What type of barcode scanner do I need?

There are many different types of barcode scanners. The type of barcode scanner you decide to purchase should fit your needs and your budget.

Barcode scanners break down into two categories Handheld and Portable, Consider how you would like to use the barcode scanner.

Do you want it to be connected to a computer with a cable to read barcodes into a software application? An example of this would be a retail counter barcode scanning products at check out.

Or do you need the ability to walk around using the barcode scanner. Examples would be a stock take solution or the managing of inventory within a warehouse.

Handheld Scanners

Wand/Pen Scanners These are the oldest types of barcode scanners. Most barcode scanning manufacturers do not produce this type of barcode scanner any more. The wand (or the pen) is a contact device. This means that the pen must be brought into contact with the barcode. Typically it is rubbed back and forth across the barcode until it is read. This type of barcode scanner is very cost effective however it is only used when there are a small number of barcodes to be read every day.

CCDs: A CCD scanner connects to a PC via a cord. Typically it plugs into the USB port of a PC (or Apple Mac). In order to scan the barcode, the scanner is brought fairly close to the barcode label.
There are two types of CCD barcode scanners:

1) The *short range* CCD barcode scanner is great from a budget perspective. The primary drawback is that it will not read barcodes from more than 1 to 2 inches away from the barcode. The short range CCD barcode scanners are also limited to reading barcodes that are no wider than the mouth of the barcode scanner (2 – 4 inches wide).

2) The *long range* CCD barcode scanner is more expensive however it has the ability to scan barcodes from a greater distance. Some long range barcode scanners are also called imagers. They are typicallt able to read both 1 Dimensional (standard) barcodes and 2 Dimensional barcodes.

Lasers: A laser scanner also connects to the PC via a US cord. Laser scanners can read barcodes from a greater distance and are much quicker at reading than CCD barcode scanners. In addition laser barcode scanners are good at reading small and narrow barcodes. Laser barcode scanners are usually 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 to be read.

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 (or Bluetooth) barcode scanner allows you to walk around. As you can see in the picture on the right the cordless solution is comprised of two elements: the barcode scanner and the base station/charger which is connected to the PC (via a USB cable). The cordless barcode scanner communicates with the base station using a (Bluetooth) radio signal. The cordless scanner is one of the most cost effective portable barcode scanners however it has its limitations. There is no keypad or screen on a cordless scanner so you can scan barcodes however you can not type in a quantity). The cordless barcode scanner can store barcodes so it makes a good (although basic) stock take device. It transmits barcodes back to wherever the cursor is on the PC screen. Many software applications (such as MYOB Retail Manager) operate well with a cordless barcode scanner.

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 is 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 form 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.

PDAs:

Personal Digital Assistants are being used for a wide array of applications. PDAs have become very powerful computer 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.