McKESSON
Empowering Healthcare

STAR 2000™

STAR PHARMACY
Generic Interface Utilities Guide

Release 17.0
October 2011

P17000091

Publication date

October 2011

Produced in Cork, Ireland

Product and version

STAR 2000 Release 17.0

Publication number

P17000091

Reader comments

Any comments or suggestions regarding this publication are welcomed and should be forwarded to the attention of

STAR 2000 Documentation Team
McKesson
Mail Stop ATHQ-3302
5995 Windward Parkway
Alpharetta, GA 30005

Preface

The STAR system's Generic Interface Utilities provides a way to streamline the addition and definition of interfaces between STAR Pharmacy and some of the third-party packages to which STAR Pharmacy has created interfaces. Functions on the Generic Interface Utilities enable McKesson installers to implement available interfaces and enable facility users to define transactions between STAR Pharmacy and these third-party packages.

NOTE: If a facility is interested in implementing a billable module, it needs to contact the facility's account manager.

This guide contains technical information about the Generic Interface Utilities as well as information for the user of the utilities. For information about a specific STAR Pharmacy interface, you must refer to the manual for that interface.

Documentation Conventions

Documentation for McKesson's STAR 2000™ line of products follows these conventions:

Revisions
Text revisions are indicated by a change bar in the left margin. Paragraphs that contain grammatical changes that do not affect content are not marked.

Canadian Documentation
This volume may include documentation for Canadian users of this product. Complete sections of Canadian text are identified by "CN" and "CN Only."

Key Names
Named keys, such as SHIFT, CTRL, ALT, and ENTER, are displayed in this document in uppercase (capital) letters. A symbol key is written as text in this document followed by the symbol in parentheses, such as hyphen (-) and asterisk (*).

Key Chords
Key chords are key entries that require you to hold down one or more keys (typically, CTRL, ALT, or SHIFT) before pressing another key. In this document, key chords are displayed as the names of each key in the chord separated by a hyphen (-) (for example, CTRL-ALT-DEL).

Enter
ENTER is a key on a computer keyboard used to complete an entry on a STAR system. (This key may also be referred to as NEW LINE or NL in the STAR system.)

Data Entries
Letters or words you enter in response to the system are displayed in **bold** letters in this document. For example: Enter **Y** for Yes or **N** for No.

Selecting an Entry
This document often instructs you to "select an entry." The method you use to select an entry depends on whether you are using STAR from a terminal or IBM-compatible personal computer. Entry methods include:

- Entering the option number
- Using your arrow keys to highlight the option and pressing ENTER
- Clicking on the option using a mouse or other pointing device (PC only)

For more information about these options, see the *General Information Volume*.

Prompts
System prompts are displayed at the bottom of many STAR screens when the system requests an entry or displays a message. In this document, these prompts are indented and the text italicized, as shown in the following example:

Enter patient name--

Field Characteristics

STAR product documentation provides field explanation codes, in addition to a narrative description for each field on a screen. These codes display the maximum length of your entry in the field, the type of entry you make in the field, and whether the field is required. This information displays in the following format:

- DISPLAY ONLY for a field you cannot edit.
- For X-YY-Z field types, where:
  - X is the maximum number of characters permitted in the field:
    - P for a field length determined by a Parameter
    - T for a field length determined by a Table
    - U for a field having an Undefined length
  - YY is the type of entry technique permitted in the field:
    - A for Letters only
    - AC for Letters and Punctuation only (no numbers)
    - AN for Numerals and Letters only (no punctuation)
    - C for Characters (including punctuation)
    - N for Numerals only
    - NC for Numerals and Punctuation only (no letters)
  - Z is the requirement indicator of the field:
    - C if an entry is Conditionally required or optional
    - O if an entry is Optional to complete the function
    - R if an entry is required to complete the function

      NOTE: Facilities can designate that certain fields be Required. STAR product documentation does not display R for fields designated as Required by a facility.
  - For YY-Z field types, where YY is:
    - DATE for a field subject to the date entry conventions described in the *General Information Volume*.
    - SPECIAL FORMAT for a field having data entry requirements not conforming to standard format. The field definition contains the specific data entry requirements for the field.
    - TABLE LOOKUP for a field that enables you to select from a displayed table. See the *General Information Volume* for more information regarding this entry technique.
    - TIME for a field subject to the time entry conventions described in the *General Information Volume*.

    NOTE: For use of the Z position in this format, refer to the explanations for Z under X-YY-Z.

Table of Contents

Chapter 5 - TECHNICAL NOTES

Introduction

This guide contains technical and user information about functions available on the STAR Pharmacy Generic Interface Utilities. For information about a specific STAR Pharmacy interface, you must refer to the manual for that interface.

Chapter 1: Overview/Description

This chapter provides a general description of the Generic Interface Utilities and its functions.

Chapter 2: System Requirements

This chapter provides the hardware and software requirements needed for the Generic Interface.

Chapter 3: Installation

This chapter provides McKesson installers with information about installing interfaces through the Generic Interface Utilities. It documents the Communication Line Definition function.

Chapter 4: User Functions

This chapter documents the user functions on the Generic Interface Utilities processor.

Chapter 5: Technical Notes

This chapter provides technical information about data types and parameters, programs, and functions available on the Generic Interface Utilities processor.

Chapter 1 - OVERVIEW/DESCRIPTION

NON-TECHNICAL FUNCTIONAL OVERVIEW

The Generic Interface Utilities enables McKesson to add interfaces it has created between STAR Pharmacy and certain third-party packages that are not part of the base system.

NOTE: This generic interface driver is specifically for defining pharmacy information. If your facility is sending admission, discharge, and transfer (ADT) information, you must define these parameters in STAR Patient Care in Communications Line Definition. If your facility does not have STAR Patient Care, you must customize the interface between STAR Pharmacy and the patient care system in order to send ADT information. For more information, see the material on ADTs in “Chapter 5 - TECHNICAL NOTES”.

Additional STAR Pharmacy interfaces may be added to the Generic Interface Utilities as they are developed.

NOTE: If a facility is interested in purchasing a billable module, it needs to contact the facility's account manager.

The Generic Interface Utilities provides a driver that enables McKesson to define certain high-level information for an interface. Facilities are able to define other information after the interface is implemented.

The Generic Interface is called when an event trigger occurs on STAR Pharmacy. The generic interface then determines the type of information that has been modified and calls the formatting routines for the third-party packages that receive that type of information.

Whenever an interface is started or stopped, the system beeps and displays a message to notify you of activity.

FEATURES/FUNCTIONS

The Generic Interface Utilities processor provides a function that enables installation of an interface. It has other functions that enable users to:

- Activate or inactivate a third-party package
- Clear the queue of all transactions not yet sent to a third-party package
- View transactions sent to and received from a third-party package
- Send all or selected formulary items to a third-party package
- Send all or selected patients to a third-party package
- Send patient orders to a third-party package
- Send entries for the selected table type to a third-party package
- Check on the status of communication lines

For more information about the Communication Line Definition function, which is used during installation, see “Chapter 3 - INSTALLATION”. More information about the user functions is in “Chapter 4 - USER FUNCTIONS”.

Chapter 2 - SYSTEM REQUIREMENTS

STAR MINIMUM REQUIREMENTS

Hardware

Additional hardware may be required by the third-party vendor, but no additional hardware is required to install the generic interface driver.

Software

You must have the 8.0 release of STAR Pharmacy software or later.

Chapter 3 - INSTALLATION

INSTALLING AN INTERFACE

This section is used by McKesson installers who are defining the interface to a third-party package. The installer uses the Communication Line Definition function on the Generic Interface Utilities menu.

NOTE: Some of the selections made during installation affect user functions for the interface being installed. Information about these definitions is included in this section and in "Chapter 4 - USER FUNCTIONS".

The McKesson installer uses the Communication Line Definition Processor to install a new interface. Select System Management - Pharmacy, and then select the Interface Utilities option. The system displays the Interface Utilities Processor, as shown in the following screen:

```
                  General Hospital Interface Utilities Processor
                                                 Tue Jul 23, 2002 02:34 pm
Interface Utilities Input Options

            Option No.  Option
            ----------------------------------------
                1       ATC Interface Utilities
                2       Horizon Clinical Documentation Interface Utilities
                3       Micromedex Access Utilities
                4       Kinetics Access Utilities
                5       pharmLINK Interface

                6       HL7 Interface Functions
                7       Generic Interface Utilities
                8       Robot Interface Parameters









Enter option number--
```

Select the Generic Interface Utilities option. The system displays the following screen:

```
              General Hospital Generic Interface Utilities Processor
                                                 Thu Apr 23, 1998 10:29 am
Generic Interface Utilities Input Options

            Option No.  Option
            ----------------------------------------
                1       Communication Line Definition
                2       Communication Line Control
                3       Communication Line Clear
                4       Communication Audit


                5       Send Formulary
                6       Send Patient
                7       Send Patient Orders
                8       Send Tables

                9       Test Inbound HL7 Messages
               10       Communication Line Status



Enter option number--
```

Using the Communication Line Definition

McKesson installers use this function during installation to specify information including facility, ports, protocol routines, format routines, and the types of Pharmacy data to send to the third-party package.

