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TBarCode Office

Barcode Add-In for Microsoft® Office

Version 10.7

User Manual

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TEC-IT Datenverarbeitung GmbH
Hans-Wagner-Str. 6
A-4400 Steyr, Austria

t ++43 (0)7252 72720
f ++43 (0)7252 72720 77
office@tec-it.com
<http://www.tec-it.com/>

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2 Disclaimer

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© 1998-2015
TEC-IT Datenverarbeitung GmbH
Hans-Wagner-Str. 6

A-4400 Austria
t.: +43 (0)7252 72720
f.: +43 (0)7252 72720 77
<http://www.tec-it.com>

3 Introduction

3.1 What is TBarCode Office?

TBarCode Office is a barcode add-in which integrates seamlessly into Microsoft® Word® and Microsoft® Excel®. Microsoft Office 2007, 2010, 2013 and 2016 are supported.

This add-in allows you to insert all barcode symbologies into Word documents and Excel workbooks with just a few clicks. In addition, **TBarCode Office** supports the creation of mailings, bar-code labels and serial letters by embedding mail merge fields¹ directly into bar codes.

Thanks to the **intuitive user interface** this barcode add-in is very easy to use. Programming skills are not needed.

TBarCode Office supports more than 100 different barcode variants. Among them are linear and 2D symbologies like Code128, Code39, GS1/EAN, UPC, GS1/EAN-128, Data Matrix, QR Code, PDF417, Aztec Code and GS1 DataBar.

The generated barcodes can be printed with all printers. The bar codes are created in the highest possible quality. Additional printer extensions or barcode fonts are not required.

TBarCode Office uses the Microsoft® ActiveX® compliant barcode component **TBarCode OCX**, which is installed automatically as part of the setup. This component can be used by VBA programmers as well – however if your focus lies on VBA or Access programming you should use **TBarCode SDK** instead.

3.2 Scope of this Document

This document concentrates on the use of **TBarCode Office**.

The first part of this document explains how to insert barcodes in normal documents and spreadsheets as well as in mailings or serial letters. The integration of barcodes by using the mailings feature is explained with an example. Then we concentrate on the user interface of the **TBarCode Office** Add-In. For this, we introduce the **TBarCode Office** panel for Word and Excel in detail.

The second part of this document describes all available barcode properties, which can be adjusted in the property dialog.

3.3 Restrictions of the Demo Version

In the demo version the barcodes will be drawn with a demo-hint. That means that the word “Demo” or the phrase “www.tec-it.com” is drawn partially over the barcode. In most cases the demo-hint does not influence the readability of the barcode in a negative way.

- ▶ In special cases (very small or high-resolution barcodes) you may want to test the product without restrictions. **To obtain a free temporary license key contact sales@tec-it.com.**
- ▶ For enabling the full-featured version (without the demo hints) you can obtain a license key from TEC-IT (<http://www.tec-it.com/order/>).
- ▶ For more information on licensing **TBarCode Office**, please refer to chapter 8.

¹ For more information on mailings, please refer to chapter 6.2.

4 Installation

4.1 Requirements

TBarCode Office can be used with the following Microsoft Office versions:

- Microsoft Office 2007, Microsoft Office 2010, Microsoft Office 2013
- Microsoft Office 2016 (Excel 2016 with restrictions²)

TBarCode Office can be used with the following operating systems:

- Windows XP (x86) with Service Pack 3 (all editions except Starter Edition)
- Windows Vista with Service Pack 2 (all editions except Starter Edition)
- Windows 7 with Service Pack 1 / Windows 8 / Windows 10
- Windows Server 2003 with Service Pack 2³ / Windows Server 2003 R2
- Windows Server 2008 with Service Pack 2 / Windows Server 2008 R2 SP1
- Windows Server 2012 / 2012 R2

4.1.1 Dependencies

The following dependencies must be installed:

- Visual Studio 2010 Tools for Office Runtime (VSTO 4.0)⁴
- Microsoft .NET Framework 4.0 (Client Profile + Extended) or higher (download [here](#)).

4.2 Download and Setup

Download **TBarCode Office** from <http://www.tec-it.com/Download> ► *TBarCode Office* and execute the setup application.

► Note: For installing **TBarCode Office** administrative rights are required!

During setup you can decide if you want to install the add-in only for the current user (default) or for all users. If you want to install the add-in for all users, please enable this option in the setup dialog:

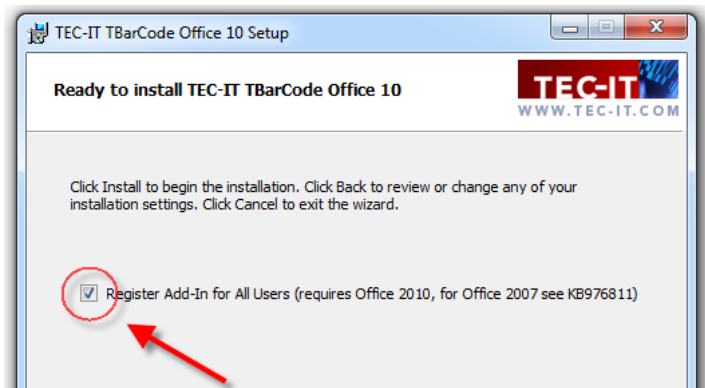


Figure 1: Register Add-In for All Users

² The number of bar codes and bar code operations (insert, redraw) are limited by system resource consumption.

³ Users will need to install MSXML6 if not already present.

⁴ The VSTO 4.0 Runtime is included in the TBarCode Office setup.

5 User Interface

This chapter will give you an overview of the **TBarCode Office** user interface.

5.1 TBarCode Office for Microsoft Word

5.1.1 Activating the Barcode Panel

To activate or open the task pane, switch to the *Add-Ins tab* ① and then click on the panel button ②. The **TBarCode Office** panel ③ appears immediately on the right side of the document.

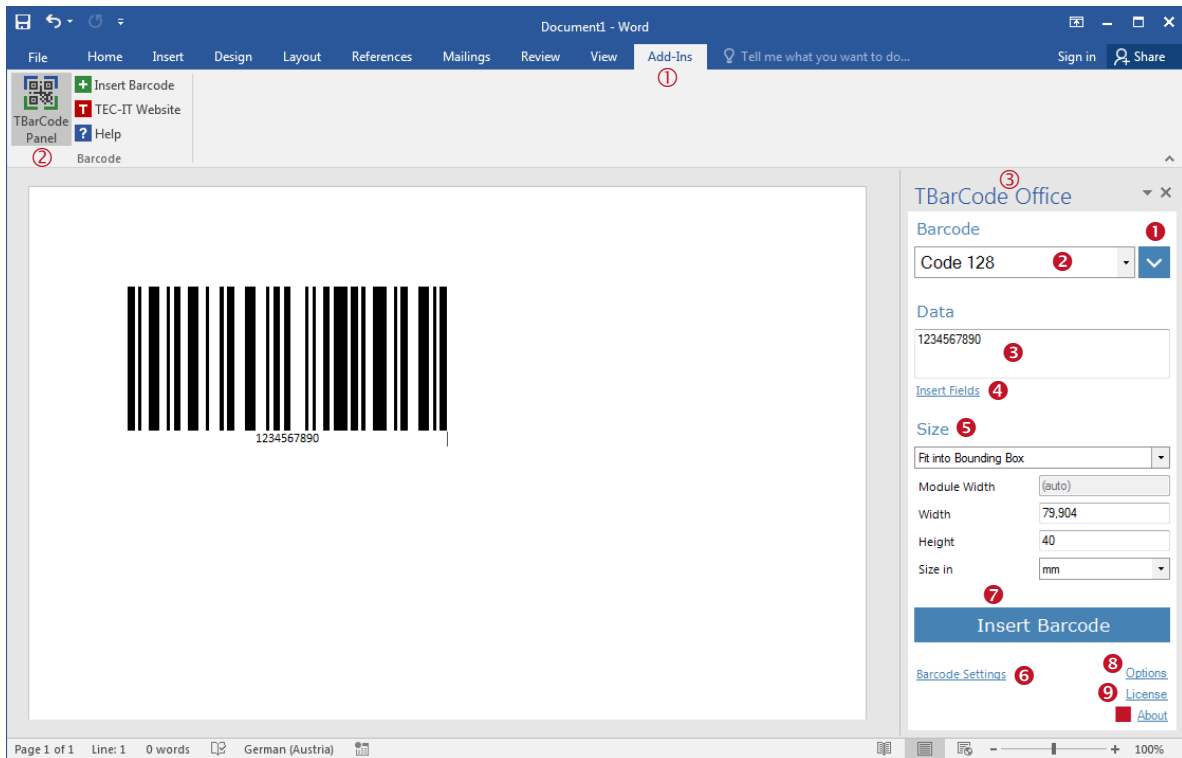


Figure 2: TBarCode Office User Interface in Word

5.1.2 TBarCode Office Panel

In the **TBarCode Office** panel ③ you make all your adjustments for the barcode to be encoded.

Options	Description
①	Opens a list of barcode templates. With these pre-defined settings it is easy to generate barcodes which comply with common barcode standards. The settings from the template are applied to the barcode. See section 5.3.1 Templates.
② Barcode	Select the barcode type from the menu list.
③ Data	Enter the data for the barcode in the field <i>Barcode Data</i> .
④ Insert Field...	The button <i>Insert Field...</i> allows you to insert mail merge fields and document properties into the barcode data. For mail merge fields see section 6.2.
⑤ Size	Adjust the appearance of the barcode by using the fields <i>Module Width</i> , <i>Width</i> and <i>Height</i> . By clicking on the measure unit next to <i>Size in</i> you can toggle between millimeters and mils (a mil is one thousandth of an inch: 0.0254 millimeters).
⑥ Barcode Settings...	<i>Barcode Settings...</i> is used for adjusting additional parameters like bar-width reduction or font and color settings. For further information see chapter 7.

<p>7 Insert Barcode</p>	<p>The button <i>Insert Barcode</i> inserts a barcode at the required cursor position. NOTE: This button changes to <i>Update Barcode</i> if a barcode is selected in the document. Clipboard: You can copy an image of the actual bar code into the clipboard by holding down the <i>Shift</i> key while clicking <i>Insert Barcode</i>⁵. This function copies the bar code as high resolution graphics (EMF) and not as ActiveX Control.</p>
<p>8 Options...</p>	<p><i>Options...</i> allows you to configure specific Add-In options (e.g. mail merge options). For more information see section 6.2.</p>
<p>9 License...</p>	<p>The link <i>License...</i> opens a dialog for entering the license data (See chapter 8).</p>
<p>■ About...</p>	<p><i>About...</i> displays the product version and copyright information.</p>

Table 1: TBarCode Office Panel in Word

5.1.3 Options

In the options dialog you can adjust specific settings for the Word Add-In. In most cases it is not required to change them.

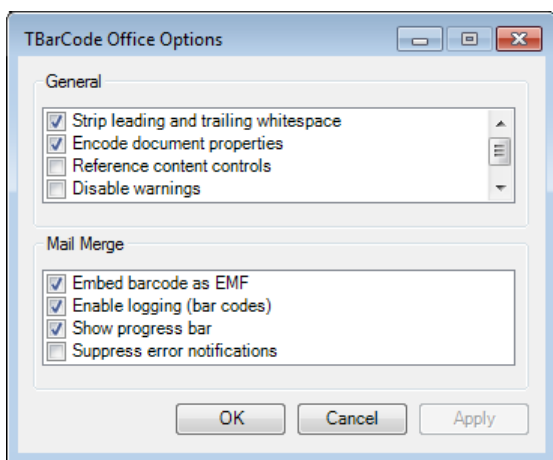


Figure 3: Options Word Add-In

General Options	Description
Strip leading and trailing whitespace	Typing a new line or a space in the data input field also takes effect in the barcode data. If this option is checked, TBarCode Office removes spaces and new lines before and after the actual data in the barcode.
Encode document properties	This option controls if placeholders for document properties (e.g. [!Author]) should be resolved. The placeholders are updated when editing the bar code and before printing. If you encounter problems (e.g. decreased responsiveness) or you do not use document properties at all, you can disable this option.
Reference content controls	This options controls if placeholders for content controls (e.g. [!TagID]) and form fields should be resolved. The placeholders are updated when editing the bar code and before printing. If you encounter problems or do not use content controls or form fields, you can disable this option.
Disable warnings	Enable this option if you don't want to receive warnings (OLE DB connection, bar code resizing, low system resources...). You should not disable warnings if you have critical printing tasks with a higher volume of bar codes.
Deactivate events	TBarCode Office is using application events in order to interact with Word and the actual user selection. If you encounter problems or you use a VBA program (or Add-In), which interferes with those events you have the possibility to deactivate the event integration. If you do so, you will lose mail merge functionality and auto-updating of the task pane if you select a bar code. Also placeholders for variable data (e.g. document properties) are no longer resolved before printing. Base functionality such as inserting a barcode and manually changing bar code properties is still supported.

Table 2: General Options Word Add-In

⁵ Supported in 10.7 and later

Mail Merge Options	Description
Embed barcode as EMF	This option applies if you perform a mail merge into a new document. By default, the bar codes are embedded as EMF image (a vector format) – but EMF is sometimes scaled down (depending on Word compatibility mode). Uncheck this option if you want to embed a barcode ActiveX control instead of an EMF image into the merged document (no scaling, but needs more CPU).
Enable logging for mail merge	During a mail merge the bar code generator can log bar code errors and resizing events (e.g. barcode size was changed because of data content). The log is displayed after the mail merge. It helps you to determine the reason for errors or layout changes. You can localize the record which created the wrong or missing bar code, correct the data and print this record again.
Show progress bar in mail merge	Enable this option to show a progress during a mail merge. Beware that the progress bar only shows up when you have bar codes in your document.
Suppress error notifications	Enable this option if you don't want to receive notifications or confirmation messages during a mail merge. Be aware then that TBarCode Office provides no feedback regarding clipped (unreadable) or missing bar codes, also no warnings about low system resources during a mail merge.

Table 3: Mail Merge Options Word Add-In

5.2 TBarCode Office for Microsoft Excel

5.2.1 Activating the Barcode Panel

To activate or open the task pane, switch to the **Add-Ins tab** ① and then click on the panel button ②. The **TBarCode Office panel** ③ appears immediately on the right side of the document.

