


# ZebraDesigner Essentials Version 3 User Guide

Product level: Essentials. Rev-2019-1

P1108968-EN



**ZEBRA**



ZEBRA and the stylized Zebra head are trademarks of Zebra Technologies Corporation, registered in many jurisdictions worldwide. All other trademarks are the property of their respective owners. ©2019 Zebra Technologies Corporation and/or its affiliates. All rights reserved.

Information in this document is subject to change without notice. The software described in this document is furnished under a license agreement or nondisclosure agreement. The software may be used or copied only in accordance with the terms of those agreements.

For further information regarding legal and proprietary statements, please go to:

SOFTWARE: [www.zebra.com/linkoslegal](http://www.zebra.com/linkoslegal)

COPYRIGHTS: [www.zebra.com/copyright](http://www.zebra.com/copyright)

WARRANTY: [www.zebra.com/warranty](http://www.zebra.com/warranty)

END USER LICENSE AGREEMENT: [www.zebra.com/eula](http://www.zebra.com/eula)

## **Terms of Use**

### **Proprietary Statement**

This manual contains proprietary information of Zebra Technologies Corporation and its subsidiaries ("Zebra Technologies"). It is intended solely for the information and use of parties operating and maintaining the equipment described herein. Such proprietary information may not be used, reproduced, or disclosed to any other parties for any other purpose without the express, written permission of Zebra Technologies.

### **Product Improvements**


Continuous improvement of products is a policy of Zebra Technologies. All specifications and designs are subject to change without notice.

### **Liability Disclaimer**

Zebra Technologies takes steps to ensure that its published Engineering specifications and manuals are correct; however, errors do occur. Zebra Technologies reserves the right to correct any such errors and disclaims liability resulting therefrom.

### **Limitation of Liability**

In no event shall Zebra Technologies or anyone else involved in the creation, production, or delivery of the accompanying product (including hardware and software) be liable for any damages whatsoever (including, without limitation, consequential damages including loss of business profits, business interruption, or loss of business information) arising out of the use



of, the results of use of, or inability to use such product, even if Zebra Technologies has been advised of the possibility of such damages. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

# Contents

---

|          |                                                 |           |
|----------|-------------------------------------------------|-----------|
| <b>1</b> | <b>Typographical Conventions</b>                | <b>7</b>  |
| <b>2</b> | <b>Activating ZebraDesigner</b>                 | <b>8</b>  |
| 2.1      | Activating ZebraDesigner Online                 | 8         |
| 2.2      | Activating ZebraDesigner Offline                | 9         |
| 2.3      | Deactivating ZebraDesigner                      | 11        |
| 2.4      | Activating and Deactivating over a Proxy Server | 12        |
| <b>3</b> | <b>Introduction</b>                             | <b>17</b> |
| 3.1      | Basic ZebraDesigner Concepts                    | 17        |
| 3.2      | Keyboard and Mouse Support                      | 18        |
| 3.3      | Options (Configuring the Program)               | 20        |
| <b>4</b> | <b>Workspace Overview</b>                       | <b>22</b> |
| 4.1      | Landing Page                                    | 22        |
| 4.2      | Object and Explorer Panels                      | 23        |
| 4.3      | Printer and Status Bar                          | 23        |
| 4.4      | Tabs and Ribbons                                | 24        |
| 4.5      | Design Surface                                  | 46        |
| 4.6      | Document Properties and Management Dialogs      | 49        |
| 4.7      | Context Menus                                   | 50        |
| <b>5</b> | <b>Label</b>                                    | <b>53</b> |
| 5.1      | Label Setup Wizard                              | 53        |
| 5.2      | Label Properties                                | 56        |

---

|                                                  |            |
|--------------------------------------------------|------------|
| 5.3 Label Objects .....                          | 60         |
| 5.4 Working with Objects .....                   | 76         |
| <b>6 Barcode .....</b>                           | <b>78</b>  |
| 6.1 Source .....                                 | 78         |
| 6.2 Barcode .....                                | 78         |
| 6.3 Check Digit .....                            | 79         |
| 6.4 Human Readable .....                         | 80         |
| 6.5 Bearer Bar .....                             | 80         |
| 6.6 Details .....                                | 81         |
| 6.7 Position .....                               | 81         |
| 6.8 General .....                                | 82         |
| 6.9 Available Barcodes and Their Settings .....  | 83         |
| 6.10 GS1 DataBar Subtypes .....                  | 95         |
| 6.11 1D Barcode Details .....                    | 98         |
| 6.12 2D Barcode Details .....                    | 99         |
| 6.13 GS1 DataBar Specifics .....                 | 101        |
| 6.14 Maxicode Barcode Content .....              | 102        |
| 6.15 USPS Intelligent Mail Barcode Content ..... | 103        |
| <b>7 Printing .....</b>                          | <b>105</b> |
| 7.1 Print Pane (Default Printing Form) .....     | 105        |
| 7.2 Printing Procedure .....                     | 108        |
| 7.3 Optimize Printing Speed .....                | 109        |
| 7.4 Changing Common Printer Settings .....       | 110        |
| 7.5 Changing Dithering Options .....             | 112        |

---

|                                                     |            |
|-----------------------------------------------------|------------|
| <b>8 Dynamic Data Sources</b> .....                 | <b>114</b> |
| 8.1 Variables .....                                 | 114        |
| 8.2 Special Character Shortcuts .....               | 128        |
| <b>9 How To</b> .....                               | <b>130</b> |
| 9.1 Insert Characters with <#hex_code> Syntax ..... | 130        |
| 9.2 Insert Characters with Alt+<ASCII_code> .....   | 130        |
| 9.3 Printing of Unlimited Data .....                | 131        |
| 9.4 Using the Internal Printer Counter .....        | 132        |
| <b>10 Glossary</b> .....                            | <b>134</b> |

# 1 Typographical Conventions

Text that appears in **bold** refers to menu names and buttons.

Text that appears in *italic* refers to options, confirming actions like Read only and locations like Folder.

Text enclosed in <Less-Than and Greater-Than signs> refers to keys from the desktop PC keyboard such as <Enter>.

Variables are enclosed in [brackets].

**NOTE:** This is the style of a note.

**EXAMPLE:** This is the style of an example.

This is the style of a best practice.

**WARNING:** This is the style of a warning.

**TIP:** This is the style of a tip.

## 2 Activating ZebraDesigner

ZebraDesigner helps you design and print labels on Zebra printers from your computer. There are two editions to choose from:

- ZebraDesigner Essentials is free to use, and requires no activation. It offers basic label design features.
- ZebraDesigner Professional is free to use for 30 days, then requires purchase and activation. It offers advanced features to help you design more complex labels based on fixed or variable data and also includes database and RFID support.

### 2.1 Activating ZebraDesigner Online

To use ZebraDesigner Professional to efficiently design and print your labels, activate your copy to use all features. You need:

- ZebraDesigner Essentials installed and running on your computer.
- Your 18-digit license key, available from Zebra's online store or your Zebra software distributor.
- An active Internet connection. To activate offline, read section "Activating ZebraDesigner Offline" on the next page.

To activate ZebraDesigner Professional:

1. Open ZebraDesigner.
2. Go to **Home > Activate Key** or **File > About > Activate your license**.
  - The **ZebraDesigner Activation** window opens.
3. Paste in your 18-digit license key. You receive this key after you purchase ZebraDesigner.
4. Type in your information.
5. Click **Activate**.

Your ZebraDesigner Professional is activated and ready to use.

**NOTE:** You cannot activate your license key in virtual PC environments.

To deactivate your license, read section "Deactivating ZebraDesigner" on page 11.



To activate or deactivate your license using a proxy server, read section "Activating and Deactivating over a Proxy Server" on page 12.

## 2.2 Activating ZebraDesigner Offline

ZebraDesigner helps you design and print labels on Zebra printers from your computer. To use ZebraDesigner Professional to efficiently design and print your labels, activate your copy to use all features.

To activate ZebraDesigner Professional on computers without an internet connection, send Zebra your activation certificate to receive your license. You need:

- ZebraDesigner Essentials installed and running on your computer.
- Your 18-digit license key, available from Zebra's online store or your Zebra software distributor.
- Another computer with an active internet connection.
- A way to transfer files between your offline and online computers (e.g., USB Drive, internal email, networked location).

Open ZebraDesigner and go to **Home > Activate Key** or **File > About > Activate your license**.

1. Click **Activate offline**.
  - Paste in your 18-digit license key. You receive this key after you purchase ZebraDesigner.
  - Type in your information.

Offline activation allows you to activate this product on a computer without internet connection. To complete the activation, please send Zebra your Activation Certificate. You will receive the license key in return.

**Step 1:** Type your 18-digit license key

License key:  ✓

First name:  ✓

Last name:  ✓

Company:  ✓

Email:  ✓

**Step 2:** Press the Generate activation certificate button to generate your activation certificate.

**Step 3:** Send your activation certificate to Zebra.

How to send the activation certificate to Zebra?

- Recommended way. Go to the online self-service portal using another computer with internet connection and send the activation certificate. Link to the self-service portal: <https://www.activationportal.me/selfservice/activation.aspx?cid=5662&pid=5582&Type=1&Lang=en-US> (Copy web address)
- Alternative way. Send an email to [support@zebra.com](mailto:support@zebra.com) and attach the generated activation certificate file.

**Step 4:** After you receive your license, paste or load the license from file, and click the Activate your license button.

2. Click **Generate activation certificate**. Copy or save your generated text.
  - Transfer your saved activation certificate to another computer with an active internet connection. Use this online computer to complete registration.
3. Send your activation certificate to Zebra. There are two options:
  - Use Zebra's [self-service activation portal](#).
  - Email [support@Zebra.com](mailto:support@Zebra.com) and attach your activation certificate.
4. When you send your activation certificate, Zebra emails you your license.
  - Transfer this license to your offline computer and paste or load your license.

Step 4: After you receive your license, paste or load the license from file, and click the Activate your license button.

5. Click **Activate your license**. Your ZebraDesigner Professional is activated and ready to use.

**NOTE:** You cannot activate your license key in virtual PC environments.

To deactivate your license, read section "Deactivating ZebraDesigner" on the next page.

To activate or deactivate your license using proxy server, read section "Activating and Deactivating over a Proxy Server" on the next page.

## 2.3 Deactivating ZebraDesigner

ZebraDesigner helps you design and print labels on Zebra printers from your computer. To use ZebraDesigner Professional, activate your copy to use all features.

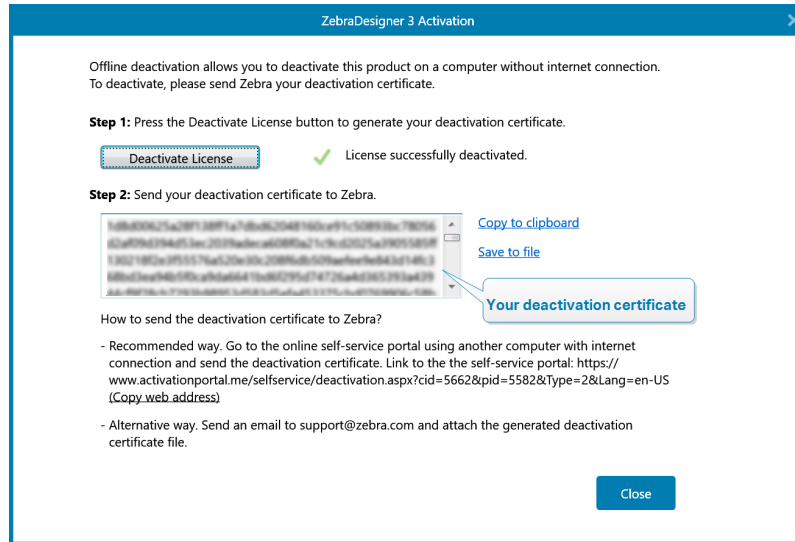
To deactivate ZebraDesigner on computers with an active internet connection:

1. Open ZebraDesigner.
2. Go to **File > About > Deactivate** your license.
  - The ZebraDesigner Deactivation warning window opens.
3. Click **OK** to proceed.
  - ZebraDesigner closes. Your ZebraDesigner Professional is deactivated and ready to use on another computer.

To deactivate ZebraDesigner Professional on computers without an internet connection:

1. Open ZebraDesigner and go to **File > About > Deactivate your license**.
  - The ZebraDesigner Deactivation warning window opens.
2. Click **OK** to confirm. Your computer tries to access the license server. Because there is no internet connection, continue offline.
3. Click **Deactivate offline**.
4. Click **Deactivate License** to generate your deactivation certificate. This deactivates your ZebraDesigner.

- Copy or save your generated text.



5. Transfer your saved deactivation certificate to another computer with an active internet connection. Use this online computer to complete deactivation.
6. Send your deactivation certificate to Zebra. There are two options:
  - Use Zebra's [self-service deactivation portal](#) to deactivate your ZebraDesigner immediately.
  - Email [support@Zebra.com](mailto:support@Zebra.com) and attach your deactivation certificate.
- When you send your deactivation certificate, Zebra emails you your license deactivation confirmation.

Your ZebraDesigner Professional is now deactivated on server and client side.

**NOTE:** You cannot activate your license key in virtual PC environments.

To activate or deactivate your license using a proxy server, read section "Activating and Deactivating over a Proxy Server" below

## 2.4 Activating and Deactivating over a Proxy Server

If your company's internet connection uses a proxy server, use this procedure to activate or deactivate ZebraDesigner.

## 2.4.1 Activating over a Proxy Server

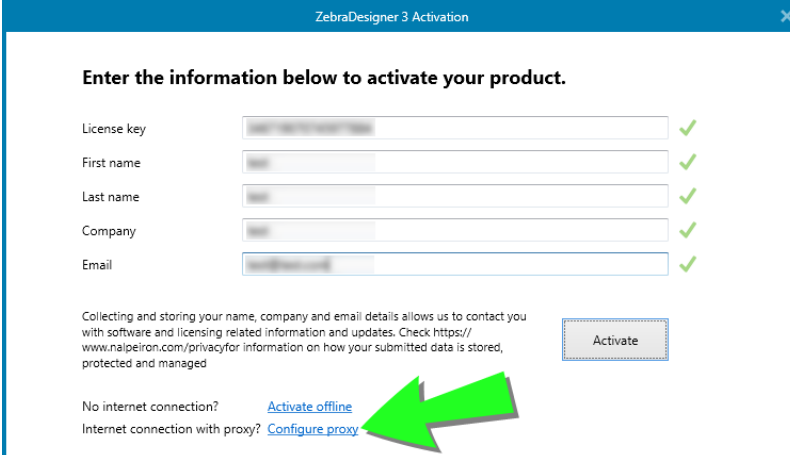
1. Open ZebraDesigner. The **ZebraDesigner Activation** window appears. Click **Activate**.

If you are already running the trial, go to:

- **File > About** and click **Activate your license**.
- **Home > Trial** and click **Activate Key**.

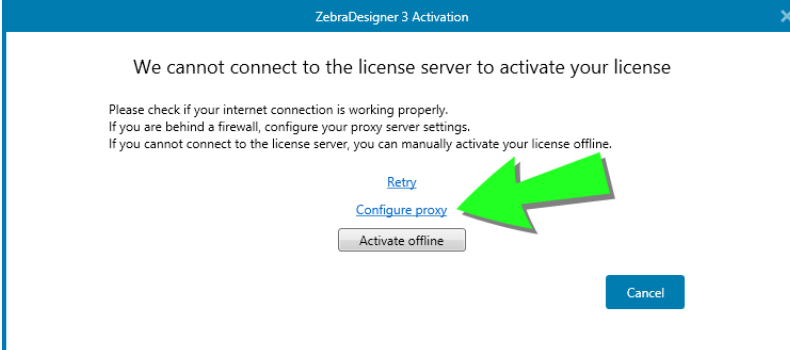
The **ZebraDesigner Activation** window opens.

2. Type or paste your license key into the **License key** field. You receive this key after purchasing your ZebraDesigner license.
3. Type your **First name**, **Last name**, **Company**, and **Email** address.
4. Configure your proxy connection. Click **Configure proxy**.



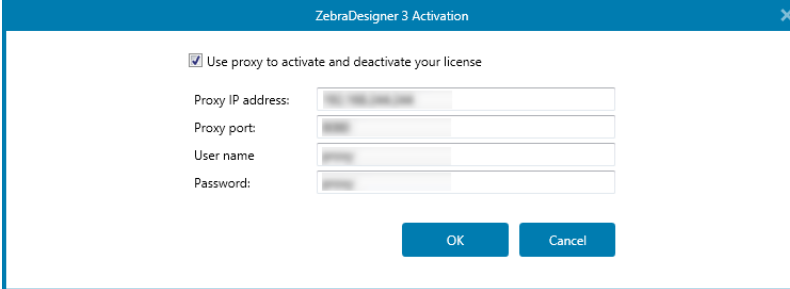
The screenshot shows the 'ZebraDesigner 3 Activation' window. It contains a form with the following fields: License key, First name, Last name, Company, and Email. Each field has a green checkmark to its right, indicating that the information has been entered. Below the form, there is a paragraph of text: 'Collecting and storing your name, company and email details allows us to contact you with software and licensing related information and updates. Check https://www.nalpeliron.com/privacy for information on how your submitted data is stored, protected and managed'. To the right of this text is an 'Activate' button. At the bottom left, there are two links: 'No internet connection? [Activate offline](#)' and 'Internet connection with proxy? [Configure proxy](#)'. A large green arrow points to the 'Configure proxy' link.

If ZebraDesigner detects no internet connection, the online activation error window opens automatically. Click **Configure proxy**.



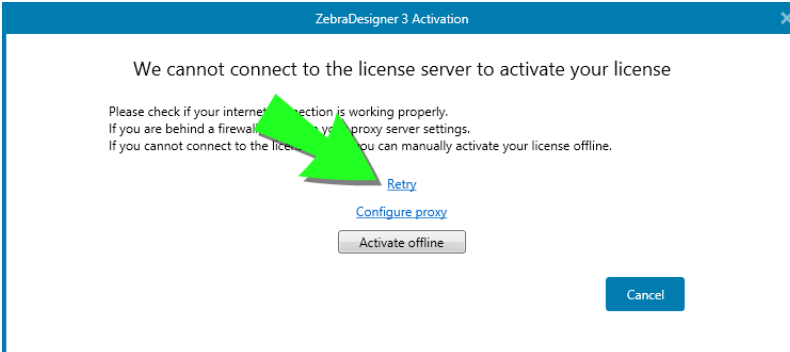
The screenshot shows the 'ZebraDesigner 3 Activation' window with an error message: 'We cannot connect to the license server to activate your license'. Below the message, there is a paragraph of text: 'Please check if your internet connection is working properly. If you are behind a firewall, configure your proxy server settings. If you cannot connect to the license server, you can manually activate your license offline.' There are three buttons: 'Retry', 'Configure proxy', and 'Activate offline'. A large green arrow points to the 'Configure proxy' button. At the bottom right, there is a 'Cancel' button.

The proxy configuration window opens.



The screenshot shows a window titled "ZebraDesigner 3 Activation". It has a checkbox labeled "Use proxy to activate and deactivate your license" which is checked. Below the checkbox are four input fields: "Proxy IP address:", "Proxy port:", "User name:", and "Password:". At the bottom of the window are two buttons: "OK" and "Cancel".

5. Enable the **Use proxy to activate and deactivate your license** option and configure your proxy settings:
  - Type your **Proxy IP Address**.
  - Define the number of your **Proxy port**.
  - If your proxy server connection requires credentials, type your **User name** and **Password**.
6. Click **OK**. The online activation error window opens again.
7. Click **Retry**.



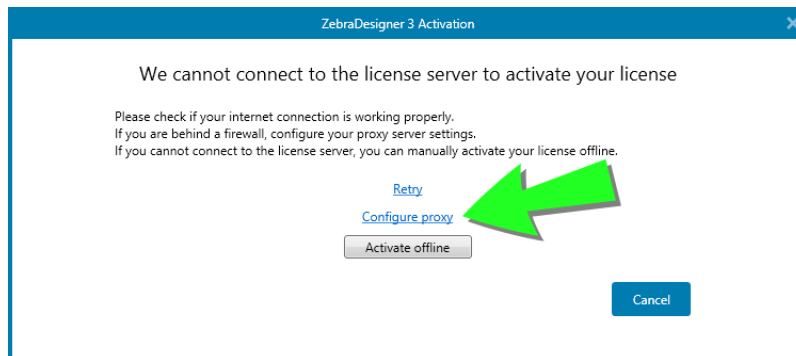
The screenshot shows a window titled "ZebraDesigner 3 Activation" with an error message: "We cannot connect to the license server to activate your license". Below the message is a paragraph of text: "Please check if your internet connection is working properly. If you are behind a firewall, you may need to configure proxy server settings. If you cannot connect to the license server, you can manually activate your license offline." There are three buttons: "Retry" (with a green arrow pointing to it), "Configure proxy", and "Activate offline". A "Cancel" button is located at the bottom right.

8. After connecting, the **ZebraDesigner Activation** window opens. Click **Activate**.
  - ZebraDesigner is now activated and ready.
  - If ZebraDesigner still cannot connect to the license server, you can [activate offline](#).

