



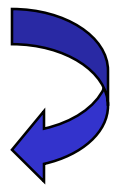
What to Consider...



Which Scanner To Choose & What To Consider:

Based on 3 basic criteria

- Size
- Speed
- Reading Distance



Bar Code Label Orientation

Stationary



No Movement

“Ladder” Orientation
(Bars parallel to direction of travel)



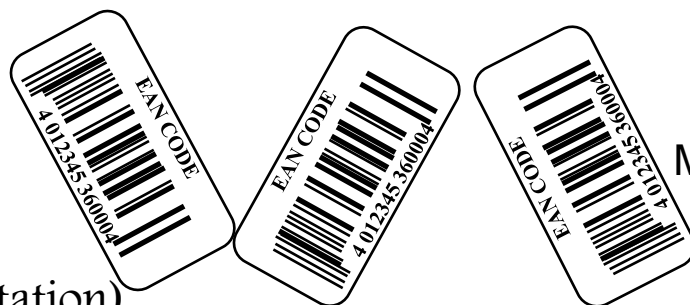
Movement

“Picket Fence” Orientation
(Bars perpendicular to direction of travel)



Movement

Omni Directional
(Bar code in a 360° orientation)



Movement

Scanning Options

Line
("Ladder")



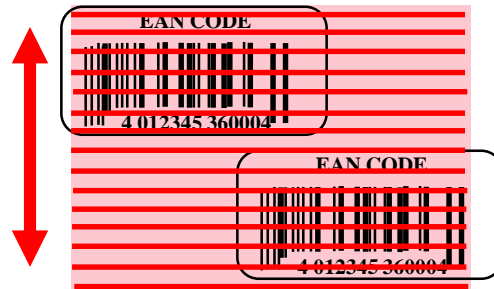
→
Movement

Raster
("Picket Fence" or Stationary)