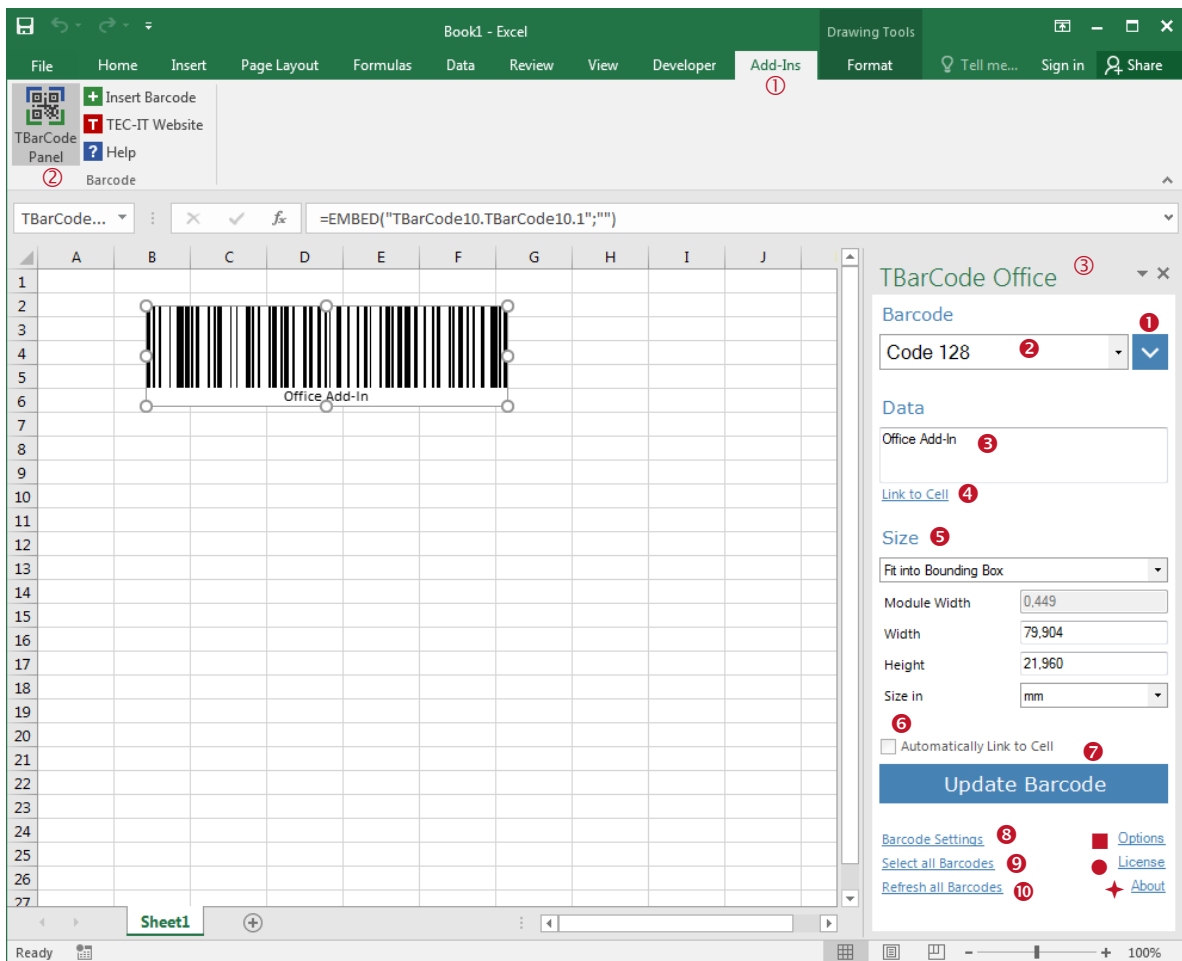


Figure 4: TBarCode Office User Interface in Excel

5.2.2 TBarCode Office Panel

In the **TBarCode Office** panel ③ you make all your adjustments for the barcode to be encoded.


Options	Description
① 	Opens a list of barcode templates. With these pre-defined settings, it is easy to generate barcodes which comply with common barcode standards. The settings from the template are applied to the barcode. See section 5.3.1 Templates.
② Barcode	Select the required barcode type from the list.
③ Data	Enter the data for the barcode in the field <i>Barcode Data</i> . Whenever you click into a cell of your spreadsheet the data of this cell is automatically copied into this field. Leading and trailing white space characters (newline, spaces) are removed ⁶ .
④ Link to Cell	The button <i>Link to Cell</i> allows you to link a barcode with a specific cell. This is useful to create dynamic bar codes which update whenever the content of the linked cell is changed.
⑤ Size	Adjust the appearance of the barcode by using the fields <i>Module Width</i> , <i>Width</i> , and <i>Height</i> . By clicking on the measure unit next to <i>Size in</i> you can toggle between millimeters and mils (a mil is one thousandth of an inch: 0.0254 millimeters). Choose the suitable sizing mode: <ul style="list-style-type: none"> ▪ <i>Fit into Bounding Box</i>: The barcode is always drawn in the size of the bounding box. The module width adapts to the amount of data to be encoded. ▪ <i>Fixed Module Width</i>: The size of the barcode depends on the amount of data to be encoded, the module width is fixed. ▪ <i>Fit to Selected Cell</i>: The size of the barcode is adjusted to the size of the spreadsheet cell.
⑥ Automatically Link to Cell	If checked, the created barcodes are automatically linked to the cells.
⑦ Insert Barcode	The button <i>Insert Barcode</i> inserts a barcode at the current position in your spreadsheet. NOTE: This button changes to <i>Update Barcode</i> if a barcode is selected in the document.
⑧ Barcode Settings	<i>Barcode Settings</i> is used for adjusting additional parameters like bar-width reduction or font and color settings. For further information see chapter 7.
⑨ Select all Barcodes	The link <i>Select all Barcodes</i> selects all barcodes in the worksheet.
⑩ Refresh all Barcodes	Redraws all barcodes in the worksheet, reapplies linked cell content and resizes bar codes with fixed module width (if data has changed).
■ Options...	<i>Options</i> allows you to configure specific add-in options. For more information see section 5.2.3.
● License...	The link <i>License...</i> opens a dialog for entering the license data (See chapter 8).
+ About...	<i>About...</i> displays the product version and copyright information.

Table 4: TBarCode Office Panel in Excel

5.2.3 Options

In the options dialog you can adjust specific settings for the Excel Add-In.

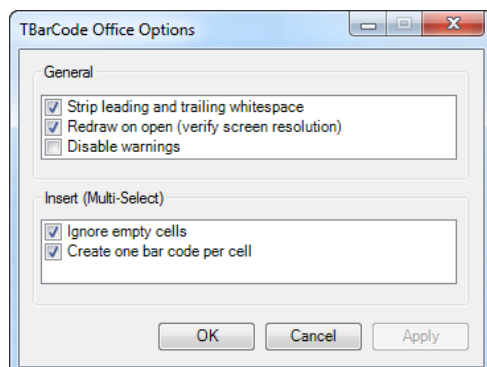


Figure 5: Options Excel Add-In

⁶ White space removal is adjustable in the options dialog.

General Options	Description
Strip leading and trailing whitespaces	Typing a new line or a space in the barcode data text field also takes effect in the encoding of the barcode data. If this option is checked, TBarCode Office removes spaces and new lines before and after the actual data of the barcode.
Redraw on open	If the screen resolution has been changed, the bar code controls can be updated (redrawn) on document open automatically. This behavior should help with the resizing issue described in 6.3.6.1. If you encounter problems with embedded documents, turn off this option.
Disable warnings	Use this option if you want to suppress warnings like "Cannot update bar code size" during document loading. If warnings are disabled, there is also no check for low system resources (GDI Objects) when inserting or refreshing a bar code.
Insert Options	Description
Ignore empty cells	If you have selected multiple cells, you can omit bar code creation for empty cells. This option prevents creation of bar codes without data.
Create One Barcode per Cell	If you have selected multiple cells, you can create one bar code per cell. This option allows you to create a list of bar codes.

Table 5: Option Settings Excel Add-In

5.3 User Interface Common for Word and Excel

5.3.1 Templates

In this dialog you can choose one of the provided barcode templates. Each template provides predefined barcode settings which comply with the respective barcode standard.

You can also select a custom template file created with **Barcode Studio**.

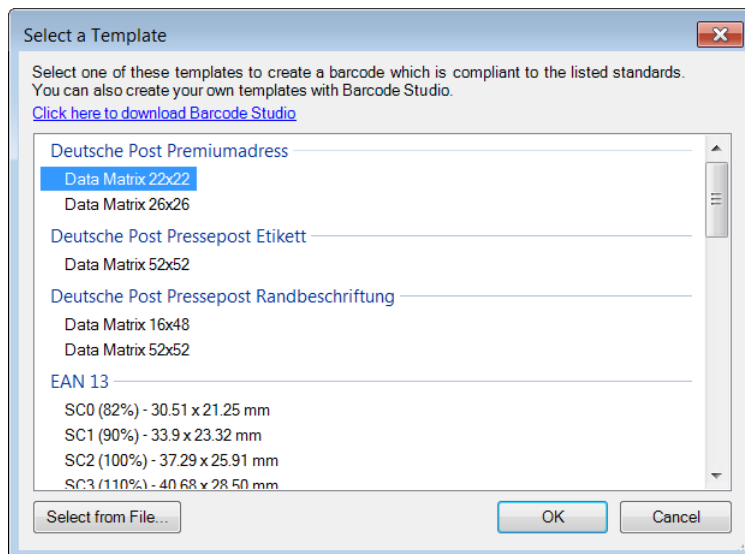


Figure 6: Templates complying with various barcode standards

- ▶ You don't have to purchase **Barcode Studio** to create a custom template. Download the demo, adjust barcode properties and save the .bc file to a common location.
- ▶ Barcode Studio does not save the size mode (module width, fit to bounding box) in a .bc file. You have to adjust this directly in the TBarCode panel.
- ▶ Barcode Studio does not save the draw mode option in a .bc file. If you want to set a different draw mode, you have to set it in the barcode settings.

6 Using TBarCode Office

This chapter introduces the **TBarCode Office** add-in and explains how to use barcodes in a documents, mailings or spreadsheets.

Check out and learn more about **TBarCode Office** in our videos hosted on YouTube!
http://www.youtube.com/view_play_list?p=1E807C6F1590D866

6.1 Operations Common for Word and Excel

6.1.1 Inserting a Barcode

There are different ways for adding a barcode to your document.

6.1.1.1 Using the Insert Button

To insert a barcode use the button *Insert Barcode* in the panel (See Figure 2 ).

6.1.1.2 Using the Insert Tab

Click the *Insert tab* in the Ribbon and choose *Insert Barcode*. The barcode is inserted at the actual cursor position immediately. The settings of the last inserted bar code are applied.

6.1.1.3 Using the Add-Ins Tab

For inserting a barcode with this method, switch to the *Add-Ins tab* and click *Insert Barcode* in the Ribbon.


6.1.2 Updating a Barcode

Open the **panel** (see 5.1) and select the barcode which should be configured. If you change the bar code settings in the Panel, the barcode is updated immediately.

6.1.3 Deleting a Barcode

Select the barcode that you want to delete and then press the *Del* key.

6.1.4 Loading a Template

Click on the templates icon  in the upper-right corner. A list with templates is displayed. Select a template and click OK or click Select from File... and select a *.bc file to load.

6.2 Microsoft Word

6.2.1 Create Mailings

The **TBarCode Office** add-in for Microsoft Word encodes mail merge fields directly in the barcode. Please follow these steps:

- Start with a new Word document.
- Activate the *Mailings tab* (1).
- Select or create a recipient list (2).
- Open the panel (3) – see 5.1.
- Select a barcode type and enter the barcode data (4).
- For inserting merge fields use the *Insert Fields* button (5) in the panel. Merge fields are only available if you have selected a recipient list.
- Then click *Insert Barcode* (6).
- Adjust the barcode size - width, height etc (7).
- Test the mail merge:
- Switch back to the *Mailings tab* then click *Finish & Merge* (8).
- For testing we recommend to perform a mail merge into a new document.
- Select about 10 records and make a test print.
- If possible verify the bar code with a bar code scanner⁷.
- Make sure the resulting layout is OK if you have received a resizing warning.

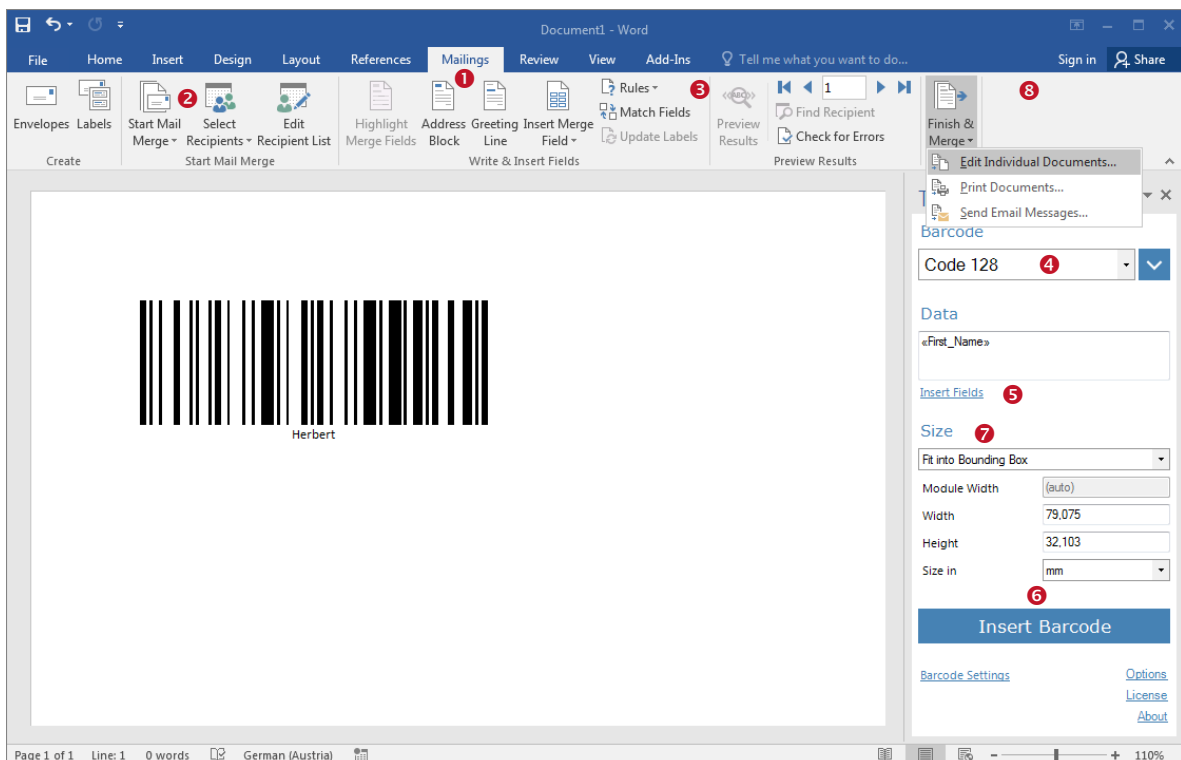


Figure 7: Guide for Using Mailings

- ▶ Finish & Merge – Print Documents uses less resources as the other methods.
- ▶ During the bar code generation process, you should not use the Clipboard. Close all applications, which query the Clipboard (e.g. Microsoft Outlook with Office Clipboard).

⁷ If you encounter reading or quality problems check out our [Barcode Reference](#) (section "Creating Optimal Barcodes"). Thermal transfer printers require a special adaption of the module width parameter to the printer resolution (DPI).

6.2.2 Create Labels

Microsoft Word's mail merge wizard can also be used to create barcode labels. Please follow these steps:

- Start with a new Word document.
- Activate the *Mailings tab* (1).
- Select *Start Mail Merge* (2) and click Labels. A dialog will pop up. You can select different label sizes.
- Select or create a recipient list (3).
- Open the **TBarCode Office** panel (4) – see 5.1.
- Select a barcode type and enter barcode data (5).
- Click inside the first cell of the table and click *Insert Barcode* (6).
- Finish the layout of the first label. Use *Insert Field* (7).
- Now switch back to the *Mailings tab* and click *Update Labels* (8). This automatically inserts the content from the first table cell (first label) into all other cells (labels).
- Click *Finish & Merge* (9).

