

STAR 2000™



STAR PHARMACY Connect-Rx Interface Guide

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Preface

The STAR Patient Care/Pharmacy *Connect-Rx Interface Guide* provides information for the use and implementation of STAR Patient Care and Pharmacy interfaces with McKesson Automated Healthcare's ROBOT-Rx™, AcuDose-Rx™, and AcuScan-Rx systems.

ROBOT-Rx consists of a multi-axis robot, pick station, bar code readers, and microcomputers. It is used to fill carts with unit dose packages.

AcuDose-Rx is an automated unit-based cabinet for the storage, dispensing, and tracking of narcotics, floorstock, and "as needed" medications in patient care areas.

AcuScan-Rx is a medication scanner that includes online records of administration, and electronic medication records that are accessible by either the ROBOT-Rx or AcuDose-Rx.

The interface enables STAR Patient Care/Pharmacy to pass ADT, Pharmacy orders, and Pharmacy dispensing information to Connect-Rx, and receive billing information from Connect-Rx. Connect-Rx passes the STAR data to the MAH systems installed at your site, and gathers information from those systems to send back to STAR.

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.

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Introduction

This guide contains technical and user information about the Connect-Rx interface, which is accessed through functions available on the STAR Pharmacy Generic Interface Utilities. For more information about the Generic Interface Utilities, please refer to the *STAR Pharmacy Generic Interface Utilities Guide*.

Chapter 1: Overview/Description

This chapter provides a general description of the Connect-Rx interface and the functions available on the Generic Interface Utilities menu.

Chapter 2: System Requirements

This chapter provides the hardware and software requirements for the Connect-Rx interface.

Chapter 3: Installation

This chapter provides McKesson installers with information about installing the Connect-Rx interface in STAR Patient Care and STAR Pharmacy. It also contains information about the Communication Line Definition function on the Generic Interface Utilities processor.

Chapter 4: User Functions

This chapter documents the user functions for the Connect-Rx interface that are available on the Generic Interface Utilities processor.

Chapter 5: Troubleshooting

This chapter describes error messages that may occur when you use the Connect-Rx interface.

Chapter 6: Technical Notes

This chapter contains information about outgoing and incoming transactions, both on STAR Patient Care and STAR Pharmacy.

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NON-TECHNICAL FUNCTIONAL OVERVIEW

The STAR to Connect-Rx interface is a two-way, online, real-time, HL7® interface that communicates:

- ADT data from STAR Patient Care to Connect-Rx
- Pharmacy order and dispensing information from STAR Pharmacy to Connect-Rx
- billing from Connect-Rx to STAR Pharmacy and Patient Care.

Transaction formats comply with the HL7 version 2.2 specification.

The interface uses the TCP/IP communications protocol, which is the minimal lower level protocol defined in Appendix B of the *HL7 2.1 Manual*. When STAR Patient Care and STAR Pharmacy reside on:

- the same CPU, the interface uses two sockets (and therefore, two MSE ports):
 - one socket/MSE port is for ADT and orders from STAR to Connect-Rx (outbound)
 - one socket/MSE port is for billing from Connect-Rx to STAR (inbound)
- separate CPUs, the interface uses three sockets (and therefore, three MSE ports):
 - one socket/MSE port for transmitting ADTs from STAR Patient Care (outbound)
 - one socket/MSE port for orders from STAR Pharmacy (outbound)
 - one socket/MSE port for billing from Connect-Rx to STAR Pharmacy (inbound)

Unless these codes are currently used by the system for another interface, use APO as the communication line code for the outbound interface(s) and API as the code for the inbound interface. The interface does not use sequence numbers, but uses the message control ID to validate the correct sequence of messages.

The base STAR HL7 Audit Inquiry and HL7 Queue Inquiry functions are used for troubleshooting and validation of the data passed in the interface. The interface is activated and inactivated by using the base STAR Communication Control function.

Inbound interface errors can be reviewed on the console log or on daily error reports that are generated by midnight processing.

Implementation of the interface requires the definition of Interface parameters that control the order information sent to Connect-Rx. Processors for the definition of these parameters are part of the STAR software package for this interface.

Functional Description

ADT INTERFACE

STAR Patient Care sends the following ADT messages to Connect-Rx. The messages are formatted per the HBOCHI 2.2b specification.

Event	Description	STAR Application Trigger
A01	Admit a patient	Placing an inpatient in a bed
A02	Transfer a patient	Changing the nurse station, room, or bed location of a patient
A03	Discharge a patient	Discharging an inpatient, final disposition of an outpatient, or auto-discharge during midnight processing
A04	Register a patient	Admission of an outpatient
A05	Preadmit a patient	Account number assignment in the STAR admission sequence Note: Connect-Rx does not process the A05 event.
A06	Change outpatient to inpatient	Change patient type from an outpatient type to an inpatient type when a non-final disposition is used
A07	Change inpatient to outpatient	Change patient type from an inpatient type to an outpatient type
A08	Update patient information	Revision of patient data for active and inactive accounts
A11	Cancel admission	Cancelling a patient admission or registration
A13	Cancel discharge	Cancelling a patient discharge
A17	Simultaneous transfer	Swapping the nurse station, room and bed location of two patients
A31	Update person information	Revision of patient data at the MPI level Note: Connect-Rx does not process the A31 event.
A34	Merge patient information	Merging two medical records for a patient, retaining one unit number, or Changing the unit number of a patient

ORDER INTERFACE

The Pharmacy order information that is sent to Connect-Rx is dependent upon the MAH systems that are installed at the site. The following table outlines the order information that is sent to each system.

MAH System	Order Information Sent
ROBOT-Rx	Pharmacy medication orders and order statuses Pharmacy medication dispense orders
AcuDose-Rx	Pharmacy medication and solution orders and order statuses
AcuScan-Rx	Pharmacy medication and solution orders and order statuses Pharmacy solution bottle dispensing information

Outbound order, order status, and dispense order messages use the RDE (Pharmacy Encoded Order) message format (that includes the following segments):

- MSH (Message Header)
- PID (Patient Identification)
- PV1 (Patient Visit)
- ORC (Common Order)
- RXE (Pharmacy Encoded Order)
- NTE (Notes and Comments)
- RXR (Pharmacy Route)
- RXC (Pharmacy Order Component)
- ZRX (Pharmacy ROBOT-Rx Order)

Outbound solution bottle dispensing messages use the RDS (Pharmacy Dispense) message format (that includes the following segments):

- MSH (Message Header)
- PID (Patient Identification)
- PV1 (Patient Visit)
- ORC (Common Order)

- RXE (Pharmacy Encoded Order)
- NTE (Notes and Comments)
- RXR (Pharmacy Route)
- RXD (Pharmacy Dispense)
- ZRX (Pharmacy ROBOT-Rx Order)

NOTE: For detailed information about the Order interface HL7 segments and data elements processed, see “[Chapter 6 - TECHNICAL NOTES](#)”.

DISPENSE ORDERS

The Connect-Rx order interface for ROBOT-Rx differs from the STAR Pharmacy base HL7 order interface in that ROBOT-Rx requires order information to be sent when medications are dispensed, in addition to the messages sent when the order is placed or changed.

Dispense order messages are triggered in each of the Pharmacy functions that control the dispensing of medications. The function sends a dispense order message to ROBOT-Rx if:

- The interface has been activated in the STAR Pharmacy application by McKesson.
- The patient is on a station that is live with ROBOT-Rx, or is an outpatient and outpatient orders are flagged to be sent in the interface (as defined in the ROBOT-Rx interface parameters).
- The quantity to be dispensed is greater than zero (except for the Discontinue and Update list functions).

The following table outlines the STAR Pharmacy functions that send dispense orders to ROBOT-Rx and the most significant order data sent by STAR. This order information controls the processing of the order on ROBOT-Rx.