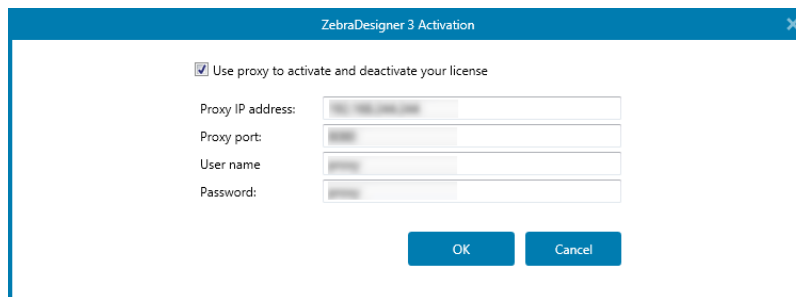
## 2.4.2 Deactivating over a Proxy Server

1. Go to **File > About** and click **Deactivate your license**.
  - The **License deactivation** confirmation window appears.

2. Click **Yes** to deactivate your license.
  - If your deactivation is successful, ZebraDesigner closes. You can use your license key on another computer immediately.
3. If ZebraDesigner cannot connect to the license server, the online deactivation error window opens. Click **Configure proxy**.

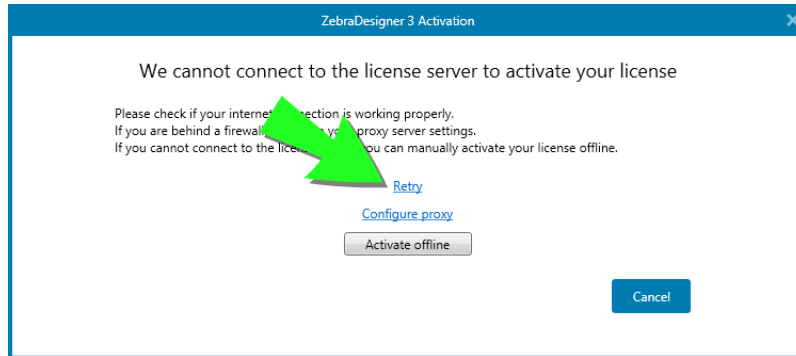


The proxy configuration window opens.



4. Enable the **Use proxy to activate and deactivate your license** and configure your proxy settings:
  - Type your **Proxy IP Address**.
  - Define the number of your **Proxy port**.
  - If your proxy server connection requires credentials, type your **User name** and **Password**.
5. Click **OK**. The online deactivation error window opens again.

6. Click **Retry**.



7. If you are connected, the deactivation completes. ZebraDesigner closes.
- You can immediately activate another copy of ZebraDesigner.
  - If ZebraDesigner still cannot connect to the license server, you can [deactivate offline](#).



# 3 Introduction

## 3.1 Basic ZebraDesigner Concepts

This section describes the ZebraDesigner elements that enable you to efficiently design a label.

Listed below are the essential ZebraDesigner concepts. Being familiar with them provides a perfect starting point for successful labeling projects.

- [Label](#)
- [Object](#)
- [Design Surface](#)

If you come across any other unfamiliar items while working with ZebraDesigner, refer to the [Help tab](#).

### 3.1.1 Label

Label works as a template which allows adding [label objects](#) and can be printed using any kind of printing media.

Each object adds a different kind of content such as text, line, ellipse, barcode or rectangle to a label. The content is either fixed (manually entered by the user) or dynamic (defined automatically via connected data sources).

After finishing with your label design, you can print the labels using any of your installed printers.

### 3.1.2 Object

Object is the basic building block for designing labels and forms. To design a label or form means to select, add, and position the objects on the [design surface](#).

**EXAMPLE:** Each object performs a different role. [Text](#) object is used for single-line textual content that does not need to adapt its font size to the label design. [Barcode](#) object adds a barcode whose type and content can be adapted to the needs of current document.

**Label object** types and their purpose are listed [here](#).

### 3.1.3 Design Surface

Design surface is ZebraDesigner's central field that serves as a place to create, add, position, and interconnect the [label](#) objects.

To make designing of labels as simple and efficient as possible, design surface follows the same usability and functional principles as Microsoft Office applications.

**TIP:** Use [View tab](#) to customize design surface.

- Design surface elements are described [here](#).
- Design surface editing actions are described [here](#).
- Design surface visual aid elements are described [here](#).

## 3.2 Keyboard and Mouse Support

To efficiently perform and complete the ZebraDesigner tasks, follow the guidelines related to the use of keyboard and mouse:

- [How to efficiently use keyboard and mouse](#)
- [Mouse wheel support](#)
- [Keyboard shortcuts](#)

### 3.2.1 Efficient Use of Keyboard and Mouse

Use the following list of tips to make your work with ZebraDesigner easier and more efficient.

1. **Select object anchoring point.** Press `Ctrl` key and click the object placeholders to quickly define the anchoring point.
2. **Label scrolling and zooming.** Use mouse wheel to scroll the label. Holding `Ctrl` when rotating the wheel, adjusts zoom factor. `Shift` scrolls label left or right.
3. **Set label or form properties.** Double-click the design surface to open the [label](#) properties dialog.

4. **Vertical or horizontal object moving.** Hold `Shift` while moving an object over the design surface. The object is moved in straight vertical and horizontal lines.
5. **Resize an object with arrow keys.** Holding `Shift` while pressing arrow keys resizes the object.
6. **Fine-tune the object position.** Hold `Ctrl` while pressing arrow keys.
7. **Open contextual menus.** Right-click the object or design surface to access the [label](#) or [design surface](#) contextual menus.
8. **Select multiple objects.** Hold `Shift` and click the objects to add them to the selected objects in a group.
9. **Quickly add an object with connected data source.** Click the object's shortcut handle in the [object toolbox](#). A list of available data sources appears. Select a data source or add a new one, and click the design surface to add an object which already has a dynamic data source connected to it.

### 3.2.2 Mouse Wheel Support

Use mouse wheel to speed up design object zooming and design surface scrolling.

- Turning the wheel scrolls the label vertical direction.
- Holding `<SHIFT>` and turning the wheel scrolls the label left or right.
- Holding `<CTRL>` and turning the wheel zooms the label in or out.

### 3.2.3 Keyboard Shortcuts

Use keyboard shortcuts to reduce the time needed to accomplish frequent tasks with ZebraDesigner. To complete these tasks, use a standard combination of keys.

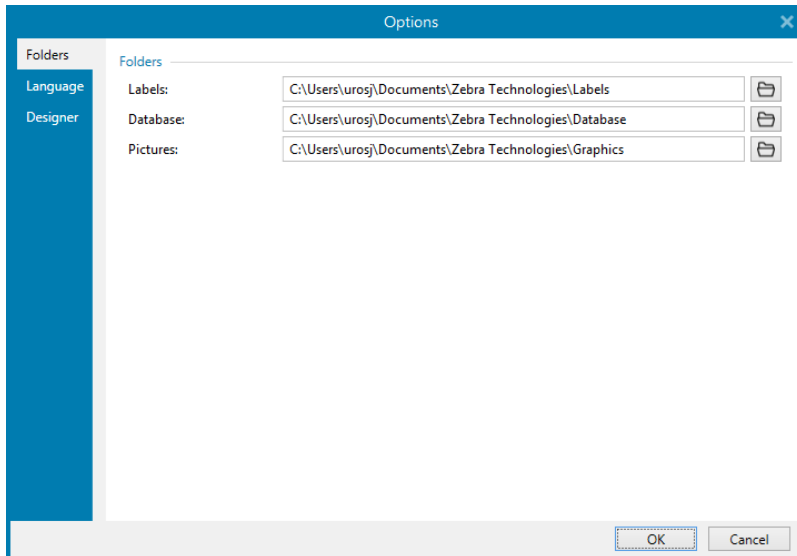
**TIP:** Keyboard shortcuts are just a faster and more convenient way of choosing commands. The command itself is executed in the same way as if it was run from the menu or toolbar.

| Action               | Press  |
|----------------------|--------|
| Select all           | Ctrl+A |
| Run the startup form | Ctrl+D |
| Paste                | Ctrl+V |
| Cut                  | Ctrl+X |
| Move up              | ↑      |
| Move right           | →      |
| Move down            | ↓      |
| Move left            | ←      |

| Action                                        | Press                             |
|-----------------------------------------------|-----------------------------------|
| Close                                         | Alt+F4                            |
| Zoom to document                              | Ctrl+0                            |
| Bold                                          | Ctrl+B                            |
| Copy                                          | Ctrl+C                            |
| Italic                                        | Ctrl+I                            |
| Zoom Out                                      | Ctrl+minus sign on numeric keypad |
| Zoom In/Out                                   | Ctrl+mouse scroll up/down         |
| Open                                          | Ctrl+O                            |
| Print                                         | Ctrl+P                            |
| Zoom In                                       | Ctrl+plus sign on numeric keypad  |
| Save                                          | Ctrl+S                            |
| Open blank label connected to default printer | Ctrl+Shift+N                      |
| Redo                                          | CTRL+Y                            |
| Undo                                          | Ctrl+Z                            |
| Cancel                                        | Esc                               |
| Move Focus                                    | Tab or Shift+Tab                  |
| Format painter – copy object properties       | Ctrl+Shift+C                      |
| Format painter – paste object properties      | Ctrl+Shift+V                      |

### 3.3 Options (Configuring the Program)

To customize the general program configuration of ZebraDesigner, open the **Options** dialog which is accessible from the **File** tab.



ZebraDesigner configuration options are grouped on the following tabs:

- **Folders**: allows you to set the default locations for storing the labels and picture files.
- **Language**: selects the user interface language. Select the preferred language from the listed options.
- **Designer**: enables you to configure opening behavior of ZebraDesigner.

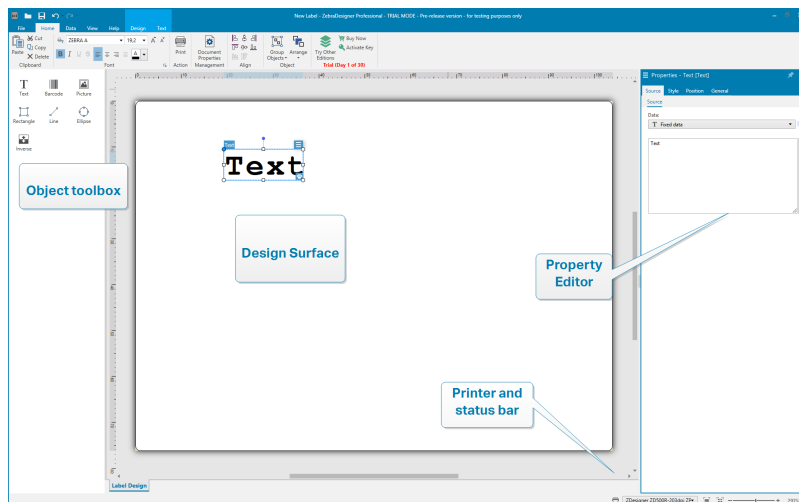
# 4 Workspace Overview

ZebraDesigner's workspace offers a flexible and easy-to-use environment for simple label designing.

ZebraDesigner workspace follows the widely used application interface guidelines, and is therefore equipped with tools and interface elements that are familiar to a majority of users.

ZebraDesigner workspace consists of the following segments:

- [Landing page](#)
- [Object and Explorer Panels](#)
- [Printer and Status bar](#)
- [Tabs and Ribbons](#)
- [Design Surface](#)



## 4.1 Landing Page

ZebraDesigner's landing page is an introductory page which opens after ZebraDesigner completes loading. It consists of the following segments:

- **New document area:** creates new or opens existing ZebraDesigner documents.
  - **Create a New Label:** creates a new label document.
- **Recent Files:** list of recently used ZebraDesigner files.

**TIP:** The landing page and its segments depend on whether you are running a licensed ZebraDesigner or a trial version.

- **Learning resources:** access to useful resources that help you create labels, and learn more about ZebraDesigner.
- **Printer Drivers:** access to the Zebra printer drivers. These drivers enable you to optimize your labels for printing with a specific printer model.
- **Software Information:** contains information about the installed copy of ZebraDesigner – license, license key, and installed version.

## 4.2 Object and Explorer Panels

Object and explorer panels are located at the left-most area of the ZebraDesigner window. They provide access to objects.

- **Object Toolbox:** contains available [label](#). These objects are ready to be used on a label. Click the selected object and drag it to the design surface.



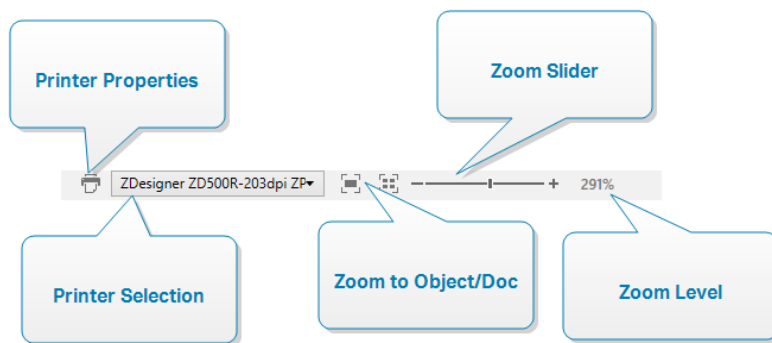
## 4.3 Printer and Status Bar

**Printer and Status bar** stretches over the bottom part of the ZebraDesigner window. The bar performs these roles:

- **Printer Selection** for the current print job. Select your preferred printer from the drop-down list of installed printers.

**TIP:** When changing a printer, label and paper size adapt automatically to the dimensions defined by the printer driver.

- **Printer Properties** for the selected printer. The button gives you direct access to the properties dialog of the selected printer driver.
- Design surface [zooming](#).



## 4.4 Tabs and Ribbons

ZebraDesigner uses a standard Windows-based interface.

The ZebraDesigner's top section interface segments are described below.

### 4.4.1 Tabs

**Tabs** represent subsets of ZebraDesigner features. The tabs contain interrelated commands that are available to the user in an organized way – grouped, and labeled:

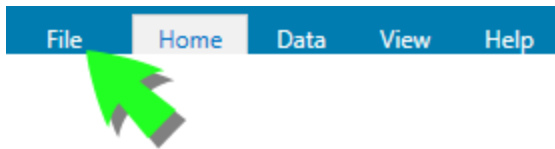
- **File** (background): opens the print form and document management panel.
- **Home:** offers commonly used commands such as copy/paste, print, and style commands.
- **View:** gives you control over layout tools, zooming options and element markers visibility.
- **Contextual tabs:** appear after clicking an object. They allow you to define object-specific settings. The type of contextual tabs adapts to the selected object.
- **Help:** besides offering the access to F1 help, this tab leads you to multiple helpful resources that make your work with ZebraDesigner easier and more efficient.



## 4.4.2 Ribbon

**Ribbon** is a rectangular area that spreads across the top of an application window. Related commands are divided into ribbon groups. The ribbon changes along with the selected tabs and adapts to the currently used tools using the contextual tabs.

## 4.4.3 File Tab



**File** tab serves as document management panel. The following options are available:

- **Start:** takes you to the ZebraDesigner landing page.
- **New:** creates a new stand-alone label.
- **Open:** allows opening existing label.
- **Save:** saves the active label.
- **Save as:** allows saving the active label file by defining its name and location.
- **Print:** opens the printing form.
- **Store:** stores the current label as a template on the printer to be used in store/recall mode.
- **Close:** closes the current ZebraDesigner document.
- **Options:** opens the dialog for configuring the program defaults.
- **About:** provides license and software version information.
- **Exit:** closes the application.

### 4.4.3.1 Start

**Start** panel takes you to ZebraDesigner [landing page](#). Use it to create or open documents, access recently opened files, preview files and learn more about ZebraDesigner.

### 4.4.3.2 New

**New Label** creates a new stand-alone label. [New Label Setup Wizard](#) opens after clicking this button.

**New from Sample Templates** creates a document based on a selection of industry-standard templates.

**TIP:** There are two ways of opening new labels. You can open each additional document in a separate instance (window) of ZebraDesigner. An alternative way is to open

additional documents within the already opened instance of ZebraDesigner. To select the way that suits you better, go to **File > Options > Designer**.

#### 4.4.3.3 Open

Open dialog allows opening existing label files.

**Browse** allows selecting the label on local or connected network drives.

**Recent Files** field lists the latest files that have been edited. Click any of them to open the file.

#### 4.4.3.4 Save

**Save** panel saves the active label using the same file name that was used to open it.

**NOTE:** If a file has been opened for the first time, **Save** directs you to the **Save as** on the **File** tab.

#### 4.4.3.5 Save as

**Save as** allows saving the active label file by defining its name and location.

**Recent folders** field lists the folders that were recently used to save the label files.

#### 4.4.3.6 Print

**Print** opens the print pane. In ZebraDesigner, print pane hosts a powerful [default printing form](#).

#### 4.4.3.7 Store/Recall Printing Mode

**Store/Recall** printing mode is a method for speeding up the printing process. It increases printer response by reducing the amount of data that needs to be sent during repetitive printing tasks.

With store/recall mode activated, ZebraDesigner does not need to resend the complete label data for each printout. Instead, default labels (templates) and internal printer elements (graphics, fonts) are stored in the printer memory, and ZebraDesigner only sends recall commands which render the stored label content during the printing process. Typically, a few bytes of data are sent to the printer as compared to a few kilobytes in the case of normal printing.

The action consists of two processes:

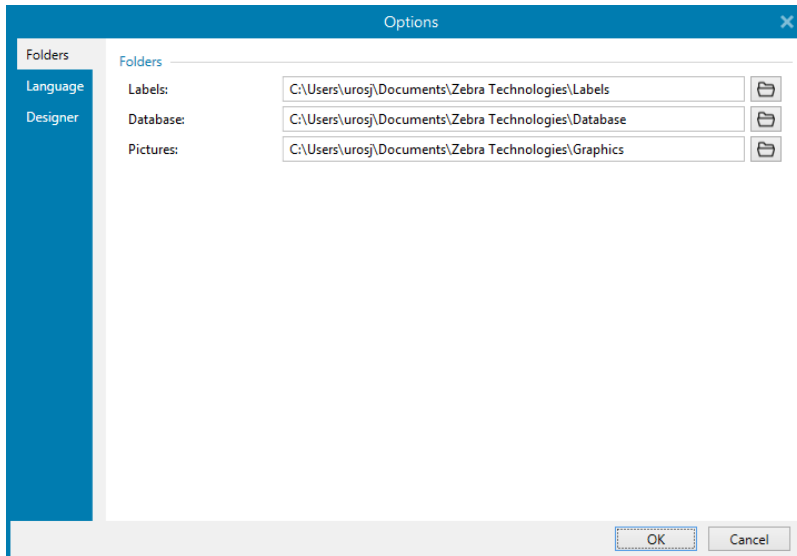
- **Store label.** During this process, ZebraDesigner creates a description of the label template formatted in the selected printer's command language. When done, ZebraDesigner sends the created command file to the printer memory and stores it.
- **Recall label.** A label stored in the printer memory is printed out immediately. Using the recall process, ZebraDesigner creates another command file to instruct the printer which label from its memory should be printed. The recall label command occupies a few bytes of data only. The actual amount of data depends on the current situation. For fixed labels without any variable contents, the recall command file only contains the recall label command. For variable labels that contain variable fields, the command file includes the values for these variables and the recall label command.

**NOTE:** Before activating this mode, make sure the appropriate printer driver is selected for the label printer. Not all label printers have the ability to use the store/recall printing mode.

1. Click **File > Store**. Make sure the **Store variant** points to the correct memory location in the printer.
2. Insert or select values for variable objects that are not formatted as internal printer objects. These variables will be given the same value on each label. They will behave as objects with fixed values.
3. Click **Store to printer** to create the command file with label template description and to send it to the printer.
4. Insert values for prompted label variables. These variables are linked with internal printer objects on the label. For this reason, their values can be changed during each printing.
5. Click **Print** to send variable values and recall label command to the selected label printer.

#### *4.4.3.8 Options (Configuring the Program)*

To customize the general program configuration of ZebraDesigner, open the **Options** dialog which is accessible from the **File** tab.



ZebraDesigner configuration options are grouped on the following tabs:

- **Folders:** allows you to set the default locations for storing the labels and picture files.
- **Language:** selects the user interface language. Select the preferred language from the listed options.
- **Designer:** enables you to configure opening behavior of ZebraDesigner.

#### 4.4.3.8.1 Folders

**Folders** tab defines the default location for opening and storing the documents and files which are edited and used in ZebraDesigner.

**NOTE:** Make sure read/write rights are granted to the account under which the ZebraDesigner is running.

- **Labels:** location for opening and saving the label files.
- **Database:** location for file databases (Excel, Access, Text).
- **Picture:** location for opening the picture files.

Folders set in this tab serve as the default location when searching for a specific file in ZebraDesigner.

#### 4.4.3.8.2 Language

Language tab allows selecting the ZebraDesigner interface language. Select the appropriate language and click **OK**.

**NOTE:** Restart is necessary to make the user interface appear in the selected language. Make sure you save your work before closing the program.

#### 4.4.3.8.3 Designer

**Designer** tab enables you to configure opening behavior of ZebraDesigner.

Opening mode group defines how your ZebraDesigner opens new documents.

- **Display each document in its own window:** If enabled, additionally opened documents appear in separate windows of ZebraDesigner. This applies to both – newly created and existing documents.

If you decide to disable this option, additionally opened documents will appear within the currently active instance of ZebraDesigner.

**Printer Settings Source** group allows you to choose the source of printer settings.

- **Use printer settings from the printer driver:** Select this option if you prefer printing using the printer driver settings. This option allows you to standardize the printer settings in your working environment.
- **Use custom printer settings saved in the label:** Each label may have its own printer settings defined and saved by the user. Select this option to use custom settings for your labels while printing.

