



Maple Enterprises Incorporated

INTERNAL STANDARDS OFFICE

FORM 181025

Breaking from standard usage, as is computer science tradition, we take "bit" to refer to a singular dot, which may be one of **five** values.

orientation

MapleTrix™ matrix codes are uniquely orientable to ensure unambiguous data reading when rotated or reflected. Codes are surrounded by a near-complete black hexagonal border, with a third of a segment instead in white. This third segment denotes the beginning of the data. Data is read downwards in a spiral, counterclockwise. Rings are read sequentially based on their distance from the centre.

encoding






MapleTrix™ matrix codes are composed of three parts: a thin external hexagonal border, a thick internal hexagonal border, and dots ("**bits**") of the colours white, red, green, blue, and black. When used as data, these colours represent the numbers 0 through 4 respectively.

aesthetic bits

The internal hexagonal border of a MapleTrix™ matrix code separates out the **aesthetic bits** from the data of the code. These bits are read counterclockwise, starting from the bit closest to the first bit of data, and exclude the centre bit. In a more reasonable code or more difficult challenge, these would function as error-correcting bits.

modes

The following values are recognized for the centre bit:

-  white: Numerical mode. Bits are read individually and should be interpreted as an integer base 5. This should then be interpreted as raw bytes.
-  red: ASCII mode. Bits are read in groups of three and should be interpreted as a big-endian representation of a hundred and twenty-five of the hundred and twenty-eight ASCII characters, lacking ENQUIRY, ACKNOWLEDGE, and BELL.
-  green: Unicode mode. Bits are read identically to numerical mode. The resulting bytes are then interpreted as in standard Unicode representation.
-  blue: English mode. Bits are read in pairs of two and should be interpreted as a big-endian representation of twenty-five of the twenty-six characters of the English alphabet in alphabetical order, without the letter "e".
-  black: Really Shitty Image (RSI) mode. Bits should be interpreted as their colour. Bits should be displayed in an inverted isosceles triangle, with the outermost layer forming and displayed in an inverted isosceles triangle.

centre bit

MapleTrix™ matrix codes have support for multiple methods of encoding information. This is determined by the **centre bit**, located equidistant from all five corners of the hexagonal border.

The centre bit is designed to be locatable regardless of skew, size, or reflection. For the different values of the centre bit, see **Modes**.

