

ASCTrac™ WMS

Microsoft® Windows® NT/2000 Based Warehouse Management Solutions

Developed by ASC, Inc.

Integrated Warehouse Management Solutions for Manufacturing, Distribution, and Fulfillment Operations

Leading Edge Technologies

ASCTrac™ WMS is a modular software solution designed to support the demands of manufacturing and distribution/fulfillment warehouse operations of virtually any size. ASCTrac utilizes proven, state-of-the-art technologies including Windows NTclient/server architecture, SQL database engines, radio frequency (RF) communications, bar code identification and printing.

ASC, Inc. understands that maintaining control of products, space, equipment, manpower, and other resources within your warehouse operation is essential to the success of your business. That's why we developed (and continually enhance) an advanced, logical WMS solution that provides you with the ability to direct warehouse workflow and throughput, to track inventory with virtually 100% accuracy, and to control the use of warehouse space and equipment. And because ASCTrac WMS utilizes advanced RF communications for all point-of-activity functions, it is often referred to as a paperless system - providing complete direction with error checking and validation immediately upon task completion.

Comprehensive Results

ASCTrac offers you all of the accuracy, flexibility, and power that warehouse management demands, giving you total control of your warehouse from receiving, put-away, and replenishment, to physical/cycle counts, order and production picking, shipping, and complete productivity management.

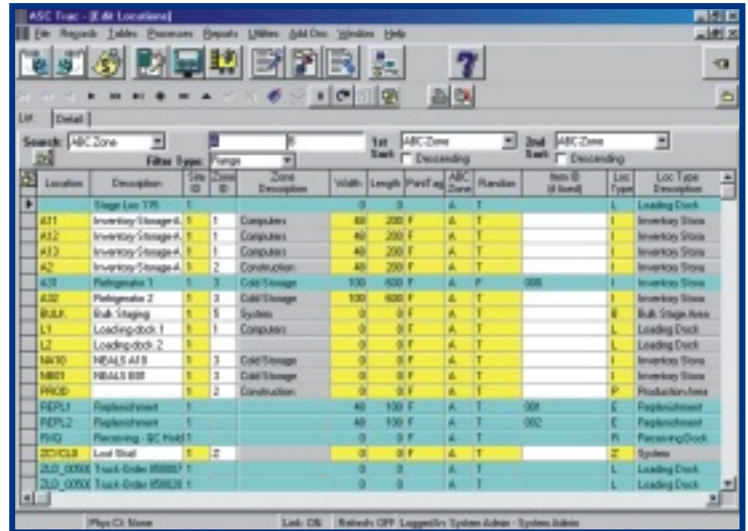
Our customers have proven ASCTrac WMS to be a very valuable tool within their day-to-day operations - eliminating many inefficiencies and redundant efforts. Using a combination of bar code identification, radio frequency data collection technology, and ASCTrac WMS software, we are seeing time after time that our customers are lowering their operating costs, reducing inventory levels, and improving material movement, while increasing customer service, inventory accuracy, and employee productivity. Thus, ASCTrac pays for itself with a very fast return on investment!



With a continual increase in global competition, product and labor costs on the rise, and customer service never more important . . . ASCTrac simply makes good management sense.

ASCTrac™ WMS Features & Benefits

- ! Process receipts, returns, put-aways, orders, picks, moves, issues, and counts more efficiently and accurately using RF and system-directed workflow.
- ! Supports multiple warehouses when using a Wide Area Network (WAN) and an SQL database engine (ASCTrac Enterprise version).
- ! Supervisor/user defined rules/tables.
- ! An optional Statistics Module provides graphical representations of worker performance, warehouse efficiency, history charts, and more.
- ! Built-in custom report generator - you define/select the fields to report.
- ! An audit trail transaction file allows managers to see who did what, where, and when it happened.
- ! ASCTrac WMS supports the most popular database engines, interfaces, and protocol formats including TCP/IP, XML, SQL, API, ASCII, ASN, and PLC logic. Others available on request.
- ! Supports RF scanners manufactured by Symbol, Telxon, Intermec and others. ASCTrac also supports most bar code label printers (i.e. Sato, Zebra, Datamax, etc.).
- ! Interfaces available to complement any ERP/MRP host system.
- ! ASCTrac supports many user defined preferences such as screen layouts, user views, & much more.
- ! Includes eDocuments Module for RF enabled printing of user defined documents such as MSDS (Material Safety Data Sheets), QC procedures, engineering drawings, manufacturing instructions, etc. Documents are printed at the point of activity and can be any Windows compatible file format.
- ! Bar code label design tool for creating compliance shipping labels and custom item/location labels.
- ! ASCTrac has received customer FDA approval and supports hazardous materials handling.



