

WAREHOUSE MANAGEMENT OVERVIEW



TSH USER MEETING 2017



Benefits of MDS-WMS

Manage your inventory as your single largest investment

Improve inventory accuracy

Improve order processing accuracy (less returns)

Improve personnel performance and accuracy

Better utilize warehouse space

Improve customer satisfaction

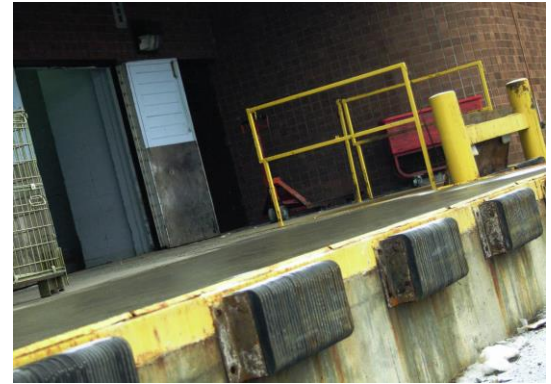
The MDS Warehouse Management Solution

- **Warehouse Design**
 - Single or Multiple Warehouses
 - Branches or Stock Rooms
 - Location Management in Warehouse
 - Location as a Reference or
 - Inventory by Location (Random Locator System)
 - Receive, Stock, and Sell in Multiple Units of Measure
 - Solid Case and Quick Pick Areas (Low Unit)
 - Primary and Backup Locations
 - Low Unit vs. Bulk Picking
 - Low Unit replenishment
 - Environmental and Security Considerations
 - Lot#, Serial#, Expiration Date Control
 - Quarantine Locations



MDS Warehouse Capabilities

- **Warehouse Management Functions (WMS)**
 - Receiving
 - Put Away
 - Replenishment (location management)
 - Picking
 - Physical Inventory / Movements / Adjustments
 - Returns from Customers and to Vendors
- **Interface to UPS and FedEx**
 - Shipping information is sent out and tracking information is received.
- **Delivery Route Management**
 - Manifest System
 - Proof of Delivery (Signature capture)
 - Package Tracking with Multiple Stops



Advanced Capabilities

- **Implement Bar Coding to Improve Accuracy**
 - Not necessarily faster
- **Bar Coding Issues**
 - Product or Location Bar Coding
 - Manufacturer Can Label Products:
Not uniform in many industries such as Medical
 - Significant Cost to Barcode Items Upon Receipt
 - Bar Codes do not Define Unit of Measure
 - Alternate Solution: Barcode Locations
 - Maintain Product by Location (one item per location)
- **Wireless Solutions**
 - Wi-Fi or RF Receiving, Replenishment, and Picking
 - Automated Picking - Carousel Systems
 - Voice Response Picking



Item	Weight	Unit Weight	Project
7 OF 12	1755	02/29/08	KOV
48	364	XXXX	

Item	Weight	Unit Weight	Project
1			

Item	Weight	Unit Weight	Project

U.S. NAVY - TAG 4
NAVAL UNDERSEA SUPPORT CENTER
PERSHING DRIVE, FALLS CHURCH, VA 22044

MDSWMS Updated Features



VB.NET Handheld Application – faster, more user friendly, more functional, less prompts.

Receiving/Putaway by Warehouse Zone

Replenishment by Warehouse Zone

Tracking In Pick by Location

Multiple Primaries – Custom Logic

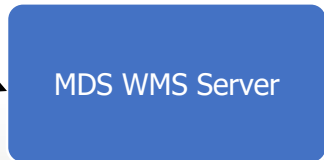
Stock Rotation

Date Controlled items – Like lots but Lot# defaults to Exp Date.

Serialization support



WiFi Equipment Schematic



- Wireless Picking
- Wireless Receiving
- Wireless Inventory And Replenishment



WiFi PDT Handheld/ Equipment



A screenshot of a web browser displaying the product page for the Motorola MC3190 Mobile Computer on the BarcodesInc website. The page features a navigation bar with 'Products', 'Services', 'Solutions', 'Brands', and 'Resources'. The main content area includes an image of three Motorola MC3190 handheld devices, a 'Purpose-built for demanding environments within the enterprise walls' headline, and a 'Questions?' sidebar with contact information (1-888-658-5657, Chat, Email). Below the main text, there are tabs for 'Options', 'Reviews', 'Accessories', and 'Service Contracts'. A 'Motorola MC3190-G (MC3190-GL4H04E0A)' is listed with a 'See Replacement' button and a 'Live Chat' button.

- MDS Supports any device running Windows Mobile 5,6 or Windows CE.
- MDS supports the Motorola Symbol scanning API.

mds Warehouse

from The Systems House, Inc.



Warehouse Management Menu

A screenshot of a software application window titled "Base.12 - [rs6000d.tshinc.com-BASE.12-LOCATOR.MENU]". The interface is divided into several sections:

- Menu List (Left):** A vertical list of 19 items, each with a star icon and a question mark. The items are: 1.Location Maintenance, 2.Location Labels, 3.Environment Maintenance, 4.Location Adjustment, 5.Location Movement, 6.Location Lot Movement, 7.Location Report Menu, 8.Purchase Order Receiving Form, 9.Purchase Order Receipts Menu, 10.Batch Pick Ticket Print, 11.Replenishment - Orders to Be Picked, 12.Batch Pick Ticket Reprint, 13.Replenishment - Nightly Run, 14.Replenishment Labels, 15.Replenishment Completion, 16.Batch Pick Report, 17.Replenishment Assignment, 18.Pick Ticket Assignment Inquiry, and 19.Pick Ticket Assignment Update.
- Find Tasks (Top Right):** A search bar and a list of tasks including Customer Invoices, Customer Sales Orders, Customer Quotes, Customer Detail History, Product Detail History, A/R Checks, Purchase Orders, Vendor Payables, and A/P Checks.
- Charts (Bottom Right):** A section titled "Customer Sales for Salesman 001 Fred Smith" featuring a pie chart. The chart shows a large green slice representing 98.5% and a very thin red slice representing 10%. A legend to the right lists categories: Customer Class 6- RedStar (red), DISTRIBUTOR (purple), MEDICAL CENTER (green), Retail Customers (yellow), VEE TEST (pink), Customer Class 7 BlueStar (light green), MEDICAL (orange), and OEM (light blue).
- Navigation (Bottom):** A row of circular icons for Oe, Contacts, Maint, Drill, Execinq, Reports, Capt Off, View, Crm.menu, and Vrm.menu. Below this is a row of standard function icons: Help, Ok/End, Insert, Delete, Prev, Next, Inquiry, Cancel, Off, Popup, and Duplicate.
- Footer (Bottom):** The text "The Systems House | Operator:ME Ready." is on the left, and the date and time "8/25/2017 16:57" along with keyboard shortcuts "CAP NUM | SCRL" are on the right.

