

# Codabar Specification

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Codabar was developed in 1972 by Pitney Bowse, Inc. Codabar is a discrete, self-checking symbology. In Japan, it is called NW-7(Japanese standard JIS X0503)

Codabar has a character set of 16 letters: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, -, \$, :, /, ., +.

Codabar has four start/stop characters we refer here as A, B, C and D.

Codabar is used in US blood banks, photo labs, and Fedex airbills.

The minimum value of X is 7.5 mils. The wide-to-narrow (N) ratio shall be between 2.0 and 3.0 and remains constant in the symbol, and N must exceed 2.2 if X is less than 20 mils. The minimum bar height is 15 percent of the symbol length or 0.25 inches, whichever is greater.

## Variants

There is no check digit required for codabar, though some applications opt to append a check digit at the end of the message.

FedEx Airbills use a variant of codabar. A FedEx airbill number has the format of XXXX-XXXX-XXXY with an additional 4-digit format ID. The Y character is a check digit with the algorithm unknown to public. The first 12 digits is the track number. The barcode itself starts with start/stop character C and ends with start/stop character D.

## Structure of a Codabar Barcode

A typical Codabar barcode has the following structure:

- A start character from 4 choices: A, B, C and D.
- Inter-character gap space
- Encoded message
- A stop character from 4 choices: A, B, C and D.

## Check Digit Calculation

No check digit is used in Codabar symbology.

