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# User Guide for BarcodeMaker 2D for Adobe InDesign

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# BarcodeMaker 2D

## Create live EPS 2D barcodes directly in InDesign

Thanks for using Teacup Software's BarcodeMaker 2D! 2D barcodes, with their ability to store more information in a smaller space, are becoming more and more common in areas ranging from shipping to advertising. The barcodes offered by BarcodeMaker 2D cover the most common and

versatile standards available. BarcodeMaker 2D builds on top of PatternMaker, a free plug-in that makes it easy to edit the barcodes live in InDesign.

## Quick Start Guide

If you're like us, you want to get up and running as fast as possible. Here's what you do:

1. Install BarcodeMaker 2D alongside PatternMaker (both will install at the same time. See section on Installing Your Teacup Plug-in, below). Note that you need PatternMaker in order to use BarcodeMaker 2D.
2. Launch InDesign, open a document, and select any empty frame or path.
3. If you don't see the PatternMaker palette, select Window > PatternMaker.
4. Verifying that the frame is still selected, choose a 2D barcode from the palette's popup menu and click the Apply Pattern button. Note that all barcodes now appear in this popup menu.
5. Now experiment with the various options in the palette. Each time you make a change, the barcode will update on screen.

## More Information

### WHY DO I NEED PATTERNMAKER?

PatternMaker handles all of the patterns, including barcodes. On startup, BarcodeMaker has twenty different barcodes that are available in the PatternMaker palette. These barcodes are being applied by PatternMaker, but supplied by BarcodeMaker.

### USING BARCODEMAKER 2D

When you load BarcodeMaker 2D with PatternMaker, all the barcodes appear in PatternMaker's dropdown menu. You use the barcodes just like you would any patterns in PatternMaker. See PatternMaker's documentation for more information.

### BARCODES AND COLOR

You can apply CMYK process and spot colors. BarcodeMaker and BarcodeMaker 2D only support CMYK colors currently, not RGB or LAB.

If you unembed a barcode from a document, and the barcode had a spot color applied to it, the spot color will not be

embedded in the EPS, and if a spot color with the same name is not available when printing, then the barcode will separate out to CMYK plates.

## Common Barcode Settings

Here we describe settings that are shared across many barcodes

### BARCODE HEIGHT

The height of a barcode, expressed as a percentage of the original height

### BARCODE COLOR

The color used for the barcode. Currently supports CMYK process and spot colors only.

## BarcodeMaker 2D Catalog

The following section explains what the different parameters for the barcodes included in BarcodeMaker 2D. With all 2D barcodes, any instances of ^NNN in the data field are replaced with their equivalent ASCII value, which is useful for specifying unprintable characters.

### AZTEC CODE

Aztec Code is a 2D matrix-style symbology. It can encode the full 256 character set of extended-ASCII characters.

The data field can contain any extended ASCII data.

- Format – used to select between full, compact and rune format symbol types. If this is left blank, the encoder will choose the most appropriate format to create a symbol of minimal size. Compact mode will encode short data entries more efficiently. Rune format requires that the data being encoded is a numeral corresponding to the rune you want encoded.
- Error Correction Level – (abbreviated “Err. Correct Lvl.”) is used to specify the percentage of error correction to be applied when expanding the data, by default 23.
- Additional Character Error Level – (abbreviated “Add'l Char. Err. Correction) used to specify how many additional error correction characters to apply the data once expanded by the elevel percentage, by default 3.
- Layers – option is used to specify a particular number of layers in which to encode the data. By default, the encoder will create a symbol with the minimal number of layers to encode the given data.
- Initialize Scanner – denotes that the symbol is used for programming the barcode reader.
- Using Bitstreams – denotes that the data field is providing the input as a pre-encoded bitstream suitable for direct low-level encoding.

### DATA MATRIX

Data Matrix can encode the full 256 character extended-ASCII set.

- Encoding – denotes the high-level encoding scheme for the input data, either byte, ascii, edifact, c40, text or x12.
  - text – this option is primarily for lower case alphanumeric characters
  - c40 – this option is primarily for upper case alphanumeric characters
  - ascii – this option encodes alphanumeric ascii characters, and is efficient for both upper and lower case characters.
  - edifact – encodes ASCII characters from 32 to 94. In other words, numerals, upper case characters, and some of the standard symbols.
  - raw – indicates that the data is formatted as pre-encoded codewords in the ^NNN format, where NNN represents a three digit number for the character.
  - byte – permits any extended-ASCII character in the data but may be less compact than other formats for certain types of input..
- Rows and columns – are used to specify the size of the symbol, either square or rectangular. The row is input, followed by a comma, followed by the column. Rows and columns can be one of:
 

Square: 10x10, 12x12, 14x14, 16x16, 18x18, 20x20, 22x22, 24x24, 26x26, 32x32, 36x36, 40x40, 44x44, 48x48, 52x52, 64x64, 72x72, 80x80, 88x88, 96x96, 104x104, 120x120, 132x132, 144x144

Rectangular: 8x18, 8x32, 12x26, 12x36, 16x36, 16x48

If the columns and rows are unspecified, the encoder will default to creating a (non-rectangular) symbol that is the minimum size to represent the given data.
- Raw – if checked, denotes that the data field is providing the input as a pre-encoded codewords in ^NNN format, suitable for direct low-level encoding.

