**: +1;
- **Start value**: 1;
- **Reset the counter to**: 1;
- **After**: 10.

5 Click on the **Output** tab and enter ”Label” as the prefix.

6 Click on OK and name the variable LABELNUM.

7 Select the **Text generation** tool then drag and drop the LABELNUM variable into the lower right-hand corner of your document.

Do not forget to select the **Content display mode** in order to view the counter value.

You have now finished creating a counter that will number labels in a series. For the sake of our example, let us suppose that the series contains ten labels.

Total number of labels in the series

We now need to create a variable that will display the total number of labels in the series for each label in the series. To do this we are going to use one of the application control variables.

To insert the total number of labels:

1 Select Formula in the **Document Browser Data Sources** tab.

2 Choose **Add...** in the context menu.

3 Double-click on the formula thus created.

4 Insert the @SERIALQTY control variable, situated under Variables.

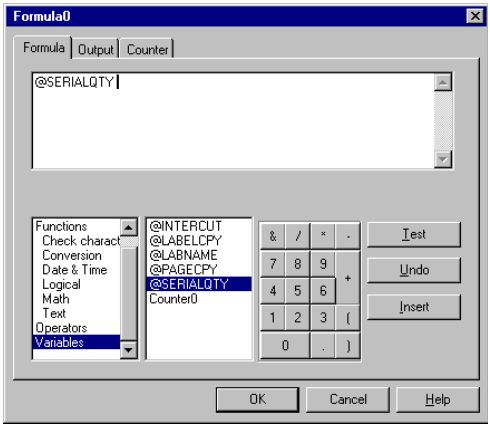


Figure 31 Using a control variable in a formula

5 Click on OK and name the formula TOTALLABEL.

6 Select the **Text generation** tool, then drag and drop the formula next to the LABELNUM counter.

You will notice that the value of LABELNUM is 1 while it should display 10, since the series contains 10 labels. This is because the variable will not be updated until printing starts. Setting the number of variables in the series is carried out using the **Print** dialog box.

To print:

1 Choose **File Print**... or click on or press the F6 key.

2 Enter 10 in the **Labels in the series** box, then launch printing.

Note

This label has been created for an office printer using a Windows™ driver. The page setup has been configured accordingly :
- format: A4;
- label size: 80/50;
- per row: 2;
- per column: 5.
The page has been deliberately set up to display all ten labels on the same page.

Practical Workshop 2 – Customized counter

In this sequence we are going to create a label containing a counter, the counting base of which will be set by the user.

Creating a customized counter

To create a customized counter:

1 Open a new document and create a **Counter** variable.

2 Complete the Counter variable dialog box with the following values:
-**Type**: Custom;
- **Customized sequen**ce: A1B2C3D4E5;
Start value: A;
Reset the counter to: A;
- **After**: 5.

3 Click on OK and name the counter ”Customize”.

4 Select the **Text generation** tool, then drag and drop the counter into your document.

The customized sequence must not contain repeated characters or spaces.

To print:

1 Choose **File Print...** or click on the button or press the F6 key.

2 Enter 10 in the **Labels in the series** box, then launch printing.

The result obtained will be as follows:

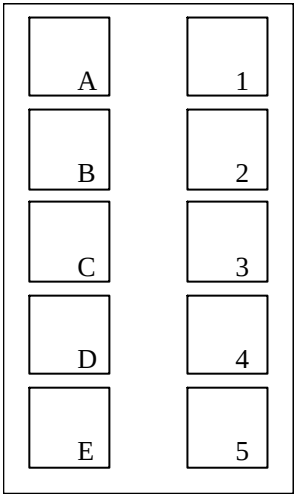
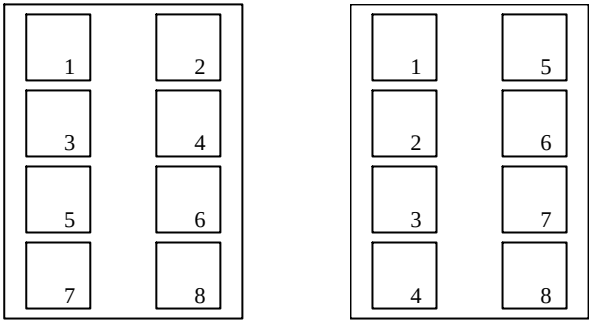


Figure 32 Customized counter

Practical Workshop 3 – Linked Counters

By combining several counters, you can create totally customized numbering systems. In this sequence you are going to create a label numbering system different than the one offered by default. Instead of numbering labels from left to right (across the row of labels contained in the page), numbering will be carried out from bottom to top, i.e. up the column of labels contained in the page..