Warehouse Setup



Base.12 - [rs6000d.tshinc.com-BASE.12-WAREHOUSE-MAINT008S1]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

MDS Warehouse Maintenance

Warehouse Number: 001

1. Warehouse Name: THE SYSTEMS HOUSE, INC.

2. Warehouse Addr 1: 1033 ROUTE 46 EAST

3. Warehouse Addr 2: SUITE 202

4. Warehouse Addr 3:

5. City: CLIFTON

6. State: NJ 7. Zip: 07013

8. Owning Company: 01 Base Medical Supply

9. Phone Number: 973-222-7777

10. Tax Jurisdiction: 1 NEW JERSEY

11. Transfer Cust#: 001 Bill N

Warehouse Management

12. Location Control: L 21. Redirect if not in Bulk: 30. Replenish Bulk: N

13. Bulk Redirection: Y 22. OE Replen to Max: N 31. Putaway Loc Sort: Y

14. Receiving Location: P 23. Putaway Print: F 32. Rcv Label at Line: N

15. Credit Location: P 24. Rcv Prod Label UM: S 33. Blind PO Receipt: N

16. IM Replen Method: 25. Prod Rcv Label Size: 1 34. Rcv Form Show Open: N

17. Single Product: N 26. LOT Purge Days: 1 35. Repl Xfer Fill/Kill: N

18. Prim Replen Method: X 27. Replen at Receipt: N 36. Repl Xfer Full Case: N

19. Remove Location Flg: Y 28. Replen by Zone: N 37. Putaway Bypass: Y

20. Replen Case Rounding: D 29. Interface Type: 38. Pedigree by Lot: Y

39. Trans Shipping Warehouses

1.	100	TEST WAREHOUSE
2.	999	RACHEL'S WAREHOUSE
3.	002	NORTHWEST WAREHOUSE
4.	004	THE SYSTEMS HOUSE STORE

40. Purch Whse: 001 THE SYSTEMS HOUSE, INC.

41. GLN Number:

42. Allocate At Rcpt: N

43. Allow Manual Pedigree: Y

44. Pick Selection:

Please make a selection, OK/END to Save, or Cancel

PAGE 1 OF 4

Help OK/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate Userfile

The Systems House Operator:ME Ready. 8/25/2017 16:57 CAP NUM SCRL

Warehouse Level Parameters



- Location Control in use
- Wireless Picking in use
- Totes in use
- Putaway Method – 1 Step, 2 Step, 2 Step by Zone
- Putaway Print – Labels, Forms, Both, None
- Replenish at Receipt Time
- Bulk Redirection
- Receiving Method
- IM Replenishment Method
- Single Product per location
- Replenishment Method (Min/Max or to Max)
- Remove Location Flag (upon depletion)
- Replenish Case Rounding
- Redirect if not in Bulk
- OE Replenish to Max
- Wireless Receipts
- Location Format
- Location Match
- Interface Type



Location Control and Setup



Base.12 - [rs6000d.tshinc.com-BASE.12-LOCATION-MAINT01051]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

LOCATION MASTER FILE

Warehouse 001 THE SYSTEMS HOUSE, INC.

Location BG04-02-3

1.Physical Location

2.Warehouse Zone A3 Z3 SORT SEQ

3.Environment Code 01 STD WAREHOUSE

4.Type B

5.Size

6.Limit 0

7.Levels 0

8.Picking Type

9.Replen Type

10.Multiple Products

11.Std Packaging EA

12.Location Minimum 0 13.Location Maximum 0

14.Products

Products	OnHand	Volume	%	Capacity
CER16mm1			0.000	0.00
HH.PICK			0.000	0.00
			0.000	0.00

15.Length 0 18.Case Qty

16.Width 0 19.Pick Sort Key 000000 Totals 0 0.000 0.00

17.Height 0 20.Putaway Sort Key 000000 Total Volume (Cubic Feet) 0.000

Please make a selection, OK/END to Save, or Cancel

Note: Environment and Type cannot be changed if this Location is not empty.

New Loc Help OK/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready. 8/25/2017 17:00 CAP NUM SCRL



Product Master File



Base.12 - [rs6000d.tshinc.com-BASE.12-PROD.MAST.MAINT00851]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

PRODUCT MASTER FILE MAINTENANCE

Product # KND1500A 101090

1.Description 1 DIAPER ADULT SLIP-ON 21.Cash% 0.00

2.Description 2 SURE CARE (14/BG) 22.Discountable N

3.Vendor # KND LEESAR TEST 23.Taxable Y

4.Vendor Item# KND1500A 24.Discontinued N

5.Purch Agent 25.Accept B/O Y

6.Level 2 Qty 1 Desc EA 26.Partial Ship Y

7.Level 3 Qty 1 Desc EA 27.Inv Bypass N

8.Level 4 Qty 6 Desc CS 28.Stock Status Y

9.Stocking UM EA QTY 1 29.Product Line

10.Prc/Cost UM EA QTY 1 30.Product Class 001

11.Std Sell UM EA QTY 1 31.Product Type 001

12.Alt Sell UM QTY 32.Unit Weight 0.0

13.Purchasing UM CS QTY 6 33.Cost on Lookup

14.Min Sell Qty 1 34.Owning Co# 01 832 Partners

15.List Price 3.837 35.EDI 832 Flag

16.Standard Cost 0.4221

17.Purch/Curr Cost 0.3837 Chg 36.Substitute Ind

18.Show Cost 0.4221 37.Substitute Product#

19.Cost Load %

20.PO/Foreign Cost 0.3837 US 38.Sub Price Ind 0

Please make a selection, OK/END to Save, or Cancel

PAGE 1 OF 6

Notes Prod Num Chg Prod Repeat Userfile

Help OK/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready 8/25/2017 17:02 CAP NUM SCRL



Base.12 - [rs6000d.tshinc.com:BASE.12-PROD.DET.MAINT00851]

File • Edit • Settings • Reset • Tools • Mode • Standard Functions • Special Functions • Refresh Dashboard • Help

Customer Service • Purchasing • Warehouse • Sales Analysis • Sales Management • Accounting Menu • File Maintenance • Utility Menu • Optional Systems • Quick Search

Application

Product Detail Maintenance

Warehouse # 001 THE SYSTEMS HOUSE, INC.

Product # KND1500A DIAPER ADULT SLIP-ON

1.Last Cost
2.STD Cost
3.Message
4.OH Negative Ind Y
5.Lot/Serial Logic N
6.Date Controlled
7.Auto Lot Select
8.Unit/Len Qty U
9.Cycle Count Code
10.Multi-Location Pick in Use
11.Solid Case Pick in Use
12.Solid Case Maximum Pick
13.Primary Location Minimum
14.Primary Location Maximum
15.Solid Case Location Minimum
16.Solid Case Location Maximum

17.Locations Type OnHand

1.	A-100	P	
2.			
3.			
4.			

Total OnHand 0

Enter Line# to Change, Delete to delete, OK to Accept

PAGE 1 OF 2

Help OK/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready. 8/25/2017 17:03 CAP NUM SCRL



Inventory and Product Information

Lot Inventory Display



Base.12 - [rs6000d.tshinc.com-BASE.12-LOT.INQ01051]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

