



# **ZebraDesigner™ Pro**

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## **User Guide**



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# Introduction

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## Welcome

ZebraDesigner software is a family of labeling software products that brings a complete bar code printing solution to desktop users. ZebraDesigner offers an easy-to-use interface and meets any label design and printing requirement for efficient label printing solutions to users in retail, logistics, health care, chemical, automotive, and other industries.

ZebraDesigner can be used with any 32-bit Windows® operating system: Windows 98 SE, Windows NT 4.0, Windows ME, Windows 2000, Windows XP, and Windows Server 2003.

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## Contents of the package

Before starting the installation of ZebraDesigner software, check the contents of the package to ensure it is complete. The package includes:

- ZebraDesigner CD
- Software key on a sticker or hardware key (not available with all editions)

If any of the mentioned items are missing, please contact your software vendor immediately for package replacement.

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## About this Manual

### About this Manual

The ZebraDesigner Pro User Guide helps you design and print labels quickly.

The User Guide contains the following sections:

**Introduction:** This chapter will introduce you to ZebraDesigner Pro.

**Installation and Activation:** This chapter will show you how to install and activate the labeling software.

**Setting up ZebraDesigner software:** This chapter will show you how to set up and customize software to your preferences.

**Designing Labels:** This chapter will show you how to create labels. You should refer to this chapter regularly while designing labels, until you have completely familiarized yourself with the commands. By using the information contained in this chapter, you will be able to use labeling software quickly and efficiently.

**Printing and Previewing Labels:** This chapter will show you how to print and preview labels.

**Interface Reference:** This chapter describes details and explains all the commands used in the labeling software.

**Technical Support:** This chapter provides information on how to contact technical support.

## Software Restrictions

All features explained in the document are available in the ZebraDesigner Pro edition; however, some features are not available in the ZebraDesigner edition.

Sections discussing features not available with ZebraDesigner Pro will display a note.

## Typographical Conventions

- Text that appears in **bold** refers to menu names, file names (**SETUP.EXE**), interface buttons (**OK**), PC keyboard keys (**Alt**), and menu flows; menu flows have a > that separates one menu to the next menu (**Start > Programs > ZebraDesigner Pro**).
- Text that appears in *italic* refers to confirming actions, identifies graphic captions, identifies text that you need to type, and locations such as Folder.
- This icon identifies the features that are only available in ZebraDesigner Pro.



# Installation and Activation

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## System and Software Requirements

### ZebraDesigner Editions

To run ZebraDesigner, you need at least the following:

- Pentium-based computer with at least 64 MB of RAM.
- One of these 32-bit Windows operating systems: Microsoft® Windows® 98 SE, ME, NT, 2000, XP, or 2003.
- Hard disk with 100 MB of free disk space.
- CD-ROM drive.
- Support for OLE DB database drivers. Recent Windows operating systems have included OLE DB database drivers. If your operation system does not have the database support, the installation wizard prompts you to install it.
- Administrator rights to the local computer during installation.

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## Installing Software

### Install ZebraDesigner Pro

When you put the ZebraDesigner Pro CD in your CD-ROM drive, the installation/demonstration program automatically starts. You can browse the directory of the CD and look at the brochures, technical documentation, sample files, and other documents.

**Note:** If you are using Windows NT, 2000, XP, or 2003, you have to log on with Administrator rights perform installation.

## Run Installation

Use the installation wizard to install ZebraDesigner Pro on your desktop PC.

To install the software, do the following:

1. Put the ZebraDesigner Pro CD in your CD-ROM drive. An installation window automatically opens.

**Note:** If the installation wizard does not start automatically, go to the main CD directory of your ZebraDesigner Pro CD and double-click the file **START.EXE**.

2. Click **Install**. A new window opens showing all ZebraDesigner editions
3. Click on the version of ZebraDesigner that you want to install, and follow the prompts.

## Close All Software Applications

To ensure complete installation of ZebraDesigner Pro, close all open software applications before you start installing ZebraDesigner Pro.

## Define Setup Options

To continue installation, do the following:

1. Click the **Next** button.
2. Specify the program group you want to use for ZebraDesigner Pro.
3. Specify if shortcuts to ZebraDesigner Pro should be created on the desktop or in the Quick Launch area.
4. To finish installation, click the **Install** button.

After installation you will be asked to install a printer driver. It is necessary to install a ZebraDesigner driver. If you do not install a printer driver while installing the software, you will be asked to install one the first time you run the program.

5. Once the installation is complete, the **Start** menu in Windows shows a new program group for ZebraDesigner Pro that contains shortcuts for all ZebraDesigner Pro applications.

## Install Printer Driver

To install the ZebraDesigner printer driver on your computer, do the following:

1. Click **Start > Programs > ZebraDesigner Pro**.
2. In the group ZebraDesigner Pro, click the shortcut **Add printer**.
3. The printer installation wizard starts.
4. Follow the onscreen instructions.



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## Register ZebraDesigner Pro

Activate ZebraDesigner Pro to obtain all features. If you do not complete the activation process, ZebraDesigner Pro only runs in DEMO mode.

**Note:** ZebraDesigner does not require registration. It is free software, but available with less functionality than ZebraDesigner Pro.

To register the software, do the following:

1. Start ZebraDesigner Pro.  
The *DEMO* dialog box appears.
2. Click the **Register** button.
3. Enter the required information and follow the prompts.

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## Demo Mode

ZebraDesigner Pro running in the *DEMO* mode has limited functionality. The major limitations of the ZebraDesigner Pro *DEMO* mode are:

- All *e* characters in the text objects are replaced by *Z* characters.
- Graphic images are printed with *DEMO* text written over them

You should use the *DEMO* version only to evaluate the software. Any commercial use of the DEMO software is prohibited. To obtain the full working version of ZebraDesigner Pro, you must purchase and register the software.

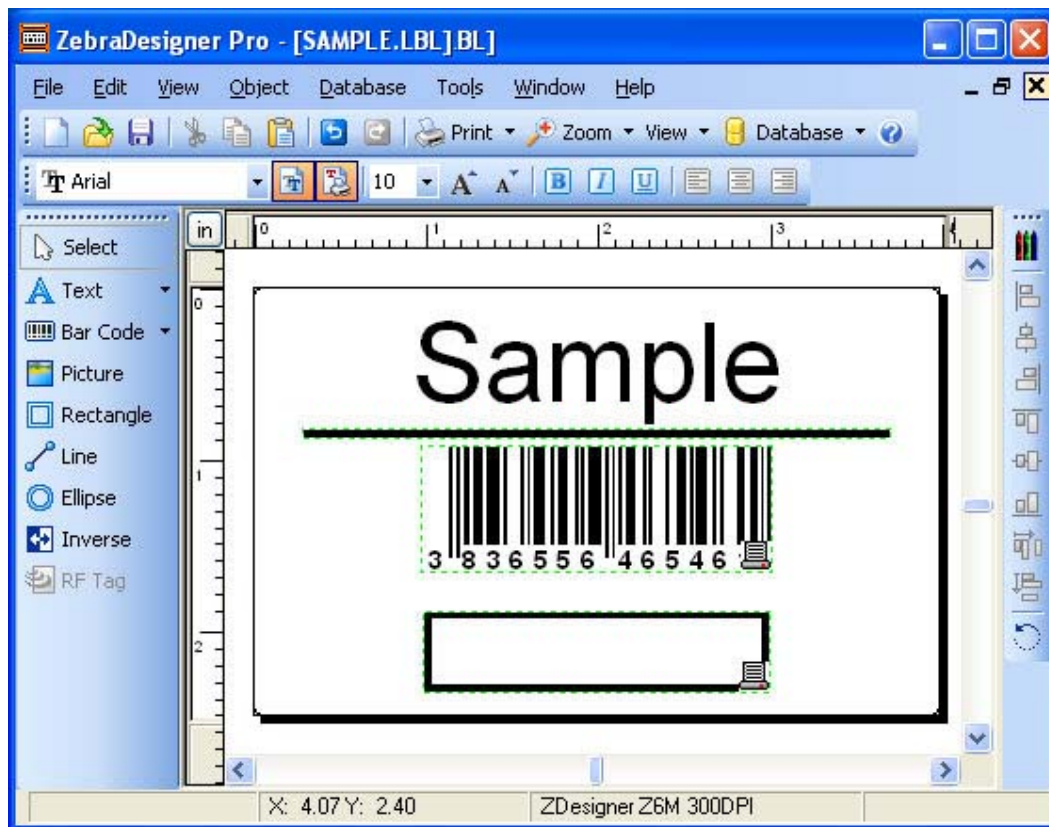
# Setting Up ZebraDesigner Software

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## User Interface

### Main Window

This is the ZebraDesigner Pro main window.



### Mouse Wheel support

If you have a mouse that has a wheel in place of the middle button, you can use it to speedup zooming and scrolling:

- Turning the wheel scrolls the label up or down.
- Holding **Shift** and turning the wheel scrolls the label left or right.
- Holding **Ctrl** and turning the wheel zooms the label in or out.

**Shortcuts**

<b>Delete</b>	Deletes selected object
<b>Ctrl + X</b>	Cut
<b>Ctrl + C</b>	Copy
<b>Ctrl + V</b>	Paste
<b>Alt + Backspace</b>	Undo
<b>+ (on numeric pad)</b>	Zoom In
<b>- (on numeric pad)</b>	Zoom Out
<b>Alt + Shift + Backspace</b>	Redo
<b>Ctrl + T</b>	Rotate 90°
<b>Ctrl + A</b>	Align
<b>Ctrl + Z</b>	Undo
<b>Ctrl + Y</b>	Redo
<b>Ctrl + N</b>	New
<b>Ctrl + O</b>	Open
<b>Ctrl + S</b>	Save
<b>Ctrl + P</b>	Print
<b>Ctrl + R</b>	Print preview
<b>Ctrl + move the object with mouse</b>	Parallel moving of the object by main axes only
<b>Alt + move the object with mouse</b>	Objects snap to grid even if it is off
<b>Ctrl + move the object with cursor keys</b>	Fine tuning the position of the object
<b>Shift + cursor keys</b>	Fine tuning the dimensions of the object, resize width and height in very small steps
<b>Right-clicking the object</b>	Opens pop-up menu with shortcuts to commands. The content of the pop-up menu depends on where you clicked your mouse button and what was selected at that time
<b>Enter F2 or double-click</b>	Opens properties dialog box of the selected element

## Using the Keyboard and Mouse Effectively

When selecting objects, you can use the **Ctrl** key to adjust object's anchoring point by clicking the object placeholders.

If you have a Wheel Mouse, you can use the wheel to scroll the label up and down. Holding **Ctrl** when rotating the wheel adjusts zoom factor, and **Shift** scrolls the label left or right.

Double-click on printer's name in status bar to open printer properties dialog box in which you can set various options for currently selected printer. If you hold **Ctrl** while double-clicking, the printer setup dialog box is opens, and you can select a different printer.

You can quickly move objects from one open label to another by dragging the desired object to another window while holding **Alt**. If you want to copy objects instead, hold both **Alt** and **Ctrl**. Note that you must have both label windows visible to do that.

You can select different objects on a label using the **Tab** and **Shift +Tab** keys.

Pressing the cursor keys while holding the **Ctrl** key can move the selected object. You can use this to fine-tune the position of the object. Holding **Shift** while pressing cursor keys will resize the object.

You can use the right mouse button almost anywhere on the label to access the most common options for that area/object. For example, if you click an object with the right mouse button, a pop-up menu appears that contains options and actions that can be performed on the selected object. Similarly clicking other parts of the label produces pop-up menus with options for that part of the label.

You can select multiple objects by holding **Shift** while clicking them.

Use the element shortcuts in toolbars whenever possible. Each label element that can be connected to some Contents Provider has a shortcut enabled to quickly access existing variables or define new ones. Click the element's shortcut handle, shown as a small arrow by the side of some toolbox icons.

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## System folder

The labeling application uses its system folder for storing files needed to run the program. The location of the folder varies depending on the Windows operating system used.

On Windows 9X and Me, the location is **C:\Program Files\ZebraDesigner Pro\Bin\System**. On Windows NT, 2000, XP, the location is **C:\Documents and Settings\All Users\Application Data\Zebra\ZebraDesigner Pro**.

It is important to own **the write access** to this folder on your computer system and the right to write to and modify files in this folder.

In these files, user data and user rights are stored, as well as custom settings, variable trace logs, label usage logs, variable definition files **\*.NVR**, bar code standards, and file names **GLOBALS.TDB**. It also stores the values of global variables.

You should design the appropriate folder layout on disk for your label projects. You can increase your work efficiency if you always know where certain types of files are stored. The application also finds required elements faster this way. This is important with more demanding labels, which intensively use databases, pictures, and forms. Make a separate folder for each project you are building, e.g. Project1. Beneath this folder make subfolders Database (for databases), Forms (for forms) and Labels (for labels). Store appropriate files in each of these subfolders.

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## Welcome Wizard

When you start the labeling software, a Welcome Wizard will appear. It provides a quick access to most-used commands when starting working on a label layout.

<b>Create a new label</b>	A blank label will appear and Label Setup Wizard will start. You can then design a new label from a scratch.
<b>Open recently used label</b>	A list of recently used labels will appear to provide a quick access to commonly used labels.
<b>Open some other existing label</b>	A common Windows dialog box opens to let you browse for the appropriate label file.

# Designing Labels

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## Using Label Setup Wizard

### Use Label Setup Wizard

With the Label Setup Wizard you can define the dimensions of the label and change printer setup. It consists of a few simple steps.

### Select a Printer



*Label setup Wizard - Selecting printer*

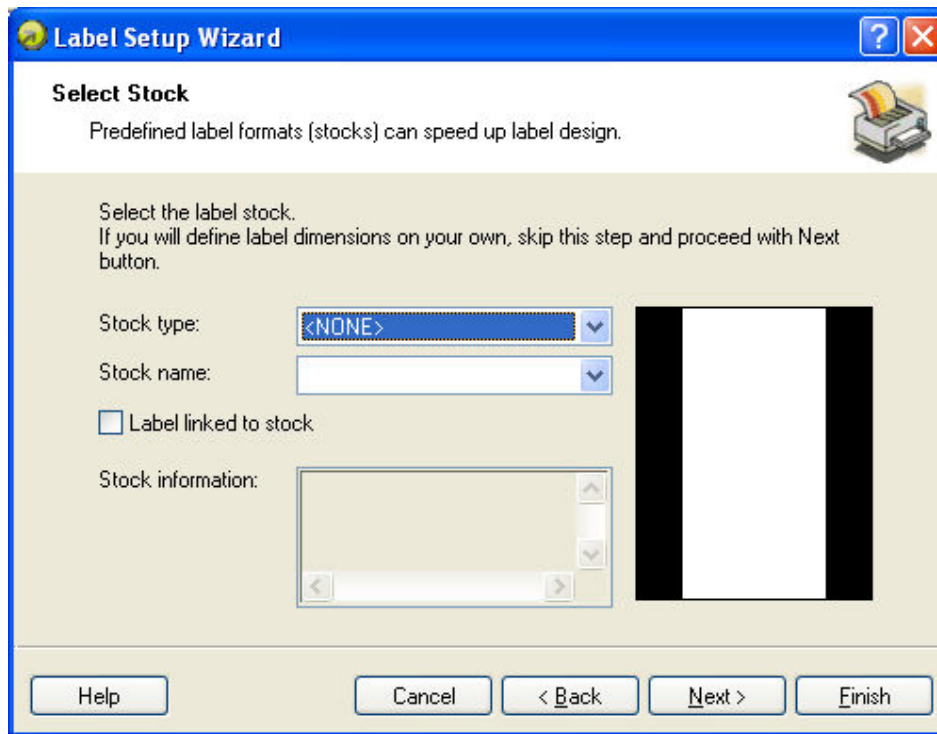
If you want to set the printer parameters, select the desired printer, and click the **Properties** button. The print setup dialog box appears, allowing you to set the printer parameters such as print speed, print darkness, and print direction.

**Note** that this is a standard Windows printer setup dialog box and its options may differ from printer to printer because it is based on the printer driver.

If the check box **Always use default printer** is checked, the default window's printer and its settings will always be used when opening this label.

To continue, click the **Next** button.

## Select the Label Stock



*Label setup Wizard - selecting Label Stock*

If you use one of the standard predefined label formats, you can specify it here.

**Stock Type:** Select the type of stock.

**Stock name:** Select the stock from the list.

**Stock information:** The information about label dimensions, printer settings, and background images as defined by the selected stock.

**Label linked to stock:** If you enable this option, you cannot change the dimensions of the label, because the stock locks the dimensions.

**Note:** Using pre-defined stocks simplifies the process of label creation because you do not have to define the label dimensions manually.

To continue, click the **Next** button.

## Define the Page Size



### *Label setup Wizard - choosing Label Dimensions*

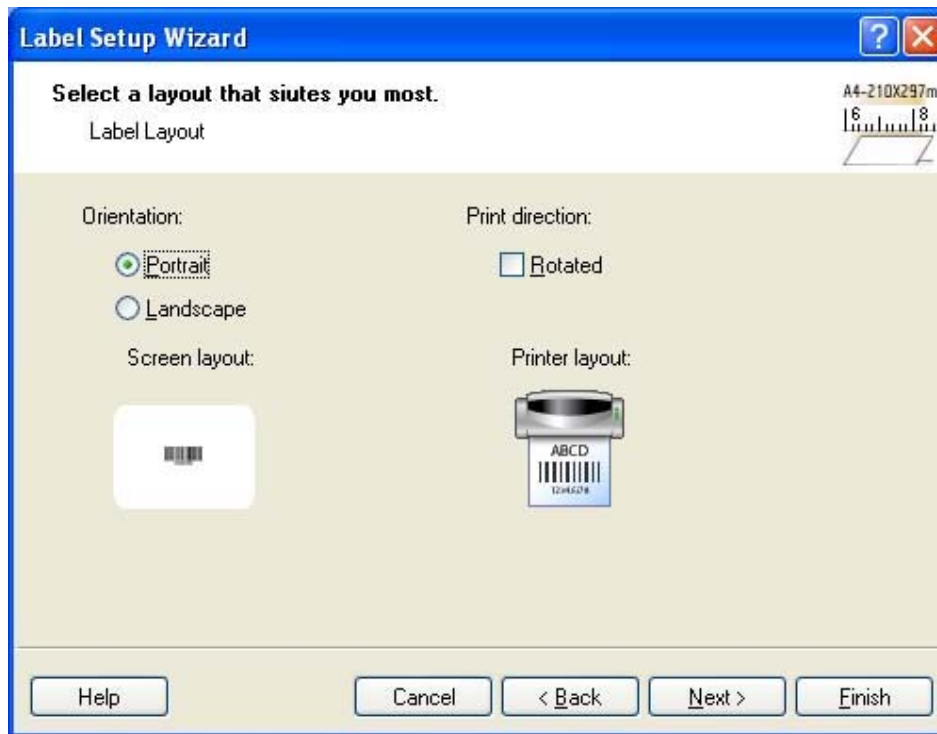
Select the page size for your labels. This step is only necessary for office printers.

**Automatic Sizing:** Click this option, if you are using a printer with ZebraDesigner printer drivers. ZebraDesigner Pro and ZebraDesigner printer drivers will automatically size the label dimensions.

To continue, click the **Next** button.



## Select the Label Orientation



### *Selecting label layout*

**Orientation:** Select the label orientation. Look at the screen and printer layouts to see how the label will be printed from the printer.

**Print directions:** Click the **Rotated** option to rotate the label 180 degrees, when printed.

To continue, click the **Next** button.

## Define the Label Dimensions

Enter the label dimensions in this dialog box.

**Note:** If you selected the label stock in the previous step, the values for dimensions are entered automatically.

**Label Setup Wizard**

**Label Dimensions**

Set the Label layout dimensions and select the appropriate unit of measure.

Label width:  Label height:

Top Margin:  Left Margin:

Bottom Margin:  Right Margin:

Rows:  X gap:

Columns:  Y gap:

Unit of measure:

Help Cancel < Back Next > Finish

*Label setup Wizard - defining the label format*

**Width, height:** Define the label dimensions.

**Margins:** Define the label margins.

**Rows, columns:** Define the number of labels in horizontal and vertical directions. This option is commonly used with office printers.

**Gaps:** Define the gap between the labels.

**Note:** Define gaps only if you changed the rows and columns options. If you have rolls of labels, the gaps between the labels are auto-identified by the gap sensor in the printer.

**Unit of measure:** Change the unit of measure you want to use.

When you are satisfied with the label dimensions, click the **Finish** button to close the Label setup wizard.

---

## Designing a Basic Label

### Overview

In this section you will learn how to design a simple label file with fixed and variable objects. The variable objects get values from several sources. You will learn how to:

- Provide object values with a keyboard prompt.
- Obtain object values from a database.
- Preview the label on the screen.
- Print the label.


The label you create will look like this:



*Basic label*

### Create a Basic Label

To create a basic label, do the following:

1. Open ZebraDesigner Pro or ZebraDesigner.
2. From the **File** menu, select **New label** or click the  button in the **Standard Toolbar**.

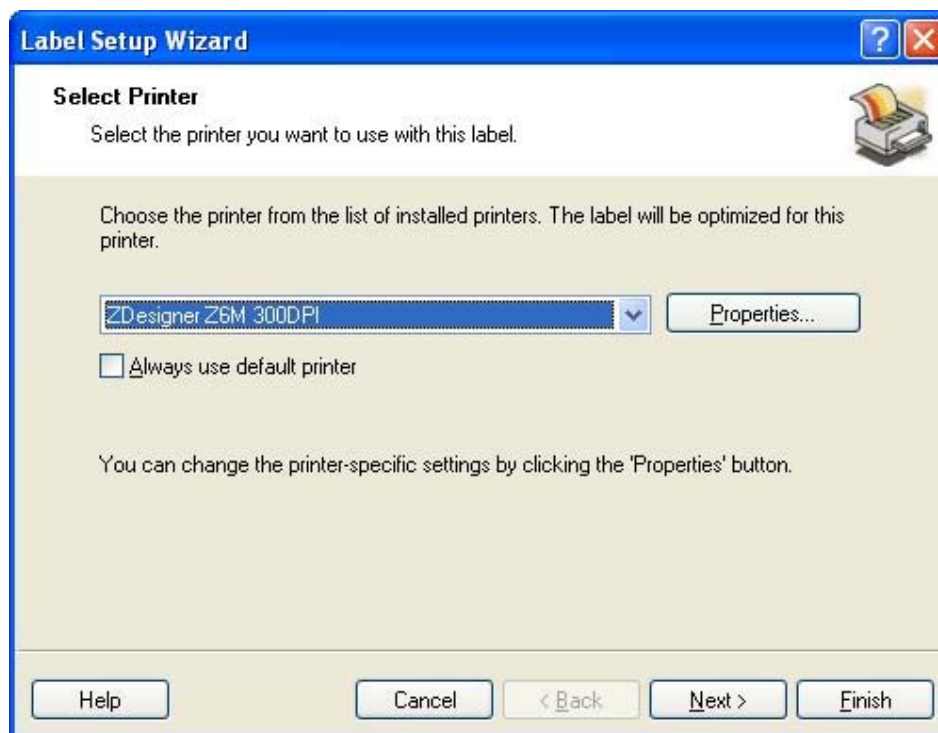
Each time you create a new label, a Label Setup Wizard will start to help you set up the label and connect to the printer.

