

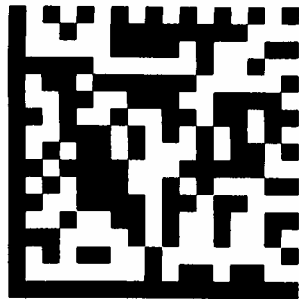


Bar Codes 101

Introduction to Data Matrix

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Symbology profile



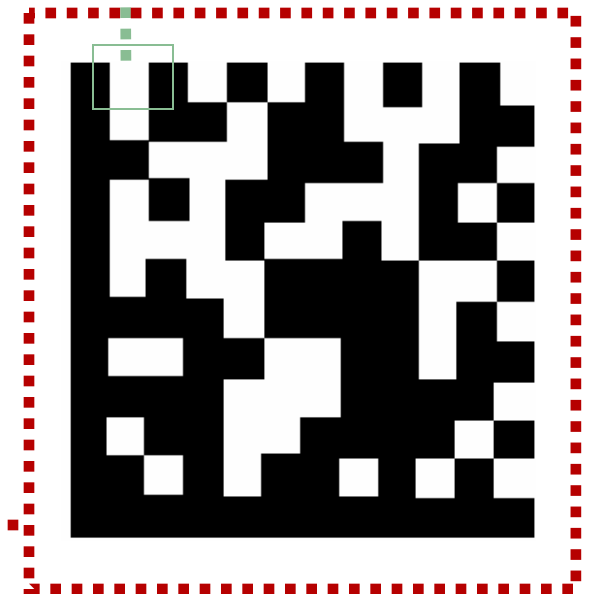
- Introduced in 1995
- AIM standard released in 1996

- Quiet zone required around perimeter
- The border is composed of 2 sides forming an “L” pattern and 2 sides alternating light and dark elements
- The border is known as the finder pattern and used for determining size, orientation, and symbol distortion
- Symbol sizes range from 10x10 to 144x144
- Maximum size capacity: 2,335 alphanumeric, 3116 numerical, or 1556 bytes

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Symbol structure

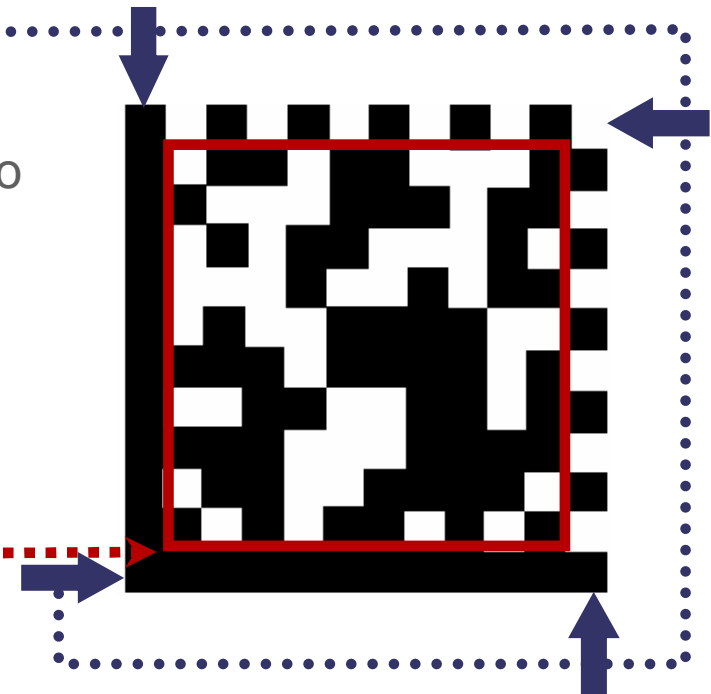
- Element (module)
 - Square shaped cell that encodes one bit of binary data
 - = Binary "0"
 - = Binary "1"
 - Consistent size throughout code
 - Dependent on finder pattern color
- Quiet zone
 - AIM specification calls for a minimum of one element width (1x) on each side of the symbol