#### 4.4.3.9 About

The **About** dialog page provides information about your Zebra product license, enables license purchasing (when in trial mode) and activation, provides software details, and enables you to change the ZebraDesigner product level.

- **Product level** tells you the product level you are currently running.
- **Change product level:** opens the product level selection dialog. When in trial mode, you can choose and evaluate all product levels. With an activated license, you can change your product level only to lower levels.
- **Trial mode duration:** information about the remaining days for product evaluation.
- **Purchase License:** button directs you to the Zebra online store.
- **Activate license:** button opens the ZebraDesigner license activation dialog. After activating the license, this button is renamed to Deactivate License – after clicking it and confirming the deactivation, your copy of ZebraDesigner is no longer activated.

**NOTE:** These segments are no longer visible after purchasing and activating the product license.

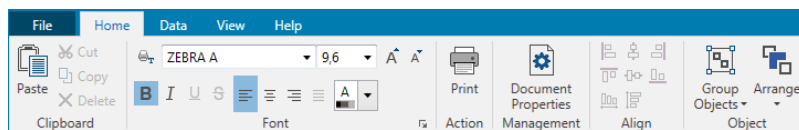
Product level changes take effect after you restart ZebraDesigner.

If ZebraDesigner has been installed with predefined product level (i.e., the level has been defined by the license key), product level selection is not required during first start.

- **License type:** is the type of license that you are using to run the ZebraDesigner.

**Software information** contains information about the installed copy of ZebraDesigner – license, license key, and installed version.

## 4.4.4 Home Tab



**Home Tab** provides access to frequently used commands and settings in the following ribbon groups:

- [Clipboard](#): temporarily stores the selected elements, objects or groups of objects.
- [Font](#): group lets you define the font properties.
- [Action](#): group contains the **Print** button which starts the printing procedure or runs a form.
- [Management](#): group provides direct access to Document properties.
- The [Align](#) group options define relative horizontal and vertical positioning for the object content.
- [Object](#): group allows you to align, group or [arrange](#) label objects.

### 4.4.4.1 Clipboard

**Clipboard** group temporarily stores the selected elements, objects or groups of objects. Use the selected and stored objects to transfer them from one label to another.

**TIP:** Copying and pasting of textual (plain text) and graphical (bitmaps) content between multiple applications is supported.

- **Paste:** pastes the clipboard contents on the design surface. Multiple reuse of a single clipboard item is allowed.
- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere. Note that the first element is selected by clicking it. When selecting additional elements, press and hold `Shift` key while clicking these elements.

- **Copy:** copies the selected content to the clipboard. Multiple objects can be copied at once – select them and click **Copy**.
- **Delete:** deletes the selected elements or objects. They are not stored in the clipboard.
- **Format painter:** copies the formatting properties from one object to another. This is how you multiply the style of your reference object.

**EXAMPLE:** Use the format painter to copy font, font size, font color, alignment and spacing from your reference [Text object](#) to all other Text objects using a single action.

To copy the object style properties:

1. Click your reference object. This is the object you want to copy the properties from.
2. Click the format painter.
3. Click the target object. This object now has the same properties as your reference object.

When using the format painter for different objects, you are copying and pasting the object's properties from the **Style** tab. If there are matching **Style** properties between the objects, ZebraDesigner transfers these properties to the target object.

**EXAMPLE:** When multiplying the properties from a [Rectangle object](#) to [Ellipse objects](#), all **Style** tab properties apply, except for the corner radius. This property is only applicable to the Ellipse object.

**NOTE:** You can also copy properties between the objects on different labels, different forms, or between objects on labels and forms.

#### 4.4.4.2 Font

**Font** group defines font properties:

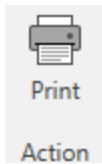
- **Show/hide printer fonts:** button allows you to exclusively display internal printer fonts on the list of available fonts. Graphical fonts are hidden in this case. After pressing this button again, all available fonts are visible on the list once more.
- **Font:** defines the font family to be used in a selected object.
- **Font Size:** defines the text size in an object. Select the desired point size from the dropdown selector or enter it manually.
- **Font Style:** defines the object text stylistic characteristics of text, such as bold or italic.

- **Alignment:** defines horizontal text positioning in an object: **Left**, **Center** or **Right**.
- **Justify:** makes a paragraph aligned along the left and right object margins.

**TIP:** When changing a font during the design process, ZebraDesigner remembers the last used font type and size.

#### 4.4.4.3 Action

**Action** group creates a printing shortcut or starts the printing procedure.



**Print** button opens the ZebraDesigner **Print pane** as defined by the [Default Printing Form](#).

#### 4.4.4.4 Management

**Management** ribbon group provides direct access to:

- **Document Properties** opens current [label](#) properties.

#### 4.4.4.5 Align

The **Align** group options define relative horizontal and vertical positioning for the object content:

- **Align Objects Left:** aligns objects with the left border of the first selected object or with the leftmost object.
- **Align Objects Center:** aligns objects with the horizontal center of the first selected object or with horizontal center of the largest object.
- **Align Objects Right:** aligns objects with the right border of the first selected object or with the rightmost object.
- **Distribute Horizontally:** distributes objects using equal horizontal spacing.
- **Align Objects Top:** aligns objects with the upper border of the first selected object or with the highest object.
- **Align Objects Middle:** aligns objects with the vertical center of the first selected object or with vertical center of the largest object.
- **Align Objects Bottom:** aligns objects with the bottom border of the first selected object or with the lowest object.
- **Distribute Vertically:** distributes objects using equal vertical spacing.



#### 4.4.4.6 Object grouping and arranging

The **Object** group helps you work with multiple objects.

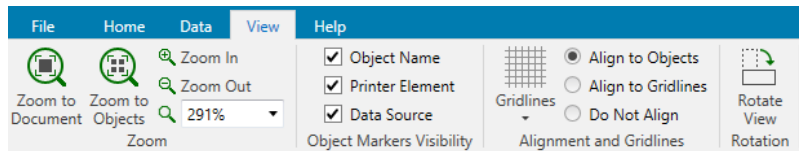
**Group objects** unites the selected objects and makes them behave as a single object.

- **Group Objects:** unites the selected objects and makes them behave as a single element.
- **Ungroup objects:** separates the grouped objects.

**Arrange** positions the objects so that they appear either in front of or behind each other:

- **Send Backward:** sends the element back one level.
- **Send to Back:** sends the element behind all other elements on the label.
- **Bring Forward:** brings the element forward one level.
- **Send to Front:** sends the element in front of all other elements on the label.

### 4.4.5 View Tab



**View Tab** gives you control over document zooming, marker visibility, visual aids and design surface rotation. It makes the following ribbon groups available:

- [Zoom](#): defines design surface zoom level and ZebraDesigner window zoom behavior.
- [Object Markers Visibility](#): defines visibility settings for object properties.
- [Alignment and Gridlines](#): sets object positioning behavior and defines properties for design surface gridlines.
- [Rotation](#): rotates the design surface clockwise for 90° per click.

#### 4.4.5.1 Zoom

**Zoom** group defines the design surface zoom level.

- **Zoom to Document:** displays the entire label in the ZebraDesigner window.
- **Zoom to Objects:** displays all objects in the ZebraDesigner window.
- **Zoom In:** magnifies the design surface by a percentage of the currently defined zoom level.
- **Zoom Out:** decreases the design surface by a percentage of the currently defined zoom level.

#### 4.4.5.2 Alignment and Gridline Guides

**Alignment and Gridlines** group sets object positioning behavior and defines properties for design surface gridlines.

- **Display gridline guides:** makes the design surface grid dots visible.
- **Grid Size X:** defines horizontal distance between the grid dots.
- **Grid Size Y:** defines vertical distance between the grid dots.
- **Grid Offset X:** defines the horizontal offset of the grid from the design surface center.
- **Grid Offset Y:** defines the vertical offset of the grid from the design surface center.
- **Align to Objects:** makes an object align with other objects on the design surface. When an object is aligned, a line which marks the object alignment appears.
- **Align to Gridlines:** aligns the selected objects with gridlines.
- **Do Not Align:** makes the object position independent of gridlines and position of other object(s).

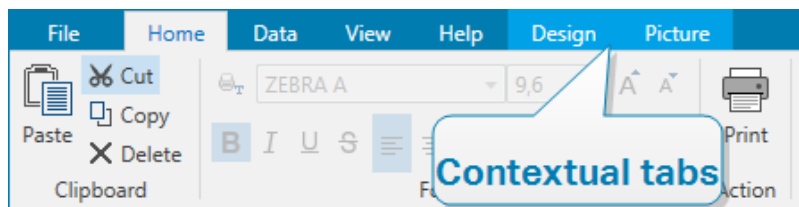
#### 4.4.5.3 Rotation

**Rotate view** button rotates the design surface clockwise. Horizontal and vertical rulers adapt to the current position of the design surface.

**TIP:** Rotation type is defined by the printer driver. Certain drivers support complete 360° rotation (90° per click), while others allow 90° rotation clockwise (portrait/landscape).

### 4.4.6 Contextual Tabs

Contextual tab is a hidden tab that becomes visible when a specific [label](#) object is selected on the [design surface](#). Contextual tabs appear on the right side of the standard ZebraDesigner tab. The selection of displayed tabs depends on the object that you are currently editing.



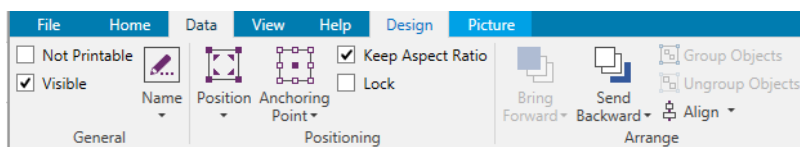
#### 4.4.6.1 Label-specific Contextual Tabs

When editing various [label objects](#), the following contextual tabs appear depending on the selected object:

- [Design tab](#)
- [Barcode tab](#)
- [Shape tab](#)
- [Picture tab](#)
- [Text tab](#)

#### 4.4.6.1.1 Design Contextual Tab

**Design** tab serves as a contextual tab that defines the layout and positioning of the selected label object.



The following groups of settings are available on the **Design** tab:

- [General](#): defines object's visibility and printability on a label.
- [Positioning](#): defines the object's position on the design surface.
- [Arrange](#): positions the object relative to neighboring objects on a label.

#### General

**General** group defines the object's visibility and printability on a label.

- **Not printable**: when enabled, this option prevents the object from being printed on the label. The object remains visible on the label preview.
- **Visible**: when disabled, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Name**: allows you to enter object name and its description.

#### Positioning

**Positioning** group sets the object location and size on a label.

**Position** button opens:

- **X** and **Y**: coordinates set the exact position on the design surface.
- **Width** and **Height**: object dimensions.
- **Keep aspect ratio**: makes sure both object dimensions change proportionally while resizing.
- **Rotation angle**: rotates the object clockwise.

**Anchoring Point** button defines the spot where an object is pinned to the design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Keep aspect ratio:** makes sure the object is resized proportionally.

**Lock** prevents the selected object from being moved during the design process.

## Arrange

**Arrange** group defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
  - **Group objects:** unites the selected objects and makes them behave as a single object.
  - **Ungroup objects** separates previously grouped objects.

**Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

**Horizontal alignment** options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

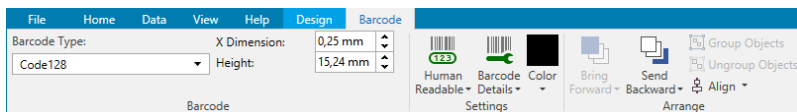
**Vertical alignment** options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.

- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

#### 4.4.6.1.2 Barcode Contextual Tab

Barcode tab serves as a contextual tab that defines the type, layout and positioning of [barcode](#) object.



The following groups of settings are available on the Barcode tab:

- [Barcode](#): defines basic barcode symbol type and its dimensions.
- [Settings](#): defines barcode details.
- [Arrange](#): positions the object relative to neighboring objects on a label.

#### Barcode Tab

**Barcode** group allows you to choose the barcode type and to set the dimensions of your barcode symbol.

**NOTE:** Settings in **Barcode** group depend on the selected barcode type.

- **Barcode Type:** defines type of the barcode symbol to be used on a label.

By default, Code128 barcode type is selected. For more details about the available barcode types, see section [Barcode Types and Available Settings](#).

- **DataBar Type:** if one of the DataBar barcode types is selected, **DataBar Type** defines its specific subtype to be used on the label.
- **X dimension:** width of the barcode's narrow bar in the selected **Unit of measurement**.
- **Height:** vertical dimension of your barcode in the selected **Unit of measurement**.

- **Ratio** defines the ratio between the barcode's narrow and wide bar widths.

Each barcode type's range of permitted ratios is limited by the standard. ZebraDesigner only allows you to use valid ratios. By default, the ratio is set to 3. This means that the wide bar is 3 times the width of a narrow bar.

**NOTE:** The available ratios depend on the selected **X dimension**. If you are changing the X dimension, this also affects the selection of available ratios.

- **Row height** defines the height of a single data row in 2D barcodes. Row height is specified as a multiple over the **X dimension**.

## Settings

**Settings** group allows you to configure barcode details.

**Human Readable** button defines the human readable content's layout.

- **No human readable:** makes the barcode appear without the human readable text.
- **Above barcode:** locates human readable text above the barcode.
- **Below barcode:** locates human readable text below the barcode.
- **Content mask:** enables the user to reformat the input data before passing it to the human readable part.
- **Barcode Details** button opens advanced [1D](#) and [2D](#) barcode settings:
  - **Include quiet zones:** adds blank space around the printed barcode to ensure the highest level of scanning reliability.
  - **Space correction:** adds white pixels to increase the gap width (in dots) between the bars.
  - **Check digit** is used by any scanning system to verify that the number scanned from a barcode is read correctly.

Check digit is derived from the preceding barcode digits and is placed as the final digit of a barcode.

- **Color:** sets the barcode's line and human readable content color on the printed label.

## Arrange

**Arrange** group defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

- **Group objects:** adds selected objects to a group.
  - **Group objects:** unites the selected objects and makes them behave as a single object.
  - **Ungroup objects** separates previously grouped objects.

**Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

**Horizontal alignment** options are:

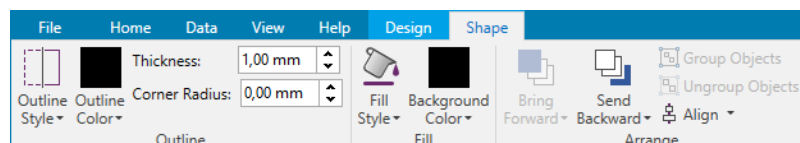
- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.


**Vertical alignment** options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

#### 4.4.6.1.3 Shape Contextual Tab

Shape tab serves as a contextual tab that defines the appearance of [ellipse](#), [rectangle](#) and [line](#) objects.





The following groups of settings are available on the **Shape** tab:

- [Outline](#): defines how the line of the selected shape should appear.
- [Fill](#): group defines the shape's fill style and color.
- [Arrange](#): positions the object relative to neighboring objects on a label.

## Outline

**Outline** group defines how the line of the selected shape should appear.

**Outline Style** button options are:

- **None**: makes the object line invisible.
- **Solid**: makes the object line solid.
- **Dot**: makes the object line dotted.
- **Dash**: makes the object line dashed.
- **Clear**: makes parts of other objects underneath the line invisible.

**Outline Color** defines the color of the shape's line.

**Thickness** defines the object line's width.

**Corner radius**: makes the rectangle corners round. Higher values make the curve broader.

## Fill

**Fill** group defines the shape's fill style and color.

**Fill Style** options are:

- **None**: makes the object completely transparent.
- **Clear**: makes other objects beneath the active one invisible.
- **Solid**: fills the object with solid color.
- **25% of color**: sets fill color opacity to 25 %.
- **50% of color**: sets fill color opacity to 50 %
- **75% of color**: sets fill color opacity to 75 %.

**Background Color** defines the color of the shape's fill.

## Arrange

**Arrange** group defines how objects are positioned in a group.

- **Bring forward**: moves the selected object up one layer.
- **Bring to front**: moves the selected object to the top of the object stack.
- **Send backward**: moves the selected object down one layer.
- **Send to back**: moves the selected object to the bottom of the object stack.



- **Group objects:** adds selected objects to a group.
  - **Group objects:** unites the selected objects and makes them behave as a single object.
  - **Ungroup objects** separates previously grouped objects.

**Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

**Horizontal alignment** options are:

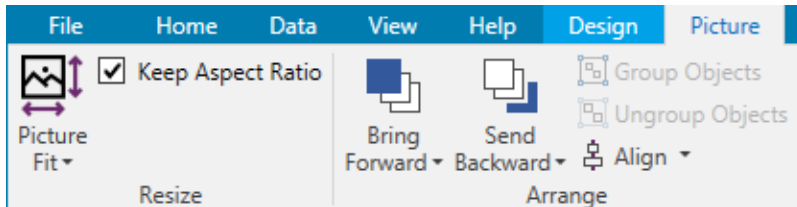
- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

**Vertical alignment** options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

#### *4.4.6.1.4 Picture Contextual Tab*

Picture tab serves as a contextual tab that defines picture resizing options and object arranging.



The following groups of settings are available on the Picture tab:

- [Resize](#): resizes the object relative to neighboring objects on a label.
- [Arrange](#): positions the object relative to neighboring objects on a label.

## Resize

**Resize** group defines if the picture adapts to the label size at print time or not.

**Picture Fit** button opens the picture sizing options.

- **Resize options:** define how the source file dimensions adapt to the size of object at print time.
  - **Keep original picture size:** disables resizing. The source file is displayed using the object with its original dimensions.
  - **Resize proportionally:** makes the source file resize proportionally. The aspect ratio of source file dimensions is preserved.
  - **Resize to the designed size:** resizes the picture horizontally and vertically to make it fit into the bounding box. Using this option will most likely make the picture distorted.
- **Original size:** displays the picture's **Width** and **Height** before resizing.
- **Revert to original picture size:** removes resizing actions.

**Keep aspect ratio** makes sure both object dimensions change proportionally while resizing.

## Arrange

**Arrange** group defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
  - **Group objects:** unites the selected objects and makes them behave as a single object.
  - **Ungroup objects** separates previously grouped objects.

**Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

**Horizontal alignment** options are:

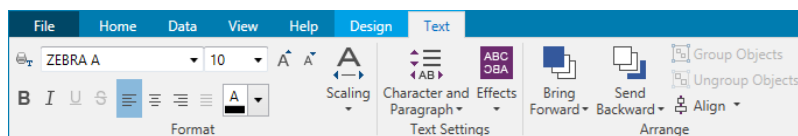
- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

**Vertical alignment** options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

#### 4.4.6.1.5 Text Contextual Tab

Text tab serves as a contextual tab that defines formatting of [Text](#) object.



The following groups of settings are available on the Text tab:

- [Format](#): lets you define the text format.
- [Text Settings](#): lets you define the layout of any textual content that is added to label

- object.
- [Arrange](#): positions the object relative to neighboring objects on a label.

## Format

**Format** group lets you define the text format.

- **Show/hide printer fonts**: button turns visibility of printer fonts on the font list on/off.
- **Font**: allows specifying the typeface and its size. Fonts fall into two groups, OpenType fonts and Printer fonts.

**NOTE:** If the currently selected printer is a thermal printer, additional fonts will be visible on the list of available fonts. These are the **Printer fonts** identified by the printer icon in front of their names.

- The font may appear **Bold, Italic, Underlined** or as a **Strikethrough** text.
- **Scaling**: factor that defines how much the font is stretched from its original proportions.

If the stretch factor is set to 100 %, the font has a normal look. If factor is 200 %, it means that font is twice as wide as normal. If it is 50 %, the font is half as wide.

- **Font color**: specifies font and underscore color.

## Text Settings

**Text Setting** group allows defining the layout of any textual content that is added to the object.

**Character and Paragraph** button opens line and character spacing options:

- **Line spacing**: distance between each line in a paragraph.
- **Character spacing**: distance between individual characters.

**Effects** button displays the available text effects:

- **Inverse**: inverts the colors of text and background.

## Arrange

**Arrange** group defines how objects are positioned in a group.

- **Bring forward**: moves the selected object up one layer.
- **Bring to front**: moves the selected object to the top of the object stack.
- **Send backward**: moves the selected object down one layer.
- **Send to back**: moves the selected object to the bottom of the object stack.

- **Group objects:** adds selected objects to a group.
  - **Group objects:** unites the selected objects and makes them behave as a single object.
  - **Ungroup objects** separates previously grouped objects.

**Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

**Horizontal alignment** options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

**Vertical alignment** options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

### 4.4.7 Help Tab

**Help** tab provides direct access to various resources that help you design and use labels quickly and efficiently.

**Help** ribbon group includes buttons with links to the following resources:

- **Help:** ZebraDesigner online help.
- **User Guides:** online collection of Zebra user guides. The collection includes user guides for the entire product portfolio.
- **Training Videos:** Zebra collection of training videos.
- **Knowledge base:** online library of articles that describe many technical solutions, tips, and solved issues for labels.
- **Sample files:** access to the collection of sample label files. Use them to become familiar with ZebraDesigner and to explore software capabilities.
- **Technical support:** connects you with Zebra technical support department.

**Product** ribbon group includes links to:

- [Software About page](#)
- Zebra web page: <https://www.zebra.com>

## 4.5 Design Surface

Design surface is ZebraDesigner's central field that serves as a place to create, add, position, and interconnect the [label](#) objects.