**Note:** You can leave the Wizard at any time and accept the default settings for the label by clicking the **Finish** button.

## Select a Printer

1. Select the printer you want to use for label printing.

**Note:** If you don't find your printer on the list, see **Install Printer Driver** for installation instructions.

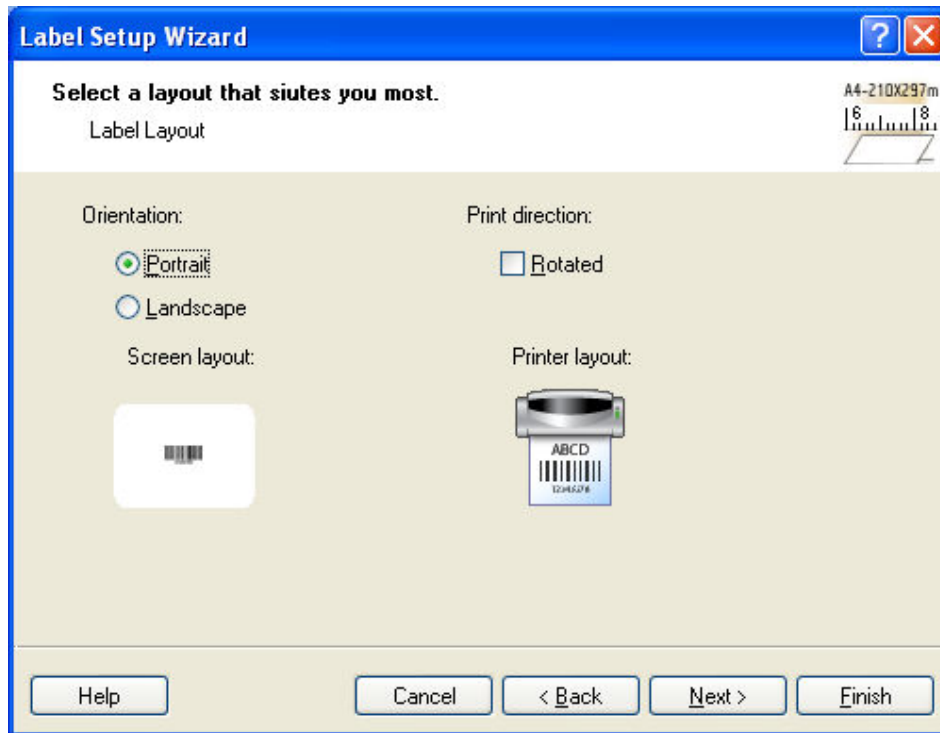


### *Selecting a printer*

2. Click the **Next** button.

## Define Label and Page Dimensions

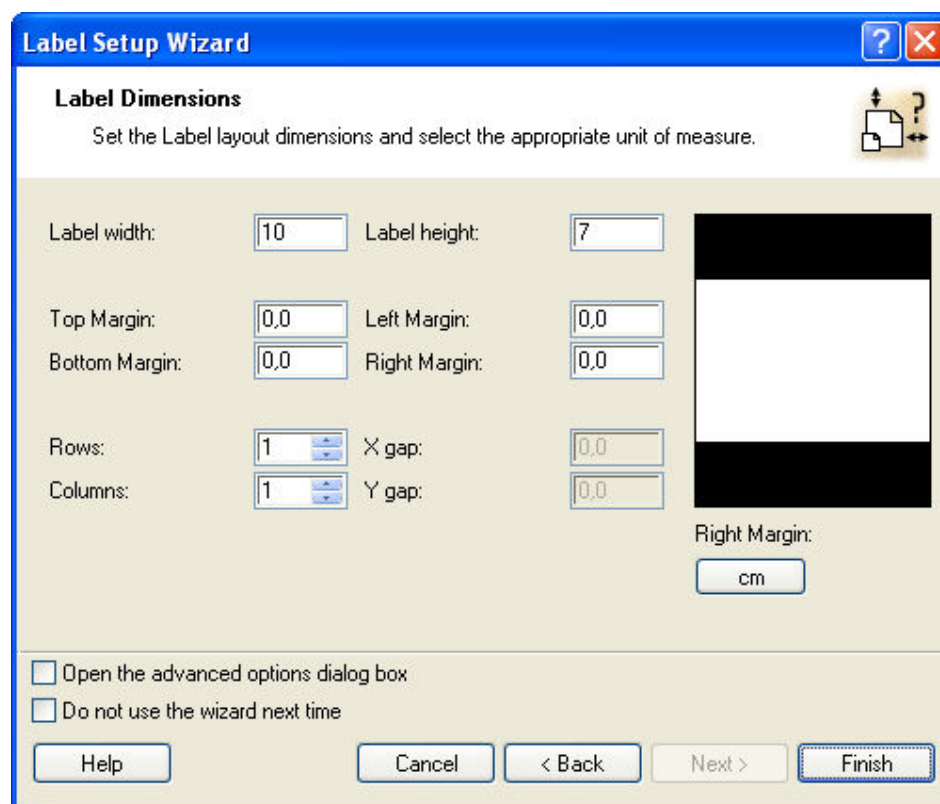
1. If you want to use the label stock, select your choices in the **Select Stock** window.
2. Click the **Next** button. A new window opens to define the label dimensions manually.
3. Leave the **Page Size** option at **User defined** default and check **Automatic Sizing**.
4. Click the **Next** button. A new window opens.
5. Select label orientation and print direction.



### Selecting label layout

6. Click the **Next** button. A new window opens.
7. Enter *10* for label width and *7* for label height.

**Note:** Dialog box differs for thermal and office printers.

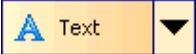


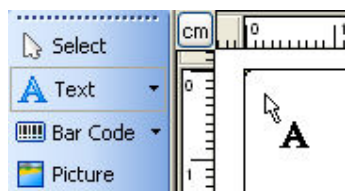
### Defining label dimensions

**Note:** To change the unit of measure from centimeters to inches or other supported units, click on the button with unit of measure below the label preview in the dialog box.

8. Click the **Finish** button. New empty label opens.

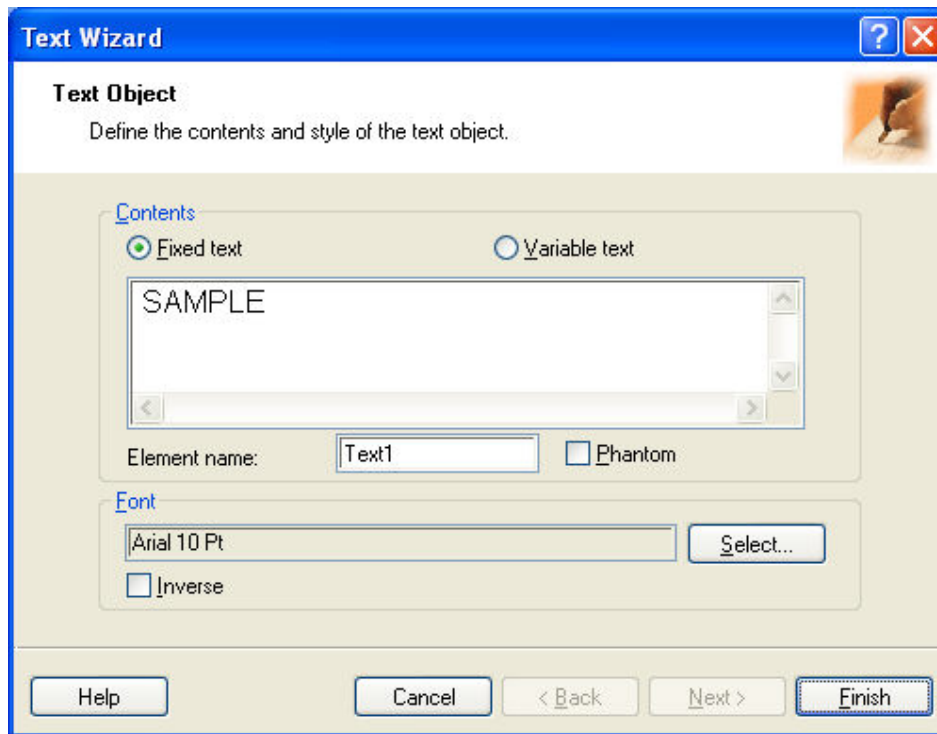
## Enter Non-Changing Text

1. Click the  button in the **Toolbox**. The text cursor appears on the screen.



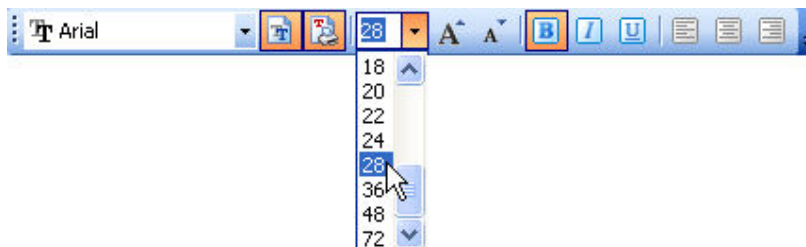
*Cursor for text object*

2. Move the cursor to the location on the label where you want to place the text object and click the mouse button.  
The dialog box with object properties opens.
3. Type *SAMPLE* and click the **Finish** button.



#### *Entering content for text object*

4. Click on the text object to select the object.
5. Using the **Text Toolbar**, change the font for the text object. Choose Arial font, 28 point size, and bold style.



#### *Using format options in the text toolbox*

6. To change the position and size of the text object, select the text object and drag the object with your mouse to the position you want it.


The screen should show the following:

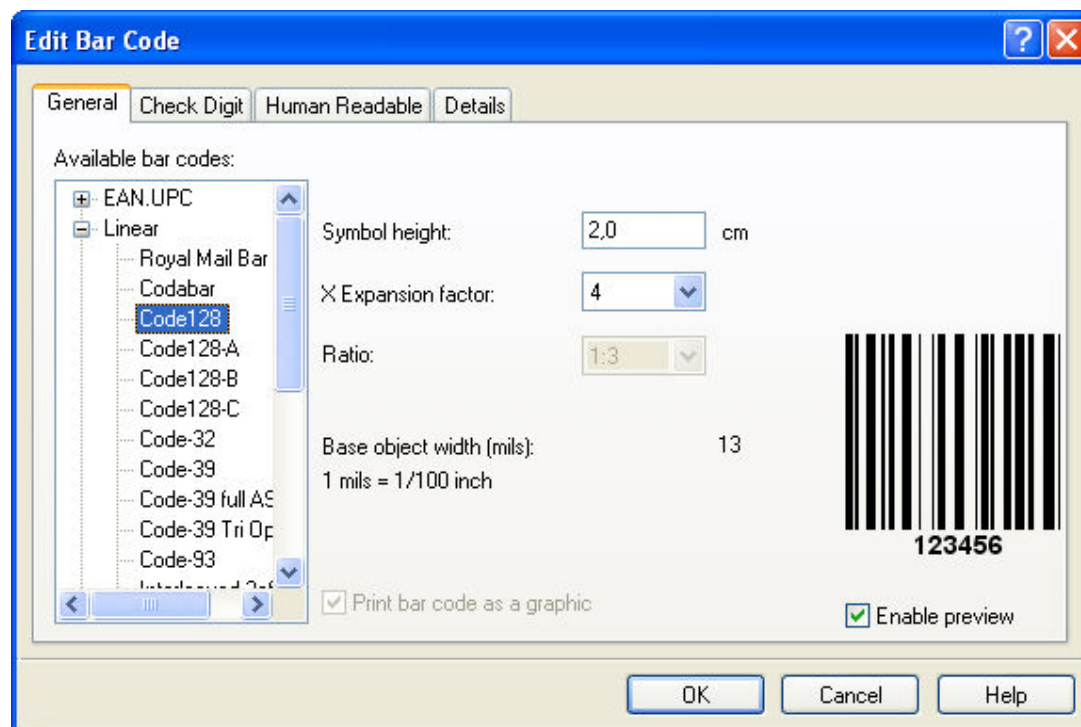


*The text object is placed on the label*

## Insert Bar Codes

Now you will add a non-changeable Code128 bar code on the label.

1. To insert the bar code, click the  **Bar Code** button in the **Toolbox**.
2. Move the cursor to the desired position on the label and click the mouse button. The dialog box with object properties will open.
3. Enter the value *1234567890* for the bar code contents.
4. Click the **Define** button. *Edit Bar Code* dialog box opens.
5. Make sure you select bar code Code128 and click the **OK** button.



*Selecting bar code type*



6. To return to the label, click the **Finish** button.
7. Change the position of the bar code by selecting the bar code and dragging it to the desired position.
8. Change the object size by dragging the object handles. The handles are small rectangles surrounding the object when it is selected.


The label should now show the following:



*Label with text and bar code objects*

### Insert Pictures

The ZebraDesigner Pro works with BMP, PCX, GIF, WMF, JPEG and many other popular graphic formats.

1. To insert the picture, click on the  button in the **Toolbox**.
2. Move the cursor to the desired position on the label and click the mouse button.
3. The *Open* dialog box will open allowing you to browse for a picture on your hard drive. Go to the folder **Sample Graphics** and select the picture **LEISURE.WMF**.
4. Click the **Open** button.

The screen should show the following:




*Label with text, bar code, and picture objects*

## Save a Label

Always save your label during the design process.

To save a label, do the following:

1. Click the  button.
2. Type in the name of the label. For example, type *label* for the name of the label.  
The name of the label appears in the program caption.

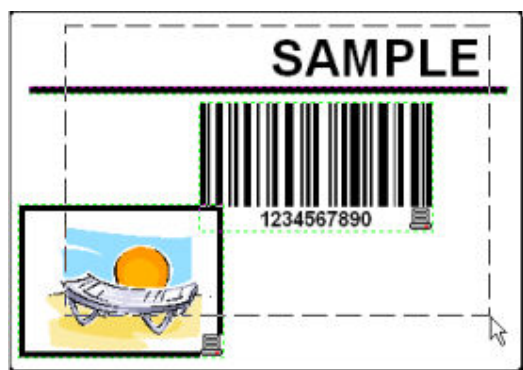
## Use Alignment Tools

You have placed the objects on the label. Now you want to make sure they are aligned on the horizontal center of the label. You can align objects on the label by using the **Align Toolbar** on the right side of the working window.


To align objects on the label, do the following:

1. In the **Toolbox**, choose a select arrow and draw a frame around all objects to select all objects.

**Note:** The first object you select determines the alignment orientation for all selected objects.



*Selecting the objects on the label*


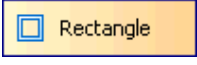
2. To arrange the objects, in the **Align Toolbar** on the right, click the  button.  
The selected objects will be rearranged and positioned on the horizontal center on the label.

**Note:**

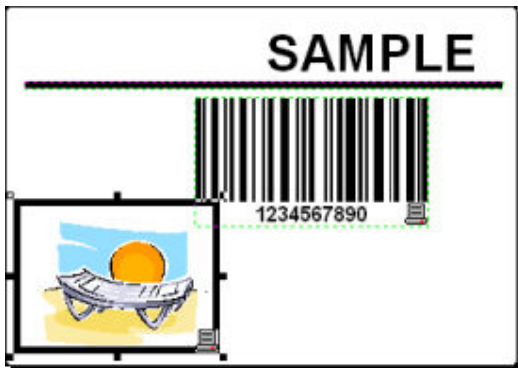
- The **Align Toolbar** has other alignment commands available in the **Align Toolbar**.
- You can also align the objects to the label grid. The option Snap to Grid is available in the View menu.

## Use Drawing Tools

Now you will insert a line to separate a text object from other objects and a rectangle around the picture object.

1. From the **Toolbox**, select the  button and move the cursor to the required starting point of the line.
2. While drawing the line, press and hold down the mouse button. Move the mouse to the end position of the line and release the button. The Line object is placed on the label.
3. In the **Toolbox**, click the  button and point the mouse to the upper left corner of the picture.
4. While you stretch the rectangle to the lower right corner of the picture, click and hold the mouse button.
5. To change the thickness of the vertical and horizontal line, double-click on the rectangle object to open its properties. Select the thickness you want and click the **Finish** button.
6. To edit the drawing object, double-click on the line or rectangle to open the dialog box with its properties.

The label should show the following:



*Label with fixed objects*

## Add Variable Fields

### Overview

You may want to print a label on which the data changes for each label. ZebraDesigner Pro offers different variable fields (counters, date/time fields, operator's input from the keyboard) that you can use with text, graphics, and bar code objects.

For this example, a new label was created. The steps in the following topics explain how to create a label that contains a prompted field, a counter, and date/time fields.

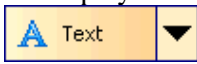
The captions in the following screenshots were added separately.



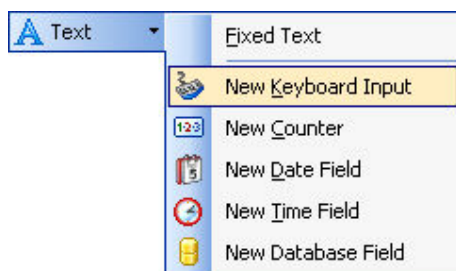
*The left label shows design mode; the right two labels are two consecutive labels from print preview*

## Create Keyboard Entry Variable Fields

The content of a prompted field can be different for every print job. Before you print the label, you enter the value for the field.

1. To display a list of available variable types, click the small arrow next to the  button in the **Toolbox**.
2. From the list, select **New Keyboard Input** and click on the label where you want to position the object.

A dialog box with the Variable Wizard opens.



*Creating new keyboard input variable field*

3. Type *Enter product name* for the option. Display this text to the print operator.
4. Click the **Finish** button. The cursor changes to an arrow with a text object.
5. Click on the label where you want to position the prompted field.

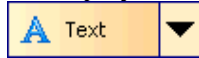
The text object is placed on the label and linked to the new variable.

**Note:** When you print the label, you are prompted to enter the product name, which is shown in preview on the label and on the printed label.

## Create Serialized Data Variable Fields (Counters)

Now create a counter field on the label. The value of that variable field automatically increases by one on every label.

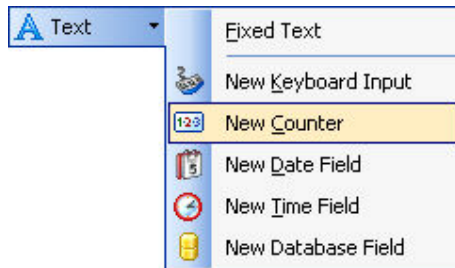
1. To display a list of available variable types, click the arrow in the



button in the **Toolbox**.

2. Select **New Counter** from the list.

A dialog box with counter properties opens.



### *Creating new counter variable field*

Leave everything as default so that the counter will always start from 1 and increase by one on each label.

3. Click the **Finish** button.
4. Click on the label where the counter should be placed.

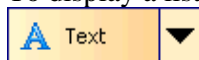
The new variable is linked to the text object on the label.

**Note:** Typically, the counter increases by 1 on each label. For example, 1, 2, 3, 4, 5, etc. You can also define different incremental steps.

## Create Date and Time Variable Fields

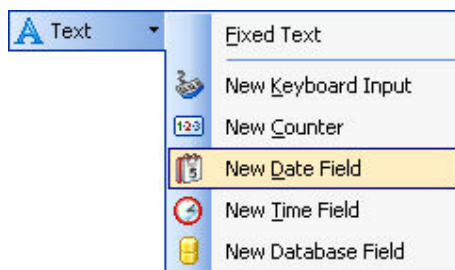
Content of the variable field can be filled automatically with the date or time stamp from the computer clock or printer clock (for supported printer models).

1. To display a list of available variable types, click the small arrow next to the



button in the **Toolbox**.

2. From the list, select **New Date Field**. A dialog box with date properties opens.

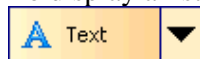


### *Creating new date variable field*

3. Leave everything as default, and the date will be used on the label using the format as defined in your Windows operating system.

To place a time stamp on the label, do the following:

1. To display a list of available variable types, click the small arrow next to the



button in the **Toolbox**.

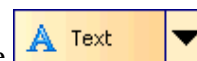
2. From the list, select **New Time Field**.
3. Click the **Finish** button.
4. Click on the label where the counter should be placed.  
The new variable is linked to the text object on the label.

The date and time fields are updated when you preview or print the label. In this example, the values come from the system clock of your computer.

## Use Prefix or Suffix Options

You can add a prefix and suffix to each variable field on the label. Both are added to the value when you preview and print the label.

1. To display a list of available variable types, click the arrow in the



- button in the **Toolbox**.
2. From the list, select **New Keyboard Input**. A dialog box with variable properties will open.
3. Type the text *Enter product weight* for the **Display this text to the print operator** option. Set the allowable characters to digits and click the **Next** button.
4. Enter *kg* for the **Suffix** option.

Suffix:	<input type="text" value="kg"/>
---------	---------------------------------

### Defining the variable suffix

5. Click the **Finish** button.
6. Click on the label where you want to position the prompted field.  
The text object is placed on the label and linked to the new variable. When you preview or print the label, the suffix *kg* will be appended to the entered value on the right side.




