



EMS Supply Chain Management System





Why should this be important to you?



- There is a growing use of EMS as a front door to healthcare in the US
 - EMS is taking the place of the local doctor
 - There is a growing number of uninsured patients
 - Terrorism, natural disasters, and disease outbreaks are in the media everyday
- All of these are putting pressure on EMS services..
- How can you capitalize on this opportunity?
 - MDS EMS system gives you the tools

“EMS and Emergency departments will continue to serve as the primary entrance to the health care system for the uninsured”

Dr Bill Atkins – AHA Task Force on Healthcare Finance Reform



EMS – How it Works

Designed for Medical Distribution this product has applications for all wholesale distributors

- Truck is a warehouse with inventory used on ambulances
- Truck visits multiple Depots (Shipto's or Customers)
 - Checks and replenishes all inventory shortages
 - Removes and replaces dated material
 - Exchanges new packs for used packs
 - Packs are created from a BOM for standard EMS uses
 - Ambulances are replenished by the Depot
- Truck returns to main warehouse and is replenished



EMS in MDS

- Route Accounting / Warehouse on Wheels
- Mobile supply system
- Developed for an Emergency Management System
- Possible other uses – Local Delivery Forces
Driver Selling off Truck



EMS – Management System

- Manages all aspects of the inventory requirements of an EMS organization
 - Build of Initial Packs
 - Replenishment of Packs used in the field
 - Components stocked at the depot or on the ambulance
- Tracks usage at each location
- Tracks lots, serial numbers and expiration dates on each pack and component to prevent expired material from an accident site
- Provides current and historical inquiry into each pack, lot and serial.



EMS – Functions Provided

- Initial (New) Pack Creation
- Replenishment of Packs used in service or reaching expiration date
- Manages Central and EMS warehouses, with multi-location control
- Manages the EMS delivery truck(s)
- Replenishes the Remote Depot locations
- Records usage at each location
- Generate Billing for supplies used





Interface to Other MDS Modules

- Inventory Management
- Purchasing Order Management and Receiving
- Warehouse Management
- Customer Billing
- Customer Service
- Pedigree Management
- Financial Modules
 - Accounts Receivable
 - Accounts Payable
 - General Ledger

m ds
MASTER DISTRIBUTION SYSTEM





Initial Pack Creation



- Created by Order Entry to Production Posting
 - Utilizes Bill of Materials for the pack
 - Creates the initial pack
 - Assigns a unique bar code for the pack
 - Captures all serial numbers and expiration dates for components and creates a pack content label
- Created by Initial Pack Creation
 - Creates the initial pack
 - Assigns a unique bar code for the pack
 - Captures all items already in the pack





Pack Label – Header/Contents

Pack ID: **ALS60000015**



ALS6

***ALS 6**

Pack Id:ALS60000015

Product	Qty	Lot#	Exp Dt
*FUROSEMIDE INJ. USP 40 M	2	65-130-EV-01	05/01/10
*ATROPINE SULFATE INJ.	3	74-418-DK-01	02/01/11
*MAGNESIUM SULFATE INJ.	2	58-EIE	06/06/15
AMIODARONE HYDROCHLORIDE	3	A8888	10/19/15

Created By:SY
Date: 10/19/09



Bill of Materials Maintenance

BASE 12 - js00001.hmc.com-Jerry 12-BILL.MA - MAIN 101111

File Edit Settings Reset Jobs GUI Standard Functions Special Functions Help

BILL OF MATERIALS MAINTENANCE

PRODY ALS6
1. QTY: STK UM RT CST UM RT
2. EMS PACK **Y** EMS BUILD/REPROCESSING FEE 8.000 PACK TYPE ALS6

3. COMPONENTS

PRODUCT NUMBER	WHSE VENDOR	QTY PER CUSTOMER	STOCK UN	UNIT	COST	COST UM
1. EMS0409-4911-34 VALIUM (MIL) 500 TABLETS	075	3.0000	EA	EA	0.0000	EA
2. EMS8056 17 FUROSEMIDE INJ. USP 40 MG	075	2.0000	EA	EA	0.0000	EA
3. EMS0548-1034-00 MAGNESIUM SILI FATT INJ.	075	2.0000	EA	EA	0.0000	EA
4. MKS1705829 ATRIQUATONE HYDROCHLORIDE INJ.	075	3.0000	EA	EA	97.2000	EA
5.		0.0000			0.0000	
6.		0.0000			0.0000	