Location	Description	Qty	Zone	Width	Length	Part No	ABC Zone	Random	Item ID	Loc Type
A11	Inventory Storage 1	1	Computer	40	200	F	A	T		Inventory Stock
A12	Inventory Storage 1	1	Computer	40	200	F	A	T		Inventory Stock
A13	Inventory Storage 1	1	Computer	40	200	F	A	T		Inventory Stock
A2	Inventory Storage 4	2	Construction	40	200	F	A	T		Inventory Stock
A3	Palletization 1	1	3	100	400	F	A	F	000	Inventory Stock
A32	Palletization 2	1	3	100	400	F	A	T		Inventory Stock
BLA	Sub Staging	1	System	0	0	F	A	T		Sub Staging Area
L1	Loading-dock 1	1	Computer	0	0	F	A	T		Loading Dock
L2	Loading-dock 2	1	Computer	0	0	F	A	T		Loading Dock
NW30	NEALS AFB	1	3	0	0	F	A	T		Inventory Stock
NW31	NEALS BFB	1	3	0	0	F	A	T		Inventory Stock
NW32	NEALS CFB	1	3	0	0	F	A	T		Inventory Stock
NW33	NEALS DFB	1	3	0	0	F	A	T		Inventory Stock
NW34	NEALS EFB	1	3	0	0	F	A	T		Inventory Stock
NW35	NEALS FFB	1	3	0	0	F	A	T		Inventory Stock
NW36	NEALS GFB	1	3	0	0	F	A	T		Inventory Stock
NW37	NEALS HFB	1	3	0	0	F	A	T		Inventory Stock
NW38	NEALS IFB	1	3	0	0	F	A	T		Inventory Stock
NW39	NEALS JFB	1	3	0	0	F	A	T		Inventory Stock
NW40	NEALS KFB	1	3	0	0	F	A	T		Inventory Stock
NW41	NEALS LFB	1	3	0	0	F	A	T		Inventory Stock
NW42	NEALS MFB	1	3	0	0	F	A	T		Inventory Stock
NW43	NEALS NFB	1	3	0	0	F	A	T		Inventory Stock
NW44	NEALS OFB	1	3	0	0	F	A	T		Inventory Stock
NW45	NEALS PFB	1	3	0	0	F	A	T		Inventory Stock
NW46	NEALS QFB	1	3	0	0	F	A	T		Inventory Stock
NW47	NEALS RFB	1	3	0	0	F	A	T		Inventory Stock
NW48	NEALS SFB	1	3	0	0	F	A	T		Inventory Stock
NW49	NEALS TFB	1	3	0	0	F	A	T		Inventory Stock
NW50	NEALS UFB	1	3	0	0	F	A	T		Inventory Stock
NW51	NEALS VFB	1	3	0	0	F	A	T		Inventory Stock
NW52	NEALS WFB	1	3	0	0	F	A	T		Inventory Stock
NW53	NEALS XFB	1	3	0	0	F	A	T		Inventory Stock
NW54	NEALS YFB	1	3	0	0	F	A	T		Inventory Stock
NW55	NEALS ZFB	1	3	0	0	F	A	T		Inventory Stock
NW56	NEALS AFB	1	3	0	0	F	A	T		Inventory Stock
NW57	NEALS BFB	1	3	0	0	F	A	T		Inventory Stock
NW58	NEALS CFB	1	3	0	0	F	A	T		Inventory Stock