Function	Function Code	Order Control Code	Dispense Code	Cycle Date/Time
Check List	CL	NW	F	Next
Check Screen	CS	NW	F	Next
Fill List	FL	NW	F	Next
Fill Screen	FS	NW	F	Next
Update List	UL	NW	F	Next

Function	Function Code	Order Control Code	Dispense Code	Cycle Date/Time
Start Med order	ST	NW	N/B	Current
Demand Med order	DM	NW	N/B	Current
Restart Med order	RM	NW	N/B	Current
Revise Med order	RV	XX	N/B	Current
Verify Med order	VR	NW	N/B	Current
Update Label	LU	NW	N/B	Next
Replace Dose	RD	NW	N/B	Current
Discontinue Med order	DC	OD	O	Current
Cancel Med order	CA	OC	N/B	Variable

Column Explanations

1. FUNCTION CODE

The function code is sent in field 4 of the ORC segment. It is not used by ROBOT-Rx, but is available in the STAR HL7 interface audit and queue for troubleshooting purposes.

2. ORDER CONTROL CODE

The order control code is sent in field 1 of the ORC segment. Possible values are:

NW	New Order
OC	Cancelled Order
OD	Discontinued Order
XX	Changed Order

3. DISPENSE CODE

The dispense code is sent in field 1 of the ZRX segment and identifies a dispense order as a (N)ew order, a batch (F)ill order, or a (B)ill only order.

- New orders are filled via the ROBOT-Rx new/resubmit order processing.
- Fill orders are sent by the STAR batch fill processes, and ROBOT-Rx processes these in its daily fill cycles.
- Bill only orders are not filled, but are maintained on ROBOT-Rx for credit purposes.

For each non-batch drug issue, STAR Pharmacy sends a B if the order is floorstock, a home medication, or if the stock location not defined as a location for dispense now

doses in the ROBOT-Rx parameters screen. All other non-batch drug issues are sent with a dispense code of N.

NOTE: In STAR Pharmacy order, order revision, and order status messages, STAR sends a dispense code of O.

4. CYCLE DATE/TIME

Cycle Date/Time is sent in field 2 of the ZRX segment. This field identifies the fill cycle start date and time for the administration of this order. **Next** in the column indicates that the next fill cycle start date and time is sent. **Current** indicates that the current date and time is sent.

For cancels, the system checks the dispensing audit for the order and sends a message with the appropriate date and time for each time the item was dispensed.

For each order, STAR also sends the quantity of unit doses to be dispensed in field 10 of the RXE segment. If the drug form for the item is **each**, the number of units is sent as the quantity. If not, the quantity is calculated by dividing the number of units by the package size. For discontinue messages, the quantity is always zero.

BILLING INTERFACE

Both ROBOT-Rx and AcuDose-Rx send billing information to STAR Pharmacy using the following segments:

- P03 (Post detail financial transaction) event
- MSH (Message Header)
- EVN (Event Type)
- PID (Patient Identification)
- FT1 (Financial Transaction)

For both systems, billing is processed through STAR Pharmacy and can be reviewed through the Charge Inquiry function on STAR Pharmacy and Patient Care.

If the item is a Connect-Rx charge, a communication code and Chg on Admin, such as API-Chg on Admin is displayed as the transaction type on the Charge Inquiry screen. The Connect-Rx charge prints on the Daily Activity Journal in midnight processing.

ROBOT-Rx BILLING

ROBOT-Rx sends credits only to STAR Pharmacy for doses not used or for discontinued orders. Credits are processed if the:

- patient account number sent is valid and active, and the patient unit number sent matches the unit number for that patient on STAR.
- message has a valid order number for that patient.
- message transaction code sent is a valid formulary item and is valid for that order number.
- order is not canceled.
- quantity sent is not greater than the quantity charged for that item/order, or the quantity is not zero.

Midnight processing generates a daily audit report for the inbound interface. This report contains information on every credit that has been posted by STAR through the interface. The spooler report name is PAPSAU_Y% where _Y% is the facility code. It is formatted as follows:

General Hospital		STAR Pharmacy / Robot Audit Report for billing posted 12/03/01			Page:	1
					Date:	12/04/01
					Time:	00:08
Patient Name	Account #	Drug Code - Name	Ord#	Qty	Type	Srv Date
PHARMACY, TEST	A0126800430	3035-ACETAMINOPHEN	307	-2	CR	12/03/01
PHARMACY, TEST	A0126800430	4528-POLYETHYLENE GL	319	-1	CR	12/03/01
PHARMACY, TEST	A0126800430	810-METOCLOPRAMIDE H	354	-1	CR	12/03/01
PHARMACY, TEST	A0126800430	1010-POTASSIUM CHLOR	405	-1	CR	12/03/01
PHARMACY, TEST	A0126800430	1609-BISACODYL	423	-2	CR	12/03/01
PHARMACY, TEST	A0126800430	3035-ACETAMINOPHEN	428	-2	CR	12/03/01
TEST, ROBOT A	A0130500525	1866-PROMETHAZINE HC	5	-2	CR	12/03/01
TEST, ROBOT A	A0130500525	1885-HALOPERIDOL LAC	19	-2	CR	12/03/01
TEST, ROBOT A	A0130500525	2982-POTASSIUM PHOSP	26	-2	CR	12/03/01
TEST, ROBOT A	A0130500525	1866-PROMETHAZINE HC	5	-2	CR	12/03/01
TEST, ROBOT B	A0131000291	1861-FUROSEMIDE	45	-1	CR	12/03/01
TEST, ROBOT B	A0131000291	401-CIPROFLOXACIN HC	17	-1	CR	12/03/01
TEST, ROBOT B	A0131000291	1885-HALOPERIDOL LAC	21	-3	CR	12/03/01
TEST, ROBOT B	A0131000291	1486-HALOPERIDOL	23	-12	CR	12/03/01
TEST, ROBOT B	A0131000291	1861-FUROSEMIDE	45	-1	CR	12/03/01
TEST, LINDA	A0131500063	423-METOPROLOL TARTR	11	-1	CR	12/03/01
TEST, LINDA	A0131500063	3035-ACETAMINOPHEN	7	-2	CR	12/03/01
TEST, LINDA	A0131500063	1866-PROMETHAZINE HC	79	-2	CR	12/03/01
TEST, ACUDOSE	A0131600315	3981-RANITIDINE HCL	5	-2	CR	12/03/01
TEST, ACUDOSE	A0131600315	3981-RANITIDINE HCL	5	-2	CR	12/03/01
TEST, ACUDOSE	A0131600315	3981-RANITIDINE HCL	5	-2	CR	12/03/01
End of Report						

AcuDose-Rx BILLING

AcuDose-Rx sends both charges and credits to STAR Pharmacy. Billing is processed if the:

- patient account number sent is valid and active.
- message has an order number, the order number is valid for that patient.
- message transaction code sent is a valid formulary item and, if an order number is sent, the formulary code is valid for the order number.
- item is stocked at the stock location sent in the message.

If an item is dispensed from AcuDose-Rx that is not on the patient profile, the billing message does not contain the STAR order number and STAR charges the first active order that contains the item. If there is no active order with that item, STAR logs a specialty charge.

If dispenses for a particular AcuDose-Rx station are not to be billed through the interface, set the Charge Meds? field on the Communication Line Definition screen of the outbound interface to **No**. You must define the override as **No** for each station that is not to send charges through the interface.

If a solution item:

- has an order in STAR but is dispensed from AcuDose-Rx, the charging is based on the solution charging formula.
- is dispensed from AcuDose-Rx before an order is created in STAR Pharmacy, the system receives the charge and checks the Availability field on the Floorstock Maintenance screen for the availability of the items at the floorstock location
- is dispensed only as a solution at this location, the system uses the solution charging parameters to determine the patient charge amount.
- is dispensed only as a medication or as Both at this location, the system charges the patient based on the medication charging parameters.

