

Barcodes Technology

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Abstract: Bar codes are a technology for automatic identification which has found application in many business sectors. AS we know that bar codes have many applications, they have been most used in segments of the retail grocery as well as consumer goods industries. They use computers for barcodes detection. A bar code has a self-contained message whose information is encoded in the geometry of its printed bars and spaces. When a bar code is read, the patterns of light and dark contained in the bars and spaces are translated into patterns of ones and zeros which the reading computer interprets as numeric or alphanumeric data. In a simple bar code system, bar codes are read by passing a wand containing a light source and a photo-diode across the code to be read.

Keywords: Barcodes, scanner

INTRODUCTION

Increases volume document imaging systems are efficiently capture, store, manipulate, and retrieve hundreds of document images. Initially investment in such a system is waytoo high and I ongoing labor costs can quickly make these outlays seem minuscule. Although these systems have high- speed scanning hardware and capable operators and net output is low. As we know that mostly, errors are frequent and the quality assurance cost is high. In such a system, capital equipment is not being used at its rated capacity and human labor is being used to perform tasks that a computer could do better and faster. In The barcode different lines and patterns are actually showing of numbers and data and their development allowed basic information about a product, which can easily read by an optical scanning device which is having a barcode scanner, and it automatically entered the data into a computer system.

This vastly reduced the time it took to record such information and eliminated the potential for human data entry error.This application is most use full for the stores whose are sell or purchase the product because using the barcodes material description will be easily searched.



FIG: UPC BARCODE

HISTORY

In 1948 Bernard Silver thinks about to automatically read product information during checkout. Silver and his friend Norman Joseph Woodland started working on a variety of systems. In first working system ultraviolet ink used, but this ink faded too easily and was expensive. The first barcode was invented from sand on the beach by replacing the dots and dashes to narrow lines and wide lines. For reading them, they adapted technology from optical soundtracks in movies, using a 500-watt incandescent light bulb shining through the paper onto RCA935 photomultiplier tube (from a movie projector) on the far side.

WORKING PRINCIPLE

Although barcodes are designed such as to be "read" by scanners and decoded by computers, it is possible with a UPC barcode and converted it into a 12-digit number. Barcodes, in which non-UPC systems or different numbers of digits are used, cannot be read using this method. Most of the barcodes on products sold in the U.S. and Canada are UPC barcodes, but compressed 6-digit UPC barcodes, which have a different, more complex encoding system. Character are used to indicate start or end of the data. Start/stop character are vary according to the type of the barcode. CODE 39 uses "*" and CODABAR uses "a", "b", "c" and "d". In Bar patterns the enter data (numerical characters, alphabet, etc.) are arranged from left to right. In fig.2 barcode patterns showing 0, 1, and 2 are arranged respectively from the left to right.

In the Barcode length right and left quiet zones are included, If the barcode length where quiet zones are included and does not fit in the scan width, then barcode reader cannot scan the data. The height of the barcodes made such as the printer permits. If the barcode is not high as required, the laser cannot scan properly the barcode, causing unstable readings. Narrow and Width widths are calculated using ratio NB: WB = NS: WS = 1:2 to 1:3. In this check digit is a numeric value calculated to check for read error.

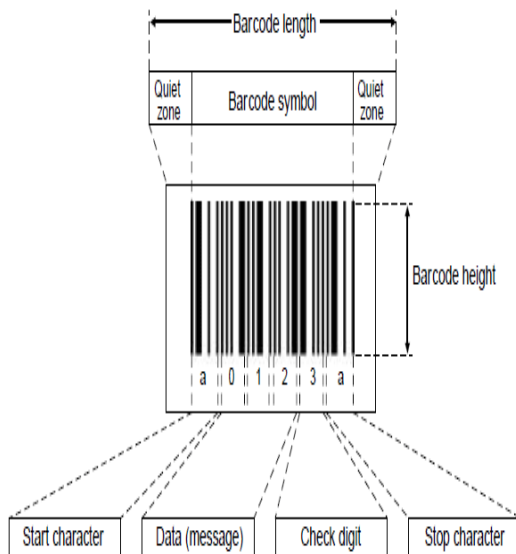


Fig.2: Format of Barcode

In this barcodes there is 95 set of parallel lines including all the white and black vertical bars. When the barcode number is assigned then each number has 7 slots and according to these 7 slots a unique barcode is generated.

In this white space is scanned because in this section of white bar the light will be reflected back to the scanner so using the binary code "0" or "1" scanner can understand and automatically stored information will decoded onto the desktop.

In this barcode we can store more information about our product.

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