After you choose Communication Line Definition on the Generic Interface Utilities processor, the system displays the following prompt:

Enter communication code--

Enter the code for the interface you are adding. The system displays the following prompt:

Add this code '___'? (Y/N) [Y]--

The default is Yes. If you enter Y or press ENTER, the system displays the Communication Line Definition Processor. If you enter N, the system displays the original Enter communication code prompt.

If you enter a code that exists, the system displays the existing Communication Line Definition screen for that interface.

The following example shows the screen for the Pyxis interface:

```
            General Hospital Communication Line Definition Processor
                                                  Wed Apr 08, 1998 02:11 pm
Communication Code: PYX              Updated last by: 99999 on 12/09/97 1059
 1 Description          2 Facilities  3 Port  4 Status      5 Protocol Program
   PYXIS                 A,B           3       Inactive      ^PCHAP
 6 Interface Audit Report Name       7 Audit Program     8 Audit Global  9 Log
   PORT 207-Port 207 Printer                               Yes          -> No
10 Audit Retn  11 ECS Prefix  12 Format Program   13 Process Routine  14 Modem
   4 days                     RX^PIPYX            ^PIPYXI              No
15 Primary Phone   16 Secondary Phone 17 Retries 18 Line Clear Report Name

19 Line Clear Program    20 Orders             21 Med Orders   22 Sol Orders
                            All Orders            Yes             See Table
23 Sol Bottles           24 Status Changes     25 Allergies    26 Formulary
   No                                            No              Generic Name
27 Charge Solns? 28 Charge Meds? 29 HL7  30 Tables
   See Table        See Table       No




Log data application errors to the console log? (Y/N) [Y]--
```

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)
This field displays the communication code for the interface.

1. DESCRIPTION (DISPLAY ONLY)
This field displays the name of the interface.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which the interface is active.

When you access this field, the system displays the following prompt:

Select facilities to be interfaced--

To end your selection, press ENTER.

3. PORT (3-N-R)
Enter the number for the physical port over which data is transmitted to the third-party package.

When you access this field, the system displays the following prompt:

Enter new port number being used for this interface--

4. STATUS (DISPLAY ONLY)
This field indicates whether the interface is active or inactive.

5. PROTOCOL PROGRAM (16-A-R)
Enter the program that monitors the line to, receives data from, and transmits data to the third-party package.

When you access this field, the system displays the following prompt:

Enter new protocol program (include "^")--

6. INTERFACE AUDIT REPORT NAME (TABLE LOOKUP-O)
Select the report name to be used by the Audit Program field.

When you access this field, the system displays the following prompt:

Select the spooler report name to be used for an audit--

7. AUDIT PROGRAM (16-A-O)
Enter the program that is called if the Interface Audit Report Name field is defined. It is called when a transaction is sent to the third-party package. This program opens the report defined in the Interface Audit Report Name field and prints a transaction log record.

When you access this field, the system displays the following prompt:

Enter audit report program (include "^")--

8. AUDIT GLOBAL (1-A-O)
Enter **Y** for Yes. You can access this field only when disk space is critically low. This global is an exact copy of the transaction record that is sent to the third-party package and is stored in the audit global ^PJA(communication code,date,sequence number).

When you access this field, the system displays the following prompt:

Create an audit global of interface transactions? (Y/N) [Y]--

9. LOG (1-A-O)
This field determines if data errors are reported on the Console Log. When you access this field, the following prompt is displayed:

Report errors? (Y/N) [N]--

Enter **Y** to report errors on the console log. Enter **N** to stop errors from printing on the console log.

If you access the Log field but have not entered an Interface Audit report name, the following message displays:

Error: Audit Report must be set up to remove data errors from console log!

To define an audit report you must choose a printer from the list under the field Interface Audit Report Name.

10. AUDIT RETN (2-N-O)
Enter the number of days that the information in the Audit Global is to be retained. The minimum number of days is 4 and the maximum number is 10. You can access this field only if the Audit Global field is set to Yes.

When you access this field, the system displays the following prompt:

Enter new number of days to retain interface audit records (4-10) [7]--

11. ECS PREFIX (3-C-O)
Enter the 3-character prefix that is used for electronic claims submission.

12. FORMAT PROGRAM (16-A-R)
Enter the program that formats the transactions according to the specifications provided by the third-party package.

When you access this field, the system displays the following prompt:

Enter new program to format outgoing transactions (include "^")--

13. PROCESS ROUTINE (16-A-O)
Enter the program that processes incoming transactions from the third-party package.

When you access this field, the system displays the following prompt:

Enter new program to process incoming transactions (include "^")--

14. MODEM (1-A-O)
If you are using a modem, enter **Y** for Yes to define the communication line as a modem line. The system default is N.

15. PRIMARY PHONE (15-AN-O)
If you are using a modem, enter the primary modem phone number. The system uses this number for calling the third-party claims processor.

16. SECONDARY PHONE (15-AN-O)
If you are using a modem, enter the secondary modem phone number. The system uses this number for calling the third-party claims processor if the primary modem number cannot be accessed.

17. RETRIES (2-A-O)
If you are using a modem, enter the number of times you want the system to redial before logging a communication failure message. If both primary and secondary numbers are available and 2 retries are indicated, the system dials the primary number twice, and then the secondary number twice, before logging a communication failure message.

18. LINE CLEAR REPORT NAME (TABLE LOOKUP-O)
Select a report name to be used by the Process Routine field.

If a Line Clear Report Name and a Line Clear Program are defined, the system generates an audit report for removed transactions. If a Line Clear Report Name and a Line Clear Program are *not* defined, the system does not generate an audit report for the removed transactions.

When you access this field, the system displays the following prompt:

Select the spooler report name to be used if the queue is dumped--

19. LINE CLEAR PROGRAM (16-A-O)
Enter the line clear program. This program deletes any transactions that are in the queue to be sent to the third-party package. The Communication Line Clear function executes this program.

As the transactions are deleted, this program prints a log record of the queued transactions on the report defined in the Line Clear Report Name field.

If a Line Clear Report Name and a Line Clear Program are *not* defined, the system does not generate an audit report for the removed transactions.

When you access this field, the system displays the following prompt:

Enter line clear program (include "^")--

20. ORDERS (1-N-R)
Indicate in this field the type of order to send. When you access this field, the system displays the following:

(1) No Orders
(2) All Orders
(3) Formulary Only
(4) Ambulatory Care

Which orders should be sent--

To send no orders to the third-party package, enter **1**. To send formulary, Product Information File (PIF), and manual orders to the third-party package, enter **2**. To send only formulary items to the third-party package, enter **3**. To send Ambulatory Care orders to the third-party package, enter **4**.

If No Orders is defined, you cannot access the Send Patient Orders function on the Generic Interface Utilities menu, or the Med Orders field and the Sol Orders field on the Communication Line Definition processor.

21. MED ORDERS (1-A-O)
Indicate whether to send medication orders to the third-party package. When you access this field, the system displays the following prompt:

Send medication orders? (Y/N) [Y]--

To send medication orders to the third-party package, enter **Y**. To select not to send medication orders to the third-party package, enter **N**.

You cannot access this field if you selected No Orders in the Orders field.

22. SOL ORDERS (TABLE LOOKUP-O)
Select the solution type codes for the interface. When you access this field, the system displays the following prompt:

Enter solution type code or '-' for list [All]--

If you enter a hyphen (-), the system displays a list of solution type codes, as in the following example:

```
Page:01                        Solution Type Codes          ##=Current Choices
( 1) Advantage                     ( 5) Infusion
( 2) Chemothrpy                    ( 6) Irrigation
( 3) Enteral                       ( 7) Piggyback
( 4) FatEmulsn                     ( 8) Primary
Enter choices (e.g. 1,7,5-9) or '-'choices to remove--
                         end selection(NL)  next page(/)
```

Enter your choices. To remove choices, enter a hyphen (-) followed by the numbers for the choices you want to remove.

You cannot access this field if you selected No Orders in the Orders field.

23. SOL BOTTLES (1-A-O)
Indicate whether to send bottle information for solutions. When you access this field, the system displays the following prompt:

Send bottle information for solutions? (Y/N) [All]--

You cannot access this field if you selected to send no solution orders to the third-party package in the Sol Orders field.

24. STATUS CHANGES (1-N-O)
Indicate when to send status changes. When you access this field, the system displays the following prompt:

(1) Don't Send
(2) Send when entered
(3) Send when effective

When should status changes be sent [2]--

For interfaces that cannot accept status changes, select Don't Send.

For interfaces, such as Horizon Clinical Documentation™ (or Horizon Expert Documentation™, if applicable), that accept the status when it is entered so they can print the pending status on their Medication Administration Records (MARs), select Send when entered.

For interfaces that can accept a status change only after it becomes active, select Send when effective.

25. ALLERGIES (1-A-O)
Indicate whether to send patient allergies. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

The third-party package determines whether the abbreviated allergy description, the description, or the code is sent.