To make designing of labels as simple and efficient as possible, design surface follows the same usability and functional principles as Microsoft Office applications.

**TIP:** Use [View tab](#) to customize design surface.

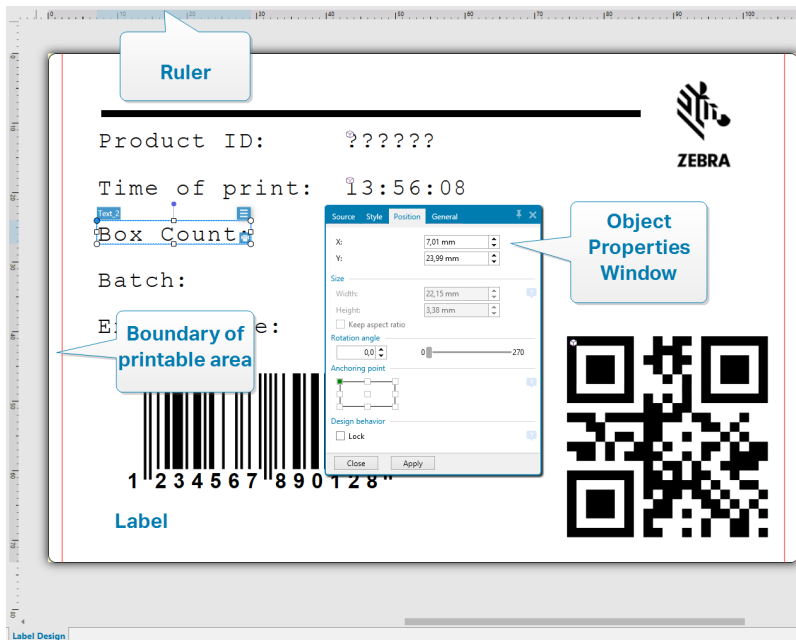
- Design surface elements are described [here](#).
- Design surface editing actions are described [here](#).
- Design surface visual aid elements are described [here](#).

### 4.5.1 Design Surface Elements

Design surface consists of the following elements:

- **Ruler:** Design surface is equipped with horizontal and vertical ruler. Use it to line up the objects or to properly position the label and its content. Change the unit measurements displayed on the ruler in [Label properties](#).
- **Paper:** Yellow area of the design surface displays the current size of paper. The information about supported paper format is acquired from the printer driver, but you also have the option to define custom format. Manual paper size has to be defined when printing on regular office sheets of paper. See [Paper](#) section for more details.
- **Label:** White area represents the area for label designing. Red line displays limit of the currently printable area.

- **Object Properties Window:** Defines the selected label object's properties. Double-click an object to open the dialog.



## 4.5.2 Design Surface Editing Actions

Below listed are the most relevant common actions for editing the objects on design surface:

- **Object arranging:** allows the objects to be placed in front of or behind other objects in a group. Arranging options are described [here](#).
- **Objects aligning:** allows the objects to be aligned among each other. Aligning options are described [here](#).
- **Zooming:** enables the entire design surface to be zoomed in or out. Zooming options are described [here](#).
- **Scrolling:** enables sliding the design surface up and down.
- **Selecting:** enables the objects on design surface to be selected for editing individually or in a group. Group selection allows any actions to be applied to multiple object simultaneously.
- **Rotating:** enables object rotation.

## 4.5.3 Visual Aid Elements

Listed below are the visual aid elements that enable you to work with ZebraDesigner.

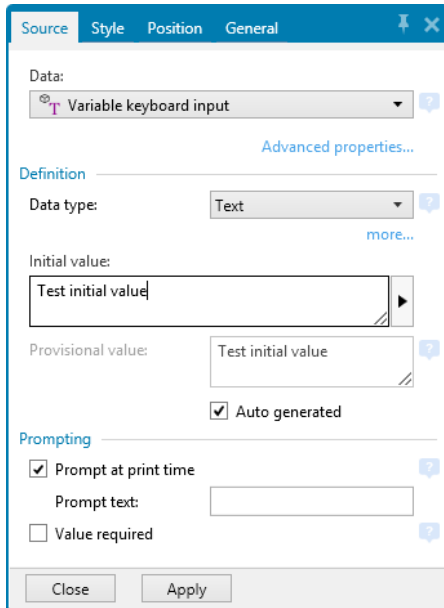
- **Gridlines** serve as a visual aid during the design process. They can be either visible or hidden. Their density is customizable. Gridline options are available in ZebraDesigner's [Align ribbon group](#).
- **Snaplines** are non-visible alignment lines that help the user align the objects during the design process. Snap options are available in ZebraDesigner's [Align ribbon group](#).
- **Ruler** shows the available design area for label (white colored field) and file page (gray colored field).
- **Resize handles** appear on the selected (active) objects. They enable you to resize the object dimensions. X and Y dimensions can be resized simultaneously or separately.
- **Margins** are the amount of fixed space between the edge of an object and the edge of a label.

## 4.5.4 Object Properties Window

When designing a label object, double-click an object to set its properties.

Double-click opens the object properties window. Available object properties window options adapt to each selected object and its properties.

- Available label objects and their properties are listed and described in detail [here](#).



After pressing F4, object properties dialog becomes pinned as object properties editor on the right side of the design surface.



## 4.6 Document Properties and Management Dialogs

ZebraDesigner offers multiple dialogs that help you configure and manage the active document and connected data sources. Read the following topics for detailed instruction:

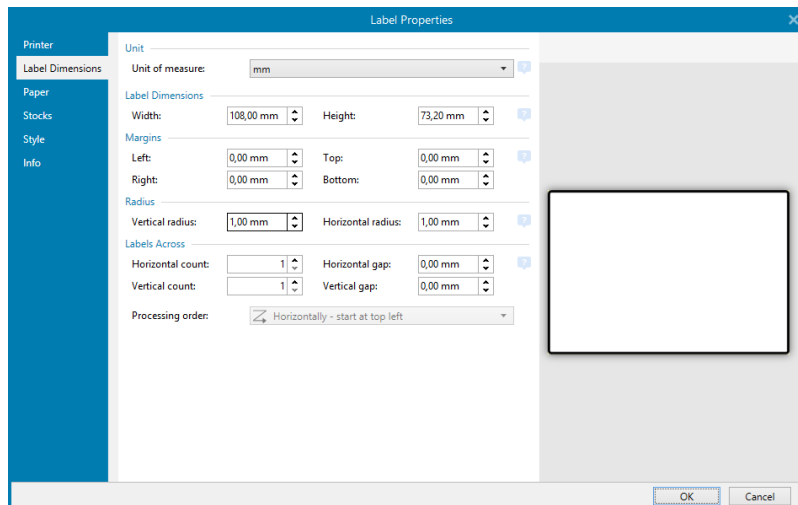
- [Label Properties](#)

### 4.6.1 Label Properties

**Label Properties editor** selects the printer, sets label dimensions, and defines the printing paper properties.

The label properties settings are listed below and appear as dialog tabs:

| Label Property                   | Description                                              |
|----------------------------------|----------------------------------------------------------|
| <a href="#">Printer</a>          | Selects the preferred printer.                           |
| <a href="#">Label Dimensions</a> | Defines the <b>Unit of measure</b> and label dimensions. |
| <a href="#">Paper</a>            | Defines the printing paper properties.                   |
| <a href="#">Stocks</a>           | Selects the stock type.                                  |
| <a href="#">Style</a>            | Defines the label style parameters.                      |
| <a href="#">Info</a>             | Inserts the label description.                           |



**TIP:** To open the **Label Properties Editor**, double-click the [design surface](#).

## 4.7 Context Menus

In ZebraDesigner, right-click displays various context menus that contain commonly used commands. The availability of commands depends on the selected items – design surface or object.

### 4.7.1 Design Surface Context Menu

When right-clicking the [design surface](#), a context menu appears. The context menu includes commonly used commands:

- **Document Properties:** opens the dialog.
- **Paste:** pastes clipboard contents on the design surface. Multiple reuse of a single clipboard item is allowed.
- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Copy:** copies the selected object to the clipboard.
- **Select all:** selects all objects on the design surface.
- **Align to objects:** makes the object on the design surface align with other objects. When two objects are aligned, a leading line appears linking the edges of the two aligned objects.
- **Align to grid:** makes the object on the design surface align with gridlines. When moving the object, it always snaps to the gridline.
- **Display gridline guides:** makes the gridlines visible.
- **Objects markers visibility:** toggles visibility for the object properties. Markers become visible when moving the mouse pointer over the object.
  - **Object name:** marker shows the name of an object.
  - **Internal element:** marker shows if the selected object belongs to the internal printer elements.
  - **Counter:** marker shows that the connected variable is [Counter](#).
  - **Locked object:** marker shows that an object's position is locked.
- **Zoom:** defines zooming behavior.
  - **Zoom to Document:** shows the entire label in the ZebraDesigner window.
  - **Zoom to Objects:** shows all objects in the ZebraDesigner window.

### 4.7.2 Object Context Menu

When right-clicking an object, a context menu appears. The context menu includes the following commands:

- **Properties:** opens object properties dialog.
- **Copy:** copies the selected content to the clipboard.
- **Cut:** removes the selected element from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Delete:** removes the selected object from the design surface.
- **Lock:** prevents the selected object from being moved.
- **Arrange:** positions the objects so that they appear either in front of or behind each other.
  - **Bring Forward:** brings the element forward for one level.
  - **Send backward:** sends the element back for one level.
  - **Send to Front:** sends the element in front of all other elements on the label.
  - **Send to Back:** sends the element behind all other elements on the label.

### 4.7.3 Group Context Menu

When right-clicking an object, a context menu appears. The context menu includes the following commands:

- **Properties:** opens common object properties dialog.
- **Copy:** copies the selected content to the clipboard.
- **Cut:** removes the selected object from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Delete:** deletes the selected object(s) from the design surface.
- **Lock:** prevents the selected objects from being moved.
- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects:** separates previously grouped objects.

**Arrange** group defines how objects are positioned in a group.

- **Send backward:** moves the selected object down one level.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Bring forward:** moves the selected object up one level.
- **Bring to front:** moves the selected object to the top of the object stack.

**Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

**Horizontal alignment** options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.

- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

**Vertical alignment** options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

# 5 Label

Label works as a template which allows adding [label objects](#) and can be printed using any kind of printing media.

Each object adds a different kind of content such as text, line, ellipse, barcode or rectangle to a label. The content is either fixed (manually entered by the user) or dynamic (defined automatically via connected data sources).

After finishing with your label design, you can print the labels using any of your installed printers.

## 5.1 Label Setup Wizard

Label Setup Wizard guides you through the process of creating a new label. The wizard consists of four configuration steps and a summary:

- [Step 1: Select the Printer](#)
- [Step 2: Set the Page Size](#)
- [Step 3: Select the Label Layout](#)
- [Step 4: Specify the Label Dimensions](#)
- [Step 5: Summary](#)

After finishing these steps, the label is ready for editing and printing.

**NOTE:** To quit Label Setup Wizard during any step, press **Escape**. The new label properties are set to default.

### 5.1.1 Step 1: Select the Printer

This step selects the printer to be used for printing the newly created label. It also provides direct access to printer driver properties.

1. Select the printer from the dropdown list.
2. Label setup wizard remembers the last selected printer. When creating another new

label, the wizard will automatically select the printer that you selected for your last created label. If this printer is currently missing, your default printer is selected.

## 5.1.2 Step 2: Set the Page Size

This step defines how the page size is selected. When using a thermal printer, it is recommended to set the size automatically. Manual selection proves to be useful if you know the exact stock code or label format.

**NOTE:** When changing the printer, the Page Size settings always go to default (automatic).

1. Select print media.
  - **Print on a roll of labels** option prints on the installed roll of labels. Page size for thermal printers is detected automatically.

**NOTE:** If a thermal printer is selected in the preceding [Select the Printer](#) wizard step, this option is enabled by default.

- **Print on a sheet of paper** option prints labels on sheets of paper. It lets you manually define the label page size to fit the printer.

With this option selected, additional settings appear:

- **Unit of measure:** defines the unit of measure to be used while designing the label.
- **Paper:** defines the label page **Width** and **Height**.

**NOTE:** If a regular home/office printer is selected in the preceding [Select Printer](#) wizard step, Page size is enabled by default.

2. Select stock.

**Load settings from a predefined stock** option sets the page to be defined by the selected stock type.

With this option selected, additional settings appear:

- **Stock:** defines which stock type should be used when designing and printing the newly created label. Stock types are usually associated with printer vendors or stationery suppliers. Select the exact stock from the dropdown menu.

If the selected stock is not compatible with printer, a warning appears. Label designing and printing is disabled.

- **Stock information:** displays the selected stock's properties.

### 5.1.3 Step 3: Select the Label Layout

This step defines the label orientation and rotation on a printer:

- **Orientation:** sets the new label layout as **Portrait** or **Landscape**.
- **Rotation:** rotates the **Printer Layout** of a label by 180 degrees, if the selected printer supports it.
- **Preview field:** displays the label layout according to the currently set properties.

### 5.1.4 Step 4: Specify the Label Dimensions

This step defines the dimensions of the newly created label, its margins, measurement unit, and labels across positioning settings:

- **Unit of measure:** defines the unit to be used while designing the label.
- **Label Dimensions:** define the new label's **Width** and **Height**.
- **Margins:** define the distance between the edge of the printing surface and the edge of the label (left/right, top/bottom).
- **Labels Across:** defines the number of labels to be printed on a single label sheet.
  - **Horizontal count:** number of labels in a row.
  - **Vertical count:** number of labels in a column.
  - **Horizontal gap:** sets horizontal distance between the labels on a sheet.
  - **Vertical gap:** sets vertical distance between the labels on a sheet.
- **Processing order:** defines the direction in which the labels are printed. Set the starting corner where the printing starts and define the horizontal and vertical direction of label positioning.

### 5.1.5 Step 5: Summary

This step summarizes the new label properties as defined using the **Label Setup Wizard**.

Before clicking **Finish** to enter the label editing and printing phases, check the displayed settings:

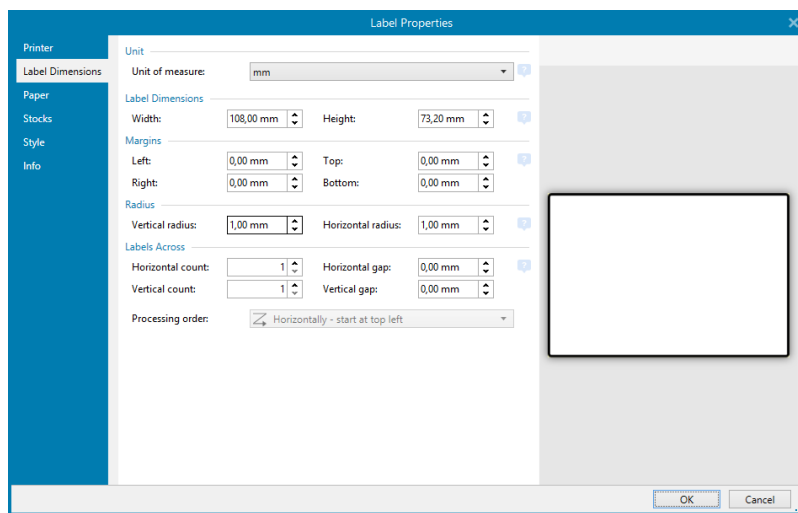
- **Printer:** selected printer for label printing.
- **Label dimensions:** dimensions of newly created label.
- **Paper dimensions:** dimensions of printable paper.

## 5.2 Label Properties

**Label Properties editor** selects the printer, sets label dimensions, and defines the printing paper properties.

The label properties settings are listed below and appear as dialog tabs:

| Label Property                   | Description                                              |
|----------------------------------|----------------------------------------------------------|
| <a href="#">Printer</a>          | Selects the preferred printer.                           |
| <a href="#">Label Dimensions</a> | Defines the <b>Unit of measure</b> and label dimensions. |
| <a href="#">Paper</a>            | Defines the printing paper properties.                   |
| <a href="#">Stocks</a>           | Selects the stock type.                                  |
| <a href="#">Style</a>            | Defines the label style parameters.                      |
| <a href="#">Info</a>             | Inserts the label description.                           |



**TIP:** To open the **Label Properties Editor**, double-click the [design surface](#).

### 5.2.1 Printer

**Printer** tab lets you define the printer to print the labels on, and to set printing behavior.

**Printer** dropdown menu lets you select a printer from the currently available printers.



**TIP:** To set the printer settings, select a printer and click **Printer properties**. This button gives direct access to the selected printer's driver and its settings.

## 5.2.2 Label Dimensions

**Label Dimensions** tab specifies label dimensions and defines whether its size should adapt to the changing size of the objects or not.

**Unit of measure** defines the unit to be used while designing the label. There are four available units: cm, in, mm, and dot.

**Label Dimensions** group defines the label's **Width** and **Height**. Label dimension settings become active if manual label dimensions are enabled.

When manually inserting the unit of measure, this also changes the currently defined **Unit**.

**Margins** group sets the distance between the edge of the printing surface and the edge of the label (left/right, top/bottom).

**Radius** group enables you to make the label corners rounded.

- **Vertical radius:** adjusts corner roundness value in vertical direction.
- **Horizontal radius:** adjusts corner roundness value in horizontal direction.

**Labels Across** defines the number of labels to be printed on a single label sheet.

- **Horizontal count:** number of labels in a row.
- **Vertical count:** number of labels in a column.
- **Horizontal gap:** horizontal distance between labels on a sheet.
- **Vertical gap:** vertical distance between labels on a sheet.
- **Processing order:** defines the direction in which labels are printed. Set the starting corner in which printing starts, and the horizontal/ vertical directions of label positioning.

## 5.2.3 Paper

**Paper** tab sets printing paper properties.

**Unit** selects the **Unit of measure** to be used in a label.

**Paper Type** group defines paper dimensioning type – automatic or manual.

- **Automatically set page size based on the label dimensions (labels on a roll):** page size is defined by the printer driver.
- **Manually set page size (sheets of paper):** page size is set manually.

If the page size is defined manually, additional options appear:

- **Paper:** selection of standard paper formats.
- **Width** and **Height:** custom paper dimensions.

**Orientation** group sets the new label layout as **Portrait** or **Landscape**.

- **Rotated: Printer Layout** is rotated by 180 degrees.

**Preview** displays current label screen and print layouts.

## 5.2.4 Stocks

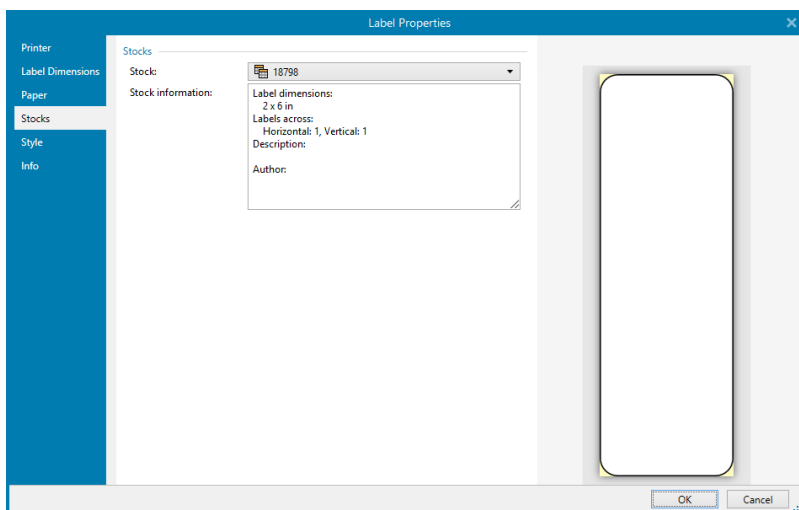
Label stocks are a time-saving alternative to designing labels from scratch. Use stock templates when designing labels for a specific printer type and when optimizing the label designing process.

**Stocks** group defines which stock type should be used when designing and printing a label. Stock types are usually associated with printer vendors or stationery suppliers.

**NOTE:** Here defined stock properties override the manually set label properties.

**Stock** defines the exact stock to be used for label designing and printing. Stocks are sorted by vendors and media formats. Expand stock provider and select a specific stock type.

**TIP:** Use **Search...** to easily find the requested stock. Partial search is available – enter a sequence of characters and all stocks which contain it will be listed.



**NOTE:** If the selected stock is not compatible with the selected printer, a warning appears. Previously selected stock becomes active again (if it was defined) allowing the printing to continue.

**Stock information** displays the selected stock's properties:

- [Label dimensions](#)
- [Labels across](#)
- [Description](#)
- **Author**

## 5.2.5 Style

**Style** tab is used for defining label style properties.

**Background color:** sets the color of label background.

**Background picture:** sets the label background picture.

- **Picture file name:** defines the image file to be used as background picture.
- **Embed picture in a document:** saves picture into the label file.
- **Save embedded picture to file:** the embedded label picture is saved to a separate file.
- **Remove embedded picture:** embedded picture is removed from the label file.
- **Picture position:** sets picture position on the label.
  - **Center:** centers the picture on the label with its original dimensions. A picture larger than the label will display only the central part leaving the rest out of view.
  - **Fit:** resizes the picture to fill the label while keeping the original aspect ratio.
  - **Stretch:** stretches picture to make it fill the entire label.

**NOTE:** This option ignores the original aspect ratio of the picture. The picture might appear distorted on the label.

- **Rotation:** background picture rotated by 90 degrees.
- **Print background picture:** background picture is printed.

