Barcode Inventory Systems help you by reducing data entry error, reporting on accurate on-hand quantities, locations and reorder needs. Simple but adequate systems are available for less than $1000 and pay for themselves almost immediately.

Why Barcode Your Inventory? The Practical Guide
By Tom Reynolds

Why use inventory software and a barcode tracking system? To answer those questions, let's examine what inventory is, and why it is important to any business.

According to Webster, inventory is defined as "an itemized list of current assets" and "a list of goods on hand".

No matter what business you're in, you most likely have an inventory - items for sale, raw materials, finished product, tools, parts supplies, etc. Using a barcode inventory system for your stock will efficiently accomplish the following:

- You'll know what you have and where it is.
- You'll be able to receive, put away, move and ship out (to internal or external users) all the items you have in inventory.
- You'll have pertinent, up-to-date reports about stock levels, usage, and reorder times for all the items in inventory.
- It's easy to enter data into, and get data out of.
- It makes cycle-counts easy and efficient.
- It will export data easily to your accounting or other back-end system.

In today's competitive environment, having too little of critical material inventory can lead to big problems. Just-In-Time (JIT) inventory management principles have revolutionized inventory processes for companies. JIT requirements have flowed down to suppliers, and everyone can save money if JIT is properly implemented throughout the distribution channel.

Smaller companies recognize the trend, with many managers keeping a "Just-In-Case" inventory for safety. If the inventory systems were adequate, the waste of money to purchase and carry this extra inventory would be saved. Generally speaking, if the current system requires a "safety stock", chances are that specific item's location data isn't very accurate either. This can lead to over-ordering currently used materials and scrapping inordinate amounts of materials when it becomes obsolete.

Inventory software with a barcode tracking scanner can solve these problems as well. If you're not reaping all the rewards to using an automated, efficient inventory software system and barcode tracking system, it's time to get started.

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How Do I Get Started?

Many companies get hung up on the selection of inventory software and the project gets stuck from "analysis paralysis". If your inventory processes / procedures / system could be better, we recommend getting started with one of the $1,000 solutions listed below which includes the desktop inventory software and a portable barcode scanner. Here’s why:

- It allows you to prove to your company team that the technology is going to save you time and money in the long run.
- The entry point is inexpensive and after the initial inventory gives an almost instant savings.
- If you decide to change or upgrade your inventory system at a later date, all the information from the inexpensive system can be imported into the new system.

Regardless of the barcode inventory software or barcode scanner you choose, the “to do” list for implementing a barcode inventory system is the same:

Make a master list of everything that might be in your warehouse or stockroom. This will include the item number, unit of measure and description at a minimum. It may also include the purchase cost, vendor, minimum inventory amount (the amount you must always have on-hand), and other pertinent information associated with the item. Put the list on a Microsoft Excel worksheet, because from there you can implement any of the 3 types if inventory solutions Listed on the next page.

If you don’t currently have a master list of materials you should be able to easily get it from your suppliers. Just ask them (or tell them you’ll stop ordering until you get it). This will minimize the time you have to spend putting it together.

Put barcodes on inventory items and locations. Most products come from the manufacturer with barcodes attached. These barcodes have the item number written in text below the barcode. If these barcodes currently exist, then your effort here might be minimal. You do, however, have to make sure that the barcode on the item matches the item number in your master list from the step above. It’s a good idea to get set up to print barcode labels within the facility. Even if all your materials come from your vendors with proper barcodes, you’ll still find that you’ll have to generate location labels and re-label items from time to time.

There are a variety of methods you can use to print barcodes. We recommend the lowest cost alternative to get started – a barcode font. Barcode fonts give you an inexpensive and flexible way to print labels quickly with high resolution and a low initial investment.

The location barcode is important because the goal of the inventory system is to know not only what you have, but to be able to tell accurately where it all is. You can get creative with the location barcode. Let’s look at an example:

Let’s say that you have a warehouse with 2 shipping doors, 6 aisles of shelves, with a storage shelf on each side of the aisle. When you receive inventory to the dock, you might use a location barcode of “DOCK1” or “DOCK2” to indicate that those materials are sitting inside the door. When you go to put them away, you might put them in location “A3-S6-B4”, which represents Aisle 3, Shelf 6, Bin 4. The important thing to understand here is that the location barcode should not only be understood by the inventory system (it doesn’t really care as long as the location barcode is unique and readable) but also that it means something to the employee putting away the stock.