26. FORMULARY (1-A-R)
Indicate whether to send formulary items and whether to send the brand or the generic name. When you access this field, the system displays the following prompt:

Send formulary items? (Y/N)--

If you select **Y**, the system displays the following prompt:

Send (B)rand or (G)eneric name--

Enter **B** for brand/trade name or **G** for generic name.

27. CHARGE SOLNS? (TABLE LOOKUP-O)
Use this field to define by location whether the interface charges for solutions. For information about coordinating charges, see the Coordinating Charges subsection.

When you access this field, the system displays the Station Locations table:

```
Page:01                          Station Locations            ##=Current Choices
( 1) 1 EAST              [Yes]   ( 4) LABORATORY NSA      [Yes]
( 2) CORONARY CARE UNIT  [Yes]   ( 5) LAB NURSING STATION [Yes]
( 3) INTENSIVE CARE UNIT [Yes]   ( 6) Laboratory NSB      [Yes]

Enter choices (e.g. 1,7,5-9) or '-'choices to remove--
                       end selection(NL)  next page(/)
```

Enter the numbers of the location you want to change. The system then displays a prompt specific to the interface and the location. The following example shows the prompt specific to the Pyxis interface and station 1East:

Should the PYXIS interface charge for solution bottles for station '1E'? (Y/N)--

To define the interface to charge for solution bottles for the specific station, enter **Y**. To define the interface to not charge for solution bottles for the specific station, enter **N**. After you enter your choice, the system displays the *Filed!* message.

28. CHARGE MEDS? (TABLE LOOKUP-O)
Use this field to define by location whether the interface charges for medications.

For information about coordinating charges, see the Coordinating Charges subsection.

When you access this field, the system displays the Station Locations table:

```
Page:01                          Station Locations            ##=Current Choices
( 1) 1 EAST              [Yes]    ( 4) LABORATORY NSA      [Yes]
( 2) CORONARY CARE UNIT  [Yes]    ( 5) LAB NURSING STATION [Yes]
( 3) INTENSIVE CARE UNIT [Yes]    ( 6) Laboratory NSB      [Yes]

Enter choices (e.g. 1,7,5-9) or '-'choices to remove--
                       end selection(NL)  next page(/)
```

Enter the numbers of the location you want to change. The system then displays a prompt specific to the interface and the location. The following example shows the prompt specific to the Pyxis interface and station 1East:

Should the PYXIS interface charge for medications for station '1E'? (Y/N)--

To define the interface to charge for medications for the specific station, enter **Y**. To define the interface to not charge for medications for the specific station, enter **N**. After you enter your choice, the system displays the *Filed!* message.

29. HL7 (1-A-O)
If the interface is not an HL7® interface, enter **N**. If the interface is an HL7 interface, enter **Y**. After you enter Y and then accept the screen, the system displays an additional HL7 definition screen.

When you access this field, the system displays the following prompt:

Is this an HL7 interface? (Y/N) [Y]--

30. TABLES (TABLE LOOKUP-O)
Indicate the type of pharmacy tables to send. When you access this field, the system displays a list of pharmacy tables, as shown in the following example:

```
Page:01                              Tables                  ##=Current Choices
( 1) PADC-Allergy Classes                ( 5) PASO-Automatic Stop Types
( 2) PASV-Allergy Reaction Severity      ( 6) PBTL-Bottle Schedule
( 3) PADR-Allergy Reactions              ( 7) PCAN-Cancel Order Reasons
( 4) PAHF-AHFS Therapeutic Classes       ( 8) PCNV-Conversion Factors
Select tables to send--
                         end selection(NL)  next page(/)
```

If you select more than one code, use a slash (/) to separate the codes.

After you complete the fields, the system displays the following prompt:

Accept this screen? (Y/N/D) [Y]--

To accept, enter **Y** or press ENTER. If you do not want to accept the screen, enter **N**.

To delete, enter **D**. The system displays the following prompt:

Are you sure you want to delete? (Y/N)--

To confirm the deletion, enter **Y**. To select not to delete, enter **N**.

Coordinating Charges

If your facility uses an automated dispensing cabinet (ADC) interface along with STAR Pharmacy ATC, Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interfaces, you must coordinate charging.

If you are using an automated dispensing cabinet as a floorstock location and you are also using the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface that sends back med and solution charges when administered, you must set your charging parameters, in the Chg-Med/Sol Charge Indicators parameter, to Not Charged and Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable)/Pharmacy Interface Parameters must have the Meds Charge on Admin? field set to Yes. You must enter No for the appropriate station(s) in the Charge Meds? field on the Communication Line Definition for the automated dispensing cabinet to avoid double charging.

If you do not have the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) Interface but you are using the automated dispensing cabinet for all medication dispensing, rather than filling carts, set your charge parameters to Not Charged in the Chg-Med/Sol Charge Indicators parameter and leave the Charge Meds? field on the Communication Line Definition for the automated dispensing cabinet, set to Yes. This setup ensures that medications are not charged when the dispensing reports are run, but the charges come back to STAR when they are taken out of the automated dispensing cabinet.

If you are running an ATC to fill carts, the automated dispensing cabinet for floorstock dispensing, and the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface for medication and solution administration, you must set your charge parameters to Not Charged and turn the automated dispensing cabinet charges off on the Charge Meds? field on the Communication Line Definition for the automated dispensing cabinet. It is not necessary to turn charges off for the ATC interface since the items are not charged at the time of dispensing.

TESTING INBOUND HL7 MESSAGES

The Test Inbound HL7 Messages function is available on the Generic Interface Utilities processor. This function must be used only in Test IDs. You must not use this function in a Live ID. This function uses a STAR program that simulates inbound HL7 transactions. This program aids in testing the interface transactions on the STAR side.

When you access this function and enter a communications code, the system displays a list of defined inbound transactions. Enter the number for the transaction you want to test. The system displays a screen or series of prompts based on your transaction, that you then populate with data for the inbound transaction you specified. After you accept the screen, the system displays a parsing message, a decompiling message, and a *Complete!* message.

If you attempt to use this function in a Live ID, the system displays the following warning message:

Warning!! You are in a LIVE ID [ID number]. This option may not be executed!

Chapter 4 - USER FUNCTIONS

USER FUNCTIONS IN THE GENERIC INTERFACE UTILITIES

This section provides user information for the functions available on the Generic Interface Utilities menu after an interface is installed. The following functions are available:

- Communication Line Control
- Communication Line Clear
- Communication Audit
- Send Formulary
- Send Patient
- Send Patient Orders
- Send Tables
- Communication Line Status

Technical information about these functions is included in “Chapter 5 - TECHNICAL NOTES”.

Some of your options within these functions are determined during the installation of the specific interface. For example, if an interface is defined during installation to send No Orders, you cannot send patient orders through the Send Patient Orders function on the Generic Interface Utilities menu. This section does inform you about how certain installation settings affect your use of the functions. For more information on the installation settings, see “Chapter 3 - INSTALLATION”.

NOTE: Some transactions take place automatically, based on the installation settings. Whenever an interface is started or stopped, the system beeps and displays a message to notify you of activity.

To access the Generic Interface Utilities functions, first select System Management--Pharmacy from the System Management menu. Then select the Interface Utilities option. The system displays the following screen:

```
                  General Hospital Interface Utilities Processor
                                                 Tue Jul 23, 2002 10:17 am
Interface Utilities Input Options

            Option No.  Option
            ---------------------------------------
                1       ATC Interface Utilities
                2       Horizon Clinical Documentation Utilities
                3       Micromedex Access Utilities
                4       Kinetics Access Utilities
                5       pharmLINK Interface

                6       HL7 Interface Functions
                7       Generic Interface Utilities
                8       Robot Interface Parameters









Enter option number--
```

When you select Generic Interface Utilities, the system displays the following screen:

```
              General Hospital Generic Interface Utilities Processor
                                                 Thu Apr 23, 1998 10:29 am
Generic Interface Utilities Input Options

            Option No.  Option
            ---------------------------------------
                1       Communication Line Definition
                2       Communication Line Control
                3       Communication Line Clear
                4       Communication Audit


                5       Send Formulary
                6       Send Patient
                7       Send Patient Orders
                8       Send Tables

                9       Test Inbound HL7 Messages
               10       Communication Line Status




Enter option number--
```

When using the Generic Interface Utilities menu, you select a function before selecting an interface. When you select a function, the system displays the following prompt:

Enter communication code, or '-' to list --

Enter the code you want, or enter a hyphen (-) and select from the list.

If the code matches an existing interface code, the system displays the chosen function. If no match exists, the system displays the following message:

Error: Invalid communication code!

The system then redisplays the previous prompt.

The rest of this section describes the user functions on the Generic Interface Utilities.

NOTE: The first function, Communication Line Definition, is described in "Chapter 3 - INSTALLATION". McKesson installers use this function when installing interfaces on the Generic Interface Utilities.

Communication Line Control

This function enables you to either activate or inactivate an interface that has been installed.

Select this function from the Generic Interface Utilities menu. Enter the three-character communication code for the interface, or enter a hyphen (-) and select from the list. The system displays the Communication Line Control screen.

At the top of the screen, the status of the interface is displayed as either Active or Inactive.