## Designing an RFID Smart Label

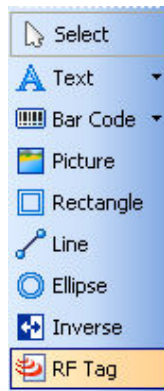
### Overview

Radio Frequency Identification (RFID) refers to technologies that use radio waves to automatically identify individual or groups of items. ZebraDesigner Pro and ZebraDesigner printer drivers support programming and printing of RFID tags embedded in a label.

**Note:** You can only use RFID functionality in ZebraDesigner Pro if you have installed a ZebraDesigner printer driver with the RFID support.

### Create RFID Smart Label

1. In the **Standard toolbar**, click the  button. The Label Setup Wizard will start.
2. Select the printer that supports RFID smart label printing.
3. Click the **Finish** button.  
You will see that 'RF Tag' command is enabled in the Toolbox on the left side of the working window.



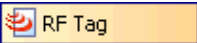
*RF Tag is available for use*

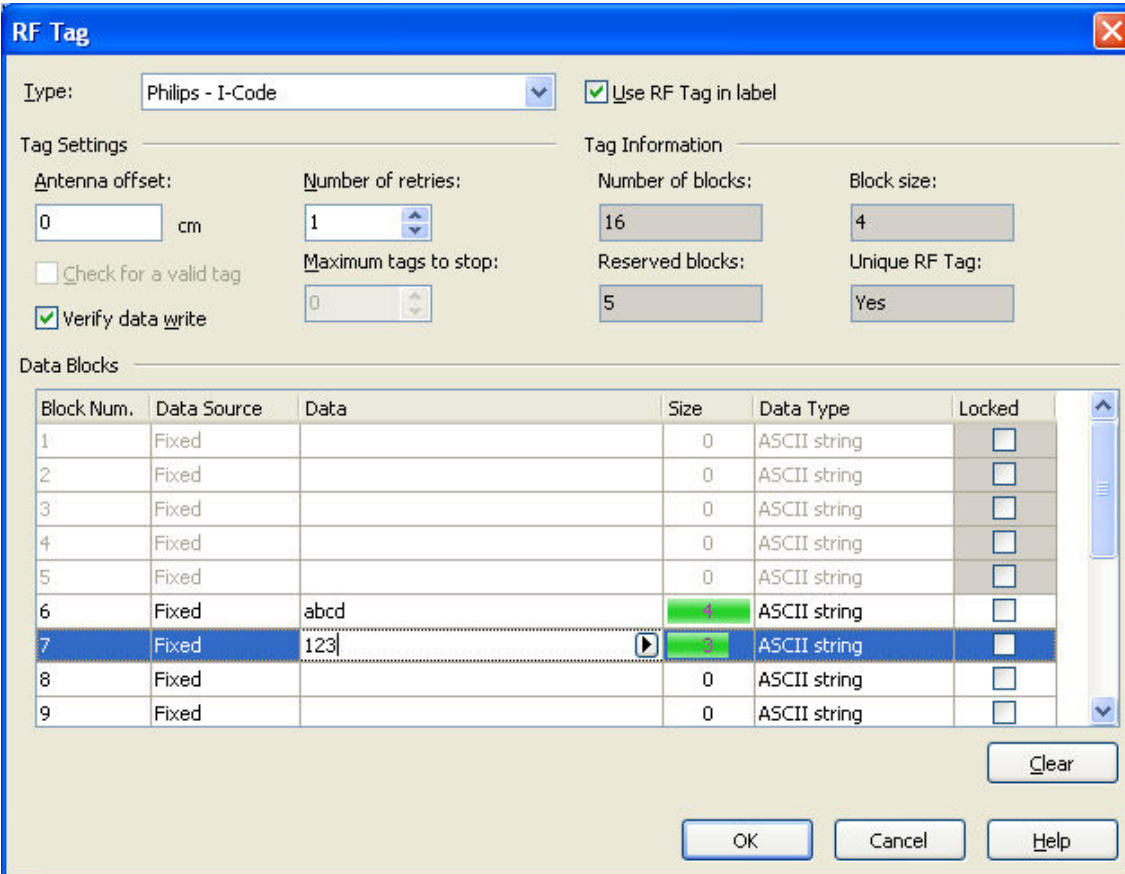


## Encode RF Tag

The RF tags that are embedded into the label are usually one of these types:

- ISO tags, which encode blocks of data
- UHF tags, which can encode one string of data.

1. In the **Toolbox** to begin encoding the data, click the  button.  
The *RF Tag* dialog box opens.



The **RF Tag** dialog box is shown with the following settings:

- Type:** Philips - I-Code
- ☒ **Use RF Tag in label**
- Tag Settings:**
  - Antenna offset:** 0 cm
  - Number of retries:** 1
  - ☐ **Check for a valid tag**
  - ☒ **Verify data write**
  - Maximum tags to stop:** 0
- Tag Information:**
  - Number of blocks:** 16
  - Block size:** 4
  - Reserved blocks:** 5
  - Unique RF Tag:** Yes
- Data Blocks:**

Block Num.	Data Source	Data	Size	Data Type	Locked
1	Fixed		0	ASCII string	<input type="checkbox"/>
2	Fixed		0	ASCII string	<input type="checkbox"/>
3	Fixed		0	ASCII string	<input type="checkbox"/>
4	Fixed		0	ASCII string	<input type="checkbox"/>
5	Fixed		0	ASCII string	<input type="checkbox"/>
6	Fixed	abcd	4	ASCII string	<input type="checkbox"/>
7	Fixed	123	3	ASCII string	<input type="checkbox"/>
8	Fixed		0	ASCII string	<input type="checkbox"/>
9	Fixed		0	ASCII string	<input type="checkbox"/>

Buttons: Clear, OK, Cancel, Help

### Encoding contents for RF Tag

2. From the list box on the top of the dialog box, select the type of the RF Tag you want to use.
3. Select the **Use RF Tag in label** option.

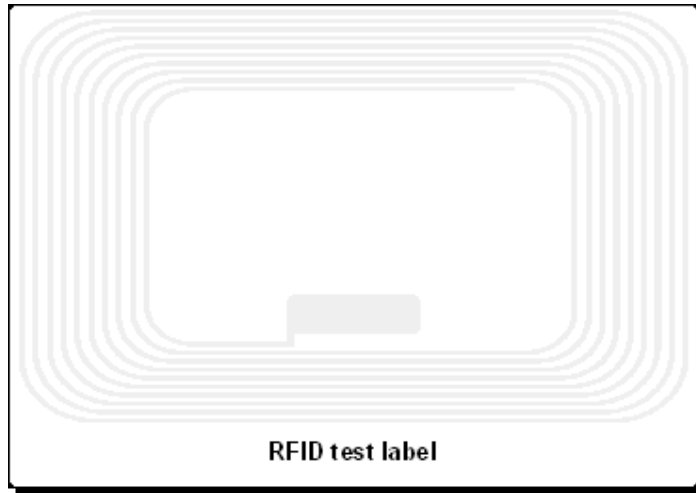
**Note:** If you don't select this option, the definition of tag content is saved but not sent to the printer.

4. In the section **Data Blocks**, go to the **Data Cell** column and click the first available block.
5. Type in the value you want to encode into this block. Repeat the process for other blocks.



6. Click the **OK** button.

A schematic view of the RFID Tag antenna will open in the label background identifying the definition of the RFID data on the label.

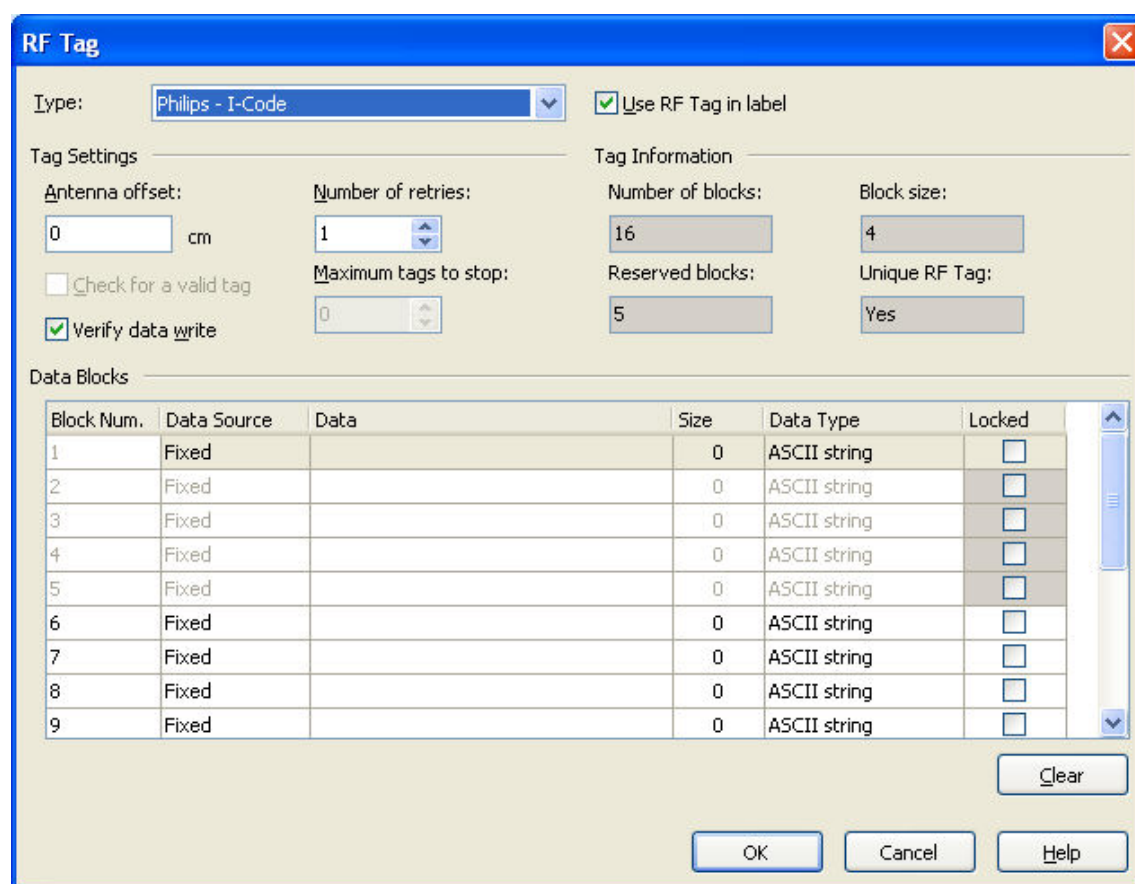


*RFID Tag antenna in the background*

7. You can continue designing the smart label with non-RFID data as described in the previous sections.

Whenever you print the label, the RFID data will be sent to the printer. The printer prints the RFID smart label and programs the RFID tag embedded into the label at the same.

**Note:** ZebraDesigner Pro can work with Unique RF Tag numbers. Each RFID tag has embedded a unique serial number. Some printers can read the Unique RF Tag number and it can be used on the label linked with some label objects.



The RF Tag dialog box is used to configure RFID tag settings. It includes a 'Type' dropdown set to 'Philips - I-Code', a checked 'Use RF Tag in label' option, and sections for 'Tag Settings' and 'Tag Information'. The 'Tag Settings' section contains 'Antenna offset' (0 cm), 'Number of retries' (1), 'Check for a valid tag' (unchecked), and 'Verify data write' (checked). The 'Tag Information' section contains 'Number of blocks' (16), 'Block size' (4), 'Reserved blocks' (5), and 'Unique RF Tag' (Yes). A 'Data Blocks' table lists 9 blocks, all with 'Fixed' data source, '0' size, 'ASCII string' type, and 'Locked' status. Buttons for 'Clear', 'OK', 'Cancel', and 'Help' are at the bottom.

Block Num.	Data Source	Data	Size	Data Type	Locked
1	Fixed		0	ASCII string	<input type="checkbox"/>
2	Fixed		0	ASCII string	<input type="checkbox"/>
3	Fixed		0	ASCII string	<input type="checkbox"/>
4	Fixed		0	ASCII string	<input type="checkbox"/>
5	Fixed		0	ASCII string	<input type="checkbox"/>
6	Fixed		0	ASCII string	<input type="checkbox"/>
7	Fixed		0	ASCII string	<input type="checkbox"/>
8	Fixed		0	ASCII string	<input type="checkbox"/>
9	Fixed		0	ASCII string	<input type="checkbox"/>

*RF Tag dialog box*

Some thermal printers have the ability to program an RFID tag at the same time as they are printing the label. Two different technologies and their encoding methods are joined on the same label. Of course, a label must have an embedded RF tag. The tag is paper thin, flexible, and small in size, which allows it to be placed inconspicuously under the label. It consists of an etched antenna and a tiny chip that can store ID numbers or your custom data in larger quantities. This contrasts with a bar code label, which does not store any enhanced information, but merely some code number.

RF tag data encoding options are set in this dialog box.

**Use RF Tag in label:** Enable this option if you want to program the tag at the same time as the label is printed. If the option is not selected, no RF data is sent to the printer, but the definition is remembered for next time.

**Type:** Select the type of RF tag you want to use with your printer. You must use ZebraDesigner Pro to be able to use RF programming. The list of available tags changes with the selected printer. Not all tag types are always available. It also depends on each printer model and what kind of RF ID tags can be used with it. There are generally these types of tags:

- ISO tags (TagIt, iCode, ISO): These are block oriented tags. The data can be encoded in multiple blocks.
- UHF tags (ePC): The data is encoded in one block of data.

**Tag Settings:** This section provides the information about the selected tag type.

**Number of blocks:** The number of blocks that are available in the RF tag.

**Reserved blocks:** The number of blocks that cannot be accessed and used.

**Block size:** The size of each block (in bytes).

**Unique RF Tag:** If you have the printer and/or the tag type that can provide you with the Unique Tag ID, this flag will be set to Yes. Each tag has a unique ID encoded already in the production line. If your printer can read this information from the tag, you can use it with the label elements. When the Unique Tag ID is supported, you can connect it with the label elements using RFID Unique Tag ID contents provider. For example: The printer scans Unique Tag ID, remembers it, and prints it on the label encoded in a bar code element.

**Antenna offset:** To achieve better programming accuracy of the tags this option defines the offset for the antenna in the printer. This is the distance from the edge of the label to the embedded tag. This option will help you program the tags more accurately.

**Number of retries:** The number of times the printer will try to program the tag if the first attempt fails. The parameter is sent to the printer with the rest of the data.

**Data Blocks:** This section allows you to provide data values for the RF tag. This section has different options available for different tag types (UHF or ISO).

#### For UHF tags

**Data type:** Data type of the selected tag can be specified here.

**Data source:** Incoming data that is encoded in the tag can be a fixed value or acquired from some variable, defined in the label.

**Data size:** The currently used data is previewed here. You can see the amount of space still available in the tag. The occupancy of the tag is seen graphically with growing bar and numerically with the digit, explaining the number of already used bytes.

**Block locked:** If you set the block as locked, the data will be permanently encoded into the tag. You will not be able to erase this block to re-program it with some other value. Use this option with caution!

#### For ISO tags

The blocks that are dimmed and inaccessible are reserved blocks that cannot be used.

**Block Number:** The successive number of blocks in the tag.

**Data source:** Select where the data block will receive its value. It can be Fixed, where you will manually type in the value or Variable, where the value is acquired from some variable defined in the label.

**Data:** Type in the tag value manually if the selected data type is Fixed. Select the variable defined in the label if the selected data type is Variable. If your variable length is greater than the block size, the next block will automatically be reserved for the data.

**Size:** The currently used data is previewed here. You can see the amount of space still available in the tag. The occupancy of the tag is seen graphically with growing bar and numerically with the digit, explaining the number of already used bytes.

**Data type:** The data can be encoded as an ASCII string or as a HEX encoded string.

**Locked:** If you set the block as locked, the data will be permanently encoded into the tag. You will not be able to erase this block to re-program it with some other value. Use this option with caution!


## Change Printer Settings

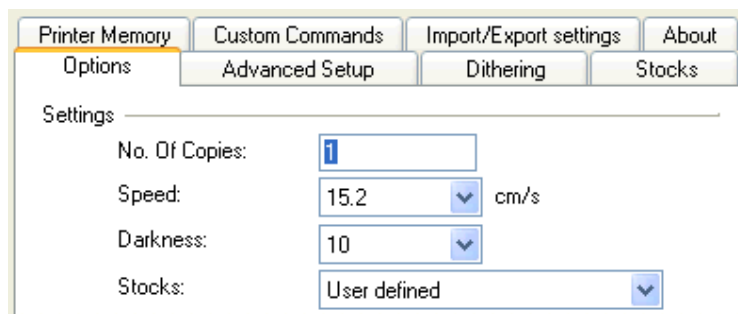
### Change Common Printer Settings

When you start designing a label, tell ZebraDesigner Pro what printer to connect the label to. Each label file remembers the printer settings for the selected printer driver on the label.

This example shows you how to change the printing speed and darkness.

To change the printer settings, do the following:

1. From the **File** menu, select **Printer Settings**.  
The window with the printer settings opens.
2. Open the **Options** tab.
3. Change the **Speed** and **Darkness** options.
4. Click the **OK** button.
5. To save the label, click the  button in the Standard toolbar, or from the menu select **File > Save**.



#### *Printer driver properties*

**Note:** Any changes in the printer settings dialog box will be saved to the label and applied to future print actions.

You can also change the printer settings right before the label is printed.

1. From the File menu, select **Print**.
2. Go to the **Printer** tab.  
This tab allows you to change the printer just before printing begins, but it also enables you to change common printer settings like speed, darkness, and print direction.


**Note:** Changes to the settings in the Printer tab will not be saved in the label but used only at print time.

## Change Dithering Options

Dithering is a process of converting color or gray scale pictures to black and white pictures that can be printed on thermal printers. Thermal printers normally cannot print color images and can either print a dot on the label or not. There are no intermediate shades of gray.

During the dithering process all colors and shades of gray in the picture are converted to black and white dots, creating the illusion of new colors and shades by varying the pattern of dots. Different shades of gray are produced by varying the patterns of black and white dots. There are no gray dots at all. In printing, dithering is usually called half toning. Shades of gray are called halftones.









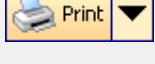
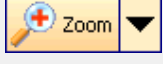

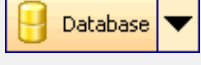

To change the dithering settings, do the following:

1. From the **File** menu, select **Printer Settings**.  
The window with the printer settings will open.
2. Open the **Dithering** tab.
3. Change the **Dithering Type** option to suit your needs. Look at the preview on the right side to see the result of your selection on the label.
4. Click the **OK** button.
5. Save the label by clicking the  button in the Standard toolbar or selecting **Save** in the **File** menu.

## Using Toolbars

### Use the Standard Toolbar

Click on the buttons in the standard toolbar to execute the following actions:

	Create new label
	Open existing label
	Save currently opened label
	Cut the selected objects to clipboard
	Copy the selected objects to clipboard
	Paste the objects from the clipboard
	Undo last action
	Redo last action
	Access to the print functionality. Click on the small arrow in the toolbar for more commands
	Access to the zoom functionality. Click on the small arrow in the toolbar for more commands
	Access to the view functionality. Click on the small arrow in the toolbar for more commands
	Access to the databases. Click on the small arrow in the toolbar for more commands
	Open the help file

## Use the Toolbox

To use the toolbox, do the following:

1. Click on the icon in the **Toolbox** to select the object.
2. Move the mouse over the label. Notice how the cursor has changed.
3. To place the selected object, click on the label where you want to place the object.

Some objects have additional shortcuts on the right side of the icon. Using this shortcut, you can quickly create a new object with fixed content, create a new variable and connect it to the selected object, or connect the object to one already defined variable.

## Use the Text Toolbar



You can use the text toolbar to quickly format the text objects on the label.



To format text objects, do the following:

1. Select the text object by clicking it.
2. Click the appropriate shortcut button in the text toolbar.
3. To change the font, select the appropriate font from the list in the list box.

**Note:** You can limit the display of fonts in the list. You can list all fonts on the system, only graphic fonts (TrueType, opentype, type1, bitmap Windows fonts,) or only thermal printer resident fonts. Click on the two icons next to the list of fonts.

4. To change the size of the text, click on the list with font sizes and select the appropriate size. You can also click on the  and  buttons that will enlarge/reduce the size of the font to the next size.

**Note:** You can also change the fonts size directly on the label by resizing the text element with a mouse.

5. To format the text bold, italic, or underline, click on the appropriate formatting buttons.



Formats the selected text in bold style



Formats the selected text in italic style






Formats the selected text in underline style

6. To change the alignment of the text object, click on the appropriate alignment buttons.

**Note:** These buttons are accessible only for multi-line text objects.



	Aligns text to the left edge
	Aligns text to the horizontal center
	Aligns text to the right edge

## Use the Design Toolbar

The design toolbar is used for:

- Changing color of the objects.
- Aligning objects.
- Rotating objects.
- Arranging objects.

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## Working with Objects

### Define the Text Object

To place the text object on the label, do the following:

1. In the **Toolbox**, click the **Text** button.
2. Click the position on the label where you want to place the object.  
The Text Wizard dialog box opens.
3. Define the contents for the text object.
4. To advance to the next step of the wizard, click the **Next** button.
5. Follow the onscreen instructions in the next steps.
6. Click the **Finish** button.

**Note:** To edit the object, select it, and then double-click it. The wizard with properties appears.

## Define the Bar Code Object

To place the bar code object on the label, do the following:

1. In the **Toolbox**, click the **Bar Code** button.
2. Click the position on the label, where you want to place the object.  
*Bar Code Wizard* dialog box opens.
3. Define the contents for the bar code object.
4. To advance to the next step of the wizard, click on the **Next** button.
5. Follow the onscreen instructions in the next steps.
6. Click the **Finish** button.

**Note:** To edit the object, select it then double-click it. The wizard with properties appears.

## Define the Picture Object

To place the picture object on the label, do the following:

1. From the **Toolbox**, click on the **Picture** object.
2. Click on the label where you want to place the picture.  
The *Open* dialog box opens.
3. Browse for the picture on the hard disk, and then click the **Open** button.

**Note:** To edit the object later, select it, and then double-click it. The wizard or dialog box with properties appears.

## Define the Rectangle Object

To place the rectangle object on the label, do the following:

1. In the **Toolbox**, click the **Rectangle** button.
2. Click the position on the label where you want the upper-left position of the object to be set.
3. Drag in the bottom-right direction until the object size is correct.
4. The other method of positioning the rectangle object on the label is selecting the Rectangle tool and then clicking the label. A default-sized rectangle will appear, and you can resize it using handles around the object.

