



INPATIENT MEDICATIONS

TECHNICAL MANUAL/ SECURITY GUIDE

Version 5.0
December 1997

(Revised December 2012)

Department of Veterans Affairs
Product Development

Revision History

Each time this manual is updated, the Title Page lists the new revised date and this page describes the changes. If the Revised Pages column lists “All,” replace the existing manual with the reissued manual. If the Revised Pages column lists individual entries (e.g., 25, 32), either update the existing manual with the Change Pages Document or print the entire new manual.

Date	Revised Pages	Patch Number	Description
12/2012	i-ii, vi-vii, 81-82, 82a- 82b	PSJ*5*284	Added instructions for editing the Device File for ATC Device to use Network Channel. (A. Scott, PM; G. Werner, Tech Writer)
09/2012	i, 21-23, 69, 94a	PSJ*5*267	Added new Routine Added new API Added new Integration Agreement (R. Singer, PM; B. Thomas, Tech Writer)
01/2012	i-ii, v-viii 22, 23 69 94	PSJ*5*254	Updated Table of Contents Updated Routines Added API Added 5653 and 5654 Inpatient Medications Integration Agreements (R. Singer PM, C Bernier Tech Writer)
04/2011	i, v, vi, vii, vii, 5-8b, (changed flow) 22, 23, 24, removed 25-26, changed 53, 85, 86, 93-94;94a-b, 121--130	PSJ*5*181	Changes to <i>Revision History</i> , <i>Table of Contents</i> ; added new field to PHARMACY SYSTEM File (#59.7), added new field to the INPATIENT WARD PARAMETERS File (#59.6). Added information re: the Pharmacy Reengineering (PRE) API Manual under “ <i>Callable Routines</i> ”; removed entire section 5.3, Routine Mapping, and all its sub-sections; added Health Level Seven (HL7) data field under segment { RXC}. Added the following “ <i>Inpatient Medications Custodial Integration Agreements</i> ”: 4074, 4264, 4580, 5001, 5057; 5058, 5306, 5385. Added two packages, HWSC and VistaLink, to <i>External Relationships</i> , under <i>Packages Needed to Run Inpatient Medications</i> . Added the following call routines and their entry points: OROCAPI, PSSDSAPD, PSSDSAPI, PSSFDBRT, PSODDPR4, PSODRDU2. Added the items DATUP , MOCHA , PECS , and PEPS in Glossary, which shifted all subsequent glossary items. Added routines PSJMISC2 & PSJOCVAR to the routines table and removed Section 5.3 Jim Pollard (PM), Bill Tatum (developer), Marella Colyvas (Tech Writer)
02/11	i, 53, 62, 64, 65	PSJ*5*226	Added to RXC section Field 5, “Additive Frequency” in HL7 Ordering Fields; updated Front Door – IV Fluids table with Field 5; updated Back Door – IV Fluids table with Field 5; updated