INACTIVATING AN INTERFACE

If the status is active, the system displays the following prompt:

Inactivate the [interface]? (Y/N) --

If you select **Y** to inactivate the interface, the system displays the following prompt:

[Interface] will be terminated! Accept? (Y/N)

If you accept, a message informs you that the interface is terminated and the system displays the following prompt:

Enter communication code, or '-' to list --

If you enter N to select not to terminate the interface, the system displays the following prompt:

Enter communication code, or '-' to list --

ACTIVATING AN INTERFACE

If the status is inactive, the system displays the following prompt:

Activate the [interface]? (Y/N) --

If you enter Y, the system displays the following message.

[Interface] will be activated! Accept? (Y/N)

If you accept, a message informs you that the interface is activated and the system displays the following prompt:

Enter communication code, or '-' to list --

If you enter N to select not to activate the interface, the system displays the following prompt:

Enter communication code, or '-' to list --

Communication Line Clear

NOTE: This function is not used by HL7 interfaces.

This function enables you to remove from the queue all transactions that have not been sent to the third-party package. If a Line Clear Report Name and a Line Clear Program are defined on the Communication Line Definition screen, the system generates an audit report for the removed transactions. If a Line Clear Report Name and a Line Clear Program are *not* defined on the Communication Line Definition screen, the system does not generate an audit report for the removed transactions.

Select this function from the Generic Interface Utilities menu. Enter the three-character communication code for the interface, or enter a hyphen (-) and select from the list. The system displays the following prompt:

Clear [interface] queue? (Y/N)

If you enter Y, the system displays the following message:

Deleting all queued transactions.

If you attempt to empty a communication queue on an active line, the system displays the following message:

Cannot empty communication queue on an active line!

If the Line Clear Report and Line Clear Program are not defined, the system displays the following warning:

WARNING
Line Clear Report/Program Not Defined!
There will be no audit of cleared transactions!

At the bottom of the screen, the system displays the following message:

Empty the communication queue? (Y/N)--

If you enter Y to empty the queue, the system displays the following prompt:

Are you sure? (Y/N)--

If you enter Y, the system displays the following message and does not generate a report:

Clearing queued transactions!

If you enter N, the system displays the following prompt:

Enter communication code, or '-' to list --

When the Communication Line Clear function is called, the system prints a message on the console log. The message includes the interface description, the number of transaction records that were deleted, and the time the function was called. The console log category for the message is "PI_interface code."

Communication Audit

NOTE: This function is not used by HL7 interfaces. HL7 customers can use the HL7 Audit Inquiry.

This function enables you to view transactions sent to and received from the third-party package. Select this function from the Generic Interface Utilities menu. Enter the three-character communication code for the interface, or enter a hyphen (-) and select from the list. The system displays the following screen, with the interface description displayed:

```
                General Hospital Communication Audit Processor
                                                 Tue Jun 21, 1994 12:33 pm
 1 Interface Description
   PYXIS
 2 Date               3 Transaction Type          4 Search String
->









Enter date [today]--
```

Field Explanations

1. INTERFACE DESCRIPTION (DISPLAY ONLY)
This field displays the name of the interface, based on the three-character code you entered.

2. DATE (DATE-R)
Enter the date for which you want to view transactions. The current date is the default. The number in the Audit Global field on the Communication Line Definition Processor determines the number of days the transactions remain in the audit global.

If no transactions exist for the date entered, the system prompts you for another date.

3. TRANSACTION TYPE (1-A-R)
In this required field, define whether you want to search for incoming transactions, outgoing transactions, or both types. When you access this field, the system displays the following prompt:

Search (I)ncoming transactions, (O)utgoing transactions, or (B)oth --

Enter your choice.

4. SEARCH STRING (30-AN-R)
In this required field, define the part of the transaction you are looking for, such as account number, the facility, or formulary code. When you access this field, the system displays the following prompt:

Enter string to search for --

The system displays the search results in a format like the following, with one transaction record per screen:

```
                General Hospital Communication Audit Processor
                                                  Tue Jun 21, 1994 12:33 pm
Current PYXIS status:  Active

.........1.........2.........3.........4.........5.........6.........7
I:0ORD1A052019921748AA9202100003 999924010062      N#02480
  C  904   CONSULT - PHYSICAL,THERAPY                  n/a           05
201992174805201992000O
   Y


Transaction Number: 1









Press NL--
```

At the top of the screen, the system indicates the interface status as active or inactive. Below that, the system displays a 70-character ruler. The system displays the transaction records in four lines of 70 characters, a screen at a time. When all records containing the string have been displayed, the system displays a message and enables you to enter a new search date for transactions.

If you want to exit the function during the display of records, press ENTER.

Send Formulary

This function enables you to send all formulary items, items from a specified floorstock location, controlled items, or selected formulary items to the third-party package. These transactions are sent as *adds* to the third-party package.

NOTE: You cannot access this function if the Formulary field on the Communication Line Definition screen is set to No.

Select this function from the Generic Interface Utilities menu. Enter the three-character communication code for the interface, or enter a hyphen (-) and select from the list. The system displays the following prompt:

Send (A)ll items, Items from (F)loorstock, (C)ontrolled items, (S)elected items--

SENDING ALL ITEMS

If you enter A, the system displays the following prompt:

Are you sure you want to send all formulary items? (Y/N)--

If you select **Y**, the system displays the following message:

Sending all formulary items!

If you select **N**, the system displays the Generic Interface Utilities menu.

SENDING ITEMS FROM A SPECIFIED STOCK LOCATION

If you enter F, the system displays the following prompt:

Enter first letters'-' or stock location code--

If you enter letters followed by a hyphen (-), the system displays the available stock locations. When you choose the location, the system displays a message specific to the location:

Sending 1E floorstock items

SENDING CONTROLLED ITEMS

If you enter C, the system displays the following screen:

Enter the control class. The system displays a message specific to the control class:

```
( 1) Class 1 - Research only
( 2) Class 2 - Most abused
( 3) Class 3 - Less abused
( 4) Class 4 - Potential abuse
( 5) Class 5 - Controlled sale by pharmacy only
( 6) Not controlled

Enter control class--  |
```

Sending Class 2 items!

For Canadian customers, the Canadian Controlled Drug Classes table displays instead of the US Controlled Drug Class table.

SENDING SELECTED ITEMS

If you enter S, the system displays the following prompt:

Enter drug name, '-' mnemonic, formulary code or '' product # --*

After you enter your selection, the system displays the following message:

Formulary item sent!

The system prints a message on the console log under the category "PI"_interface code, indicating that all or selected formulary items were sent to the third-party package.

Send Patient

This function enables you to send all or selected patients to the third-party package.

Select this function from the Generic Interface Utilities menu. Enter the 3-character communication code for the interface, or enter a hyphen (-) and select from the list. The system displays the following prompt:

Send (A)ll, by (P)atient Type, by (N)urse Station, or (S)elected patients--

SENDING ALL PATIENTS

If you enter A, the system displays the following prompt:

Are you sure you want to send the entire patient census? (Y/N) --

If you enter Y, the system displays the following message:

Sending patient census!

If you enter N, the system displays the Generic Interface Utilities menu.

The system sends census information for all patients who are not PREs or who have not been discharged. The system displays a message on the console log under the category "PI"_interface code, indicating that the entire patient census information was sent to the third-party package.

SENDING BY PATIENT TYPE

When you enter P, the system displays the following prompt:

Send all (I)npatient or all (O)utpatient Types [I]--

If you enter I or press ENTER, the system displays the following message:

Sending inpatient census

If you enter O, the system displays the following message:

Sending outpatient census

SENDING BY NURSE STATION

When you enter N, the system displays the following prompt:

Enter Nurse Station or '-' for list--

If you enter a hyphen (-), the system displays the Nurse Stations table and the following prompt:

Enter choice--

Enter your choice. The system then displays a message specific to your choice, such as *Sending Patient Census for OPC*.

SENDING SELECTED PATIENTS

If you enter S, the system displays a prompt similar to the following:

Enter acct #, '-'bed code, first chars of name,`C` for Census [C]--

Identify the patient. For more information, see the Patient Identification Process section in the *General Information Volume* of the *STAR Pharmacy Reference Guide*.

After you select the patient, the system displays the following message:

Sending census for [patient]!

If the patient is a PRE or has been discharged, an error message displays and you are returned to the prompt. If the patient is a valid patient type, the system prints a message on the console log under the category "PI"_interface code, indicating that the census information for the selected patient was sent to the third-party package.

NOTE: For inpatients, these transactions are sent as admissions to the third-party package, while for outpatients, these transactions are sent as registrations.

Send Patient Orders

This function enables you to send patient orders to the third-party package. The type of order for your facility was set up during installation in the Orders field as one of the following:

Selection	Type of Orders Sent
No Orders	None
All Orders	Formulary, PIF, and manual orders
Formulary Only	Formulary orders only

If the Orders field on the Communication Line Definition screen contains No Orders, you cannot access this function. For more information, see “Chapter 3 - INSTALLATION”.