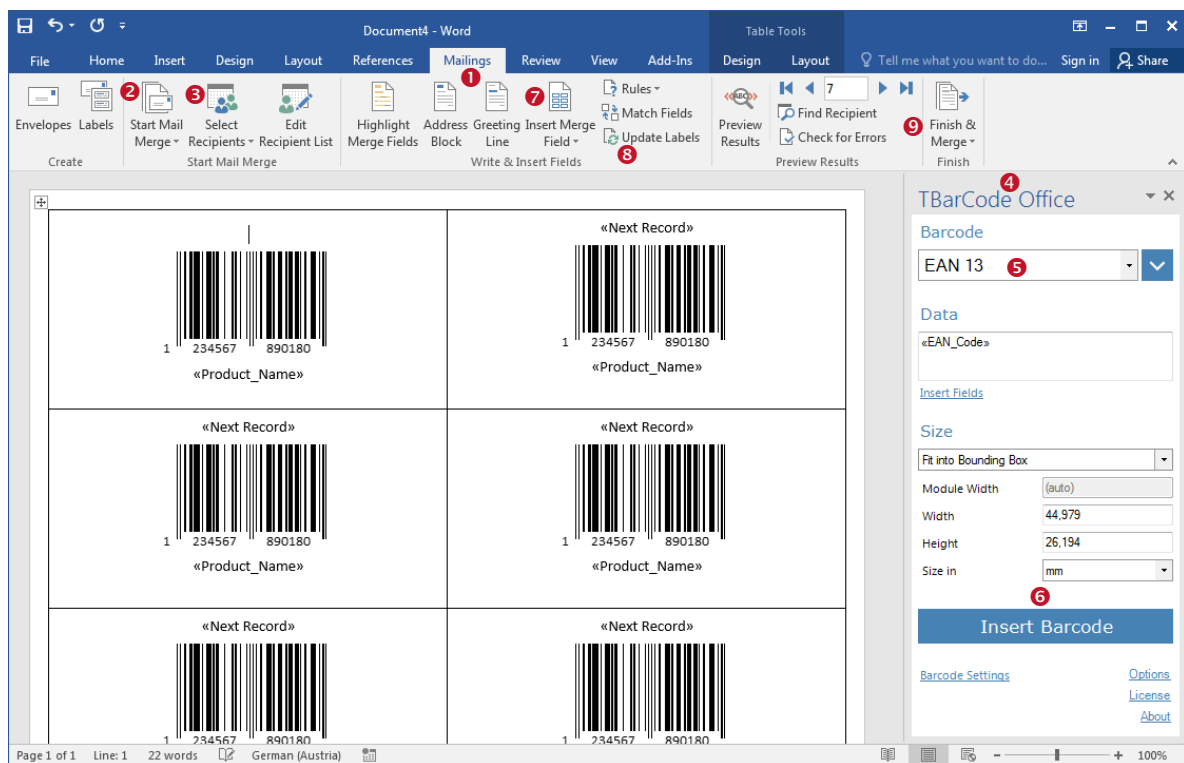


Figure 8: Barcode Label Printing

- ▶ If you change something in the first label - e.g. the bar code size - please click *Update Labels* (8) in the *Mailings tab* to update the remaining labels (bar codes) on the page.
- ▶ To avoid the bar code size warning you can slightly enlarge the bar code (e.g. drag with the mouse) before you start the mail merge.

6.2.2.1 Resulting Labels

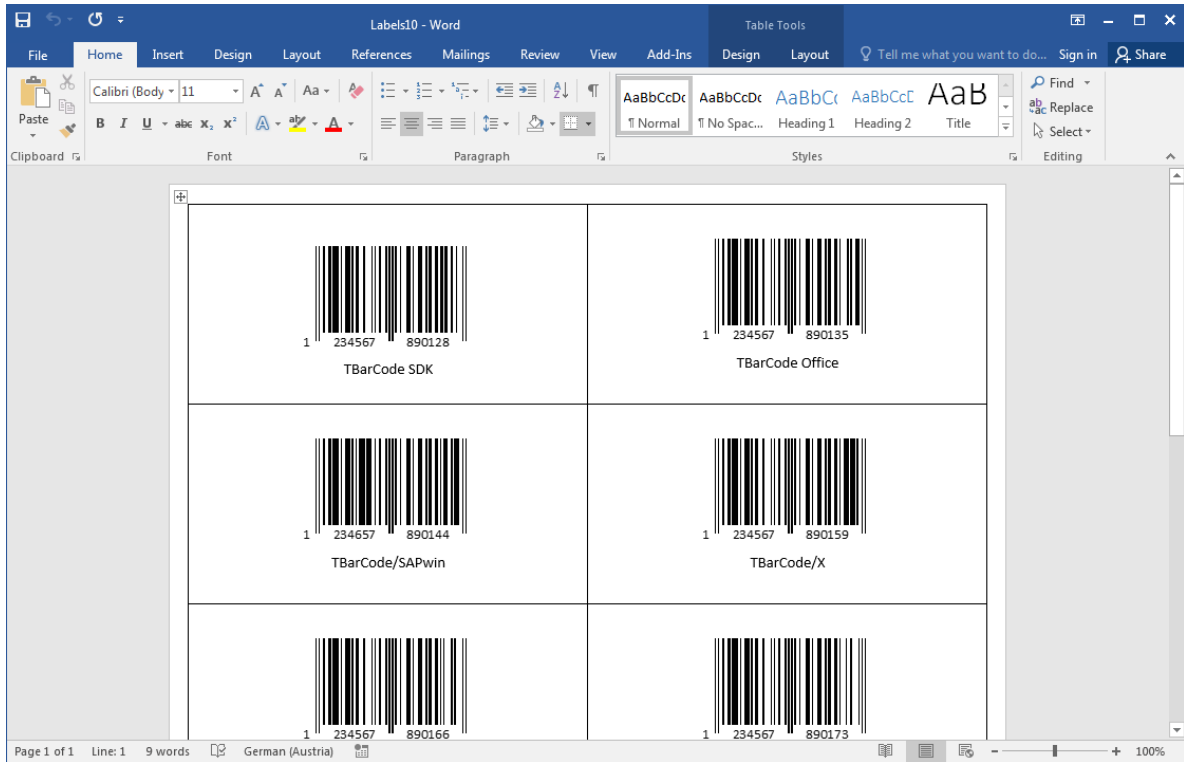


Figure 9: Barcode Label Printing

6.2.3 Insert Document Properties

TBarCode Office (Word Add-In) supports placeholders for document properties which are automatically resolved before printing⁸.

In order to insert document properties into a bar code follow these steps:

- Start with a new Word document.
- Open the panel (1) – see 5.1.
- Select a barcode type and enter the barcode data (2).
- Use the *Insert Fields* button (3) in the panel to bring up the selection of available merge fields and document properties (4).
- In the *Properties tab* select a document property (5) and click *Insert* (6).
- A placeholder for the document property will be inserted into the Barcode Data field (7).

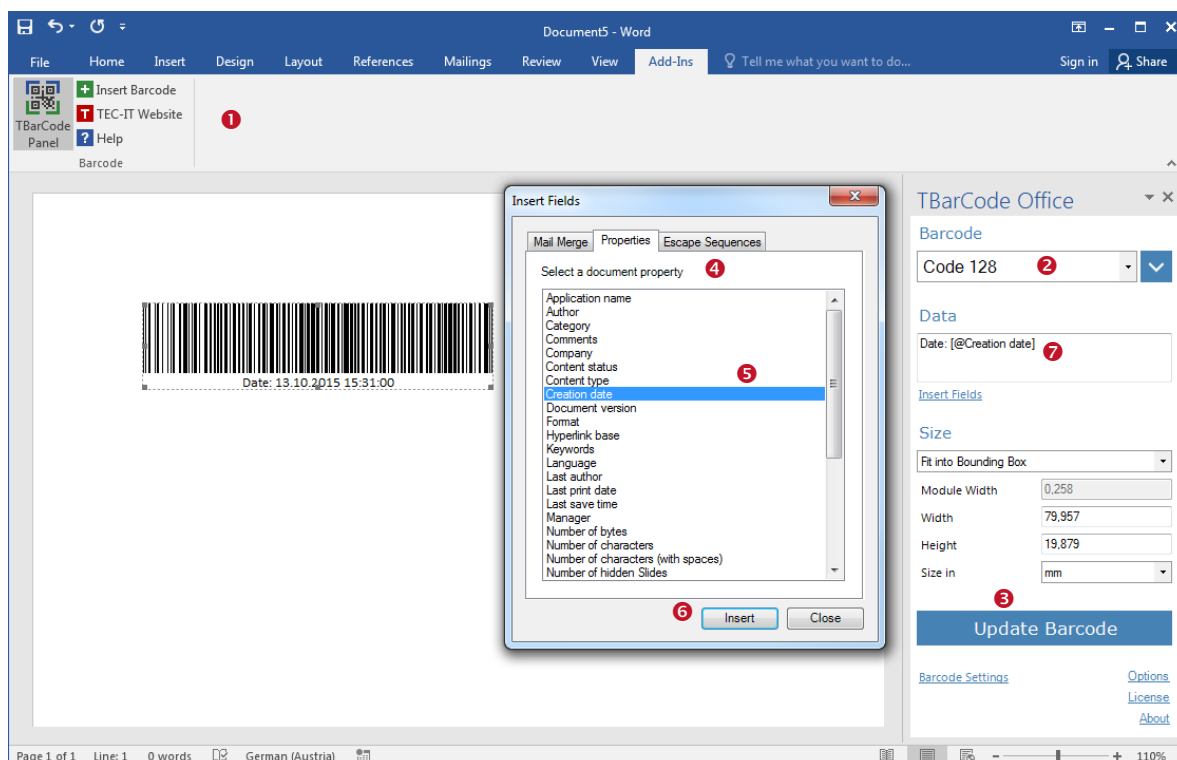


Figure 10: Insert Document Properties

You can enter the placeholder format also directly into the Barcode Data field:

[@*Property name*]

Please note that the property names are case sensitive.

- ▶ If the property name is unknown or the placeholder format is incorrect, the (unresolved) placeholder sequence will be encoded instead of the property value⁹.

In Microsoft Word not only standard properties but also custom properties or content type¹⁰ (server) properties can be assigned to a document. **TBarCode Office** does not distinguish between standard, custom or server properties – *all are referenced by the same placeholder format*.

⁸ Support for document properties has been added in version 10.5.3 (for server properties you need 10.5.4 or later).

⁹ This behavior may be changed (or made be configurable) in a later version.

¹⁰ Available via Microsoft® Sharepoint server

Placeholders for document properties are resolved in the following order:

1. Search in standard properties
2. Not found => Search in custom properties
3. Not found => Search in content type (server) properties.

The document properties are updated in the bar codes *immediately before printing*. On the other hand saving the document as PDF or emailing the document *will not update the bar codes*¹¹!

- ▶ The Word function “Save & Send” does not refresh document properties in the bar codes.
- ▶ You can turn off encoding document properties in the add-in options.

6.2.4 Reference Content Controls, Legacy Form Fields and Bookmarks

TBarCode Office (Word Add-In) supports placeholders for referencing content controls and legacy form fields (either via Tag or Bookmark). The placeholders are automatically resolved before printing¹², which means the actual value of the control will be populated into the bar code.

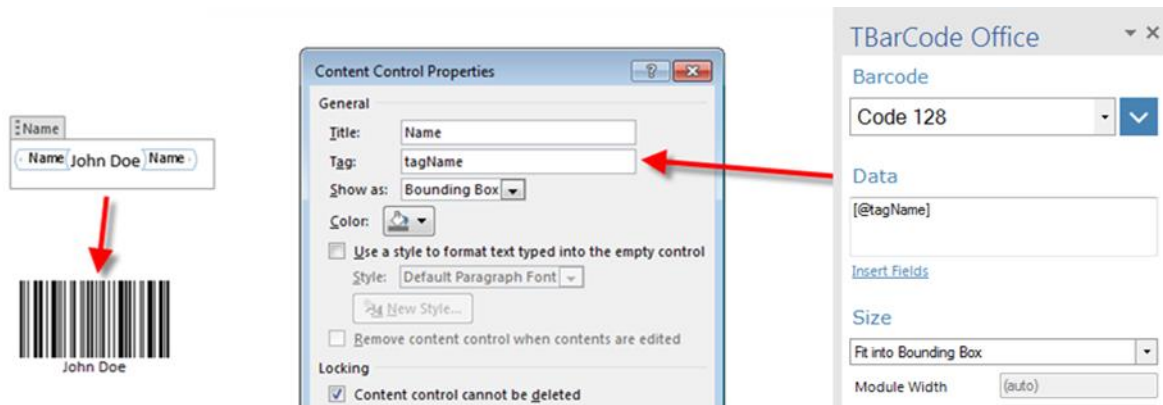


Figure 11: Reference Content Controls

Please use the following placeholder format in the *Barcode Data* field:

- [@!*TagName*] ... for Content Controls
- [@!*Bookmark*] ... for Form Fields and Bookmarks

Please note that the referenced tag name or bookmark is case sensitive.

- ▶ If the reference is unknown or the placeholder format is incorrect, the (unresolved) placeholder sequence will be encoded instead of the referenced value¹³.

The following types of content controls and form fields are supported:

- | | |
|---|---|
| <p>Content Controls:</p> <ul style="list-style-type: none"> ▪ Text ▪ Rich Text ▪ Combo Box ▪ Date ▪ Drop-Down List | <p>Legacy Form Fields:</p> <ul style="list-style-type: none"> ▪ Text ▪ Check Box ▪ Drop-Down |
|---|---|

- ▶ The Word function “Save & Send” does not refresh referenced values in the bar codes.
- ▶ You can turn off referencing content controls / form fields in the add-in options.

¹¹ This is by design of Word – there is no event raised where we can update the bar code controls.

¹² Support for referencing content controls and legacy form fields has been added in version 10.6.0, for bookmarks in 10.7.0.

¹³ This behavior may be changed (or made be configurable) in a later version.

6.2.5 Limitations (Word Add-In)

Please take care of the following limitations when using the Word Add-In:

- The number of bar code controls is limited to 256 controls per (master) document. This limit affects only the master document and not the printed (already merged) documents.
- If you merge into a new document, the number of bar codes in the generated document is limited to 4000. This limit has been introduced because of system resource consumption.
- The supported rules for mail merge documents are «*Next Record*» and «*Next Record If*».
- The layout wrapping style of the barcode control must be *Inline with text*, otherwise the bar code control is not recognized and cannot be updated during the mail merge.
- The mail merge data source must be an OLE DB data connection. Go to *Word Options | Advanced | General* and make sure that *Confirm file format conversion on open* is activated. Then open the data-file (see 6.2.1). In the *Confirm Data Source* dialog select *OLE DB Database File*.

6.2.5.1 System Resources

Word uses GDI Objects for drawing the bar code images. There is a system limit for GDI objects, which also limits the number of bar codes (bar code drawing operations) per Word session. If all free resources have been consumed, you will see that the application loses responsivity. A restart of the application usually frees up the resources again.

The following operations are more sensitive regarding resource consumption:

- Mail merge into a new document
- Mail merge with labels (multiple bar codes per page)

Workarounds:

- If you have a higher number of bar codes to be generated, split up bar code generation into multiple Word sessions / mail merge operations.
- A mail merge directly to the printer consumes less resources than into a new document.
- Disabling the human readable text in the bar code will use less GDI resources.
- For large mailings / mass printing we offer [TFORMer](#), our label/form printing software.

6.2.6 Known Issues (Word Add-In)

Please take care of the following known issues when using the Word Add-In:

- Using the *NextRecordIf* field in a mail merge document can result in a wrong (out of sync) record number in the progress bar and in the error log.
- Encoding the left and right angle quotes (« ») into a bar code in a mail merge document is only possible with escape sequences.
- It is not possible to insert a bar code directly into a { Field } because the bar code object will be deleted by Word after the field update. Additionally, if the bar code data contains a mail merge field, an error message will be displayed.
- Mail merges with text file data sources (e.g. TXT, CSV...) are supported only with an OLE DB data connection. If accessed directly (without OLE DB driver), only the first two records can be merged, then the mail merge stops.
- Mail merge to printer stops if Microsoft Office Outlook runs in the background (problem with Clipboard Manager). Close Outlook and avoid the Clipboard while the mail merge is active.
- The Word function "Save & Send" does not refresh the document properties in the bar code controls – only printing does.
- Word 2013 and 2016 renders the bar code object over and over after insert.