→
Movement

Oscillating Mirror



→
Movement

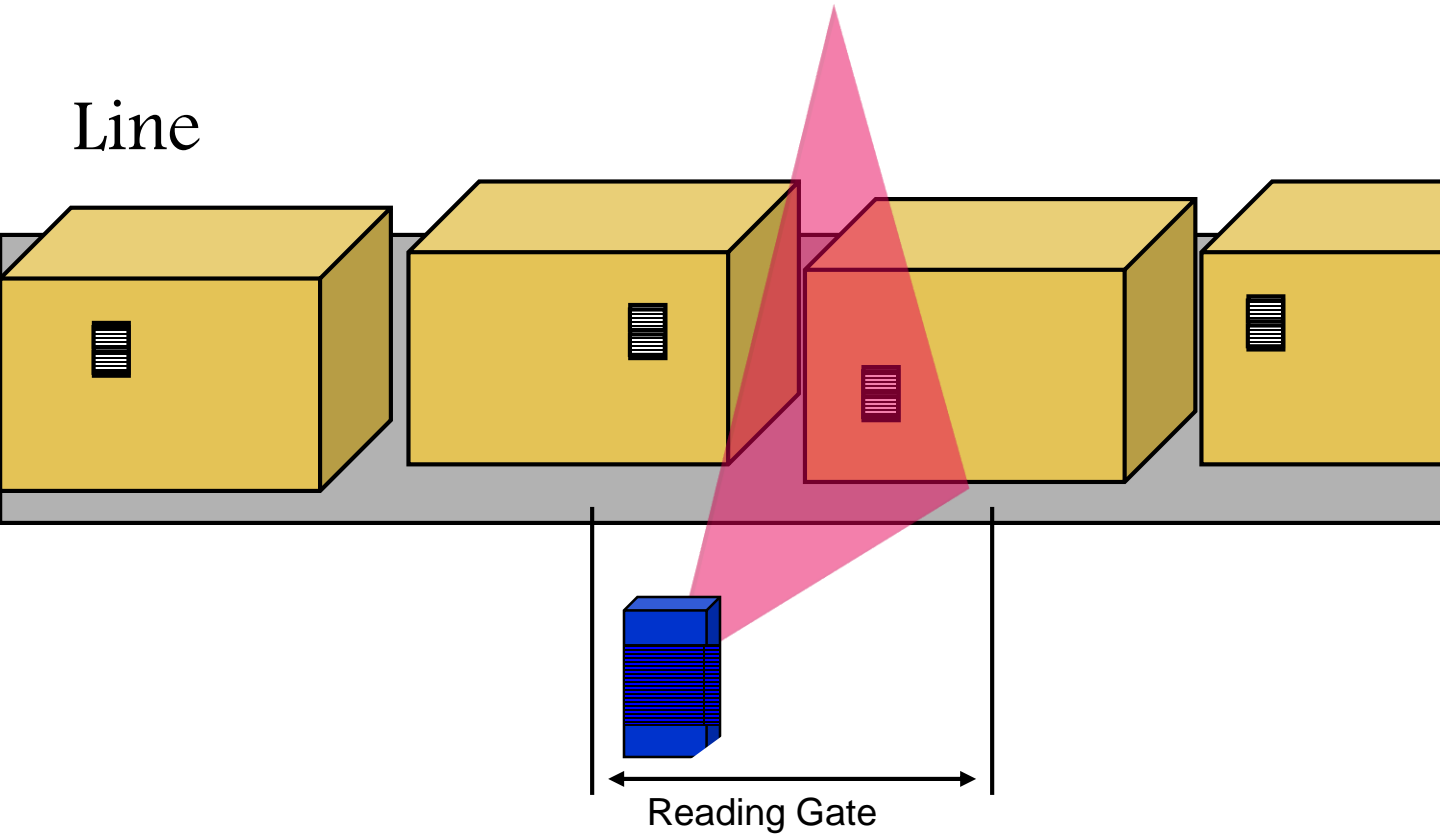
Omni Directional



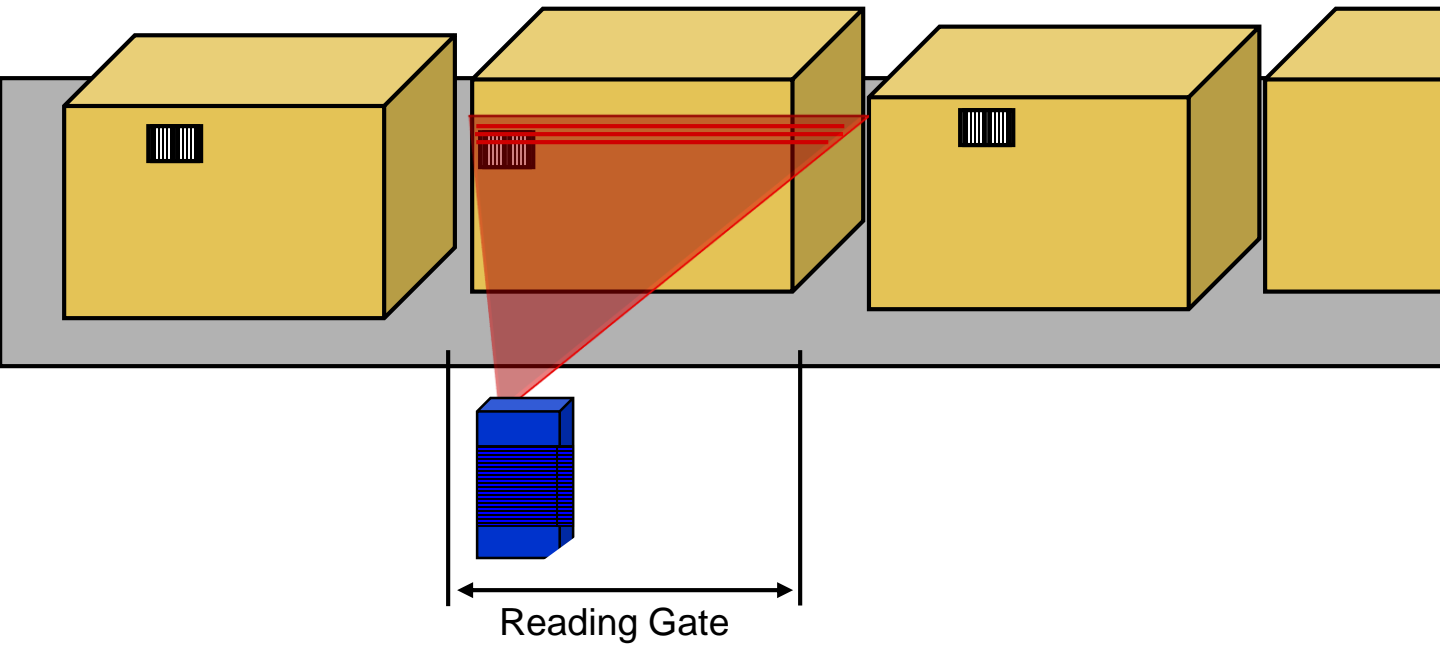
→
Movement

What to Consider

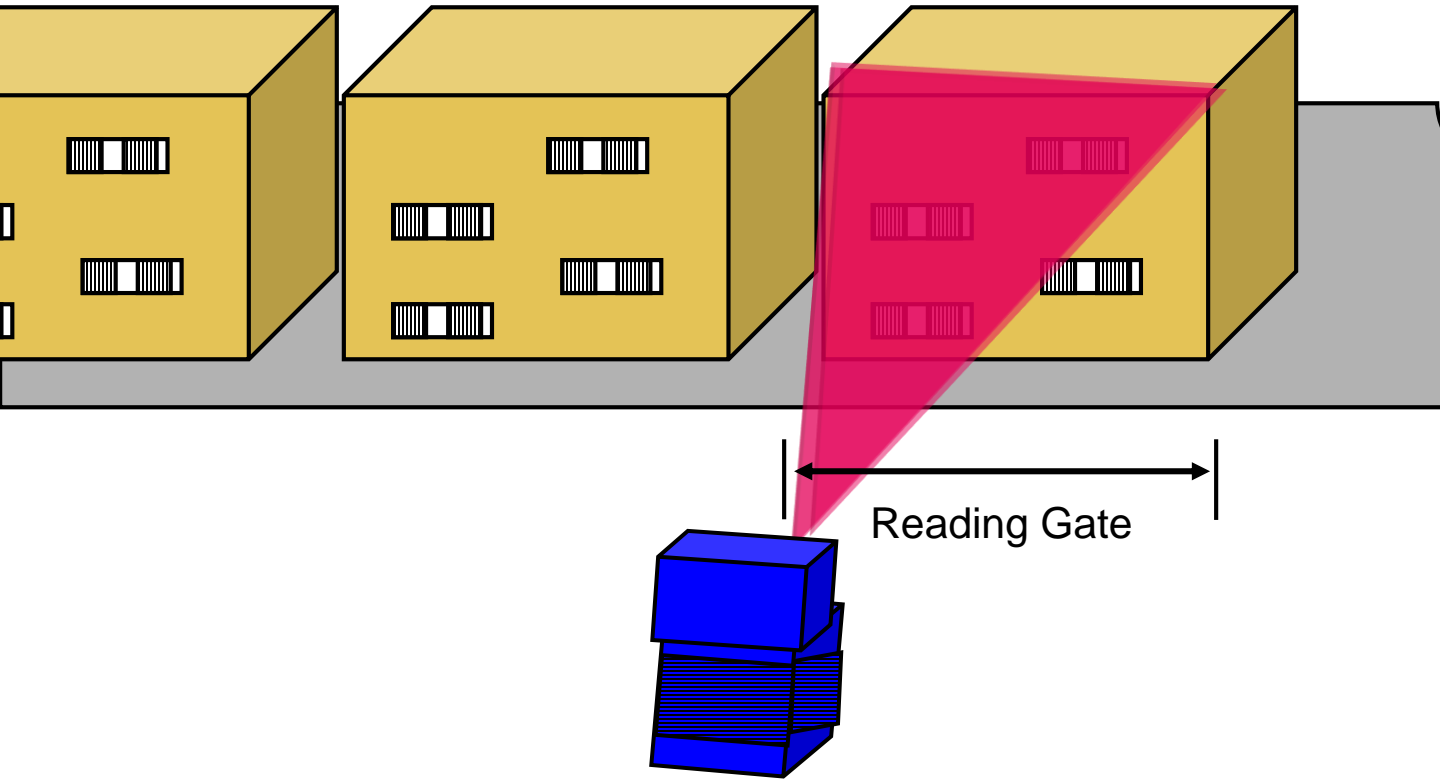