**Note:** If you want to draw a square, grab a handle on one of the rectangle corners, simultaneously press and hold the Shift key, then resize the rectangle. A square will be drawn. For more useful shortcuts available in the software see [Shortcuts](#).

5. To move a rectangle to a different position, select it and drag it elsewhere on the label.

**Note:** To edit the object, select it then double-click it. The dialog box with properties appears.

## Define the Line Object

To place the line object on the label, do the following:

1. In the **Toolbox**, click on the **Line** object.
2. Define the line starting point by clicking the mouse at the start position.
3. Move the cursor to the end point while holding down the mouse button.  
A line will be drawn from the left to right side of the label.

**Note:** To draw a vertical line, click the starting point and then drag the cursor in the up-down direction.

## Define the Ellipse Object

To place the ellipse object on the label, do the following:

1. In the **Toolbox**, click the **Ellipse** button.
2. Click the position on the label where you want the upper-left position of the object to be set.
3. Drag to the bottom-right direction until the object size is correct.
4. The other method of positioning the object on the label is selecting the **Ellipse** tool and then clicking the label. A default-sized ellipse will appear, and you can resize it using handles around the object.

**Note:** To draw a circle, grab a handle on one of the ellipse corners, simultaneously press and hold Shift key, then resize the ellipse. A circle will be drawn. For more useful shortcuts available in the software see [Shortcuts](#).

5. To move an ellipse to a different position, select it and drag it elsewhere on the label.

## Define the Inverse Object

To place the inverse object on the label, do the following:

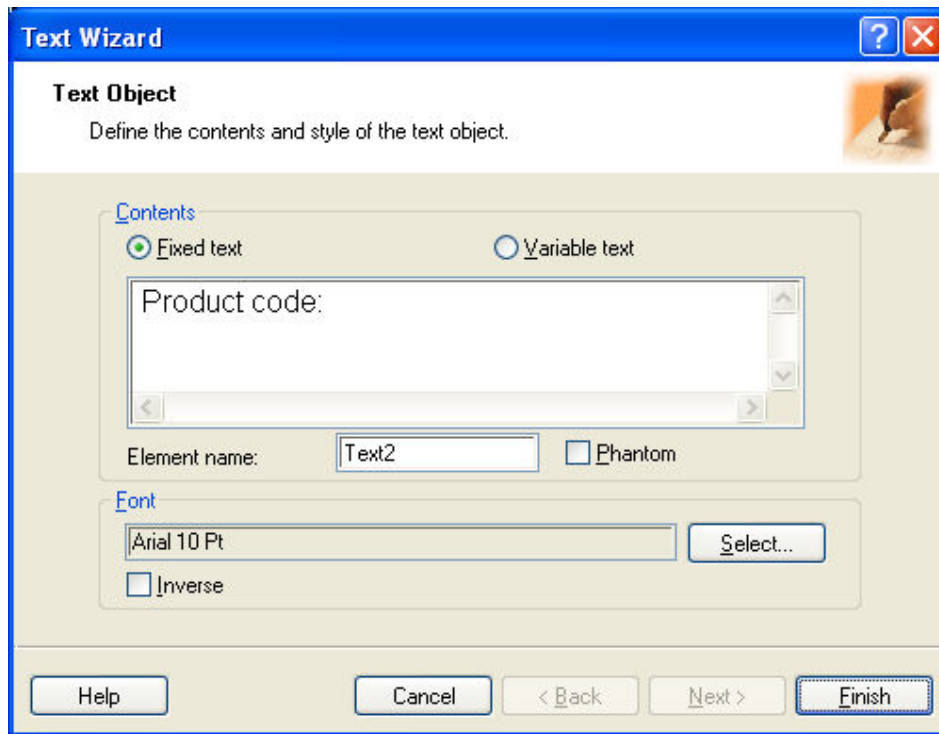
1. In the **Toolbox**, click on the **Inverse** button.
2. Click the position on the label where you want the upper-left position of the object to be set.
3. Drag to the bottom-right direction until the object size is correct.

**Note:** To draw a square, grab a handle on one of the rectangle corners, simultaneously press and hold the Shift key, then resize the rectangle. A square will be drawn. For more useful shortcuts available in the software see [Shortcuts](#).

4. To move an inverse to a different position, select it and drag it elsewhere on the label.

## Using Text Wizard

### Text Wizard



*First screen of Text Wizard*

The Text Wizard guides you to define all parameters for the text object.

**Fixed text:** Select this option if you would like to have a fixed non-changeable content of the object. If you select this option, you can enter the text directly in this dialog box.

**Variable text:** Select this option if you would like to have variable content in the object. Defining the content is defined in the next step.

**Element name:** Each text object on the label has a unique name. You can refer to the names when you are linking fields together.

**Phantom:** If the object is marked as *phantom*, it is visible on the label during the label design but is not printed.

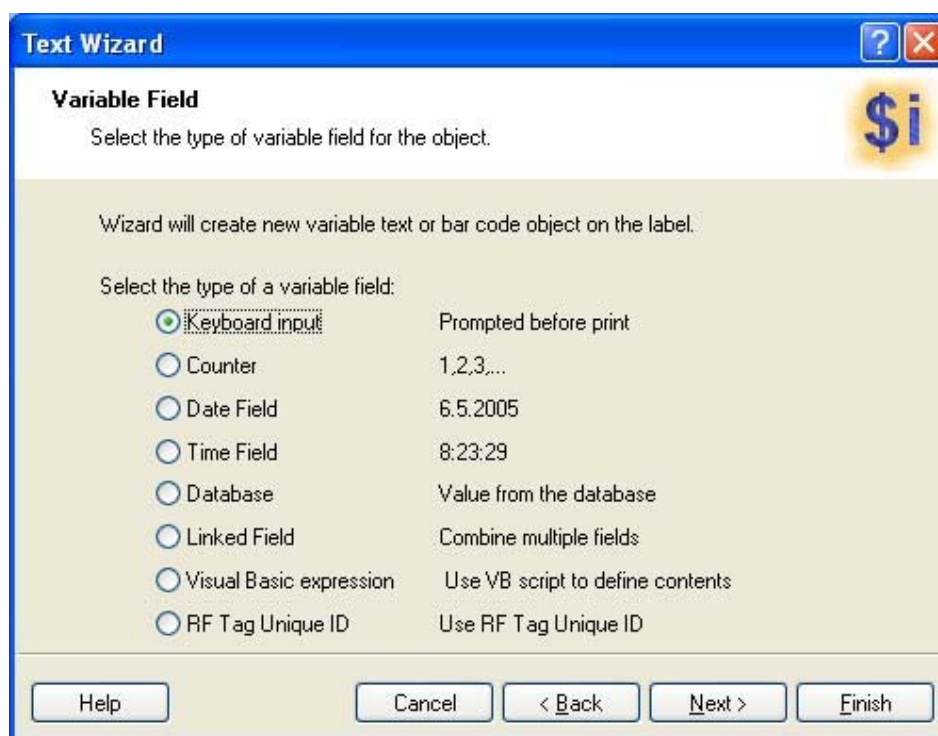
**Font:** Currently selected font type is shown in this field.

- **Inverse:** Enable this option to use the text in inverse.

**Note:** The option is not available for all printers.

- **Select button:** You can select different font types for this text object among available fonts in the system.

## Text Wizard - Choosing Variable Text



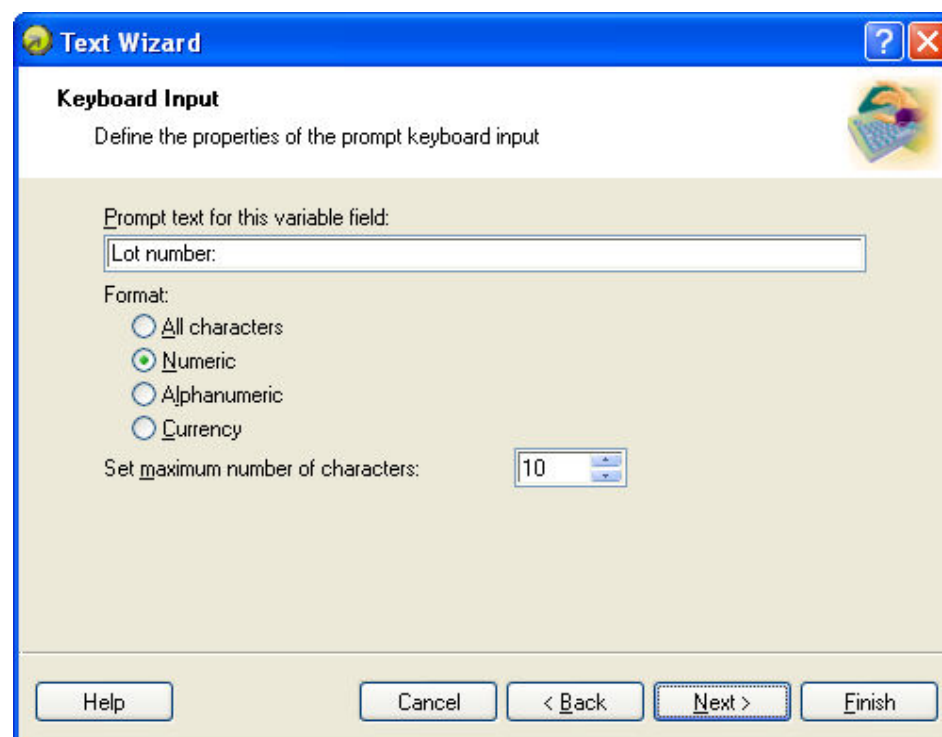
### *Text Wizard - Choosing variable text*

Select the type of the variable field you want to use.

The next page of the wizard depends on your selection here.

## Text Wizard - Keyboard Input

Use this variable type when you want the operator to enter a value of the variable from the keyboard before printing the specified number of labels.



The screenshot shows a Windows-style dialog box titled "Text Wizard" with a blue header bar. Below the title bar, the text "Keyboard Input" is displayed in bold, followed by the instruction "Define the properties of the prompt keyboard input". To the right of this text is a small icon of a keyboard. The main area of the dialog is light beige and contains the following elements: a label "Prompt text for this variable field:" above a text input field containing "Lot number."; a label "Format:" above four radio button options: "All characters", "Numeric" (which is selected), "Alphanumeric", and "Currency"; and a label "Set maximum number of characters:" above a spin box containing the value "10". At the bottom of the dialog, there are five buttons: "Help", "Cancel", "< Back", "Next >", and "Finish".

*Dialog box for Text Wizard when Keyboard input option is chosen*

**Prompt text for this variable field:** Fill in the message that will be shown to the user when he enters the values for the variable field.

**Format:** Select the format of data you allow to be entered for the variable field.

**Set maximum number of characters:** Define the maximum length of characters that can be entered for the variable field.

## Text Wizard - Counter

On this page of the wizard, you define the counter variable.

*Dialog box for Text Wizard when Counter option is chosen*

**Starting Value:** Set the starting value for the counter. The counter will increment or decrement from the starting value.

**Note:** You can enter only digits for the starting value.

**Prompt for value before print:** Click this option to enable entering the starting value of the counter when you start printing labels. Enter the text that will be shown before printing.

The message will be shown on the screen each time the label is to be printed.

**Set maximum number of digits:** Define whether the maximum length of digits the counter can occupy.

**Increment or decrement:** Define that the variable value will increase from label to label, or decrease.

**Preview:** The field shows the preview of the counter based on your selection.

## Text Wizard - Counter Continuation

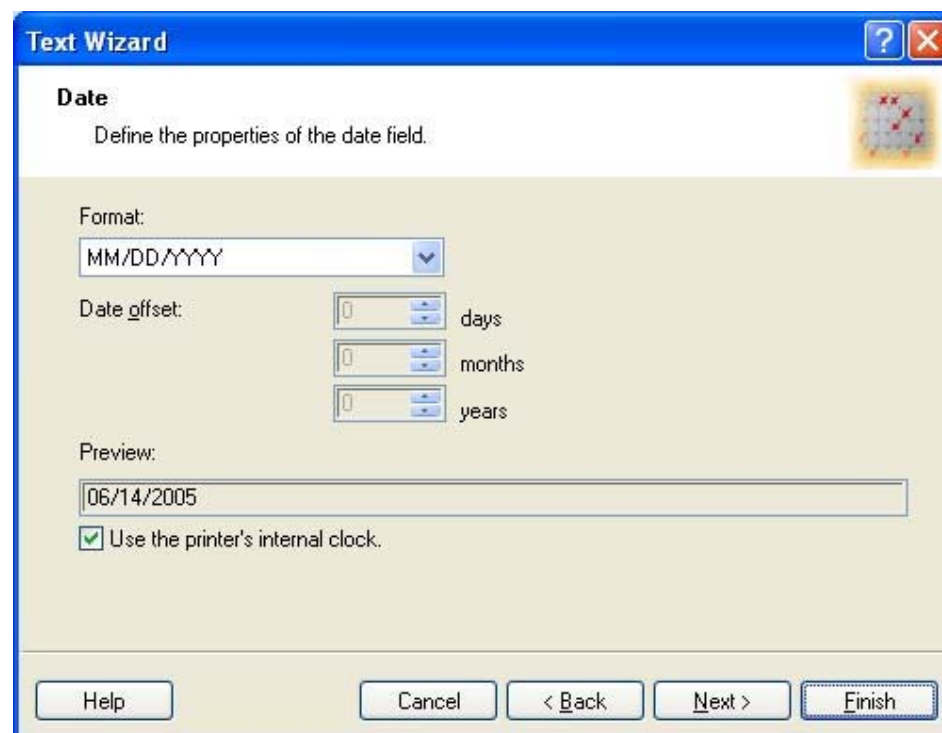
**Step:** Define the step for your counter. The counter will increase by this number on every label.

**Change value every <n> labels:** Define the number of label when the counter will change value.

**Rollover when reached:** Enter the value, which when reached, will cause the counter to reset the value to the starting value.

## Text Wizard - Date Field

Define the properties of the date field. The variable field will get the value from a computer clock.



The screenshot shows the 'Text Wizard' dialog box with the 'Date' tab selected. The title bar says 'Text Wizard' with a question mark and a close button. The main area has a subtitle 'Date' and the instruction 'Define the properties of the date field.' Below this, there is a 'Format:' label followed by a dropdown menu showing 'MM/DD/YYYY'. To the right of the dropdown are three spin boxes for 'Date offset' with labels 'days', 'months', and 'years'. Below these is a 'Preview:' label followed by a text box containing '06/14/2005'. At the bottom of the main area is a checked checkbox labeled 'Use the printer's internal clock.' The bottom of the dialog box contains five buttons: 'Help', 'Cancel', '< Back', 'Next >', and 'Finish'.

*Dialog box for Text Wizard when Date field option is chosen*

**Format:** Select the format for your date from the list. You can also enter a custom format.

**Date offset:** You can add a certain number of days, months, or years to a current date and print that date instead of the current one.

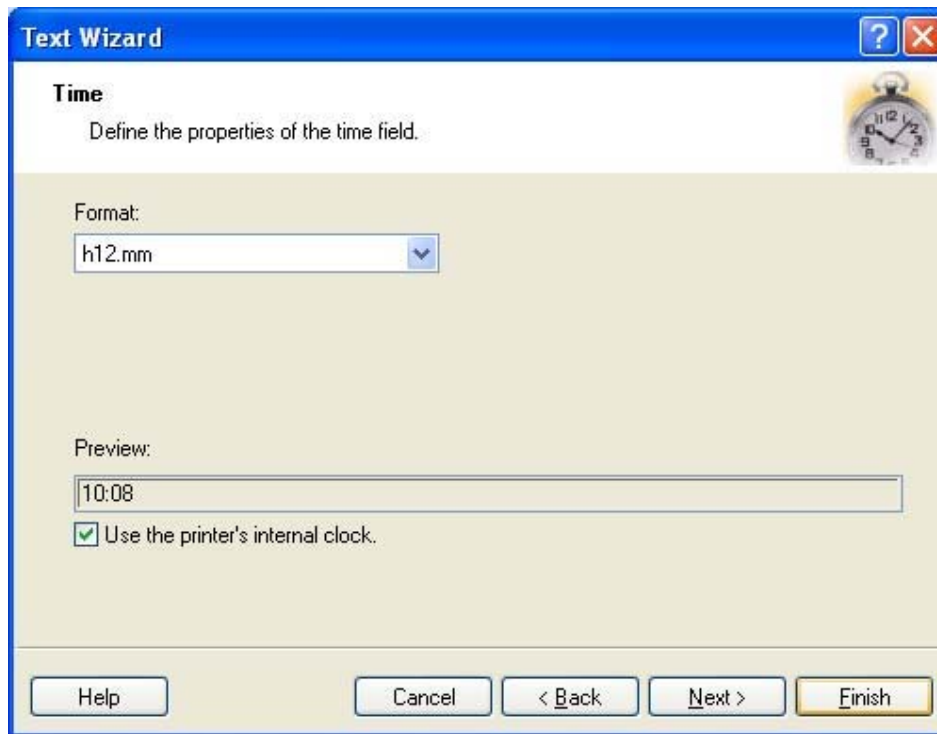
**Preview:** The printer will print the date as shown on the *Preview* field. This allows you to see how the selected date format will look on the label.

**Use the printer's internal clock:** Enable this option to recall the date information from the real time clock (RTC) built in to the printer not the clock from the PC computer. The list of available date formats changes accordingly to the capabilities of the selected printer.



## Text Wizard - Time Field

Define the properties of the time field. The variable field will get the value from a computer clock.



**Text Wizard**

**Time**  
Define the properties of the time field.

Format:  
h12.mm

Preview:  
10:08

☒ Use the printer's internal clock.

Help Cancel < Back Next > Finish

*Dialog box for Text Wizard when Time field option is chosen*

**Format:** Select the format for the time from the list. You can also enter a custom format.

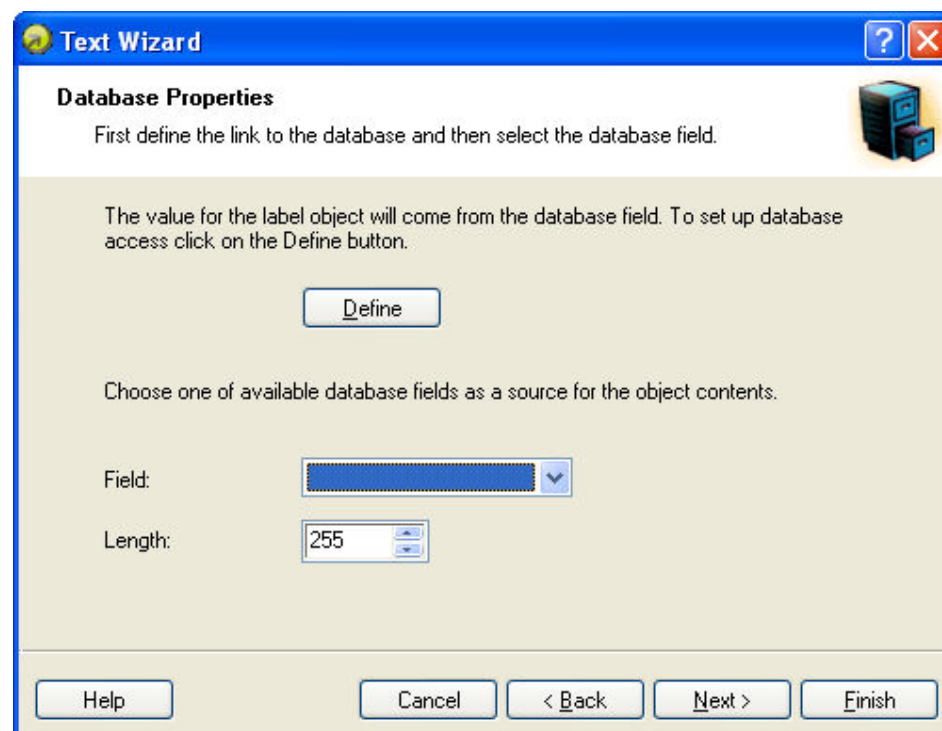
**Preview:** The printer will print the time as shown in the *Preview* field. This way you can see how the selected date format will look on the label.

**Use the printer's internal clock:** Enable this option to recall the time information from the Real Time Clock (RTC) built in to the printer not the clock from the PC computer. The list of available time formats changes accordingly to the capabilities of the selected printer.



## Text Wizard - Database

Variable field linked to the database gets the value from the specified database field.



*Dialog box for Text Wizard when Database option is chosen*

**Define:** Click this button to open the database wizard that will help you define the link to the database.

**Field:** Choose one of the available database fields as a source for the variable field.

**Length:** Define the maximum length of the string in the variable. If a field in the database contains more characters, they will not be printed. This option is useful if the field length in your database is not fixed (for example tab delimited ASCII file) or if you don't want to reserve space for all the characters in database's field.



## Text Wizard - Linked Field

Select this type of field to merge the contents of selected variable fields into one field. The selected input variable fields are combined values and used as the value for the current object.

*Dialog box for Text Wizard when Linked Fields option is chosen*

**Available elements:** The combo box contains the list of all defined variable fields on the label. You can select the fields and click the **Add** button to add them to the resulting value.

**Selected elements:** The list box contains the names of the selected variable fields, whose values will be merged into the resulting value. Click the up and down arrow buttons to change the relative position of the selected variable fields within the merged value.

**Separator:** Select the optional separator character that will be included between the merged variable fields.

**Note:** When you are merging the variable field containing time or date value from the printer Real Time Clock, make sure the fields positioned before and after the Real Time Clock field do not exceed 31 characters.



## Text Wizard - RF Tag Unique ID

Printers with RFID functionality can program RF tags embedded in the labels. Each RF tag has a unique ID number that was programmed into the tag during the manufacturing process. The Unique number cannot be altered, but the RFID-enabled printer can read it.

RF Tag Unique ID functionality allows you to read the unique ID number from the RF tag and use the content with the selected bar code object. When the label is printed, the printer will first read the unique ID from the tag and then immediately use the value with the bar code object.

RF Tag Unique ID can only be used with the bar code objects that are printed as internal printer objects. You must format the bar code object to use internal fonts not TrueType fonts.