Classical counter: num bering from left to right.

Linked counter: num bering from top to bot tom.

Figure 33 Example of complex numbering

Creating a combined counter

The trick here is to distinguish between the left and right columns. One counter must be created to number the left column, a second to number the right column. Conditions are verified by a third counter, which is binary. If necessary, a fourth and final counter may be employed to number the following pages.

To create intermediate counters:

1 Open the toptolow.tpl label located in the tutorial\labels folder of your application.

2 Using the **Document Browser**, add a counter and name it LEFT. Complete the dialog box with the following values:
- **Type**: Decimal;
- **Increment**: +1;
- **Start value**: 1;
- **Reset the counter to**: 1 after 4;
- **Increment after having printed** 2 label(s).

3 Add a second counter and name it RIGHT. Complete the dialog box with the following values:
- **Type**: Decimal;
- **Increment**: +1;
- **Start value**: 5;

- **Reset the counter** to: 5 after 8;
- **Increment after having printed** 2 label(s).

4 Add a third counter and name it PAGE. Complete the dialog box with the following values:
- **Type**: Decimal;
- **Increment**: +1;
- **Start value**: 0;
- **Reset the counter to**: 0 after 9999;
- **Increment after having printed** 8 label(s).

5 Add a fourth counter and name it TEST. Complete the dialog box with the following values:
- **Type**: Decimal;
- **Increment**: +1;
- **Start value**: 1;
- **Reset the counter to**: 1 after 2;
- **Increment after having printed** 1 label(s).

All the counters required for the numbering system have now been created. We now need to combine them in a formula.

To combine counters:

1 Using the **Document Browser**, add a formula and name it Number. Enter the following expression:
if (TEST = 1, LEFT, RIGHT) + PAGE*8

2 Insert the NUMBER formula into your label.

3 Choose **File Print...** or click on the button or press the F6 key.

4 Enter ”16” in the **Labels in the series** box, then launch printing.

The printed document should look like this:

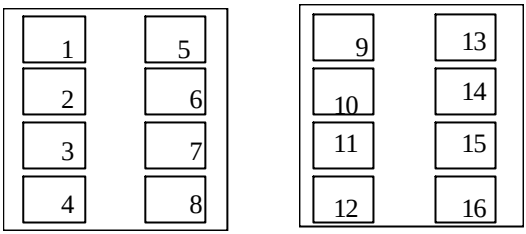


Figure 34 The printed output

Practical Workshop 4 – Determining the Total Number of Labels in a Subseries

Let us suppose that you wish to print a completely random number of labels that must be classed into subseries, each containing a maximum of 40 labels. Given that the number of labels is random, the counter must also be able to determine a subseries of less than 40 labels and, if need be, to determine the total number of labels in this subseries.

For example, if you print 63 labels the first 40 will be numbered up to 40, the last 23 will make up a series of 23 and will be numbered as such.

Creating the label counter

1 Open a new document and name it pack.tpl.

2 Using the **Document Browser**, select **Free**. Add a variable and name it LABELNUM. Complete the dialog box with the following values:
Input tab:
- **Local**: 1;
Restore after printing: yes.
Counter tab:
- **Counter**: check;
- **Type**: Decimal;
- **Increment**: +1;
- **Start value**: 1;
- **Reset the counter to**: 1 after 40;
- **Increment after having printed** 1 label(s).

3 Select the **Text generation** tool, then drag and drop the LABELNUM counter into the lower left-hand corner of your document.

Why use a Free variable as a Counter?
At first sight, it would seem logical to create a counter. However, counter properties are limited and, in particular, do not offer a Restore after printing option. In our example, it is important to include this function so that we can launch successive print jobs without having to manually reset the counters to their initial values.

4 Repeating the preceding operations, create a second counter using the **Free** data source, and name it SUBRANGE.

5 Complete the dialog box with the following information:
Input tab:
- **Local**: 0;
Restore after printing: yes.
Counter tab:
- **Counter**: check;
- **Type**: Decimal;
- **Increment**: +40;
- **Start value**: 0;
- **Reset the counter to**: 1 after 9999;
- **Increment after having printed** 40 label(s).

6 Using the **Formula** branch of the **Document Browser**, add a variable and name it TOTAL. Complete the box with the following expression:
if(value(@SERIALQTY- SUBRANGE)>value(40), 40 ,if (value (@SERIALQTY - SUBRANGE) = 0, 40,mod(@SERIALQTY ,40))).

7 Select the **Text generation** tool, then drag and drop the TOTAL formula into the lower left-hand corner of your document.