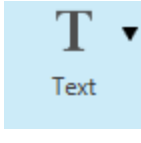

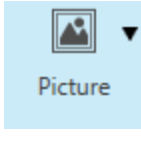

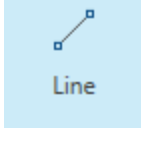

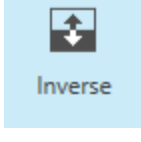
## 5.2.6 Info

**Info** tab includes a **Description** that serves as a hint or as a guide for the user that is going to work with the label.

Define label **Description** by entering text into the field.

## 5.3 Label Objects

After setting the [label properties](#), it's time to start adding content to the label. Label objects are basic design items that are used for adding and editing various content types. Each object has its own function as described in the table below.

| Label Object              | Icon                                                                                             | Description                                                                                                                                                     |
|---------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Text</a>      | <br>Text        | Container for textual content. It adapts its dimensions to fit the amount of entered characters. When typing, text object grows horizontally and/or vertically. |
| <a href="#">Barcode</a>   | <br>Barcode     | Object for adding and editing various types of barcodes on a label.                                                                                             |
| <a href="#">Picture</a>   | <br>Picture    | Object for adding graphic content to a label.                                                                                                                   |
| <a href="#">Rectangle</a> | <br>Rectangle | Object for creating rectangular shapes on a label.                                                                                                              |
| <a href="#">Line</a>      | <br>Line      | Object for creating lines on a label.                                                                                                                           |
| <a href="#">Ellipse</a>   | <br>Ellipse   | Object for creating circular shapes on a label.                                                                                                                 |
| <a href="#">Inverse</a>   | <br>Inverse   | Object for inverting the color of the underlying object.                                                                                                        |

## 5.3.1 Text

**Text** object is a container for textual content which adapts its dimensions to fit the amount of inserted characters. When typing, text object grows horizontally and/or vertically.

### 5.3.1.1 Source

**Connected data source** defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- [Variable keyboard input](#): type of variable that enables the content of a prompted field to be different for every print job.
- [Current date](#): displays current date value on the label.
- [Current time](#): displays current time value on the label.
- [Counter](#): displays counter value on the label.

**Content** field allows you to type the object content.

### 5.3.1.2 Style

**Font color** sets text font and underline color.

**Font** selects the typeface. Fonts are divided into two groups: OpenType fonts and Printer fonts.

**NOTE:** If the currently selected printer is a thermal printer, additional fonts become available. These are the internal **Printer fonts** that are installed on the printer. Printer fonts are identified by the printer icon in front of their names.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

**Font Scaling** sets the font stretch factor. If the factor is set to 100 %, font appears in normal scale. If the factor is set to 200 %, font appears twice as wide. If set to 50 %, font width is shrunk to half its size.

**Alignment** defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned in the center of the object.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text evenly along both sides.

**Spacing** sets the space between text characters and lines.

- **Line spacing:** space between each line in a paragraph.
- **Character spacing:** space between individual characters.

### 5.3.1.3 Effects

**Inverse:** inverted text and object background colors.

### 5.3.1.4 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.

- **X and Y:** anchoring point coordinates.

**Size** group gives an information about the object's dimensions.


- **Width and Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.


In Text object, the size of text is determined by the font size. Object dimensions and aspect ratio cannot be changed manually and only serve as information about its current size.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

There are multiple ways to set the object's angle: enter the angle manually , drag the slider

or click and drag the  icon on the selected object. Rotation angle and slider rotates the

object around its anchoring point. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Lock** prevents the object from being moved during the design process, select under the **Design behavior** group.

### 5.3.1.5 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.

**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |

### 5.3.2 Barcode

**Barcode** object is used for adding various types of barcodes with encoded data to a label.

Details on barcode properties, types, and data encoding methods are available in the dedicated [Barcode section](#).

### 5.3.3 Picture

Use **Picture** object to add graphic content on a label. The following file formats are supported:

- Portable Network Graphic (\*.png)
- PDF (\*.pdf)
- Adobe Photoshop (\*.psd)
- Scalable Vector graphics (\*.svg)
- Paintbrush (\*.pcx)
- JPEG bitmaps (\*.jpg, \*.jpeg, \*.jpe)
- TIFF bitmaps (\*.tif, \*.tiff)
- Enhanced Windows Metafile (\*.emf)
- Windows Metafile (\*.wmf)
- Windows bitmap (\*.bmp)

#### 5.3.3.1 Source

**Connected data source** defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- [Variable keyboard input](#): type of variable that enables the content of a prompted field to be different for every print job.

- [Current date](#): displays current date value on the label.
- [Current time](#): displays current time value on the label.
- [Counter](#): displays counter value on the label.

**Content** field is used for entering the object content.

To (re)define the Picture object **Content**, click **Browse** and locate the file to be displayed on the label.

**Embed picture in a document** stores the picture in the label file. Link to the original picture file is discarded.

**TIP:** Picture embedding makes the label file more portable as the user does not have to include the picture file when sharing the label.

**Save embedded picture to file:** the embedded label picture is saved as a separate file.

### 5.3.3.2 Style

**Dithering** group allows you to select the most appropriate dithering method to print pictures on labels in black and white.

**TIP:** When printing pictures in black and white, dithering creates the illusion of multiple colors and shades by varying the pattern of black dots.

**Dithering type** selects the dithering method:

- **Printer driver default:** no dithering method is selected for the picture object. When printing in black and white, printer driver uses its own dithering method.

If no dithering is set for the picture object, the algorithm can also be selected using the printer properties dialog. The selected dithering algorithm for an object in ZebraDesigner overrides the algorithm selected using printer properties dialog. See [Changing dithering options](#) for more detailed information.

- **Ordered:** achieves dithering by applying a threshold map (matrix with cells) on the pixels displayed. If the value of the pixel (scaled into the 0-9 range) is less than the number in the corresponding cell of the matrix, the algorithm plots the pixel black, otherwise, it plots it white.
- **Threshold:** sets a threshold to which every pixel is compared. If the original pixel value is higher than the threshold, it renders white. The lower the threshold value, the higher the share of pixels turned to white.
- **Floyd Steinberg:** achieves dithering using error dispersion. This algorithm generates the closest result to the original, but represents the slowest option.



### 5.3.3.3 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.

- **X** and **Y**: anchoring point coordinates.


**Size** group sets the object's dimensions:


- **Width** and **Height**: horizontal and vertical object dimension.
- **Keep aspect ratio**: simultaneous changing of object dimensions while scaling.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

**TIP:** There are multiple ways to set the object's angle: enter the angle manually, drag the

slider or click and drag the  icon on the selected object. Rotation angle and slider

rotates the object around its anchoring point. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Lock** prevents the object from being moved during the design process.

**NOTE:** If the measurement unit is changed, the value converts automatically.

**Graphic Resizing** tab is available if the picture object is connected to a variable. These settings define how the Picture object adapts its size to the source file at print time.

- **Keep original picture size:** disabled picture resizing. Picture size remains unchanged.
- **Resize proportionally:** proportional picture resizing. Aspect ratio of picture dimension remains fixed.
- **Resize to the designed size:** horizontal and vertical picture resizing to make it fit into the bounding box. This option will most likely make the picture distorted.

**Original size** displays the picture's **Width** and **Height** before resizing. **Revert to original picture size** cancels the resizing actions.

#### 5.3.3.4 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.

**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |

### 5.3.4 Rectangle

**Rectangle** object creates a rectangular frame on a label.

#### 5.3.4.1 Style

**Outline** group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style.
  - **None:** line invisible.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath this object.
- **Outline color:** color of the line.
- **Corner radius:** makes the rectangle corners round. Higher values make the curve broader.

**Fill** defines the object fill settings and color.

- **Fill style:** object fill properties definition:
  - **None:** completely transparent object.
  - **Erase:** makes objects beneath the active one hidden.
  - **Solid:** fills the object with solid color.
  - **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
  - **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
  - **Vertical:** fills the object with vertical lines.
  - **Horizontal:** fills the object with horizontal lines.
  - **Cross:** fills the object with crossed lines.
  - **Cross Diagonal:** fills the object with diagonally crossed lines.
  - **25% of color:** fill color opacity 25 %.
  - **50% of color:** fill color opacity 50 %.
  - **75% of color:** fill color opacity 75 %.
- **Fill color:** object fill color definition.

**NOTE:** The system does not allow the **Outline style** and **Fill style** to be set to **None** at the same time.

**TIP:** Shape objects ([Rectangle](#), [Line](#) and [Ellipse](#)) in ZebraDesigner remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

#### 5.3.4.2 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.



- **X and Y:** anchoring point coordinates.

**Size** group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

**TIP:** There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Lock** prevents the object from being moved during the design process.

#### 5.3.4.3 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.

**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |

**Printing optimization** group allows activating the use of internal printer elements.

**TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

## 5.3.5 Line

**Line** object creates a line on a label.

### 5.3.5.1 Style

**Outline** group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style.
  - **None:** line invisible.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath this object.
- **Outline color:** color of the line.

**TIP:** Shape objects ([Rectangle](#), [Line](#) and [Ellipse](#)) in ZebraDesigner remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

### 5.3.5.2 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.


- **X and Y:** anchoring point coordinates.

If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

**TIP:** There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the



icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

**Lock** prevents the object from being moved during the design process.

### 5.3.5.3 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.

**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |

**Printing optimization** group allows activating the use of internal printer elements.

**TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.

- **Always print as graphics:** sends and prints the objects as graphic files.

## 5.3.6 Ellipse

**Ellipse** object creates a circular object on a label.

### 5.3.6.1 Style

**Outline** group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style.
  - **None:** line invisible.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath this object.
- **Outline color:** color of the line.

**Fill** defines the object fill settings and color.

- **Fill style:** object fill properties definition:
  - **None:** completely transparent object.
  - **Erase:** makes objects beneath the active one hidden.
  - **Solid:** fills the object with solid color.
  - **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
  - **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
  - **Vertical:** fills the object with vertical lines.
  - **Horizontal:** fills the object with horizontal lines.
  - **Cross:** fills the object with crossed lines.
  - **Cross Diagonal:** fills the object with diagonally crossed lines.
  - **25% of color:** fill color opacity 25 %.
  - **50% of color:** fill color opacity 50 %.
  - **75% of color:** fill color opacity 75 %.
- **Fill color:** object fill color definition.

**NOTE:** The system does not allow the **Outline style** and **Fill style** to be set to **None** at the same time.

**TIP:** Shape objects (Rectangle, Line and Ellipse) in ZebraDesigner remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

### 5.3.6.2 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.



- **X and Y:** anchoring point coordinates.

**Size** group sets the object's dimensions:

- **Width and Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

**TIP:** There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Lock** prevents the object from being moved during the design process.

**NOTE:** If the measurement unit is changed, the value transforms automatically.

### 5.3.6.3 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.



**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |

**Printing optimization** group allows activating the use of internal printer elements.

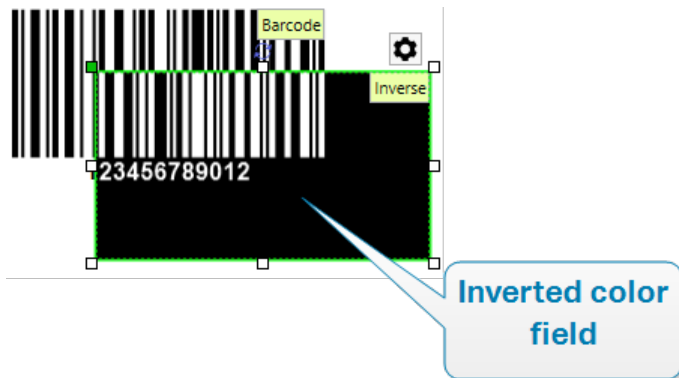
**TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

## 5.3.7 Inverse

### 5.3.7.1 About

**Inverse** object inverts the underlying object's color.



### 5.3.7.2 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.



- **X** and **Y**: anchoring point coordinates.

**Size** group sets the object's dimensions:

- **Width** and **Height**: horizontal and vertical object dimension.
- **Keep aspect ratio**: simultaneous changing of object dimensions while scaling.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

**TIP:** There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Lock** prevents the object from being moved during the design process.

**NOTE:** If the measurement unit is changed, the value transforms automatically.

### 5.3.7.3 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.

**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |

**Printing optimization** group allows activating the use of internal printer elements.

**TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g. internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

## 5.4 Working with Objects

This section describes how to work with [objects](#) and blend them with the design of a [label](#).

Object is a basic building block of any label or solution. Each object is dedicated to a specific type of content. See the related topics for style and content related object properties.

These are the common actions for multiple object types:

- [Adding an object](#): adds an object to the design surface.
- [Grouping](#): makes multiple object behave as a single object.
- [Rotating](#): changes the angle of a selected object.
- [Aligning](#): make the object positions.

### 5.4.1 Adding Objects

There are multiple methods to add an object to a label or form. Use the most convenient one:

- **Click and Click**: click the object in the object toolbox. Mouse cursor transforms. Click on the design surface – the selected object appears where clicked.
- **Click and Drag**: click the object in object toolbox. Mouse cursor transforms. Click on the design surface and drag to define the size of the added object.

[Text](#) object's size cannot be defined using this method – its size is defined dynamically.

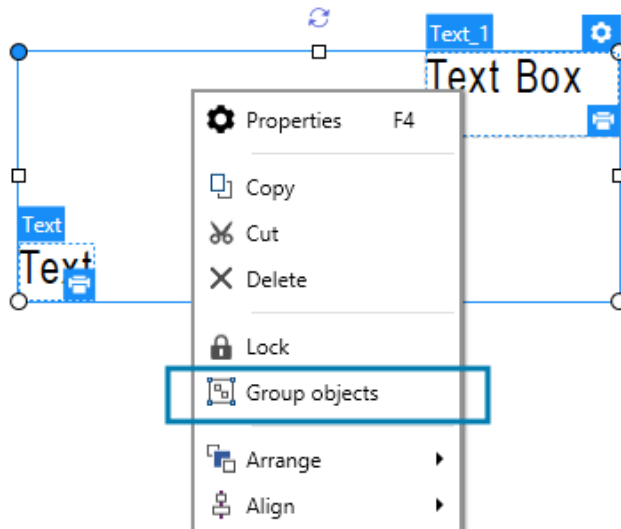
- **Drag and Drop**: click the object in the object toolbox and drag it to the design surface. The selected object appears where the mouse button is released.
- **Copy and Paste**: graphical and textual content can be pasted directly to the design surface. The following rules apply when copying items and pasting them directly to a label:
  - Graphical content from clipboard is pasted as embedded [Picture](#) object.
  - Single line text is pasted as [Text](#) object.

### 5.4.2 Grouping

To make multiple object on a label behave as a single object, add them to a group. To group objects:



- Surround the objects you wish to group using mouse. A rectangle appears marking the selected objects. Right-click and select **Group objects** to create a group of objects.

- Hold **Shift** key and click the objects you wish to group. This select multiple objects – right-click and select **Group objects** to create a group of objects.



### 5.4.3 Rotating

There are two ways to set the angle of an object:

- Enter the angle manually in degrees or drag the slider. The object rotates around its anchoring point. Rotation commands are accessible in two ways:
  - Click **Position** in the [Positioning group](#) of the Design tab
  - Go to **Object properties -> Position -> Rotation angle**.
- Click and drag the  icon next to the selected object. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

# 6 Barcode

ZebraDesigner supports a wide variety of 1D and 2D barcode types to be printed on labels. Each barcode type is configurable according to specific standards.

**TIP:** When encoding the barcode content, make sure the used characters, length, and identifiers comply with the barcode standard guidelines.

The following barcode types are available in ZebraDesigner:

- [1D and 2D Barcodes](#)
- [GS1 DataBar Barcode Subtypes](#)

In ZebraDesigner, barcodes are added to a label using the barcode object. To properly encode the data and to set the barcode object properties, read the sections below. Each of these sections describes barcode object properties. To start editing them, double-click the object to open the [Object Properties Window](#).

## 6.1 Source

**Connected data source** defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- [Variable keyboard input:](#) type of variable that enables the content of a prompted field to be different for every print job.
- [Current date:](#) displays current date value on the label.
- [Current time:](#) displays current time value on the label.
- [Counter:](#) displays counter value on the label.

**Content** field allows you to type the object content.

## 6.2 Barcode

**Barcode Type** defines the specific barcode type which should be used to encode the data.

**TIP:** Code128 barcode type is selected by default. For more details about the available barcode types, see section [Barcode Types and Available Settings](#).

- **X dimension:** width of the narrowest bar in the barcode.
- **Height:** barcode's vertical dimension.
- **Ratio** defines the ratio between the barcode's narrow and wide bar widths.

Each barcode type's range of permitted ratios is limited by the standard. ZebraDesigner only allows you to use valid ratios. By default, the ratio is set to 3. This means that the wide bar is 3 times the width of a narrow bar.

**NOTE:** The available ratios depend on the selected **X dimension**. If you are changing the X dimension, this also affects the selection of available ratios.

- **Row height** defines the height of a single data row in 2D barcodes. Row height is specified as a multiple over the **X dimension**. For example, "3x" means that the row is 3 times the **X dimension**.

**Actual properties based on selected printer** displays the X dimension as it would appear printed on a label using the currently selected printer.

**Color** defines the color of the barcode.

## 6.3 Check Digit

**Check digit** is used by any scanning system to verify that the number scanned from a barcode is read correctly.

**TIP:** Check digit is derived from the preceding barcode digits and is placed as the final digit of a barcode.

**Include check digit** determines if check digit is included in a barcode or not.

- **Auto-generate check digit:** automatic check digit calculation.

If the data already includes invalid check digit, ZebraDesigner replaces it with a proper value.

- **Verify the provided check digit:** verification of the manually provided check digit. An error message appears if the check digit proves to be incorrect.
- **Display in human readable:** check digit included in the human readable barcode text.

## 6.4 Human Readable

**Human Readable** text displays readable barcode data content located below or above the barcode. Its role is to provide backup in case the barcode is damaged or of poor quality.

**NOTE:** **Human Readable** tab is visible with supported barcode types.

- **No human readable:** barcode is rendered without human readable text.
- **Above barcode:** human readable text is located above the barcode.
- **Below barcode:** human readable text is located below the barcode.

**Style** group allows you to set custom properties for human readable text.

**NOTE:** If you decide to customize human readable text, barcode can no longer be used as internal printer element. It is sent to printer and printed as a graphic element.

- **Custom font:** enables font and font size selection. Internal printer fonts cannot be used as custom human readable font.
- **Auto font scaling:** If enabled (default setting), human readable text grows or shrinks proportionally along with the changing size of the barcode. To set a custom size for human readable text, disable this option and select the appropriate font size.
- **Bold:** makes human readable text appear bold.
- **Italic:** makes human readable text appear italic.

## 6.5 Bearer Bar

**Bearer bar** is a border that surrounds the barcode. Its purpose is to protect the barcode image and to enhance reading reliability.

- **Fixed thickness:** automatically defined bearer bar width.
- **Variable thickness:** user-defined bearer bar width.
- **Thickness multiplier:** bearer bar width factor.
- **Show vertical bar:** vertical bearer bars displayed or hidden.



## 6.6 Details

**Details** differ according to the barcode standards. Define the options that are given with regard to the currently selected barcode type. Details for 1D and 2D barcodes are described in dedicated sections:

- [1D barcode details](#)
- [2D barcode details](#)

## 6.7 Position

**Position** tab defines object positioning and its position-related behavior.

**Position** group defines the object's position.



- **X and Y:** anchoring point coordinates.

**Size** group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

**Rotation angle** is the object angle according to the design surface.

**TIP:** There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

**Anchoring point** is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

**Lock** prevents the object from being moved during the design process.

**NOTE:** If the measurement unit is changed in [label properties](#), the value transforms automatically.

## 6.8 General

**General** tab identifies the object and sets its status.

**Name** sets a unique object ID.

**NOTE:** Avoid using spaces or special characters in object names.

**Description** allows adding notes and annotations for an object. It provides help during the label design process.

**Status** group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.


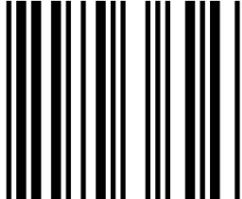

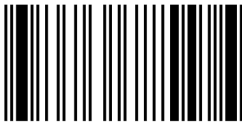
| Option                             | Print Preview | Printout |
|------------------------------------|---------------|----------|
| <b>Not printable</b><br>(selected) | YES           | NO       |
| <b>Visible</b> (cleared)           | NO            | NO       |





**Printing optimization** group allows activating the use of internal printer elements.

**TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.




- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.