### GSI DATABAR EXPANDED

GSI DataBar Expanded is a variable-length, linear symbology that can be used to encode a number of application identifiers.

The data field must contain a concatenated sequence of application identifiers with their respective data.

For maximal efficiency, if the data contains a number of application identifiers matching any of the specifications below then they should be provided in this given order:

- (01)9...(3103)...
- (01)9...(3202)...
- (01)9...(3203)...
- (01)9...(310x/320x)...(11/13/15/17)...
- (01)9...(310x/320x)...
- (01)9...(392x)...
- (01)9...(393x)...
- (01)...
- Segments – used to specify the maximum number of segments per row. It must be an even number. Exceeding the specified number of segments will result in the generation of a GSI DataBar Expanded Stacked symbol.
- Linkage – If selected, a flag will be added to the barcode to indicate to the scanner that the 2D component is present.
- Ink Spread – When bar codes are printed, different combinations of paper and ink may cause the bars in a barcode to become slightly wider as the ink spreads out on the paper. The ink spread parameter will simply increase or decrease the width of every bar in the bar code by the given amount. The default amount is - .15 points.

## GSI DATABAR STACKED

GSI DataBar Stacked and Stacked Omnidirectional are fixed-length, stacked linear symbologies that can be used to encode a 14 digit GTIN.

The data field must start with the application identifier characters (01) followed by the first 13 or 14 digits of a GTIN.

If 13 digits of AI (01) data are supplied then the 14th checkdigit is calculated automatically, otherwise the digits are encoded as supplied.

- Format – used to select the output format for the barcode symbol

- stacked - GSI DataBar Stacked
- stackedomni - GSI DataBar Stacked Omnidirectional
- Ink Spread – When bar codes are printed, different combinations of paper and ink may cause the bars in a barcode to become slightly wider as the ink spreads out on the paper. The ink spread parameter will simply increase or decrease the width of every bar in the bar code by the given amount. The default amount is - .15 points.

## MAXICODE

The MaxiCode symbology is 2D barcode based on a hexagonal matrix surrounding a bulls eye pattern. It can encode a structured carrier message and full 256 character extended-ASCII.

- Mode – is used to specify which how the data is structured in the symbol, either 2, 3, 4, 5 or 6:
  - mode 2 - Formatted data containing a Structured Carrier Message with a numeric (US domestic) postal code
  - mode 3 - Formatted data containing a Structured Carrier Message with an alphanumeric (international) postal code
  - mode 4 - Unstructured data using standard error correction
  - mode 5 - Unstructured data using enhanced error correction
  - mode 6 - Barcode reader programming

If the mode is unspecified, BarcodeMaker will default to selecting mode 5 if the encoded length of the input data permits enhanced error correction, otherwise it will select mode 4 which provides standard error correction.

In modes 4, 5 and 6 the data field may contain any extended ASCII data.

In modes 2 and 3 the data field must begin with a properly structured carrier message, followed by any extended ASCII data.

The structured carrier message contains a postal code, 3 digit class of service and a 3 digit ISO country code separated by {GS} (ASCII 29) characters. It is formatted in the data field as follows: [postal code]^029[country code]^029[service class]^029. In mode 2 the postcode must be numeric, while in

mode 3 the postcode may contain up to six numbers, uppercase letters and spaces.

Here's an example of that kind of message:

```
152382802^029840^029001^0291Z000049
51^029UPSN^02906X610^029159^02912
34567^0291/1^029^029Y^029634 ALPHA
DR^029PITTSBURGH^029PA^029^004
```

Alternatively, messages may begin with the special application field identifier [^]>{RS}01{GS}yy where "{RS}" represents ASCII value 30, "{GS}" represents ASCII value 29, and "yy" is a two digit year. This is represented as "[^]>^03001^02999". In modes 2 and 3 this must be immediately followed by the structured carrier message.

Here's an example of that kind of message:

```
[^]>03001^02999152382802^029840^02900
1^0291Z00004951^029UPSN^02906X610^02
9159^0291234567^0291/1^029^029Y^029634
ALPHA DR^029PITTSBURGH^029PA^029^004
```

## PDF417

The PDF417 symbology is 2D stacked-linear barcode. It can encode full 256 character extended-ASCII.