Date	Revised Pages	Patch Number	Description
			example. (M. Vo/B. Tatum, Developers; M. Colyvas, Technical Writer)
06/10	i, 22-23	PSJ*5*113	Added routine PSGSICH1. (R. Singer, DM; B. Thomas, Tech. Writer)
02/10	i, 23	PSJ*5*214	Added PSJQUTIL to the routine list in Section 5.1 for Patients on Specific Drug(s) Multidivisional Enhancements Project. (C. Willette, DM; R. Silverman/D. Dertien, Tech Writer)
12/09	22-23	PSJ*5*222	Added routine PSGOEF2. (E. Wright, PM; S. B. Gilbert, Tech Writer)
08/08	vi, 23, 51-53, 57-58, 60-61, 63, 65, 65a-65b	PSJ*5*134	Parameters for escaping special characters added. New HL7 messages added. New routines added. HL7 order fields table contains an asterisk for each field that has special escaping characters. (S. Templeton, PM; G. O'Connor, Tech. Writer)
02/07	74-76	PSJ*5*178	MED ROUTE now appears in larger font on IV labels from the Zebra bar code printer. Med ROUTE now prints on the IV labels for bar-code enabled printers, and it prints in larger font than surrounding text. (R. Singer, PM; E. Phelps, Tech. Writer)
09/06	23, 94	PSJ*5*172	Encapsulation Cycle II project: Added PSJ53P1 to the Routine List in Section 5.1. Added DBIA 4537 to DBIA list. Changed the date on the Title Page to December 1997. (H. Whitley, PM; L. Woodson, TW)
05/06	v-viii 8a-8b 66-68b	PSJ*5*154	In Section 2.2.2 Added "PRIORITIES FOR NOTIFICATION" field. In Section 9.5, made correction to include the priority of ASAP in notifications. Added information regarding the three notifications parameters. (C. Greening, PM; T. Dawson, Tech. Writer)
12/2005	23	PSJ*5*146	Remote Data Interoperability (RDI) Project: Added PSJLMUT2 to the Routine List in Section 5.1. (E. Williamson, PM; M. Newman, Tech. Writer)
11/2005	All	PSJ*5*163	Encapsulation Cycle II project: Added PSJ59P5 to the Routine List in Section 5.1. Added DBIA 4819 to DBIA list. Deleted DBIAs 172, 634, and 1882 from the DBIA list. Reissued entire document due to a page numbering issue. (H. Whitley, PM; L. Woodson, TW)

Table of Contents

1. Introduction.....	1
2. Implementation and Maintenance	3
2.1. Installation	3
2.2. Inpatient Parameters.....	3
2.2.1. <i>Fields from the PHARMACY SYSTEM File (#59.7).....</i>	<i>4</i>
2.2.2. <i>Fields from the INPATIENT WARD PARAMETERS File (#59.6).....</i>	<i>6</i>
2.2.3. <i>Fields from the INPATIENT USER PARAMETERS File (#53.45).....</i>	<i>9</i>
2.2.4. <i>Fields from the IV ROOM File (#59.5).....</i>	<i>10</i>
2.2.5. <i>Fields from the CLINIC DEFINITION File (#53.46).....</i>	<i>14</i>
3. Package Security	15
3.1. Option Security Keys	15
3.2. File Security	16
4. File List	17
4.1. Unit Dose File Diagram	18
4.2. IV File Diagram	19
5. Routines	21
5.1. Descriptions	21
5.2. Callable Routines.....	24
5.2.1. <i>Deleting Inpatient Routines</i>	<i>24</i>
6. Templates.....	27
6.1. Print Templates	27
6.2. Input Templates	27
6.3. List Templates.....	29
7. Exported Options.....	31
7.1. Stand-alone Options.....	31
7.2. Top-level Menus	31
7.2.1. <i>Menu Assignment</i>	<i>31</i>
7.2.2. <i>Menu Placement.....</i>	<i>31</i>

7.3. Options.....	32
8. Data Archiving and Purging.....	41
8.1. Archiving.....	41
8.2. Purging.....	41
8.2.1. Unit Dose Auto Purging.....	41
8.2.2. IV Auto Purging.....	41
8.2.3. Unit Dose Manual Purging – Temporarily Unavailable.....	42
8.2.4. IV Manual Purging – Temporarily Unavailable.....	43
9. Inpatient Medications and CPRS.....	45
9.1. Installation of the Protocols for CPRS.....	45
9.2. Converting.....	45
9.2.1. Order Conversion.....	45
9.2.2. Pick List Conversion.....	46
9.2.3. Order Set Conversion.....	46
9.2.4. Verification Data Conversion.....	46
9.3. Protocol Descriptions.....	47
9.4. Health Level Seven (HL7) Messaging.....	51
9.4.1. HL7 Ordering Fields.....	51
9.4.2. Order Event Messages.....	56
9.4.3. Special Escaping Characters.....	66
9.5. STAT, ASAP, and NOW Order Notification.....	66
9.5.1. PSJ STAT NOW PENDING ORDER Mail Group.....	67
9.5.2. PSJ STAT NOW ACTIVE ORDER Mail Group.....	68
9.5.3. Adding a Remote Member as a Subscriber.....	69
9.5.4. Setting Up Ward-Specific Mail Groups.....	69
10. Inpatient Medications and BCMA.....	69
10.1. API Exchange.....	69
10.2. Med Order Button.....	70
11. Interfacing with the Bar Code Label Printer.....	73
11.1. Hardware Set Up.....	73
11.2. Software Set Up.....	73
11.2.1. Zebra Printers.....	73
11.2.2. Dot Matrix and Laser Printers.....	75