ENTER LINE # TO CHANGE, DELETE TO DELETE, 9 TO ACCEPT

XXXXXX PAGE 1 OF 2

HELP END INSERT LDELETE PREV PG NEXT PG INQUIRY CANCEL ON Popup

start | Oracle | Microsoft Outlook | Microsoft Word | Microsoft PowerPoint | PAGE 12 - js00001.hmc.com | Ass. Term 212 - DEF... | 11:12 AM



EMS – Pack Bill of Materials Inquiry

BASE 12 - jrs000011.hmc.com - Demo 12 - SSS BILL.MAT.INQ00151

File Edit Settings Reset Tools GUI Legend Functions Legend Functions Help

Bill of Material Stock Status Inquiry

Product Number: ALSG
Qty: 1 FMS Pack: Y FMS Build/Process Fee: 6.000 FMS Prefix: ALSG
Warehouse #: 075 EMS PHARMACY Expected: 3 Int Prod#: 230910
Direct Labor: Committed: 5 On Hand: 15
Indirect Labor: Mfg Overhead: Available: 40

Ln#	1.Component#	Qty/lin	On-hand	Expected	Committed	Available
1.	EM50409-4011-31	3.0000	40	1000	0	31
2.	EM5055-17	2.0000	119	2500	0	113
3.	EM50540-4034-00	2.0000	43	50	0	37
4.	MK51700029	3.0000	22	0	9	13
5.						

Quantity Available for production is 4

Enter 1 line# for more. Distill lines or "END" to End Inquiry: XXXXXX 1 OF 2

HELP OKEND INSERT LDELETE PREV PG NEXT PG INQUIRY CANCEL ON PopUp

start Microsoft PowerPoin... BASE 12 - jrs000011...



Lee County EMS





Replenishment of the Remote Depots

- Ambulance drivers replenish packs and loose items from Depot
 - Used packs left at depot
- Replenishment truck arrives at depot
 - Each truck is a warehouse – may be multiple trucks
 - Each depot is a customer – ship to
 - Truck goes to each depot and determines needs:
 - Packs – (already billed)
 - Components – (Billed when supplied)
 - Used packs returned for replenishment
 - Driver records usage using a web based program connected via wireless network
(Flag in web user “usage and transfer” or web order)
 - Truck proceeds to the next depot and then returns to EMS warehouse





Entry of Depot Usage (Web)

Order Entry Header - Windows Internet Explorer

http://hosting.ahnc.com/oc/bin/looad.exe/loahCJ2

File Edit View Favorites Tools Help

Google Search Bookmarks Check Transfers AutoFill Sign In

Order Entry Header

To place a new order please fill in order information below:
Required information is highlighted.

Web Order Number: 00000

Account #	Sold to	Ship to
EMCTRUCK	EMC TRUCK	EMC TRUCK
	110007013	110007013
	U.S.A.	U.S.A.

Search by Product: Description

Required Date: 01/15/2008

Dept. No:

Customer PO:

Req. No:

Ordered By:

Ship Method: RT UPS

Special Instructions:

Choose a template: EMCTRUCK

Current Order

Product History Product Search Quick Order

start Microsoft Office Word 2003 My Documents CAPT LEDE... AdvTerm... Canon M... Unread... Pw: EMC R... Order Entry...

FLAG IN REMOTENET USER DETERMINES USAGE ONLY OR CREATE ORDER



RemoteNet EMS Template

Template: Order Entry - Windows Internet Explorer

http://hosting.rrn.com/oc/bin/ocool.exe?ocool=J2

File Edit View Favorites Tools Help

Google Search Bookmarks Check Transfers AutoFill Sign In

Template Order Entry

10/1/2004 Home

Current Template: EMS.TRUCK [Click here if you wish to print this template or export to Excel.](#)

5 Items are on this template.

Sort By: Avg Monthly Usage Save as Default

Items per page: 10 Save as Default

Manufacturer: All Manufacturers

Choose a template: EMS TRUCK

Enter Quantities in Boxes at Left, and click on UPDATE button below to add quantities to your current order.
Click on a Product Picture or Product Number for additional product information.