NW59	NEALS DFB	1	3	0	0	F	A	T		Inventory Stock
NW60	NEALS EFB	1	3	0	0	F	A	T		Inventory Stock
NW61	NEALS FFB	1	3	0	0	F	A	T		Inventory Stock
NW62	NEALS GFB	1	3	0	0	F	A	T		Inventory Stock
NW63	NEALS HFB	1	3	0	0	F	A	T		Inventory Stock
NW64	NEALS IFB	1	3	0	0	F	A	T		Inventory Stock
NW65	NEALS JFB	1	3	0	0	F	A	T		Inventory Stock
NW66	NEALS KFB	1	3	0	0	F	A	T		Inventory Stock
NW67	NEALS LFB	1	3	0	0	F	A	T		Inventory Stock
NW68	NEALS MFB	1	3	0	0	F	A	T		Inventory Stock
NW69	NEALS NFB	1	3	0	0	F	A	T		Inventory Stock
NW70	NEALS OFB	1	3	0	0	F	A	T		Inventory Stock
NW71	NEALS PFB	1	3	0	0	F	A	T		Inventory Stock
NW72	NEALS QFB	1	3	0	0	F	A	T		Inventory Stock
NW73	NEALS RFB	1	3	0	0	F	A	T		Inventory Stock
NW74	NEALS SFB	1	3	0	0	F	A	T		Inventory Stock
NW75	NEALS TFB	1	3	0	0	F	A	T		Inventory Stock
NW76	NEALS UFB	1	3	0	0	F	A	T		Inventory Stock
NW77	NEALS VFB	1	3	0	0	F	A	T		Inventory Stock
NW78	NEALS WFB	1	3	0	0	F	A	T		Inventory Stock
NW79	NEALS XFB	1	3	0	0	F	A	T		Inventory Stock
NW80	NEALS YFB	1	3	0	0	F	A	T		Inventory Stock
NW81	NEALS ZFB	1	3	0	0	F	A	T		Inventory Stock
NW82	NEALS AFB	1	3	0	0	F	A	T		Inventory Stock
NW83	NEALS BFB	1	3	0	0	F	A	T		Inventory Stock
NW84	NEALS CFB	1	3	0	0	F	A	T		Inventory Stock
NW85	NEALS DFB	1	3	0	0	F	A	T		Inventory Stock
NW86	NEALS EFB	1	3	0	0	F	A	T		Inventory Stock
NW87	NEALS FFB	1	3	0	0	F	A	T		Inventory Stock
NW88	NEALS GFB	1	3	0	0	F	A	T		Inventory Stock
NW89	NEALS HFB	1	3	0	0	F	A	T		Inventory Stock
NW90	NEALS IFB	1	3	0	0	F	A	T		Inventory Stock
NW91	NEALS JFB	1	3	0	0	F	A	T		Inventory Stock
NW92	NEALS KFB	1	3	0	0	F	A	T		Inventory Stock
NW93	NEALS LFB	1	3	0	0	F	A	T		Inventory Stock
NW94	NEALS MFB	1	3	0	0	F	A	T		Inventory Stock
NW95	NEALS NFB	1	3	0	0	F	A	T		Inventory Stock
NW96	NEALS OFB	1	3	0	0	F	A	T		Inventory Stock
NW97	NEALS PFB	1	3	0	0	F	A	T		Inventory Stock
NW98	NEALS QFB	1	3	0	0	F	A	T		Inventory Stock
NW99	NEALS RFB	1	3	0	0	F	A	T		Inventory Stock
NW100	NEALS SFB	1	3	0	0	F	A	T		Inventory Stock