Line



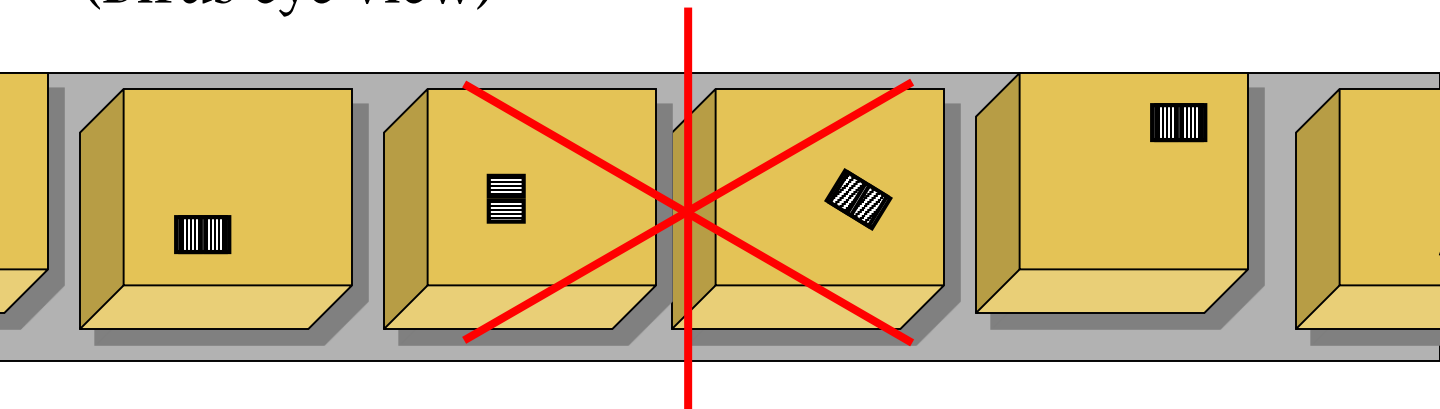
Raster



Oscillating Mirror

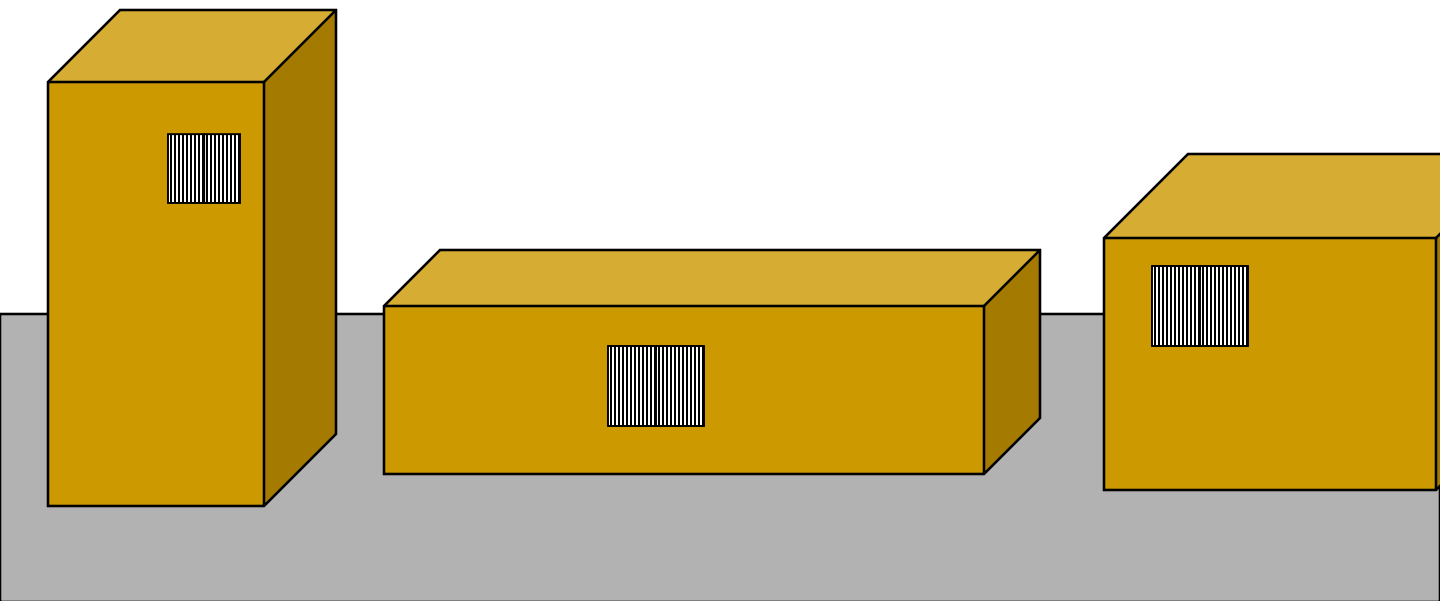


Omni Directional (Birds eye view)



Bar Code Placement

(Where on the product is it consistent?)