- The mail merge preview does not update the bar code automatically.
Workaround: Move to the record you want to preview. Select the bar code and click “Update” in the TBarCode Panel. Then the barcode is updated with actual data.
- Users of the Adobe® Acrobat® Pro Add-In may experience a crash when using the *Merge to PDF* function (Mailings). In addition they cannot immediately switch to Design mode by selecting a bar code¹⁴; they have to open the **TBarCode Office** panel first.
- Undo (Ctrl-Z) on a bar code object can lead to uninitialized bar codes (after Save/Open).

More issues and possible workarounds see our [online FAQ](#).

¹⁴ This limit is part of a workaround introduced with Version 10.5.6.



6.3 Microsoft Excel

6.3.1 Link a Cell with a Barcode

The **TBarCode Office** add-in for Microsoft Excel is able to link cell-contents to barcodes. So you can create dynamic barcodes which update automatically whenever a cell is changed.

There are different ways to do this. Please follow the steps below.

6.3.1.1 Manual Linking

- Start with a new Excel workbook.
- Click inside the worksheet and type some data into a cell.
- Open the panel (1) – see 5.1.
- Click on an empty cell and click *Insert Barcode* (2).
- Click *Link to Cell* (3). The button text will change to *Select a Cell (ESC to Abort)*.
- Click on the cell that was created in step 2.

6.3.1.2 Automatic Linking

- Start with a new Excel workbook.
- Click inside the worksheet and type some data into a cell.
- Open the panel (1) – see 5.1.
- Check *Automatically Link to Cell* (4).
- Select the cell.
- Click *Insert Barcode* (2).

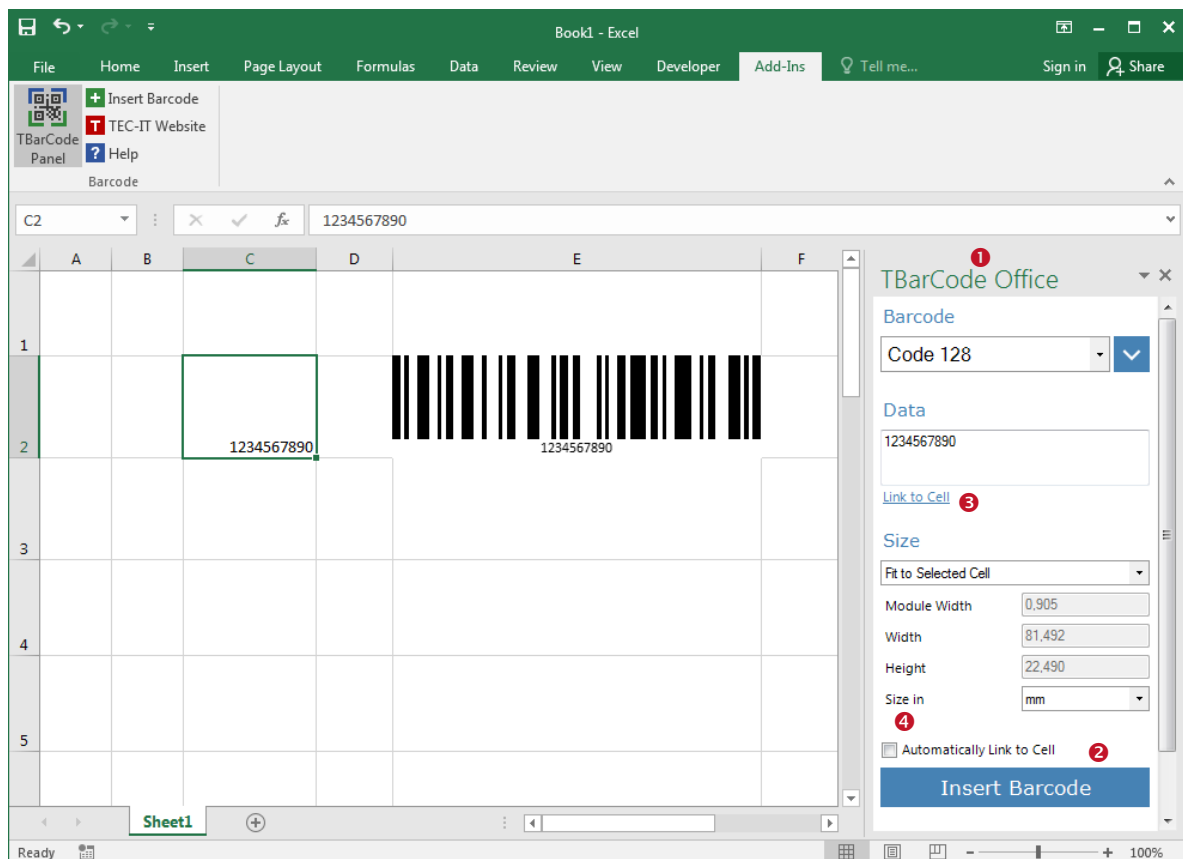


Figure 12: Link Barcode

6.3.2 Generate Barcode-Lists

To create a list of bar-codes based on the cell contents follow the steps below.

6.3.2.1 General Guide for Creating Barcode Lists

- Start with a new Excel workbook.
- Click inside the worksheet and type some data into a few cells (1).
- Open the panel (2) – see 5.1.
- Select a barcode type (3) and set dimensions for the barcodes (4).
- Select all the cells that you want to convert to barcodes¹⁵.
- Click *Insert Barcode* (5).

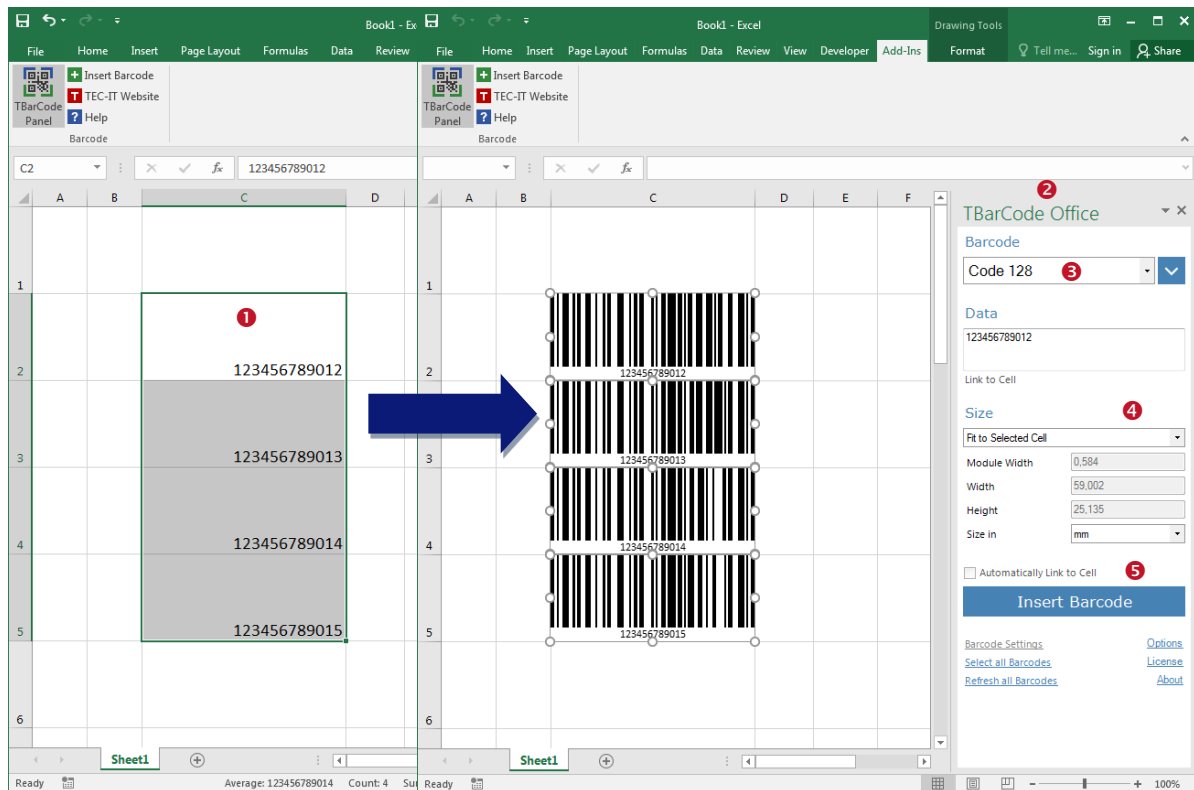


Figure 13: Guide for Creating Barcode Lists

6.3.3 Updating Barcode Controls¹⁶

You may see a short notice “Updating bar code controls...” when opening an Excel file.

In the *Workbook_Open* event the Add-In verifies the actual screen resolution and compares it with the resolution stored in a custom document property. If the resolution has been changed, all bar codes of the actual document are redrawn and the size is updated.

This behavior is enabled by default and can be disabled in the options menu (see 5.2.3).

6.3.4 Interferences with VBA

In some cases the TBarCode Panel can prevent execution of VBA code. The reason is that the TBarCode Panel switches to Design Mode - this is required to allow bar code controls to be selected and changed.

¹⁵ Make sure that you have enabled “Create one bar code per cell” in the Add-In options.

¹⁶ Introduced in TBarCode Office Version 10.5.3

As a workaround VBA programmers can prevent the Add-In from switching to Design mode if they disable screen updating¹⁷.

```
Application.ScreenUpdating = False  
Your VBA Code (e.g. open workbook)  
Application.ScreenUpdating = True
```

This allows VBA code to be run without interruption as long as the user does not open the TBarCode Panel or insert a bar code.

▶ Please contact us if you have macros, which are disturbed by the TBarCode Add-In.

6.3.5 Limitations (Excel Add-In)

- If you create a list of bar codes, the number of bar code controls per insert operation is limited to 600.

6.3.5.1 System Resources

Excel uses GDI objects for drawing the bar code images. There is a system limit for GDI objects, which has an influence to the number of bar codes and bar code drawing operations per Excel session¹⁸. If all free resources have been consumed, you will see that the application loses responsivity. A restart of the application usually frees up the resources.

The following operations are sensitive regarding resource consumption:

- Insertion / Moving / Refreshing a larger number of bar code controls
- Closing the TBarCode Panel (disables design mode, triggers a refresh)

Workarounds:

- Reduce the number of bar codes per Excel sheet.
- Don't open multiple workbooks/sheets with a larger number of bar codes in parallel.
- Disable the human readable text in the bar code if you don't need it (saves resources).
- For a higher number of bar codes use our [TFORMer](#) label and form printing software.

6.3.6 Known Issues (Excel Add-In)

- Linked cell bar codes are not resized (enlarged) automatically when the data content of the linked cell is changed. If you receive an error "Barcode does not fit into bounding rectangle" you have to enlarge the bar code manually. In order to update the bar code size of all bar codes in the actual sheet you can use the "Redraw all Barcodes" function.
- We have seen problems with complex Excel documents having more than ~600 bar codes. Reaction becomes slow and also crashes can occur. This behavior is by design of Excel.
- Embedded Excel sheets (in Word) may not open if the "Redraw on open" option is active (see 5.2.3).

6.3.6.1 Resizing Issues

The following issues occur with TBarCode Office V10.5.2 (Excel Add-In) and earlier:

- Sharing Excel documents among workstations with custom font sizes (DPI <> 96) may result in resized bar codes after opening a workbook. This behavior is by design of Excel.
- Sharing Excel documents among workstations with different screen resolution (e.g. user A has 1024 x 768 Pixel and user B has 1600x1200 Pixel screen resolution) forces Excel to scale the bar code size unwantedly. This behavior is by design of Excel.

¹⁷ Introduced in TBarCode Office Version 10.5.5.

¹⁸ Microsoft Excel 2016 (initial release) seems to consume more GDI resources, but this may be improved in later versions.

Starting with version 10.5.3 a workaround which forces a redraw of all bar codes during workbook open was introduced¹⁹ (see 6.3.3). The workaround needs TBarCode Office to be installed.

More issues and possible workarounds see our [online FAQ](#).

¹⁹ The workaround has been tested on Windows 7 and 8 with Office 2007, 2010 and 2013. Please note that there is no guarantee that the issue has been solved for all platforms and Office versions.



7 Barcode Settings

7.1 Introduction

The property dialog of **TBarCode Office** gives you access to advanced bar code properties. Open the dialog with the *Barcode Settings* link in the panel.

7.2 Property Page “Barcode”

The first property page is the “Barcode” tab. It contains basic barcode adjustments like Barcode Type (Symbology), Barcode Data, etc. For most applications adjusting these settings will be sufficient. Additional parameters can be changed on demand (button “Adjust...”, tabs “Appearance”, “Multiple Barcodes”, “Font” and “Color”).

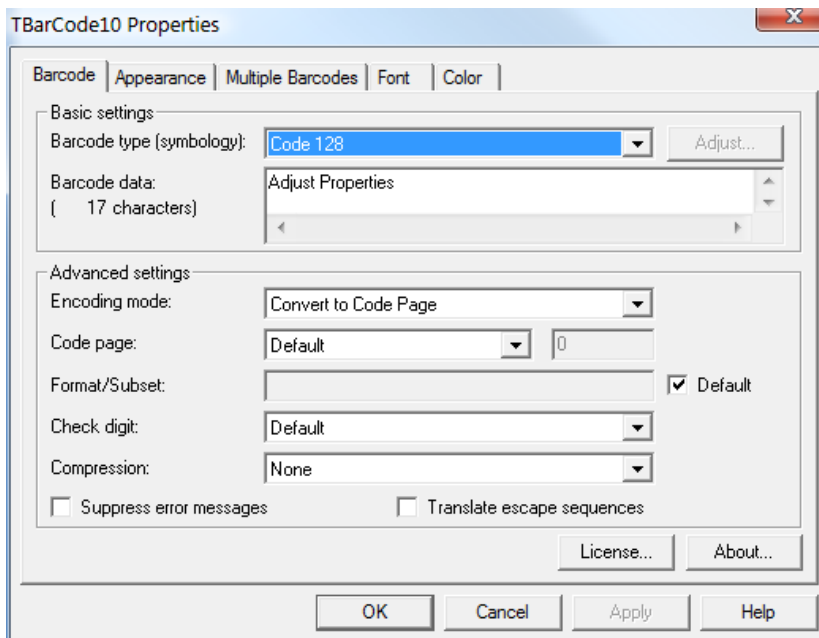


Figure 14: Property Page “Barcode”

7.2.1 Barcode Type (Symbology)

Here you adjust the barcode type: Common linear barcode types are UPC (USA), EAN (Europe), GS1-128, Code 128, Code 39, 2 of 5 Interleaved. Common 2D barcode types are Data Matrix, QR-Code and PDF417.

For information on the different barcode types (symbologies), please refer to the Barcode Reference (see Appendix A).

7.2.2 Button “Adjust...”

The *Adjust...* button will open a barcode specific properties dialog (for the selected barcode type / symbology). This button is available for 2D barcodes and for composite symbologies only!

Barcode specific settings are described in sections 7.7 to 7.15.

7.2.3 Barcode Data

The content of this textbox will be encoded as barcode. Depending on the selected barcode type you can encode different kinds of data:

- Some barcodes can be used to encode digits only.
- Others allow the usage of digits and a limited number of special characters like “/” or “*”.
- Again, others can be used to encode arbitrary alphanumeric data.

For more information on barcode types and on codeable data, please refer to the Barcode Reference (see Appendix A). The number of letters that the data currently contains is shown below *Barcode Data*.