ASCTrac Core Software Modules

- ! **System Manager:** RF communications, database utilities, configuration files, print spooling, etc.
- ! **Receiving/Put-away:** Managing receipts/put-away of raw materials and finished goods
- ! **Inventory Management:** Moves, issues, returns, counts, holds, and warehouse logic
- ! **Advanced Picking & Shipping:** Customer order & production picking, wave & batch picking, zone picking, replenishment, dock door scheduling, trailer/container tracking, and more

ASCTrac Optional Software Modules

- ! **3PL Storage & Handling:** Tracks ownership of inventory and calculates storage & handling fees
- ! **Parcel Shipping:** UPS, RPS, FedEx, USPS, and more (consult ASC for details)
- ! **eBusiness:** Internet based order entry, RMAs, WMS reporting and queries
- ! **Work Orders:** B.O.M. picking, staging, issuing, back-flushing, and more
- ! **Manufacturing Execution:** Off-the-shelf software for work cell tracking & lot traceability
- ! **Work-In-Process Inventory:** Customized modules for manufacturing work cell production tracking
- ! **Work-In-Process Labor Tracking:** Time & attendance, productivity tracking
- ! **Production Planning:** Plan production quantities and purchases, includes "what if" scenarios
- ! **Demand Planning:** Forecast production quantities based on historical trends
- ! **Logistics:** Route planning and building, load sequencing and more...
- ! **Statistics:** Real-time visual monitors & historical analysis of labor and warehouse performance
- ! **ASCRoute:** Full-featured route accounting system, can be stand-alone or interfaced with ASCTrac
- ! **Host Gateway Interface:** Connectivity to any host platform (consult ASC for a complete list)
- ! **ASCTrac Enterprise:** Multi-site inventory accounting, orders & picking.
- ! See individual module brochures for further details or visit our web site at: www.ascbarcode.com

ASCTrac™ Receiving & Put-Away

Microsoft® Windows® NT/2000 Based Warehouse Management Solutions

Developed by ASC, Inc.

Capture Receipt Data, Label Products, & Optimize Put-Aways

Accurate Optimized Receiving

Warehouse Managers know that inventory accuracy begins with efficient, optimized, and validated receiving operations - receiving against open Purchase Orders, Advance Ship Notices (ASNs), warehouse transfer orders, production work orders, etc. Information about items received at your dock should be collected in real-time so that data is instantly available to all areas of your business and tasks are immediately assigned to warehouse operators in order to optimize workflow. The ASCTrac Receiving Module sets the stage for your warehouse efficiency and accuracy by utilizing bar code identification, *real-time* wireless scanning computers, and extensive configurable warehouse logic.

Logic & Efficiency

As items are received into your warehouse, pertinent information, such as P.O. number, item number, skid ID, lot number, quantity, etc., is collected wirelessly via hand-held or fork truck mounted scanning computers. Using a set of administrator defined rules, ASCTrac provides warehouse personnel with a suggested put-away location for each item received. By using the RF network, operators are prompted to take items to the nearest bulk stock or replenishment location(s), cross-dock items to production, shipping, or staging area(s), place items in Q.C. hold, or take the items to a supervisor defined zone.



Flexibility

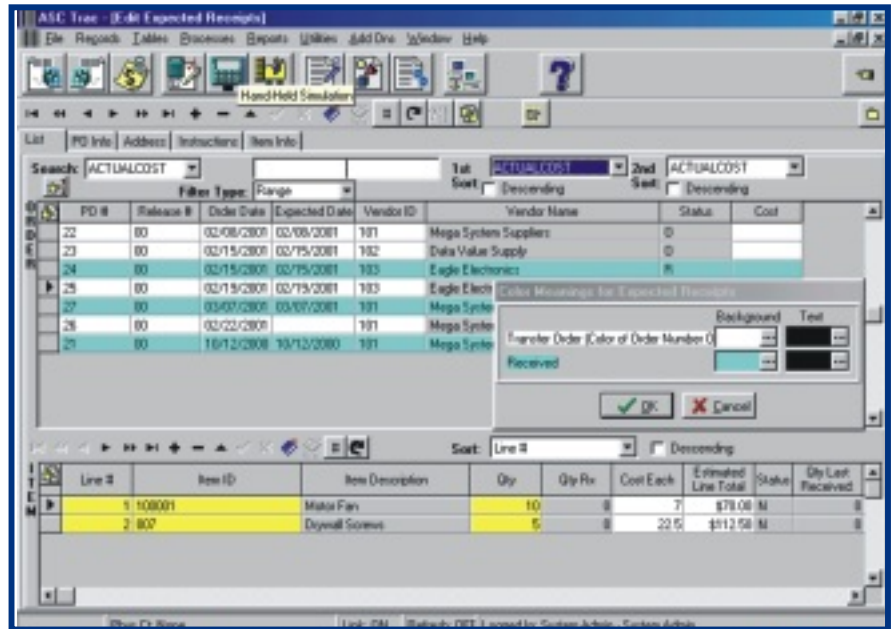
Because ASCTrac was designed from the ground up to operate dynamically in a “real world” environment, operators may elect to override the system suggested location in the event of blocked aisle ways or other unforeseen instances. System users can perform on-the-fly location queries on their hand-held computers to determine alternate locations. At a put-away location, operators simply scan bar coded skid or case labels, and then scan the location identifier where the items are placed. Once items are put-away or issued, the receiving file is updated and ASCTrac will update the host ERP or accounting system.