Select this function from the Generic Interface Utilities menu. Enter the three-character communication code for the interface, or enter a hyphen (-) and select from the list. The system displays the following prompt:

Send (A)ll patients or (S)elected patients to [interface]--

SENDING ALL PATIENTS

If you enter A, the system displays the following prompt:

Are you sure you want to sent all patient orders/allergies? (Y/N) --

If you enter Y to send all patient orders/allergies, the system displays the following message:

Sending all patient orders/allergies!

If you enter N, the system returns you to the Generic Interface Utilities menu.

SENDING SELECTED PATIENTS

If you enter S for selected patients, the system displays a prompt similar to the following:

Enter acct #, '-'bed code, first chars of name,`C` for Census [C]--

Identify the patient. For more information, see the Patient Identification Process section in the *General Information Volume* of the *STAR Pharmacy Reference Guide*.

If you enter an account number, enter the bed code, or select from the list of patients after entering the first characters of the patient's name, the system displays the following prompt:

Send (A)ll orders/allergies or (S)elected orders--

If you enter A, the system displays a message notifying you that all orders/allergies were sent for the specific patient.

If you enter S for Selected orders, the system displays the following prompt:

Enter order numbers or '-' to list --

Enter the order number or enter a hyphen (-). If you enter a hyphen, the system displays a screen like the following:

```
          General Hospital Send Patient Orders Processor
                                                 Thu Mar 07, 1996 03:17 pm
  No           Name              Sex   BD    Room    Doctor     Service Status
9325700001     JAMES, TYRONE      M 01/15/90 2104-02 RENFRO,ANN MEDICAL I/P 23
                                Order Inquiry
Order Drug                                  Route Freq  Sched Start Stop  Sta M
   1  PANADOL 500 MG CAPSULE                ORAL  Spec  Chg   02/29 02/29 DC
   2  PANADOL 500 MG CAPSULE                ORAL  Spec  Chg   02/29 02/29 DC
No more orders
Enter order numbers --
                              NL to end selection
```

Select a number and press ENTER. The system displays a message notifying you that selected orders were sent for the specific patient.

The system prints a message on the console log under the category "PI"_interface code, indicating that all or selected orders were sent to the third-party package.

Send Tables

NOTE: For the HL7 interfaces, tables are sent through the HL7 Loader function, not though the Generic Interface Utilities. If you enter the communication code for either the inbound or outbound interface, the system displays the following message:

Tables are sent through the HL7 Table Loader function!

This function enables you to select one of the table types defined in the Tables field on the Communication Line Processor screen. The system sends all table entries for that table type to the third-party package. These transactions are sent as adds to the third-party package.

Select this function from the Generic Interface Utilities menu. Enter the three-character communication code for the interface, or enter a hyphen (-) and select from the list.

The system displays a list containing the table types that were selected during installation. Enter the number of your choice. The system displays the following prompt:

Are you sure you want to send all [table type] table entries? (Y/N)

If you enter Y, the system displays the following message:

Sending table entries!

The system then displays the Generic Utilities Interface menu. The system displays a message on the console log under the category "PI"_interface code, indicating that all entries for the selected table were sent to the third-party package.

If you enter N, the system displays the Generic Interface Utilities menu.

If you have not defined any tables in the Tables field on the Communication Line Processor screen, the system displays the following message:

No tables are sent to [interface]!

Communication Line Status

This function enables you to view the status of HL7 interface lines. When you access this function, the system displays a list of defined HL7 interface lines, the type of application, the port number, and the status at the specific date and time.

```
                  General Hospital Processor
                                                Mon Jul 06, 1998 01:13 pm
Communication Line Status Option                                    ID: 1

Page:04 HL7 Interface Lines    Apps  Port              Status
( 1) PLO-PHARMACY-LAB OUTBOU    L     340  Comm established @ 06/24/98 1113pm
( 2) PXI-PYXIS HL7 Inbound      C       3   status unknown  @ 07/06/98 0113pm
( 3) PXI-PYXIS HL7 Inbound      P       3   status unknown  @ 07/06/98 0113pm
( 4) PXO-PYXIS HL7 Outbound     C     181   status unknown  @ 07/06/98 0113pm
( 5) PXO-PYXIS HL7 Outbound     P       5   status unknown  @ 07/06/98 0113pm
( 6) RCM-Pathways Care Mgr      P       3   status unknown  @ 07/06/98 0113pm
( 7) RDO-Outbound to Radlink    C       6   status unknown  @ 07/06/98 0113pm
( 8) REO-REO TEST OUTBOUND      C     407   status unknown  @ 07/06/98 0113pm
( 9) RFO-Rick's Outbound        C     300   status unknown  @ 07/06/98 0113pm
(10) RO1-REO TEST               C     201   status unknown  @ 07/06/98 0113pm
(11) RXH-Pharmacy HNS           P       3   status unknown  @ 07/06/98 0113pm
(12) SMI-SureMed HL7 Inbound    C     214   status unknown  @ 07/06/98 0113pm
(13) SMI-SureMed HL7 Inbound    P       3   status unknown  @ 07/06/98 0113pm

Enter (NL) to refresh or select option number--
           next pg(/ or PG DN)  previous pg(/P or PG UP)  Search(TAB)
```

To check the status of a specific communication line, enter the number. The system displays the status screen for the specific communication line, as in the following example.

```
                  General Hospital Processor
                                               Mon Jul 06, 1998 12:59 pm
Communication Line Status Option                                   ID: 1

This interface (PXO) is currently: "Active"

The Acknowledgment Audit is currently turned off!

The TCP-IP address is: 139.177.2.59+21000

ERROR: Same Interface code (PXO) defined more than once on CPU across products!

Press NL--
```

This screen indicates the following:

- whether the interface is active or inactive
- whether the Acknowledgment Audit is currently turned on or off
- the location of the TCP/IP address
- error messages, such as the interface code is defined more than once.

To return to the list of communication lines, press ENTER.

Chapter 5 - TECHNICAL NOTES

TECHNICAL DESIGN

Store each interface in the global ^PT(,"COMM").

Whenever defining a new interface, add "Z" to ~PI and to ^Q("PRM",,"~PI"). If you are deleting an interface definition and there are no other interfaces defined, remove "Z" from ~PI and ^Q("PRM",,"~PI"). Add a hook to each of the programs listed (see the Programs subsection) to check if ~PI contains the letter "Z." If it does, the "generic" interface program is called that checks each interface by doing a $ZN through ^PT(,"COMM"). When that data type is sent to the third-party package, the specific formatting routine for the interface is called.

The hook to the generic interface is a ZP call to I^PCCOM. The first parameter has two semi-colon pieces. The first semi-colon piece is the facility. The second semi-colon piece indicates the data type sent to the third-party package:

M Medications

S Solutions

B Solution Bottles

C Status Changes

T Tables

F Formulary

A Patient Allergies

Prior to calling the interface formatting programs, I^PCCOM sets Y% to the facility and then sets %1 to contain only the data type indicator.

Data Types and Parameters

The other parameters that are passed in the ZP call are based on the data type:

M - MEDICATIONS

%2 = IN
%3 = IO
%4 = "A" for a started/restarted order
"R" for a revised order
%5 = items revised

NOTE: This parameter has a value only if %4 has a value of R. This parameter is a list (semicolon pieces) of the SQ numbers for the items that were revised. If an item was added during the revision, the SQ number is followed by an asterisk (*). For example, if the parameter has a value "1;2;4*," then items 1 and 2 were revised and item 4 was added. The formatting program determines how this revision is sent to the third-party package.

NOTE: The %4 parameter always has a value "A" when the generic interface is called from the Send Patient Orders Utility.

Locking: Prior to calling the formatting routines, the generic interface calls L1^PDSPL to lock PO(IN,IO).

S - SOLUTIONS

%2 = IN
%3 = IO
%4 = "A" for a started/restarted order
"R" for a revised order
%5 = items revised

NOTE: This parameter has a value only if %4 has a value of R. This parameter is a list (semicolon pieces) of the SQ numbers for the items that were revised. If an item was added during the revision, the SQ number is followed by an asterisk (*). If the order-level information was revised, one of the semicolon pieces has the value "O." For example, if the parameter has a value "O;1;2;4*," then the order level information was revised as well as the item level information for items 1 and 2. In addition, item 4 was added to the order. The formatting program determines how this revision is sent to the third-party package.

%6 = solution type code

NOTE: The %4 parameter always has a value "A" when the generic interface is called from the Send Patient Orders Utility.

Locking: Prior to calling the formatting routines, the generic interface calls L1^PDSPL to lock PO(IN,IO).

B - SOLUTION BOTTLES

%2 = IN
%3 = IO
%4 = Internal Bottle Numbers (separated by a comma)
%5 = "A" for add
"R" for revision
"D" for delete
%6 = solution type code

NOTE: The %5 parameter always has a value "A" when the generic interface is called from the Send Patient Orders Utility.

Locking: Prior to calling the formatting routines, the generic interface calls L1^PDSPL to lock PO(IN,IO).

C - STATUS CHANGES

%2 = IN
%3 = IO
%4 = "C" for a canceled order
"D" for a discontinued order
"H" for a held order
"R" for a resumed order
%5 = status date/time;flag

NOTE: This parameter has a value only if %4 has a value of C, D, H, or S. The flag has a value of 1 if this call was initiated from PCPND (when the status change became effective). If so, I^PCCOM does not call the third-party package if the third-party package receives status changes when they are entered.