*Dialog box for Text Wizard when RF Tag Unique ID option is chosen*

**Selected RF Tag:** Select the tag from the list.

**Note:** Only tags supported by the currently supported printer are listed.

**Read Source:** Select the source of the RFID data.

**Data Format:** Select the format of the data.

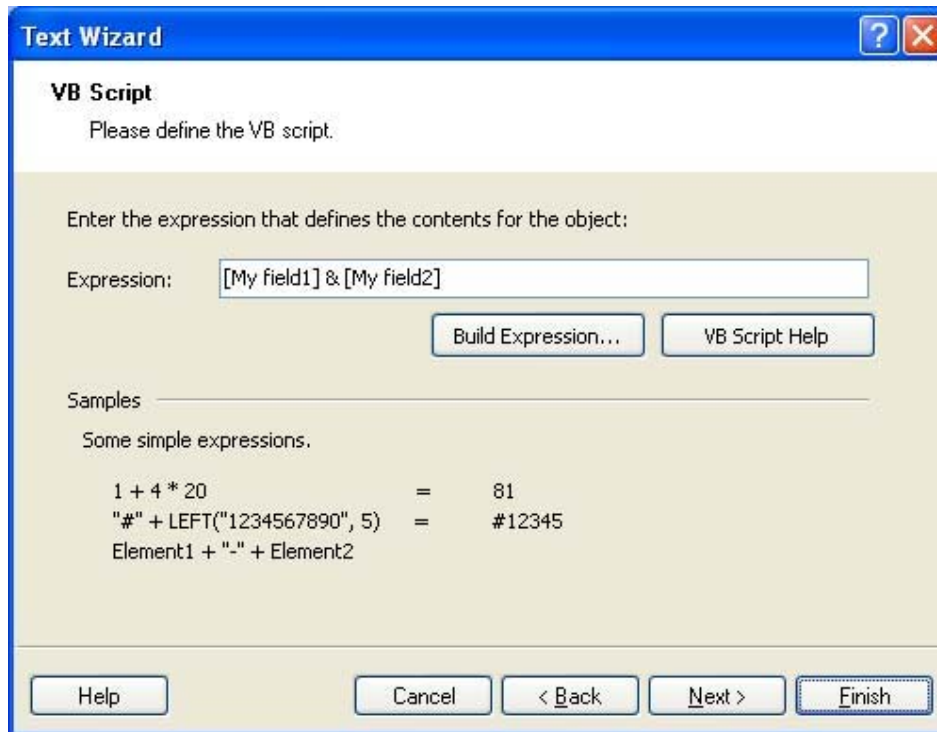
**Preview (WYSIWYG only):** Because RF Tag Unique ID information is not returned to the labeling software, you do not see the actual data. Enter the data in a format similar to the format encoded in the RF tag. This information will be used for preview on the label only.



## Text Wizard - Visual Basic Expression

Select this type of field to manipulate your variable fields with the Visual Basic function. The result of the expression will be used with the current object on the label. You can define one-line expressions that must follow Visual Basic programming syntax.

Look at the samples in the dialog box for ideas of what can be done with the Visual Basic script.



*Dialog box for Text Wizard when Visual Basic expression option is chosen*

**Expression:** Enter the Visual Basic expression. Include the names of the variable fields in the square quotes.

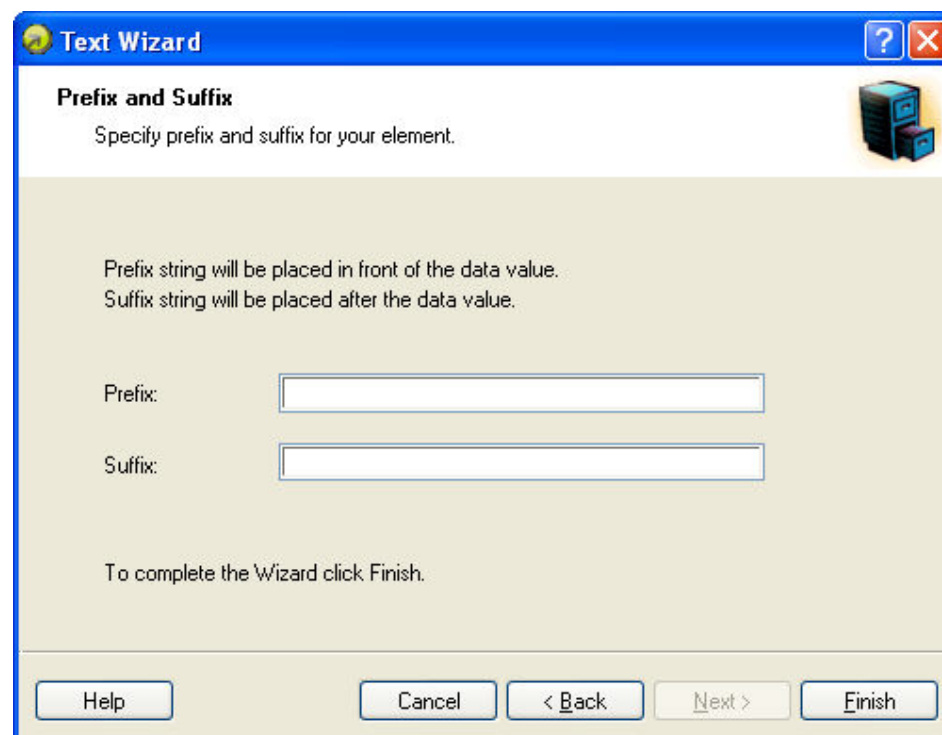
**Build Expression:** Click this button to open the Expression Builder text editor with reference to frequently used Visual Basic functions.

**VB Script Help:** Click this button to open the Microsoft help files explaining syntax and usage of Visual Basic scripting.

**For example:** The Visual Basic expression functionality can be used for merging text fields or to perform simple mathematical operations.

## Text Wizard - Prefix and Suffix

The variable element can have prefix and suffix values. The prefix text is placed in front of the variables value. The suffix text is placed at the end of the variables value.



The screenshot shows a Windows-style dialog box titled "Text Wizard" with a blue title bar. Inside, the section "Prefix and Suffix" is highlighted. Below the title, it says "Specify prefix and suffix for your element." and includes a small icon of a printer. The main area contains two instructions: "Prefix string will be placed in front of the data value." and "Suffix string will be placed after the data value." Below these are two empty text input fields, one for "Prefix:" and one for "Suffix:". At the bottom, it says "To complete the Wizard click Finish." and there are five buttons: "Help", "Cancel", "< Back", "Next >", and "Finish".

### *Setting Prefix and Suffix string for the variable text element*

**Note:** If you leave the edit fields empty, the prefix/suffix will not be used.

Prefix and suffix can be used in situations where they are required only if the variable has a value set. If the variable is empty, the prefix/suffix will not be printed.

**Note:** When you use the printer Real Time Clock for date or time fields, the length of prefix and suffix cannot exceed 31 characters.

## Using Bar Code Wizard

### Bar Code Wizard

*First page of bar code Wizard*

The Bar Code Wizard guides you to define all parameters for the text object.

**Fixed bar code data:** If you would like to have fixed non-changeable content for the text object, select this option. If you select this option, you can enter the text directly in this dialog box.

**Variable text:** If you would like to have variable content for the text object, select this option. Defining the content is defined in the next step.

**Note:** When entering values for RSS composite bar codes, you need to provide the value for the linear and composite (2D) parts at the same time.

Use the following syntax for entering values for RSS composite bar codes. The pipe character (|) is used to distinguish between the components.

**Syntax:** <linear part>|<composite part>

**Example:** 12345|description

**Element name:** Each bar code object on the label has a unique name. You can refer to the names when you are linking fields together.

**Phantom:** If the object is marked as *phantom*, it is visible on the label during the label design, but is not printed.

**Bar Code Type:** Click on the **Define** button to select the bar code type you want to use on the label.

## Bar Code Wizard - Choosing Variable Bar Code

Select the type of variable field you want to use.

The next page of the wizard depends on your selection.

### Bar Code Wizard - Keyboard Input

Use this variable type when you want the operator to enter a value for the variable from the keyboard before printing the specified numbers of labels.

**Prompt text for this variable field:** Fill in the message that will be shown to the user when he will enter the value for the variable field.

**Format:** Select the format of data you allow to be entered for the variable field.

**Set maximum number of characters:** Define the maximum length of characters that can be entered for the variable field.

### Bar Code Wizard - Counter

On this page of the wizard, you define the counter variable.

**Starting Value:** Set the starting value for the counter. The counter will increment or decrement from the starting value.

**Note:** You can enter only digits for the starting value.

**Prompt for value before print:** Click this option to enable entering the starting value of the counter when you start printing labels. Enter the text that will be shown to the user before printing.

The message will be shown on the screen each time the label is to be printed.

**Set maximum number of digits:** Define the maximum length of digits the counter can occupy.

**Increment or decrement:** Define whether the variable value will increase from label to label or decrease.

**Preview:** The field shows the preview of the counter based on your selection.

### Text Wizard - Counter Continuation

**Step:** Define the step for your counter. The counter will increase by this number on every label.

**Change value every <n> labels:** Define the number of labels, when the counter will change the value.

**Rollover when reached:** Enter the value, when reached, will cause the counter to reset the value to the starting value.



## Bar Code Wizard - Date Field

Define the properties of the date field. The variable field will get the value from a computer clock.

**Format:** Select the format for your date from the list. You can also enter a custom format.

**Date offset:** You can add a certain numbers of days, months, or years to a current date and print that date instead of the current one.

**Preview:** The printer will print the date as shown in the Preview field. You can see how the selected date format will look on the label.

## Bar Code Wizard - Time Field

Define the properties of the time field. The variable field will get its value from the computer clock.

**Format:** Select the format for the time from the list. You can also enter a custom format.

**Preview:** The printer will print the time as shown in the Preview field. You can see how the selected date format will look on the label.



## Bar Code Wizard - Database

Variable field linked to the database gets the value from the specified database field.

**Define:** Click this button to open the database wizard that will help you define the link to the database.

**Field:** Choose one of the available database fields as a source for the variable field.

**Length:** Define the maximum length of the string in the variable. If the field in the database contains more characters, they will not be printed. This option is useful if the field length in your database is not fixed (for example tab delimited ASCII file), or if you don't want to reserve space for all the characters in database's field.



## Bar Code Wizard - Linked Field

Select this type of field to merge the contents of the selected variable fields into one field. The selected input variable fields are combined values and used as the value for the current object.

**Available elements:** The combo box contains the list of all defined variable fields on the label. You can select the fields and click the **Add** button to add them to the resulting value.

**Selected elements:** The list box contains the names of the selected variable fields, which will be merged into the resulting value. Click the up and down arrow buttons to change the relative position of the selected variable field within the merged value.

**Separator:** Select the optional separator character that will be included between the merged variable fields.



## Bar Code Wizard - RF Tag Unique ID

Printers with RFID functionality can program RF tags embedded in the labels. Each RF tag has a unique ID number that was programmed into the tag during the manufacturing process. The Unique number cannot be altered, but the RFID-enabled printer can read it.

RF Tag Unique ID functionality allows you to read the unique ID number from the RF tag and use the content with the selected bar code object. When the label is printed, the printer will first read the unique ID from the tag and then immediately use the value with the bar code object.

RF Tag Unique ID can only be used with the bar code objects that are printed as internal printer objects. You must format the bar code object to use internal fonts not TrueType fonts.

**Selected RF Tag:** Select the tag from the list.

**Note:** Only tags supported by the currently supported printer are listed.

**Read Source:** Select the source of the RFID data.

**Data Format:** Select the format of the data.

**Preview (WYSIWYG only):** Because the RF Tag Unique ID information is not returned to the labeling software, you do not see the actual data. Enter the data in a format similar to the format of the RF tag. This information will be used for preview on the label only.



## Bar Code Wizard - Visual Basic Expression

Select this type of field to manipulate your variable fields with the Visual Basic functions. The result of the expression will be used with the current object on the label. You can define one-line expression that must follow Visual Basic programming syntax.

Look at the samples in the dialog box for ideas of what can be done with the Visual Basic script.

**Expression:** Enter the Visual Basic expression. Include the names of the variable fields in the square quotes.

**Build Expression:** Click on this button to open the Expression Builder text editor with reference to frequently used Visual Basic functions.

**VB Script Help:** Click on this button to open the Microsoft help files explaining syntax and use of Visual Basic scripting.

**For example:** The Visual Basic expression functionality can be used for merging text fields or to perform simple mathematical operations.

## Bar Code Wizard - Prefix and Suffix

The variable element can have prefix and suffix values. The prefix text is placed in front of the variable's value. The suffix text is placed at the end of the variable's value.

**Note:** If you leave the edit fields empty, the prefix/suffix will not be used.

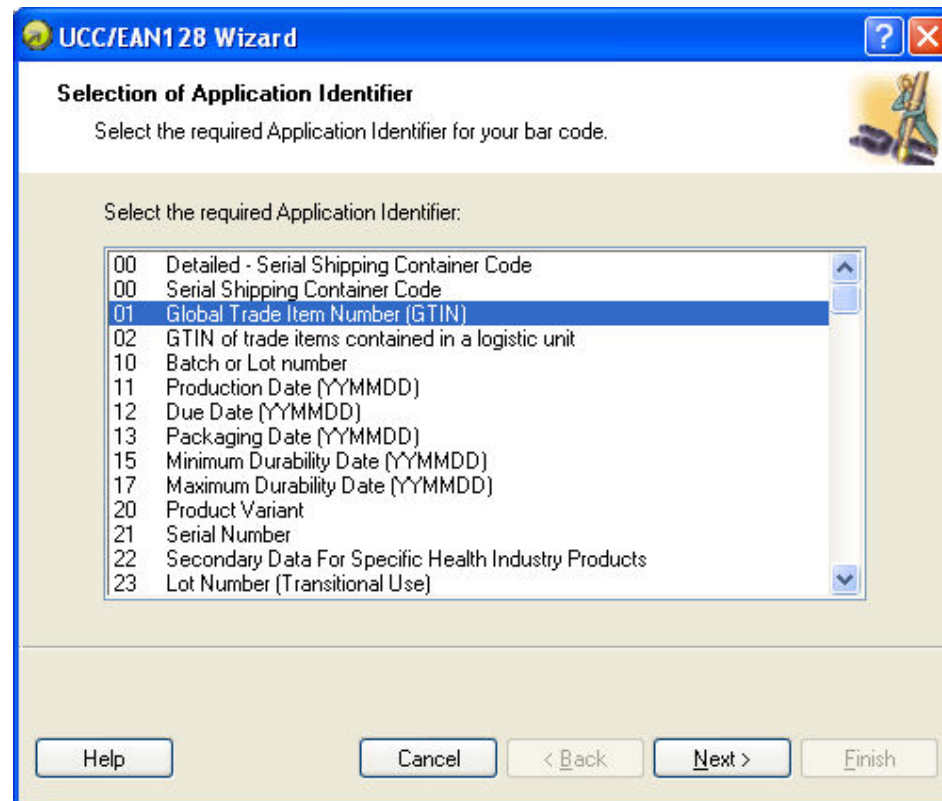
Prefix and suffix can be used in situations where they are required only if the variable has a set value. If the variable is empty, the prefix/suffix will not be printed as well.

## Using EAN.UCC 128 Wizard

This wizard allows you to define the data structure for EAN.UCC 128 bar code. This kind of bar code has different areas of application that include trade items, logistic units, assets, and locations.

The EAN.UCC 128 bar code is an extremely flexible symbology. It allows representation of data of variable length, and makes it possible to encode several pieces of information in one bar code symbol. This is called concatenation. An **Application Identifier** is a field of two or more characters at the beginning of a data value. Application identifiers are prefixes that uniquely identify the meaning and the format of the data field following. The data fields are either of fixed or variable length, depending on the AI.

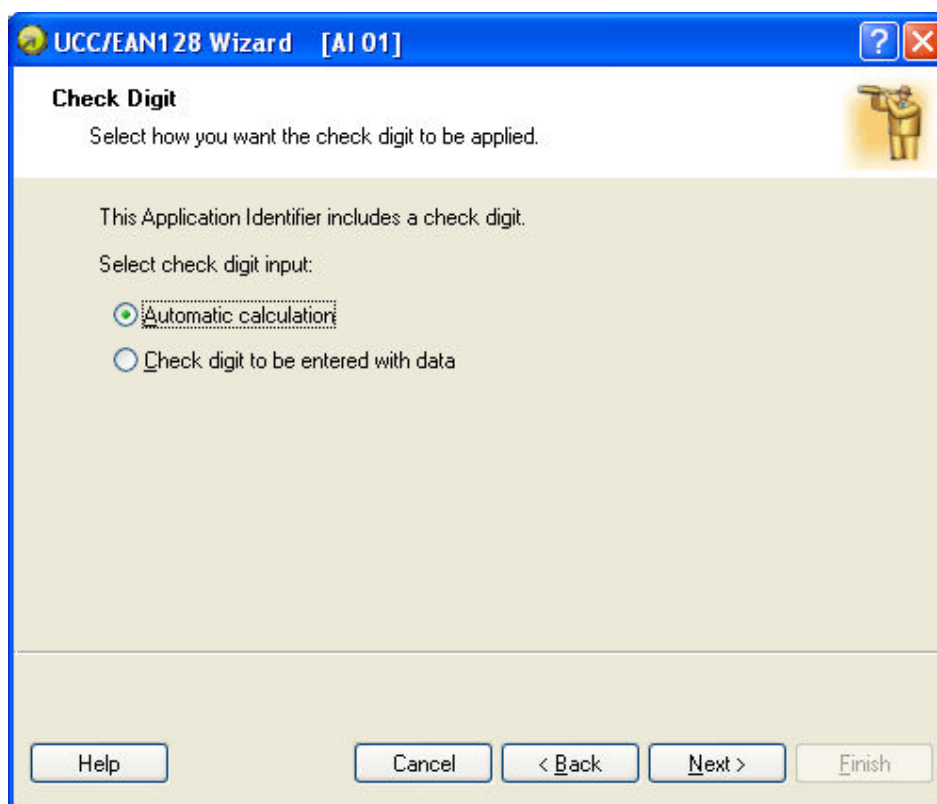
### Step 1: Choose the application identifier



#### *EAN.UCC 128 Wizard: Choosing application identifier*

The dialog in the first step of the Wizard allows you to select the EAN.UCC 128 bar code data structure. Each bar code is composed of one or more Application Identifiers and the corresponding data.

Choose one of the Application Identifiers in this list. You can add, edit, or delete Application Identifiers from the bar code later in the process.



*EAN.UCC 128 Wizard: How check digit should be applied*

If you have selected an Application Identifier with data that includes a check digit (for example, AI (01) - GTIN, Global Trade Item Number), then first you have to select how the check digit will be applied. The possible options are:

- **Automatic calculation:** Check digit will be calculated by the application.
- **Check digit to be entered with data:** Manually enter the data and check digit. The application will verify if the entered check digit is valid.

## Step 2: Application Identifier Input Type

**UCC/EAN128 Wizard [AI 01]**

**Application Identifier Input Type**

Define the data source for Application Identifier.

Define the input type for the Application Identifier:

☐ Fixed  
☐ New variable  
☒ Use existing variable

GTIN

Help Cancel < Back Next > Finish

*EAN.UCC 128 Wizard: Where the data for AI is obtained from*

When the Application Identifier is selected, you will have to define where the data for its value was obtained. These are the possible options:

- **Fixed:** The application identifier will have a fixed value on every label.
- **New variable:** The application identifier will be linked to the variable and have variable value on each label. You will define a new variable.
- **Use existing variable:** The application identifier will be linked to the variable and have a variable value on each label. You will define a new variable.

### Step 3: Enter the value for the Application Identifier

#### Entering fixed value for the application identifier

**UCC/EAN128 Wizard [AI 01]**

**Application Identifier Value**

Enter the data for Application Identifier.

AI 01: Global Trade Item Number (GTIN)  
Data format: n14

Enter data for the Application Identifier:

1234567890123

13 digits must be entered for the Application identifier.

Data format will be numeric.

Help Cancel < Back Next > Finish

#### *Entering fixed value for the application identifier*

If you selected a fixed value in the previous dialog box, you should enter a value for the Application Identifier here. The Wizard will let you know about the required data format for this AI and how long the AI value should be. For some AIs the field length is fixed to certain number of digits; for others, only the maximum number of possible digits is stated. You will also be reminded of the AI's proper field format (numeric, alphanumeric) if you enter incorrect data.

## Entering a variable value for the application identifier

**UCC/EAN128 Wizard [AI 01]**

**Variable Field Properties**  
Set prompt and properties for variable field.

Prompt: Enter the value for AI (01) GTIN:

Format: ☒ Numeric  
☐ Alphanumeric

Counter  
☒ Fixed  
☐ Incrementing (1,2,3,etc)  
☐ Decrementing (10,9,8,etc)

Step: 1  
Change value every 1 labels

Help Cancel < Back Next > Finish

### *Creating new variable for the application identifier*

If you selected new variable values in the previous dialog box, a new variable field will be created. You will have to provide some information about the variable being used.

## Calculate the Check Digit

To select how the check digit will be calculated, do the following:

1. Enter the check digit with the data and the software will validate it.
2. The software can calculate the check digit.

## Define a New Variable

Define the properties of the variable that will provide a value for the application identifier.

**Prompt:** Enter the text that will be displayed to the user at print time.

**Format:** Define the format of the variable.

**Counter:** If the variable will be a counter, define its properties.

## Step 4: List of selected application identifiers

### *Listing the selected application identifiers*

This is the last step of the EAN.UCC 128 Wizard. Here you can add, edit, or delete Application Identifiers and define a separator.

**Application Identifiers selected:** In this field all selected application identifiers for the bar code are listed in the order of creation. You can change the order with the arrow buttons.

**Add, Edit, or Delete buttons:** Use these buttons to add additional application identifiers and edit or delete existing ones.

**Input Application identifier delimiter:** Define left and right separators among different application identifiers. The default setting is to use parenthesis.

**Preview:** A sample bar code content based on your application identifier selection is shown here.

To exit the wizard, click the **Finish** button.

## Selecting Bar Code Type

### Settings for Advanced Bar Codes

#### EAN.UCC 128 Bar Code

This bar code is combined from one or more input values and standard AID - Application Identifiers. Each AID must be followed by the standard values. These values can be fixed or variable.



When you select the EAN.UCC 128 bar code, the Bar code data field in the **Bar code Wizard** dialog box is disabled. To define the contents of the bar code, click the Next button.