With one exception, the charging parameters in the Floorstock Item Maintenance Page determine how an item is charged from AcuDose-Rx. The exception is that the lowest charge field on the Floorstock Item Maintenance Page does not always determine if a package is charged or a unit is charged. For unit dose items, a unit is charged; but for all bulk items, a package is charged and decremented from stock.

COORDINATING CHARGES

If your facility uses the Connect-Rx interface for AcuDose billing along with STAR Pharmacy ATC or Horizon Clinical Documentation™ (or Horizon Expert Documentation™, if applicable) interfaces, you must coordinate charging.

- If you are using the Connect-Rx interface for AcuDose 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 as follows:
 - Chg-Med/Sol Charge Indicators parameter to **Not Charged**.
 - Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable)/Pharmacy Interface Parameters - Meds Charge on Admin? field to **Yes**.
 - Enter **No** for the appropriate station(s) in the Charge Meds? field on the Communication Line Definition for Connect-Rx 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 Connect-Rx interface for AcuDose for all medication dispensing (rather than filling carts), set your charge parameters as follows:
 - Chg-Med/Sol Charge Indicators parameter to **Not Charged**.
 - Enter **Yes** for the appropriate station(s) in the Charge Meds? field on the Communication Line Definition for Connect-Rx.

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 Connect-Rx device.

- If you are running an ATC to fill carts, Connect-Rx for AcuDose for floorstock dispensing, and the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface for medication and solution administration, set your charge parameters as follows:
 - Chg-Med/Sol Charge Indicators parameter to **Not Charged**.
 - Enter **No** in the Charge Meds? field on the Communication Line Definition for Connect-Rx.
 - It is not necessary to turn charges off for the ATC interface since the items are not charged at the time of dispensing.

Chapter 2 - SYSTEM REQUIREMENTS

HARDWARE	2-3
SOFTWARE	2-5

HARDWARE

- Connect-Rx Console PC
- AcuDose-Rx Cabinet, ROBOT-Rx, and/or AcuScan-Rx modules
- The STAR/Connect-Rx interface requires two MSE (MultiSTAR Software Environment) ports and TCP/IP connections if STAR Patient Care and Pharmacy reside on the same CPU and three MSE ports and TCP/IP connections if STAR Patient Care and Pharmacy reside on separate CPUs. The following information is needed to define the ports:
 - The machine addresses for the STAR Patient Care and Pharmacy systems.
 - The machine address for the Connect-Rx system or the interface engine (if one is being used).
 - The socket numbers to be used by the interface.

The MSE ports are configured as follows:

General Hospital Port Modification Processor		
Last edited by : Smith,Debra R 10/26/99 1204		Thu Mar 15, 2001 13:43
1 Port Number XXX	2 Device Class Virtual	3 Logon Allowed No
4 Sign-on Keys		
5 Spool Status Off	6 Comment	
7 Device Type INTERFACE, CLINSTAR-RX	8 Answer Back No	9 Terminal Type n/a
10 Protocol TCP	11 Address XXX.XXX.X.X	12 Port XXXXX
13 Keyboard Type n/a	14 Direction Out	
15 Location RX Robot O/B	16 Cable Number	17 Phone Number

The inbound and outbound ports are configured in the same manner with the exception of the following fields:

11. ADDRESS

For the outbound ports, this field contains the machine address of the Connect-Rx system or the interface engine. For the inbound ports, this field contains the machine address of the STAR system.

12. PORT

This field contains the socket number for this interface line.

14. DIRECTION

For the outbound ports, this field is defined as **Out**. For the inbound ports, it is defined as **In**.

The assigned McKesson resource defines the communication lines used by the interface in the STAR Patient Care and Pharmacy system. In order to define the communication lines, the McKesson resource needs to know the port numbers to be used by the interface.

SOFTWARE

- Release 6.0 or later version of STAR Pharmacy software
- HL7 version 2.2
- The following STIs:

P6897 - Outbound Interface

P7003 - Inbound Interface

P7084 - Interface modifications from the pilot sites

When your site contracts for the STAR Connect-Rx interface, a member of the STAR Clinical Interface team is assigned to coordinate interface implementation and testing in the test and live environments. This resource works with the McKesson Automation Project Manager/Interface resource and your site's project manager to ensure successful implementation of the interface.

Chapter 3 - INSTALLATION

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INSTALLING THE HL7 CONNECT-RX INTERFACE

McKesson installers define the Connect-Rx interface both on STAR Patient Care and STAR Pharmacy. Connect-Rx is installed on STAR Patient Care so that admission, discharge, and transfer (ADT) information can be sent to Connect-Rx.

After the information is defined on both STAR Patient Care and STAR Pharmacy, the information goes to Connect-Rx through one inbound line and one outbound line.

NOTE: If the facility has a patient care system other than STAR Patient Care, a hook to send the information to Connect-Rx must be put into place in the interface between STAR Pharmacy and the patient care system.

The McKesson installer uses the user questionnaire completed by the facility to set parameters that determine the following:

- the number of days, from 4 to 10, the interface audit information is retained on STAR Pharmacy
- the types of solution orders that can be sent to Connect-Rx
- the port numbers used for the attachment to the Connect-Rx personal computer
- whether the pharmacy and patient care systems reside on the same central processing unit (CPU)

Installation Checklist

Installation of the Connect-Rx interface requires that hospital and STAR technical resources work together to complete the implementation tasks. Listed below is a checklist that can be used to ensure that all installation steps are completed. Detailed information for the completion of these steps are also located in this section.

Completed	By	Description
	Hospital	Document the STAR MSE port numbers, IP addresses, and sockets to be used for the interface. Complete Installation Questionnaire.
	Hospital	Build STAR MSE ports. For more information, see the Hardware section of “Chapter 2 - SYSTEM REQUIREMENTS” .
	McKesson	Check hospital system for interface STIs P6897, P7003, P7084.
	Hospital/ McKesson	If necessary, arrange for STIs to be moved to the test environment.
	McKesson	Define communication lines. For more information, see “Defining the HL7 Connect-Rx Interface in STAR Patient Care” on page 3-7 and “Defining the HL7 Connect-Rx Interface in STAR Pharmacy” on page 3-17 .
	Hospital	When preparing a formulary file for upload into Connect-RX, ensure that each formulary item is identified with the STAR formulary code.
	Hospital	For ROBOT-Rx, define the ROBOT-Rx interface parameters. For more information, see “ROBOT-Rx Interface Parameters” on page 3-31 .
	Hospital	For AcuDose-Rx, ensure that the STAR Stock Locations and AcuDose Cabinet IDs are synchronized. For more information, see “AcuDose-Rx and STAR Pharmacy Stock Locations” on page 3-32 .
	Hospital	For AcuDose-Rx, ensure that all items stocked in the AcuDose cabinet are assigned to the corresponding Stock Location in STAR. For more information, see “AcuDose-Rx and STAR Pharmacy Stock Locations” on page 3-32 .
	Hospital	For AcuDose-Rx, adjust STAR charging parameters as needed. For more information, see “Coordinating Charges” on page 1-11 .

Installation Questionnaire

Please provide the information listed below to the STAR technical resource assigned to the interface.

HARDWARE

_____ **ADT:**

MSE Port Number: Test: _____ Live: _____

Engine IP address: _____

Socket: Test: _____ Live: _____

or

Connect-Rx IP address: _____

Socket: Test: _____ Live: _____

_____ **Orders:**

Will orders be sent with ADT? Yes or No (circle one)

If Yes, skip the orders section.

If No, complete the information in this section.