Lot Inventory Availability

Whse 001 THE SYSTEMS HOUSE, INC. Item 103135 Phentoin Sodium ER 100mg 1000ct

PRICE1 2 3 4 Earliest Delivery

Qty 1 2 3 4

Avail	On Hand	In Pick	On B/O	In Use	Adj Qty	Trn Qty	In Work	On P/O
9	9							

LN#	Whse	Lot# / Length Serial#	Location	Recv Date Expire Dt	On Hand In Pick	Available	Lot Cost
1	001	H6546-6134 1708220000015	A-777	08/22/17 12/31/19	1	1	12.5000
2	001	H6546-6134 1708220000016	A-777	08/22/17 12/31/19	1	1	12.5000
3	001	H6546-6134 1708220000017	A-777	08/22/17 12/31/19	1	1	12.5000
4	001	H6546-6134 1708220000018	A-777	08/22/17 12/31/19	1	1	12.5000
5	001	H6546-6134 1708220000019	A-777	08/22/17 12/31/19	1	1	12.5000

Enter END to exit, PREV PG or NEXT PG

Help OK/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House | Operator:ME Ready. 8/25/2017 17:04 CAP NUM SCRL

Lot and Serial Number Tracking Inquiry



Base.12 - [rs6000d.tshinc.com-BASE.12-SERIAL.PROD.INQ012\$1]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

Lot/Serial Number Transaction Inquiry

Product# 13997-PED
PEDIGREE ITEM

Lot Number or ALL ALL
Serial Number or ALL ALL
Pedigree ID or ALL ALL
Warehouse or ALL 001

Ln#	Lot No.	Whs Loc	Quantity	Lot Exp	Tnx	Release#	Price	Cust/Vend No.	DS
Serial No.	Pedigree	Date	Date	Whs	P/O#/Ref#	Cost	Cust/Vend Name		
1	13997-A	A-777		-107/01/15	INV	01A35484001	0.600	RACHEL	
		00000000703	04/12/17		001	TEST	0.5000	BEST MEDICAL SUPPLY	
2	13997-1005	A-888		-501/15/17	PRA			GRACE	ND
			10/05/16		001	01136042	0.5000	US MEDICAL SUPPLY, INC.	
3	13997-1005	A-888		1001/15/17	POR			GRACE	ND
		00000001065	10/05/16		001	01136042	0.5000	US MEDICAL SUPPLY, INC.	
4	13997-A	A-777		-107/01/15	INV	01A09652001	0.590	ANN	
		00000000703	11/06/15		001	TEST	0.2000	ANN'S GARDEN	
5	13997-A	A-777		107/01/15	INV	01A09652001	-0.590	ANN	
		00000000703	11/06/15		001	TEST	0.5050	ANN'S GARDEN	
6	13997-A	A-777		-107/01/15	INV	01A09652001	0.590	ANN	
		00000000703	11/06/15		001	TEST	0.5050	ANN'S GARDEN	
7	13997-A	A-777		-207/01/15	INV	01A09651001	0.590	ANN	
		00000000703	11/06/15		001	TEST	0.2000	ANN'S GARDEN	

Enter 'END' to EXIT, 'NEXT PG' or 'PREV PG'

Lot Track Help Ok/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready 8/28/2017 09:41 CAP NUM SCRL

Receiving



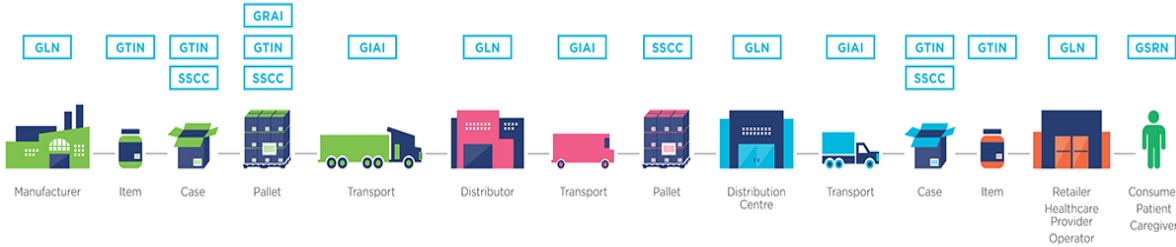
- **Receiving Form Printed (by Vendor and Purchase Order)**
- **Inspect and Approve Receipt**
- **Receipt and Put Away Information Recorded on Receiving Form**
 - Form shows current locations
 - Placement of inventory determined by warehouse personnel
- **Generate Bar Coded Labels at Receiving (Optional)**
 - Product Labels
 - Lot#, expiration date, weight
- **Inventory Receipt Info Entered into MDS System from Receiving Form**
 - Can be entered in warehouse or office





Identify: GS1 Standards for Identification

GLN Global Location Number GTIN Global Trade Item Number SSCC Serial Shipping Container Code GRAI Global Returnable Asset Identifier GIAI Global Individual Asset Identifier GSRN Global Service Relation Number



Capture: GS1 Standards for Barcodes & EPC/RFID

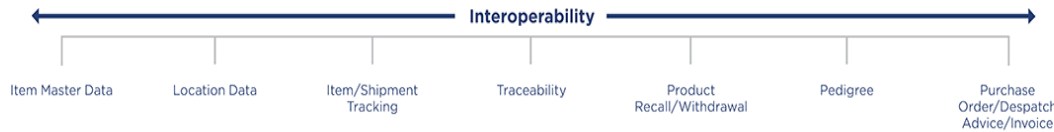
GS1 Barcodes

GS1 EPC/RFID



Share: GS1 Standards for Data Exchange

Master Data Global Data Synchronisation Network (GDSN) Transactional Data Electronic Data Interchange (EDI) Event Data EPC Information Services (EPCIS)



- MDS supports full Serialization with tracking, serial inquiry and auditing.
- MDS now has the capability of creating automated sequential serial numbers during Purchase Order Receipts.

Serialization



Receiving Form



SKMBT_C35208052115360.pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 1 90% Find

PURCHASE ORDER NUMBER: 01131104 VENDOR#: ABCO VENDOR NAME: ABCO DEALERS INC

LN#	ITEM NUMBER	MFG#	OPEN QTY	P/O UM	RPLN FLAG	LOCATION(S)	RECV LOC(S)	RECV QTY	PROBLEM/DSCRPNY
1	GLVE650130 GLOVE NS LTX SM PWDRFREE 100/BOX	Vend Item#:650130	200	CS	000	A-001 A-006 A-100	_____	_____	---
							TOTAL QTY RECVD	_____	---
2	GLVE650132 GLOVE NS LTX MD PWDRFREE 100/BOX	Vend Item#:	250	CS	000	A-002 A-101	_____	_____	---
							TOTAL QTY RECVD	_____	---
3	GLVE650134 GLOVE NS LTX LG PWDRFREE 100/BOX	Vend Item#:650134	300	CS	000	A-004	_____	_____	---
							TOTAL QTY RECVD	_____	---
4	GLVE650136 GLOVE NS LTX XLG PEDRFRE 100/BOX	Vend Item#:650136	300	CS	000	A-005 A-102	_____	_____	---
							TOTAL QTY RECVD	_____	---