- ▶ If the “Barcode Data” cannot be represented with the selected symbology, a big “X” is drawn instead of the barcode. Additionally an error code and a short error description are displayed.

7.2.4 Encoding Mode

The Encoding Mode specifies how the input data should be interpreted.

- ▶ Data is always passed as UNICODE stream to **TBarCode OCX**. As UNICODE characters always consist of 2 bytes and most of the barcode types are only able to encode one byte per character, it is not always clear how the input data should be interpreted. So we give you the possibility to decide yourself.
- ▶ Per default the input data is converted to the selected *Code Page* (see below). If other kinds of interpretations are needed, you have to change this property.

You have following possibilities:

Value	Description
Convert to Code Page	Converts the input data to the code page, which is selected in the property <i>Code Page</i> . (default)
No conversion (Lower bytes only)	Considers only the lower bytes of the input characters, the higher bytes are ignored.
Bytestream (Lower before higher byte)	The data is passed as it is. No conversion is done. Both bytes are considered. The lower byte is passed before the higher byte.
Bytestream Reverse (Higher before lower byte)	Consider both bytes but change the order of lower and higher byte. That means the higher byte is encoded before the lower byte.

Table 6: Compression

7.2.5 Code page

The code page is related to the property *Encoding Mode*. It is only considered if the encoding mode is set to *Convert to Code Page*. You can choose among several pre-defined code pages (e.g. ANSI, ISO 8559-1 Latin I, UTF-8, Shift-JIS...) or add the ID of a custom code page.

7.2.6 Format/Subset

The format string is used for formatting the utilizable data of the barcode prior to encoding it.

The format string is built upon placeholders, which can be combined with constant data characters to build the final data string. Certain control characters make it possible to change the Subsets for Code 128 and GS1/EAN/UCC-128 or to define the desired start/stop character of CODABAR.

For detailed information on format strings, please refer to the Barcode Reference (see Appendix A).

7.2.7 Check Digit

Here you can set the calculation method of the check digit. Whether you need a check digit or not depends on your application and on the selected barcode type.

By default the appropriate check digit is selected automatically (entry “Default”), which means that the check digit is calculated according to the barcode specification. Any other suitable calculation method can be selected via the combo box.

Why check digits? In order to guarantee that the barcode data is read properly, a check digit is inserted (usually) at the end of the utilizable data. A comparison of the barcode content and the check digit informs the scanning device about the correctness of the scan. It causes the device to accept or to reject (repeat) the scan. The check digit calculation method is standardized for certain common barcodes.

- ▶ A different check digit method is admissible for special applications or for bar code types with selectable check digit methods only.
- ▶ For some barcodes the default is to use no check digit. However, using a check digit may be recommended depending on bar code type (e.g. LOGMARS or Code39). You can use the combo box for enabling check digit calculation.
- ▶ Often modern symbologies have already a built-in check digit (e.g. Code-128).

7.2.7.1 Check Digit Calculation

Some barcodes with a predefined number of utilizable data characters (like EAN-13, UPC-A and GS1 DataBar) include a check digit on a fixed position in the barcode data.

Example:



The EAN13 code permits 12 utilizable digits plus 1 check digit at the last position (❶).
 If you enter 12 digits as barcode data this last digit (the check digit) will be calculated and inserted automatically. If you enter all 13 digits you have to supply the correct check digit by yourself (otherwise you receive an error).

- ▶ **TBarCode** verifies the correctness of the check digit supplied by your application.
- ▶ If not provided in your input data, the check digit will be calculated and appended automatically.

7.2.8 Compression

To increment the capacity of barcodes you can compress the “Barcode Data”. This means that the data provided by the user will be compressed before it is encoded as barcode.

The compression is only available for barcodes which allow the encoding of arbitrary binary data and a variable length of input data. By default the compression is set to “None”.

Value	Description
None	The barcode data will not be compressed. It will be stored in the barcode as is (default).
Deflate (RFC 1951)	The barcode data will be compressed using the Deflate algorithm. We recommend using this algorithm if data compression is required.
GZip (RFC 1952)	The barcode data will be compressed using the GNU zip algorithm.
ZLib (RFC 1950)	The barcode data will be compressed using the ZLib algorithm.

Table 7: Compression

- Note: When reading compressed barcode data, you will have to decompress it in order to restore the original input data. Decompression can be done through the **TBarCode InForm** software decoder (which restores the uncompressed data automatically). – Or you can use any third party software library for decompression.

7.2.9 Suppress Error Messages

If the barcode data contains invalid characters (e.g. letters for code 2 of 5 Interleaved), or if the wrong number of input characters is provided, an error message is displayed (instead of the barcode).

If “*Suppress error message*” is enabled, this error message will be suppressed. Only blank space is displayed instead of any error information.

7.2.10 Translate Escape Sequences

Selects whether escape sequences (like \n) are translated or not (default: no).

The use of escape sequences is useful if you need to encode control characters such as Carriage Return or FNC1. For encoding binary data (e.g. Data Matrix) this feature may be very useful as well.

For more information on escape sequences, please refer to the Barcode Reference (see Appendix A).

7.2.11 Button “License...”

Opens the license dialog. For more information on how to license the product, please refer to chapter 8.

7.2.12 Button “About...”

Opens the about dialog. The *About* dialog shows the product version and copyright information to the user.



7.3 Property Page “Appearance”

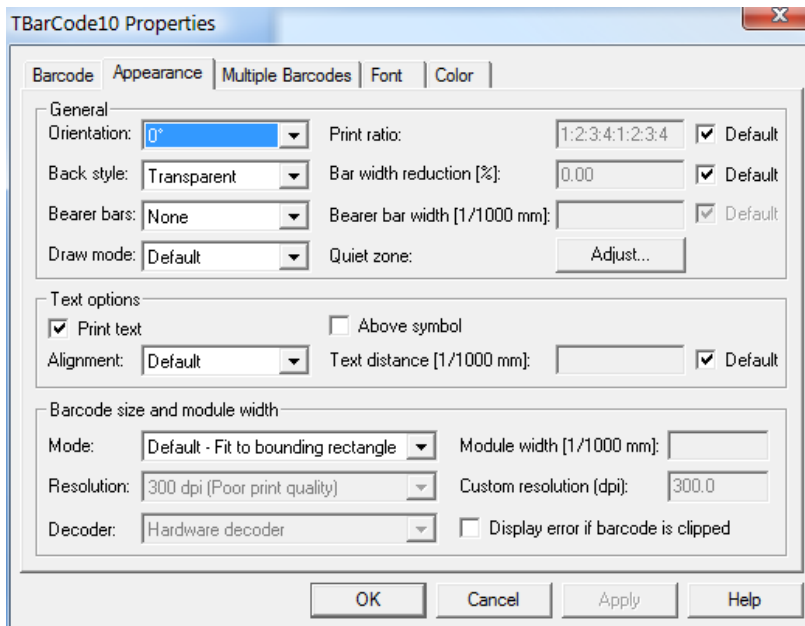


Figure 15: Property Page “Appearance”

7.3.1 General

7.3.1.1 Orientation

Specifies the orientation of the barcode. Selectable values are 0°, 90°, 180° and 270°. The barcode is rotated counter-clockwise.

- ▶ Please note: Some fonts (for the human readable text) do not support rotation (e.g. some bitmap fonts). If rotation is required we recommend selecting a TrueType® font.

7.3.1.2 Print Ratio

The print ratio is the relationship between the bar-widths and the space-widths of a barcode. Another term for print ratio is “bar width ratio” or “bar/space width ratio”.

- ▶ By default there is no need to change the print ratio, unless needed for any special application. – Please consider: Barcodes may become unreadable when manipulating this value!

The print ratio must be specified in a specific format. This format depends on the number of different bar- and space-widths used in the selected symbology.

Example: If a barcode element has 4 different bar widths and 4 different space widths, the print ratio looks like this (Code 128): 1:2:3:4:1:2:3:4. In the first part (“1:2:3:4”) the width ratio of the bars is set, in the second part the relation of the spaces is set (in our case, they are the same). The smallest bar is “1” wide, the next larger is “2” wide (thus twice as wide as the smaller bar) and so on.

For more information on print ratios, please refer to the Barcode Reference (see Appendix A).

7.3.1.3 Back Style

The barcode can be painted with transparent background (default, background shines through) or with opaque background (background is drawn in the adjusted color).

► If the back style is set to “Transparent”, the adjusted background-color will be ignored.

7.3.1.4 Bar Width Reduction [%]

Sets the bar width reduction in percent.

When printing on inkjet printers, the ink that is absorbed by the paper tends to diffuse. Setting the bar width reduction allows you to work against this spreading of ink. But also for laser printers with high toner saturation this property is useful.

The bar width reduction can be specified in percent of the module width. Thus when set to 20 all bars will be narrowed by 20 percent of the module width.

► Be careful: Setting the bar width reduction to more than 50 percent might leave the bar code unreadable! When using this feature we recommend you to do some test-scans to make sure that the bar code can be scanned correctly. A common value to start with is 15%.

7.3.1.5 Bearer Bars

Usually, bearer bars are used with the ITF-14 (or sometimes with the Interleaved 2 of 5) or the DPD symbology only. The bearer bars were introduced to equalize the pressure exerted by the printing plate over the entire surface of soft materials. They also enhance the reading reliability by helping to reduce the probability of misreads by skewed scanning beams.

For some types (like UPC and EAN) the bearer bars must be set to “None”.

Value	Description
None	Do not print bearer bars.
Top and Bottom	Print bearer bars at the top and the bottom of the symbol.
Rectangle	Print bearer bars on all 4 sides of the symbol. For rectangular bearer bars, the quiet zone (see section 7.3.1.7) must be at least 12 times the module width. Otherwise no bearer bars will be printed.
Top	Print bearer bars at the top of the symbol.
Bottom	Print bearer bars at the bottom of the symbol.

Table 8: Bearer Bars

7.3.1.6 Bearer Bar Width [1/1000 mm]

Sets the width of the bearer bars in 1/1000 mm.

► The minimum width of the bearer bars is two times the module width (which is also used as default value). If any smaller value is entered, the minimum width will be used instead.

Note: If the bearer bar width is set to zero, no bearer bars are printed.

7.3.1.7 Draw Mode

Due to problems with certain printer drivers, TBarCode is able to use different methods to draw bar-codes. You can choose between following modes:

Value	Description
Default	The bar codes are drawn in the advanced mode. This provides the best quality.
Advanced	
Compatible	The bar codes are drawn in the compatible mode. This decreases the quality slightly, but is supported by the most printers.
Dual	The bar codes are drawn in the dual mode. This is a combination of the Advanced and Compatible mode.

Table 9: Draw Mode

If you want to use the “Compatible” draw mode as preferred setting you can specify this in an ini-file. For more information, please refer to Appendix B.

7.3.1.8 Quiet Zone

The quiet zone is an empty area outside the barcode. It helps the scanner to read the barcode correctly. Clicking the *Adjust...* button opens the following dialog:

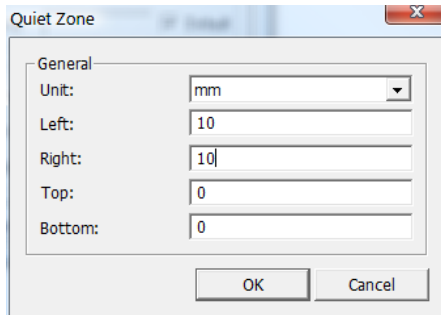


Figure 16: Quiet Zone Adjustment

In this dialog you adjust the quiet zone for all four sides of the barcode. Possible units are: Modules, Millimeters, Mils and Pixels. Default: No quiet zone is added.

For most 1D barcodes a quiet zone should be maintained directly before and after the barcode symbol. As a rule of thumb, the quiet zone should be ten times the dimension of the module width or at least 1/4 inch (6.5 mm). The exact value depends on the selected barcode type.

- ▶ Please note: A few barcode types provide the required quiet zone automatically. These barcodes are: EAN-8, EAN-13, UPC-A, UPC-E and ISBN. Adjusting the quiet zone for these symbologies will add always an additional white space.

7.3.2 Text Options

The text options allow the adjustment of the human readable text. The human readable text is usually printed below the barcode symbol and shows the content of the barcode.

- ▶ Not all barcode specifications support the printing of human readable text. If human readable text is not supported, the following setting will be ignored.

7.3.2.1 Print Text

Specifies whether the barcode data is printed as human readable text or not. Default: Yes.

7.3.2.2 Above Symbol

Prints the human readable text above the symbol (default: below).

- ▶ For some barcodes (e.g. UPC-A, EAN-13) the adjustment “Above symbol” is not permitted.

7.3.2.3 Alignment

Changes the alignment of the human readable text.

Value	Description
Default	Uses the default text alignment (= “Center”).
Left	Aligns the human readable text to the left.
Right	Aligns the human readable text to the right.

Center	Centers the human readable text.
--------	----------------------------------

Table 10: Text Alignment

7.3.2.4 Text Distance

Allows you to specify the distance between the human readable text and the barcode (in 1/1000 mm). If "Default" is marked, the minimum text distance is used. Otherwise the given value will be added.

7.3.3 Barcode Size and Module Width

7.3.3.1 Mode

This option selects the calculation method for the barcode size.

Value	Description
Default - Fit to bounding rectangle	Draws the biggest possible barcode which fits into the bounding rectangle. Resizing the bounding rectangle directly resizes the barcode.
Custom - Specify module width	Uses the specified module width for drawing the barcode (see section 7.3.3.2).
Minimal - Optimize for readability	Creates the smallest possible barcode for the selected "Resolution" (see section 7.3.3.3) and for the selected "Decoder" type (see section 7.3.3.5). Furthermore the module width of the barcode will be optimized for ensuring best readability.

Table 11: Size Mode

► Please note: The size modes "Custom" and "Minimal" influence the horizontal(!) size of a barcode only! The barcode height is always given by the height of its bounding rectangle. Only a few 2D barcodes, like Data Matrix, QR-Code or Composite symbologies require a fixed width to height ratio. For these barcodes the height will be calculated accordingly.

7.3.3.2 Module Width [1/1000 mm]

If the size mode is set to "Custom – Specify module width", this input box lets you specify the size of one module (in 1/1000 mm).

A module is the smallest element of a barcode. The widths of all bars and spaces are multiples of one module width.
Sometimes the "Module Width" is also called "Narrow Bar Width".

A constant module width is recommended if you have a varying amount of input data and if the optical data density should remain constant. Furthermore, some label specifications require a constant module width.

► Please note: When specifying a custom module width the barcode may grow bigger than the bounding rectangle for big module widths or for a large amount of input data. Please make sure that the bounding rectangle is wide enough to display the whole barcode symbol. To ensure that no regions of the barcode are clipped, you can enable the option "Display error if barcode is clipped" (see section 7.3.4).

7.3.3.3 Resolution

The size mode "Minimal - Optimize for readability" requires the "Resolution" of the printer/scanner to be selected: As value select the lowest resolution, which is used within the chain of barcode processing (printing, scanning). Additionally you have to select the decoding solution from the "Decoder" combo box below. So it can be guaranteed that the printed barcode will be readable for the selected configuration.



Examples:

- If the barcode is printed with 600 dpi and then scanned with a hardware scanner, the resolution should be set to “600 dpi (Good print quality)”. As decoder select “Hardware”.
- If the barcode is printed with 600 dpi, transmitted with a fax device (200 dpi) and then scanned with a hardware scanner, the resolution should be set to “200 dpi (Fax)”. As decoder select “Hardware”.
- If the barcode is printed with a laser printer (600 dpi) and if it is then scanned with a flat bed scanner (150 dpi) and then decoded via software you should select a custom resolution of “150 dpi”. As “decoder” select “Software”.

