

Barcode Symbology Guide - 1D Symbologies

CHINA POST	The China Post 4 State Customer Code is used by the Chinese Postal Service to encode data on letter mail.
CODABAR	Developed in 1972 by Pitney Bowes Corp., Codabar is used in libraries, blood banks and overnight package delivery applications. Codabar uses 18 different widths for bars and spaces.
CODABLOCK F	Codablock F is a stacked barcode symbology based on Code 128. It can encode the full ASCII character set in a symbol which consists of multiple rows of Code 128 type symbols, using a common "Start A" character and a common "Stop" character. Apart from the start and stop character the other characters in adjacent rows have a horizontal line between them.
CODE 11	Code 11 is a simple, variable length numeric bar code that is secure and compact. It includes the numbers 0-9, a hyphen, and offers double Mod 11 error checking.
CODE 16K	A multi row symbology, Code 16K offers high information density encoding of the full (128-character) ASCII set and double density encoding of numeric data strings
CODE 39	Code 39, also known as 3 of 9 Code, USD-3 and LOGMARS, was the first alphanumeric symbology. It is widely used today, particularly in non-retail environments. It is used by the United States Department of Defense and the Health Industry Bar Code Council. Trioptic Code is a variation of Code 39.
CODE 49	Code 49 was among the first codes developed to pack a lot of information into a small space. A continuous, variable-length symbol, it can encode the full ASCII character set. It's read with modified laser or CCD scanners, but can be printed by standard labeling technology.
CODE 93 and 93i	Share the same characters as Code 39 but are not as widely used. They are more compact than Code 39, using nine bar code elements per character instead of 15. And just as with Code 39, Modulus 43 checksum is optional. Primarily used by the Canadian Post Office.
CODE 128	Code 128 is a very compact and versatile language which allows the encodation of the entire 128 ASCII character set. This symbology is self-checking and is designed with geometric features to improve scanner read performance. Code 128 barcodes are used extensively by the shipping industry as well as for inventory, ID, and tracking purposes. Code 128's character set supports the lower 128 ASCII characters, including upper and lowercase letters, numbers, punctuation, and control codes.
EAN-8, EAN-13, UPC-A, UPC-E	UPC-A and EAN-13 and the compact versions, UPC-E and EAN-8 barcodes are primarily used for retail goods. The 12-digit UPC codes are used in the U.S. and Canada, while the 13-digit EAN codes are used worldwide.
INTERLEAVED 2 OF 5	INT 2 of 5 is a numeric-only, high density symbology that is very compact because information is encoded in both the bars and spaces. Only an even number of numeric data can be encoded within this symbol. This "double density" symbol encodes odd positioned data in the bars, and even positioned data in the spaces. Interleaved 2 of 5 bar codes are used on corrugated boxes, in the shipping industry, and in laboratories.
KOREA POST	The Korea Post 4 State Customer Code is used by the Korean Postal Service
MATRIX 2 OF 5	Matrix 2 of 5 is a self-checking, numeric-only barcode with all information encoded in the bars. Matrix 2 of 5 is used primarily for warehouse sorting, photo finishing, and airline ticket coding.
MSI	Also known as Modified Plessey. Developed in 1970 by MSI Data Corporation and is used primarily for inventory control, MSI is suited to labeling shelves, tracking publications. It is also used for ID cards.
PLESSEY CODE	Plessey barcodes use two bar widths. Whitespace between bars is not significant. It is somewhat higher density than the more common 2 of 5 and 3 of 9 codes. This symbology is not self checking, though a modulo 10 or modulo 11 checksum (depending on application) is usually appended.
POSCODE	Designed for applications that make it hard to control the width of the bars, PosiCode is used for direct part marking processes such as laser engraving, chemical etching, dot peen or indent marking and machining. The code also is capable of encoding numbers, letters and two punctuation marks. There are two styles of PosiCode, A and B. Style B encodes information in a wider pattern than A with each center-to-center distance one more G-dimension than the corresponding pattern in A.
RSS	Reduced Space Symbology (RSS) bar codes are used for encoding identification numbers and data supplementary to the identification. (RSS) is a family of linear symbols that includes RSS-14, RSS Limited, and RSS Expanded. RSS-14 and RSS Limited encode Global Trade Item Numbers (GTINs). RSS is widely used in the healthcare industry for both pharmaceuticals and medical/surgical products. One advantage of using a RSS barcode is that it can include an expiration date.
STRAIGHT 2 OF 5 IATA	IATA 2 of 5 is a numeric only variation of Industrial 2 of 5. It is used by the Airline industry.
TELEPEN	Developed in 1972 in the UK to express all 128 ASCII characters without using shift characters for code switching, unlike Code 128, while only using two different widths for bars and spaces. Telepen only defines four basic bar-space modules.