RECEIVED BY _____

DATE _____

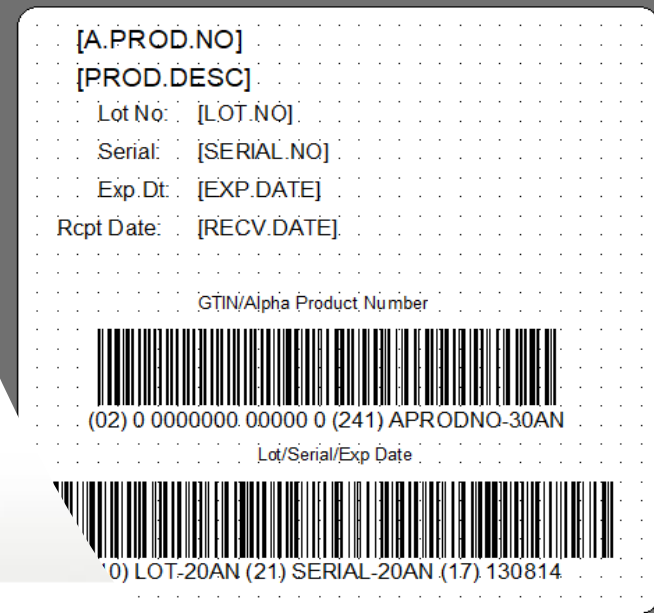
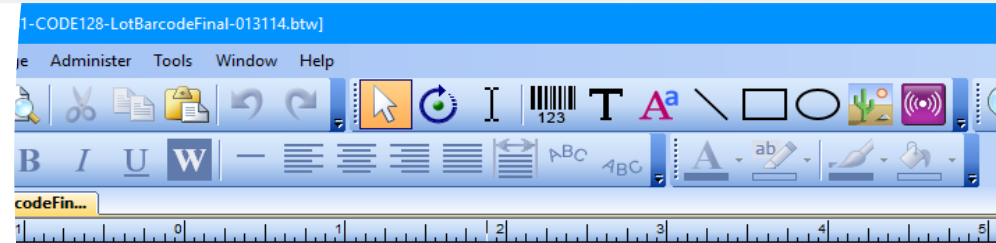
CHECKED BY _____

11.00 x 8.50 in





Label Creation Software





Wireless Menu





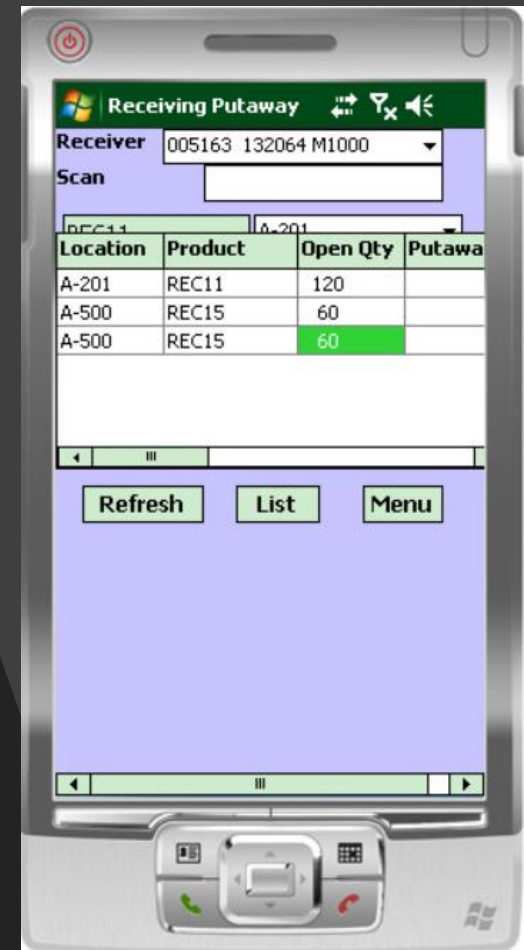
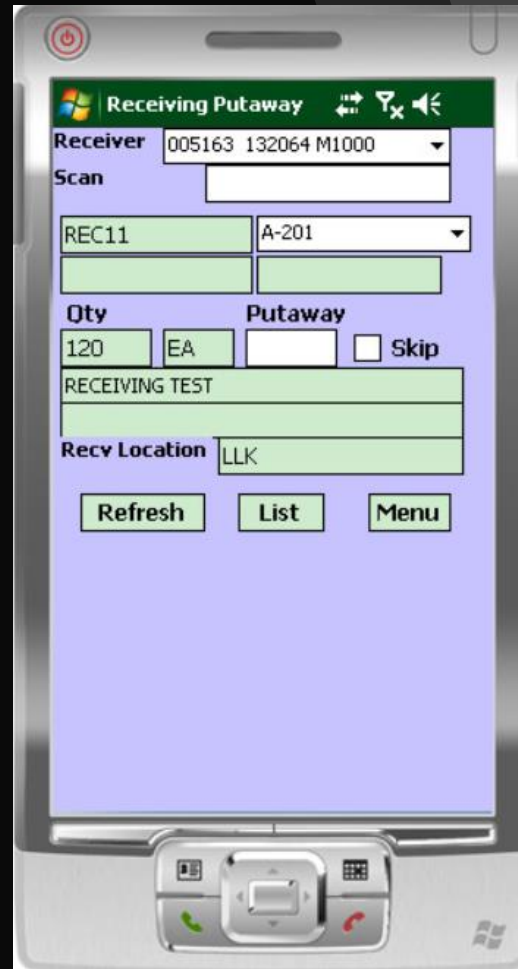
Receiving and Put Away Using MDSWMS Wireless

- **Recall Purchase Order(s) to PDT**
- **Inspect and Approve Receipt**
- **Paperless Receiving Using Portable Data Terminals (PDTs)**
- **Receive to “Receiving Location” (Staging Area)**
 - **Single Receiving Location or by Zone**
- **Generate Bar Coded Labels at Receiving (Optional)**
 - Product Labels
 - Lot#, expiration date, weight
 - Pallet Labels
- **Put Away Merchandise and Record Bin Locations using PDT based on:**
 - **Available space in primary location**
 - **Existing backup location**
 - **Additional backup location**
 - **Cross-Docking of Backorders – By Receiver or By Receiver by Zone**
 - **Environmental Requirements (hazardous, security)**
 - **Weight Requirements (i.e. on ground only)**



Put Away Function

- Receive to “Receiving Location”
- Cross Dock Orders
- Receive to Bulk Location
- Receive to Primary Pick Location



Warehouse Zones



Base.12 - [rs6000d.tshinc.com-BASE.12-WAREHOUSE.ZONE.MAINT012S1]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

Warehouse Zone Maintenance

Warehouse 001 THE SYSTEMS HOUSE, INC.