%6 = "M" for medication orders
"S" for solution orders
%7 = 1 for rejected statuses

NOTE: A status can be rejected from one of two places: Verification and the Remove Pending Status functions. In verification, if a pharmacist *rejects* a hold, cancel, or discontinue and verification was required after processing, then a call is made to the generic interface and %7 has a value of 1. The formatting routine determines what transaction to send to the third-party package to indicate the correct status of the order.

NOTE: While a resume is treated as a status change by most third-party packages, the STAR Pharmacy system allows the user to also revise the stop date/time from within the Resume function. In addition, if verification is required before processing, the pharmacist may revise any of the order information prior to verifying the status change. It is the responsibility of the formatting program to determine the handling of this situation for the particular foreign interface. A suggested proposal is to send the third-party package a *status change* transaction as well as a *revision* transaction.

T - TABLES

%2 = Table type code (such as "PFRQ" or "PSCH")
%3 = Table code, secondary code (such as "BID" or "BID,2S")
%4 = "A" for add
"R" for revised
"D" for deleted

NOTE: The %4 parameter always has a value "A" when the generic interface is called from the Send Table Utility.

NOTE: If the facility, $P(%1,";") is null, then the table is shared by all facilities. The formatting program determines how to send the table information to the third-

party package. In other words, the formatting program needs to determine whether to send one record for the table revision or whether to send one record per facility.

Locking: Prior to calling the formatting routines, the generic interface locks T(table code).

F - FORMULARY

%2 = formulary code
%3 = "A" for add
"R" for revised
"D" for deleted

NOTE: The %3 parameter always has a value "A" when the generic interface is called from the Send Formulary Utility.

Locking: Prior to calling the formatting routines, the generic interface locks PFC(CD).

A - ALLERGIES

%2 = IN
%3 = AN

Locking: Prior to calling the formatting routines, the generic interface locks P(IN).

PROGRAMS

The following programs call the generic interface driver:

Program	Description	Data Type
PATRN4	Patient Transfer - bottle dispensing	Solution Bottles
PDSPL	Prep Label Processing	Solution Bottles
PFDMID	Midnight Processing - formulary update	Formulary
PFDUPD	Formulary Update	Formulary
PFDUPD4	Formulary Update	Formulary
PFPRG	Audit Global Deletion (calls PFPRG1)	Maintenance
PFPRG2	Bar code Deletion	Maintenance
PFRPT	Print Charge on Administration Reports	Charging
POCAN	Order Status Change (cancel)	Status Chg
POCAN1	Order Status Change (cancel)	Status Chg
PODC1	Order Status Change (discontinued)	Status Chg
POHLD	Order Status Change (hold)	Status Chg
PORES1	Start/Revise Order	Medication
PORPS	Order Status Change (remove pending status)	Status Chg
PORSM	Order Status Change (resume)	Status Chg
PORVM4	Start/Revise Order	Medication
PORVS5	Start/Revise Order	Solution Bottles
POSTM4	Start/Revise Order	Medication
POSTS7	Start/Revise Order	Sol/Sol Bottles
POVER1C	Order Status Change (verify)	Status Chg
POVER4	Start/Revise Order (verify)	Medication
PPRAL2	Patient Allergies	Allergies
PRASO	Order Status Change (discontinued)	Status Chg
PRASO3	ASO Processing for Soft Stop Auto-Extends	Medication/Solution
PTVM1	Table Maintenance	Tables
PUPROCLR	Clear Profile Utility	Maintenance

More information about these programs follows.

Medication and Solution Order Entry/Revision

POVER4, PORES1, and PRASO3 call the generic interface for both medications and solutions.

POSTM4A

For orders that do not require verification before processing, POSTM4 calls the generic interface to send new medication orders to the third-party package.

PORVM2, PORVM4, PORVMA

Users in STAR Pharmacy can add an item to an order from within the Revise function. Some third-party packages view this as an add or a revise. The formatting program determines how to send this information to the third-party package. However, the revise function must be set up as a variable so that the generic interface knows what occurred during the revision.

When an item is added to the order, ";2" is appended to |SQ in the variable. For a revised medication order, I^PCCOM is called with %6 set to a list (semi-colon pieces) of items that were revised. If the item is added as part of the revision, the sequence number is followed by an asterisk (*). In the above example, the variable %6 that is passed to I^PCCOM has a value "1;2;3*."

If the program PORVM4 was not called from demand med and the order does not require verification before processing, the generic interface is called to send revised medication orders to the third-party package. Prior to calling the generic interface, the program PORVM4 translates the variable UP into the format needed for %6 in the ZP call to I^PCCOM.

POSTS4

For orders that do not require verification before processing, POSTS4 calls the generic interface to send new solution orders to the third-party package.

PORVS, PORVS2, PORVS3, PORVS4

Similar to the Revise Med function, the Revise Solution function sets up a variable so that the generic interface knows what occurred during the revision.

When an item is added to the order, "*" is appended to SQ in the variable UP. Prior to adding an SQ to the variable UP, the programs PORVS and PORVS3 first check to make sure that the SQ number is not already contained in the variable UP.

For a revised medication order, I^PCCOM is called with %6 set to a list (semi-colon pieces) of items that were revised. If the item was added as part of the revision, the sequence number is followed by "*." If the order information was revised, the first semi-

colon piece of %6 has a value "O." In the above example, the variable %6 that is passed to I^PCCOM has a value "O;2;3*."

If the program PORVS4 is not called from demand solution and the order does not require verification before processing, the generic interface is called to send revised solution orders to the third-party package. Prior to calling the generic interface, the program PORVS4 translates the variable UP into the format needed for %6 in the ZP call to I^PCCOM.

PORES1

For orders that do not require verification before processing, PORES1 calls the generic interface to send restarted orders to the third-party package.

POVER4, POVER4A

If the order required verification before processing, the verification process needs to call the generic interface to send new/revised/restarted/resumed orders to the third-party package.

As part of the verification process for new, revised, restarted, and resumed orders, the pharmacist has the option to also revise the order as part of the verification process. To accommodate this, the verification program POVER4 calls the revise med/sol programs. For new, restarted, and resumed orders, the formatting routine sends the whole order to the third-party package.

However, for revised orders, a list of all of the revised items is passed in %5 to the generic interface.

If the order requires verification after processing, then the order revision has already been sent to the third-party package. When the pharmacist revises the order as part of verification, the revision programs (PORVS4 and PORVM4) invoke the generic interface and send the order revision to the third-party package. However, if verification is required before processing for an order revision, the verification program ^POVER4 needs to know which items have been revised so that these items can be included with the items that the technician revised in the list of revised items that are passed in %5 to the generic interface. To accommodate this, the programs PORVS and PORVMA set up the node ^Y($J,"VER","UP) to the value of the variable UP. The revision programs use this variable to determine which items have been revised. Using this variable, the verification programs POVER4 and POVER4A can determine which items have changed since the last time that order information was sent to the third-party package. All of these items are included in %5 when the generic interface is called.

PRASO3

During Midnight processing, the new stop date/time is calculated for orders containing soft stops that auto-extend. At this time the generic interface is called to indicate

revisions for the medication or solution items that have had the stop date/time modified as a result of an auto-extend.

Medication and Solution Order Status Changes

Except where otherwise noted, the programs PCVER, PCPND, and POVER1C are used to send status changes to the third-party package. There is a parameter by interface that indicates if status changes are to be sent when the status change is entered on STAR Pharmacy or when the status change becomes effective (when the system date/time is greater than or equal to the pending status date/time).

If the generic interface is called from PCVER, the status change is sent to the third-party package if verification is not required before processing and either the status change occurs immediately or status changes are sent to the third-party package as soon as they are entered on STAR Pharmacy.

If the generic interface is called from PCPND, the status change is sent to the third-party package if the order does not require verification before processing and status changes are sent to the third-party package when they become effective.

If the generic interface is called from POVER1C, the status change is sent to the third-party package if verification was required before processing and either the status change is already effective or status changes are sent to the third-party package as soon as they are entered on STAR Pharmacy.

PCVER

The fourth parameter that is passed to this program indicates the function that called the program:

1 = start med
2 = start solution
3 = revise med
4 = revise solution
5 = hold
6 = resume
7 = discontinued
9 = cancel

Whenever the fourth parameter is greater than 4 and verification is not set to verify before processing, the generic interface is called from PCVER. The generic interface checks the parameter for each vendor. If the parameter is set to send the transaction when it is entered on STAR Pharmacy, thenthe format routine for the interface is called to send the transaction. If the parameter is set to send the transaction record after the status change becomes effective, the generic interface calls the format routine only if the status change is effective now.

A field on the ^PA("PND") record indicates which function caused the record to be created. The first piece of ^PA("PND") is set to the fourth parameter that was passed to ^PCVER.

If a pharmacist cancels an unverified order from within the Verify function, POVER4A calls the cancel program ^POCAN that eventually calls PCVER. However, if the pharmacist is verifying a new order and verification is required before processing, then the cancellation is not sent to the third-party package because the order was never sent to it.