Value	Description
96 dpi (Screen)	Specifies the default screen resolution.
200 dpi (Fax)	Specifies the default fax resolution.
202 dpi (Thermo transfer)	This resolution is used by thermo transfer printers (e.g. by Zebra® printers).
300 dpi (Poor print quality)	Specifies a low printer resolution.
600 dpi (Good print quality)	Specifies the standard printer resolution.
Custom dpi	Specifies any other resolution. The dpi value can be entered in the input box on the right (see section 7.3.3.4).

Table 12: Resolution

7.3.3.4 Custom Resolution (DPI)

Specifies the custom dpi value for the size mode “Minimal - Optimize for readability” if Resolution is set to “Custom dpi”.

7.3.3.5 Decoder

Specifies, which kind of decoder is used for reading the barcode content (size mode “Minimal - Optimize for readability”).

Value	Description
Both Hardware and Software	Select this option if you do not know which type of barcode decoder will be used. Based on the adjusted resolution (see section 7.3.3.4), TBarCode OCX will automatically choose a barcode size which can be read with both decoder types, Software and Hardware. ▶ If you are unsure about the resolution, we recommend a setting of 200 dpi (?). This should be readable in most cases.
Hardware	Select this option if the barcode is scanned (and decoded) via a scanning device (e.g. handheld scanner). This setting guarantees a minimal module width of 0.254 mm for linear barcodes and 0.5 mm for 2D barcodes.
Software	Select this option if the barcode symbol is received as an image (e.g. via flat bed scanner, camera, fax software, etc.) and decoded via software solution. This setting guarantees a minimal module width of 5 pixels. This value ensures readability by most software decoders.
TBarCode InForm	Select this option if you plan to use the (upcoming) TBarCode software solution for decoding the barcode symbol.

Table 13: Decoder

7.3.4 Display Error if Barcode is clipped

For certain configurations, it is possible that the barcode grows bigger than the bounding rectangle. In this case all bars which extend the size of the bounding rectangle are clipped by default.

To make sure that the barcode does not remain unreadable (because of clipped regions) you can check the option “Display error if barcode is clipped”. This way if the barcode extends the size of the bounding rectangle an error is displayed instead of the bar code. This option may help you to avoid truncated barcodes; incorrect printouts can be detected immediately.



7.4 Property Page “Multiple Barcodes”

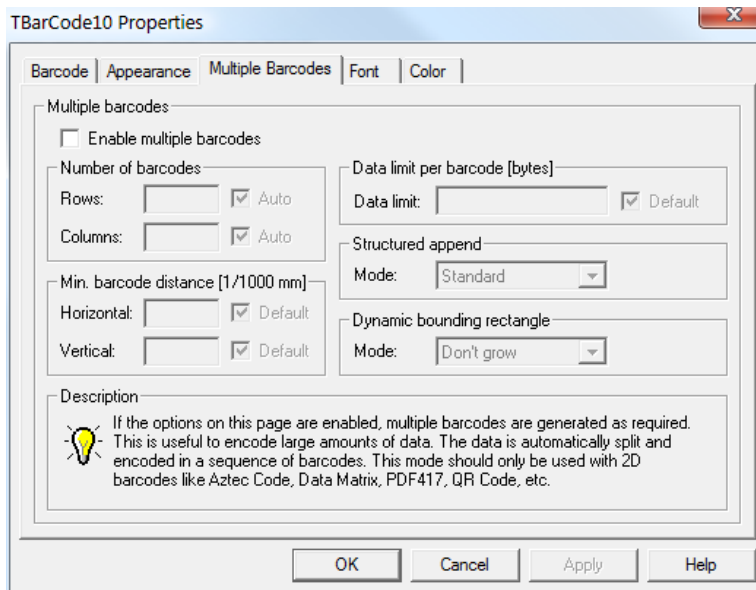


Figure 17: Property Page “Multiple Barcodes”

7.4.1 Enable Multiple Barcodes

- ▶ This option has been disabled in **TBarCode Office**. It is available in the **TBarCode SDK Barcode ActiveX Control**.

Multiple barcodes can be used for encoding large quantities of data. The data will be split up and encoded into multiple barcode symbols automatically.

Multiple barcodes are supported for the following symbologies:

- Aztec Code
- Data Matrix
- MicroPDF417
- PDF417
- PDF417 Truncated
- QR-Code

7.5 Property Page “Font”

In this menu you can adjust the font for the “human readable text”.

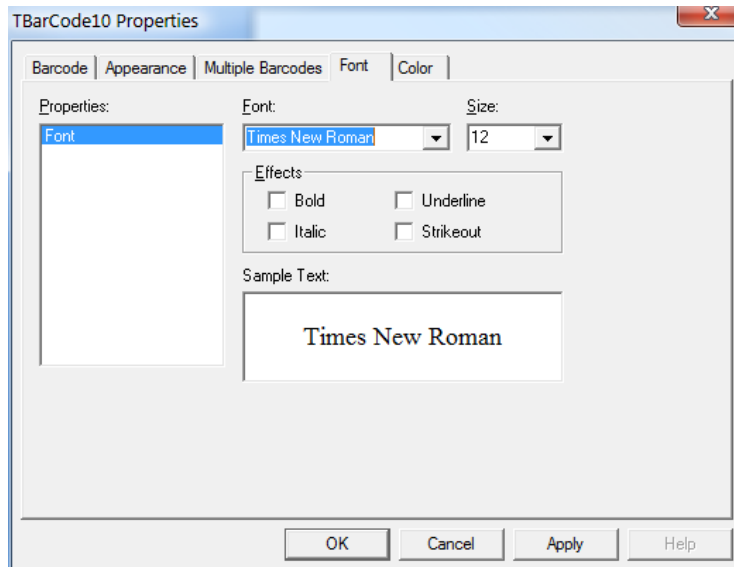


Figure 18: Property Page “Font”

7.5.1 Properties

The entry “Font” is pre-selected.

7.5.2 Font

Selects the font type. The combo box lists all fonts which are available under your operating system.

- ▶ Please consider that some fonts can't be rotated. Therefore, if rotation is required we recommend selecting a TrueType® font.

7.5.3 Size

Specifies the font size in points.

7.5.4 Effects

Applies additional text effects. Please, check the corresponding option to create bold, italic, underlined and/or stroked-out text.

7.5.5 Sample Text

Shows a preview of the selected font.

7.6 Property Page “Color”

The colors of the barcode, of the human readable text and of the background can be set here.

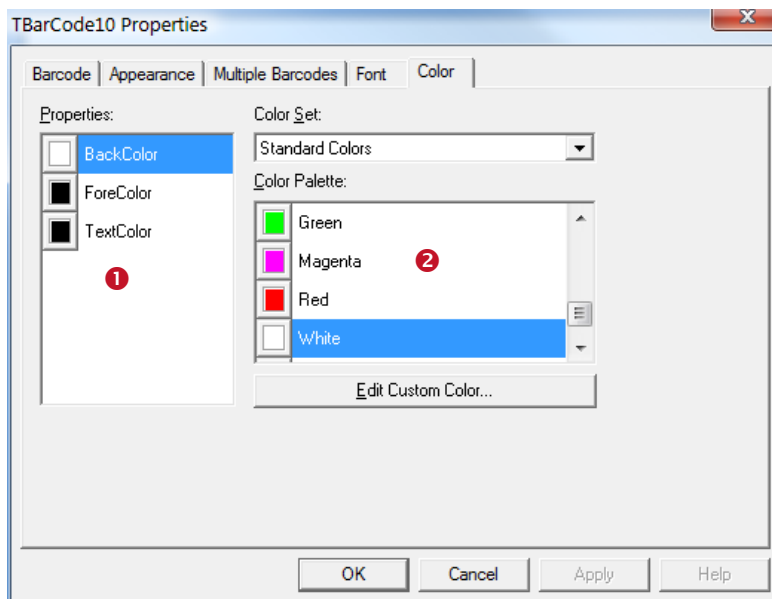


Figure 19: Property Page “Color”

In order to change the color for one of the barcode components (background, foreground, human readable text), you have to select the corresponding property in ❶ first. Then click on the desired color in ❷.

► Please note: The color in ❶ will only be updated when switching between the list entries.

7.6.1 Properties

Select the property that you want to change:

- BackColor
The background color of the barcode (color of the spaces). If the back style is set to “Transparent”, the adjusted background-color will be ignored.
- ForeColor
The foreground color of the barcode (color of the bars).
- TextColor
The color of the human readable text.

7.6.2 Color Set

You can choose between “Standard Colors” and “Windows System Colors”. Each of these color sets offers a different color palette.

7.6.3 Color Palette

Clicking on one of the list entries assigns the color to the selected property.

7.6.4 Edit Custom Color...

Clicking this button opens a dialog which lets you select a color for the list entry <Custom...>. Alternatively you can also double-click on the <Custom...> list entry.

7.7 Adjust...

Depending on the selected barcode type **TBarCode** offers additional barcode specific adjustments. You can access these adjustments by clicking on the *Adjust...* button in the “Barcode” tab. This button is available for Aztec Code, Codablock-F, Data Matrix, MaxiCode, MicroPDF417, PDF417, PDF417 Truncated, QR-Code, Micro QR-Code and all Composite Symbologies.

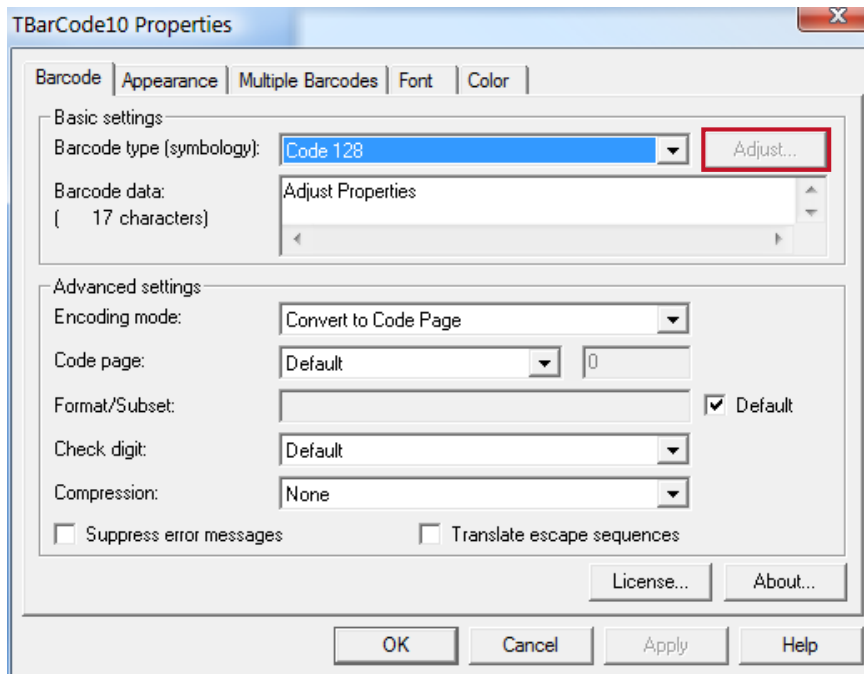


Figure 20: Adjust...

The following sections 7.8 to 7.15 will give an overview over barcode specific properties.

- ▶ Please take care when modifying these properties. Some settings may result in unreadable barcodes. Always make a test scan in case of doubt!

7.8 Adjust Properties: Aztec Code

Aztec Code is a 2-dimensional Matrix Code. Characteristic for the Aztec Code is the finder in the center of the symbol which contains of 3 to 5 lapping squares.

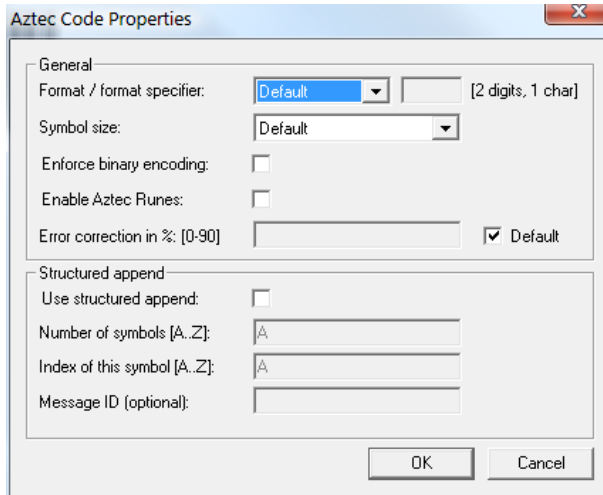


Figure 21: Advanced Properties: Aztec Code

7.8.1 Format / Format Specifier

You can choose from:

Value	Description
Default	The standard format of Aztec Code.
UCC/EAN/GS1	Special format defined by GS1 (UCC/EAN). Used for encoding so-called Application Identifiers. FNC1 is added at first position.
Industry	For special industry formats. If you choose this value, you have to fill in a Format Specifier (2 digits or 1 letter). It determines which industry format the barcode data corresponds to. FNC1 is inserted at second position.

7.8.2 Symbol Size

Defines the size of the Aztec Code symbol. Possible values range from "(1) 15 x 15" to "(33) 151 x 151" modules. If the property is set to default, the size is computed automatically based on the length of the barcode data.

Additionally you can select one of three reader mode: 19x19 reader, 23x23 reader, 27x27 reader. These modes are often used to program the barcode scanners.

7.8.3 Enforce binary encoding

If checked binary mode is used for encoding (no input data analysis). This mode is recommended if you want to encode binary input data.

7.8.4 Enable Aztec Runes

The Aztec Runes mode is a special mode of the Aztec Code. You can encode only values between 0 and 255. Aztec Runes can be displayed in a very compact way and are highly readable due to Reed Solomon error correction.

7.8.5 Error Correction in % [0-90]

Unlike other barcode types the error correction level of an Aztec Code is not described in pre-defined levels but can be specified in percent of the data amount. Default error correction level is 23% (which is recommended), but it may be in the range from 0 up to 90%.

7.8.6 Structured Append

If you want to “connect” several Data Matrix symbols in order to encode larger quantities of data, you can use “Structured Append”.

7.8.6.1 Use structured append

Activates structured append (symbol-chaining) with this option.

7.8.6.2 Number of all symbols [A...Z]

Enter the total number of chained Data Matrix symbols here. A maximum of 26 symbols may be used within one chain, where “A” stands for 1 and “Z” stands for 26.

7.8.6.3 Index of this symbol [1...16]

A symbol identification number – which is entered in the index field – must be assigned to each Data Matrix symbol. Its value can range from “A” (1) to “Z” (26). This index indicates the order in which the data is joined after the reading/scanning process.

7.8.6.4 Message ID

The Message ID has to be the same for all symbols within a chain.



7.9 Adjust Properties: Codablock-F

Codablock-F is a stacked symbology (like PDF417) based upon the Code 128 character set. Each row consists of a Code 128 symbol, but extended with row indicators (row count and sequence number) and an additional check digit.

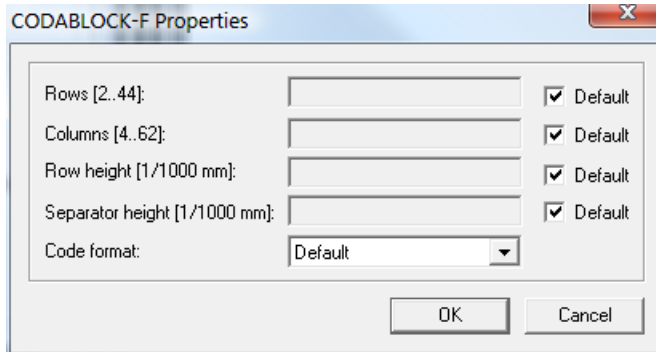


Figure 22: Advanced Properties: Codablock-F

7.9.1 Rows [2..44]

Specifies the number of rows used for encoding. The value must be between 2 and 44. Default: the number of lines is calculated automatically depending on the number of input characters.