## 6.9 Available Barcodes and Their Settings




| Barcode  | Example                                                                                              | Info                                                                                                                                               | Available Settings                                                                                                                                  |
|----------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Anker    | <br>123456789012    | Variation of Plessey Code. Used for point of sale systems prior to the advent of EAN code.                                                         | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| Bookland | <br>12345          | EAN-13 barcode used exclusively for books.                                                                                                         | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| Codabar  | <br>A12345678901B | A self-checking and binary level linear barcode symbology with no check sum digit appended. Widely used in libraries and package delivery systems. | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a>                                     |
| Code93   | <br>12345         | 43 characters allowed. ASCII character set supported by using combinations of 2 characters.                                                        | <a href="#">Basic Barcode Settings</a><br>Human Readable                                                                                            |

| Barcode   | Example                                                                             | Info                                                                                                | Available Settings                                                                                                                                  |
|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                                                                     |                                                                                                     | Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a>                                                             |
| Code128   |    | Double density data encoding, ASCII character set supported.                                        | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| Code128-A |  | ASCII characters 00 to 95 (0-9, A-Z, and control codes), special characters, and FNC 1-4 supported. | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| Code128-B |  | ASCII characters 32 to 127 (0-9, A-Z, a-z), special characters, and FNC 1-4 supported.              | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| Code128C  |  | 00-99 (encodes each two digits with one code) and FNC1.                                             | <a href="#">Basic Barcode Settings</a><br>Human Readable<br>Details tab:                                                                            |





| Barcode            | Example          | Info                                                        | Available Settings                                                                                                                                                                                        |
|--------------------|------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |                  |                                                             | <a href="#">Include quiet zones</a><br><a href="#">Space correction</a>                                                                                                                                   |
| Code-39            | <p>*12345*</p>   | Fully alphanumeric barcode for use with data-entry systems. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Inter character gap</a><br><a href="#">Space correction</a> |
| Code-39 full ASCII | <p>*12345*</p>   | 28 ASCII character set including asterisks supported.       | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Inter character gap</a><br><a href="#">Space correction</a> |
| Code-39 Tri Optic  | <p>\$12345\$</p> | Computer tape cartridge marking.                            | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet</a>                                                                                  |

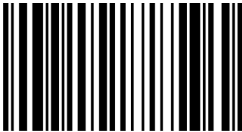



| Barcode    | Example                                                                                                                  | Info                                                                    | Available Settings                                                                                                                                                                                         |
|------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |                                                                                                                          |                                                                         | <a href="#">zones</a><br><a href="#">Inter character gap</a><br><a href="#">Space correction</a>                                                                                                           |
| Dun-14     |  <p>(01)12345678901231</p>              | Numbering system for shipping containers that uses other barcode types. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Inter character gap</a><br><a href="#">Space correction</a>  |
| Ean-13     |  <p>1 2 3 4 5 6 7 8 9 0 1 2 8</p>     | European Article Number, used for global retail.                        | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Include EAN white space</a> |
| Ean-13 + 2 |  <p>1 2 3 4 5 6 7 8 9 0 1 2 8 4 5</p> | Often used on newspapers and magazines.                                 | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:                                                                                                                    |

| Barcode    | Example                                                                                                                                                                                                                                                         | Info                                                                                                                                                           | Available Settings                                                                                                                                                                                      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            |                                                                                                                                                                                                                                                                 |                                                                                                                                                                | <a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Include EAN white space</a>                                                                                         |
| Ean-13 + 5 |  <p>The image shows a standard EAN-13 barcode with a 5-digit add-on. The numbers 1234565022514 are printed below the main barcode, and 04555 are printed below the add-on.</p> | <p>For books in English language: the first digit of the EAN-5 is the currency indicator. The four following digits represent the price multiplied by 100.</p> | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Include EAN white space</a> |
| Ean-14     |  <p>The image shows a 14-digit EAN barcode. The numbers (01)12345678901231 are printed below the bars.</p>                                                                   | Traded goods.                                                                                                                                                  | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a>                                         |
| Ean-8      |  <p>The image shows an 8-digit EAN barcode. The numbers 12345670 are printed below the bars.</p>                                                                             | <p>Small package marking where an EAN-13 barcode would be too large.</p>                                                                                       | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable Details tab:<br><a href="#">Include quiet</a>                                                                                   |





| Barcode   | Example                                                                             | Info                                                                                           | Available Settings                                                                                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                                                                     |                                                                                                | <a href="#">zones</a><br><a href="#">Descender bar</a><br><a href="#">Include EAN white space</a><br><a href="#">Space correction</a>                                                                      |
| Ean-8 + 2 |    | Only used if the article is too small for an EAN-13 code.                                      | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Include EAN white space</a> |
| Ean-8 + 5 |  | Only used if the article is too small for an EAN-13 code.                                      | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Include EAN white space</a> |
| GS1-128   |  | A variant of Code 128 - it automatically inserts a FNC1 character after the initial character. | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Include quiet</a>                                                                                                                    |



| Barcode            | Example                                                                             | Info                                                                                                    | Available Settings                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |                                                                                     |                                                                                                         | <a href="#">zones</a><br><a href="#">Space correction</a>                                                                                                          |
| Interleaved 2 of 5 |    | Used on 135 film, for ITF-14 barcodes, and on packaging.                                                | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| ITF 14             |   | Higher level packaging. GTIN included.                                                                  | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Bearer Bar<br>Details tab:<br><a href="#">Space correction</a>                          |
| ITF 16             |  | Higher level packaging. GTIN included.                                                                  | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Bearer Bar<br>Details tab:<br><a href="#">Space correction</a>                          |
| MSI                |  | Used primarily for inventory control, marking storage containers and shelves in warehouse environments. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable                                                                                            |





| Barcode       | Example                                                                                                       | Info                                                                                                                            | Available Settings                                                                                                                                                 |
|---------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                                                                               |                                                                                                                                 | Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a>                                                                            |
| SSCC          |                              | Identification in logistics. The code includes an extension digit, a GS1 company prefix, a serial reference, and a check digit. | Details tab:<br><a href="#">Space correction</a>                                                                                                                   |
| Plessey       | <br>123456789012            | One of the first barcode symbologies. Still used in libraries and for shelf tags in retail stores.                              | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| SSCC-18       | <br>(00)123456789012345675 | Identification in logistics. The code includes an extension digit, a GS1 company prefix, a serial reference, and a check digit. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a> |
| Upc Case Code | <br>(01)12345678901231     | Used for cartons, cases, or pallets that contain products with UPC or EAN product identification number.                        | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable                                                                                            |


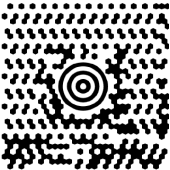



| Barcode   | Example                                                                                                                    | Info                                                                                        | Available Settings                                                                                                                                                                                  |
|-----------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                                                                                                            |                                                                                             | Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Space correction</a>                                                                                                             |
| Upc-A     |  <p>1 2 3 4 5 6 7 8 9 0 1 2</p>           | Product identifying at retail checkout. GTIN included.                                      | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Space correction</a> |
| Upc-A + 2 |  <p>1 2 3 4 5 6 7 8 9 0 1 2 3 4</p>     | Product identifying at retail checkout. GTIN included. Used with magazines and periodicals. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Space correction</a> |
| Upc-A + 5 |  <p>1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6</p> | Product identifying at retail checkout. GTIN included. Used for book pricing.               | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a>                                                                      |


| Barcode                              | Example                                                                                                                                                                                                                      | Info                                                                                              | Available Settings                                                                                                                                                                           |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      |                                                                                                                                                                                                                              |                                                                                                   | <a href="#">Descender bar</a>                                                                                                                                                                |
| Upc-E                                |  A standard Upc-E barcode with vertical bars of varying heights. Below the bars are the digits 0, 1, 2, 3, 4, 5, 6, and 5.                  | Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a><br><a href="#">Symbology</a> |
| Upc-E + 2                            |  A standard Upc-E barcode with vertical bars of varying heights. Below the bars are the digits 0, 1, 2, 3, 4, 5, 6, 5, 6, and 7.          | Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a>                              |
| Upc-E + 5                            |  A standard Upc-E barcode with vertical bars of varying heights. Below the bars are the digits 0, 1, 2, 3, 4, 5, 6, 5, 6, 7, 8, 9, and 0. | Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages. | <a href="#">Basic Barcode Settings</a><br>Check Digit<br>Human Readable<br>Details tab:<br><a href="#">Include quiet zones</a><br><a href="#">Descender bar</a>                              |
| <b>USPS Intelligent Mail Barcode</b> |  A USPS Intelligent Mail Barcode, which is a dense, high-frequency barcode consisting of many thin vertical bars.                         | Tracking and sorting of letters and flat packages in the United States.                           | <a href="#">USPS Intelligent Mail Barcode Content</a>                                                                                                                                        |

| Barcode | Example | Info | Available Settings                                  |
|---------|---------|------|-----------------------------------------------------|
|         |         |      | Details tab:<br><a href="#">Include quiet zones</a> |

## 6.9.1 2D Barcodes



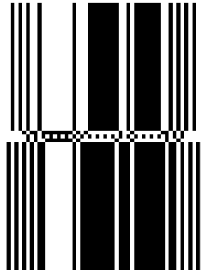

| Barcode        | Example                                                                             | Info                                                                                    | Available Settings                                                                                                                                          |
|----------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aztec          |    | High capacity, symbol size adjusts automatically depending on the amount of input data. | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Data layer</a><br><a href="#">Error correction level</a> |
| Data Matrix    |   | High capacity, optimal for small packages.                                              | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Encoding</a><br><a href="#">Format</a>                   |
| GS1 DataBar    |  | Marking products that cross POS applications. GS1 identification (AIs) included.        | Available settings change according to the <a href="#">selected GS1 DataBar type</a> .                                                                      |
| GS1 Datamatrix |  | Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.        | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Format</a><br><a href="#">Encoding</a><br><a href="#">Code page</a>                   |




| Barcode     | Example                                                                             | Info                                                                                                                  | Available Settings                                                                                                                                                                          |
|-------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GS1 QR Code |    | Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.                                      | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Encoding</a><br><a href="#">Error correction level</a><br><a href="#">Symbol version</a> |
| MaxiCode    |    | Used by UPS on shipping labels for world-wide addressing and package sortation.                                       | <a href="#">MaxiCode Content</a><br><a href="#">Basic Barcode Settings</a>                                                                                                                  |
| Micro QR    |   | Reduced size and capacity of a normal QR code. Optimal when the barcode size needs to be minimized.                   | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Encoding</a><br><a href="#">Error correction level</a><br><a href="#">Symbol version</a> |
| MicroPDF    |  | Compact version of PDF-417.                                                                                           | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Compaction mode</a><br><a href="#">Version</a>                                           |
| PDF-417     |  | Commonly used in transport, inventory management, etc. The code is both self-checking and bi-directionally decodable. | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Compaction mode</a><br><a href="#">Columns</a><br><a href="#">Error correction level</a> |

| Barcode | Example                                                                           | Info                                                                                                    | Available Settings                                                                                                                                                                          |
|---------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |                                                                                   |                                                                                                         | <a href="#">Rows</a><br><a href="#">Truncated</a>                                                                                                                                           |
| QR      |  | A matrix barcode readable by QR scanners and smartphones. Adaptable size to the amount of encoded data. | <a href="#">Basic Barcode Settings</a><br>Details tab:<br><a href="#">Code page</a><br><a href="#">Encoding</a><br><a href="#">Error correction level</a><br><a href="#">Symbol version</a> |




## 6.10 GS1 DataBar Subtypes

### 6.10.1 Linear Symbol Types




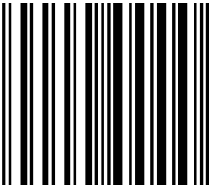
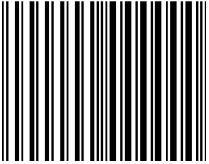
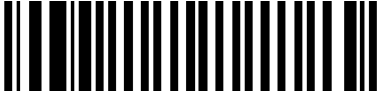

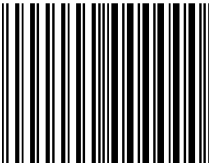
| GS1 DataBar Subtype     | Example                                                                              | Info                                                                              |
|-------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Omnidirectional         |   | Omnidirectional scanning, up to 20 trillion encodable values.                     |
| Stacked                 |   | Stacked truncated symbol for omnidirectional scanning with reduced symbol length. |
| Stacked Omnidirectional |   | Full height symbol stacked in two rows separated by a delimiter.                  |
| Truncated               |  | Height reduced to 13 times the X dimension. For handheld scanners.                |

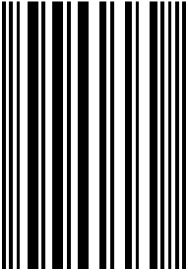
| GS1 DataBar Subtype | Example                                                                           | Info                                                                                                                                    |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Expanded            |  | Omnidirectional scanning, variable content length.                                                                                      |
| Expanded Stacked    |  | Omnidirectional scanning, variable content length, reduced length due to stacking (2 to 11 rows). "GS1 DataBar Properties" on page 101. |
| Limited             |  | Limited range of values. For handheld scanners.                                                                                         |

## 6.10.2 Composite Symbol Types

| GS1 DataBar Subtype     | Example                                                                              | Info                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Omnidirectional         |   | A linear symbology that supports omnidirectional scanning of packages. It encodes 14 digits of numerical data used to identify GTIN for scanning in the supply chain. |
| Stacked Omnidirectional |   | Represents the encoded data separately in linear and composite part of the code. Advantage is reduced symbol length. For hand held scanners.                          |
| Truncated               |  | Intended for very small items in health-care, not intended for POS scanners.                                                                                          |



| GS1 DataBar Subtype | Example                                                                             | Info                                                                                                                                               |
|---------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Expanded            |    | Omnidirectional scanning, variable content length. Used for variable-measure food, coupons.                                                        |
| Expanded Stacked    |    | Omnidirectional scanning, variable content length, reduced length due to stacking (2 to 11 rows). See section "GS1 DataBar Properties" on page 101 |
| Limited             |    | Limited range of values. For hand held scanners.                                                                                                   |
| EAN-8               |  | A smaller and shortened version of the EAN code.                                                                                                   |
| EAN-13              |  | EAN codes require 13 digits (12 if the check digit is calculated automatically).                                                                   |
| EAN.UCC 128 & CC-A  |  | GS1-128 linear barcode linked to a 2D barcode called CC-A.                                                                                         |
| EAN.UCC 128 & CC-C  |  | GS1-128 linear barcode linked to a 2D barcode called CC-C.                                                                                         |
| UPC-A               |  | The linear component encodes the item's primary identification. The adjacent 2D Com-                                                               |

| GS1 DataBar Subtype | Example                                                                           | Info                                                                                                                                                                                  |
|---------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                                                                   | posite Component encodes supplementary data, such as a batch number and expiration date.                                                                                              |
| UPC-E               |  | PC-E compresses a normal UPC-A code into a six digit code by “suppressing” the number system digit, trailing zeros in the manufacturers code and leading zeros in the product number. |

## 6.11 1D Barcode Details

**Details** tab settings vary along with the specific barcode standards.

**TIP:** Keep in mind the currently selected barcode type as you define the available barcode settings.

ZebraDesigner allows setting the following 1D barcode details:

- **Include quiet zones:** blank space around the printed barcode. Quiet zone ensures the highest level of scanning reliability.
- **Inter character gap:** distance between the last bar of a character and the first bar of the next character in a barcode.
- **Descender bars:** makes the bars at the beginning, in the middle, and at the end of certain barcode types (EAN and UPC) longer.
- **Include EAN white space:** inserts a special character (< or >) to indicate the EAN barcode width.

This option ensures optimum readability in case a neighboring object on a label is located right next to the barcode.

- **Space correction:** adds white pixels to increase the gap width between the bars.
- **Symbology:** UPC barcode **Number system:**
  - 0, 1, 6, 7 and 8 are for regular UPC codes.
  - 2 is for random weight items, e.g., meat, marked in-store.
  - 3 is for National Drug Code and National Health related Items.
  - 4 is for in-store marking of non-food items.
  - 5 and 9 are for coupon use.

## 6.12 2D Barcode Details

2D barcodes enable multiple type-specific settings under the **Details** tab. When defining these settings manually, the dropdown lists offer specific standard-compliant options.

**TIP:** ZebraDesigner defines the **Details** tab settings automatically if the user chooses not to manually define them.

### 6.12.1 Code Page

**Code page** defines how the mapping of code characters with scanned characters is done. To display the scanned data accurately, the correct code page must be selected. If none of the code pages is selected by the user, ZebraDesigner uses system character encoding.

### 6.12.2 Columns

**Columns** are basic vertical elements of a PDF 417 barcode. A maximum of 30 columns may be included in a single PDF 417 symbol.

### 6.12.3 Compaction Mode

**Compaction mode** compacts a number of data characters into codewords. The decoding algorithm uses the individual codewords to place them into a meaningful matrix.

- **Text:** all printable ASCII characters 32–126 and ASCII 9, 10 and 13 (up to 1800 characters) are allowed.
- **Binary:** all 256 ASCII values (up to 1100 bytes) are allowed.
- **Numeric:** encoding of numeric data (up to 2700 digits).

### 6.12.4 Data Layer

**Data layer** defines the number of data layers that encode data in an Aztec barcode. The number of data layers correlates directly with the barcode data capacity. If the value

exceeds the data capacity provided by the selected Data layer, an error is reported. One to four data layers are allowed.

## 6.12.5 Encoding

**Encoding** defines character encoding scheme for the selected barcode.

**NOTE:** If you select the GS1 Datamatrix barcode, ZebraDesigner automatically sets the encoding scheme to ASCII. This makes sure the GS1 Datamatrix barcodes on your labels are GS1-compliant.

## 6.12.6 Error Correction Level

**Error correction level** defines the symbol security level. It adds a series of error correction codewords to the encoded data. These codewords enable the printed symbol to withstand damage without data loss. The higher the security level, the greater the number of data layers required to contain the symbol – and hence, its overall size. If none of the Error correction levels is selected, ZebraDesigner defines it automatically.

## 6.12.7 Format

**Format** defines the symbol size and its capacity using the number of column and row elements.

If using Data Matrix barcode on your labels, DMRE (Data Matrix Rectangular Extension) allows you to use multiple rectangular formats. These additional rectangular sizes increase data encoding capacity of the barcode.

**NOTE:** For printers without internal DMRE support, enable **Always print as graphics** under **General** properties to print the Data Matrix barcode successfully.

## 6.12.8 Rows

**Rows** – PDF417 barcode symbol is made of stacks of vertically aligned rows. Such barcode adapts its size to the amount of the encoded data and may contain from 3 to 90 rows.

## 6.12.9 Symbol Version

**Symbol version** defines the symbol data capacity. As the amount of data increases, additional modules are required to build a QR code. This makes the symbol larger on the printed label.

## 6.12.10 Truncated

**Truncated** reduces the PDF417 barcode size by removing a single codeword and a stop bar from each symbol row.

## 6.12.11 Version

**Version** defines the symbol size based on the number of columns. One-, two-, three-, and four-column versions of Micro PDF417 barcode are available.

# 6.13 GS1 DataBar Specifics

In addition to the [common barcode properties](#), the below described specifics are available for GS1 DataBar.

## 6.13.1 GS1 DataBar Source

**General** group specifies how the databar content is going to be formatted before encoding.

- **Structured data** sets the standard GS1 system data structure as a model for inserting the barcode data. Composite GS1 barcodes represent structured data in the composite part of the code.
- **Unstructured data** allows inserting the data without a model – only character type and number must comply with the selected barcode type.

### Data

- **Linear data** is the part of the data that is encoded in the linear part of the barcode. The data is either manually inserted or defined by a predefined **Data source**.
- **Composite data** is the part of the data that is encoded in the composite part of the barcode. This part of data is always structured and follows one of the standard system data structures as defined by the GS1. The data is either manually inserted or defined by a predefined **Data source**.

## 6.13.2 GS1 DataBar Properties

**GS1 DataBar Expanded Stacked** subtype encodes the data in form of a symbol segments sequence. Symbol width is defined by the number of symbol segments in each stacked row. Symbol height is defined by the number of stacked rows and their height.

- **Segments per Row** defines the number of segments for each row of a symbol. Up to 22 segments are allowed per symbol.

## 6.14 Maxicode Barcode Content

**Symbology Definition** defines the barcode mode of operation (data structuring type).

ZebraDesigner supports the following modes:

- **Mode 2:** US carriers with postal codes up to 9 digits in length.
  - **Postal Code:** US Zip Codes using a single field with 5 or 9 digits, or two fields with 4 or 5 digits.
- **Mode 3:** international carrier with alpha-numeric postal codes with up to 6 digits.

There are two additional options under **Symbology Definition**:

- **Structured data:** automatically selected **Mode 2** or **Mode 3** modes based on the entered data.
- **Unstructured data:** barcode mode of operation is set to **Mode 4**.

This mode encodes general data for purposes other than shipping industry (e.g., purchase order number, customer reference, invoice number).

