

Bar Codes 101

Guidelines for Creating Good Bar Codes

Selecting the bar code

- Select a bar code symbol within the public domain
- Select a symbol appropriate for your industry and application
- Follow the symbology's specifications
- Always enable the check digit or take advantage of error correction if the symbology offers it

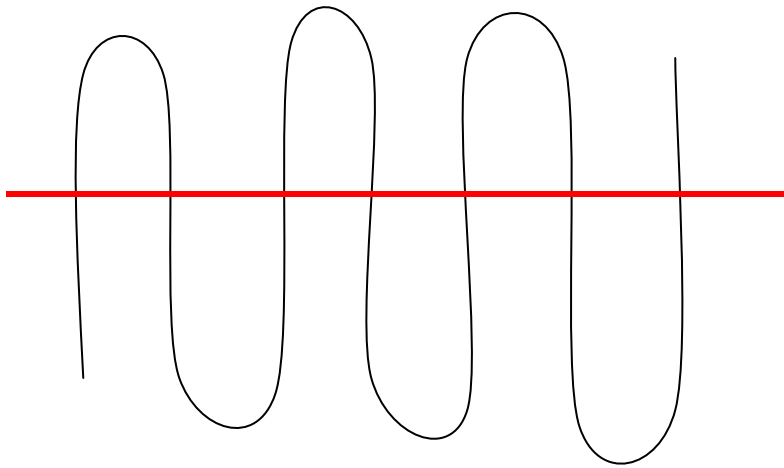
Code types

- Popular linear bar code symbologies in the public domain:

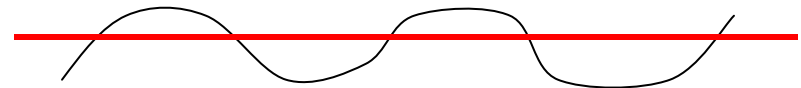
Symbology	Continuous/ Discrete	Check Characters	Data	Key Benefits
Code 39	Discrete	- Optional - Module 43	- Alpha Numeric - Numeric	- Good Security - Widely Used
Code 128	Continuous	- Mandatory - Module 103	- Alpha Numeric - Numeric	- Good Density - Good Security
UPC/EAN	Discrete	- Mandatory	- Numeric	- World-wide Standard for Point- of-Sale
Interleaved 2 of 5	Continuous	- Optional - Module 10	- Numeric	- Good Density

Contrast

- Good contrast ensures the scanner will be able to differentiate between the bars and spaces of a bar code and filter out noise. Good contrast increases ability to read at longer distances.



Laser signal produced by good contrast



Laser signal produced by poor contrast

Narrow bar

- Select the largest narrow bar size possible when designing your bar code



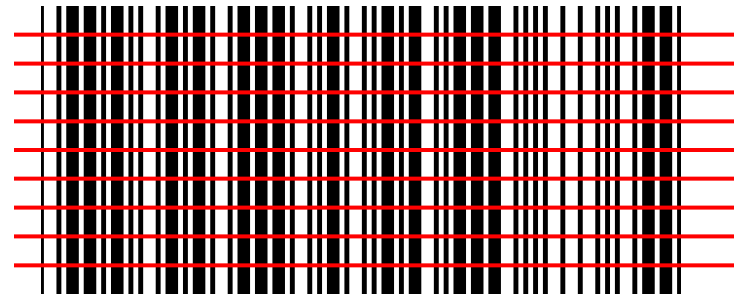
- Narrow Bar
 - Used as a reference for determining the size scale of the bar code
 - The nominal dimension of the smallest bars and spaces in a bar code symbol

Bar height

- Bar height gives the application redundancy by providing more area for the bar code reader to scan



Bar Code A

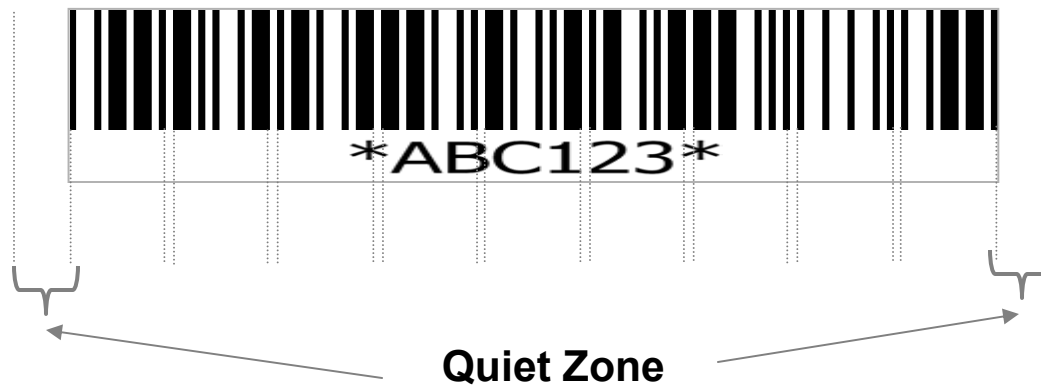


Bar Code B

- The scanner gets several more looks at bar code B, than bar code A, ensuring a good read. It also provides a safe-guard against bar code damage.

Quiet zone

- Avoid quiet zone violations. If text or other marks bleed into this zone, the scanner won't be able to read the bar code.



- Quiet Zone
 - The “no print” zone at each end of the bar code. As a general rule, this space should be a minimum of 10 times the width of the narrow bar in the bar code.

Summary

- Successful applications all start with a good bar code. Following these guidelines will ensure your success.
- Select the appropriate bar code
- Produce best contrast possible
- Use the largest narrow bar width possible
- Maximize bar height
- Avoid quiet zone violations

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 Linear Bar Codes**