Direction of Movement 

Bar Code Size



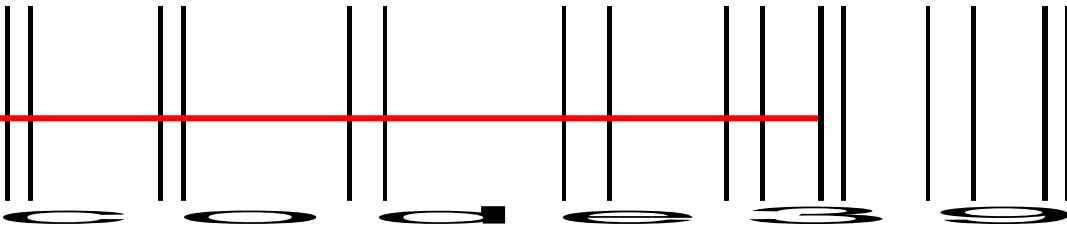
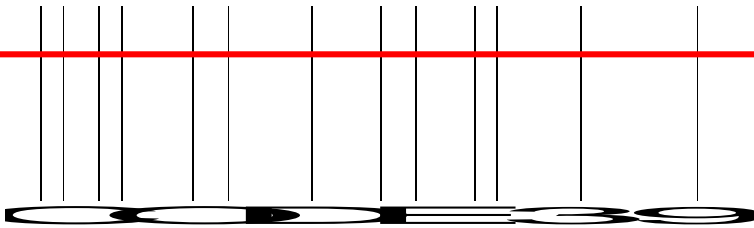
Length



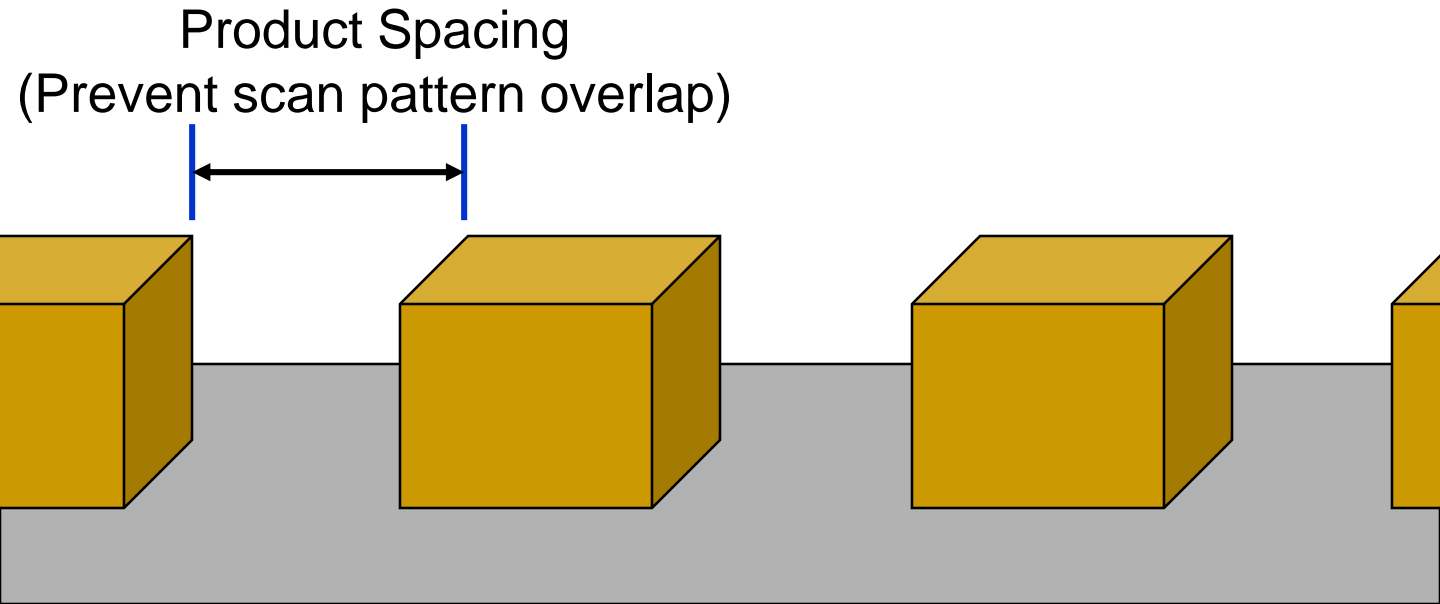
Height

What to Consider

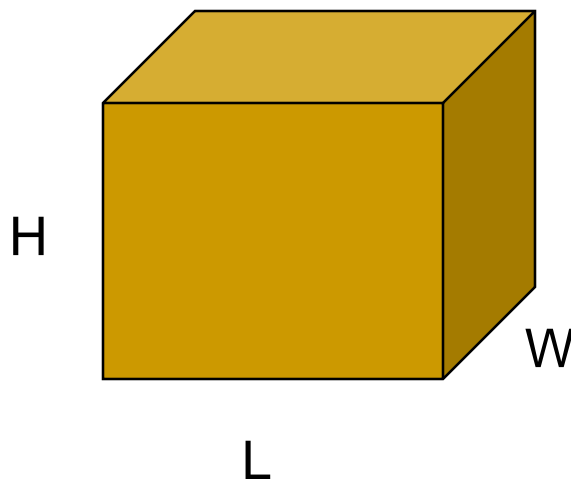
Remember to ensure scan height / window is sufficient to cover the whole code including a tolerance for position variation.



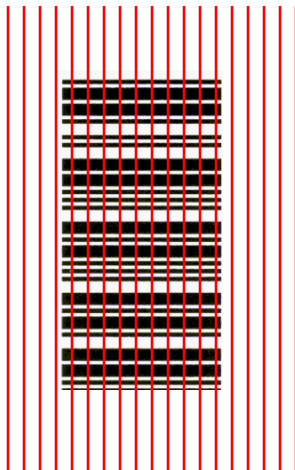
Product Characteristics



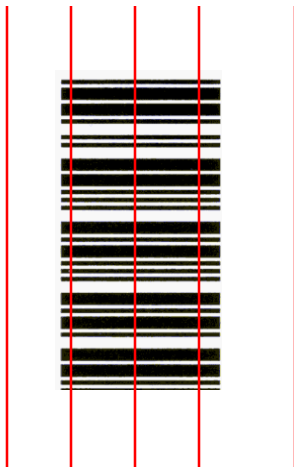
Product Size



Scan Speed vs. Product Velocity



Higher Scan speed means more scans through the code



If scan speed doesn't match transport speed, insufficient scans of code means poor performance



Number of Scans Calculation

Ladder Orientation

$(H \div V) \times \text{Scan Freq.} = \text{Number of complete scans}$

H = Bar Height

V = Label Velocity (in sec.)