If PCVER is called from cancellation and verification is required before processing, it does not call the generic interface if the eighth piece of the unverified node is less than 3 (a new medication or solution order). If the eighth piece of the unverified node is greater than 3, then the pharmacist is cancelling a revised or resumed order. If the pharmacist is cancelling a revised or resumed order, the original order has been sent to the third-party package and the third-party package needs to receive the cancellation.

PCPND

If the first piece of the ^PA("PND") record is greater than 4 (a status change record) and verification for the order is not verify before processing, PCPND calls the generic interface. The generic interface checks the parameter for each vendor. If the parameter is set to send the transaction record when the status change becomes effective, the generic interface calls the format routine to send the status change routine.

POVER1C

This program is called when verifying a hold, cancel, or discontinued status change.

If the order requires verification before processing and the pharmacist accepts the status change, POVER1C calls the generic interface. The generic interface checks the status change parameter for each interface. If the parameter is set to send the status change as soon as it is entered on STAR Pharmacy or if the status change is already effective, the format routine is called to send the transaction to the third-party package.

If the order requires verification after processing and the pharmacist does not accept the status change, POVER1C calls the generic interface. The generic interface checks the status change parameter for each interface. If the parameter is set to send the status change as soon as it is entered on STAR Pharmacy or if the status change was already effective, the format routine is called to send a status change reject transaction to the third-party package.

POCAN, PODC1, POHLD, PORSM, PRASO

These programs call PCVER.

POCAN1

This program is called when a technician cancels an unverified order that he entered or last revised. This program does not call PCVER but calls the generic interface to send the cancel if the order was sent to the third-party package. The started/revise order is sent to the third-party package if the order does not require verification before processing.

PORPS

This function does not call PCVER, but calls the generic interface to send a status reject transaction if the pending status was already sent to the third-party package. If the pending status does not require verification before processing and the pending status is created from the hold, cancel, discontinue or resume functions (look at the first piece of the ^PA("PND") node to determine this), then PORPS calls the generic interface. The generic interface looks at the status change parameter for the third-party package and sends a transaction if the third-party package receives status changes when they are entered on STAR Pharmacy.

Solution Bottle Processing

PATRN4

This program sets the variable AC=1 if there is any interface running for which solution bottles are sent to the third-party package.

After the solution labels have printed, this program calls the generic interface before it calls the Horizon Clinical Documentation interface (or Horizon Expert Documentation, if applicable) because the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface program kills ^Y($J) after it sends all the bottle transactions to Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable).

PDSPL

This program sets the variable AC=1 if there is any interface running for which solution bottles are sent to the third-party package.

After the solution labels have printed, this program calls the generic interface before it calls the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface because the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface program kills ^Y($J) after it has sent all the bottle transactions to Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable).

POSTS7A

After all solution bottles are dispensed, this program calls the generic interface so that a transaction record can be sent to the third-party package.

PORVS6A

This program is called to redispense bottles. After all bottles are dispensed, this program calls the generic interface so that a transaction record for each bottle can be sent to the third-party package.

PORVS5

If more bottles were dispensed before the revision than after the revision, this program is called to delete the extra bottles. After the extra bottles are deleted, this program calls the generic interface so that a delete transaction record for the extra bottles can be sent to the third-party package.

Table Maintenance

PPTGT, PRIVG, PRUSG, PTFRQ, PTFRQ1, PTPNA, PTPSM, PTSAT, PTTPP, PTVM, PTVM8, PTVMA, PTVDM

These programs are called to maintain various tables. The generic interface is invoked to send the table entry to the appropriate third-party packages.

PAPRC, PTPFA, PTPRC, PTVND1

When a table entry is updated, these programs call the generic interface to send the table entry to the appropriate third-party packages.

Formulary

PFDMID

This is the midnight processing program that processes pending additions, deletions, and revisions to the formulary. It calls the generic interface when a formulary item is deleted.

When an item is added to the formulary, STAR Pharmacy allows users to order the item before the pending addition is processed by midnight processing. Therefore, addition records are sent to the third-party packages when the user adds the item to the formulary, not when the pending addition is processed by midnight processing. If the user later deletes the pending addition, a formulary delete transaction is sent to the third-party package.

PFDMID3

This is the midnight processing program that processes brand name changes. This program calls the generic interface for a formulary revision whenever a brand name change is processed.

PFDUPD3

This program calls the generic interface for a formulary revision. If the user is not adding an item to the formulary (the variable UA is null), the program calls the generic interface for a formulary revision.

If any data in the F0, F4, or FI nodes is modified, the generic interface is called.

PFDFM3A

This program calls the generic interface for a formulary addition when the user adds an item to the formulary and accepts the first screen (Basic Item Information) of Formulary Maintenance.

PFDUPD4

This program calls the generic interface to send a formulary deletion record to the foreign interfaces whenever a pending addition is deleted.

Patient Allergies

PPRAL2

This program calls the generic interface to send patient allergies to all appropriate third-party packages. This program is rather large, so it may be necessary to move code to other programs.

Miscellaneous/Maintenance

PFPRG1

This program deletes the audit global transactions for each interface.

PFPRG2

This program handles bar code deletion. Any midnight processing routines that need to be run for a specific interface (charging reports, error reports, clean-up routines) need to be added as a separate step.

PFRPT

This program prints charges on administration reports. Any midnight processing routines that need to be run for a specific interface (charging reports, error reports, clean-up routines) need to be added as a separate step.

PUPROCLR

This program clears the profile utility.

FUNCTIONS

Library Elements

The library element PIINTUTL (Interface Utilities) is on the Pharmacy System Management menu pgmsmrx. This library elementcalls the menu pimint that contains an option for each of the current interfaces plus an option for the Generic Interface:

PIATCINT	ATC Interface Utilities
PICCINT	Horizon Clinical Documentation Interface Utilities
AMICMN	Micromedex Access Utilities
PIKINETIC	Kinetics Access Utilities
PIRXLK	pharmLINK Interface
AHL7MP	HL7 Interface Maintenance
PIGENINT	Generic Interface Utilities
AHL7APSP	Robot Interface Parameters

The following list shows the library elements and program called for each function.

Function	Library Element	Program Called
Communication Line Definition	PILINEDEF	^PCCOM1
Communication Line Control	PILINECNTRL	^PCCOM
Communication Line Clear	PILINECLR	^PCCOM
Communication Audit	PILINEAUD	AT^PCCOM5
Send Formulary	PISNDFORM	FM^PCCOM3
Send Patient	PISNDPTCEN	PT^PCCOM6
Send Patient Orders	PISNDPTORD	PT^PCCOM4
Send Tables	PISNDTBL	TB^PCCOM3
Test Inbound HL7 Messages	PITESTHL7	^PCCOMT
Communication Line Status	ACCOM	^ACCOM

NOTE: For information about the Testing Inbound HL7 Messages function, see section 3: Installation.

Following are descriptions of the functions on pimint, the Generic Interface Utilities menu. User information for these functions is in Section 4: User Functions.

Communication Line Definition

This function enables the installer to specify facility, ports, protocol routines, format routines, and the types of Pharmacy data sent to the third-party package.

The interface definition information is stored in the global ^PT(,"COMM",,code).

After a record is transmitted to the third-party package, an audit record is stored in the global ^CIA(date,code,seq). The globals ^PJ and ^PJA are used for inventory data.

The library element for this function is PILINEDEF.

Communication Line Control

This function enables the user to activate and inactive the interface.

The Pharmacy library element PILINECNTRL calls ^PCCOM.

Communication Line Clear

This function enables the user to clear the queue of all transactions that have not yet been sent to the third-party package. If a line clear report and program have been specified on the line definition screen, a report of the deleted transactions is generated. If no report and program are specified, the system does not generate a report.

For this function, the Pharmacy library element PILINECLR calls ^PCCOM with a value of 1 for the first parameter.

Communication Audit

This function enables the user to view transactions sent to and received from the third-party package. The library element is PILINEAUD and calls the program AT^PCCOM5.

The program prompts the user to select the interface. Then the user is prompted to enter the date for the desired transactions. The default for this prompt is the current date. If there are no transactions for the user-entered date, a message displays and the user is prompted to enter a different date. Finally, the user is prompted to enter the search string. The system then displays every transaction on the user-specified date.

At the top of the screen, the system displays the status as active or inactive. Below that, the system displays a 70-character *ruler*. Below the ruler, the system displays the transaction records, one per screen. The record is displayed in 4 lines of 70 characters. If the user enters ENTER, the system exits the function. Otherwise, the system displays the next transaction record that contains the user specified string. When all records that contain the string have been displayed, the system displays a message and enables the user to enter a new search date for transactions.

Send Formulary

This function enables the user to send one or all formulary items to the third-party package. The library element is PISNDFORM and calls the program FM^PCCOM3.

The program prompts the user to select the interface. If the interface is set up for more than one facility, the user is then prompted to select a facility. Then, the user is prompted to indicate whether to send one or all formulary items. If the user elects to send all formulary items, a double dare question is presented. If the user elects to send one formulary item, he is prompted to select an item from the *standard* formulary inquiry program ^PNFINQ. A message prints on the console log (under the category "PI"_interface code) indicating that all or selected formulary items were sent to the third-party package.