In addition to RF directed put-away and other logic, the ASCTrac Receiving Module supports configurable location and zone attributes for storing hazardous materials, refrigerated goods, fast moving items, and so forth. For more information about the ASCTrac Receiving Module, contact us for a copy of the ASCTrac Technical Summary.

ASCTrac Receiving Module

Features & Benefits

- ! Validate received items via expected receipts (open P.O.s), ASNs, release numbers, blind receipts, or other host interface.
- ! Purchase Orders and production requests can be downloaded from any host computer system, or manually entered into a ASCTrac client PC.
- ! Once items are received, identified, counted, inspected, and labeled, ASCTrac directs operators to a suggested put-away location.
- ! Critical cross-docking is supported to allow “hot” received items to be immediately directed to production work cells, a shipping or staging area, or some other administrator defined location. Since received items are validated in real-time, costly down time can be dramatically reduced by using this feature.
- ! A configurable variance factor determines if received quantity overage/underage is allowed, and if so, by how much. Variances in received quantities are also reportable for evaluating vendor performance.
- ! Each inbound item has a set of Quality Assurance rules assigned to allow for random sampling, every Nth time, etc. You choose the frequency and sample size by item, vendor, or item/vendor. Items placed on QA hold can not be released until a user with proper security clearance does so.
- ! The ASCTrac Receiving Module supports skid/pallet tracking, lot and serial number tracking, date code and expiration tracking, and direct returns processing. Lot numbers can be optionally system generated by ASCTrac on receipt.
- ! Support for Return Merchandise Authorizations (RMA). RMAs can be downloaded from a host system, or entered directly into ASCTrac.
- ! Reconciliation of damaged goods, shortages, and back orders are also supported.
- ! Several standard receiving reports are bundled with ASCTrac. Custom reports are also easily generated with simple point-and-click mouse operations.
- ! The Receiving Module also allows you to receive items in to the warehouse directly from assembly lines for finished goods put-away.
- ! A "non-item pickup" function allows tracking receipts of non-inventory items such as office supplies, production machinery parts, etc.
- ! An e-mail notification of received items can be automatically sent to suppliers upon receipt verification. Additionally, ASN acknowledgments and faxes can be sent.



For more information on other ASC products and services, please visit our web site at:

www.ascbarcode.com

ASCTrac™ Inventory Management

Microsoft® Windows® NT/2000 Based Warehouse Management Solutions

Developed by ASC, Inc.

Configurability, Reliability, & Control

Inventory Control

ASCTrac™ provides new insights into the management of inventory, personnel, space, and equipment. This allows warehouse managers to improve operational workflow and throughput within their warehouse, distribution center, or factory floor. Supervisor-definable logic within the ASCTrac Inventory Module gives warehouse managers the flexibility and control to configure ASCTrac to meet the specific needs of the warehouse(s) they manage. Cycle counting, replenishment, moves, transfers, location management, physical counting, and space optimization are only a few of the warehouse management functions that ASCTrac can optimize and/or automate.



Item, Location, and Zone Control

The attributes assigned to the items, locations, and zones within a warehouse define how ASCTrac will optimize, interweave, and direct warehouse workflow. Items can be placed into categories, assigned to supervisor-definable zones, tracked by skid, case, or some other chosen unit of measure. Item and location dimensions are used by the system to optimize space utilization and put-away logic.

Warehouse locations are administrator configurable to allow for special material handling equipment needs, zone identification, ABC categorization, and setting up the locations' dimensional characteristics. Properly configuring each of the location and zone characteristics ensures accurate inventory traceability and operator productivity.