Picket Fence Orientation

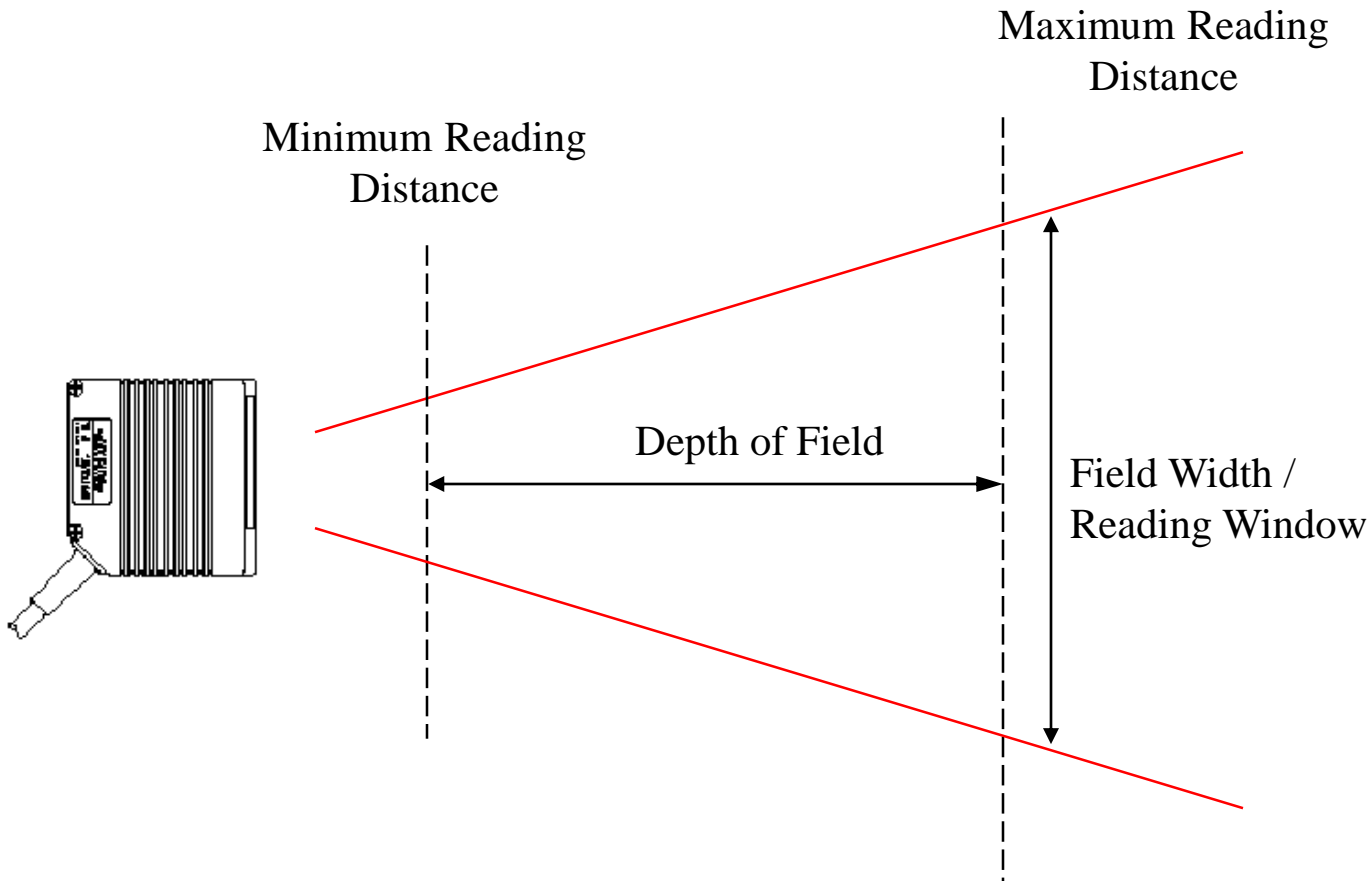
$((W - L) \div V) \times \text{Scan Freq.} = \text{Number of complete scans}$

W = Scan Width

L = Label Width

V = Label Velocity (in sec.)