Product No.	Avg. M. Usage	Price/UM	Product Description	In Stock	Mfr Mfr PN#	Purchase History	Delete Item
ATRL002 1 <input type="text"/> KI	0	\$1,000 KI / 1	WISWAVE ADAPT DISTRIBUTOR	X	44 NUNWAVE		<input type="button" value="Delete Item"/>
AL24 <input type="text"/> KT	0	\$2,000 KI / 1	TRUCK CARRIER WHEEL	X	444 444		<input type="button" value="Delete Item"/>
EMG000 400 2 <input type="text"/> EA	0	40,000 EA / 1	PAIN DOWN 400	X	410 100-100		<input type="button" value="Delete Item"/>
EM200 <input type="text"/> LA	0	\$2,000 EA / 1	RT RT TRUCK W/ 2 STRAIGHTS	X	410 410		<input type="button" value="Delete Item"/>
HEU <input type="text"/> RT	0	\$2,000 RT / 1	TRUCK WHEEL	X	444 444		<input type="button" value="Delete Item"/>

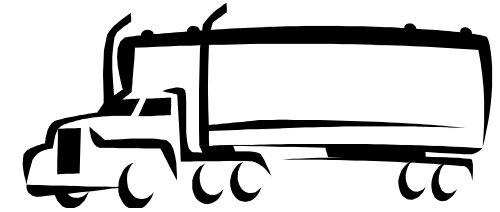
5 Items 1 Page

Previous | Next

start Microsoft Office MSN for Windows My Documents CAPT 1526... AutoTune... Canon M... Microsoft... P:\EMS R... Template C... 10/1/2004



Truck Replenishment



- At EMS warehouse program is run to pick up “orders” placed on the truck
 - Truck replenished from EMS warehouse based on min/max
 - This process generates necessary orders (for picking) and replenishment of inventory
 - Picking by order or pick summary
 - Orders verified when placed on truck
 - Usage updated in master files at this point
- Billing of spare parts initiated by this process (Packs having already been billed)
- EMS warehouse replenished from
- central warehouse (min/max)





EMS Warehouse Replenishment

01:14:13pm 19 Oct 2009

Pharmacy Replenishments Shortages

Page: 1

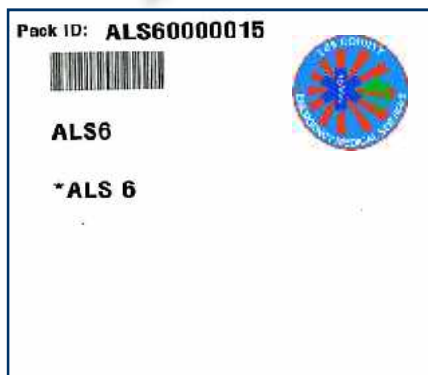
Order: 141747 From Warehouse: 002 To Warehouse: 075

Product	Description	Quantity Short	From OE	From Avail	To OnHand	To Avail
EMS504560	*ST ET TU FLX/STYLE CF 6.	20	0	0	0	0
EMS504565	*ST ET TU FLX/STYLE CF 6.	20	0	0	0	0
EMS504570	*ST ET TU FLX/STYLE CF 7.	20	0	0	0	0
EMS504575	*ST ET TU FLX/STYLE CF 7.	20	0	0	0	0
EMS8888160333	*CATH.UMBILICAL.3.5YR	20	0	0	0	0
EMS504580	*ST ET TU FLX/STYLE CF 8.	20	0	0	0	0
EMS8888264945	*TUBE SUMP SALEM 14YR	20	0	0	0	0
EMS8888268086	*TU SALEM SUMP SFR 2.7mm LF	40	0	0	0	0
EMS503110	*STYLET 10FR INTU ADLT LF	5	10	10	0	0
EMS26302	*SYR.CATH.INSRG.60CC	200	0	0	0	0
EMS504590	*ST ET TU FLX/STYLE CF 9.	15	5	5	0	0
EMS5-5332-03	*BLDE LARYN MAC3 DISP GEN	20	0	0	0	0
EMS5-5333-03	*BLDE LARYN MIL3 DISP GEN	20	0	0	0	0
EMS600-10000	*TU ENDOTRACH BOLD ADLT L	40	0	0	0	0
EMS70275	*SYR BULB 20E	20	0	0	0	0