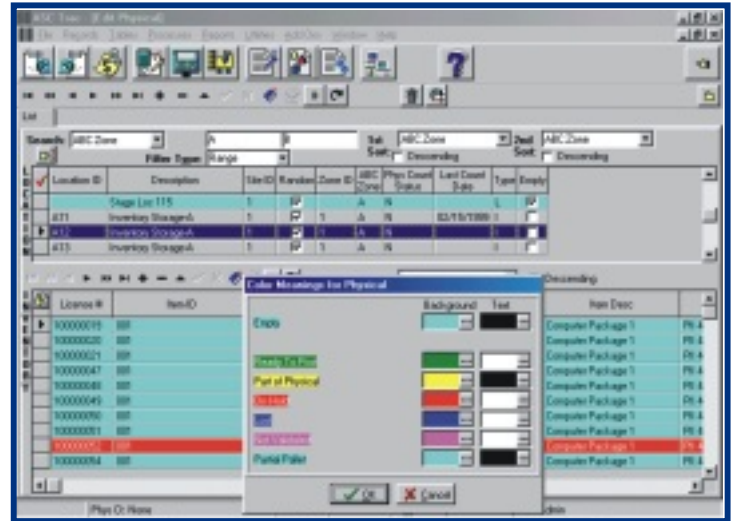
Inventory items are also supervisor configured to define their dimensions, locations/zones in which they can be stored, and their tracking unit of measure. Each item in the inventory table can have up to four units of measure associated with it. Our eDocuments feature provides PC and RF system users with easy access to any Windows compatible file for printing and/or displaying item photos, engineering drawings, QC procedures, MSDS (Material Safety Data Sheets) and much more.

The Inventory Module's data is used throughout ASCTrac to drive system directed decisions such as optimal picking/put-away paths, assign user tasks, ensure accurate location tracking and lot traceability, promote efficient stock rotation, and much, much more - *all of which affect your warehouse's productivity, employee efficiency, and a warehouse manager's bottom line.*

ASCTrac™ Inventory Module

Physical & Cycle Counts

One of the many robust features of the ASCTrac Inventory Module is our unique “Floating Physical,” or no-shutdown physical count. ASC was first to market with this feature that allows all other warehouse operations to continue while a location physical (or full physical count) is taking place. Cycle counts are initiated in a variety of ways including scheduled cycle counts, counts generated as a result of discrepancies during picking or put-away activities, or user-initiated cycle counts. By using ASCTrac’s cycle count capabilities effectively, warehouse managers can eliminate the need for multiple physical counts per year, and in some cases, completely eliminate the need for physical counts, and sustain inventory accuracies of over 99%.



Features & Benefits

- ! ASCTrac supports multiple warehouses (enterprise capable), zones, Q.C. hold areas, fixed/random locations (aisle, bay, level, and bin), and other configurable staging areas.
- ! Extensive Quality Control logic with user defined reason codes, Material Action Forms, random or structured product sampling by vendor and/or item, and much more.
- ! Supports third-party logistics (3PL) warehouse operations with optional 3PL Module for tracking multiple owners of inventory and the transactions related to that inventory for billing purposes.
- ! Inventory can be tracked via multiple SKU/UPC numbers and descriptions, expiration date, manufacturing date, receipt date, lot numbers, serial numbers, skid/pallet I.D., etc.
- ! Includes an unlimited hierarchy of containerization to "link" various containers together, such as trailers, pallets, and master packs, and the associated item serial numbers in the containers.
- ! Administrator configurable zones can be defined for different types of items such as hazardous materials, frozen or refrigerated items, ABC velocity, bulk stock, replenishment stock, and so on.
- ! Each inventory item may have up to four user definable units of measure.
- ! The ASCTrac Inventory Module allows you to create bar coded labels for items received at your dock, received from production, location labels, shipping labels, etc.
- ! RF directed cycle counting and “No Shutdown” physical counting.
- ! Location/item dimensioning, dock scheduling, FIFO/LIFO, and ABC-type logic are all supported.
- ! Item look-ups may be performed from hand-held computers or PC workstations.
- ! Support for direct issues, direct returns, inventory moves, transfers in and transfers out.
- ! Automatic replenishment (restocking) of items based on administrator defined quantities.
- ! Lot control and serial number tracking
- ! Re-pack feature allows items to be “converted” to another SKU number.
- ! Includes Bill of Materials for kitting “build-to-order” products.
- ! Optional modules enable tracking of raw material usage and back-flushing the consumed raw material from inventory into finished goods inventory.
- ! User defined color coding provides quick visibility of empty locations, items on QC hold, partial pallets, and more.

www.ascbarcode.com

ASCTrac™ Advanced Picking Module

Microsoft® Windows® NT/2000 Based Warehouse Management Solutions

Developed by ASC, Inc.