Zone F1

1.Descripton Flow Rack 1

2.Picking Type (Pallet ID) D Diamond Phoenix

3.Receiving Location A-203

4.Picking Sequence

5.Replenish at Receipt

Please make a selection, OK/END to Save,or Cancel

Help Ok/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

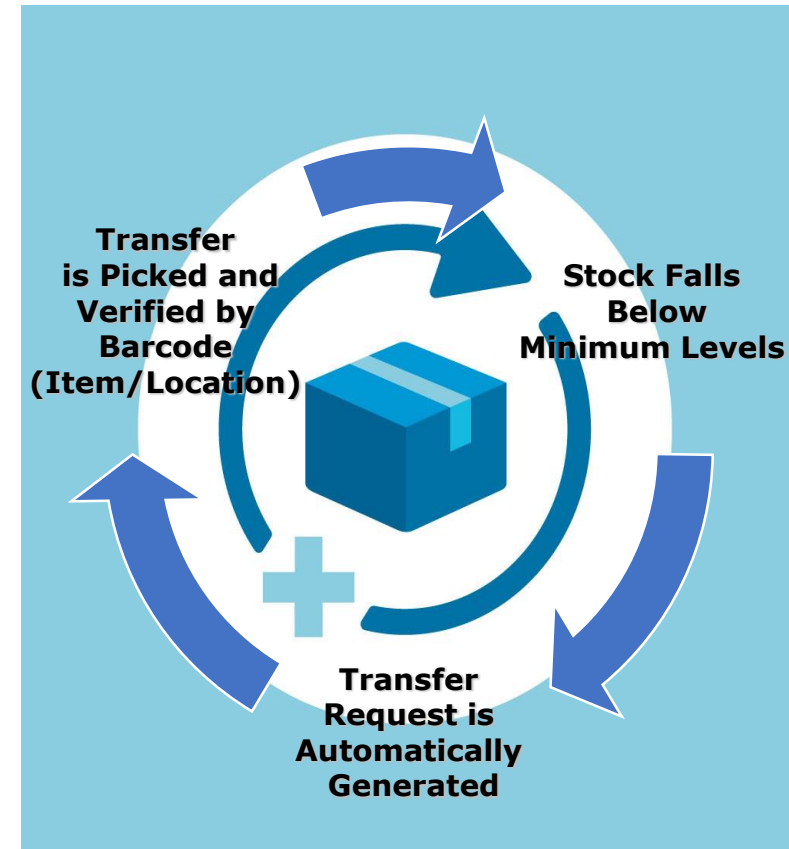
The Systems House Operator:ME Ready. 8/28/2017 09:55 CAP NUM SCRL

Customers Vendors Product Lookup : 9:40:43 AM Customer:

Replenishment Process



- Used if inventory by location has been implemented
- Daily and Just in Time Replenishment
 - Daily – Restock all primary pick locations up to pre-determined level (i.e. 3 days supplies)
 - During day – replenish locations falling below minimum
- Transfer request generated on paper or electronically
- Transfers verified by barcode (Item or Location)
- Stock Rotation – Replenishments will pull from the overflow location with the oldest Received Date or earliest Expiration Date





Replenishment Report

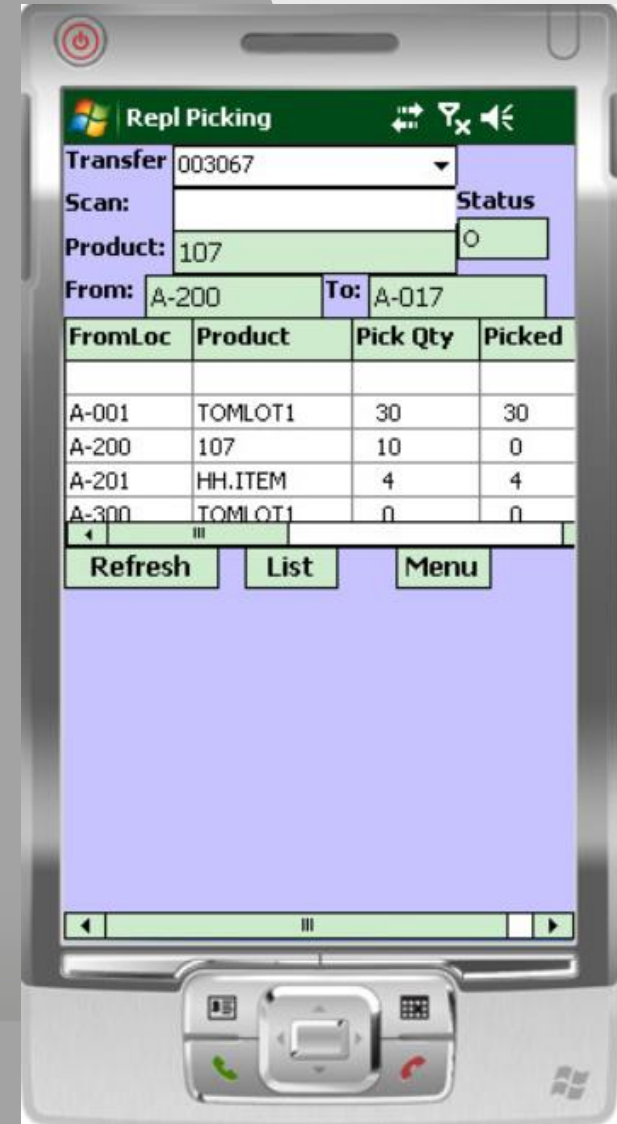
PAGE 4 *** Replenishment Report *** 12:57:45 05/14/09
SEQ.ID: 002622

Product #	Description	From Location	Qty Ord	Qty Req	UM	To Location	Repl Qty	Lvl Qty
A34710	VCTR BLD TRANSFER DEVICE	C0105	200	200	EA	0101090302	1	CS20
A39414	APPLCTR CHLOROPREP SEPP	C0114	598	598	EA	0101310201	598	CS1
A52177	DRESS DISK BIOPATCH	C0302	120	80	EA	0101260301	2	CS40
A37887	PROTECTANT SKIN 4 OZ	D0307	24	24	EA	0101180404	2	CS12
A22634	SHAMPOO BABY 4OZ	E0311	60	60	EA	0103070303	1	CS60
A22718	TRANSDU O2 OXISENS LF	F0108	120	120	EA	0101130301	5	CS24
A14026	GAUZ VASELINE 3X18	F0203	116	116	EA	0103120403	116	CS1
A22662	TRAY DRESS CHG	F0315	20	20	EA	0102120101	1	CS20
A12598	STYLET ET SATIN SLIP 14FR	G0215	60	60	EA	0103090604	3	CS20
A22648	TOOTHBRUSH 50 TUFF	G0216	71	71	EA	0103230302	71	CS1
A38881	CLNSR TECHNICARE 12ML	H0112	50	50	EA	0101010505	1	CS50
A52177	DRESS DISK BIOPATCH	H0112	120	40	EA	0101260301	1	CS40
A32822	PAD INFLT IM PAD REG	J0210	4	4	EA	0102050201	1	CS4
A22699	KIT FATHER DEL XLG	K0316	60	60	EA	0102190501	2	CS30



Replenishment

- Transfer ID is scanned.
- On the replenishment picking, each “from” location is scanned.
- On the replenishment put-away, each “to” location is scanned.
- After scanning the “to” location, the product is moved in the system to the new location and an inventory audit is created.