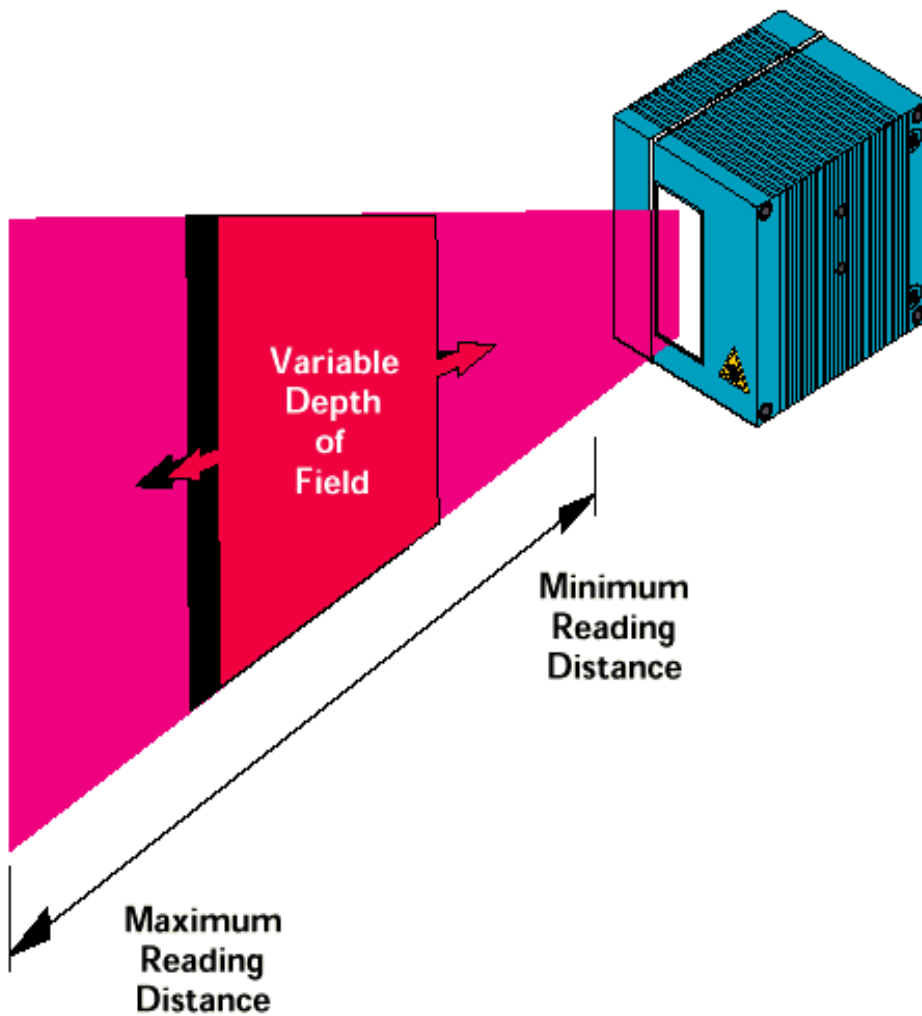
Reading Range Terminology



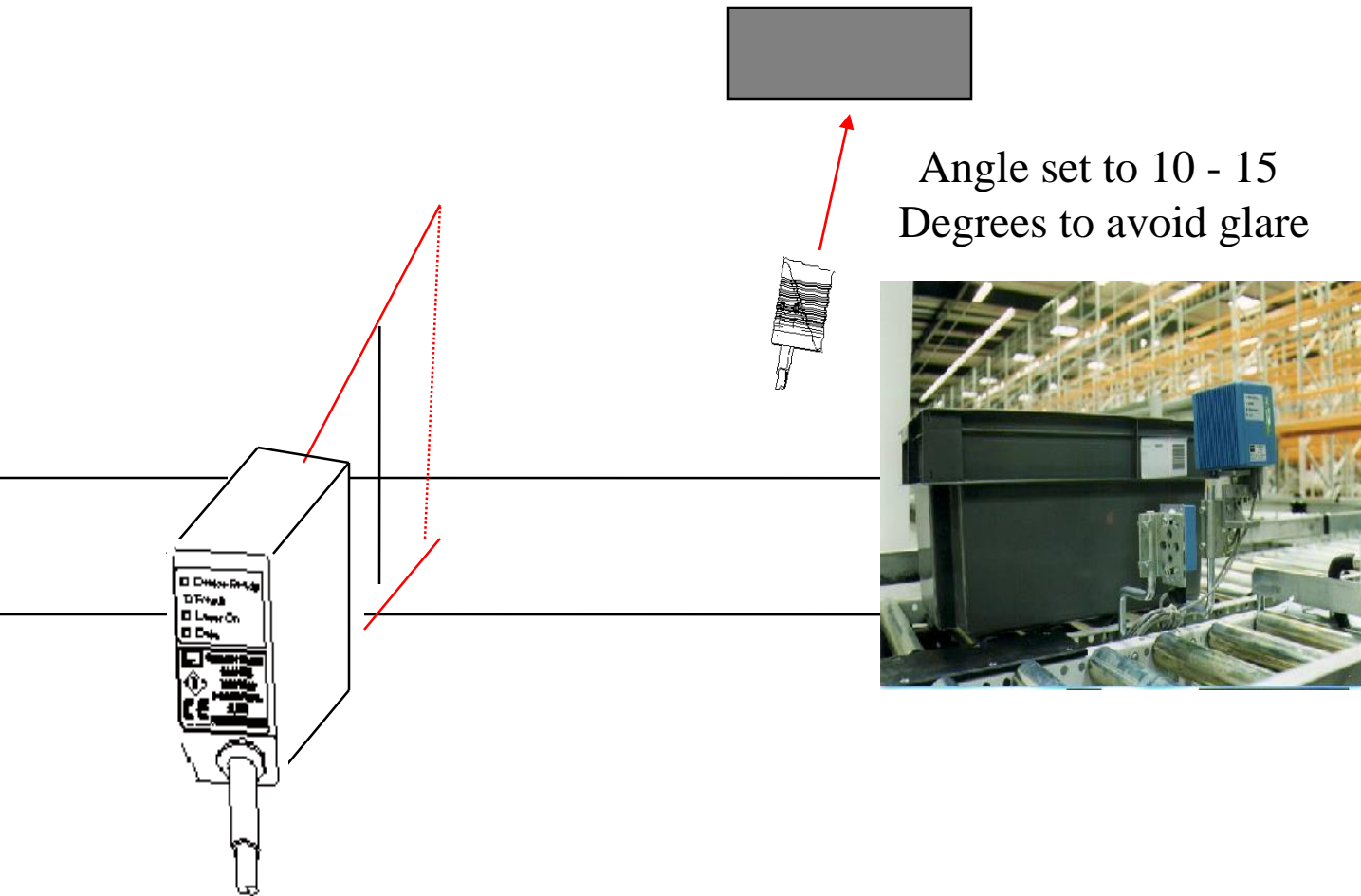
Limiting Factors

- Bar Code Quality