Pick & Ship More Orders - Efficiently & More Accurately

Optimized Picking

Managing large volumes of customer and production orders can be difficult, complex, and even intimidating to some warehouse and production managers. The ASCTrac Picking Module automates many of these complex processes using built-in, configurable picking logic, and hand-held or forklift mounted RF scanning terminals. **You define the logic**, from the simplest of picking parameters (such as single pick-to-order) to more sophisticated functions like wave and batch picking, zone picking, multiple pickers per order, picking by lot number or skid I.D., and load plan fulfillment. The ASCTrac Picking Module even supports raw materials picking (picking and staging items for production, or issuing them directly to production lines) which is based upon a Bill of Materials (BOM) table populated within ASCTrac.



Logic

All picking functions within ASCTrac are **system-directed** from the host computer to wireless hand-held computers (scanners). This ensures pick paths are optimized for the most efficient route and usage of material handling equipment. Since the system is completely dynamic in nature, tasks such as cycle counts, replenishing pick locations, item/location consolidation, and emergency order picking can be interleaved with other tasks based upon system provided real-time information and/or human decision. While these operations appear to be fairly straightforward from a user's perspective, a number of processes take place within the ASCTrac Picking Module to present each picking requirement to the operator. These "behind the scenes" processes simply follow the rules you configure for each warehouse, picker, item, item category, location, zone, etc.

Productivity

Item pick sequences are optimized based on the rules you've set up. The picker's current location, the picking zone(s), First In First Out rotation, and expiration date, are just a few of the variables that are used in formulating the optimum pick path. If a picker arrives at a location to find that a pick cannot be completed, the ASCTrac Picking Module can generate a cycle count request for the material in question by "task interleaving" the pick and count tasks. Since system users are connected in real-time to the ASCTrac host, inventory discrepancies are reconciled immediately on the spot.

ASCTrac™ Advanced Picking Module

Workflow

ASCTrac supports direct and staged loading processes. Operators can use RF scanning terminals to confirm that materials (skids, cases, or containers) are loaded and sequenced on the correct truck, providing real-time data for shipping manifests and bill of lading creation. Shipping documents can be created via RF terminals right at the point of activity and printed on the nearest network attached printer. After loading is complete, Advance Ship Notices (ASNs) can be created and automatically sent to your customers via e-mail, fax, XML, or routed to a third-party EDI translator module. Additional reports about each trailer's contents and the number of orders within each trailer can be generated as well.



Features & Benefits

- ! Customer orders, load plans, or other picking requests can be downloaded from any host system to ASCTrac, or entered directly into ASCTrac using its built-in order entry capabilities.
- ! All picking functions are RF-directed and you can configure order picking to support priority-level picking, skid/pallet picking, case/item picking, wave picking, batch picking, replenishment picking, lot and serial number picking, pick to cart, pick to container, emergency order picking, and more.
- ! ASCTrac also supports the simultaneous use of multiple picking methodologies.
- ! Pre-staged, or direct-to-truck loading supported.
- ! Warehouse supervisors can choose to either schedule orders, order pickers, and dock doors using ASCTrac's built-in scheduling features, or allow the system to automate these processes.
- ! When used with the optional Work Orders Module, the ASCTrac Picking Module can support picking of raw materials to fill production orders (based on a Bill of Materials) as well as issuing raw materials to staging areas, manufacturing work cells, or production lines. Finished goods put-away (by item number, lot number, zone, skid/pallet I.D., etc.) and direct return of all unused production materials is also supported.
- ! Confirm pick/ship capabilities make certain that the correct order is scheduled, picked, loaded (in sequence if required), and shipped correctly.
- ! The ASCTrac Picking Module allows "locking down" and unlocking of orders once picking starts, as well as the opening, loading, unloading, closing, re-opening, and shipping of trailers.
- ! Extremely powerful wave and batch picking algorithms allow supervisors to easily orchestrate large picking sequences based on virtually any criteria. Extensive sort and filter options provide an endless array of picking options and flexibility.
- ! Bill of lading, shipping labels, compliance labels, packing slips, standard shipping reports, and more can be generated/printed from wireless hand-held computers or PC workstations.

For more information, or to request an ASCTrac proposal, please visit our web site at:

www.ascbarcode.com