8 Select the **Oblique line drawing** tool and draw a separator as shown below:

LABELNUM/TOTAL

Run a test for 136 labels. The counter should display three subseries out of 40 and the last out of 16.

More advanced!

There is a little trick enabling you to concatenate variables or fixed characters in the blink of an eye:

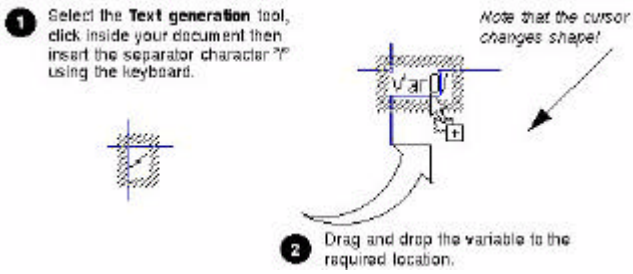


Figure 35 To concatenate variables inside a Text object

Explanation of the formula:

if(value(@SERIALQTY- SUBRANGE)>value(40), 40 ,if (value (@SERIALQTY - SUBRANGE) = 0, 40,mod(@SERIALQTY ,40)))

For example, for the 63 labels to be printed we have:

- from labels 1 to 40: 63 - 0 = 63. Since 63 is greater than 40, the result is 40. The first 40 labels are thus numbered up to 40.
- from labels 41 to 63: 63 - 40 = 23. Since 23 is less than 40, the second condition must therefore be confirmed: Does 63 - 40 equal 0? 63 - 40 is not equal to 0, therefore the value to be displayed is the result of the subtraction 63 - 40, i.e. 23. Therefore, labels 41 to 63 are numbered up to 23.

For a series of 63 labels to be printed, we thus have one subseries of 40 labels and one of 23.

CHAPTER 10

Memo

My variable displays a truncated result

If the result is truncated, check the settings in the **Output** tab of the dialog box for the variable in question. The **Maximum length** value is too low for the whole value of your variable to be displayed.

You need to create intermediate variables

Consider using the **Free** branch in the **Document Browser Data Sources** tab.

ODBC and reserved words

Warning: certain words are reserved for ODBC functions, and must not be used to name your data sources. Refer to the list of reserved words below:

ABSOLUTE	DIAGNOSTICS	JOINKEY	SCHEMA
ADA	DICTIONARY	LANGUAGE	SCROLL
ADD	DISCONNECT	LAST	SECOND
ALL	DISPLACEMENT	LEFT	SECTION
ALLOCATE	DISTINCT	LEVEL	SELECT
ALTER	DOMAIN	LIKE	SEQUENCE
AND	DOUBLE	LOCAL	SET

ANY	DROP	LOWER	SIZE
ARE	ELSE		SMALLINT
AS	END	MATCH	SOME
ASC	END-EXEC	MAX	SQL
ASSERTION	ESACPE	MIN	SQLCA
AT	EXCEPT	MINUTE	SQLCODE
AUTHORIZATION	EXCEPTION	MODULE	SQLERROR
AVG	EXEC	MONTH	SQLSTATE
BEGIN	EXECUTE	MUMPS	SQLWARNING
BETWEEN	EXISTS	NAMES	SUBSTRING
BIT	EXTERNAL	NATIONAL	SUM
BIT LENGTH	EXTRACT	NCHAR	SYSTEM
BY	FALSE	NEXT	TABLE
CASCADE	FETCH	NONE	TEMPORARY
CASCADED	FIRST	NOT	THEN
CASE	FLOAT	NULL	TIME
CAST	FOR	NULLIF	TIMESTAMP
CATALOG	FOREIGN	NUMERIC	TIMEZONE_HOUR
CHAR	FORTRAN	OCTET_LENGTH	TIMEZONE_MINUTE
CHAR_LENGTH	FOUND	OF	TO
CHARACTER	FROM	OFF	TRANSACTION
CHARACTER_LENGTH	FULL	ON	TRANSLATE
CHECK	GET	ONLY	TRANSLATION
CLOSE	GLOBAL	OPEN	TRUE
COALESCE	GOAL	OPTION	UNION