Barcode Symbology Guide - 2D Symbologies

PDF417	PDF417 consists of a stack of vertically aligned rows with a minimum of 3 rows (maximum 90 rows). Each row includes a minimum of 1 symbol character (maximum 30 symbol characters), excluding start, stop and row indicator columns. A PDF417 symbol may contain up to 928 symbol characters or code words. It is used whenever a large amount of information is required in a small space.
EAN-UCC COMPOSITE	An EAN UCC Composite code consists of a linear component (encoding the item's primary identification) associated with an adjacent 2D Component (encoding supplementary data, such as a batch number or expiration date). The Composite symbol always includes a linear component so that the primary identification is readable by all scanning technologies, and so that 2D imagers can use the linear component as a finder pattern for the adjacent 2D Composite Component.
4-CB	4-CB (also known as the 4-State Customer Barcode, 4CB, 4-CB, OneCode Solution Barcode and USPS4CB) is a height-modulated barcode designed for use in high speed, automated, mail sorting machines that allow both PLANET and POSTNET barcode information to be combined into a single barcode to track mailings, request address-quality services (including updated address-change information) and return-mail service. The unique encoding used in ID Automation's Postnet Fonts allows printing of Postnet and OneCode with the same font.
AUS POST	Australian Post 4 State Customer Code is used by the Australian Postal Service to encode the data on letter mail.
AZTEC CODE	Aztec Code is a high density 2D matrix style bar code that can encode up to 3750 characters from the entire 256 byte ASCII character set. The symbol is built on a square grid with a bulls-eye pattern at its center. Each additional layer completely surrounds the previous layer thus causing the symbol to grow in size as more data is encoded yet the symbol remains square. Aztec's primary features include: a wide range of sizes allowing both small and large messages to be encoded, orientation independent scanning and a user selectable error correction mechanism.
BRITISH POST	BPO is a postal symbology developed by the British Post Office for encoding European postcode data similar to the way the U.S. PostNET symbology is used for encoding zip code data.
CANADIAN POST	The Canada Post 4-State Barcode consists of a series of parallel, machine-readable, height-modulated vertical bars which can represent information such as customer address and postal code, as well as other information such as customer account number and product type. The code is printed on letter mail, addressed ad mail and publications mail.
DATA MATRIX	A 2D code designed for putting a lot of information in a very small space can store between one and 500 characters. The symbol is scalable between a 1-mil square to a 14-inch square. The practical density will be limited by the resolution of the printing and reading technology used. Symbols between one-eighth inch square to seven inches square can be read at distances ranging from contact to 36 inches away. The most popular applications for Datamatrix is the marking of small items such as integrated circuits and printed circuit boards.
ID-TAG (UPU 4-STATE)	Used in the postal industry, ID-Tag indicates the class of mail, the ID number of the printing machine and the date and time of the printing. Each code symbol is represented by 4-state 3-bar code for the destination barcode and Bar-No-Bar code (each symbol consists of 4~5 bars) for the ID-Tag barcode with some redundancies
JAPANESE POST	A clocked barcode similar in appearance to 4-State code, with a mod 19 check-digit. The elements are normally reproduced at 8, 9,10, or 11.5 point, although values between 7 and 12 point are permitted.
KIX POST	KIX barcodes are used by the Dutch Post Office for bulk mail addressing.
MAXICODE	A 2D Matrix Code contains a fixed number of dark and light hexagonal modules. The symbol is specified to be a fixed size. MaxiCode has a bulls eye finder pattern in the center of the symbol. A two-dimensional device such as a CCD camera is necessary to scan the symbology. MaxiCode is designed with two selectable levels of error correction capability. It supports industry standard escape sequences to define international code pages and special encodation schemes. MaxiCode is used by the United Parcel Service to encode address and customer specified data on shipping packages which are scanned on high-speed conveyors.
MICRO PDF417	A 2D, multi-row symbology, derived from and closely based on PDF417. Micro PDF417 is designed for applications with a need for improved area efficiency, but without the requirement for PDF417's maximum data capacity. A limited set of symbol sizes is available, together with a fixed level of error correction for each symbol.
PLANET CODE	Complement the existing PostNET barcodes. They were designed to track both inbound and outbound letter mail and are required by the U. S. Post Office to use their CONFIRM service.
POSTNET	PostNET (Postal Numeric Encoding Technique) was developed by the US Post Office to encode zip code information. PostNET bar codes printed on US mail improve the speed, accuracy and delivery of mail.
QR CODE	QR Codes are 2D barcodes developed by Denso Wave that contain information in both vertical and horizontal dimensions.