### Data Contents

| Field                                                                                 | Description                                                                                                                            |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| SHIP TO Postal Code                                                                   | Mandatory. 5 or 9 alphanumeric characters. Alpha characters must be uppercase.                                                         |
| 4 Digit Extension (enabled with Postal code field: Two Fields (5 and 4 digits) type). | Mandatory. 4 numeric digits defining micro location.                                                                                   |
| SHIP TO ISO Country Code (Mode 3 only)                                                | Mandatory. 3 numeric digits.                                                                                                           |
| Class of Service                                                                      | Mandatory. 3 numeric digits, a comma must be included to mark the end of field.                                                        |
| Transportation Data                                                                   | Mandatory. The 5 characters, including the GS code.                                                                                    |
| Tracking number                                                                       | Mandatory. 10 or 11 alphanumeric characters. Alpha characters must be upper case.                                                      |
| UPS SCAC                                                                              | Mandatory. 4 characters followed by the GS code.                                                                                       |
| Julian Day of Puckup                                                                  | Mandatory. 3 numeric digits.                                                                                                           |
| Shipment ID Number                                                                    | Optional. 0-30 alphanumeric characters. Alpha characters must be upper case. GS code must always be sent even if no data is specified. |

|                     |                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Package in Shipment | Mandatory. 1-3 numeric digits for package number. 1-3 numeric digits for number of shipped items. Forward slash must separate these two numbers.  |
| Package in Weight   | Mandatory. 1-3 numeric digits.                                                                                                                    |
| Address Validation  | Mandatory. Single character "Y" or "N". Upper case characters.                                                                                    |
| SHIP TO Address     | Optional. 0-35 alphanumeric characters. Alpha characters in upper case. GS code must always be sent even if no data is specified.                 |
| SHIP TO City        | Mandatory. 1-20 alphanumeric characters. Alpha characters must be upper case.                                                                     |
| SHIP TO State       | Mandatory. 2 alpha characters. Both characters must be upper case. RS code marks the end of this field and the end of the secondary message data. |

## 6.15 USPS Intelligent Mail Barcode Content


**Data Contents** group defines the input mode for the encoded data.

**Input mode** defines the structure of the encoded data.

- **Structured data:** to ensure proper intelligent mail tracking, a string of numbers must be obtained. This string is referred to as the DataToEncode. The DataToEncode consists of the **Intelligent Mail Data Fields**.
- **Unstructured data:** encoded data follows no predefined structure.

**Intelligent Mail Data Fields** group allows you to encode the barcode data in accordance with the standard.

| Field                   | Description                                                                                                                                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Barcode Identifier      | Specific two-digit identifier assigned by the Postal Service.                                                                                                                                                                            |
| Service Type Identifier | Three-digit identifier defines the mail piece as full-service or basic (Non-automation) and is also used to determine the disposition of undeliverable-as-addressed (UAA) mail and the form of address correction that a mailer desires. |
| Mailer Identifier       | Unique 6-or 9-digit number that identifies a business entity or customer.                                                                                                                                                                |
| Serial Number           | A serial or sequence number which enables unique identification and tracking. Depending on the specific barcode con-                                                                                                                     |



|                         |                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------|
|                         | struct, this field can vary in length from 5-10 digits.                                    |
| Delivery Point ZIP Code | Routes the mail to its final delivery point (length variations: none, 5, 9, or 11 digits). |



# 7 Printing

When a label is ready to be printed, ZebraDesigner helps you print it using a [print dialog](#). It allows you to:

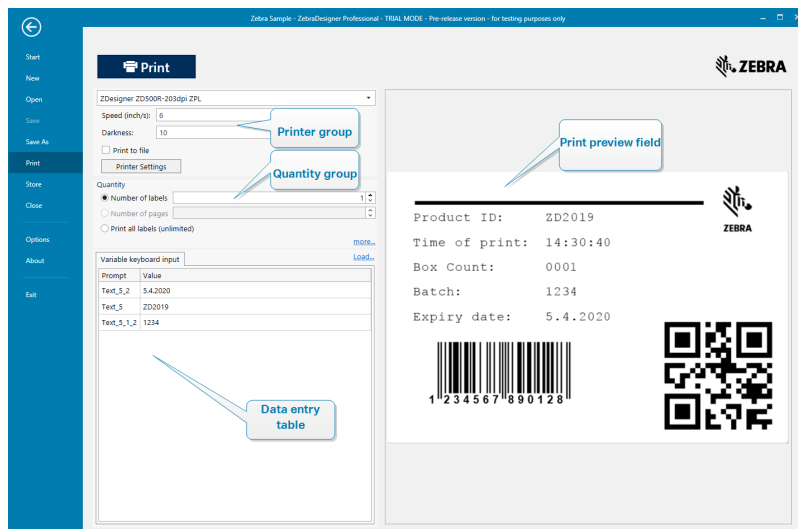
- Preview the label during the design process.
- Insert values for [variable keyboard input](#).
- Define printer settings.
- Control print quantity.
- Define additional quantity settings.

To open the print dialog, click the **Print** button in the [Action group](#) of the [Home tab](#) ribbon or press **Ctrl+P**.

Step-by-step printing procedure is described [here](#).

## 7.1 Print Pane (Default Printing Form)

**File** (background) tab opens the default printing form. In ZebraDesigner, it serves as the primary print dialog.



**Print** button starts the [printing procedure](#). It sends the print job to the selected printer.

**Printer** group of settings includes:

- **Print button:** starts the print label action.
- **Printer selection combo box:** lists the installed printers.
- **Printer settings combo boxes:** define printing speed and darkness. The selectable values are provided by the selected printer driver.
  - **Speed:** speed of printing. Available options are defined by the active printer driver.
  - **Darkness:** sets the intensity of printing. Available options are defined by the active printer driver.
- **Print to file check box:** redirects the printing to a file.
- **Printer Settings button:** opens properties printer driver dialog for the currently selected printer.

**Quantity** group of settings includes:

- **Print quantity object:** defines the number of labels to be printed.
  - **Number of labels:** number of printed labels.
  - **Number of pages:** number of printed pages with labels.

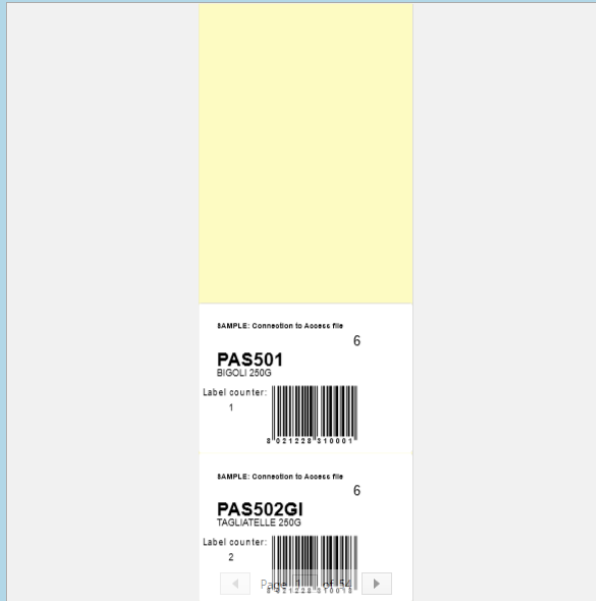
**NOTE:** **Number of pages** option becomes active if more than 1 label per page is set under [label properties > label dimensions](#).

- **Print all labels (unlimited):** prints all labels as defined by the label design. More details about this option are available [here](#).

**more...** link opens the **Additional Quantity Settings** window.

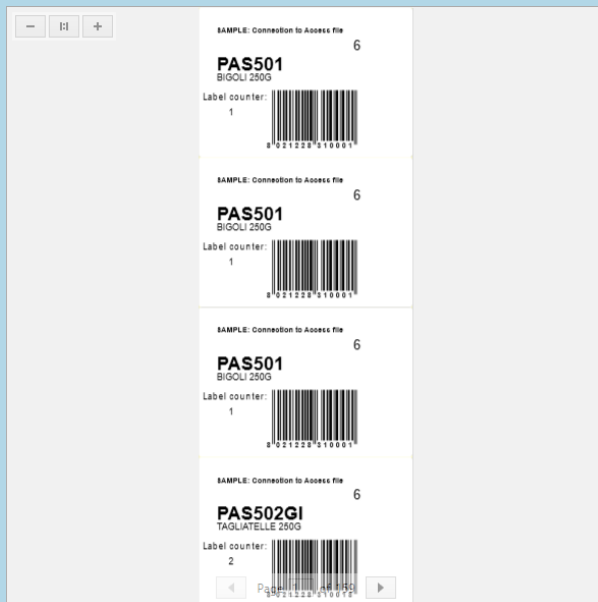
- **Number of labels skipped on first page:** defines how many labels should be left unprinted on the first page.

**EXAMPLE:** A single page includes five labels. **Number of labels skipped on first page** is set to three. Two labels are printed on the first page.



- **Identical copies per label:** number of identical label copies to be printed.

**EXAMPLE:** A single page includes five labels. **Identical copies per label** is set to three. There are three copies of each label printed.



- **Number of label sets:** defines the number of print jobs to be sent to the printer.

**EXAMPLE:** A set of printed labels contains three labels: A, B and C.

Number of labels:

**Identical copies per label:** 2.

**Number of label sets:** 3.

**Print result:** [A, A; B, B; C, C] [A, A; B, B; C, C] [A, A; B, B; C, C]

**Print preview field** displays the current label design and content.

field (data entry table) allows inserting prompted variable values at print time.

## 7.2 Printing Procedure

Use the following steps to successfully print a label using the ZebraDesigner.

### **Step 1: Create**

Create a new or edit an existing label.

### **Step 2: Preview**

Label preview field is a part of default ZebraDesigner [Print dialog](#). To make the print form appear on screen, select one of the following options:

- Go to [Home tab > Action group](#) and click **Print**.
- Press **Ctrl+P**.

Label preview field displays current label design.

### **Step 3: Select printer**

Choose the preferred printer from the **Printer** tab dropdown menu. All currently available printers are listed. More details on defining the printer are available [here](#).

During this step, printing speed and darkness can be set as well. These two parameters depend on the selected printer's driver.

### **Step 4: Set print quantity**

**Number of labels** sets the number of printed labels.

**Number of pages** sets the number of printed pages. This option becomes active if the labels are positioned across at least two pages.

**Print all labels (unlimited)** prints all labels as defined by the label design. More details about this option are available in "Printing of Unlimited Data" on page 131.

Click **more...** to open the Additional Quantity Settings dialog.

- **Identical copies per label** defines the number of identical label copies in a print job.
- **Number of label sets** defines how many times the entire label printing process should repeat.

### **Step 5. Start Printing**

Click the **Print** button.

## 7.3 Optimize Printing Speed

There are many factors that affect the speed of label printing in ZebraDesigner. Follow the guidelines below to dramatically increase the speed of printing.

**NOTE:** When implementing the following guidelines, ensure they are supported by the selected printer.

- If the selected printer supports parallel and serial port, use the parallel port. When the computer sends the data to printer over parallel port, it is much faster than over serial port.
- When designing a label, use internal printer fonts instead of Windows true-type fonts. True-type fonts are sent to the printer as graphics. This vastly increases the size of data sent to printer (couple of kilobytes). With internal printer fonts, only the text is sent to printer (couple of bytes).
- Avoid using graphics on labels.
- When using barcodes, ensure the barcodes are used as internal printer elements.
- When using counters, the printer internally increments the numbers if the internal printer fonts are used. This means, that the printer only needs to receive the first object number. The printer later increments this number while printing additional labels. This option also reduces the amount of data transferred between computer and printer.

With internal printer counter, the printing speed difference becomes noticeable with high quantity of labels.

- Set the printing speed to a higher value. Increasing the printing speed usually affects the quality of printing. The higher the speed, the lower the quality. Find an acceptable compromise.
- Don't print excessive amount of data on labels. If the speed of printing is an important factor, consider using preprinted labels, and only print the data, that changes with each label.

## 7.4 Changing Common Printer Settings

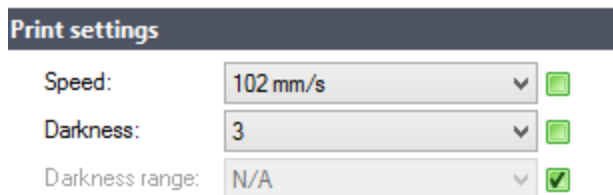
When designing a label, you also define which printer should be used for printing it. Each label file stores its own printer settings for the selected printer driver.

Changes made in the printer settings dialog box are saved to the label and will be used in future print actions.

**NOTE:** Ensure that **Use custom printer settings saved in the label option** is enabled in **Label properties > Printer**. If not, default printer settings are going to be used.

Complete the following steps to change and save common printer settings for a label:

1. Open the [label properties](#) dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.
3. Open the **Printer Options** tab.
4. Adjust the **Speed** and **Darkness** settings.



| Print settings  |          |                                     |
|-----------------|----------|-------------------------------------|
| Speed:          | 102 mm/s | <input checked="" type="checkbox"/> |
| Darkness:       | 3        | <input checked="" type="checkbox"/> |
| Darkness range: | N/A      | <input checked="" type="checkbox"/> |

These settings depend on the selected printer.

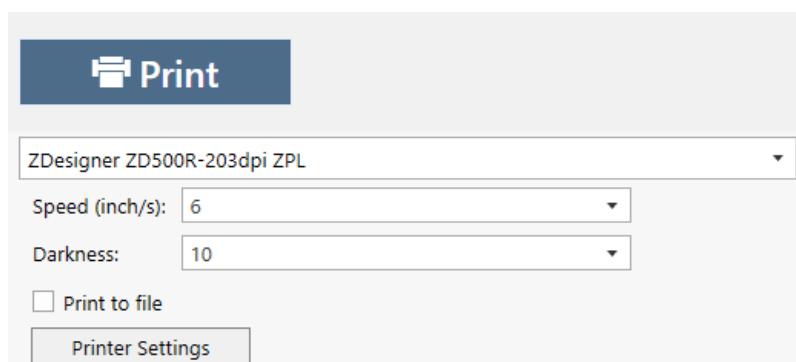
5. Click **OK**.
6. Save the label.

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

Changes in label printing speed and darkness can also be done at print time. These settings are only valid while the file remains open. After reopening the file, the settings are reset to those defined in **Printer properties** dialog.

Complete the following steps:

1. Open [Print dialog](#).
2. Click **Print**.
3. Adjust **Speed** and **Darkness** values under **Printer** group.
4. Save the label.



| Print                                  |    |
|----------------------------------------|----|
| ZDesigner ZD500R-203dpi ZPL            |    |
| Speed (inch/s):                        | 6  |
| Darkness:                              | 10 |
| <input type="checkbox"/> Print to file |    |
| Printer Settings                       |    |

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

## 7.5 Changing Dithering Options

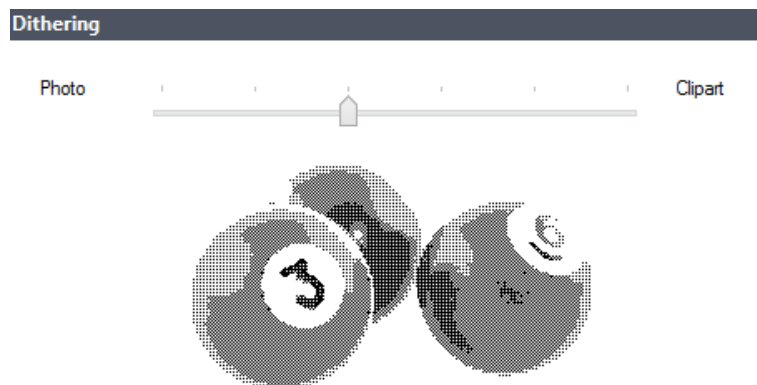
**NOTE:** This option is applicable only if a Zebra printer driver is used for label printing.

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 leave the area blank. 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 an 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, and shades of gray are called halftones.


To change the dithering settings, do the following:

1. Open [label properties](#) dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.
3. Open **Graphic Options** tab and use **Photo** slider to select the preferred dithering type.



**NOTE:** These settings depend on the selected printer.



- 
4. Change the dithering type option to suit your needs. Look at the preview on the right side how you can expect the selected type to be applied on the label.
  5. Click **OK**.
  6. Save the label.

# 8 Dynamic Data Sources

Dynamic data sources form an essential part of working with the ZebraDesigner. They enable the use of label objects that dynamically change their content with each printed label, if necessary.

**EXAMPLE:** Typical dynamic content that are automatically updated are counters, serial numbers, date, time, weight, and article images.

To display and print the dynamic object content properly, ZebraDesigner uses the following dynamic data types:

- [Variable keyboard input](#): content of an object is defined before each printing.
- [Current Date](#): current date taken as a variable value.
- [Current Time](#): current time taken as a variable value.
- [Counter](#): type of variable whose value increments or decrements along with the changing value of system or printer counter.

## 8.1 Variables

Variables serve as containers for storing and passing the data between objects, scripts, external applications, printers, and user inputs. You may want to print labels on which data changes for each label (e.g., counters, serial numbers, date, time, weight, and product images).

To accommodate the changing data, ZebraDesigner can easily be used to format labels using variable data.

ZebraDesigner offers multiple types of variables:

- [Variable Keyboard Input](#): type of variable that enables the content of a prompted field to be different for every print job. Its value is defined right before label printing.
- [Current Date](#): current date taken as a variable value.
- [Current Time](#): current time taken as a variable value.
- [Counter](#): variable that changes its value incrementally or decrementally with each label print.

**TIP:** All label or solution variables are managed in **Dynamic Data Explorer**.

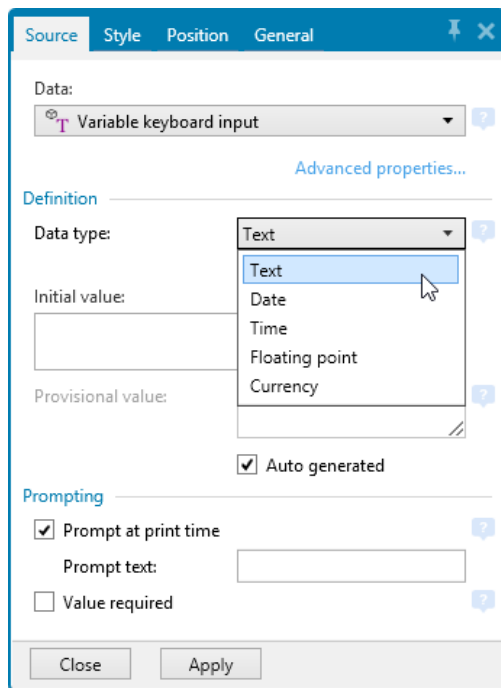
## 8.1.1 Variable Keyboard Input

**Variable Keyboard Input** is a type of variable that enables the content of a prompted field to be different for every print job. Its value is defined before each printing.

### 8.1.1.1 General

**Definition** group of settings defines which input data types are valid for a variable.

- **Data type** defines what type of data is stored in a variable.
  - [Text](#): keyboard input that contains text.
  - [Date](#): keyboard input that contains date values.
  - [Time](#): keyboard input that contains time values.
  - [Floating point](#): representation of real numbers in a variable.
  - [Currency](#): variables that contain monetary values.

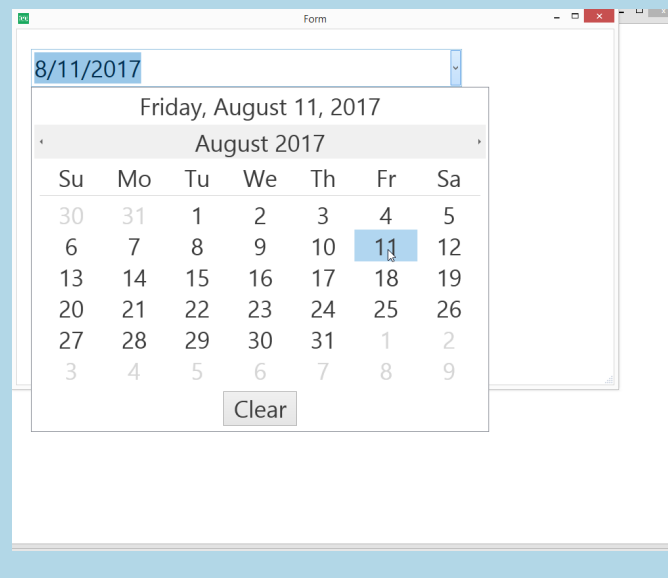


- **Initial value**: starting value that is assigned to a variable keyboard input when created. It is defined using one of the following methods:

- Manually entering a fixed value.

**TIP:** If you enter period (".") as the initial value for a variable with selected **Date** or **Time** data type, it displays current date or time.

**EXAMPLE:** Edit field on a form is connected to a variable with **Date** selected as Data type. If period is selected as **Initial value**, the Edit field displays current date when the form is run. Dropdown button opens Date picker with preselected current date.



- Using a [special character](#):
  - Special characters can be entered manually using the less than/greater than signs, e.g., <CR>, <LF> ...
  - Special characters can be selected from the dropdown [list](#).

Make sure the inserted initial value meets the criteria defined with **Output Rules** for each data type.

**Prompting** group of settings defines the print time behavior of a data source. Read more about prompting [here](#).

### 8.1.1.2 Text

**Text** data type is used for variables that store textual content. As a result, only textual input is allowed as the variable input data type.

### 8.1.1.2.1 Input Rules

**Data** group defines permitted data properties.

- **Limit variable length:** maximum length of variable value.
- **Fixed length:** variable must contain the exact number of characters as defined in the **Limit length**.

**Check range** group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

If enabled, minimum and maximum values must not be left empty.

### 8.1.1.2.2 Output Rules

**Prefix and Suffix** are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

### 8.1.1.3 Date

**Date** data type stores date-related values in the selected variable. Date field displays the date value using [various date formats](#). The date value format can be either selected from the preloaded formats, or customized to meet the specific local, regulatory or industry related requirements.

#### 8.1.1.3.1 Input Rules

**Input Formatting** group defines the allowed date format and displays a preview.

- **Input format:** allowed date input format.
- **Sample value:** displays the preview according to the selected input format.

**NOTE:** ZebraDesigner supports a [range of preloaded or customized date formats](#).

**Check range** group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

**NOTE:** If enabled, minimum and maximum values must not be left empty.

### 8.1.1.3.2 Output Rules

**Output formatting** sets the output date format.

- **Output format:** format in which the date is displayed.
- **Output language:** language selection and regional formatting for days and months.