Instead of doing a ZP call to I^PCCOM, this program sets up the % variables and does a direct call to I1^PCCOM2, for the following reasons:

- I^PCCOM sends transactions to all interfaces. In this function, the user has selected a specific interface.
- I^PCCOM starts a background job to send the transactions to the appropriate interfaces. If the user chooses to send all items, a background job for **each** formulary item is sent to the third-party package.

NOTE: These transactions are sent as *adds* to the third-party package.

Send Patient

This function enables the user to send patient census information to a specific third-party package. The library element for the option is PISNDPTCEN and calls the program PT^PCCOM6.

The program prompts the user to select the interface. If the interface is set up for more than one facility, the system prompts the user to select a facility. The system then prompts the user to indicate whether census information is to be sent for all patients or for one patient.

If the user indicates that census information is to be sent for all patients, then the system sends census information to the third-party package for all patients who are not PREs or who have not been discharged. A message prints on the console log under the category "PI"_interface code, indicating that the entire patient census was sent to the third-party package.

If the user indicates that census information is to be sent for one patient, the user is prompted to select the patient from the standard patient name inquiry (^PCDPN). If the patient is a PRE or has been discharged, an error message displays and the user is returned to the patient name inquiry. A message prints on the console log under the category "PI"_interface code, indicating that census information for a selected patient was sent to the third-party package.

NOTE: For inpatients, these transactions are sent as admissions to the third-party package, while for outpatients, these transactions are sent as registrations.

This function accesses the ^CT(,"COMM",,code) node that resides on Patient Care. This node contains the name of the ADT formatting routine that is called for each patient. If Patient Care and Pharmacy reside on separate central processing units (CPUs), the VT call "PISNDCEN" must be defined from the Pharmacy CPU to the Patient Care CPU:

Display Error Messages: Yes
Source Processor Routine: null
Destination Processor Routine: A^PCCOM6
Passed Variables: C%
Returned Variables: B%

Send Patient Orders

This function enables the user to send patient orders to a specific third-party package. The library element for the option is PISNDPTORD and calls the program PT^PCCOM4.

The program prompts the user to select the interface. If the interface is set up for more than one facility, the user is prompted to select a facility. The system then prompts the user to indicate whether orders are to be sent for all patients or for one patient.

If the user indicates that orders are to be sent for all patients, then the system sends patient allergies (if the parameter is set to send allergies) and all orders for all patients to the third-party package. A message prints on the console log under the category "PI"_interface code, indicating that all orders were sent to the third-party package.

If the user indicates that orders are to be sent for one patient, the system prompts the user choose to send all or selected orders for the selected patient. If the user indcates that all orders be sent, then the system sends the patient's allergies (if the parameter is set to send allergies) and all orders to the third-party package. Otherwise, the user is presented with the standard profile inquiry (^PCORD) and can select which orders are to be sent to the third-party package. A message prints on the console log under the category "PI"_interface code, indicating that all or selected orders were sent to the third-party package.

For each order that is to be sent to the third-party package, the system performs the following checks:

1. If the order is a medication and the communication definition is set to not send medication orders to the third-party package, then the order is not sent.

2. If the order is a solution and the solution type code is not defined in the communication definition as one of the solution types to send to the third-party package, then the order is not sent.

3. If verification is required before processing, STAR Pharmacy checks the 8th piece of the ^PL("UNV",IN,AN,IO) node to determine what needs to be verified. If it is a

start medication or start solution function that needs to be verified, the order is not sent. Otherwise, the order is sent with %4="A" (added/restarted).

4. If verification is not required before processing and the order is not active (cancel or discontinued), the order is not sent. The third-party package does not need to process a canceled order. If the discontinued order is restarted, the order is given a new order number and the order is sent to the third-party package when it is restarted.

5. If verification is not required before processing and the order has a current status of hold, and the communication definition is set to send status changes to the third-party package, then the system sends a status change transaction after sending the order addition transaction.

6. If there is a pending status change that does not require verification before processing and the communication definition is set up to send status changes when they are entered on STAR Pharmacy, then the system sends a status change transaction after sending the order addition transaction.

7. If this is a solution order and the communication definition is set up to send solution bottles, then a bottle transaction is also sent to the third-party package, with %3 set to a string of all bottles that have been dispensed.

Instead of doing a ZP call to I^PCCOM, this program sets up the % variables and does a direct call to I1^PCCOM2, for the following reasons:

- I^PCCOM sends transactions to all interfaces. In this function, the user has selected a specific interface.

- I^PCCOM starts a background job to send the transactions to the appropriate interfaces. If the user chooses to send all items, a background job for *each* formulary item is sent to the third-party package.

Send Tables

This function enables users to select one of the table types defined in the Line Definition. The system then sends all table entries for that table type to the third-party package. The library element is PISNDTBL and calls the program TB^PCCOM3.

The program prompts the user to select the interface. If the interface is set up for more than one facility, the user is prompted to select a facility. The system then displays a list of table types that are sent to the third-party package. The user selects the appropriate table type and a double dare question is presented. A message prints on the console log under the category "PI"_interface code, indicating that all entries for the user-selected table were sent to the third-party package.

Instead of doing a ZP call to I^PCCOM, this program sets up the % variables and does a direct call to I1^PCCOM2, for the following reasons:

- I^PCCOM sends transactions to all interfaces. In this function, the user has selected a specific interface.

- I^PCCOM starts a background job to send the transactions to the appropriate interfaces. If the user chooses to send all items, a background job for **each** formulary item is sent to the third-party package.

NOTE: These transactions are sent as *adds* to the third-party package.

CHARGE INQUIRY

The fourth parameter that is passed to ^PCCHG indicates the function that generates the charge. If the parameter has a value of 30, then the second comma piece is the interface code for the third-party package.

The program PGICCI passes "30,CC" as the fourth parameter to ^PCCHG.

The program ^PGCGI1 is called from the charge inquiry detail screen to display the function that generates the charge. It recognizes that the *charge function* indicator may be multipiece. If the first comma piece is 30, this program displays the code, a dash, and *Chg on Admin*.

ADTS

In order to send admission, discharge, and transfer (ADT) information to the third-party package, the interface must be defined twice, once on STAR Patient Care and once on STAR Pharmacy. The same code must be used when defining the interface.

On STAR Patient Care, define the interface using the Communication Line Control function. This function allows the user to define the ADT transactions that are to be sent to the third-party package. When an event trigger occurs on STAR Patient Care, the program ^CCCOM loops through each interface that is defined in ^CT(,"COMM") and calls the formatting routine.

If STAR Patient Care and STAR Pharmacy do not reside on the same CPU, the formatting routine does the following processing:

1. Sets up the A array with the formatted ADT transaction record(s).

2. Initiates a jobstart on the STAR Pharmacy CPU. It uses the same line that is used to send ADTs to the STAR Pharmacy CPU (typically the "CLN" line).

3. The jobstart sends the A array and C% (interface transaction code). The routine that is called by the jobstart sets the variable B%=^PT(,"COMM",,C%) and then calls label I2^PCCOM2. Label I2^PCCOM2 sets up the transaction records in the ^PJ global to be sent to the third-party package.

4. After the jobstart is initiated, the formatting routine on the STAR Patient Care CPU kills the A array. This prevents I^CCCOM from calling J^CCCOM and attempting to send the ADT to the third-party package from STAR Patient Care.

NOTE: The ADT formatting routine that is defined in the Communication Line Definition on STAR Patient Care must also reside on the STAR Pharmacy CPU so that the Send Patient function can be called on the STAR Pharmacy CPU.

If STAR Patient Care and STAR Pharmacy are on the same CPU, the formatting routine does the following processing:

1. Sets up the A array with the formatted ADT transaction record(s).

2. Sets the variable B%=^PT(,"COMM",,C%) and the call label I2^PCCOM2. Label I2^PCCOM2 sets up the transaction records in the global ^PJ to be sent to the third-party package.

Index

■ Reader Comment Form ■

We value your suggestions for improving our documentation. Please use this form to evaluate the *Generic Interface Utilities Guide* for *STAR Pharmacy* for Release 17.0.

Topic	Poor	Fair	Good	Excellent
Organization of information	❑	❑	❑	❑
Accuracy of information	❑	❑	❑	❑
Completeness of information	❑	❑	❑	❑
Clarity of information	❑	❑	❑	❑
Amount of overview information	❑	❑	❑	❑
Explanation of processes	❑	❑	❑	❑

Are there parts of this manual that could be made more helpful to you? Please explain.

Other Comments:

Thanks for your help in improving the documentation.

Your Name and Position _____

Hospital/Organization Name _____

Telephone Number _____

May we contact you? Yes or No (circle one)

■

McKesson
STAR 2000 Documentation Team

Fold here

Place
Stamp
Here

STAR 2000 Documentation Team
McKesson
Mail Stop ATHQ-3302
5995 Windward Parkway
Alpharetta, GA 30005

Fold here