Items can be stored in multiple locations. Selection based on:

Earliest expiration date

Oldest merchandise (receipt date)

Solid case vs low unit of Measure

Items can now have multiple primary locations

Primary Location with Quantity Available

Orders can be grouped for "batch picking"

Replenishment if in use, must precede print

MDS splits each order into picking zones:

Automated Picking

Bulk Area (solid cases)

Low Unit Picks



Picking



Picking

- **Pick Tickets can print upon entry or batched by time Interval**
- **Pick Tickets typically print in pick location sequence**
- **Picker picks items and notes discrepancies on the pick ticket**
- **Order is verified to the system**
- **Packing Slip Printed**
- **Shipping process initiated with interface to UPS or FedEx**
- **Invoice Printed in-line or overnight**



Picking Ticket



TSH Import Company
1033 ROUTE 46
CLIFTON, NJ 07013

Tel: 973-777-8050
Fax: 973-777-3063

PICKING TICKET

Page: 1

Order Number

01141727001

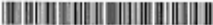
Bill-to: UMC
UNIVERSITY MEDICAL CENTER
ACCOUNTS PAYABLE/TRAVEL
400 BROADWAY AVE
NEW YORK CITY NY 10016-1460

Ship-to: CHSPEC 001 SY
CHILD HEALTH SPECIALTIES
ROOM 230 CCD
NEW YORK NY 10019

Order Date:	05/21/08	Salesman:	SY FERTIG
Required Date:	05/21/08	Ship Via:	UPS
Cancel Date:		Customer Order #:	123755
Order Taker:	SY FERTIG	Caller:	SF

Special Instructions: CREDIT CARD

Line	Location	Item Number / Description	Ordered	UM	Shipped	UM	B/O Qty	Unit Price	UM
4	0100D	BD329431 SYR INSULIN.3CC 29X1/2"	1	BX	1	BX	0	0.000	BX
3	1000A	WA22820 2.5V POCKET OTOSCOPE	1	BX	1	BX	0	0.000	BX
1	1400B	GLVE650132 GLOVE NS LTX MD PWDRFREE 100/BOX	1	CS	10	BX	0	0.000	BX
2	1400B	GLVE650130 GLOVE NS LTX SM PWDRFREE 100/BOX	1	BX	1	BX	0	0.000	BX




Picked By: _____
Checked By: _____

010 PRT0041



PACKING LIST



The Systems House, Inc
1033 Route 46 E.
CLIFTON, NJ 07073

Tel: 973-777-8050
Fax: 973-777-3063

Page: 1

Order Number
01143513001

Bill-to: 1030
MICHAEL GREEN MD 1412 WEST 37th STREET SUITE# 200 NEW YORK NY 11021

Ship-to:	001 SY1
MICHAEL GREEN MD 1412 WEST 37th STREET SUITE# 200 NEW YORK NY 11021	

Order Date:	02/22/08	Salesman:	
Required Date:	02/22/08	Ship Via:	UPS
Cancel Date:		Customer Order #:	77737
Order Taker:	SY FERTIG	Caller:	Ann Margaret
Route:	111		


Special Instructions:	
-----------------------	--

Line	Location	Item Number / Description	Ordered	UM	Shipped	UM	B/O Qty	Unit Price	UM
1	A-777	00069 VIAGRA 100MG TB 30 PFIZER	5	EA	5	EA	0	309.47	EA
.1		WAC Lot #: V-10							
1	A-777	00069 VIAGRA 100MG TB 30 PFIZER	5	EA	5	EA	0	309.47	EA
.2		WAC Lot #: V-15							
2	A-777	E-TPW62 TEMP CARDIAC PACING WIRE	5	EA	5	EA	0	366.02	EA
3	S-11	SCISSORS SURGICAL SCISSORS Serial #:4457-10 Serial #:4457-11	2	EA	2	EA	0	350.00	EA



Packing Slip





Invoice

Inv Number
 01503818
 Page: 1

The Systems House, Inc.
 1033 Route 46 E.
 CLIFTON, NJ 07013

Tel: 973-777-8050

Please Remit To:
The Systems House, Inc.
 1033 Route 46 E.
 CLIFTON, NJ 07013

Tel: 973-777-8050

Bill-to: 1030
MICHAEL GREEN MD 1412 WEST 37th STREET SUITE# 200 NEW YORK NY 11021

Ship-to: 001 SY1
MICHAEL GREEN MD 1412 WEST 37th STREET SUITE# 200 NEW YORK NY 11021

Invoice Date: 02/22/08	Salesman:
Ship Date: 02/22/08	Ship Via: UPS
Our Order No: 01143513001	Customer Order #: 77737
Terms: 2/10 NET 30	

Special instructions:

Line	Item Number / Description	Ordered	UM	Shipped	UM	B/O Qty	Unit Price	UM	Extension
1	00069 VIAGRA 100MG TB 30 PFIZER WAC Lot #: V-10 Lot #: V-15	10	EA	10	EA	0	309.47	EA	\$3,094.70
2	E-TW62 TEMP CARDIAC PACING WIRE	5	EA	5	EA	0	366.02	EA	1,830.10
3	SCISSORS SURGICAL SCISSORS Serial #: 4457-10 Serial #: 4457-11	2	EA	2	EA	0	350.00	EA	700.00
SUB TOTAL									5,624.80
FREIGHT									27.00
INVOICE TOTAL									55,624.80



Invoice

Picking using MDSWMS Wireless

Customer order scheduling based on priority, shipping schedule and personnel availability

Items can be stored in multiple locations. Selection based on:

- Earliest expiration date
- Oldest merchandise (receipt date)
- Solid case vs low unit of Measure

Replenishment if in use, must precede print

MDS splits each order into picking zones:

- Bulk Area (solid cases)
- Low Unit Picks
- Carousel
- Pick to Light Flow Rack (PTL)
- Voice Response

Orders can be grouped for "batch picking"



Warehouse manager assigns orders to pickers



Picker obtains next assigned order from PDT

Display in pick sequence – picker can change sequence

Picker verifies picked items and quantities by barcode (Item or Location)

Discrepancies noted for review and correction

Order is verified to the system

Shipping process initiated



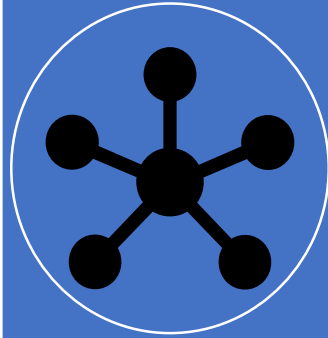
Picking using Totes



Totes are pre-numbered virtual bins.



A tote can represent a container, bin or cart.



If Totes are turned on then each pick line must be attached to one or more Totes.



The Tote # will be prompted for in the Wireless Picking program or can be assigned manually in the Pick Ticket Assignment Update screen.