From the list of available Application Identifiers select the first identifiers. It will be written in brackets below the bar code.

When the Application Identifier also includes check digits, you have to define whether it will be calculated or entered together with data.

Next, define how you will set the values for the selected identifier. You may enter a fixed value or define a variable value.

### **Fixed values**

When values are fixed, the Wizard dialog box will inform you what to enter.

The defined AID is presented on the list of selected Application Identifiers. Click the **Add** button to add a new AID or the **Delete** button to delete an existing one.

Should you need to change the AID and the data, select the AID and click the **Edit** button.

You can sort the listing of AID by using the **Up** and **Down** buttons.

All the settings can be previewed on the **Preview** field.

The separator among Application Identifiers can be defined by entering the required separator for the left and for the right side of the Application Identifier. The default separator is brackets.

### **Variable values**

EAN.UCC 128 bar code supports keyboard variables – the variable data will be entered from the keyboard.

You can define the Prompt – the message for the operator, who will enter the data.

The data can be numeric only or all characters.

The value can be fixed or incremented/decremented on every label or a certain number of labels with the desired step.

The variable data will be written in the **Preview** field as a series of A characters.

When you are satisfied with the settings, click the **Finish** button to put the EAN.UCC 128 bar code on the label.

## **PDF 417 2D Code**

### **General tab**

#### **Y expansion factor**

This option defines the height of the bar code symbol.

### **Security tab**

According to the standard, you can select among 9 levels of security. Higher security levels allow more reliable reading regardless of errors, but the bar code symbol is bigger.

Truncated bar codes can be used where label damage is unlikely and there is no demand for a high level of security. The truncated symbol is smaller.

**Aspect Ratio**

It is the ratio between the number of columns and the number of rows.

**Contents**

PDF 417 code can encode:

- Full 128 ASCII character set
- All 128 Extended ASCII characters
- 8-bit binary data

**DataMatrix Bar Code****General tab****Y expansion factor**

This option defines the height of the bar code symbol.

**Aspect Ratio**

It is the ratio between the number of columns and the number of rows. Enter the value in the fields.

**Details tab****ECC Type**

Error Correction Codes define the security level. You can select one from the standard levels in the pull-down menu.

**Format ID**

This option defines which character set will be used in the bar code. You can select one of the formats with the following filter.

01 and 11	0..9, space
02 and 12	A..Z, space
03 and 13	A..Z, 0..9, space
04 and 14	A..Z, 0..9, space,.-/
05 and 15	7-bit ASCII lower part (from 0 to 127)
06 and 16	all
07 and 17	7-bit ASCII

The formats from 1 to 7 allow a data length up to 500 characters, while formats from 11 to 17 allow up to 2000 characters.

**Border Size**

Factors from 1 to 15 set the dimension of the border in the shape of the character “L”.

Data Matrix can encode:

- Full 128 ASCII character set
- All ISO characters
- All EBCDIC characters

**MaxiCode 2D Code****General tab****Y expansion factor**

This option defines the height of the bar code symbol.

**Details tab**

When the option **Structured** is not selected, the content of the bar code is optional.

For Structured bar code you may encode only standard contents.

**Edit Bar Code Dialog Box**

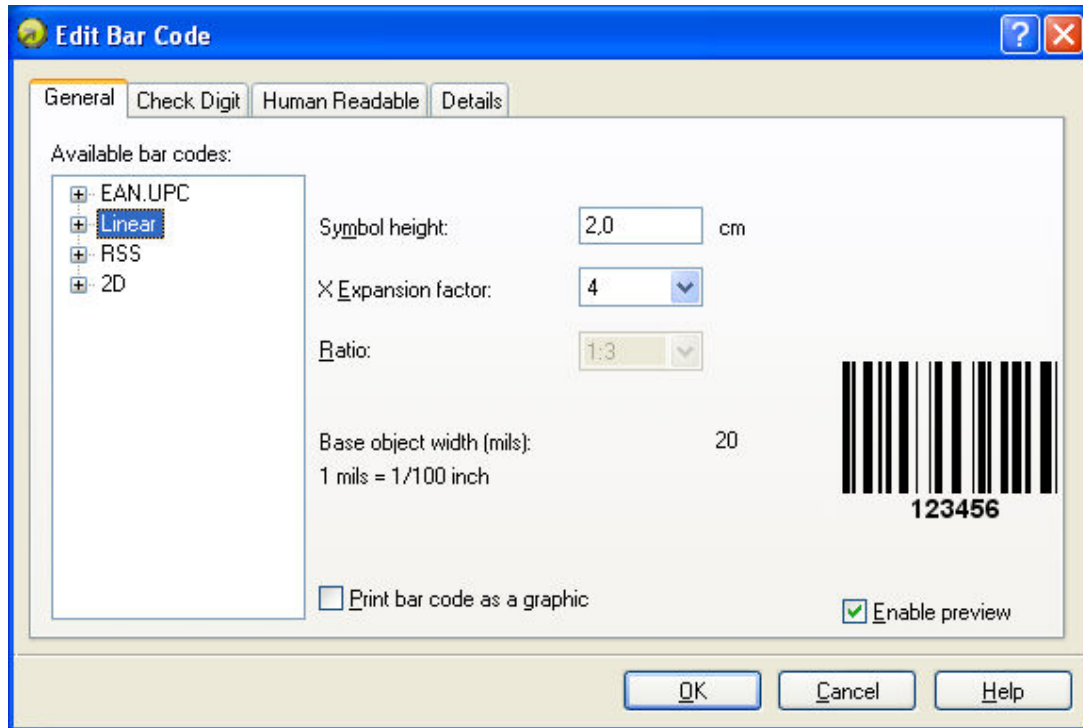
This dialog box is displayed when you click the **Define** button on the bar code dialog box. On this dialog box you specify the type of bar code you want to use on the label and all additional advanced settings: how the bar code should be generated, if the check digit should be automatically calculated or not, and various other options. If the **Enable preview** check box is checked, a preview of a resulting bar code is displayed on the right side of the dialog box.

When you are satisfied with the bar codes properties, confirm the changes you made by clicking the **OK** button or reject them and keep previous settings by clicking the **Cancel** button.

The *Edit bar code* dialog box has several pages (tabs).

## General Tab

On this tab, you can select the bar code type you want to use and the properties of the bar code.



*Edit bar code dialog box – General tab*

**Type of bar code:** The required bar code symbology is selected from the tree list of available bar codes.

**Symbol height:** The height dimension of a bar code can be specified either by entering a value here or by resizing the bar code symbol directly on the label.

**X-Expansion factor:** The expansion factor defines the width of the bar code symbol.

**Ratio:** This is the ratio between narrowest and widest bar in the bar code. It is locked for the majority of bar codes, but it can be changed for some.

**Base object width:** Shows the width of the narrowest bar in the bar code.

**Print bar code as graphics:** Select if bar code should be converted to a picture and sent to the printer as image or should the printer print bar code as an internal element. Printing internal bar codes will speed up label printing because less data must be transferred to the printer.

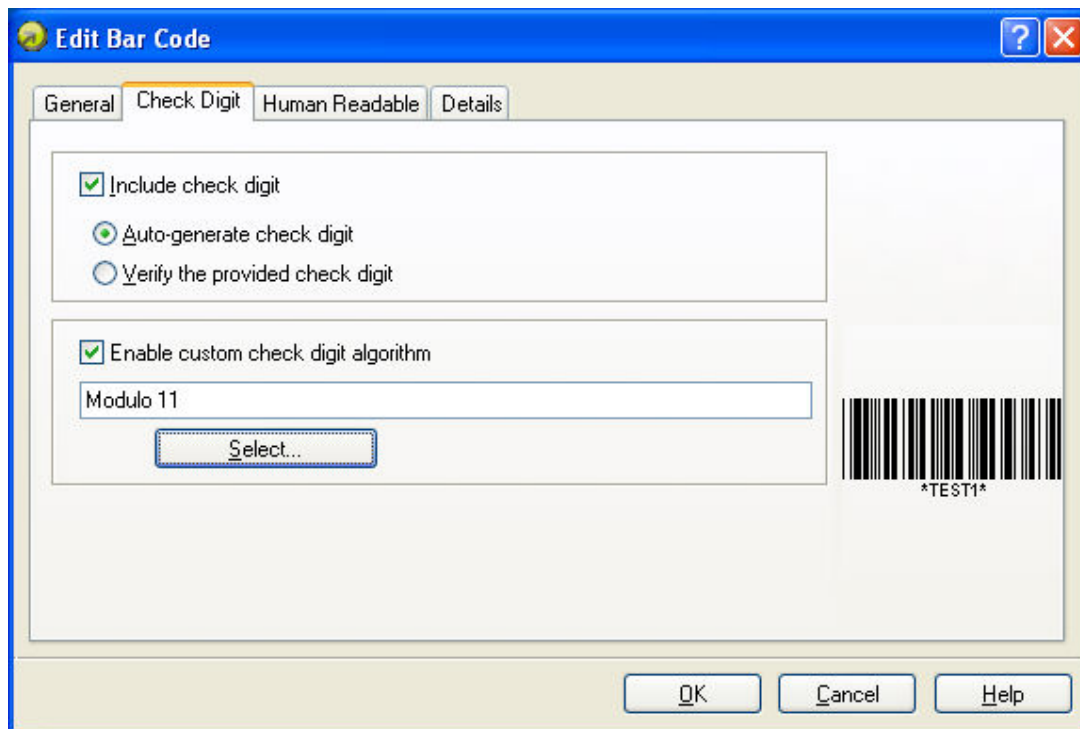
**Note:** If the printer does not support the selected bar code internally, the option **Print bar code as graphics** will not be available. All office printers will print bar codes as pictures.

## Check Digit Tab

This tab is used to specify if you want to use the check digit in the bar code or not. This option can only be modified for the bar codes that allow you to enable and disable the check digit.

Some bar code standards include the check-digit by definition and it cannot be omitted. An example of such bar codes are EAN and UPC bar codes, where the check digit cannot be disabled at all. But some codes allow you to freely enable/disable the check-digit.

**Note:** We recommend that you always include the check digit character in the bar code. It will increase the scanning reliability.



*Edit bar code dialog box – Check digit tab*

You can choose whether you want to input the check digit value, or let the program calculate it for you:

**Auto-generate check digit:** Check digit is calculated by the software. You enter the bar code data only. For example: when using EAN-13 bar code, you enter the first 12 digits; check digit on the 13th place will be calculated and added automatically.

**Verify the provided check digit:** Use this command when you want to enter the value for the check-digit. At print time, the entered check digit will be verified for validity.

**Enable custom check digit algorithm:** You can set a custom algorithm for calculating the check digit. Click on the button **Select** to choose the algorithm.

## Human Readable Tab

On this tab, you can set the options regarding position and format of the bar code interpretation.

**No interpretation:** Bar code object does not have any human interpretation.

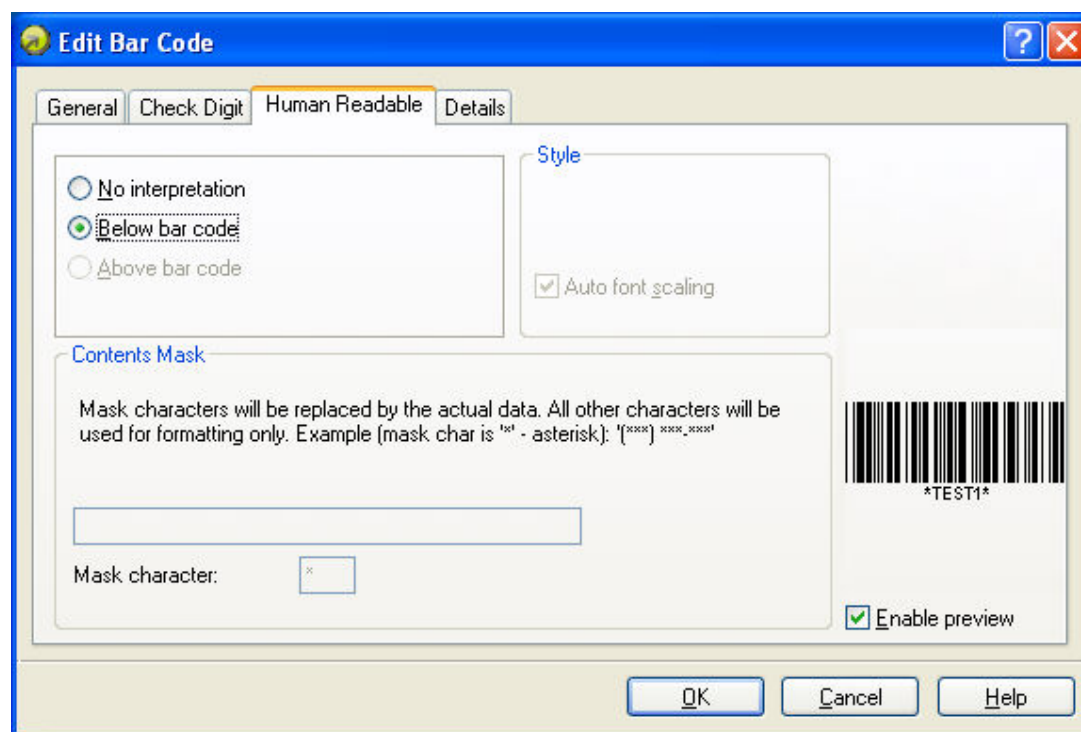
**Below bar code:** All data encoded in the bar code is placed beneath the bar code symbol as human readable characters.

**Above bar code:** All data encoded in the bar code is placed above the bar code symbol as human readable characters.

**Font:** Using the **Font** button, you can choose the font for auto-translation text. The option **Auto font scaling** will adjust the font of the auto translation text to the size of the bar code.

**Note:** You can format the font for human interpretation only if the bar code is printed as a graphic. When printing the bar code as an internal printer object, the printer will print the interpretation using resident built-in fonts.

**Contents mask** sets the custom format of the human interpretation.



*Edit bar code dialog box – Human readable tab*

## Details Tab

On this tab, you can define advanced settings for the bar code.

**Note:** Not all of these options are available for all bar codes and printers.

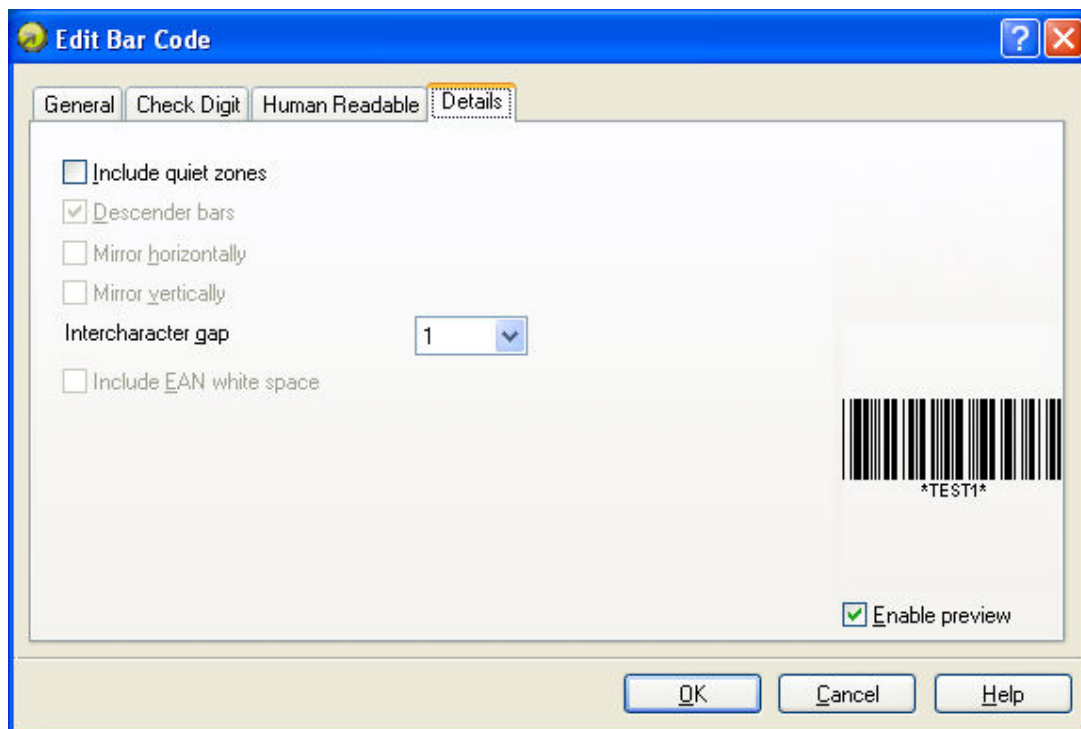
**Include quiet zones:** Check this field if you want the bar code to have some white space in the front and in the end for increased readability.

**Descender bars:** Some bars of a bar code will be longer than others. This is typically used with EAN and UPC bar codes that have longer bars in the beginning, in the middle and in the end of the bar code.

**Mirror horizontally/mirror vertically:** The bar code can be mirrored vertically and horizontally. The bar code will usually have to be printed as a graphic for this option to be accessible.

**Intercharacter gap:** Some bar codes allow you to change the gap between characters in the bar code (e. g. Code-39).

**Include EAN white space:** Before and after the bar code a special character is inserted, **or**. It indicates the width of the bar code. If you put any other object in the area of the bar code, it will reduce the readability of the bar code. This option is valid only for EAN bar codes.



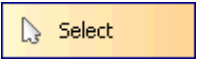
*Edit bar code – Details tab*

## Supported Bar Code Types

Bar code Group	Bar code Types
EAN and UPC	EAN-8, EAN-8 + 2-digit supplement, EAN-8 + 5-digit supplement, EAN-13, EAN-13 + 2-digit supplement, EAN-13 + 5-digit supplement, EAN-14, DUN-14, UPC Case Code, UPC-A, UPC-A + 2-digit supplement, UPC-A + 5-digit supplement, UPC-E, UPC-E + 2-digit supplement, UPC-E + 5-digit supplement, UPC-E(1), EAN.UCC 128, SSCC, Bookland, Addon 2, Addon 5
Linear	Interleaved 2 of 5, ITF 14, ITF 16, Code 39, Code 39 Tri Optic, Code 39 Full ASCII, Code 32, Code 93, CODE 128 (A, B and C subsets), MSI, Codabar, Postnet-32, Postnet-37, Postnet-52, Postnet-62, Kix, Pharmacode, Plessey, Anker
RSS	<p><b>Linear RSS symbologies</b>            RSS14, RSS14 Truncated, RSS14 Stacked, RSS14 Stacked Omni directional, RSS Limited, RSS Expanded</p> <p><b>Composite RSS symbologies</b>            RSS14, RSS14 Truncated, RSS14 Stacked, RSS14 Stacked Omni directional, RSS Limited, RSS Expanded, UPC-A, UPC-E, EAN-8, EAN-13, EAN.UCC 128 &amp; CC-A/B, EAN.UCC 128 &amp; CC-C</p>
Two-dimensional	2D-Pharmacode, PDF-417, DataMatrix, MaxiCode, Aztec, QR, MicroQR, Codablock F, MicroPDF, InfoGlyph

## Select Objects

To select the object on the label, do the following:

1. In the **Toolbox**, click the  button.
2. Click on the object on the label that you want to select.

To select two or more objects, press the **Shift** key, and hold down, while clicking the object with a mouse.

The objects can be selected, cut, copied, pasted, and edited with the right mouse button. If you click the right mouse button on the object, the menu shows all the available commands. Note that these commands are equivalent to correspondent menu commands.

You can also change the anchoring point of a selected object by holding **Ctrl** while clicking the placeholders (corners of the bounding box) of the object.



## Edit Objects

To edit the properties of the object, do the following:

1. Double-click the object on the label.  
The dialog box with object properties opens.

**Note:** You can also press the **Enter** key while the object is selected.

2. Make modifications to the object properties.
3. Click the **Finish** button.

## Move Objects

To move the object on the label, do the following:

1. Select the object.
2. Click on the object with the left mouse button.
3. Hold the mouse key down.
4. Move the position of the cursor on the screen.  
The object will move with the cursor.

## Aligning Objects

First you have to select objects that you want to align.

**Note:** All objects are aligned relative to the first selected object.

Then click appropriate buttons in **the Design toolbar** to align selected objects to each other. If Align toolbar is not visible (by default it is located on the very right side of the window), enable the Design toolbar in the *Toolbar* option in the *View* menu.

You can align objects to:



Left



Right



Horizontal center



Top



Bottom



Vertical center

You can also distribute object evenly, so that spacing between them is equal:



Horizontally



Vertically

**Note:** If you hold the **CTRL** key while clicking the buttons, objects are aligned relative to the label and not to the first selected object.


## Resize Objects

To resize the object on the label, do the following:

1. Select the object.  
The selected object is framed with a rectangle.
2. Click on one of the small rectangles in the corners of the rectangle.
3. Hold the mouse key down.
4. Move the position of the cursor on the screen.  
The object will resize with the cursor.

## Rotate Objects

To rotate the object, do the following:

1. Select the object.
2. In the **Design Toolbar**, click the  button.  
The object will be rotated 90° clockwise.

**Note:** If the Design toolbar is not visible in the application, enable the toolbar in the Toolbars section in the View menu.

## Supported Graphics Formats

The following graphical formats are supported:

File extension	Graphics type
BMP, DIB, RLE	Windows Bitmap
GIF	CompuServer Bitmap
JPG, JPEG, JPE	JPEG Bitmap
TIFF, TIF, FAX, G3N, G3F	TIFF Bitmap
PNG	Portable Network Graphics
WMF	Windows Metafile
EMF	Enhanced Windows Metafile
ICO	Windows Icon
CUR	Windows Cursor
TGA, TARGA, VDA, ICB, VST, PIX	Targa Bitmap
PXM, PPM, PGM, PBM	Portable Pixmap, GreyMap, BitMap
JP2	JPEG2000
J2K, JPC	JPEG2000 Code Stream
PCX	Paintbrush

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## Working with Variable Data

### Dynamic Data Overview

You may want to print labels on which the data changes for each label, for example, counter, serial numbers, date, and time. To accommodate the changing data, ZebraDesigner Pro can be used to format labels using the variable fields. Variable field can be used with text and graphic objects.