MSE Port Number: Test: _____ Live: _____

Engine IP address: _____

Socket: Test: _____ Live: _____

or

Connect-Rx IP address: _____

Socket: Test: _____ Live: _____

_____ **Billing:**

MSE Port Number: Test: _____ Live: _____

STAR IP address: _____

Socket: Test: _____ Live: _____

SOFTWARE

Place a checkmark on the line beside the McKesson Automation systems to be installed:

_____ ROBOT-Rx

_____ AcuDose-Rx

_____ Admin-Rx (AcuScan)

STAR facilities for the interface: _____

Number of days (4-10) to retain the interface audit: _____

Solution types for solution orders to be sent: _____

Defining the HL7 Connect-Rx Interface in STAR Patient Care

The McKesson installer uses the Communication Line Definition Processor in STAR Patient Care to install the Connect-Rx interface. This function allows installers to specify facility, ports, protocol routines, format routines, etc., when implementing the Connect-Rx interface. When you choose this option, the system displays the following prompt:

Enter communication code--

Enter **APO** as the code for outbound definition, or **API** for inbound definition. The system displays the existing Communication Line Definition Processor for the Connect-Rx interface. If you enter a code that does not exist, the system displays the following prompt:

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

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

HL7 OUTBOUND DEFINITION IN PATIENT CARE

The following screen is displayed for the outbound definition in Patient Care:

General Hospital Communication Line Definition Processor				
Communication Code: APO		Mon Dec 03, 2001 02:17 pm		
		Updated last by: #33193 on 10/02/01 0802		
1 Description	2 Facilities	3 Port	4 Status	5 Protocol Routine
CONNECT-RX OUTBOUND	A,B,C	554	Active	PC^AHL7CT
6 Lab SIM Departments	7 Rad SIM Departments	8 Rx SIM Departments		
9 Interface Audit Report Name	10 Audit Zblock	11 Audit Global		
BIT-Bit Bucket		Yes		
12 Dump Queue Report Name	13 Queue Zblock	14 DCU Ports		
15 Outgoing Transactions	16 Outgoing table/s	17 Format Routine	18 PCM	
A,a,N,B,C,d,D,I,R,y,u,T,M		HBC^A722FRC	No	
19 Incoming Transactions	20 Incoming table/s	21 Process Routine	22 HL7	
			Yes	
23 Line Out	24 IMNET			
Enter field number or '/' starting field number--				

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields may be left blank. They have no impact on the Connect-Rx interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)

This field displays APO, the communication code for Connect-Rx HL7 Outbound.

1. DESCRIPTION (DISPLAY ONLY)

This field identifies the interface as Connect-Rx HL7 Outbound.

2. FACILITIES (TABLE LOOKUP-R)

Enter the facilities for which Connect-Rx is active, based on the facility's response in the user questionnaire.

3. PORT (3-N-R)

Enter the number for the physical port over which the data is transmitted to Connect-Rx.

5. PROTOCOL ROUTINE (16-A-R)

Enter a protocol routine such as PC^AHL7CT. This field indicates the program that monitors the line to, and transmits data to Connect-Rx. The carat (^) must be included in the program name.

9. INTERFACE AUDIT REPORT NAME (TABLE LOOKUP-R)

Select **1-Bit Bucket**. This field is required in Patient Care, but is not used for the Connect-Rx interface, so this entry does not impact the Connect-Rx software.

11. AUDIT GLOBAL

Enter **Y** for Yes.

15. OUTGOING TRANSACTIONS (TABLE LOOKUP-R)

Enter the numbers that correspond to the following transaction types. The following transactions are sent to Connect-Rx.

Code	Transaction Type
A	Admission
a	Auto-daily Discharge
N	Cancel Admission
B	Cancel Discharge
C	Clinical/Financial Patient Revision
D	Discharge
d	Date Adjustment
I	Merge
R	Registration
y	Transfer inpatient to outpatient
u	Transfer outpatient to inpatient
T	Transfer
M	Unit/Corporate Number Change

NOTE: After you enter these choices, the following codes are displayed in this field:
A, a, N, B, C, D, d, I, R, y, u, T, M.

17. FORMAT ROUTINE (16-A-R)

Enter **HBC^A722FRC** for the format routine.

18. PCM

Enter **N** for No.

22. HL7

Enter **Y** for Yes.

Other fields

Other fields may be left blank. They have no impact on the Connect-Rx interface.

After you accept this screen, the Communication Line Definition Processor screen is displayed. The information needed to install the outbound definition from Patient Care for Connect-Rx is located after the screen in this document.

General Hospital Communication Line Definition Processor				
Communication Code: APO		Mon Dec 03, 2001 02:20 pm		
HL7 Interface Definition		Updated last by: #33193 on 10/02/01 0802		
1 STX Character	2 ETX Character	3 Receiver Binary	4 Sending Application	
11	28	Yes	STAR	
5 Receiving Application	6 Query Level	7 Number of Result Query Lines		
CONNECTRX	Single			
8 Result Query Lines	9 Minor Error Halt			
	No			
10 HL7 Version	11 HBOCHI	12 Price From	13 Multiple Merge Segments	
2.2	2.2b	SIM File	No	
14 Broadcast ADT Changes	15 Ack Audit	16 Encode	17 NULL/Not Present Support	
No		Yes	No	
18 Inbound Messages	19 Outbound Messages	20 Outbound Tables	21 GUI HL7?	
	See Table	See Table	No	
22 HL7 Queue/Audit Routine				
DISPLAY^A722FRP				
Enter field number or '/' starting field number--				

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields that are not listed may be left blank, as they have no impact on the Connect-Rx interface.

Field Explanations

1. STX CHARACTER (3-C-R)

This field contains the character for the start of text message header. Enter **11** as the numeric value. When you access this field, the system displays the following prompt:

Enter ASCII code of the Start of Text Character (STX)-

2. ETX CHARACTER (3-C-R)

This field contains the character for the end of text message header. Enter **28** as the numeric value. When you access this field, the system displays the following prompt:

Enter ASCII code of the End of Text Character (ETX)-

3. RECEIVER BINARY (1-A-R)

This field identifies whether the start of text character from the receiver is a binary character. Enter **Y** for Yes. When you access this field, the system displays the following prompt:

Is the Start of Text Character from the receiver a binary character? (Y/N)--

4. SENDING APPLICATION (15-C-R)

This field identifies the STAR application that originates this message transmitted over this HL7 interface. The interface places this code in the MSH message header segment. Enter **STAR** as the code. When you access this field, the system displays the following prompt:

Enter new sending application name--

5. RECEIVING APPLICATION (15-C-R)

This field identifies the system receiving this message transmitted over this HL7 interface. Enter **CONNECTRX** as the code. When you access this field, the system displays the following prompt:

Enter new receiving application name--

6. QUERY LEVEL (1-A-R)

This field determines whether the system uses single-level or double-level queries. Enter **S** to use a single-level query for the Connect-Rx interface. This field is used only for order communication over this HL7 interface. For single-level queries, all the information needed to submit an order resides on the STAR system.

9. MINOR ERROR HALT (1-A-R)

This field determines whether the interface halts or continues to communicate data in the event of a minor error. Enter **N** for No to halt this interface only in the event of a fatal error.

10. HL7 VERSION (6-C-R)

This field identifies the version of the HL7 standards. Enter **2.2**. When you access this field, the system displays the following prompt:

Enter HL7 Version number for this interface.

11. HBOCHI

This field identifies the HBOCHI version supported by the interface. When you access this field, the system displays the following prompt:

Enter HBOCHI Version --

Enter **2.2b**.

12. PRICE FROM (1-A-R)

This field determines whether the system uses the price in the FT1 segment (the charge record), or the Service Item Master (SIM). Enter **S** to use the SIM.

13. MULTIPLE MERGE SEGMENTS (1-A-R)

This field identifies whether the system sends a merge message for each account. This enables you to communicate data to systems that do not maintain information at the patient level, as STAR systems do. Accept the default of No. This feature is not currently supported by the HL7 Interface.

