

What type of barcode scanner do I need?

There are many different types of barcode scanners. The type of scanner you decide to purchase should fit your needs and your budget. Given that most businesses don't want to spend more than they need to, we will work our way up the budget ladder in this article. Barcode scanners break down into two categories Handheld and Portable:

Handheld Scanners

CCDs: A CCD scanner connects to a PC via a cord. In order to read the barcode the scanner is pressed up against the barcode label. The CCD scanner is great from a budget perspective. The primary drawback is that it will not read barcodes from a distance. Therefore it is not a portable solution. It is also fairly limited in its ability to work in a stand when hands-free operation is required. CCDs are a what you see is what you get option.



Lasers: A laser scanner also connects to the PC via a cord. Laser scanners can read barcodes from a greater distance. Typically laser scanners are mounted on a stand for hands-free operation. The laser scanner is quite reasonable from a budget perspective and is quickly overtaking CCDs as prices fall. The main drawback to the laser solutions is that it projects a single beam of light therefore the barcode and the scanner must line up.



Omni-directional: Omni-directional scanners can read a barcode from any direction. These scanners are used when you have a large number of barcodes to read and your hands are not free to hold the scanner. Omni-directional scanners are used frequently in grocery and large retail stores. The prices of these scanners are also falling and they have become an economical alternative for small and medium size businesses.



Portable Scanners

Cordless: A cordless scanner allows a user to walk around with the scanner. As you can see in the picture on the right the cordless solution is comprised of two elements: the scanner and the base station/charger which is connected to the PC. The cordless scanner communicates with the base station using a radio signal. The cordless scanner is the most cost effective portable scanner however it has its limitations. There is no keypad or screen on a cordless scanner so all you can do is scan barcodes (e.g. no input of a quantity). The cordless scanner does not communicate with the software. It simply places information wherever the cursor is on the screen. Therefore if an error screen comes up on the PC (or the cursor is in the wrong place) the cordless scanner will have troubles.



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Batch: A batch style scanner is effectively a portable database. The batch scanner has a keyboard, a screen and an in-built laser scanner. Essentially it is a small portable computer. Software is placed on the scanner that prompts the user for information (eg. Barcode, quantity, location, etc.).



Information is gathered via a barcode scan or via the keyboard. The batch scanner is used for applications like stocktake and goods receipting. When the user has read the necessary information into the scanner, the scanner is placed into a cradle (connected to a PC) and the information is uploaded. Typically a file is created on the PC that a software application will process. The primary limitation to a batch scanner is that it does not process information in real time. Information only becomes available when the user uploads the scanner information.

Wireless: Wireless technology is one of the fastest growing technologies in the barcoding industry. The scanner is very similar to a batch style scanner, except it has antennae. The wireless scanner communicates with a communications device called an access hub. This hub is connected to either a PC or to an Ethernet network. Software is placed on the scanner that prompts the user for information (eg. Barcode, quantity, location, etc.). That information is sent back to the access hub in real time.



Typically a software application processes the information as it is transmitted from the wireless scanner. Wireless access hubs usually have a range of 30-50 metres. Many warehouses and factories are installing wireless networks in order to connect multiple devices (scanners, printers, PCs) using the IEEE standard 802.11.

Palm/ PocketPC PDAs:

Personal Digital Assistants are being used for a wide array of applications. PDAs have become very powerful computers in their own right running Windows and the Palm operating systems. Factory-ready PDAs have been released that have integrated barcode scanners, pistol grips and strong casings. The strength of the PDA is that it can run many different types of software (eg. Stocktake, goods receipting, asset management etc.) The PDA can operate in either batch or wireless modes. The PDA is also adept at communicating with Windows-based software (eg. Microsoft Access & Excel).

Summary

A number of next generation are poised to enter the automatic identification market. The first of these is the Tablet PC. Linking software to portable devices will become a thing of the past as the software is run directly on a scanner enabled Tablet. RF Tag technology is also poised to enter the mainstream once the cost of the tags and equipment begins to fall. Contact Mr Scanman for a discussion on what type of scanning technology can assist you.