There are several types of variables you can choose. Data, which must be printed as a variable, is prepared at the time of printing. It can be entered in the program in these ways:

- by the operator from the keyboard
- from the computer's clock (date and time)
- from the label design (using counters with predefined starting values and steps)
- from the RF tag embedded into the label (RF Tag Unique ID)
- as output of 'Linked field' or 'Visual Basic expression'
- database can be used to provide data for the fields

The variable data can be the same for many labels and/or specific for one label only.



### Working with Databases

ZebraDesigner Pro allows you to use databases in which your data is stored. Database types can be:

- ASCII (text file) where fields are fixed-length or are separated with any selected character
- Microsoft Excel database
- Microsoft Access database
- Existing ODBC Data Sources

You can use a single database on the same label.

Databases are very useful when printing labels with a large quantity of different data and variable values. You don't have to enter values for every variable before label production any more; you can use previously prepared database instead. A database in the ASCII text file can be created in any text editor (for example Notepad); it can be also exported from other applications (for example Microsoft Word). You can also use Microsoft Excel to edit your data.

Before you can use the data from the database, you have to link the database on the label. During this process, the database fields get connected to the variable fields on the label.

When you start printing labels, every variable field will automatically get the value from the linked database field. Each record in the database is used on a single label.



## Using Data from the Databases

Imagine that you have the following database that contains first and last names of people:

field1	field2
John	Smith
Jane	Wright
Bob	Doe

1. To use the data on the label, you must first define this database using the Database Wizard.
2. To include two variable texts on a label, create two text objects.
3. In the text wizard, select **Variable contents** and click the **Next** button.
4. Select the Database option as the source of variable data.
5. Link both text objects to the variable fields, each to a separate field.

When you print the labels, each of the text objects on the label will get the value from the corresponding field in the database. When one label is printed, the next record is used for the second label and the process is repeated. Each name and surname is printed on a separate label.



## Work with Visual Basic Expressions

Visual Basic expressions allows you to manipulate the data values on the label. Input to Visual Basic can be fixed values or variable fields from the label. The output is always a data value that is used as content for the current object.

The expression is a one-line Visual Basic script. You can use up to 100 characters for your expression.

**Note:** The multi-line commands like "if..then..else.." cannot be used with the Visual Basic expression. You can use one-line expressions.

A Visual Basic expression must follow the Visual Basic script programming syntax. For more information on how to write your expressions, refer to the Microsoft help on Visual Basic scripting. Click on the button 'VB Script Help' in VB script step in the Text or Bar Code wizard to open the Microsoft help.

**Note:** You can also open the Visual Basic reference help file VBS55.CHM in the Bin folder of ZebraDesigner Pro folder.

Some common samples of Visual Basic expressions:

Visual Basic Expression	The result	Comment
1 + 4 * 20	81	Numeric calculation
"#" + LEFT("1234567890",5)	#12345	Working with string functions
[MyField1] + "-" + [MyField2]	The values from variable fields MyField1 and MyField2 are merged together.	Concatenating string values

## Using Expression Editor

The labeling software has a simple text built-in editor. You can use it to design your own simple Visual Basic scripts.

The Expression editor is a programming text editor with constant access to command reference of the script language you are currently using.

The Expression editor lets you edit your scripts and expressions with ease. The **Load** and **Save** buttons allow you to import / export Visual Basic scripts from / to external text files. The editor uses standard shortcuts for positioning of the cursor and working with text files. Standard Search and Replace shortcuts (Ctrl + F, Ctrl + R) are also available.

The working window is divided into four parts.

<b>Category</b>	<p>This section contains the groups of available commands, functions, and operators. Similar objects have been grouped together for easier identification and faster search.</p> <p>The groups are displayed as a tree-view. Select the main group name to display all its contents into the <b>Name</b> section. Or you can click the plus sign in front of the group name (if available) to display all defined sub-groups. Then select the sub-group name to display only its contents.</p>
<b>Name</b>	<p>This section will display the contents of the selected group in the <b>Category</b> section. All available commands, functions, operators etc. will be listed here. If you select one of them, its properties will be displayed in the <b>Description</b> section. If you want to insert the selected operands into the Expression field, double click its name or click the <b>Insert</b> button.</p>
<b>Expression</b>	<p>This section is the main workplace of the Expression editor. Use it to write and modify the script you are working on.</p>
<b>Description</b>	<p>This section displays the name, sample use and description of the currently selected operand in the <b>Name</b> section.</p> <p>You will get an idea of how the current operand should be used.</p>

**Language Help:** The button will open the help file with the detailed reference of the Visual Basic script.



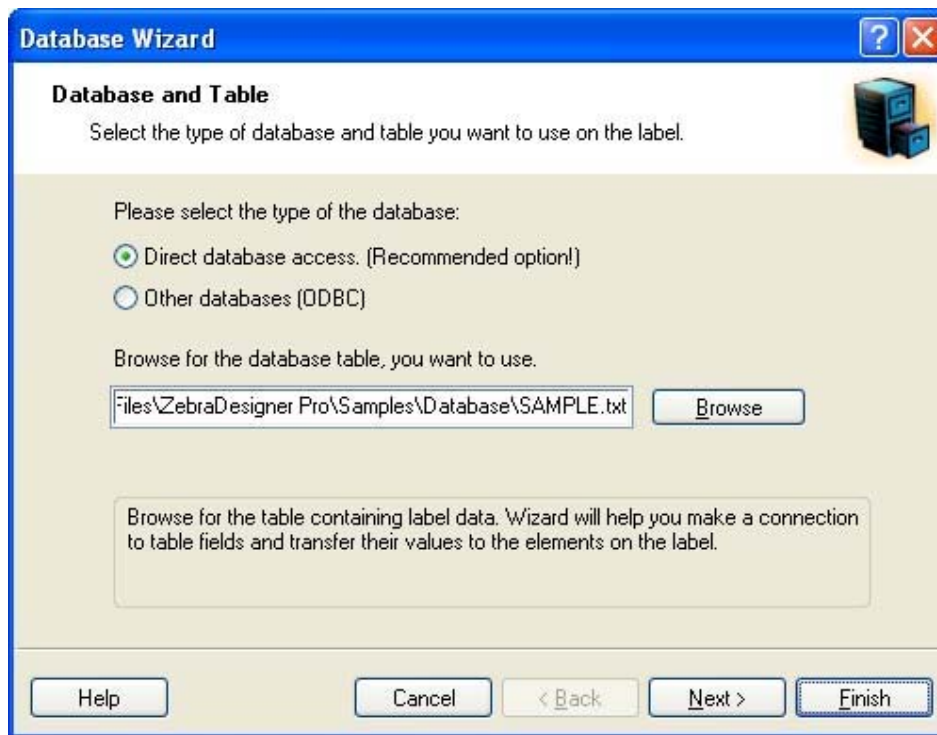
## Database Wizard

### Use Database Wizard

The process of defining a new Database access function consists of four steps (pages). On those pages you enter the data required by the Wizard. You can go to the next step (page) by clicking the **Next** button or return to previous with the **Previous** button.

When all necessary data has been entered, the **Finish** button will become available, allowing you to complete the process of defining a new Database access function. Note that some options have predefined values, so you don't really need to go through all the steps of a wizard.

### Select the Database File



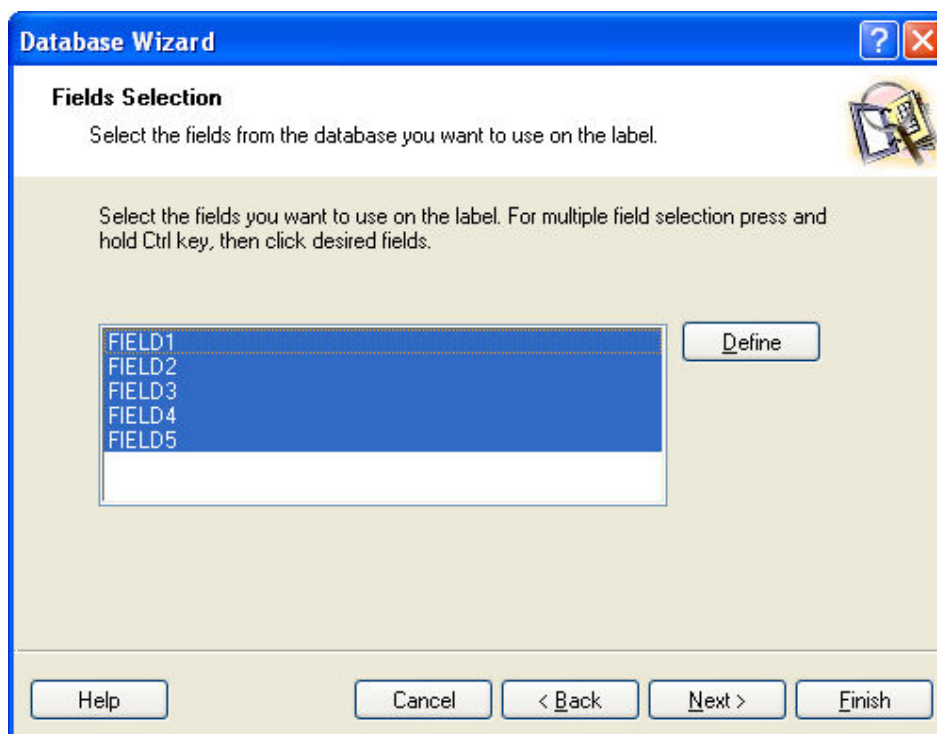
#### *Database wizard – Selecting database file*

Enter the full path name of the database file in the edit box or use the **Browse** button to find the file on your computer.

**Note:** You can only browse to the databases that are stored in the files. If you use databases through ODBC or OLE DB drivers, you will have to set up the connection parameters in the ODBC Data Sources administration in the Control Panel.



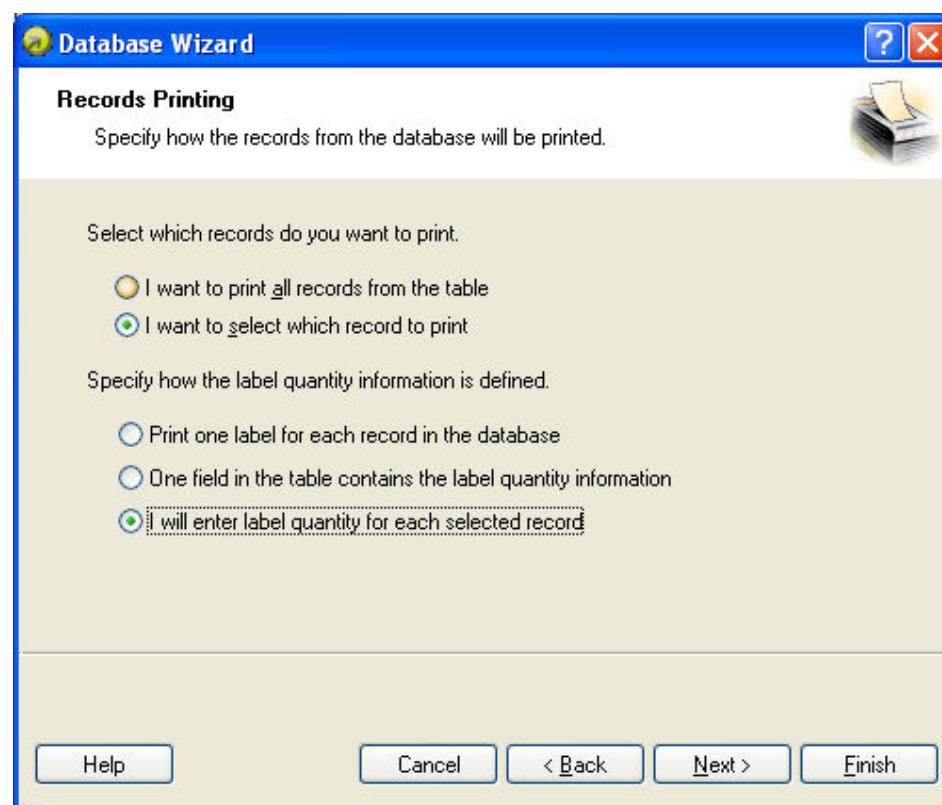
## Select the Desired Fields



### *Database wizard – Selecting fields*

On this page, you can select the fields you want to use on the label. All fields in a table are selected by default, but you will probably want to deselect some of them, especially if you have a large table. Variables will be created for each selected field and can later be attached to objects.

## Select the Records to Print



### *Database wizard – Selecting which records will be printed*

Select the desired option for how you want to use the records in the database. By default, the option **I want to print all records from the table** is set and all records in a table will be printed one at a time. Each record will be printed only once.

If you do not want to print the entire database, you can select which records should be printed. In this case, select the option **I want to select which record to print**. Before printing you will be shown a dialog box with all records from the database. Then you will be able to select which records should print.

By default, records are used once for a single label. If you would like to print several copies of a label with database data, you can define it in the second part of this step of the Wizard.

**A field in table contains quantity to print** option will let you chose some field in the database. This field has the information about the quantity of labels for each record. For example, you have a database with records of your products. It contains a field with a numeric value where the required number of label copies is stored. Select this field and let the application print the quantity of labels specified here.

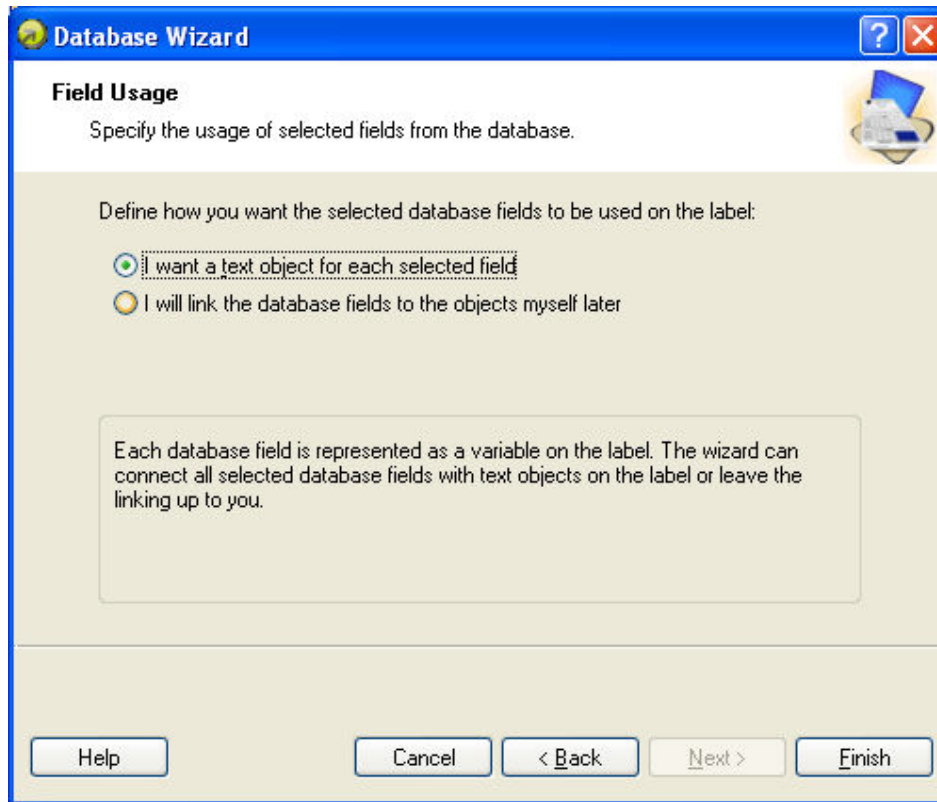
**I will enter print quantity for each record:** This option is accessible only if you have defined that you want to select which records should be printed. Before printing you will be able to select which records will be printed in the selection dialog box. At the same time, you will be able to type in the exact label copy for each selected record.

## Select Variable Quantity from the Database Field

Select a field in the database that contains the label quantity information. The database record will be printed on as many consecutive labels as the selected field contains.

**Note:** Make sure to select the field that has been formatted with the numeric data.

## Add Fields to the Label



*Database wizard – Adding fields to the label*

On this page, you specify if you want the wizard to generate text objects on the label that are already linked to corresponding fields in the table. Text objects are created in the upper left corner of a label, but you can move them to another position.



## Link Label to Text Databases

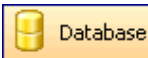
### Overview

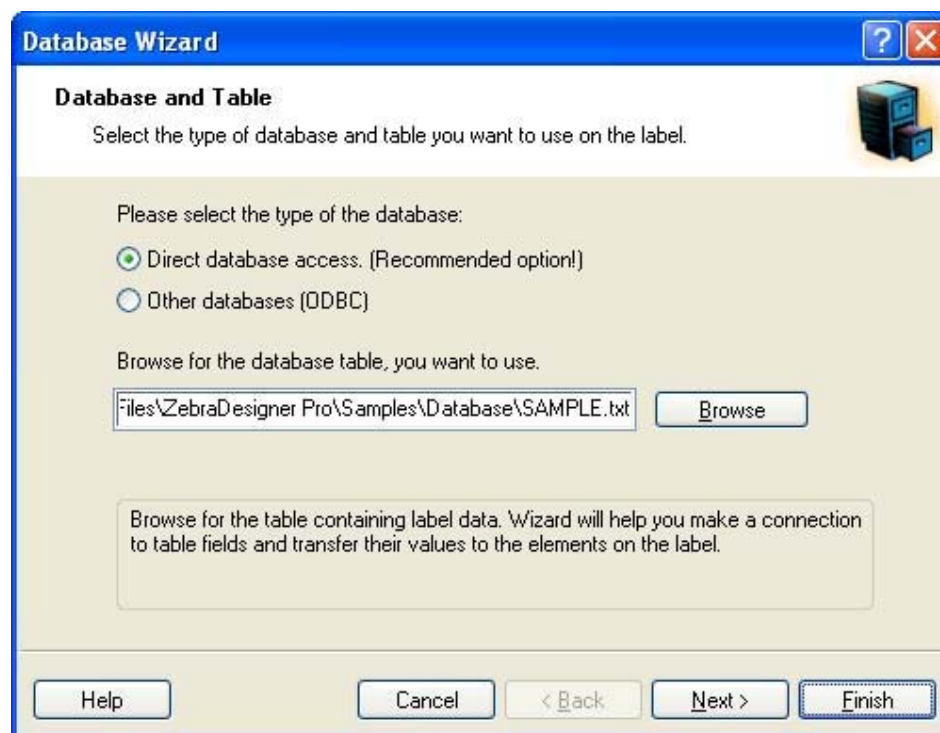
Text databases are text files containing data values that can be used for variable objects on the label. The text database is not a real database. It contains the data values but lacks the information of the data structure, name of the fields, and maximum lengths of the fields. You have to provide the missing information before ZebraDesigner Pro can use the data from such a text database.

### Connect to a Database

ZebraDesigner Pro offers a Database Wizard that guides you through the necessary steps to connect the database to a label.

To connect your label to a database using the Database Wizard, do the following:

1. In the **Standard Toolbar**, click the  button.
2. Click the **Browse** button and point to the text database **SAMPLE.TXT** in the **Samples** folder.



*Selecting the text database*

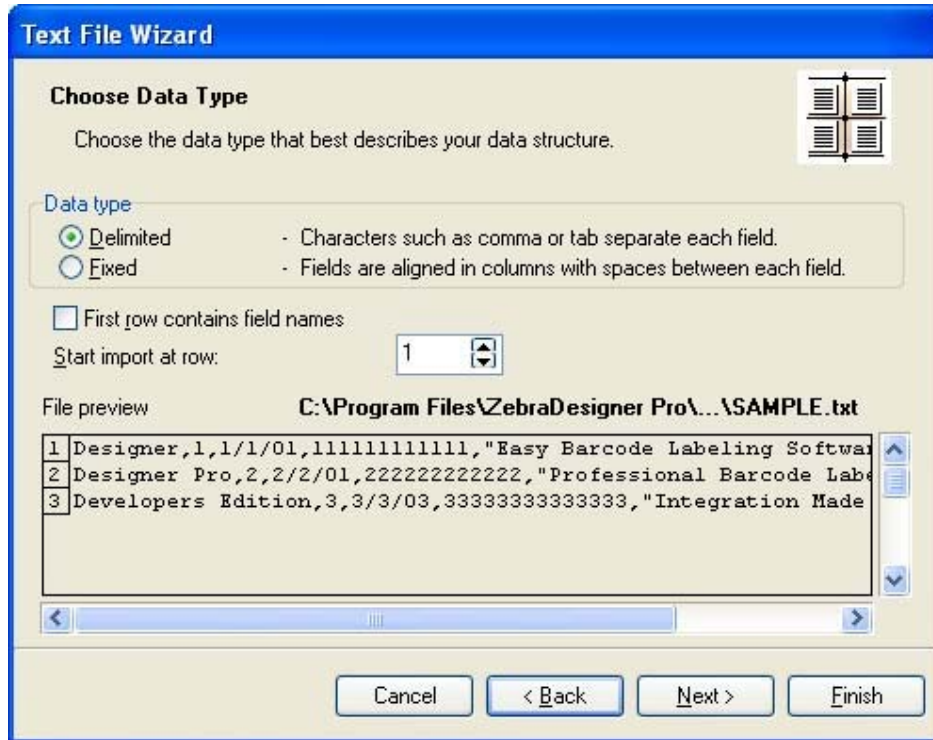
3. Click the **Next** button.

**Note:** If you connect to the database for the first time, you need to define the database structure. Continue with the next section.

## Format the Data with the Text File Wizard

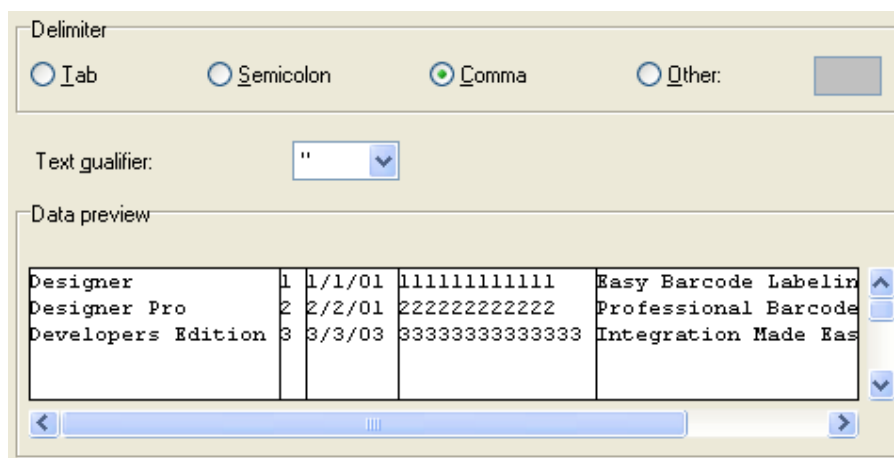
Because text files do not contain structural information like real databases do, you must define the fields and their data structure. When you use the same text database again, you won't have to define the structure again.