**Output Language** becomes relevant when the dates that include months or dates are written in words. In some cases, data calculations may be affected as well. For example, in US, a new week begins on Sunday whereas in EU and other countries, a new week begins on Monday.

- **Sample value:** date preview according to the selected input format.

**Prefix and Suffix** group defines characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

**TIP: Input rules** help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.

**Output rules** set the final variable formatting – they define how the variable value is going to be presented in an object.

### 8.1.1.4 Time

**Time** data type stores time values in a variable. Time field displays the date value using [various time formats](#). The time value format can be either selected from the preloaded formats, or customized to meet the specific local, regulatory or industry related requirements.

#### 8.1.1.4.1 Input Rules

**Input Formatting** defines the allowed time format and displays a preview.

- **Input format:** allowed time input format.
- **Sample value:** variable preview according to the selected input format.

**NOTE:** ZebraDesigner supports a [range of preloaded or customized time formats](#).

**Check range** group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

If enabled, minimum and maximum values must not be left empty.

#### 8.1.1.4.2 Output Rules

**Output formatting** defines the output time format.

- **Output format:** format in which the time is displayed.
- **Sample value:** time preview according to the selected input format.

**Prefix and Suffix** group defines characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

**TIP: Input rules** help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.

**Output rules** set the final variable formatting – they define how the variable value is going to be presented in an object.

#### 8.1.1.5 Floating Point

**Floating Point** data type specifies the representation settings for numeric values that are stored in a variable. This **Data type** is used to set the digit grouping points (separators) according to the regional specifics, and to place the decimal delimiters at the right places.

##### 8.1.1.5.1 Input Rules

**Input formatting** specifies the allowed input number format.

- **Decimal delimiter:** specifies the character that separates the integer part from the fractional part of a number written in decimal form.
- **Decimal places:** the number of decimal places to be included in the number.
- **Use 1000 separator:** separator places the thousands into groups.
  - **Separator:** a character that is used as thousands separator.
- **Sample value:** displays a preview of the current number input format.
- **Limit variable length:** enables limiting the number of digits to be defined for a variable.
  - **Length (characters):** allowed number digits in a variable.

**Check range** defines the minimum and maximum number values. Defining the minimum and maximum limits is optional:

- **Minimum value:** the lowest allowed input number.

If already defined, the initial value is taken as the minimum value.

- **Maximum value:** defines the highest allowed input number.

#### 8.1.1.5.2 Output Rules

**Output formatting** group specifies the preferred output number format.

- **Decimal delimiter:** the character that separates the integer part from the fractional part of a number written in decimal form.
- **Decimal places:** the number of decimal places to be included in the number.
  - **Auto:** decimal places are defined by local system settings.
- **Use 1000 separator:** enabled use of a separator that places the thousands into groups.
  - **Separator:** a character that is used as thousands separator.
  - **Sample value** displays a preview of the current output format.

**Prefix and Suffix** are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

**TIP: Input rules** help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.  
**Output rules** set the final variable formatting – they define how the variable value is going to be presented in an object.

#### 8.1.1.6 Currency

**Currency** data type is used for variables that store numerical values of monetary amounts. Define currencies for various regions and set their properties.

##### 8.1.1.6.1 Input Rules

- **Input formatting** group specifies the allowed input currency format.
- **Decimal delimiter** is the character that separates the integer part from the fractional part of value written in decimal form.
- **Decimal places** is the number of decimal places that is allowed to be included in the value.
- **Use 1000 separator** enables using a separator that places the thousands into groups.



- **Separator:** character that is used as 1000 separator.
- **Currency symbol** is a graphic symbol that represents a currency.
  - **Placement:** position of the currency symbol.
- **Sample value** displays a preview of the currency input format.
- **Limit length** enables limiting the number of digits to be defined in a variable.
  - **Length (characters):** allowed number of digits in a variable.

**Check range** defines the minimum and maximum values expressed in currency. Defining the minimum and maximum limits is optional.

- **Minimum value:** the lowest allowed input currency value.

If already defined, the initial value is taken as the minimum value.

- **Maximum value:** the highest allowed input currency value.

### 8.1.1.6.2 Output Rules

**Output formatting** specifies the preferred output currency format.

- **Decimal delimiter:** character that separates the integer part from the fractional part of a value written in decimal form.
- **Decimal places:** number of decimal places to be included in the value.
- **Use 1000 separator:** separator that places the thousands into groups.
  - **Separator:** character that is used as 1000 separator.
- **Currency symbol** is a graphic symbol that represents a currency.
- **Placement** defines the currency symbol's position. Select it from the dropdown list.
- **Sample value** displays a preview of the currency input format.

**Prefix and Suffix** are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

**TIP: Input rules** help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.

**Output rules** set the final variable formatting – they define how the variable value is going to be presented in an object.

## 8.1.2 Current Date

**Current Date** is a type of variable that displays the current date value. The value is obtained from system or printer clock.

### 8.1.2.1 General

**Definition** group sets output formatting and displays its preview.

- **Output format:** format in which the date is displayed. Available date formats are listed [here](#).

The selected clock source option (see below) defines the range of allowed date **Formats**. Printer clock option only allows the use of printer supported date formats. An error is reported if a non-valid format is used. Computer (system) clock option allows [a range of preloaded or customized date formats](#).

- **Output language:** language selection and regional formatting for days and months.

**EXAMPLE: Output Language** becomes relevant when the dates that include months or dates are written in words. In some cases, data calculations may be affected as well. For example, in US, a new week begins on Sunday whereas in EU a new week begins on Monday.

- **Output preview:** displays the printed current date. The range of used characters adapts to the selected **Output language** and printer.

**Date offset** group enables adding a certain number of days, months or years to the current date. The offset date is displayed in the object instead of the present date.

- **Days:** date offset in days.
- **Months:** date offset in months.
- **Years:** date offset in years.

**Printer Clock** group defines which clock should be used as the date value source.

- **Always use computer clock:** computer (system) clock set as the exclusive **Current Date** value source.
- **Always use printer clock:** printer clock set as the exclusive **Current Date** value source. An error is reported if the printer clock is unavailable.
- **Use printer clock if supported:** printer clock set as the preferred **Current Date** value source. If the printer clock is not supported, the computer (system) clock value is used instead.

### 8.1.2.2 Output Rules

**Prefix and Suffix** values may be added to a variable value if required.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

### 8.1.2.3 Date Formats

ZebraDesigner enables flexible use of date fields. When defining the formats, the following notations are used:

| <b>Notation</b> | <b>Description</b>                                                                                                            |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------|
| d               | The number of the day in a month. Occupies one or two characters.                                                             |
| dd              | The number of the day in a month. Always occupies two characters – leading zeros are added if necessary.                      |
| M               | M is the number of month. Occupies one or two characters.                                                                     |
| MM              | MM is the number of month. Always occupies two characters.                                                                    |
| yy or yyyy      | The year represented with 2 or 4 digit numbers.                                                                               |
| ddd             | The abbreviated name of the day of the week.                                                                                  |
| dddd            | The full name of the day of the week.                                                                                         |
| MMM             | The abbreviated name of the month.                                                                                            |
| MMMM            | The full name of the month.                                                                                                   |
| J               | The number of days since January 1. Occupies from one to three characters.                                                    |
| JJJ             | The number of days since January 1. Always occupies three characters.                                                         |
| W               | The week number in current year. Occupies one or two characters.                                                              |
| WW              | The week number in current year. Always occupies two characters.                                                              |
| N               | The weekday number. The value range takes 1–7 characters, where 1 represents Monday and 7 represents Sunday.                  |
| Custom text     | Any sequence of characters is displayed unchanged. Insert dots, commas, and other characters to present the date as required. |

#### 8.1.2.3.1 Date Format Examples

| <b>Format</b> | <b>Printed Date (English)</b> |
|---------------|-------------------------------|
| d.M.yyyy      | 10.3.2016                     |
| dd/MM/yy      | 10/03/16                      |

|                   |                         |
|-------------------|-------------------------|
| dddd, d.MMMM yyyy | Thursday, 10.March 2016 |
| JJJWWyyyy         | 069102005               |
| textd/M/yyyytext  | text10/3/2016text       |

### 8.1.3 Current Time

**Current Time** is a type of variable that displays the current time value. The value is obtained from system or printer clock.

#### 8.1.3.1 General

**About** group of settings identifies the variable and defines time output format and language.

- **Name:** unique variable name. This name is used as a variable reference during its use.
- **Description:** is a field that allows adding additional information and suggestions.

**Definition** group sets output formatting and displays its preview.

- **Output format:** format in which the time is displayed. Available time formats are listed [here](#).

The selected clock source option defines the range of supported time **Formats**. Printer clock option only allows the use of printer supported time formats. An error is reported if a non-valid format is used. Computer (system) clock option allows [a range of preloaded and customized time formats](#).

- **Output preview** displays the printed current time format.

**Time offset** enables adding or subtracting a certain number of seconds, minutes or hours from the current time.

- **Seconds:** time offset in seconds.
- **Minutes:** time offset in minutes.
- **Hours:** time offset in hours.

**Printer Clock** group defines which clock should be used as the time value source.

- **Use printer clock if supported:** printer clock set as the preferred current time value source. If the printer clock is not supported, the system clock value is used instead.
- **Always use printer clock:** printer clock set as the exclusive **Current Time** value source. An error is reported if the printer clock is unavailable.
- **Always use computer clock** computer (system) clock set as the exclusive **Current Time** value source.

### 8.1.3.2 Output Rules

**Prefix and Suffix** values may be added to a variable value if required.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

### 8.1.3.3 Time Formats

ZebraDesigner enables flexible use of time fields. Select a predefined time format or create a customized one. When defining the formats, the following notations are used.

| Notation | Description                                                                                                                 |
|----------|-----------------------------------------------------------------------------------------------------------------------------|
| h        | Hours in 12-hour format. AM/PM is added, if selected. Occupies one or two characters.                                       |
| hh       | Hours in 12-hour format. AM/PM is added if selected. Always occupies two characters. Leading zeros are added, if necessary. |
| H        | Hours in 24-hour format. Occupies one or two characters.                                                                    |
| HH       | Hours in 24-hour format. Always occupies two characters.                                                                    |
| mm       | Used for minutes.                                                                                                           |
| ss       | Used for seconds.                                                                                                           |

#### 8.1.3.3.1 Time Format Examples

| Format       | Printed Date |
|--------------|--------------|
| h:mm {AM/PM} | 8:25PM       |
| H:mm         | 20:25        |
| hh:mm:ss     | 08:25:36     |

## 8.1.4 Counter

**Counter** is a type of variable whose value increments or decrements along with the changing value of system or printer counter.

Thermal printers are usually equipped with an internal incremental counter. This is a dedicated counter that counts the printed labels internally. The printer only receives the first value and automatically increases or decreases it on the subsequent labels. This option

reduces the amount of data transferred between computer and printer as only initial value is sent to the printer. Internal counter speeds up the label production significantly.

#### 8.1.4.1 General Tab

**About** group of settings identifies the variable and defines serialization details.

- **Name:** unique variable name. This name is used as variable reference.
- **Description:** is a field that allows adding additional information and suggestions.

**Definition** group of settings defines the counter behavior.

- **Counter type:** counter value increasing or decreasing.
  - **Incremental:** value increases along with the printed labels.
  - **Decremental:** variable value decreases along with the printed labels.
- **Step:** amount of units that represent the next state of counter value.
- **Repetition:** number of repetitions for each counter value.
- **Initial value:** value that is used when the counter starts.
- **Preview:** displays the counter value sequence as defined by the current **Step**, **Repetition** and **Initial value**.

**EXAMPLE:** Counter Step = 3, Repetition = 3 and Initial value = 1 are: 1, 1, 1, 4, 4, 4, 7, 7, 7, 10, 10, 10, 13, 13, 13, ...

**Prompting** group of settings defines the print time behavior of a data source. Read more about prompting [here](#).

**Printer Counter** defines which counter should be used as counter variable value source.

- **Use printer counter if supported:** printer counter is set as the counter of choice if supported by the active printer. If the printer counter is not supported, system counter is used instead.
- **Always use printer counter:** printer counter set as the exclusive counter value source. If the printer counter value is not available, the default (system counter) value is used.

An error is reported if the selected printer has no support for internal printer counter. Printing cannot continue.

- **Always use computer counter:** computer counter set as the only counter value source.

**TIP: Input rules** help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.

**Output rules** set the final variable formatting – they define how the variable value is going to be presented in an object.

To use internal printer counter, follow these rules:

- The variable's maximum length is limited by the printer. The value should be included in the printer user guide.

**TIP:** If the exact maximum variable length value is not available, Zebra recommends making a few test prints for determining the value.

- Set variable length to fixed.
- Set variable format to numeric.
- Text object that is linked to the variable must be formatted using an internal printer font.
- Enable **Always use printer counter** option.
- Ensure the Internal Element icon is visible next to the counter text.
- Ensure an internal printer font is used for the counter text.

#### 8.1.4.2 Input Rules

**Data** defines the counter input criteria.

- **Limit variable length:** maximum length of a variable value.
  - **Length (characters):** specifies the exact number of characters permitted.
- **Fixed length:** variable must contain the exact number of characters as defined in the **Limit variable length**.

**Check range** group defines minimum and maximum counter values.

- **Minimum value:** minimum counter value.
- **Maximum value:** maximum counter value.

**Rollover settings** group defines the condition at which the counter automatically resets its value to default.

- **Using min/max:** minimum and maximum counter values activates the rollover.
- **When the selected data source changes:** data source value change activate the rollover.
- **When date or time changes:** date or time value change activates the rollover.

Date/time change is defined by computer clock.

#### 8.1.4.3 Output Rules

**Prefix and Suffix** are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

## 8.2 Special Character Shortcuts

ZebraDesigner includes several predefined control characters – select them from the dropdown menu in any dialog when text input is enabled. An arrow button on the right side of the edit field lists the shortcuts.

**EXAMPLE:** FNC1 character can simply be encoded as <FNC1>.

If specific special character is not available on the list of shortcuts, see sections "Insert Characters with Alt+<ASCII\_code>" on page 130 and "Insert Characters with <#hex\_code> Syntax" on page 130.

| ASCII code | Abbreviation used in the application | Description of the character |
|------------|--------------------------------------|------------------------------|
| 1          | SOH                                  | Start of Heading             |
| 2          | STX                                  | Start of Text                |
| 3          | ETX                                  | End of Text                  |
| 4          | EOT                                  | End of Transmission          |
| 23         | ETB                                  | End Transmission Block       |
| 25         | EM                                   | End of Medium                |
| 5          | ENQ                                  | Enquiry                      |
| 6          | ACK                                  | Acknowledgment               |
| 7          | BEL                                  | Bell                         |
| 8          | BS                                   | Back Space                   |
| 9          | HT                                   | Horizontal Tab               |
| 11         | VT                                   | Vertical Tab                 |
| 13         | CR                                   | Carriage Return              |
| 10         | LF                                   | Line Feed                    |
| 12         | FF                                   | Form Feed                    |
| 14         | SO                                   | Shift Out                    |
| 15         | SI                                   | Shift In                     |
| 16         | DLE                                  | Data Link Escape             |
| 17         | DC1                                  | XON - Device Control 1       |



|     |     |                         |
|-----|-----|-------------------------|
| 18  | DC2 | Device Control 2        |
| 19  | DC3 | XOFF - Device Control 3 |
| 20  | DC4 | Device Control 4        |
| 28  | FS  | File Separator          |
| 29  | GS  | Group Separator         |
| 30  | RS  | Record Separator        |
| 31  | US  | Unit Separator          |
| 21  | NAK | Negative Acknowledgment |
| 22  | SYN | Synchronous Idle        |
| 24  | CAN | Cancel                  |
| 26  | SUB | Substitute              |
| 27  | ESC | Escape                  |
| 188 | FNC | Function Code 1         |
| 189 | FNC | Function Code 2         |
| 190 | FNC | Function Code 3         |
| 191 | FNC | Function Code 4         |

# 9 How To

## 9.1 Insert Characters with <#hex\_code> Syntax

Another method of entering special characters is using the syntax <#hex\_code>. The hex\_code stands for a two-character mark in hexadecimal numerical system. The appropriate values go from 0 (decimal 0) to FF (decimal 255).

**EXAMPLE:** <#BC> (decimal 188) would be the same as <FNC1>, as they both would encode the character with ASCII code 0188.

## 9.2 Insert Characters with Alt+<ASCII\_code>

This method is valid only for characters that are above ASCII code 32. A typical example would be FNC codes that are used to encode GS1-128 barcode data. Labeling software encodes this type of barcode according to standards – normally, you would not have to change anything. However, sometimes it becomes necessary to manually add such character to label data.

To include Function Codes, enter the appropriate character for Function Code. ASCII codes of Function Codes are as follows:

|      |      |
|------|------|
| FNC1 | 0188 |
| FNC2 | 0189 |
| FNC3 | 0190 |
| FNC4 | 0191 |

To enter a character for FNC1, press and hold the **Alt** key and type in digits 0188 on the numeric keyboard. Note the leading zero is mandatory. Release the **Alt** and the FNC1 character appears.

## 9.3 Printing of Unlimited Data

When printing labels with **All (unlimited quantity)** option selected, the labels are printed in various quantities, depending on the label content.

**All (unlimited quantity)** option sets the printing quantity in two ways.

### 9.3.1 Label with Connected Database or Counter

With **All (unlimited quantity)** option selected, the number of printed labels is not limited up front. It is determined by one of the following properties:

- Number of database records to be printed.
- Quantity set by the counters used on the label.

**TIP:** **All (unlimited quantity)** option is useful when printing labels connected to a database. The number of labels to be printed for such labels is usually not known in advance. After selecting this option, all relevant records from the connected database are printed.

**NOTE:** With multiple databases or counters for print quantity, the one with the lowest value actually determines the number of printed labels.

**EXAMPLE:**

Counter value: 90

Number of database values: 100

**Number of printed labels under All (unlimited quantity): 90**

### 9.3.2 Label without connected Database or Counter

If a label does not use database or counter objects, a maximum supported number of identical label copies is printed. In such case, the printing continues until:

- Printer is switched off.
- Printer receives a command to clear its memory buffer.

**NOTE:** When printing identical label copies, use a Zebra printer driver to print the labels. The driver is aware of printer's quantity limitations and prints the exact supported number of labels.

**NOTE:** If you select **All (unlimited quantity)**, and the maximum supported print quantity is 32000, the printer will print all of them.

## 9.4 Using the Internal Printer Counter

Almost all thermal printers support an internal increment counter functionality. This is a special printer counter that counts labels internally. The printer only receives the first value of the counter and automatically increments the counter by 1 on the subsequent labels.

**TIP:** Internal counters reduce the amount of data transferred between computer and printer as only the start value is sent to printer. This speeds up the label production significantly.

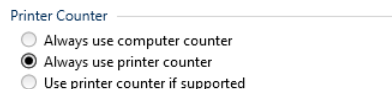
To use counter as internal printer element, pay attention to the following settings:

- The variable's maximum length is limited by you printer. You should find this value in your printer's Owner Manuals. If you can not find this value, experiment.
- The variable length has to be set by enabling the **Limit length** option (go to **Counter properties > Input rules**).
- Set allowed characters to **Numeric**.
- The Text object linked to the variable must be formatted as internal printer font (make sure the **Show printer fonts only** option is enabled).



A screenshot of a software interface for printer settings. It features a list of checkboxes for font styles: 'Show printer fonts only' (checked), 'Bold', 'Italic', 'Underline', and 'Strikethrough'. Below these is a 'Font scaling' dropdown menu set to '100 %'. To the right of the settings are two blue circular icons.

- Enable the option **Always use printer counter** in the **Source** tab. This option is available only if the counter variable has been set up properly.



A screenshot of a software interface for printer counter settings. It shows a section titled 'Printer Counter' with three radio button options: 'Always use computer counter', 'Always use printer counter' (selected), and 'Use printer counter if supported'.

- A symbol for internal printer must appear in the bottom right corner of the Text object

which contains the counter value.



# 10 Glossary

---

## A

---

### AI

Application Identifier

### ANSI

American National Standards Institute

## B

---

### BOM

Bite Order Mark

## C

---

### CIJ

Continuous Inkjet

### CSV

Comma Separated Values

## D

---

### DDL

Data Definition Language

### DI

Data Identifier

### DMRE

Data Matrix Rectangular Extension

---

**E**

---

**EAS**

Electronic Article Surveillance

---

**F**

---

**FNC**

Barcode extension character

---

**G**

---

**GTIN**

Global Trade Item Number

---

**H**

---

**HIBC**

Health Industry Bar Code

---

**N**

---

**NDEF**

NFC Data Exchange Format

**NFC**

Near Field Communication

---

**O**

---

**ODBC**

Microsoft Open Database Connectivity

**OLE**

Object Linking and Embedding

---

**P**

---

**PJM**

Phase Jitter Modulation

**R**

---

**RF**

Radio Frequency

**RPC**

Remote Procedure Call

**RTF**

Rich Text Format

**S**

---

**SCAC**

Standard Carrier Alpha Code

**T**

---

**TID**

Transponder ID

**U**

---

**UNC**

Universal Naming Convention

**UPC**

Universal Product Code





---

**W**

---

**WSDL**

Web Services Description Language

ZEBRA and the stylized Zebra head are trademarks of Zebra Technologies Corporation, registered in many jurisdictions worldwide. All other trademarks are the property of their respective owners. ©2019 Zebra Technologies Corporation and/or its affiliates. All rights reserved.



[www.zebra.com](http://www.zebra.com)