14. BROADCAST ADT CHANGES (1-A-R)

This field identifies how the system processes changes to ADT information. The HL7 Interface permits you to receive changes to ADT information from a non-McKesson system, incorporate that change into the STAR database, and transmit the changed information back to the non-McKesson system and any other interfaced systems. Accept the default of No. This feature is not currently supported by the HL7 Interface.

15. ACK AUDIT

When you access this field, the following prompt is displayed:

Save the ACKs/NAKs from the other system in the Audit global (Y/N)-

Enter **N** for No.

16. ENCODE

When you access this field, the following prompt is displayed:

Encode occurrences of delimiters in the data to control sequences? (Y/N)-

Enter **Y** for Yes.

17. NULL/NOT PRESENT SUPPORT (1-A-R)

This field identifies whether the receiving application supports null and not present, as defined in the HL7 specifications. Enter **N** for No.

19. OUTBOUND MESSAGES (TABLE DISPLAY-O)

This field identifies the version of the messages to be sent over this interface. When you access this field, a table of events and the messages associated with each event is displayed. The events displayed are based on entries to the Outgoing Transactions field in the first screen of this processor. The following outbound messages are sent over the interface:

A1	Preadmit	A05	^A7A05221
A2	Admit	A01	^A7A01221

N1	Cancel Admit	A11	^A7A11221
N2	Cancel Reg	A11	^A7A11221
B1	Cancel Dis	A13	^A7A13221
C1	Revision	A08	^A7A08221
C2	Update Person Info	A31	^A7A31221
D1	Discharge	A03	^A7A03221
I1	Merge	A34	^A7A34221
R1	Registration	A04	^A7A04221
y1	Xfer IP to OP	A07	^A7A07221
u1	Xfer OP to IP	A06	^A7A06221
T1	Transfer	A02	^A7A02221
T2	Simultaneous Transfer	A17	^A7A17221

At the bottom of this scrolling screen, the following function keys are displayed. They are available for your use in selecting the versions to be transmitted:

F1 Prev Screen	Press the F1 key to display the previous screenful of messages.
F2 Next Screen	Press the F2 key to display the next screenful of messages.
F7 Exit	Press the F7 key to exit editing the outbound messages in the scrolling screen.

HL7 INBOUND DEFINITION IN PATIENT CARE

The following screen is an example of the Communication Line Definition screen defined for the Connect-Rx inbound in Patient Care:

General Hospital Communication Line Definition Processor			
Mon Dec 03, 2001 02:37 pm			
Communication Code: API		Updated last by: #04830 on 07/16/01 0941	
1 Description	2 Facilities	3 Port	4 Status
CONNECT-RX INBOUND	A,C	Inactive	5 Protocol Routine
6 Lab SIM Departments	7 Rad SIM Departments	8 Rx SIM Departments	
9 Interface Audit Report Name	10 Audit Zblock	11 Audit Global	
BIT-BIT BUCKET		Yes	
12 Dump Queue Report Name	13 Queue Zblock	14 DCU Ports	
15 Outgoing Transactions	16 Outgoing table/s	17 Format Routine	18 PCM
19 Incoming Transactions	20 Incoming table/s	21 Process Routine	22 HL7
W,Q			Yes
23 Line Out	24 IMNET		
	No		
Enter field number or '/' starting field number--			

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields that are not listed may be left blank, as they have no impact on the Connect-Rx interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)

This field displays API, the communication code for Connect-Rx HL7 Inbound.

1. DESCRIPTION (DISPLAY ONLY)

This field identifies the interface as Connect-Rx HL7 Inbound.

2. FACILITIES (TABLE LOOKUP-R)

Enter the facilities for which Connect-Rx is active, based on the facility's response in the user questionnaire.

3. PORT (3-N-R)

Enter the number for the physical port over which the data is transmitted to Connect-Rx.

5. PROTOCOL ROUTINE (16-A-R)

Enter a protocol routine such as ^AHL7IBR. This field indicates the program that monitors the line to, receives data from, and transmits data to Connect-Rx. Be sure to include the carat (^) in the program name.

9. INTERFACE AUDIT REPORT NAME (TABLE LOOKUP-R)

Select **Bit Bucket**. This field is required in Patient Care, but is not used for the Connect-Rx interface, so this entry does not impact the Connect-Rx software.

11. AUDIT GLOBAL

Enter **Y** for Yes.

19. INCOMING TRANSACTIONS (TABLE LOOK-UP-R)

Enter the number that corresponds to **W** for Charge transaction type, and the number that corresponds to **Q** for Credit transaction type.

22. HL7

Enter **Y** for Yes.

Other fields

Other fields may be left blank.

After you accept this screen, the Communication Line Definition Processor screen is displayed.

The information needed to install the inbound definition from Patient Care for Connect-Rx is located after the screen in this document.

```

      General Hospital Communication Line Definition Processor
                                Mon Dec 03, 2001 02:43 pm
Communication Code: API          Updated last by: #04830 on 07/16/01 0941
HL7 Interface Definition
1 STX Character      2 ETX Character  3 Receiver Binary  4 Sending Application
  11                28              Yes                CONNECTRX
5 Receiving Application 6 Query Level  7 Number of Result Query Lines
  STAR              Single
8 Result Query Lines
9 Minor Error Halt
  No
10 HL7 Version 11 HBOCHI      12 Price From      13 Multiple Merge Segments
  2.2                      SIM File              No
14 Broadcast ADT Changes 15 Ack Audit 16 Encode 17 NULL/Not Present Support
  No                      No                No
18 Inbound Messages      19 Outbound Messages 20 Outbound Tables  21 GUI HL7?
  See Table              See Table              See Table      No
22 HL7 Queue/Audit Routine

Enter field number or '/' starting field number--

```

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields that are not listed may be left blank, as they have no impact on the Connect-Rx interface.

Field Explanations

1. STX CHARACTER (3-C-R)

This field contains the character for the start of text message header. Enter **11** as the numeric value.

2. ETX CHARACTER (3-C-R)

This field contains the character for the end of text message header. Enter **28** as the numeric value.

3. RECEIVER BINARY (1-A-R)

This field identifies whether the start of text character from the receiver is a binary character. Enter **Y** for Yes.

4. SENDING APPLICATION (15-C-R)

This field identifies the STAR application that originates this message transmitted over this HL7 interface. Enter **CONNECTRX** as the code. The interface places this code in the MSH message header segment.

5. RECEIVING APPLICATION (15-C-R)

This field identifies the system receiving this message transmitted over this HL7 interface. Enter **STAR** or **HBOC** as the code.

6. QUERY LEVEL (1-A-R)

This field determines whether the system uses single-level or double-level queries. Enter **S** to use a single-level query for the Connect-Rx interface. This field is used only

for order communication over this HL7 interface. For single-level queries, all the information needed to submit an order resides on the STAR system.

9. MINOR ERROR HALT (1-A-R)

This field determines whether the interface halts or continues to communicate data in the event of a minor error. Enter **N** for No to halt this interface only in the event of a fatal error.

10. HL7 VERSION (6-C-R)

This field identifies the version of the HL7 standards. Enter **2.2**. When you access this field, the system displays the following prompt:

Enter HL7 Version number for this interface.

12. PRICE FROM (1-A-R)

This field determines whether the system uses the price in the FT1 segment (the charge record), or the Service Item Master (SIM). Enter **S** to use the SIM.

13. MULTIPLE MERGE SEGMENTS (1-A-R)

This field identifies whether the system sends a merge message for each account. This enables you to communicate data to systems that do not maintain information at the patient level, as STAR systems do. Enter **N** for No. This feature is not currently supported by the HL7 Interface.

14. BROADCAST ADT CHANGES (1-A-R)

This field identifies how the system processes changes to ADT information. The HL7 Interface permits you to receive changes to ADT information from a non-McKesson system, incorporate that change into the STAR database, and transmit the changed information back to the non-McKesson system and any other interfaced systems. Enter **N** for No. This feature is not currently supported by the HL7 Interface.