1. Choose the data type for the selected text database. The fields are delimited by comma so you must select the **Delimited** option.



### Defining the type of the text database

2. Click the **Next** button.
3. Review if ZebraDesigner Pro has properly auto-determined the format of the text file. The delimiter must be set to **Comma**.



### Defining the fields in the text database

4. Click the **Next** button.
5. Accept the default field names and click the **Next** button.
6. Review the text database structure. The field names and their maximum lengths are displayed.
7. To close the Text File Wizard, click the **Finish** button.

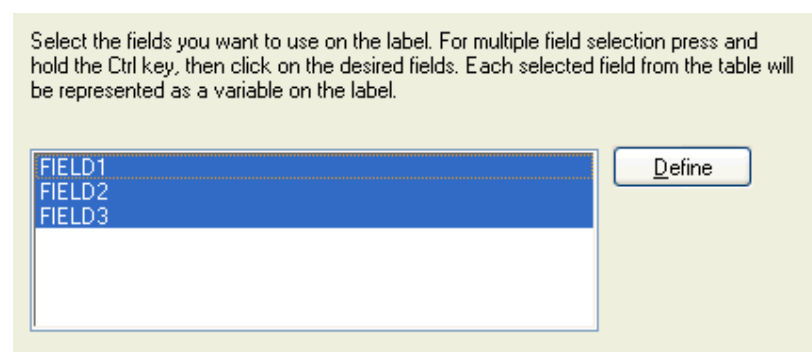
The link to the database has been created, and database fields are available on the label.

ZebraDesigner Pro brings you back to the Database Wizard.

## Place Database Fields on a Label

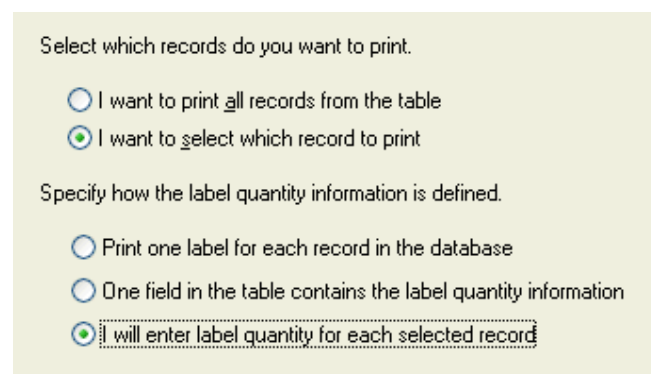
The next step in the Database Wizard opens the dialog box with the list of available fields from the database.

1. By default, all fields from the database will be used on the label. Click the **Next** button.



### *Using all fields in the text database*

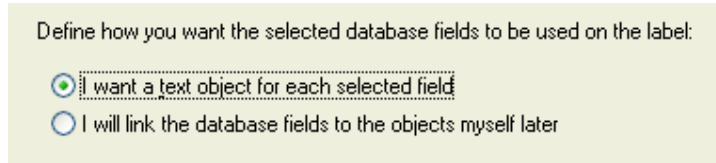
2. Specify what records and how many you want to print:  
Select the options **I want to select which record to print** and **I will enter label quantity for each selected record**. Before printing labels, the table with the records will open, and you will be able to select the records you want to print and the quantity of labels for each record.



### *Specifying which records from the database will be printed and in what quantity*

3. Click the **Next** button.

4. Select if the Database Wizard should link all selected fields from the database to the text objects on the label or if you want to link the fields manually to the label.
5. Click the **Next** button.
6. Select **I want a text object for each selected field** and click the **Finish** button.




*Each field from the database will be linked to a text object*

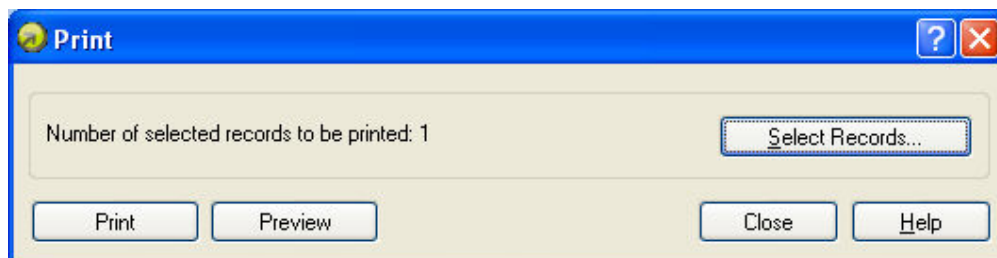
The label will show several text objects. Every field from the database is linked with the text object on the label.

### Use Print Preview to Select Data and View a Label

Now you will simulate label printing using print preview.

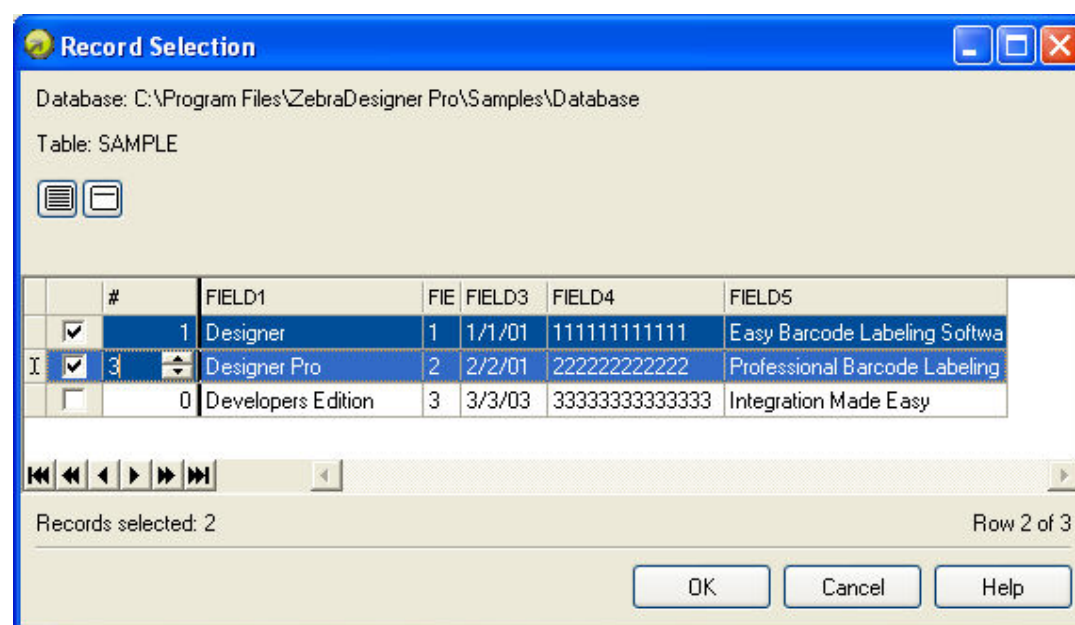
1. In the **Standard Toolbar**, click on the  button.
2. The *Print* dialog box opens with the Quantity of labels set to **Variable quantity (entered for each database record)**. This setting corresponds to your selection in the Database Wizard when you have selected the options **I want to select which record to print** and **I will enter label quantity for each selected record**.

Only the records you select will be printed in the defined quantity.



*Print / Print preview dialog box*

3. To choose which records to print from the database, click on the **Select Records** button. The **Record Selection** dialog box will open.
4. Select the records from the database you want to print and enter the number of labels you want to print for each selected record.



Record selection dialog box

- Click the **OK** button. You will return to the Print dialog box.
- Click the **Preview** button. Now you can preview the labels on the screen. Note that the text objects on the label change for each new record.



Preview of the second label in the series


- In the *Command* window to advance to the next label in the series, click the **Next** button. After you see the last label in the preview series, ZebraDesigner Pro re-opens the *Print* dialog box.
- To close the *Print* dialog box, click the **Close** button.

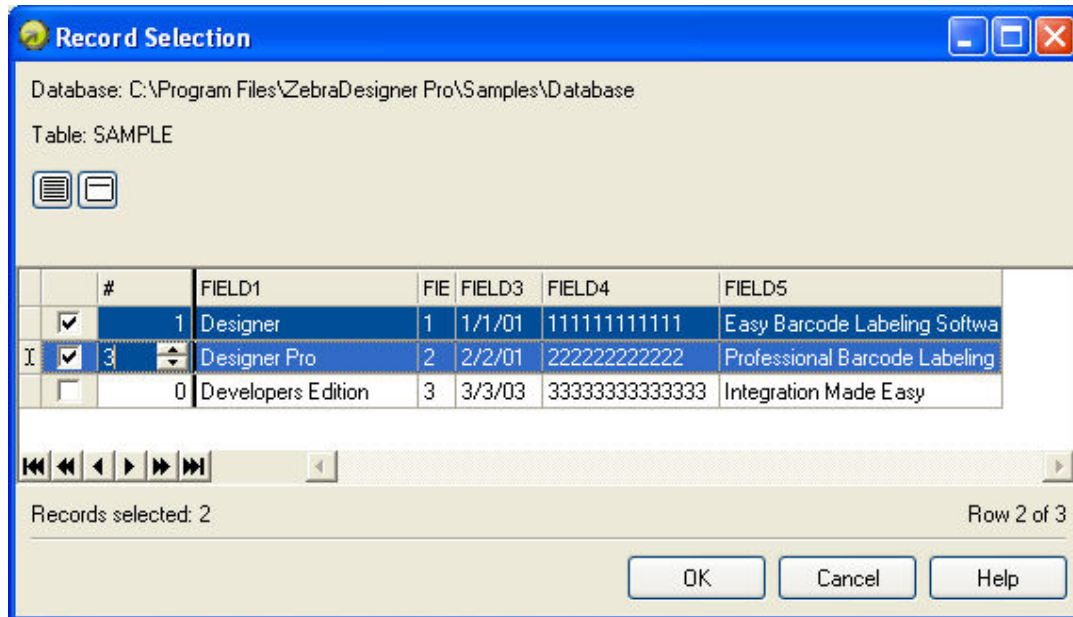
## Print a Label

When you are certain that the label design is correct and the label preview shows the correct values from the database, you can start sending the labels to the printer.



To print a label, do the following:

1. In the **Standard Toolbar**, click the  button.  
The Print dialog box will open (same as the print preview dialog box).
2. Click the **Select Records** button and select the records you want to print and specify the label quantity for each record.



*Selecting records and specifying label quantity*

3. Click the **OK** button.
4. To start printing labels, click the **Print** button.
5. To close the dialog box, click the **Close** button.



## Using Text File Wizard

### Text File Wizard

When the input database file is a plain ASCII text file or formatted CSV (Comma Separated Values), **Text File Wizard** will be started within Database Wizard and it will guide you through the steps of text data acquire. The main difference between a real database and a text file is in their data structure information. Databases include all information about their fields (names, data format, and length) and can be automatically used with the application. Text files, on the other hand, do not have such information, and you will have to instruct the application on how the data is encoded.

When the Text File Wizard finishes, it will return control to the Database Wizard that will guide you the rest of the way.

### Choose a Data Type

Before you can use text file, you will have to define its data structure. Fields can be delimited by a separator (tab, semicolon, comma, or some entirely user-defined separator) or can be of a fixed length.

**Text File Wizard**

**Choose Data Type**

Choose the data type that best describes your data structure.

**Data type**

☒ **Delimited** - Characters such as comma or tab separate each field.

☐ **Fixed** - Fields are aligned in columns with spaces between each field.

☐ First row contains field names

Start import at row:

File preview **C:\Program Files\ZebraDesigner Pro\...\SAMPLE.txt**

1	Designer,1,1/1/01,11111111111,"Easy Barcode Labeling Software
2	Designer Pro,2,2/2/01,22222222222,"Professional Barcode Labeling
3	Developers Edition,3,3/3/03,3333333333333333,"Integration Made

Buttons: Cancel, < Back, Next >, Finish

### Database Wizard –Choosing Data Type

Choose **Delimited**, if you know that data fields are separated with a special character. File preview at the bottom of the dialog box can be helpful if you do not know exactly how the data is organized.

Choose **Fixed** if you know that your data fields always occupy the same number of characters.

**Start import at row** option is useful when you do not want to import some rows at the top of the file. You may want to use this option when the text file contains a header on top of actual data fields.

## Set the Fields

**Text File Wizard**

**Set the Delimiter and Text Qualifier**

Set the delimiter and text qualifier that are used in your text file.

**Delimiter**

☐ Tab
 ☐ Semicolon
 ☒ Comma
 ☐ Other:

**Text qualifier:**

**Data preview**

Designer	1	1/1/01	111111111111	Easy Barcode Labelin
Designer Pro	2	2/2/01	222222222222	Professional Barcode
Developers Edition	3	3/3/03	333333333333	Integration Made Eas

### *Database Wizard –Setting separator and delimiter*

In the second step of the Text File Wizard, you have to set the fields in the text file. If you have selected **Delimited** in the previous step, choose the appropriate separator here. Commonly, used separators are already pre-defined. But if you require some other, there is an option to use a custom-defined one.

You can also select the Delimiter character that is used when a separator character is used in the text field itself. The delimiter should be used to enclose this field. Text between two delimiter characters is treated as one field although it contains the field separator character.

The data preview in the bottom part of the dialog box will let you know if your choice of a separator character is a correct one. Fields will be separated with vertical lines if a separator is valid.

If you selected to have your data formatted with fixed widths, the second step of the Wizard will be slightly different. Instead of selecting a character for field separation, you will have to define field widths. Use a mouse and draw a vertical line to the start positions of the fields. Lines will indicate where the new field starts.

## Format the Fields

**Text File Wizard**

**Set Field Names and Fields to Import**

Set custom field names and their maximum possible lengths.

Field name and import

Field name:

Field length:

Data preview

FIELD1	FIELD2	FIELD3	FIELD4	FIELD5
Designer	1	1/1/01	111111111111	Easy Barcode Labelin
Designer Pro	2	2/2/01	222222222222	Professional Barcode
Developers Edition	3	3/3/03	333333333333	Integration Made Eas

Cancel < Back Next > Finish

### *Database Wizard –Formatting the fields*

In this step of the Wizard, you can review the field names and lengths. If necessary, you can modify them. You may use more recognizable field names so you can distinguish between them more easily.

When you are finished with Text File Wizard, the structure information of the used text file is stored to a separate file with an extension of **.SCH** (Scheme File). If you try to use the same text file on a different label, you will not have to recreate the structure. **SCH** files will be automatically used and the Text File Wizard will not be necessary.



## Using Printer Real Time Clock (RTC)

When the printer selected on the label has a built-in Real Time Clock (RTC), you can use the time or date fields from the Real Time Clock with text objects on the label. The available time and date formats are defined in the printer driver.

To use the time field from the printer RTC on the label, do the following:

1. In the **Toolbox**, click the **Text** button.
2. Click the position on the label, where you want to place the object. Text Wizard dialog box will open.
3. Enable the **Variable text** option.
4. Click the **Next** button.
5. Select the Time Field option.
6. Click the **Next** button.
7. Enable the option **Use the printer's internal clock**.
8. Select the appropriate time format from the list.
9. Click the **Finish** button.

**Note:** When you are using a prefix and suffix with the Real Time Clock field on the label, make sure that the length of the prefix and suffix does not exceed 31 characters. When you are using a linked field and are merging a Real Time Clock field with other fields, make sure that the length of fields surrounding Real Time Clock field does not exceed 31 characters.

## Available Date Formats

The date fields can be printed in various formats. In this field, you define how the date will look. You can select some of the predefined date formats or enter you own. When defining the formats, the following notation is used:

<b>D</b>	Number of the day in a month. Can occupy one or two characters.
<b>DD</b>	Number of the day in a month. Always occupies two characters (leading zeros will be added as necessary).
<b>M</b>	M is number of the month. Can occupy one or two characters.
<b>MM</b>	MM is number of the month. Always occupies two characters.
<b>YY or YYYY</b>	The year as 2 or 4 digits.
<b>DDD</b>	Abbreviation of the day of the week.
<b>DDDD</b>	The full name of the day of the week.
<b>MMMM</b>	The full name of the month.
<b>MMM</b>	The abbreviation of the name of the month.
<b>J</b>	The number of days since January 1. Can occupy from one to three characters.
<b>JJJ</b>	The number of days since January 1. Always occupies three characters.
<b>W</b>	The week number in the current year. Can occupy one or two characters.
<b>WW</b>	The week number in the current year. Always occupies two characters.
	Any other sequence of characters will be displayed unchanged so you can insert dots, commas and other characters needed to properly write the date.

**The examples:**

Format	How the date will look
D/M/YYYY	10/3/2005
DD/MM/YY	10/03/05
DDDD, D. MMMM YYYY	Thursday, 10. March 2005
JJWWYYYY	069102005

**Available Time Formats**

The time can be printed in various formats. In this field, you define how the time will look. You can select some of the predefined time formats or enter you own. When defining the formats, the following notation is used:

<b>h</b>	Hours in 12-hour format (AM/PM will be added if they follow the time). Can occupy one or two characters.
<b>hh</b>	Hours in 12-hour format (AM/PM will be added if they follow the time). Always occupies two characters. (leading zeros will be added as necessary).
<b>H</b>	Hours in 24-hour format. Can occupy one or two characters.
<b>HH</b>	Hours in 24-hour format. Always occupies two characters.
<b>mm</b>	Used for minutes.
<b>ss</b>	Used for seconds.

**The examples:**

Format	How the time will look
h:mm {AM/PM}	8:25PM
H:mm	20:25
hh:mm:ss	08:25:36

## Using Contents Mask

The contents mask is very useful when you must display the input data differently on the label. With contents mask, you can reformat the data to suit your needs. Contents Mask is available in the Human Readable tab in bar code properties.

The mask character will be replaced by the actual data and any other used character will be used as-is. If the current bar code value is

"AD951"

and the contents mask is

"\*\*C - \*\* /\*/"

the resulting output will be

"ADC - 95 /1/"

Powerful formatting structures can be defined using Contents mask, but it is only available with bar codes that allow custom formatting of the human interpretation. You should also make sure to print bar codes as graphics; otherwise, the contents mask is not available.

**Note:** If your data contains the asterisk "\*" character, then you will have to change the default mask character to something else. It should be a unique value, not appearing anywhere in the data.



# Printing and Previewing Labels

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## Preview Pictures

When you place a picture on the label, in design mode it is always shown in color-depth as defined in the picture.

However, when previewing the labels on-screen, the preview of the pictures depends on the dithering option set in the printer driver. All color pictures (except WMF and EMF files) are converted to monochrome images. The illusion of colors and shades of grey is accomplished by varying the pattern of dots. More dots close together will provide a darker shade of grey.

The preview of the label will show pictures in the same way as they will be printed according to the dithering setting. A more accurate print preview is guaranteed this way.


If the picture is not previewed as you would like to print it, change the dithering setting in the printer driver.

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## Preview and Print a Label


If you want to print a label, you can use the print preview to simulate a print output. The label preview shows the label on the screen.

Simulate printing 10 labels on the screen to check label layout and printing procedure.

1. In the **Standard Toolbar** click the  button or from the **File** menu select the **Print** command.  
The Print dialog box appears.
2. Enter *10* for Label Quantity and click on the **Preview** button.  
ZebraDesigner Pro will close the dialog box and simulate the production for 10 labels on the screen.

**Note:** You can select between the quantity of the labels and the quantity of pages. The page can have one or more labels, and the labels are arranged on the page in columns and rows. If you have eight labels on the page, quantity of ten pages will print 80 labels.

When you are certain that the labels will be printed correctly and the preview shows the correct values, you can proceed to real printing. To actually print the labels, do the following:

1. In the **Standard Toolbar**, click the  button.  
The Print dialog box appears.
2. Enter *10* for the Label Quantity and click the **Print** button.  
Your printer will now print 10 labels.

## Optimize the Printing Speed

There are many factors that affect the printing speed. By following the guidelines below you can dramatically increase the speed of printing:

- If your printer supports parallel and serial ports, use the parallel port. Your computer can send data to the printer over a parallel port much faster than over serial port.
- Use the printer's internal fonts instead of Windows' true-type fonts. True-type fonts must be sent to the printer as graphics and the size of the file is much bigger (kilobytes). When using internal fonts, only the text is sent to the printer (couple of bytes). If you must use true-type fonts, use the Font Downloader program, to download these fonts to the printer's memory and access these fonts as internal printer fonts (only if your printer supports this).
- When using bar codes, make sure that you do not print bar codes as graphics if your printer supports printing bar codes.
- When using counters, the printer will internally increment the numbers if the internal fonts are used (if supported by the printer). This means, that the printer will receive only the first number of objects, and will later increment this number to print other labels. Using this option also reduces the amount of data transferred between computer and printer, but the difference is noticeable only with high quantities of labels.
- Set the printing speed to a higher value (if your printer supports it). Note that setting the printing speed usually affects the quality of printing. The higher the speed, the lower the quality. You will have to find an acceptable compromise for this.
- Don't print too much data on labels. If the speed of printing is an important factor, you should consider using preprinted labels, and print only the data, that is different on each label.

# Technical Support

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## Online Support

You can find the latest builds, updates, workarounds for problems and Frequently Asked Questions (FAQ) under the Support section on the Zebra Web site. If you cannot solve the problem on your own, please contact your local vendor or representative offices listed in the topic [Contact Information](#).

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## Contact Information

Worldwide, Technical Support is available through your Reseller, or at:  
<http://www.zebra.com/support>.

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# Glossary of Terms

## **Auto translation**

Bar code interpretation in human readable characters.

## **Darkness**

The print-head temperature defines the print darkness. The higher is the temperature, the darker is the printout. (thermal printers only)

## **Descender bars**

Longer first and last bar in the EAN 13 bar codes.

## **Quiet zone**

The empty place before and after the bar code symbol. This is necessary for the bar code reader to properly read the bar code.

## **Security**

The definition of the control check-digit with some bar code types.





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