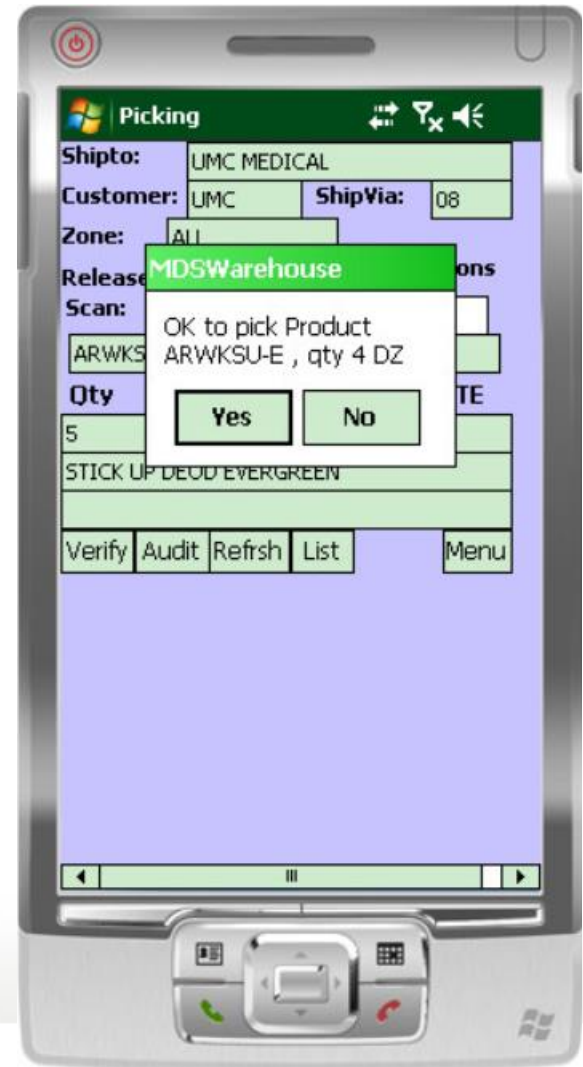


A Tote form can be printed showing all items shipped in each tote





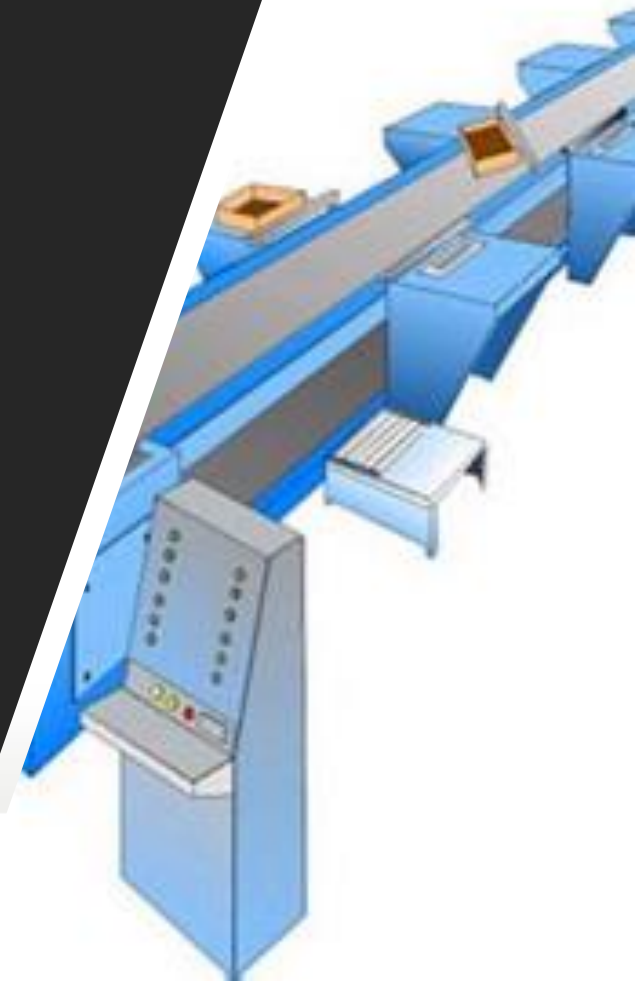
Wireless Picking Using Scanners



Automated Material Handling



- Innovative technologies
- Advanced software solutions
- Data collection and analysis
- Hardware Solutions:
 - ❖ [Horizontal carousels](#)
 - ❖ [Vertical carousels](#)
 - ❖ [Heavy-duty carousels](#)
 - ❖ [Vertical lift modules](#)
 - ❖ [Heavy-duty vertical lift modules](#)
 - ❖ [Storage and retrieval machines](#)
 - ❖ [Automatic inserter/extractors](#)
 - ❖ [Pallet conveyor](#)
 - ❖ [Tote/case conveyor](#)
 - ❖ [Sortation systems](#)
 - ❖ [Light-directed picking](#)
 - ❖ [Voice-directed picking](#)
 - ❖ [Wireless picking](#)
 - ❖ [Specialty products](#)





Carousel And Conveyors



Carousel System

- Automated Storage and Retrieval System for High Speed Order Picking
- The PowerPick software works seamlessly in conjunction with the MDS software
- Saves time while increasing productivity, can improve order picking productivity by as much as **600** percent
- Improves order accuracy and inventory control
- Reduces labor costs
- Saves space





Order Consolidation

Totes can have fixed Tote ID's, or the Tote number can be assigned and a tote label prepared by MDS at the carousel or PTL system.

DiamondPick uploads all tote numbers used for an order.

MDS prints labels for the solid case picks with order number and product bar codes.

At consolidation station tote bar codes and solid case labels are scanned:

- Confirm entire order has been picked
- Print shipping labels
- Print packing slip(s) by tote.



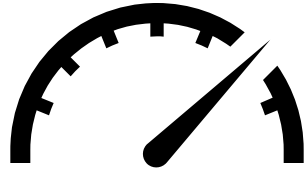
Labor Statistics



Labor tracking by picker

- Number of Lines/Hour/Day/Month
- Number of Orders/Hour/Day/Month
- Dollar Value
- Qty of Items picked
- Time to Pick
- Average Lines/Orders





Picker Statistics Report - Summary

Wireless Picker Statistics Summary Report - Ran on - 10 Jun 2009 PAGE 1

Picker		From	To	Elapsed	Lines	Lines/Hr	Qty
Picker 00	Jeff Schroeder	04:31am 03/06/08	12:16am 03/21/08	0.00	986	0	15327
Picker 3	Shay Martin		03:52pm 03/30/08	33.39	12692	380	210279
Picker 4	Rafael Gonzalez		04:59pm 03/31/09	150.36	344	2	7268
Picker 6	Olive Desire		01:31pm 03/25/08	26.62	13436	505	203000
Picker 7	Jean Abellard		02:14am 03/17/09	0.00	33	0	918
Picker 9	Wanda Cheverez		12:40pm 03/31/08	33.00	21775	660	366077
Picker 11	Carmen Santiago		04:54pm 03/31/08	33.32	12093	363	178876
Picker 12	Rick Schmidt		08:47am 03/31/09	0.00	1006	0	15538
Picker 14	Amy Slabinski		05:01pm 03/31/08	21.52	6642	309	106373
Picker 15	Markus Hayes	07:27pm 03/21/08	02:16am 03/20/09	3.51	244	70	6424





Warehouse Procedures

Other Procedures

- Cycle Counts
- Physical Inventory
- Inventory Adjustments
- Transfers
- Customer Returns
- Return to Vendor



Physical Inventory



Base.12 - [rs6000d.tshinc.com-BASE.12-PI.TAG.GEN010S1]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