15. ACK AUDIT

When you access this field, the following prompt is displayed:

Save the ACKs/NAKs from the other system in the Audit global (Y/N)-

Enter **N** for No.

16. ENCODE

When you access this field, the following prompt is displayed:

Encode occurrences of delimiters in the data to control sequences? (Y/N)-

Enter **Y** for Yes.

17. NULL/NOT PRESENT SUPPORT (1-A-R)

This field identifies whether the receiving application supports null and not present, as defined in the HL7 specifications. Enter **N** for No.

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. To select not to accept, 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**.

18. INBOUND MESSAGES

When you access this field, the following prompt is displayed:

Do you want to add a processed trigger? (Y/N)-

When defining the interface for AcuScan-Rx, enter **N** for No.

When defining the interface for ROBOT-Rx or AcuDose-Rx, enter **Y** for Yes. If you enter Yes, the system displays the following screen:

```

General Hospital Communication Line Definition Processor
                                Fri Jul 26, 2002 12:12 pm
Communication Code: APO                Updated last by: #33673 on 05/09/02 0653
HL7 Interface Definition
Page:01                Processed Inbound HL7 Message Types
( 1) A01      ADMIT A PATIENT
( 2) A02      TRANSFER
( 3) A03      DISCHARGE
( 4) A04      REGISTER A PATIENT
( 5) A05      PREADMIT A PATIENT
( 6) A06      TRANSFER OUTPATIENT TO INPATIENT
( 7) A08      UPDATE PATIENT INFORMATION
( 8) A11      CANCEL ADMIT
( 9) A13      CANCEL DISCHARGE
(10) A16      PENDING DISCHARGE
(11) A17      SWAP PATIENTS
(12) A18      MERGE PATIENT INFORMATION
(13) A23      DELETE PATIENT RECORD (EN)
(14) A28      ADD PERSON INFORMATION
(15) A29      DELETE PERSON INFORMATION
(16) A31      UPDATE PERSON INFORMATION

Enter choice--
                                next pg(/ or PG DN)  Search(TAB

```

For ROBOT-Rx, select **P03-06** and add this message type for the interface.

For AcuDose-Rx, select the **P03-06** and **Z03-03** message types, and add both for the interface.

Other fields on this screen do not apply to the Connect-Rx interface, and may be left blank.

Defining the HL7 Connect-Rx Interface in STAR Pharmacy

The McKesson installer uses the Communication Line Definition Processor to install the Connect-Rx interface on STAR Pharmacy.

NOTE: For the outbound interface, you must use the same code to define the Connect-Rx interface on STAR Pharmacy that you used to define the interface on STAR Patient Care.

To define the interface, select **System Management - Pharmacy**, and then select **Interface Utilities**. The Interface Utilities Processor screen is displayed:

```

General Hospital Interface Utilities Processor
Mon Jul 22, 2002 02:48 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 **Generic Interface Utilities**. The Generic Interface Utilities Input Options screen is displayed:

