Datamatrix – 2D barcode

Datamatrix symbols are made up of square modules arranged within a perimeter finder pattern. It can encode up to 3,116 characters from the entire ASCII character set (with extensions). The symbol consists of data regions which contain square modules set out in a regular array. Large symbols contain several regions. Each data region is delimited by a finder pattern, and this is surrounded on all four sides by a quiet zone border (margin).

There are a number of parameters you will want to set when creating a datamatrix code. Outlined below is an example of datamatrix code creation implemented in VB.

```
AdBarcode1.Xunit = 9
AdBarcode1.Mode = 0
AdBarcode1.HeightToWidth = 4
AdBarcode1.PictureHeight = 4
AdBarcode1.PictureWidth = 4
AdBarcode1.FixSize = False
AdBarcode1.LineReduce = 0
AdBarcode1.SecurityLevel = 1
AdBarcode1.Caption = "Some data"
```

The first parameter we are setting here is Xunit. Xunit defines the size of the narrowest element (mil). Next we define the mode. The mode can be set to either 0 or 1. Zero being a square and one being a rectangle. It is highly recommended that this be set to 0 (square). Square codes are far more easily scanned then rectangular codes. The next four parameters we set control the codes dimensions. HeightToWdith specifies the height to width ratio of the code, PictureHeight and PictureWidth define the acutal dimensions after creation and FixSize is used to control the codes ability to grow. FixSize should be set to False to avoid any issues that may arise from creating a code that contains a large amount of information. LineReduce specifies the percentage reduction in bar thickness. This is useful for allowing ink spread in wet-ink printing processes and as such is recommended that this be set to 0. Error correction is controlled by the SecurityLevel parameter. Much like with PDF417 a certain amount of error correction is useful with datamatrix codes. Finally we set the Caption. The caption contains the actual data we want encoded in the bar code.

Examples:

Badge 1	Badge 2
Data encoded: 10001002 Christopher Hannigan Technical Services AET 1150 E. Stanford Ct Anaheim, CA 92805 USA 8004909941 7147127351 channigan@expobadge.com	**Data encoded:** 10001002 Jimmy Vu Technical Services AET 1150 E. Stanford Ct Anaheim, CA 92805 USA 8004909941 7147127351 jvu@expobadge.com