These steps are going to take a little time, but the good news is that this is the hardest part (from the actual work standpoint) of putting together a barcode inventory system. Try to make sure you have enough help, or at least enough time to be thorough about this process. Make sure that everyone’s expectations are realistic about the level of effort required for this step.

Now you’re ready to choose the inventory software that you’ll use.
Choosing Inventory Software and the Initial Inventory - Your First Steps

Inventory software and barcode tracking scanners have become less expensive over the last 5 years or so. As you might expect, the capability of inventory software is the inverse of the price. Please note that for the first 2 categories below, the mobile barcode scanner will be a “batch” scanner. That means that you’ll collect inventory data using the scanner, then come back to a PC and pull it out. The third category of systems includes “wireless” systems, where the mobile barcode scanner connects to the database on the network using a WiFi connection.

That being said, there are 3 general categories of inventory software: (Note: all prices are for a single user copy of the desktop software, the mobile barcode scanner, and the program that runs on the scanner.)

Least Expensive ($500-$1500) – Runs on the mobile barcode scanner only. Gives you the ability to take inventory data - track receipt, put away, move and ship (just another word for taken out of inventory). When you’ve collected the data, you come back to a desktop PC and pull out the data file from the mobile barcode scanner. From there, you can open it in Microsoft Excel, or import it into a database program like Microsoft Access, SAP or Oracle. Although this is gradually changing, most of the least expensive programs will just give you item number information. That means that when you open up the file, there will be no descriptive information about the items that you scanned. You’ll need to cross-reference this information with the Master List to come up with the description of the material.

HINT: If you have the Master List in Microsoft Excel, just import the data from the mobile barcode scanner into another worksheet in the Excel workbook. Then write a simple macro using the VLOOKUP function to copy the descriptions from the Master List worksheet to the sheet that contains the mobile barcode scanner data.

Products that fit into this category are: PTS Tracer (ptshome.com), CBC Invento-ry, SerialMagic (serialio.com), DoliInventory (wakefieldsoft.com/dol-inventory/)

Budget, Full System ($1000-$5000) – This type of system has both the mobile barcode scanner and a desktop program with the ability to pull the data from the scanner. The desktop program has the ability to do everything the mobile barcode scanner does, but also gives you the ability to add items, run reports, schedule cycle count, etc. The desktop program has an inventory database, most likely in Access or SQL format. These systems are very capable, full featured and complete. They can import and export data with any back-end system you might have. Single-user systems to start, they can be upgraded to multiple users talking to the database at the same time.

Products that fit into this category are: RedBeam, Track ‘Em, RioScan

Full Featured System ($10,000+) – This is a state-of-the-art system with wireless mobile barcode scanners. The scanners talk to the database in real-time, and make any updates as they happen so the database is always up to date. On the desktop side, these systems tend to be multi-user, and have the ability to designate bin sizes and take feeds from an MRP system. They can also use ordering system data to project warehouse capacity vs. orders vs. item usage, and other sophisticated features you would need for complete warehouse management. One of the coolest things One of these features allows an operator to scan a single pallet barcode on an incoming shipment and presents him with a list of items in the pallet, and the open location recommendation from the system for where to stock it.

Products that fit in this category are: Sage, Intellitrack, CoreIMS

Naturally, your choice of software will be driven by your goals and your budget. The most important thing is to take your time defining your needs and to complete a thorough evaluation of the demo programs supplied by the manufacturer. Keep in mind that many of the “off the shelf” programs listed above can be modified by the manufacturer to meet your specific needs.

After you select the inventory software and receive your training, all you have to do is import your Master List to set up the system. You’re now ready to put in inventory information.

After you select the inventory software and receive your training, all you have to do is import your Master List to set up the system. You’re now ready to take the initial barcode inventory.

I Have the Software, Everything’s barcoded – Now what do I do?