7.9.2 Columns [4..62]

Defines the number of columns of the generated bar code. The value must be between 4 and 62. Start-, stop- and line-indicator columns, as well as code subset selectors are not taken into account. Default: the number of columns is calculated automatically depending on the number of input characters.

7.9.3 Row height [1/1000 mm]

Sets the height of an individual row in 1/1000 mm. Default: The row height is calculated automatically.

7.9.4 Separator height [1/1000 mm]

Sets the height of the row separator in 1/1000 mm. Default: The height of the separator is calculated automatically.

7.9.5 Code format

You can choose one of the following formats:

Value	Description
Default	Standard format.
UCC/EAN/GS1	Special format defined by GS1 (UCC/EAN) to be used in GS1 applications. Used for encoding so-called Application Identifiers (AIs). A FNC1 is encoded at first position automatically.

Table 14: Codablock-F Code Formats

7.10 Adjust Properties: Data Matrix

► Please note: **TBarCode** always encodes data using the newest ECC200 error correction method.

In this dialog you can set Data Matrix specific properties.

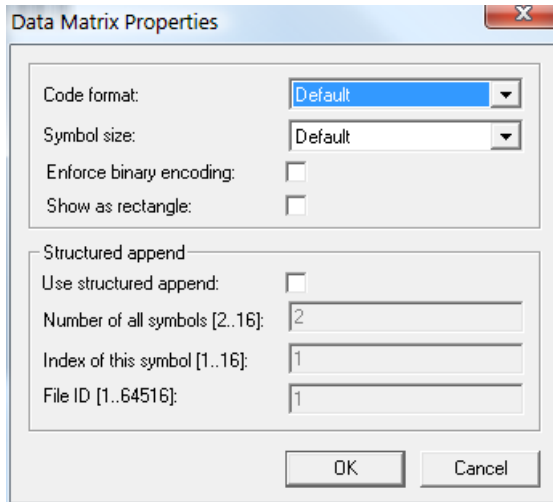


Figure 23: Advanced Properties: Data Matrix

7.10.1 Code Format

Sets the code format which is used for encoding the barcode data.

Value	Description
Default	The standard format of Data Matrix (no special header included).
UCC/EAN/GS1	Special format defined by GS1 (formerly UCC/EAN) for encoding Application Identifiers. This format adds the function character FNC1 at 1st position in the symbol.
Industry	This setting supports peculiar industry formats. It adds FNC1 at 2nd position.
Macro 05	<i>[]>Rs05Gs</i> is encoded at the beginning of the code.
Macro 06	<i>[]>Rs06Gs</i> is encoded at the beginning of the code.
Reader Programming	Special mode used for reader programming.
DP Postmatrix	Adds the additional bars for <i>Deutsche Post Postmatrix</i> code.

Table 15: Data Matrix Code Formats

7.10.2 Symbol Size

Defines the size of the symbol in terms of rows and columns. Possible sizes are "10 x 10" to "144 x 144" modules for a square symbol and "8 x 18" to "16 x 48" for a rectangular symbol. When set to default the minimal square size is used (depending on input data).

7.10.3 Show as Rectangle

Determines if the Data Matrix symbol should be displayed as rectangle (checked) or square (unchecked – default).

7.10.4 Structured Append

If you want to “connect” several Data Matrix symbols in order to encode larger quantities of data, you can use “Structured Append”.

7.10.4.1 Use structured append

Activates structured append (symbol-chaining) with this option.

7.10.4.2 Number of all symbols [2...16]

Enter the total number of chained Data Matrix symbols here. A maximum of 16 symbols may be used within one chain.

7.10.4.3 Index of this symbol [1...16]

A symbol identification number – which is entered in the index field – must be assigned to each Data Matrix symbol. Its value can range from 1 to 16. This index indicates the order in which the data is joined after the reading/scanning process.

7.10.4.4 File-ID [1...64516]

The File ID has to be the same for all symbols within a chain.



7.11 Adjust Properties: MaxiCode

MaxiCode represents data by drawing hexagonal items which are arranged around a circular center (bull's eye). The internal data structure is regulated by different modes. The "Structured Carrier Message" mode was defined by the United Parcel Service UPS®. Data can be encoded with two different error correction levels: SEC (= Standard Error Correction) and EEC (= Enhanced Error Correction).

MaxiCode is very flexible. With structured append you can divide larger quantities of data into several MaxiCode symbols (see also section 7.4, Property Page "Multiple Barcodes") – they are then re-joined by the scanner.

The maximum data capacity of one symbol is 93 characters. The actual quantity of the utilizable data depends on the selected mode, the number of special characters, and whether numeric sequences are used or not (numeric sequences can be encoded using less space than ASCII data). Last but not least the error correction level influences data capacity.

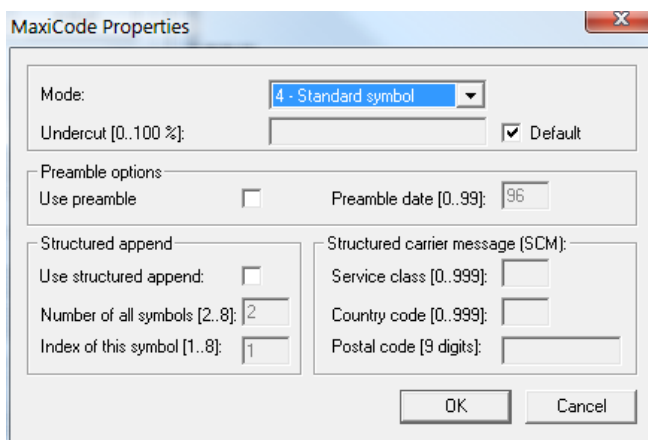


Figure 24: Advanced Properties: MaxiCode

7.11.1 Mode

Selects the mode for the actual symbol. Default: Mode 4.

Value	Description
Default	Is equal to Mode 4
Mode 2	SCM Numeric ► Structured Carrier Message with 9 digits Postal Code (digits only)
Mode 3	SCM Alphanumeric ► Structured Carrier Message with up to 6 characters Postal Code (alphanumeric characters)
Mode 4	No SCM, encoding of numeric and alphanumeric characters (incl. Standard Error Correction)
Mode 5	Full EEC – like mode 4 but with maximum error correction (safer, but less data possible)

Table 16: MaxiCode Compaction Modes

7.11.2 Undercut [0..100 %]

The undercut influences the diameter of the hexagonal barcode elements. In new applications it is recommended (according to the AIM standard) to use an undercut setting of 75% (default).

7.11.3 Preamble Options

Used in particular open system standards. Under "Preamble date" the last two digits of a year can be entered. They are automatically inserted into the data stream in a predefined place. The preamble can also be specified by escape sequences in the "Barcode data" (alias *Text* property). To learn more about this option please refer to the Barcode Reference (see Appendix A).

7.11.3.1 Use Preamble

Enables the preamble mode if checked.

7.11.3.2 Preamble date (0...99)

This is the value of the preamble year to be encoded in the MaxiCode symbol.

7.11.4 Structured Append

Structured append is used for appending multiple MaxiCode symbols to one chain. Therefore some additional header information (total number of barcodes, index) will be included in the barcode symbol.

Using structured append, a large amount of input data which is split up into multiple barcode symbols can be re-joined correctly, even if the barcodes are read in the wrong order.

7.11.4.1 Use structured append

Activate this option if structured append should be activated.

7.11.4.2 Number of all symbols [2...8]

The total number of MaxiCode symbols must be specified in this field.

7.11.4.3 Index of this symbol [1...8]

The symbol identification number (index) can be assigned to each MaxiCode symbol. Its value can range from 1 to 8. The index is used for identifying the correct re-joining order.

7.11.5 Structured Carrier Message (SCM)

MaxiCode was originally developed by UPS® (United Parcel Service). The operating modes 2 and 3 (Structured Carrier Message) provide the additional data-fields *Service Class*, *Country Code* and *Postal Code*.

These fields can also be specified by escape sequences in the "Barcode data" (alias *Text* property). For more information, please refer to the Barcode Reference (see Appendix A).

7.11.5.1 Service class [0...999]

Specifies the service class (used with within the SCM - mode 2 or 3).

7.11.5.2 Country code [0...999]

Specifies the country code (used with within the SCM - mode 2 or 3).

7.11.5.3 Postal code [9 digits]

Specifies the postal-code (used with within the SCM - mode 2 or 3).

- Mode 2: up to 9 digits can be specified.
- Mode 3: up to 6 characters (digits and uppercase letters) can be specified.

7.12 Adjust Properties: PDF417

PDF417 divides data content into graphical rows and columns. It is a so-called “stacked symbology”. This property page allows you to change specific settings for PDF417, PDF417 Truncated and MicroPDF symbologies.

Figure 25: Advanced Properties: PDF417

► Please take care when modifying these properties. Some settings may result in unreadable barcodes. Always make a test scan in case of doubt!

7.12.1 PDF417

These settings apply for all PDF417 based barcodes (PDF417, PDF417 Truncated, and MicroPDF417).

7.12.1.1 Rows [3..90]

Specifies the number of rows of one PDF417 symbol. Values between 3 and 90 are allowed.

Default: the number of lines (rows) is calculated automatically depending on the amount of input data.

7.12.1.2 Row height [1/1000 mm]

Sets the height of an individual row in 1/1000 mm.

Default: the row height is calculated automatically depending on the bounding rectangle and the number of rows.

Some label specifications require a specific ratio between module width and row height. Example: If a ratio of 1:3 is required you might set the module width to 254 and the row height to 762.

7.12.1.3 Columns [1..30]

Defines the number of columns of a PDF417 symbol. Values between 1 and 30 are allowed. The start-, stop- and line-indicator columns (which are fixed parts of the symbol) are not taken into account.

Default: the number of columns is calculated automatically depending on the number of input characters.

▶ You should not set both rows AND columns to a constant value!

7.12.1.4 Error Correction Level

Sets the error correction level. Values between 0 and 8 are allowed.

The error correction level defines the number of code words which are used for error recognition/correction. Each PDF417 barcode contains at least two code words:

Level 0: 2 code words. Level 1: 4 code words. Level 2: 8 code words. And so on: Levels 3 to 7 are using 16, 32, 64, 128 and 256 code words. Level 8 uses 512 code words for error correction.

Value	Description
Default	Depending on the amount of input data the error correction level is set to a value between 2 and 5 automatically.
0	Error recognition only (no error correction is possible). 2 code words are used for calculating a check sum.
1	Error correction. 4 code words are used for error correction information.
2	Error correction. 8 code words are used for error correction information.
:	:
8	Error correction. 512 code words are used for error correction information.

Table 17: PDF417 Error Correction Levels

A higher error correction level adds more redundant information to the symbol. Therefore the symbol will require more space for printing. If the symbol is distorted through surface damage, bad printing quality or dirt the error correction information can help to reconstruct the full information contained in the PDF symbol (reconstruction is done by the scanner).

▶ The error correction algorithm (Reed Solomon) has the following limit for a successful reconstruction of data: $([\text{total number of not decodable characters}] + 2 * [\text{number of read errors}])$ must be smaller than $([\text{number of error correcting code words}] - 2)$.

7.12.1.5 Encoding Mode

Choose the encoding mode of the barcode.

Value	Description
Normal (Default)	Analyzes the input data. Depending on the input data either "text", "numeric" or "binary compaction" mode is used in order to keep the resulting symbol as small as possible.
Binary Compaction	Uses binary mode for encoding (no input data analysis). This mode is recommended if you want to encode binary input data.

7.12.2 MicroPDF417

These settings apply for the MicroPDF417 symbology only.



7.12.2.1 Mode

Specifies how data is encoded when using Micro PDF417. In most cases the “Default” or the “Binary” mode is the best choice. Some decoders may not support all modes listed here. – Please, check with your scanner first.

Value	Description
Normal (Default)	Analyzes the input data. Depending on the input data either “text”, “numeric” or “binary compaction” mode is used in order to keep the resulting symbol as small as possible.
UCC/EAN-128 Emulation	UCC/EAN-128 emulation mode. Transmit]C1 or]L3. Use compaction for Application Identifier (AI) "01" + 14 digits.
Code128 Emulation	Code-128 emulation mode. Transmit]C2 or]L4.
Code128 FNC2 Emulation	Code-128 with FNC2 on first position will be emulated.
Linked UCC/EAN-128	Linked UCC/EAN-128 emulation. Transmit]C1 or]L3. This mode links the MicroPDF symbol with a linear (1D) symbol. The linked symbol may be required for a successful scan. The symbol can be encoded with better compaction when using one of the following orders for Application Identifiers (AIs): <ul style="list-style-type: none"> ▪ date (AI 11, 13, 15 or 17) + lot number (AI 10) + other AIs (optional). ▪ date (AI 11, 13, 15 or 17) + serial number (AI 21) + other AIs (optional). ▪ date (AI 11, 13, 15 or 17) + other AIs (optional). Note: This mode is not used with GS1 Composite Symbology, which uses linked symbols as well.
05 Macro	The preamble [(> RS 0 5 GS precedes the barcode data.
06 Macro	The preamble [(> RS 0 6 GS precedes the barcode data.
CC-A Data Mode	Uses Base-928 compaction and processes input data as byte array.
CC-B Data Mode	Uses binary compaction (Base-900). The barcode data is prefixed with a reserved code word.

Table 18: Micro PDF417 Compaction Modes

7.12.2.2 Version

Specifies the size of the symbol in terms of codeword columns and MicroPDF417 rows.

7.12.3 Macro PDF417 (structured append)

Macro PDF417 is used for connecting multiple PDF417 symbols (PDF417, PDF417 Truncated or MicroPDF417) into one chain. For each symbol of the chain you can specify

- the “Segment Index” of the actual symbol (“Last symbol” specifies, that the actual symbol is the last symbol in the chain),
- the “File ID” (which identifies one chain of symbols),
- optional information:
 - File name
 - Segment count
 - Time stamp
 - Sender
 - Addressee
 - File size
 - Checksum (CCITT-16)



7.13 Adjust Properties: QR-Code / QR-Code 2005

The QR-Code is a 2-dimensional matrix symbology (like Data Matrix). It has a remarkable data capacity of up to 3000 ASCII characters or 7000 digits. The QR-Code symbology was designed to read a lot of data within a minimum of time (QR-Code means Quick Response Code).

QR-Code 2005 is a variant of QR-Code, which supports a default data encoding of Latin-1 instead of Kanji (Japanese character set) and is commonly used in Europe.

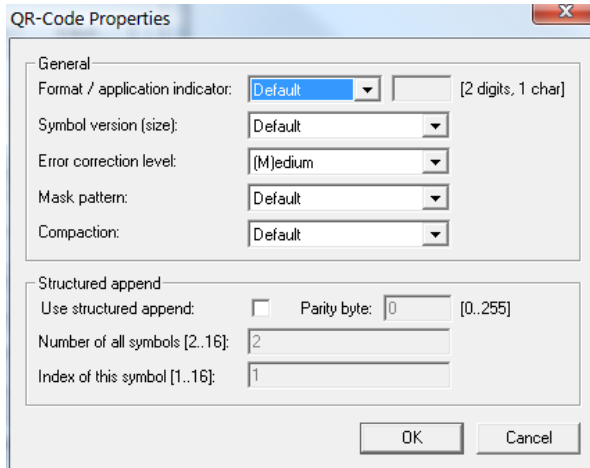


Figure 26: Advanced Properties: QR-Code

7.13.1 Format / Application Indicator

You can choose from:

Value	Description
Default	The standard format of QR-Code.
UCC/EAN/GS1	Special format defined by GS1 (UCC/EAN). Used for encoding so-called Application Identifiers. FNC1 is added at first position.
Industry	For special industry formats. If you choose this value, you have to fill in an Application Indicator (2 digits or 1 letter). It determines which industry format the barcode data corresponds to. FNC1 is inserted at second position.