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Symbol structure continued

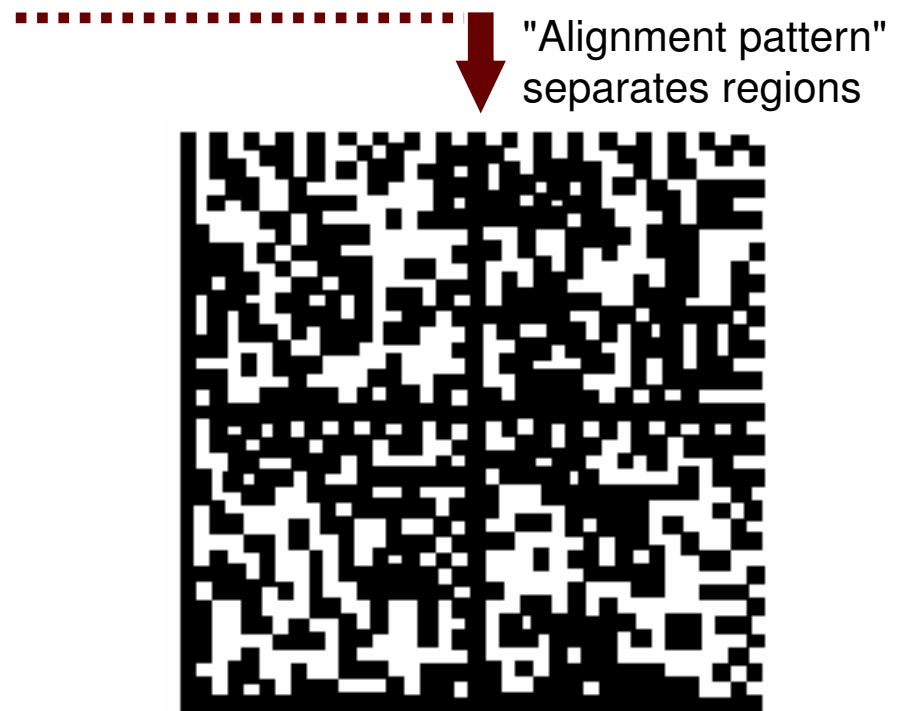
- Structure Finder Pattern
 - The outermost rows and columns
 - Composed of two solid lines and two alternating dark/light lines
 - Used to define physical size, orientation, distortion and the number of rows and columns
- Data Region
 - The area inside the finder pattern
 - Contains data and error correction code words



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Symbol data regions

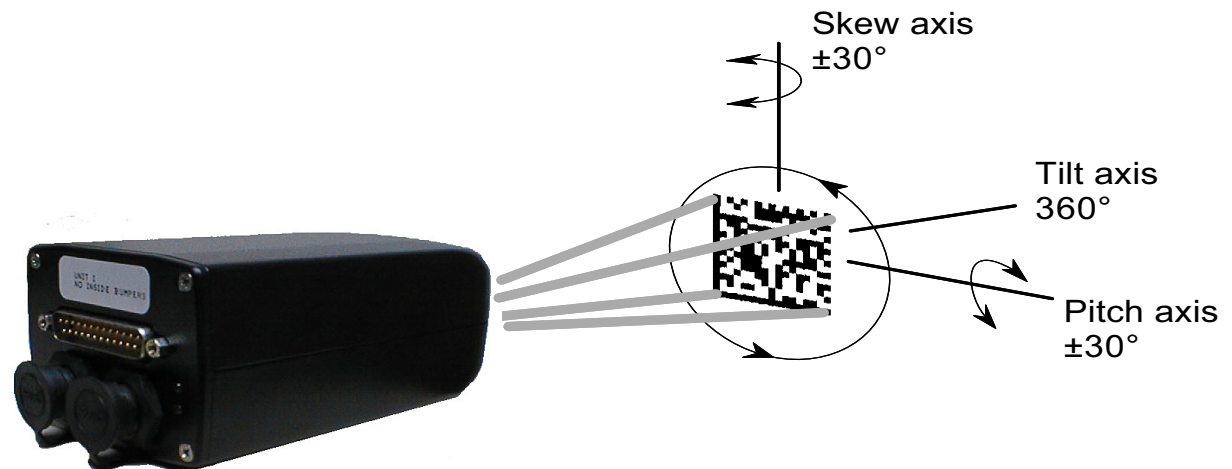
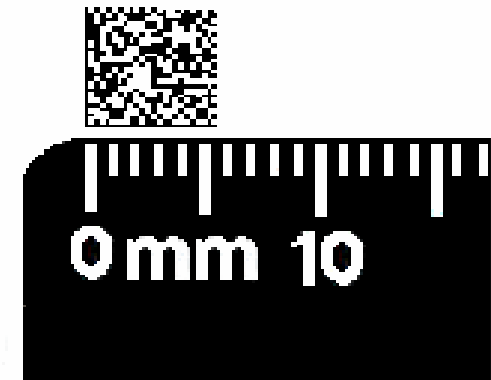
- Symbol can have multiple data regions
 - Maximum capacity for a single data region
 - 88 numeric
 - 64 alpha/numeric
- Symbol shape can be square or rectangular
 - Rectangular shape applicable only to ECC 200



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Additional features

- Symbol density
 - Encodes 50 characters in 6mm x 6mm square
- Symbol versatility
 - Readable in 360° with 2D CCD technology





More information

- If you have questions regarding this topic, send us an e-mail to training@microscan.com
- If you would like further information about bar code symbologies, we recommend you view Intro to PDF417 or Intro to Linear Bar Codes