The data field can contain any extended ASCII data.

- Using Codewords – denotes that the data field is providing the input as a pre-encoded codewords in ^NNN format, suitable for direct low-level encoding.
- Error Correction Level – (abbreviated "Err. Correct Lvl.") is used to specify the error correction level, from 1 to 5. If left blank, BarcodeMaker 2D will choose a standard level of error correction that is determined by the encoded data length.
- Columns – specifies the number of columns (or groups of bars) in the output symbol, from 1 to 30. This option is required.
- Rows – specifies the minimum number of rows in the symbol, from 3 to 90. If this is left blank, BarcodeMaker 2D will select a number that creates a symbol that is the minimum size to represent the given data.
- Compact – used to create a compact/truncated PDF417 symbol that has fewer bars per row than a standard symbol and hence is more narrow.

## QR CODE

QR Code can encode full 256 character extended-ASCII.

- Format – used to select between full and micro format symbol types. Note that currently, micro format requires the "Using bitstreams" option to be turned on, and the data to be bitstream encoded. ASCII data cannot currently be encoded in micro format by BarcodeMaker 2D.
- Version – used to specify the size of the symbol, 1 to 40 for full format symbols or M1, M2, M3 or M4 of micro format symbols.

If unspecified, the encoder will select the version of the symbol that is the minimum size to represent the given data.

- Using bitstreams – denotes that the data field is providing the input as a pre-encoded bitstream suitable for direct low-level encoding.
- Error Correction Level – (abbreviated "Err. Correct Lvl.") is used to specify the error correction level, either L, M, Q or H. The default is M.

## Installing Your Teacup Plug-in

In order for InDesign to load a plug-in, it has to be in the “Plug-Ins” directory wherever you have InDesign installed. You can put a plug-in anywhere underneath that directory, and InDesign will load it.

To install your Teacup plug-in, simply launch the installer. It will place the plug-ins into your InDesign “Plug-ins” directory, along with any support files.

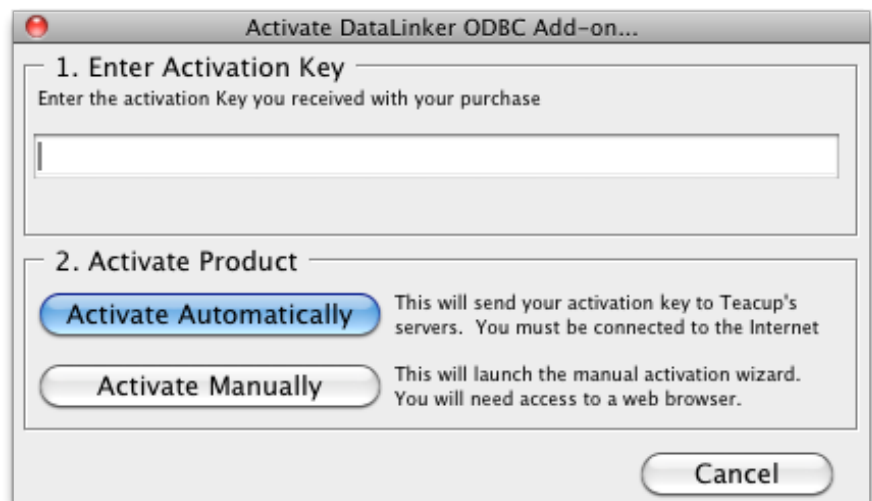
## Activating Your Teacup Plug-In

When you purchase a Teacup plug-in, you are sent a serial number that you then use to activate the demo version to be the full working version.!

Please note that you must be logged in as an administrator to activate or purchase the plug-in.

### ACTIVATING USING THE INTERNET

1. There are two ways to start the activation process
  - From the plug-in’s splash screen, you can press the “Activate” button
  - From the Help > About Plug-Ins menu (Win) or InDesign > About Plug-Ins menu (Mac), select Teacup > [plug-in name] > Activate
2. A dialog will appear that has two sections to it. In the first section, you enter your activation key. In the second step, you click “Activate Automatically.” This will connect with Teacup’s servers, check if the serial number is valid, and if it is, will unlock the plug-in.
3. When you’re finished activating, click the “Done” button to dismiss the dialog.



### ACTIVATING MANUALLY

Some networks have firewalls or proxies that don’t allow the plug-in to activate with Teacup’s servers. To get around this, we offer a manual activation process. To activate manually, click the “Activate Manually” button, and a wizard will launch to allow you to manually activate. The wizard will guide you through the process.



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