This is an optional feature that allows you to segregate your inventory



Pack Replenishment



- Used packs are returned from depot for replenishment
- Bar code on container is scanned
- Displays all items in that specific pack
- Highlights expired and short dated items
- Click on all items that can be reused
- Click replenish – system lists items needed (from Bill of Materials less items that can be reused)
- Required inventory picked and placed in pack
- Lot, serial, and expiration dates noted
- Upon acceptance
 - Print contents labels
 - Update inventory
 - Bill Customer for components used (base cost plus value of components used)



Pack Replenishment – Initial Screen

MS-DOS for Windows Version 5.0.1 - [mailto:Gslim@com-1128.com:12-PACK REPLENISHMENT01251]

PACK Replenishments Maintenance

Pack Number: ALS6000015 Components: _____

Product: AL 50 MI 5 0 _____

Line	Component	Quantity	Lot / Serial Number	Expires	Rtn	Rtn Qty	Picked
1	EM50000-4911 04 ATROPINE SULFATE INJ.	3	71 418 UK 01	02/01/11	Y	3	
2	EM50056-17 FUROSEMIDE INJ. USP 40 MG	2	05-130-FV-04	05/01/10	Y	1	
3	EM500540 4034 00 MAGNESIUM SULFATE INJ.	0	09 357 FV 04	10/05/09	EXP		
4	MKS1705029 AMIODARONE HYDROCHLORIDE INJ.	1	ER905	06/01/10	N		
5							
6							
7							
8							

Enter Line to Return/Keep or ABORT XXXXXX

Replenish	And Item										
END	OKEND	INSERT	DELETE	PREV PG	NEXT PG	INQUIRY	CANCEL	DIR			Help



Pack Replenishment Program

MS-DOS for Windows Version 5.0.1 - [mail:slim.com-1128 demo:12-PACK REPLENISHMENT ENTRY01251]

PACK Replenishment Fulfillment Entry

Pack Number: AI 50000015
 Product: ALSB ALSB

Line	Component	PACK Qty	Qty Reqd	Location	Picked
1	EMS0056-17 TI URLOSEMIDE INJ, USP 10 MG	2	1	EA08-08-1	
2	EMS00518 1031 00 +MAGNE SUIUM SUII FATE INJ.	2	2	EA08-08-1	
3	MKS1700029 AMIODARONE HYDROCHLORIDE INJ.	3	3	EA08-08-1	
4					
5					
6					
7					
8					

Replenish from ITFM: MKS1704750

Enter Line to Change, ADJUST or 0 to Update

XXXXXXXX

PICK LIST	OKEND	INSEH	DELETE	PREV PG	NEXT PG	INQUIRY	CANCEL	DIR	Help
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Replenish from the screen or Print a Packlist



Pack Replenishment Lot Screen

MDS for Windows Version 8.6.1 - [mail:slim.com-1128 demo:12-PACK REPLENISHMENT (LOT 501251)]

File Edit Settings View Tools Help Help Standard Help System Help Help

PACK Replenishment Fulfillment Entry

Pack Number AI 50000015

Prod

PACK Replenishment Lot Entry

Line Pack Number AI 50000015 AI 5 6

1 Product: EMS9096-1 TIUROSEMIDE INJ. USP 40 MG

Line	Lot#	Length	Serial#	Location	Quantity	Expires
1	A100			CARB 001	1	10/19/20
2						
3						
4						
5						
6						
7						
8						
9						

Quantity to Replenish 1 Total 1

Enter Line # to Change, 0 to Accept: |XXXXXXXX|

HELP*	OK/END	INSERT	DELETE	PREV PG	NEXT PG	INQUIRY	CANCEL	DIR			F1 Help
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Pack Contents Label