11.3.	Printed Bar Code IV Label Sample.....	76
12.	Interfacing with the ATC.....	77
12.1.	Pharmacy Set Up.....	77
	12.1.1. Drug Set Up	77
	12.1.2. Ward Group Set Up.....	77
12.2.	Hardware Set Up.....	78
	12.2.1. Device File Example	78
	12.2.2. MUX Table Example.....	78
	12.2.3. DECServer Examples.....	79
	12.2.4. Wiring for CXA16 Card.....	79
	12.2.5. ATC-HPS Configuration Set Up.....	80
	12.2.6. Device File Setup Network Change	81
	12.2.7. Common Problems.....	82a
13.	Resource Requirements.....	83
13.1.	Hardware.....	83
13.2.	Disk Space	83
	13.2.1. Routines.....	83
	13.2.2. Data.....	83
13.3.	Journaling Globals	83
13.4.	Translating Globals.....	84
13.5.	Nightly Background Jobs.....	84
13.6.	Queuing and Printing across CPUs.....	84
14.	External Relationships	85
14.1.	Packages Needed to Run Inpatient Medications.....	85
14.2.	Unit Dose Medications and Ward Stock.....	85
14.3.	Unit Dose Medications and Drug Accountability.....	85
14.4.	Calls Made by Inpatient Medications	86
14.5.	Introduction to Integration Agreements and Entry Points.....	86
15.	Internal Relationships	95
16.	Internal Calls and Variables	95

16.1. Package-Wide Variables	98
16.1.1. Inpatient Sign-on Variables	98
16.1.2. Standard Variables Used Throughout the Package.....	100
16.1.3. IV Sign-on Variables.....	102
16.1.4. Variables.....	103
17. On-line Documentation	105
17.1. On-line Help.....	105
17.2. Printing Data Dictionaries.....	105
18. Additional Information	107
18.1. SAC Exemptions.....	107
18.2. IV Ward List	107
18.3. IV Manufacturing List.....	108
18.4. IV Suspense List	109
18.5. Unit Dose “Defaults”	112
18.5.1. Order Start Date/Time Calculation	112
18.5.2. Stop Date/Time: Calculation	113
18.5.3. Patient’s Default Stop Date/Time	114
18.5.4. Pick List Wall.....	115
19. Glossary	117
20. Appendix A: Inpatient Medication Orders for Outpatients–Phase I & II and Inpatient Medication Reqs for SFG IRA–Phase II.....	131
20.1. Introduction.....	131
20.2. Inpatient Medication Orders for Outpatients – Phase I & II	132
20.2.1. Inpatient Medications V. 5.0.....	132
20.2.2. Order Entry Results Reporting V. 3.0 (CPRS).....	134
20.2.3. Scheduling V. 5.3	136
20.3. Inpatient Medication Requirements for SFG IRA – Phase II	137
20.3.1. Inpatient Medications V. 5.0 and Pharmacy Data Management V. 1.0	137
20.3.2. Order Entry Results Reporting V. 3.0 (CPRS).....	138
20.4. Installation.....	139
20.4.1. Overview	139
20.4.2. Post-Installation Setup.....	139

12.2.6. Device File Setup Network Change

Edit the Device File (#3.5) for ATC Device to use Network Channel.

Obtain the IP address and port assignment for the Receiving Lantronix/TCP IP Interface.