- X - Dimension
- Proximity to Scanner

Variable Depth of Field

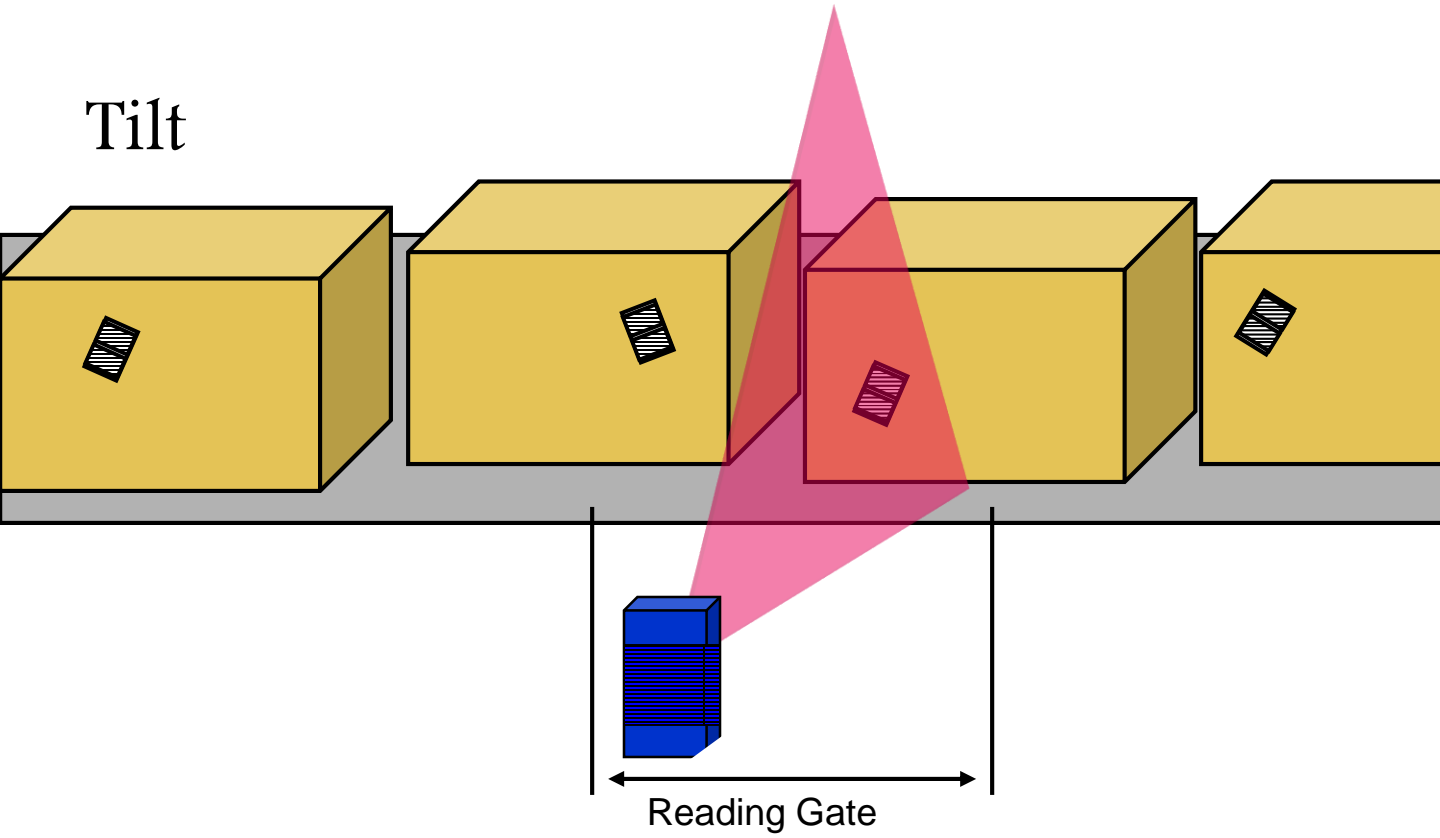


Mounting a Laser Scanner (Skew Angle)