Pack Id:ALS6000015			
Product	Qty	Lot#	Exp Dt
*FUROSEMIDE INJ. USP 40 M	2	65-130-EV-01	05/01/10
*ATROPINE SULFATE INJ.	3	74-418-DK-01	02/01/11
*MAGNESIUM SULFATE INJ.	2	58-EIE	06/06/15
AMIODARONE HYDROCHLORIDE	3	A8888	10/19/15

Created By:SY
Date: 10/19/09

Sorted by earliest expiration date



Lee County EMS





Inquiries

- Pack Contents – current and historical
- Lot history – from receipt to issuance



Pack Movement Inquiry

MS-DOS for Windows Version 5.0.1 - [mailto:slim@com-1128.demo.12-PACK.MOVE.INQ01251]

File Edit Settings View Tools Help Standard (Print) Help

Pack Movement Inquiry

Pack Number: AI 56000015

Product: AI S6 AI S 6

Create Date: 10/05/09

Line	PackNumber	ReplkDate	CustomerY	Customer Name	Status/Desc	CompDate
1.	AL56000015	10/19/09	EMS.TRUCK	EMS TRUCK	Inventory	
2.	AI 56000015	10/05/09	EMS.TRUCK	EMS TRUCK	Complete	10/19/09
3.	AL56000015		EMS.TRUCK	EMS TRUCK	Complete	10/05/09
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						

Enter Line# for Detail or END

XXXXXX

Spec. Pack											
HELP*	OK/END	INSERT	DELETE	PREV PG	NEXT PG	INQUIRY	CANCEL	DIR			F1/Setup



Specific Pack Inquiry

MS-DOS for Windows Version 8.6.1 - [mailto:ts@im.com-1128 demo.12-SPEC.PACKINQ01251]

File Edit Settings View Links Goto Help Standard Help System Help

Specific PACK Inquiry

Pack Number:

Customer:

Status:

Product:

Create Date:

Line	Component Product	Qty	Lot Number	Location	Exp Date
Component Product Desc				Serial Number	
1.	FMS0609 4911 04 *ATROPINE SUI FATT IN.L.	3	74 410 DK 01	EA02 05 5	02/01/91
2.	EMS6096 17 *TI OXOSEMIDE INJ. USP 40 MG	1	65-136-EV-01	EA09-02-2	05/01/90
3.	EMS6096 17 *FUROSEMIDE INJ. USP 40 MG	1	A100	EA08 08 1	10/15/20
4.	EMS0548-1034-06 *MAGNESIUM SUI FATT IN.L.	2	08-01E	EA08-08-1	05/06/95
5.	MKS1705029 AMIODARONE HYDROCHLORIDE INJ.	3	00001	EA08 00 1	10/15/95

Enter END to exit this PACK record

HELP	OK/END	INSERT	DELETE	PREV PG	NEXT PG	INQUIRY	CANCEL	DIR			F1 Help
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Lot/Serial# Transaction History

BASE 12 - [js00001.hmc.com-Job 12-SERIAL PRODUCTION] 20

File Edit Settings Reset Jobs GUI Legend Functions Legend Functions Help

Lot/Serial Number Transaction Inquiry

Product# EMS00518 1031 00
MAGNESIUM SULFATE INJ.

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

Line	Lot No.	Whs Loc	Quantity	Lot Exp	Lot	Release#	Price	Cost/Vend No.	MS
Serial No.	Pedigree	Date	Date	Whs	PC#/Lot#	Cost	Cost/Vend Name		
1	58-FIT	TA00-08-1	25	06/06/15	RFC			0000	ND
				10/19/09	075	002203	1.500	0000000 INC	
2	A100	1000F	20	10/15/15	TRM				
				10/19/09	075	01144745001	1.000		
3									
4									
5									
6									
7									

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

XXXXXX

HCLP OKEND INSERT LDELETE PREV PG NEXT PG INQUIRY CANCEL ON PopUp

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- Manages all aspects of the inventory requirements of an EMS organization
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