Table 19: QR-Code Formats

7.13.2 Symbol Version (Size)

Defines the version (= size) of the QR-Code symbol. Possible values range from "(1) 21 x 21" to "(40) 177 x 177" modules. If the property is set to default, the size is computed automatically based on the length of the barcode data.

7.13.3 Error Correction Level

Defines the error correction level.

Value	Description
(L)ow	Lowest level. Data recovery capacity is approximately up to 7%.
(M)edium	Up to 15%
(Q)uartil	Up to 25%
(H)igh	Highest level. Up to 30%

Table 20: QR-Code Error Correction Levels

7.13.4 Mask Pattern

Selects the mask pattern, which is applied to the barcode symbol (XOR masking). The goal of the mask pattern is to distribute the bar-space transitions evenly over the symbol in order to improve the readability of the barcode.

Value	Description
Default	Selects the mask pattern automatically (recommended).
0..7	Selects one of the mask patterns (0 to 7) manually. Manual selection may be useful, if you want to generate many symbols within minimal computation time. The algorithm for identifying the optimal mask automatically is complex (and resource consuming). However, the readability of the barcode may suffer when using manual selection.

Table 21: QR-Code Mask Patterns

7.13.5 Compaction

QR-Code can compact dedicated Multi Byte character sets from 16 bit representation into 13 bit encoding. This property enables the compaction of Kanji or Simplified Chinese characters into 13-bit values.

ActiveX controls are using the Unicode™ character set. Depending on the *Code Page* property, the Unicode input is converted to the corresponding encoding.

If you use one of the available compaction modes, please make sure that the Unicode input is converted to either Shift JIS X 0208 (Kanji) or GB2312 (Simplified Chinese). Also make sure that your decoder (scanner) can deal with these compaction modes.

Value	Description
Default	Default multi byte character compression. Depends on specified <i>Code Page</i> .
None	No multi byte character compression.
Kanji compaction	Enables Kanji character compaction. Input data must be supplied in Multi Byte character set Shift JIS X 0208 (see <i>Code Page</i>). Compaction of Kanji characters is done according to ISO/IEC 18004 (and AIM ITS/97-001) specification.
Chinese compaction	Enables Chinese character compaction. Input data must be supplied in Multi Byte character set GB2312 (see <i>Code Page</i>). Compaction of Chinese characters is done according to GB/T 18284-2000). Please note that this compaction mode is not supported by all decoders.

Table 22: QR-Code Compaction Modes

7.13.6 Structured Append

If you want to connect several QR-Code symbols (for encoding larger quantities of data) you can use structured append.

7.13.6.1 Use Structured Append

Activates structured append (symbol-chaining).

7.13.6.2 Parity Byte [0...255]

Chained QR-Code symbols are identified by the parity byte. The parity byte must be identical in all symbols of a chain.

- ▶ The value of the parity byte depends on the barcode data for the complete chain. To calculate its value you can use the method `QRCode.StructAppParity()` which is available in the ActiveX interface.
For more information about the ActiveX interface and its available methods, please refer to the developer manual (see Appendix A).

7.13.6.3 Number of all Symbols [2...16]

Enter the total number of chained QR-Code symbols here. A maximum of 16 symbols may be used within one chain.

7.13.6.4 Index of this Symbol [1...16]

A symbol identification number – which is entered in the index field – must be assigned to each QR-Code symbol. Its value can range from 1 to 16. This index indicates the order in which the data is joined after the reading/scanning process.



7.14 Adjust Properties: Micro QR-Code

The Micro QR-Code is a small variant of the QR-Code with a reduced number of overhead modules and a restricted range of sizes. The maximum amount of data is 35 numeric, 21 alphanumeric, 15 byte, or 9 Kanji characters (in conjunction with the lowest error correction level).

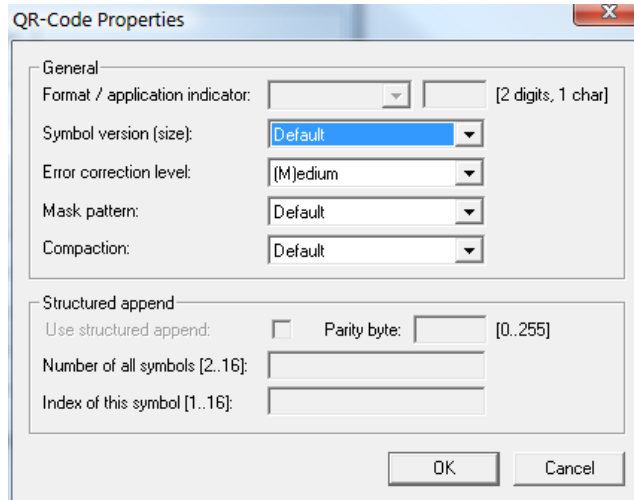


Figure 27: Advanced Properties: Micro QR-Code

7.14.1 Symbol Version (Size)

The Micro QR-Code has four different symbol sizes (M1-M4). The smallest version (=size) M1 is restricted to numeric data and error detection, M2 may contain alphanumeric values, M3 and M4 may use the whole range of the QR-Code character sets (bytes, Kanji).

7.14.2 Error Correction Level

Defines the error correction level – See QR-Code, section 7.13.3.

7.14.3 Mask Pattern

Sets the mask pattern – See QR-Code, section 7.13.4.

Note: The Micro QR-Code has only 4 mask patterns and not 8 like the QR-Code.

7.14.4 Compaction

Defines the compaction mode – See QR-Code, section 7.13.5.

7.15 Adjust Properties: Composite/RSS

In this menu you can adjust the parameters for the *GS1 Composite Symbology*²⁰ and for the *GS1 DataBar Expanded Stacked*²¹ symbology.

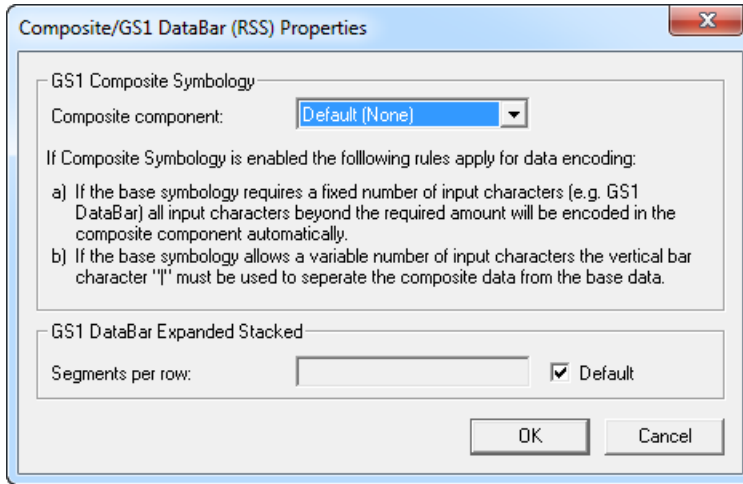


Figure 28: Advanced Properties: Composite/RSS

7.15.1 Composite Component

Sets the 2D composite component in order to generate a GS1 Composite Symbology.

Value	Description
Default (None)	Composite Symbologies are disabled
Auto (CC-A/B/C)	Automatically choose CC-A, CC-B or CC-C type depending on the length of the input data
CC-A	Use composite component A (CC-A). CC-A is a variant of the MicroPDF417 symbology with a unique combination of row address patterns (RAP). It is the smallest variant of the 2-dimensional composite component. Up to 56 characters can be coded (also alphanumeric) with 3 to 12 rows and 4 columns.
CC-B	Use composite component B (CC-B). CC-B is a subset of the MicroPDF417 Symbol which is identified by the code word 920. CC-B will be chosen automatically when CC-A has not enough capacity (in Auto-mode). CC-B encodes up to 338 Characters (alphanumeric) in 3 to 12 rows and 2 to 4 columns.
CC-C	Use composite component C (CC-C). The CC-C structure is a PDF417 Symbol which is identified by the internal code word 920 (920 is the first code word after the symbol length indicator). The CC-C structure can be used as a 2D composite component of a UCC/EAN-128 Composite Symbol. It has the largest data capacity among the composite symbologies. It encodes numbers and alphanumeric characters with up to 2361 characters length in 3 to 30 rows. It uses up to 30 data error checking code columns.

Table 23: Composite Component Format

- ▶ You can add Composite Components to the following symbologies: EAN-8, EAN-13, UPC-E, UPC-A, GS1 DataBar (RSS) family and GS1-128.
- ▶ CC-C is available for GS1/UCC/EAN-128 only!

7.15.1.1 Data Input for the GS1 Composite Symbology

If the composite component is enabled, the data for the 2D composite component has to be separated from the linear component with a vertical bar "|".

Example: 1234567890123|CompositeData

²⁰ Formerly known as EAN.UCC Composite Symbology

²¹ Formerly known as RSS (Reduced Space Symbology) Expanded Stacked

If a symbology has a fixed data length (such as RSS-14) the vertical bar is optional. All remaining characters (after the 14th digit) will be encoded into the 2D component automatically.

7.15.2 Segments per Row

For the RSS Expanded Stacked symbology you can adjust the number of data segments per row. Allowed are even values between 2 and 22. This parameter influences the width to height ratio of the barcode symbol.



8 Licensing

8.1 License Types

Please check out <http://www.tec-it.com/order/Default.aspx> for available license types and pricing.

8.2 Entering your License Data

The license information is entered in the following dialog. To enter the license data, select *License...* from the **TBarCode Office** panel. Usually the software is activated online (see 8.2.1):

- **Online activation is not possible or you prefer manual activation:**
Please get in touch with us if your system has no internet access or if you prefer to use the manual activation for any reason. We will be glad to send you the license data which is suitable for manual licensing (see 8.2.2) without internet access.

8.2.1 Online Activation using an Activation Key

The *online* product activation (❶) is the preferred licensing method if you received an *activation key* from TEC-IT.

The screenshot shows a 'Licensing' dialog box with a title bar and a close button. It features two radio buttons: 'Online' (selected, with a red circle 1) and 'Manual'. The 'Online' section is titled 'Please enter the activation key and your address information:'. It contains an 'Activation Key' field (with a red circle 2 and a placeholder 'XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX'), a 'Company' text box, and three fields for 'Country' (a dropdown menu), 'ZIP', and 'City'. Below these is an 'Email address to send your license information to:' field (with a red circle 3). At the bottom, there are three buttons: 'Privacy...', 'Send', and 'Cancel'.

Figure 29: License Dialog – Online Activation

In the topmost field (❷) you have to enter your activation key. All fields are required. A license certificate is sent to the given *Email address* (❸) automatically.

Confirm by clicking “Send”. A message informs you about the successful activation. In case of problems or errors please get in touch with TEC-IT.

8.2.2 Manual Licensing

Manual licensing is the alternative method for licensing if your system has no Internet connection. Select *Manual* licensing (4) and enter the license data as provided by TEC-IT.

- ▶ **Please enter the license data exactly as you received it from TEC-IT!**
Spacing and upper/lower case letters are to be considered. To avoid typographical errors, please insert the data using “copy and paste” from the email containing your license data whenever possible.
- ▶ **Single licenses**
If you purchased a Single License, you need to provide the so-called “*System ID*” (or *hostname* on LINUX and MAC) of the target computer. You can find the *System ID* (or *hostname*) in the licensing dialog of Barcode Studio (see below).

Figure 30: License Dialog – Manual Licensing

Perform the following steps to enter the license data:

1. On the top of the dialog you find the *System ID*²² (5) of your computer.
2. For field “*Product*” please choose between “TBarCode Office 1D (Linear Codes)” and “TBarCode Office 2D (1D + 2D Codes)”.
3. In the field “*Licensee*” enter the name of the license holder.
4. In field “*Kind of License*”, please select the kind of license that you have purchased. You can choose among:
 - Single
 - Site
 - Enterprise
5. The field “*Number of Licenses*” should be filled with the number of licenses that you purchased.
6. In the field “*Your License-Key*” enter the license key exactly as received from TEC-IT.
7. Confirm the dialog with *OK*.

²² On UNIX, Linux or Mac OS X the hostname of the system is used as System ID (relevant only for Single licenses)

9 Contact and Support Information

TEC-IT Datenverarbeitung GmbH

Address: Hans-Wagner-Str. 6
AT-4400 Steyr
Austria/Europe
Phone: +43 / (0)7252 / 72 72 0
Fax: +43 / (0)7252 / 72 72 0 – 77
Email: <mailto:support@tec-it.com>
Web: <http://www.tec-it.com>

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Appendix A: Related Downloads

A.1 For Software Developers

For software developers the bar code control from the Office Add-In is available as VBA programmable Barcode ActiveX Control (see our product **TBarCode SDK**).

A.2 Barcode Reference

The document "Barcode Reference" provides an overview over supported barcode types and gives additional information on how to use them.

The following issues are discussed:

- Supported Barcode Symbologies
(with detailed information on each barcode type)
- Check Digits
(general information and available check digits methods)
- Print Ratio and Ratio Hints (or Ratio Format)
- Format Strings
- Escape Sequences and Control Characters
- Application Identifiers
- MaxiCode and UPS standards
- And more...

The Barcode Reference is available as separate document on the TEC-IT web-site <http://www.tec-it.com> ► Support ► Knowledge Base.

The direct URL is as follows:

http://www.tec-it.com/download/PDF/Barcode_Reference_EN.pdf.



Appendix B: TBarCode INI-File

For **TBarCode** you can specify an ini-file which allows you to do the following tasks:

- Preset the Draw Mode to “Compatible”
- Apply a Site Lock (OCX only)
- License TBarCode

First create a text file named “*barcode.ini*” and put the file in the same directory where the TBarCode.dll and the TBarCode.ocx are located. This is usually the directory “C:\Program Files\Common Files\TEC-IT\TBarCode\10.0”. Then edit the ini-file.

▶ **Please Note:**
The ini-file is loaded together with the **TBarCode** DLL. All settings which were taken from the ini-file may later be overridden per program code or via the property pages of every single **TBarCode** instance.

B.1 Compatible Draw Mode

In order to use the “Compatible” draw mode as initial setting (draw GDI rectangles instead of the default output method) add the following line to the ini-file:

```
[DRAW MODE]
UseGDIrect=1
```

Possible Options are 1 and 0 (= Compatible draw mode enabled or disabled).

▶ In Word, Excel and other office applications all barcode settings are saved and restored as part of the document files. Therefore the draw mode setting will have no effect when opening an existing document, but only when inserting a new barcode.
However this setting will change the draw mode setting effectively in **TBarCode** applications like **TBarCode for SAP**, **TFORMer**, etc.

B.2 Site Lock (OCX only)

The site lock is provided for security reasons. It only applies to the **TBarCode OCX** when it is scripted within Internet Explorer. With this option you can specify, which sites are allowed to execute “critical” function calls on the control and which are not:

```
[DOMAIN LIST]
Site_Lock=
```

Please refer to the TBarCode OCX Developer Reference (Introduction ▶ Security) for more information.

B.3 License TBarCode

In order to license TBarCode you can paste your license data in the ini-file. If you want to know how to do this, please contact our support (<mailto:support@tec-it.com>).

Appendix C: FAQ

The frequently asked questions are located on our web page

<http://www.tec-it.com/FAQ>

<http://www.tec-it.com/support/faq/tbarcode-office.aspx>

If you do not find the required answers, please feel free to contact our support team:
<mailto:support@tec-it.com>.