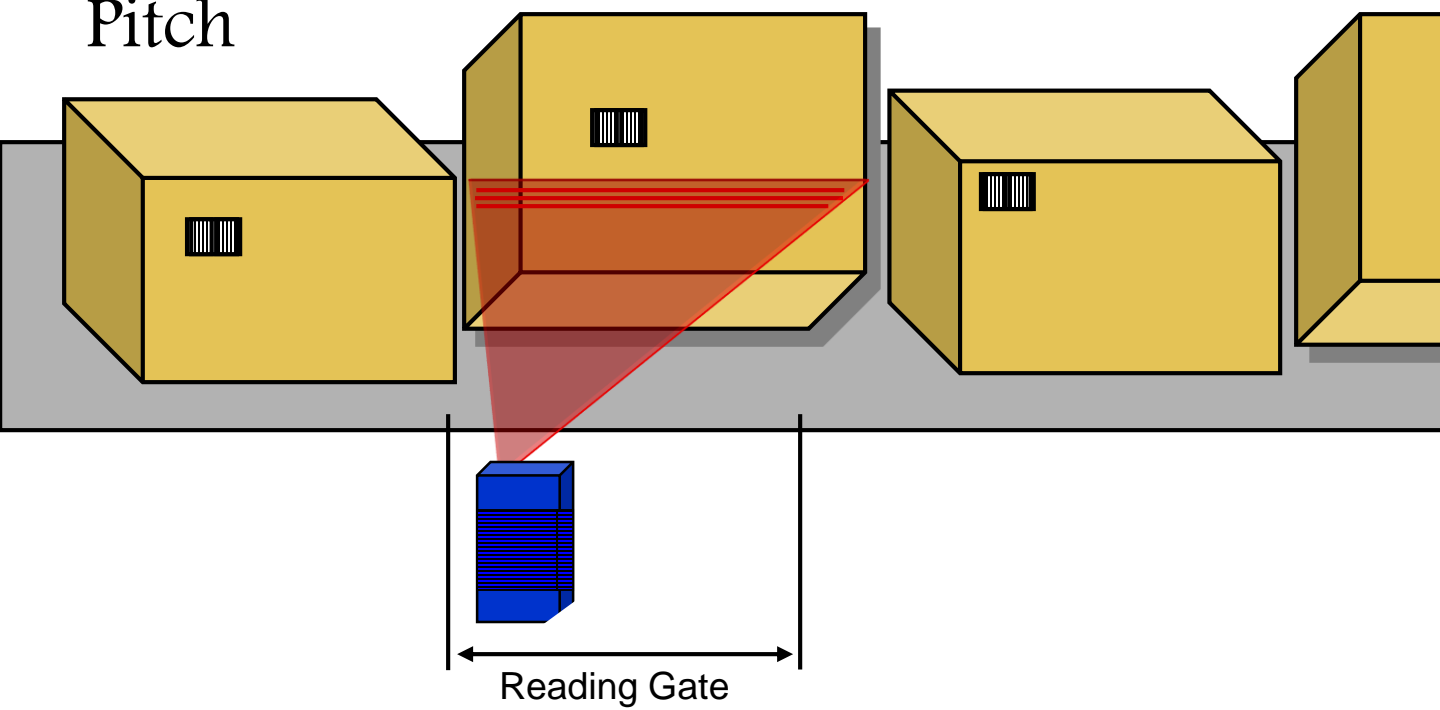


What to Consider

Tilt

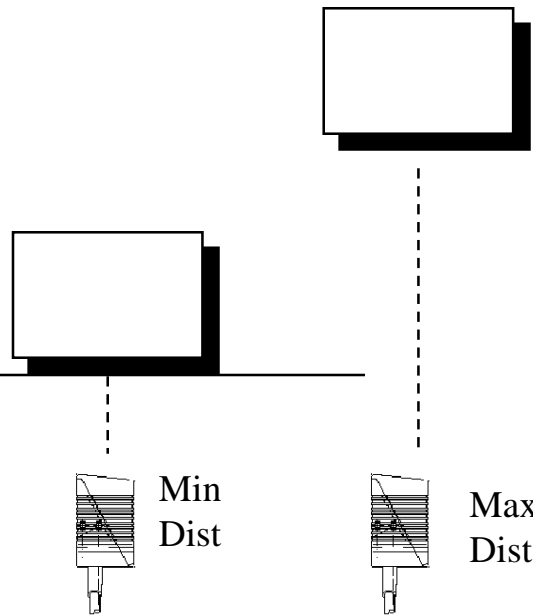
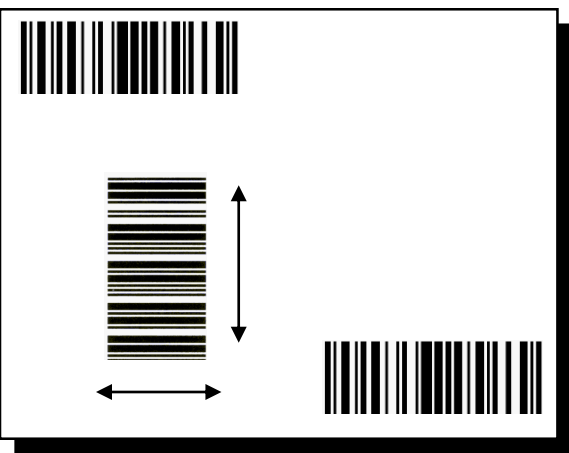


Pitch



Application Variables - Specifying a Scanner

- Line Speed - M/sec
- Code Type
- Code Orientation
- Overall Code Size
- Bar Width Size
- Minimum/Maximum Distance (Depth of Field)
- Position of Code



Technical Questionnaire

Technical Questionnaire

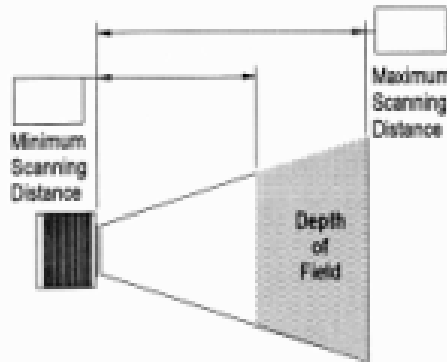
This questionnaire will assist you in planning the implementation of a bar code reading system. (Please copy the form as required)

Date: _____ Company: _____ Branch: _____
 Customer Name: _____ Address: _____ City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____

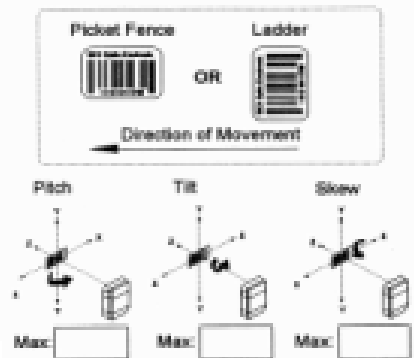
APPLICATION NOTES

Description: _____

BAR CODE READING SYSTEM REQUIREMENTS



LABEL ORIENTATION



BAR CODE LABEL SPECIFICATIONS

Symbology: _____
 Number of Characters: _____
 Label Length: _____
 Bar Color: _____
 Label Color: _____
 Label Material: _____
 Bar Height: _____
 Minimum Bar Width (X-Dimension): _____

A diagram of a bar code label with 'SICK Opto-Electronic' and '1 102 847 470' printed on it. Lines connect the various specification labels to the corresponding parts of the label.

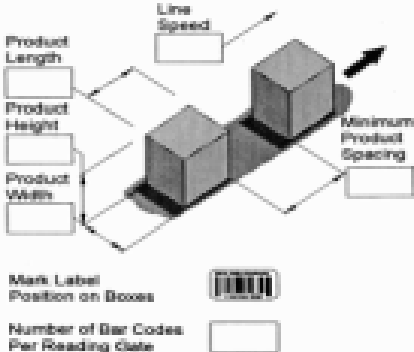
INTERFACE

Type of Trigger
 ASCII Command String
 Command String: _____
 OR
 Hardware
 PNP
 Relay
 Discrete Outputs: _____

Host Device
 Interface RS-232 RS-422/485
 Baud Rate: _____
 ASCII String: _____
 Cable Length: _____

A diagram of a connector and cable connecting the interface options to the host device.

TRANSPORTATION AND CONVEYOR SYSTEM



? ? ? ? ?

The End of

? “What to?

Consider...”

? ? ?

? ? ?