Complete the initial inventory – Now you have to scan all the items and locations for the materials that you have in inventory. This part is fairly disruptive to the normal operation of the business (that’s why you see businesses closed for inventory), but you can do it effectively if you follow these guidelines:

Make sure you have enough staff and scanners. As a rule of thumb, one operator can inventory 30 bin locations per hour if there is only one item in each bin location. If your locations have multiple unique item numbers in them, assume that they can scan 80 unique item numbers per hour. NOTE: These estimates should be conservative, but it’s important to make sure you hit the initial inventory hard and get it done quickly and completely. You’ll want to minimize business interruptions.

Have a plan. Do the inventory systematically, from one end of the warehouse to the other. Try to complete entire sections at one time. Mark the locations with a “flag” like a post-it note or a red dot sticker to indicate when the inventory of that bin location is complete. If you don’t think you can shut down the warehouse for the amount of time it will take to complete the inventory, consider pulling the inventory required for your business to run while the inventory is being completed. Put these materials in a special place, and have a manual list of what’s there. That way, your employees can pull from that stock to do their jobs while you’re completing the inventory. At the end, you’ll count the materials left in that area, key in the item numbers and original quantities, then remove the quantities of each that was used while the inventory was taking place.

Reconcile the inventory against the accounting balances that you’re showing for the inventory. Most of the time, the difference between the accounting inventory and the actual inventory will be substantial. Planning to do this validation before you go live with your inventory process will give you the opportunity to spot-check any glaring discrepancies between the two.

If you’ve followed along so far, you’re now ready to “go live” with your inventory system.

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Go Live with the New Inventory System

OK, the hard part is over. Honestly. All that’s left is to make sure your inventory system quantities remain accurate. This is strictly a function of work practices. Work Practices are defined as “ways of structuring things a worker must do, or ways in which something is done”. Although the work practices for your new inventory system are fairly simple, they must be adhered to in order for the data to remain valuable over time. Here are some guidelines:

Never add, move or remove anything from inventory without first recording the transaction with either the portable barcode scanner or the desktop software. If you don’t use the system to record all transactions, two things will happen. First, the inventory data you have will not be accurate for accounting practices. Because the inventory data is inaccurate, the system won’t give you accurate re-order, usage or quantity reports. This part is critical. Failure to implement work practices where you log all inventory transactions will completely invalidate all your work!

Everything must have a readable barcode label. Over time, you will introduce new items into the inventory and eliminate others. Your shelving locations may change or you may add more. The power of the system is the ability to quickly and efficiently log inventory movements. Make sure that all your products have valid barcode labels. Make sure all your location labels are readable.

NOTE: You can key in the data from a missing or damaged barcode using the keypad on the barcode scanner, but you’ll stand the chance of making more errors using this method. Data entry using barcodes is much more accurate than keyed entry.

Designate a responsible person or group. In order for the inventory system to work, you have to make sure that the folks responsible for the inventory have the commitment and authority to make sure that the inventory work practices are followed. This doesn’t necessarily mean the times that you do a full inventory, but when you receive, put away, move and pull out items and materials. Remember, the inventory will only be as accurate as the diligence you put into administering it.

Audit the inventory system data. Over time, mistakes and omissions will be made in entering the inventory transaction data. Use the “cycle-count” option in your inventory system to spot-check the accuracy of random item quantities. This will let you measure the effectiveness of your work practices.

Run and analyze reports often. Obviously, using the re-order report will help you to make sure that you always have the materials you’ll need on-hand. Consider harnessing the full power of your inventory database. Look at item usage over time, and make sure you’re not carrying more inventory of low-use items than you really need. Eliminate inventory that you’ll never use. Analyze the fast-moving items and project your needs for the rest of the year, and use that data for basis of negotiating with your vendors. If you think about it, the database can tell you the story of your inventory.

NOTE: Most inventory systems have an option to design customized reports. This option gives you the ability to query the database and generate reports on just about anything having to do with inventory transactions.

Be open to worker’s suggestions on making the system more efficient. Since the folks logging the inventory transactions are the ones who will make the system accurate (and successful), be open to their suggestions. Most of the time they’ll want to make the work practices more efficient so they can get through their day quicker and with less mindless work. Be responsive and implement suggestions where ever possible. Sometimes those suggestions will save your company “big money”.

That’s it! If you used this white paper as a guide while going through your implementation – Congratulations! If you’re using this to prepare, good luck! In either case, if you have any questions, just give us a call and we’ll help you any way that we can.