Lookup the ATC Device setup for the Ward location(s):

```
Select Supervisor's Menu Option: ward Groups

Select WARD GROUP NAME:    4C
PHARMACY      ATC
NAME: 4C//
Select WARD: 4C//
LENGTH OF PICK LIST (in hours):
PICK LIST - OMIT WARD SORT: NO (SORT BY WARD)//
PICK LIST - OMIT ROOM-BED SORT: YES (DO NOT SORT BY ROOM-BED)
//
PICK LIST - FORM FEED/PATIENT: NO//
PICK LIST - FORM FEED/WARD: YES//
PICK LIST - LINES ON FORM FEED: NO//
PRINT NON-ACTIVE ORDERS FIRST:
BAXTER ATC DEVICE: ATC//
USE OLD ATC INTERFACE:
```

Edit the Device with the following information:

```
Select DEVICE NAME:    ATC    BAXTER ATC-PHARM    TNA991:
NAME: ATC//
LOCATION OF TERMINAL: BAXTER ATC-PHARM//
Select MNEMONIC:
LOCAL SYNONYM:
$I: TNA991:// |TCP|9100 This $I in use by other Devices.  TCP|"Port Assignment"
VOLUME SET(CPU):
SIGN-ON/SYSTEM DEVICE:
TYPE: OTHER// NET NETWORK CHANNEL
SUBTYPE: C-OTHER//
DEFAULT SUBTYPE: C-OTHER//
ASK DEVICE: NO//
ASK PARAMETERS: NO//
ASK HOST FILE: NO//
ASK HFS I/O OPERATION:
QUEUEING:
OUT-OF-SERVICE DATE:
NEAREST PHONE:
KEY OPERATOR:
MARGIN WIDTH:
PAGE LENGTH:
SUPPRESS FORM FEED AT CLOSE: YES//
*BLINK ON:
*BLINK OFF:
SECURITY:
CLOSEST PRINTER:
FORM CURRENTLY MOUNTED:
*PHYSICAL AREA: UNIT DOSE (ACI)//
OPEN PARAMETERS: ("10.18.6.168":9100:"+Q":512:512) ---("IP Address": " Port Assignment":
"+Q":512:512)
CLOSE PARAMETERS:
USE PARAMETERS:
PRE-OPEN EXECUTE: ^
```

Verify Device File changes:

```
OUTPUT FROM WHAT FILE: DEVICE//      DEVICE (1252 entries)
Select DEVICE NAME:   ATC      BAXTER ATC-PHARM      |TCP|9100
ANOTHER ONE:
STANDARD CAPTIONED OUTPUT? Yes//      (Yes)
Include COMPUTED fields: (N/Y/R/B): NO// - No record number (IEN), no Computed
Fields

NAME: ATC                                $I: |TCP|9100
ASK DEVICE: NO                            ASK PARAMETERS: NO
LOCATION OF TERMINAL: BAXTER ATC-PHARM
DEFAULT SUBTYPE: C-OTHER                  ASK HOST FILE: NO
SUPPRESS FORM FEED AT CLOSE: YES          OPEN COUNT: 225
OPEN PARAMETERS: ("10.18.6.168":9100:"+Q":512:512)
*PHYSICAL AREA: UNIT DOSE (ACI)
SUBTYPE: C-OTHER                          TYPE: NETWORK CHANNEL
# OF ATTEMPTS: 4
```

12.2.7. Common Problems

Occasionally, a site experiences trouble getting the interface to run properly when the site first acquires an ATC, or has trouble later with the interface stopping in the middle of pick lists sends. If this happens, please try one or more of the following:

- Some sites have found that lowering the baud rate from 9600 to 4800, or even 2400, solves their problem.
- Sometimes, there is an error in the ATC HPS CONFIGURATION SETTINGS. If the user experiences trouble, please double-check these settings.
- In some cases, it is only a matter of changing the time of day that pick lists are sent to the ATC to avoid peak loads on the VistA computer system.
- In other cases, it has simply been a matter of adjusting the RESPONSE TIMER-CONTROL and/or RESPONSE TIMER-DATA settings within the HPS CONFIGURATION settings.
- If all else fails and the interface still does not want to work, the user may consider setting the USE OLD INTERFACE flag in the WARD GROUP file (#57.5) for all ward groups that will be sending pick lists to the ATC. (See the Ward Groups section in the *Inpatient Medications Supervisor's User Manual*.)

(This page included for two-sided copying.)