COBOL	GOTO	OR	UNIQUE
COLLATE	GRANT	ORDER	UNKNOWN
COLLATION	GROUP	OUTER	UPDATE
COLUMN	HAVING	OUTPUT	UPPER
COMMIT	HOUR	OVERLAPS	USAGE
CONNECT	IDENTITY	PARTIAL	USER
CONNECTION	IGNORE	PASCAL	USING
CONSTRAINT	IMMEDIATE	PLI	VALUE
CONSTRAINTS	IN	POSITION	VALUES
CONTINUE	INCLUDE	PRECISION	VARCHAR
CONVERT	INDEX	PREPARE	VARYING
CORRESPONDING	INDICATOR	PRESEVE	VIEW
COUNT	INITIALLY	PRIMARY	WHEN
CREATE	INNER	PRIOR	WHENEVER
CURRENT	INPUT	PRIVILEGES	WHERE
CURRENT_DATE	INSENSITIVE	PROCEDURE	WITH
CURRENT_TIME	INSERT	PUBLIC	WORK
CURRENT_TIMESTAMP	INTEGER	RESTRICT	YEAR
CURSOR	INTERSECT	REVOKE	
DATE	INTERVAL	RIGHT	
DAY	INTO	ROLLBACK	
DEALLOCATE	IS	ROWS	
DEC	ISOLATION		
DECIMAL			
DECLARE			
DEFERRABLE			

DEFERRED			
DELETE			
DESC			
DESCRIBE			
DESCRIPTOR			

Forbidden characters and variable names

The characters forbidden for naming variables are: ”{” and ”}”.
Moreover, if a formula includes a variable, the name of which contains any of the following characters:&+-*/ <>=^%,!\”, the variable name must be enclosed within the following characters: {}

Formula0: Import0 & Import1

Formula1: Import0 & {toto%titi}

MDI interface

Your label design software interface is MDI, that means you can open a number of documents at the same time.

Note

The different documents open at the same time will all share the same interface settings (grid, language, and so on). However, the selected printer, merged database and the form are specific to each one.

CHAPTER 11

Glossary

Control variables

These variables are part of your application and are used to trigger special functions when printing is launched.

@LABNAME	This variable refers to the name of the current document. The field that is given this name determines the name of the document to be loaded during an import operation.
@SERIALQTY	The field that is given this name determines the number of labels to be printed. It must be numerical.
@LABELCPY	The field that is given this name determines the number of identical labels to be printed between counter increments (if the document contains one or more counters). It must be numerical.
@PAGECPY	The field that is given this name determines the number of copies of each page to be printed. It must be numerical.
@PRINTERNAME	This variable refers to the name of the selected printer.
@PORTNAME	This variable refers to the name of the port for the selected printer.

@INTERCUT	The field that is given this name determines the number of labels to be printed between each cut. It must be numerical.

Counter variable

A Counter is a variable, the value of which advances from one label to another during printing, according to an initial value and an increment. Often used for numbering a series of labels in a print run, the counter can be calculated by the computer or the printer.

There are six calculation bases:

- Binary: base 2 calculation;
- Octal: base 8 calculation;
- Decimal: base 10 calculation;
- Hexadecimal: base 16 calculation;
- Alphabetical: base 26 calculation (A to Z);
- Alphanumeric: base 36 calculation (0 to 9 and A to Z)
- Custom: calculation base chosen by the user.

Database

A database allows you to store data. All data is organized into two-dimensional tables, called a relationship. Each row in the table is called a record. The purpose of a record is to manage an object, the properties of which are located in the different columns of the database table in the form of fields.

Database lookup variable

Database lookup variables refer to variables extracted from a database other than the one merged with the current label.

Database variable

Database variable refers to a variable extracted from the database merged with the current label.

Date variable

The Date variable allows the date and time to be automatically inserted into your document. The format can be completely modified and the value is updated by the system.

Fields

Fields are contained within a database table and allow object properties to be managed.

Form variable

The content of a Form variable is the result of keyboard input.

Formula

A formula is an equation that analyses data using a given expression. Formulas carry out operations such as addition, multiplication, comparison of values and date calculations. They can also incorporate variables, functions, operators, and so on.

Formula variable

The content of a Formula variable is the result of a calculation.

Function

Functions are ready-to-use formulas, and can be very complex. A function can be integrated into a formula.

Join

Joins allows a number of tables in the same database to be linked. There are three types of join:
- internal join;
- right join;
- left join.

ODBC

Open DataBase Connectivity is a Microsoft product that provides a system of database access. ODBC makes connecting your label design software to a certain number of databases very easy.

ODBC data source

The data source contains both the data and the associated database engine.

Record

The purpose of a record is to manage an object, the properties of which are located in the different columns in the database table in the form of fields.

RFID

Shared variable

A shared variable is a variable that can be used in other documents.

Unicode

Variable

A variable is a non-physical object, the value of which can

vary. A variable can belong to different data sources:
- Database;
- Table lookup;
- Formula ;
- Counter ;
- Date ;
- Form.

Variable object

A variable object is a variable that takes on a physical appearance, either text, a barcode or an image.

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