Introduction

A Data Matrix code is a two-dimensional matrix barcode consisting of black and white "cells" or modules arranged in either a square or rectangular pattern. The information to be encoded can be text or raw data. Usual data size is from a few bytes up to 2 kilobytes. The length of the encoded data depends on the symbol dimension used. Error correction codes are added to increase symbol strength: even if they are partially damaged, they can still be read. A Data Matrix symbol can store up to 2,335 alphanumeric characters.

DATAMARIX COMMAND

The DATAMARIX command prints a data matrix barcode with the data and other parameters passed as described below.

Format:

{command} {type} {x} {y} [H n] [S n] [C n] [R n] [F n]

 {data}

<ENDDATAMATRIX>

where:

{command}: BARCODE or B – Prints bar code

{type}: DATAMATRIX

{x}: Horizontal starting position

{y}: Vertical starting position

Parameter	Value
[H n] = dimensional height	Accepted Values for n: 1 to the width of the label The individual elements are square — this parameter specifies both module and row height.
[S n] = quality level	Accepted Values for n: 0, 50, 80, 100, 140, 200 Default Value: 0 Quality refers to the amount of data that is added to the symbol for error correction. The AIM specification refers to it as the ECC value. ECC 50, ECC 80, ECC 100, and ECC 140 use convolution encoding; ECC 200 uses Reed-Solomon encoding. For new applications, ECC 200 is recommended. ECC 000-140 should be used only in closed applications where a single party controls both the production and reading of the symbols and is responsible for overall system performance.

[C n] = columns to encode	Accepted Values for n: 9 to 49 Odd values only for quality 0 to 140 (10 to 144); even values only for quality 200. Odd values only for quality 0 to 140 (10 to 144); even values only for quality 200. The number of rows and columns in the symbol is automatically determined. You might want to force the number of rows and columns to a larger value to achieve uniform symbol size. In the current implementation, quality 0 to 140 symbols are square, so the larger of the rows or columns supplied are used to force a symbol to that size. If you attempt to force the data into too small of a symbol, no symbol is printed. If a value greater than 49 is entered, the rows or columns value is set to zero and the size is determined normally. If an even value is entered, it generates INVALID-P (invalid parameter). If a value less than 9 but not 0, or if the data is too large for the forced size, no symbol prints.
[R n] = rows to encode	Accepted Values for n: 9 to 49 Odd values only for quality 0 to 140 (10 to 144); even values only for quality 200. Odd values only for quality 0 to 140 (10 to 144); even values only for quality 200. The number of rows and columns in the symbol is automatically determined. You might want to force the number of rows and columns to a larger value to achieve uniform symbol size. In the current implementation, quality 0 to 140 symbols are square, so the larger of the rows or columns supplied are used to force a symbol to that size. If you attempt to force the data into too small of a symbol, no symbol is printed. If a value greater than 49 is entered, the rows or columns value is set to zero and the size is determined normally. If an even value is entered, it generates INVALID-P (invalid parameter). If a value less than 9 but not 0, or if the data is too large for the forced size, no symbol prints.
[F n] = format ID (0 to 6) - not used with quality set at 200	Accepted Values for n: 1 = field data is numeric + space (0..9,") – No \&'' 2 = field data is uppercase alphanumeric + space (A...Z,'') – No \&'' 3 = field data is uppercase alphanumeric + space, period, comma, dash, and slash (0...9, A...Z, ".-/") 4 = field data is upper-case alphanumeric + space (0...9, A...Z,'') – no \&'' 5 = field data is full 128 ASCII 7-bit set 6 = field data is full 256 ISO 8-bit set Default Value: 6

{data}: Data Matrix barcode data

<ENDDATAMATRIX>: Terminates Data Matrix barcode.

Data Matrix Examples

Input	Output
! 0 200 200 400 1 JOURNAL B DATAMATRIX 20 40 S 200 0123456789ABCD ENDDATAMATRIX PRINT	
! 0 200 200 600 1 JOURNAL B DATAMATRIX 20 40 H 10 S 200 ZEBRA TECHNOLOGIES CORPORATION 333 CORPORATE WOODS PARKWAY VERNON HILLS, IL 60061-3109 ENDDATAMATRIX PRINT	