



RFID for the Streamlining of Stock Transfer

by Neil Leigh, neil@amosoft.com

The technology of barcodes has served industries for years with a mechanism to speed up the handling of stock transfers. From consumer environments like supermarkets to the ticketing of heavy equipment, the aim is essentially similar, in being able to identify stock items and track their movement.

Despite their success, barcodes possess some inherent weaknesses, such as their optical-read nature, that requires a close range and a suitably-positioned reader to receive the information reliably. Additionally, damage to the labels or dirt on their face hinders reading, and their short range is a problem in certain circumstances. Finally, due to the fact that barcodes are placed on each individual item, rather than on a case or skip, their advantage in individual item tracking is lost when moving large numbers, such as shipping and receiving stock.

RFID is a newer, more active alternative which differs from barcodes in a number of ways. Firstly, the RFID number is much longer than barcodes, being a 96-digits in length. Secondly, it actually transmits the code using radio waves which are picked up by a receiver in the area. These two essential differences allow the entire, closed packing to be passed through the vicinity of the receiver to register the movement. RFID is not so much a replacement for barcodes but rather a complementary technology.

The code's length allows for the inclusion of information beyond just the item and quantity, including destination location information to allow direct routing to the required storage area. The data collected from the tags by the reader is sent for processing to the organization's ERP or other inventory control systems.

There are two different modes used by RFID tags. The first is 'passive mode', in which the tag is activated by the transmission of a signal sent by the RFID reader. This signal wakes up the RFID tag and provides it with the power to transmit a response. With active mode RFID, the tag has its own power supply in the form of a battery, providing a stronger signal and greater range. Active systems can also carry additional data in the signal, such as environmental information.

The main benefits to the organization using RFID are the faster and more accurate handling of logging goods in and out and a better means of communication between supplier and customer. Human intervention is

Address: 12445 Pacific Ave 5, Los Angeles, CA 90066

Phone: 310-862-4259

Web: www.amosoft.com



reduced, the physical setup of barcode scanners is avoided at goods exit and entry points. Workflows can be tailored more easily due to the detailed packaging information being automatically available at all stages of transit and there is reduced risk of damage as items can remain packed and protected for longer. There is arguably, also an improvement in security as sealed packs can be checked into the warehouse quickly, and opened later, under conditions of lower risk and pressure.

EDI & RFID

EDI has an important part to play in defining the shipment notice in a format is known as ASN, 856 or DESADV. The transaction contains information as to the contents of the shipment or pallet and the RFID number.

As the costs of RFID technology have dropped, especially the costs of producing the RFID tags themselves, more organizations have adopted it and enjoy the benefits of faster and more streamlined business processes.

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