

AcroTeX.Net

Creating QR Codes
The qrcstamps package

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1. Introduction

The difficulty with the barcode field of PDF forms is that it cannot be created properly except through the user-interface of the Acrobat application. An alternative method is therefore necessary.

The idea of using dynamic stamp annotations to represent barcodes comes from Thom Parker through personal communication, through [his article on AcrobatUser.com](#), and from his book *All About PDF Stamps In Acrobat® & Paperless Workflows*, which is highly recommended if you have interest in dynamic stamps.



The qrcstamps package is used to insert QR Code Symbology onto a dynamic stamp annotation, à la Parker, into a PDF file from a L^AT_EX source. The main command for doing this is `\qrCode`. The command creates a dynamic stamp annotation (a PDF construct) using the `annot_pro` package whose appearance is the QR Code symbol. The QR Code can be scanned over a monitor or from a printed page using a scanning app found on most smartphones. As a demonstration of the `\qrCode` command, we place a QR Code in the margin to obtain the url <http://www.acrotex.net>.

2. Requirements and Installation

Required packages. It is assumed the document author already has installed AeB (acrotex) and the `annot_pro`. If not, these should be in place first.

Document creation. This package requires a workflow of `dvips` + Adobe Distiller + Adobe Acrobat or `dvips` + `ps2pdf` + Adobe Acrobat to produce a document in which the QR symbols are inserted as designed. Note that though `ps2pdf` can be used to produce the PDF, it is necessary to first open the document using Acrobat, then save it. This is because post-PDF-creation JavaScript executes the first time the document is opened in Acrobat.

Viewing the document. Once the document is built and saved, the document can be distributed to others who can view it in any conforming PDF viewer.

Installing the QR stamps. After the distribution is installed, locate `qrc-stamps.pdf` at the end of the path `qrcstamps\stamps\qrc-stamps.pdf` and copy it to the Acrobat user's Stamps folder. That folder may be found by executing

```
app.getPath("user", "stamps");
```

in the console window. Press the button above, place your mouse cursor at the end of the line in the console window, and press `Ctrl+Enter` (`Cmd+Enter` for Mac OS). The executing code should return the path to the Stamps folder. This is where the stamp file `qrc-stamps.pdf` is copied.

3. The qrcstamps package

This package has two options and one command.

3.1. Package options

There are two options for this package.

`scandoc` The correct coding of the QR symbol does not occur until the page that contains the symbol is visited. When the `scandoc` option is taken, Acrobat will automatically visit each page when the document is first opened following PDF creating with Acrobat Distiller or `ps2pdf`.

`!scandoc` The document may be built many times before you are satisfied as to its content. The `!scandoc` option is a convenience option for turning off the scanning process. The default is not to scan. However, when the document is ready for publishing, build the document with the `scandoc` option in effect; *this is important!*

3.2. The `\qrCode` command

The one and only command of this package is `\qrCode`.

```
\qrCode[options]{content}
```

The required `<content>` argument is the content of the stamp, a URL, a email address, text, and so on. The `\qrCode` command uses the `\annotpro` command to create the stamp. Any of the options for the stamp annotation may be used (except for `type=stamp`, which is already supplied for you); refer to the documentation of `aeb_pro` for details. In addition to the `<options>`, these are a few special options, these are `size`, `allowresize`, `basename`, and `contents`.

`size=small|medium|large` The stamps come in three sizes. We describe each of these in turn.

- | | |
|---------------------------------|---|
| 75 chars max
1 in (dimen) | <ul style="list-style-type: none"> • <code>size=small</code>: The QR symbol is allowed to contain at most 75 characters. The default size of the barcode is <code>1in</code>, though this can be changed using the key <code>widthTo</code>; for example, <code>widthTo=0.75in</code> sets the symbol to <code>0.75in</code> square. When making the symbol smaller than its default, you should test the symbol to see if your scanner (perhaps on your smartphone) can read the smaller symbology. |
| 250 chars max
1.5 in (dimen) | <ul style="list-style-type: none"> • <code>size=medium</code>: The QR symbol is allowed to contain at most 250 characters. The default size of the barcode is <code>1.5in</code>, though this can be changed using the key <code>widthTo</code>, as illustrated above. |
| 500 chars max
2 in (dimen) | <ul style="list-style-type: none"> • <code>size=large</code>: The QR symbol is allowed to contain at most 500 characters. The default size of the barcode is <code>2in</code>, though this can be changed using the key <code>widthTo</code>, as illustrated above. |

When your `<content>` exceeds the size, the console window opens informing you of such a matter. For example, your content has 300 characters yet you are inserting it into `\qrCode[size=medium]{<content>}`. In such a situation, you'll be informed at the time you build the document of the error.

When you change the dimension of a barcode stamp to one that is *smaller* than the default dimension, be sure to test the smaller QR symbol to be sure it can still be read by a QR Code scanner, on the screen and on paper.

When `size` is not specified, it is assumed that `size=small,widthTo=1in`.

`allowresize=true|false` When `allowresize=true` (or just `allowresize`), after the document has been build, the document consumer is allowed to resize the barcode or to move it around on the page. The default is `allowresize=false`, the user cannot move or resize the stamp.

`contents={text}` For barcodes, I prefer my stamps to have no popup message attached to it; however, I include the `contents` key to pass a text message. For example,



```
\qrCode[contents={This is my home website, go there,
  everyone does!\n\n
  D. P. Story}]{http://www.acrotex.net}
```

Notice the use of `\n` to force a new line. The result are shown in the margin.

3.3. Examples of QR Code symbols

We present several examples of various sizes and content. Other examples are found in the sample file `qrc-demo1.tex`.

A URL to a web page



```
\qrCode{http://www.acrotex.net}
```

No `size` key is given, so this is a small, a maximum of 75 characters, its dimension is 1in.

An email address



```
\qrCode[size=small,widthTo=.75in]{mailto:dpstory@acrotex.net}
```

The `size` key is explicitly set to `small` (optional), a maximum of 75 characters, its dimension is 0.75in.

In addition to `qrc-demo1.tex`, there are two ‘advanced’ files `qrc-demo2.tex` and `qrc-demo3.tex`, which I’m sure you’ll enjoy.

4. My retirement

Now, I simply must get back to it. ~~DS~~