Physical Inventory Tag Generation

Date Created 10/11/16

Time Created 05:39:55pm

Status Code U

Cycle Count Code 1106

1.Full Physical N

2.Warehouse Number 001

3.Selection Type 4

4.From PO# or ALL

5.From Vendor#

6.From Prod Line

7.From Product# 13876

8.From Cycle

9.From Product Rank

10.From Prod Class

11.From Whse or ALL

12.From Location or ALL

To PO#

To Vendor

To Pline

To Product# 13876

To Cycle

To Rank

To P/C

To Whse

To Location

13.Generate Tags Y

14.Blank Tags 2

15.Include only Items with Onhand N

16.Create Empty Tag for Empty Loc

Please make a selection, OK/END to Save,or Cancel

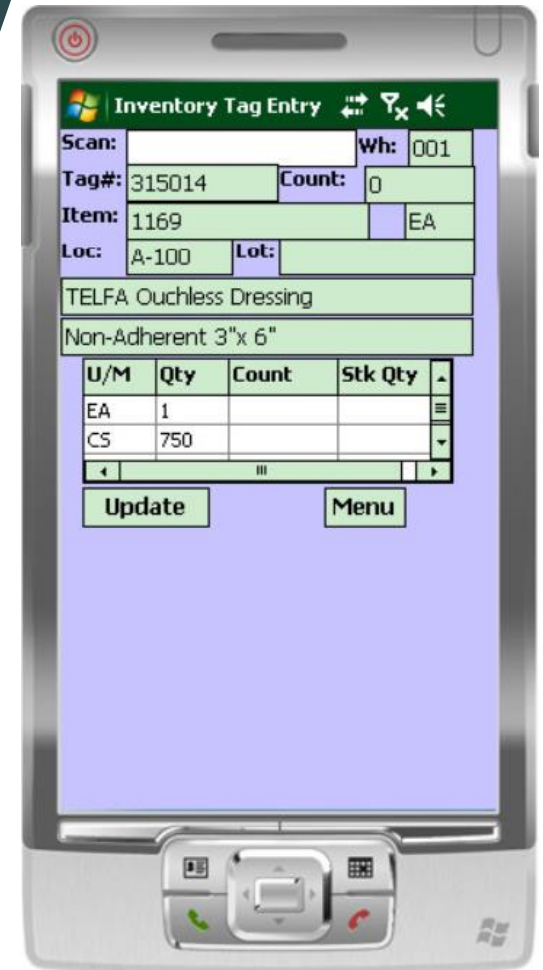
Help Ok/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready. 8/28/2017 10:49 CAP NUM SCRL

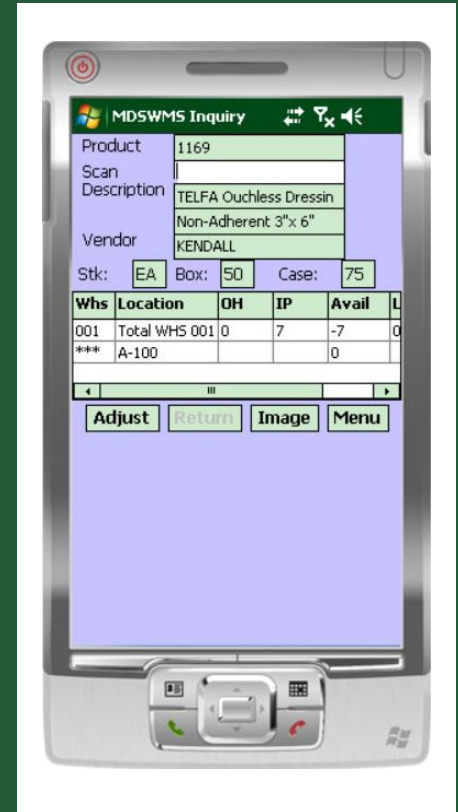
Customers Vendors Product Lookup : 9:40:43 AM Customer

Physical Inventory

Scan tag, location or product and enter counts.



Inventory Inquiry



Inventory Transaction Tracking



Base.12 - [rs6000d.tshinc.com-BASE.12-INV.HIST.PROD.INQ010S1]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

Application

Inventory Transaction History by Product

Product# 11345 REGULAR ITEM - 1ST LINE OF THE DESC

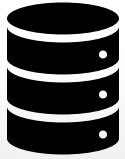
Warehouse or ALL 001 EOM OH 217 CUR OH 215 Start 08/28/16 End 08/28/17

Ln#	Customer/Vendor Number Customer/Vendor Name	Date		Txn Whs	Release/Ref P/O#/ReasCd	Qty		Price		Um
		Oper	DS			Sell	St	Cost	GP%	
1	MCKESSON	08/23/17		VPR	332255		-1			EA
	MCKESSON	gs	ND	001	01000894		1		2.6000	
2	RICH	08/03/17		INV	01A35622001		-1		1.7000	EA
	John Smith Inc.	gs	ND	001		1	1		1.7000	
3	RICH	08/03/17		INV	01A35621001		3		3.0000	EA
	John Smith Inc.	gs	ND	001		1	1		1.7000	43
4	RICH	08/03/17		INV	01A35621001		-3		3.0000	EA
	John Smith Inc.	gs	ND	001		1	1		1.7000	43
5	RICH	08/03/17		INV	01A35620001		-2		3.0000	EA
	John Smith Inc.	gs	ND	001		1	1		1.7000	43
6	RICH	08/03/17		INV	01A35619001		-1		3.0000	EA
	John Smith Inc.	gs	ND	001		1	1		1.7000	43
7	RICH	08/03/17		INV	01A35619001		1		3.0000	EA
	John Smith Inc.	gs	ND	001		1	1		1.7000	43

Enter 'END' to EXIT, 'NEXT PG' or 'PREV PG'

Detail Help Ok/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready 8/28/2017 10:23 CAP NUM SCRL



Reporting



Base. 12 - [rs6000d.tshinc.com-BASE. 12-INV.REPORTS]

File Edit Settings Reset Tools Mode Standard Functions Special Functions Refresh Dashboard Help

Customer Service Purchasing Warehouse Sales Analysis Sales Management Accounting Menu File Maintenance Utility Menu Optional Systems Quick Search

MDS Menu

Home Back Help

Shortcuts

History

Terminal

Application

1. In-Transit Posting Register

2. Receipts Posting Register

3. Inventory Adjustment Register

4. Transfer Register

5. Inventory Transaction Audit Report

6. Product Activity Report

7. Consignment Return Register

8. Stock Status--Sales Report

9. Low Stock Report (Text)

10. Low Stock Report (Crystal)

11. Excess Inventory Report

12. Purchasing Report by Vendor

13. Weeks Supply Analysis

14. Below ROP Report

15. Inventory Analysis Report

16. Inactive Product Report

17. Inventory by Vendor Inquiry

18. Inventory Transaction - by Customer

Find

Find Tasks

Customer Detail History

Product Detail History

A/R Checks

Purchase Orders

Vendor Payables

A/P Checks

G/L History

Open Receivables

Search for a Program

Charts

Charts Key Indicators

Chart One Chart Two

Customer Sales for Salesman 001 Fred Smith

Legend

- Customer Class 6- RedStar
- Customer Class 7 BlueStar
- DISTRIBUTOR
- MEDICAL
- MEDICAL CENTER
- OEM

Oe Contacts Maint Drill Execing Reports Capt Off View Crm.menu Vrm.menu

Help Ok/End Insert Delete Prev Next Inquiry Cancel Off Popup Duplicate

The Systems House Operator:ME Ready.

8/28/2017 10:26 CAP NUM SCRL

Customers

Vendors

Product Lookup: 9:40:43 AM Customer:

Benefits of MDS-WMS



- Improved inventory accuracy
- Improve personnel performance and accuracy
- Determine time to pick by individual
- Better utilization of warehouse space
- More flexible scheduling