```

General Hospital Generic Interface Utilities Processor
Mon Dec 03, 2001 02:51 pm
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--

```

Select **Communication Line Definition**. This function allows McKesson installers to specify facility, ports, protocol routines, format routines, and the types of Pharmacy data to send to Connect-Rx.

The system displays the following prompt:

Enter communication code--

Enter **APO** to define the outbound definition for Pharmacy, or enter **API** to define the inbound definition. If you are defining for the first time, the system displays the following prompt:

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

Enter **Y** or press ENTER. The Communication Line Definition Processor screen is displayed. If you enter N, the original Enter communication code prompt is displayed.

HL7 OUTBOUND DEFINITION IN STAR PHARMACY

The Communication Line Definition processor for outbound definition for Pharmacy is displayed:

General Hospital Communication Line Definition Processor									
					Mon Dec 03, 2001 02:12 pm				
Communication Code: APO					Updated last by: #33193 on 10/10/01 0931				
1 Description	2 Facilities	3 Port	4 Status	5 Protocol Program					
CONNECT-RX OUTBOUND	A,B,C	554	Active	RX^AHL7CT					
6 Interface Audit Report Name	7 Audit Program	8 Audit Global	9 Log						
BIT-Bit Bucket		Yes	No						
10 Audit Retn	11 ECS Prefix	12 Format Program	13 Process Routine	14 Modem					
7 days		MAH^PINTFMT		No					
15 Primary Phone	16 Secondary Phone	17 Retries	18 Line Clear Report Name						
			BIT-Bit Bucket						
19 Line Clear Program	20 Orders	21 Med Orders	22 Sol Orders						
	All Orders	Yes	See Table						
23 Sol Bottles	24 Dispense	25 Status Changes	26 Allergies	27 Formulary					
No	Yes	When effective	Yes	Don't Send					
28 Charge Solns?	29 Charge Meds?	30 HL7	31 Tables						
See Table	See Table	Yes							
Enter field number or '/' starting field number--									

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields that are not listed may be left blank, as they have no impact on the Connect-Rx interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)

This field displays the communication code for outbound definition from Pharmacy for Connect-Rx.

1. DESCRIPTION (DISPLAY ONLY)

This field identifies the interface as Connect-Rx HL7 Outbound.

2. FACILITIES (TABLE LOOKUP-R)

Enter the facilities for which the Connect-Rx interface is active. When you access this field, the system displays the following prompt:

Select facilities to be interfaced--

Enter your selections. To end your selection, press ENTER.

3. PORT (3-N-R)

Enter the number for the physical port over which the data is sent to Connect-Rx. 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 Connect-Rx is active or inactive.

5. PROTOCOL PROGRAM (16-A-R)

Enter **RX^AHL7CT**. This program monitors the line to, receives data from, and transmits data to Connect-Rx. When you access this field, the system displays the following prompt:

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

8. AUDIT GLOBAL (1-A-O)

Enter **Y** for Yes. 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. Once you access this field, the system displays the following prompt:

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 is displayed:

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.

NOTE: This field is not used for outbound interfaces. Enter **N** for outbound interfaces.

10. AUDIT RETN (2-N-O)

NOTE: You can access this field only if the Audit Global field is set to Yes.

Enter the number of days that the system keeps the Exception Report online. The minimum number of days is 4 and the maximum number is 10. When you access this field, the system displays the following prompt:

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

11. FORMAT PROGRAM (16-A-R)

Enter **MAH^PINTFMT**. This program formats the transactions according to the specifications provided by Connect-Rx. When you access this field, the system displays the following prompt:

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

20. ORDERS (1-N-R)

Select **All Orders** as the type of order to send to Connect-Rx. When you access this field, the following is displayed:

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

Which orders should be sent--

21. MED ORDERS (1-A-O)

You cannot access this field if you selected No Orders in the Orders field. Enter **Y** to send medication orders to Connect-Rx. When you access this field, the system displays the following prompt:

Send medication orders? (Y/N)--

22. SOL ORDERS (TABLE LOOKUP-O)

Select the solution type codes based on the facility's answer on the user questionnaire. When you access this field, the system displays the following prompt:

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

If you enter a hyphen (-), a list of solution type codes is displayed. For example:

Page:01	Solution Type Codes	##=Current Choices
(1) Advantage	(5) Infusion	
(2) Chemotherapy	(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.

23. SOL BOTTLES

This field determines whether or not bottle information is sent to the interface for solution orders. When the field is accessed, the following prompt is displayed:

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

Enter **Y** for Yes if you are defining an AcuScan-Rx interface.

24. DISPENSE

This field determines whether Dispense or Fill transactions are sent to the interface. When you access this field, the following prompt is displayed:

Send Dispense/Fill Transactions? (Y/N) [N]--

Note: Should only be used for Robot interfaces!

Enter **Y** for Yes if you are defining a ROBOT-Rx interface.

Enter **N** for No if you are defining an interface for AcuDose-Rx or AcuScan-Rx.

25. STATUS CHANGES (1-N-O)

Select **Send when effective**. When you access this field, the following is displayed:

(1) Don't Send

(2) Send when entered

(3) Send when effective

When should status changes be sent--

26. ALLERGIES (1-A-O)

Enter **Y** so that allergy information is sent to Connect-Rx. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

27. FORMULARY (1-A-R)

Enter **N** to send formulary items. Connect-Rx does not support the receiving of formulary items.

28. CHARGE SOLNS? (TABLE LOOKUP-O)

This field is used to define (by location) whether the interface charges for solutions. Enter **N** for all types of Connect-Rx interfaces.

29. CHARGE MEDS? (TABLE LOOKUP-O)

This field is used to define (by location) whether the interface charges for medications. Enter **N** for all types of Connect-Rx interfaces.

30. HL7 (1-A-O)

Enter **Y** because the Connect-Rx interface is an HL7 interface. When you access this field, the system displays the following prompt

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

Other fields on this screen do no apply to the Connect-Rx interface, and may be left blank.

After you complete the first screen, the system displays the following screen.

General Hospital Communication Line Definition Processor			
Communication Code: APO		Thu Aug 01, 2002 04:03 pm	
HL7 Interface Definition		Updated last by: #31238 on 05/30/02 1509	
1 STX Character	2 ETX Character	3 Receiver Binary	
11	28	Yes	
4 Sending Application	5 Receiving Application	6 HL7 Version	
HBOC	PYXISRX	2.2	
7 NULL/Not Present Support	8 Encode		
No	Yes		
9 Outbound Tables	10 Outbound Messages	11 Inbound Messages	
See Table	See Table		
12 HL7 Queue/Audit Routine	14 Horizon Clinical Documentation	13 HBOCHI	
	Yes	2.2b	
Enter field number or '/' starting field number--			

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields that are not listed may be left blank, as they have no impact on the Connect-Rx interface.

Field Explanations**1. STX CHARACTER (3-C-R)**

This field contains the character for the start of text message header. Enter **11** as the numeric value. When you access this field, the system displays the following prompt:

Enter ASCII code of the Start of Text Character (STX)--

2. ETX CHARACTER (3-C-R)

This field contains the character for the end of text message header. Enter **SRX** or **HBOC** as the code. The interface places this code in the MSH message header segment. When you access this field, the system displays the following prompt:

Enter new sending application name--

3. RECEIVER BINARY

When you access this field, the following prompt is displayed:

Is Start of Text from the receiver a binary character? (Y/N) [N]--

Enter **Y** for Yes.

4. SENDING APPLICATION

When you access this field, the following prompt is displayed:

Enter new sending application name-

Enter **SRX** as the application name.

5. RECEIVING APPLICATION (15-C-R)

This field identifies the system receiving this message transmitted over this HL7 interface. Enter **CONNECTRX** as the code. When you access this field, the system displays the following prompt:

Enter new receiving application name--

6. HL7 VERSION (6-C-R)

This field identifies the version of the HL7 standards. Enter **2.2**. When you access this field, the system displays the following prompt:

Enter HL7 Version number for this interface.

7. NULL/NOT PRESENT SUPPORT (1-A-R)

This field identifies whether the receiving application supports null and not present, as defined in the HL7 specifications. When you access this field, the system displays the following prompt:

Does the receiving application support NULL and NOT PRESENT features of HL7? (Y/N)-

Enter **N** for No.

8. ENCODE

This field determines whether delimiters that exist in the data are encoded to control sequences. When you access this field, the system displays the following prompt:

Encode occurrences of delimiters in the data to control sequences? (Y/N) [N]--

Enter **Y** for Yes.

10. OUTBOUND MESSAGES (TABLE DISPLAY-O)

This field identifies the version of the messages to be sent over this interface. When you access this field, the system displays a table of events and the messages associated with each event. The events displayed are based on your entries to the Outgoing Transactions field in the first screen of this processor. The following outbound messages are sent over the interface.

S1	New Solution Order	RDE	^A7RDE225
S2	Revised Sol Order	RDE	^A7RDE225
S3	Resume Sol Order	RDE	^A7RDE225

S4	Solution Admin	(n/a)	
M1	New Medication Order	RDE	^A7RDE224
M2	Revise Med Order	RDE	^A7RDE224
M3	Resume Med Order	RDE	^A7RDE224
M4	Medication Admin	(n/a)	
M5	Medication Give Msg	RGV	^A7RGV222
A1	Patient Allergies	A08	^A7A08222
C1	Med Order Status Chg	RDE	^A7RDE224
C2	Sol Order Status Chg	RDE	^A7RDE225
D1	Dispense Medications	RDE	^A7RDE226

At the bottom of this scrolling screen, the following function keys are displayed. They are available for your use in selecting the versions to be transmitted:

F1 Prev Page	Press the F1 key to display the previous page of messages.
F2 Next Page	Press the F2 key to display the next page of messages.
F6 Reset	Press the F6 key to reset the screen. This field cannot be changed for program-based interfaces.
F7 Exit	Press the F7 key to exit editing the outbound messages in the scrolling screen.

11. OUTBOUND TABLES (TABLE LOOKUP-R)

This field identifies the outbound tables that are sent to Connect-Rx. No tables are sent to this interface. This field may be omitted.

13. HBOCHI

This field identifies the HBOCHI version supported by the interface. When you access this field, the system displays the following prompt:

Enter HBOCHI Version --

Enter **2.2b**.

14. HORIZON CLINICAL DOCUMENTATION (1-A-R)

Enter **Y** for Yes to receive the correct allergy segment. When you access this field, the system displays the following prompt:

Is this an interface to Horizon Clinical Documentation? (Y/N) [N]--

NOTE: Pathways Care Manager is now known as Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable).

HL7 INBOUND DEFINITION IN STAR PHARMACY

The Communication Line Definition processor screen is displayed below:

General Hospital Communication Line Definition Processor									
Communication Code: API					Mon Dec 03, 2001 03:37 pm				
					Updated last by: #33193 on 10/04/01 1238				
1 Description	2 Facilities	3 Port	4 Status	5 Protocol Program					
CONNECT-RX INBOUND	A,B,C	557	Active	P^AHL7IBRP					
6 Interface Audit Report Name	7 Audit Program		8 Audit Global		9 Log				
BIT-Bit Bucket			Yes		Yes				
10 Audit Retn	11 ECS Prefix	12 Format Program	13 Process Routine		14 Modem				
7 days		^AHL7PCR			No				
15 Primary Phone	16 Secondary Phone	17 Retries	18 Line Clear Report Name						
			BIT-Bit Bucket						
19 Line Clear Program	20 Orders		21 Med Orders		22 Sol Orders				
	No Orders								
23 Sol Bottles	24 Dispense	25 Status Changes		26 Allergies	27 Formulary				
	No			No	Don't Send				
28 Charge Solns?	29 Charge Meds?	30 HL7	31 Tables						
See Table	See Table	Yes							
Enter field number or '/' starting field number--									

The following fields either display information or require the installer to define them for the Connect-Rx interface. Other fields that are not listed may be left blank, as they have no impact on the Connect-Rx interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)

This field displays the communication code for Connect-Rx HL7 inbound.

1. DESCRIPTION (DISPLAY ONLY)

This field identifies the interface as Connect-Rx HL7 inbound.

2. FACILITIES (TABLE LOOKUP-R)

Enter the facilities for which the Connect-Rx interface is active. When you access this field, the system displays the following prompt:

Select facilities to be interfaced--

Enter your selections. To end your selection, press ENTER.

3. PORT (3-N-R)

Enter the number for the physical port over which the data is transmitted to Connect-Rx. 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 Connect-Rx is active or inactive.

5. PROTOCOL PROGRAM (16-A-R)

Enter **P^AHL7IBRP**. This program monitors the line to, receives data from, and transmits data to Connect-Rx. When you access this field, the system displays the following prompt:

Enter new protocol program (include "^")-

6. INTERFACE AUDIT REPORT NAME (TABLE LOOKUP-R)

Select a report name. You may enter a hyphen (-) to look up a report name when the system prompts:

Enter report name or partial name '-' --

8. AUDIT GLOBAL (1-A-O)

Enter **Y** for Yes. 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. Once 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 is displayed:

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 system keeps the Exception Report online. 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)--

12. FORMAT PROGRAM (16-A-R)

Enter **^AHL7PCRX**. This field is not used by the Inbound interface, but is a required field on the screen.

18. LINE CLEAR REPORT NAME (TABLE LOOKUP-R)

Select a report name. You may enter a hyphen (-) to look up a report name when the system prompts:

Enter report name or partial name`-`--

20. ORDERS (1-N-R)

Select **No Orders** as 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--

24. DISPENSE

When you access this field, the following prompt is displayed:

Send Dispense/Fill Transactions? (Y/N) [N]--

Note: Should only be used for Robot interfaces!

For the Inbound interface, set this field to **N** for No.

26. ALLERGIES (1-A-O)

Enter **N** for No. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

27. FORMULARY (1-A-R)

Enter **N** to not send formulary items. When you access this field, the system displays the following prompt:

Send formulary items? (Y/N)-

28. CHARGE SOLNS? (1-A-R)

Enter **Y** to charge solutions. When you access this field, the system displays a list of nursing stations from which to choose. Select the nursing stations which charge for solutions if dispensed, and then press Enter. The following prompt is displayed:

Should the CONNECT-RX INBOUND interface charge for solution bottles for `1E`? (Y/N)-- |

Set each station to **Y** for Yes if solutions are to be charged from that station.

29. CHARGE MEDS? (1-A-R)

Enter **Y** to charge solutions. When you access this field, the system displays a list of nursing stations from which to choose. Select the nursing stations which charge for medications if dispensed, and then press Enter. The following prompt is displayed:

Should the CONNECT-RX INBOUND interface charge for medications for `1E`? (Y/N)--

Set each station to **Y** for Yes if medications are to be charged from that station.

30. HL7 (1-A-O)

Enter **Y** because the Connect-Rx interface is an HL7 interface. When you access this field, the system displays the following prompt:

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

Other fields on this screen do not apply to the Connect-Rx interface and may be left blank.

The system displays the second screen for defining the inbound HL7 interface to STAR Pharmacy for Connect-Rx:

General Hospital Communication Line Definition Processor			
Communication Code: API		Mon Dec 03, 2001 03:37 pm	
HL7 Interface Definition		Updated last by: #33193 on 10/04/01 1238	
1 STX Character	2 ETX Character	3 Receiver Binary	
11	28	Yes	
4 Sending Application	5 Receiving Application	6 HL7 Version	
CONNECTRX	SRX	2.2	
7 NULL/Not Present Support	8 Encode	9 HBOCHI	10 Pathways Care Mgr
No	No		No
11 Outbound Tables	12 Outbound Messages	13 Inbound Messages	
See Table	See Table	See Table	
14 HL7 Queue/Audit Routine			
Enter field number or '/' starting field number--			

The following fields either display information or require the installer to define them for the Connect-Rx interface.

Field Explanations

1. STX CHARACTER (3-C-R)

This field contains the character for the start of text message header. Enter **11** as the numeric value. When you access this field, the system displays the following prompt:

Enter ASCII code of the Start of Text Character (STX)--

2. ETX CHARACTER (3-C-R)

This field contains the character for the end of text message header. Enter **28** as the numeric value. When you access this field, the system displays the following prompt:

Enter ASCII code of the End of Text Character (ETX)--

3. RECEIVER BINARY (1-A-R)

This field identifies whether the start of text character from the receiver is a binary character. Enter **Y** for Yes.

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

Is the Start of Text Character from the receiver a binary character? (Y/N)--

4. SENDING APPLICATION (15-C-R)

This field identifies the STAR application that originates this message transmitted over this HL7 interface. Enter **CONNECTRX** as the code. The interface places this code in the MSH message header segment. When you access this field, the system displays the following prompt:

Enter new sending application name--

5. RECEIVING APPLICATION (15-C-R)

This field identifies the system receiving this message transmitted over this HL7 interface. Enter **HBOC** or **SRX** as the code. When you access this field, the system displays the following prompt:

Enter new sending application name--

6. HL7 VERSION (6-C-R)

This field identifies the version of the HL7 standards. Enter **2.2**. When you access this field, the system displays the following prompt:

Enter HL7 Version number for this interface.

7. NULL/NOT PRESENT SUPPORT (1-A-R)

This field identifies whether the receiving application supports null and not present, as defined in the HL7 specifications. When you access this field, the system displays the following prompt:

Does the receiving application support NULL and NOT PRESENT features of HL7? (Y/N)-

Enter **N** for No.

8. ENCODE

This field determines whether delimiters that exist in the data are encoded to control sequences. Set this field to **N**. When you access this field, the system displays the following prompt:

Encode occurrences of delimiters in the data to control sequences? (Y/N) [N]--

9. HBOCHI

This field identifies the HBOCHI version supported by the interface. When you access this field, the system displays the following prompt:

Enter HBOCHI Version --

Do not enter information in this field.

10. PATHWAYS CARE MGR (1-A-R)

Enter **N** for No because this is the inbound interface. When you access this field, the system displays the following prompt:

Is this an interface to Pathways Care Manager (Y/N) [N]-

NOTE: Pathways Care Manager is now known as Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable).

11. OUTBOUND TABLES (TABLE LOOKUP-R)

This field identifies the outbound tables that are sent to Connect-Rx. No tables are sent to this interface. This field may be omitted.

12. OUTBOUND MESSAGES (TABLE DISPLAY-O)

This field identifies the outbound messages to be sent over the interface. For the inbound portion of the interface, no messages should be defined.

13. INBOUND MESSAGES (TABLE DISPLAY-R)

This field contains the inbound messages. The following messages must be selected:

P03-06 - for ROBOT-Rx and AcuDose-Rx

Z03-03 - for AcuDose-Rx only

When you enter this field, the system displays the Processed Inbound HL7 Message Triggers table. The following prompt is displayed:

Enter choice to remove or (A) to Add--

If you are adding P03-06 and Z03-03, enter **A** to add. Then press a slash (/) to page to their locations. Enter the numbers for the messages.

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. To select not to accept, 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**.

Other fields on this screen do not apply to the Connect-Rx interface and may be left blank.

ROBOT-Rx INTERFACE PARAMETERS

Implementation of the ROBOT-Rx interface requires certain parameters be defined for each facility that is using the interface. To define the parameters, access the STAR Pharmacy main menu. Select **System Management > System Management - Pharmacy > Interface Utilities**. After accessing that function, the system displays the following menu:

```

General Hospital Interface Utilities Processor
Mon Jul 22, 2002 02:48 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 **Robot Interface Parameters**. This function enables the user to add or edit the parameters for the ROBOT-Rx interface. The system displays the following screen:

```

General Hospital Robot Interface Parameters Processor
Tue Aug 03, 2004 10:08 am
Robot Interface Parameters for: Model Hospital A
1 Active Stations
  ADM,BOB,ICU
2 Stock Locations for Dispense Now Doses
  RXI
3 Send Outpatients
  Yes
4 Send Update Label Doses
  Fill

Enter field number or '/' starting field number--

```

Field Explanations

1. ACTIVE STATIONS (TABLE LOOKUP)

This field contains the codes for all nurse station that are live with the ROBOT-Rx interface. Dispense orders are not sent for patients on any units that are not active.

When you access this field, the following prompt is displayed:

Enter nurse station(s), '-' to list, or (A)ll--

Enter the codes for the active nurse stations, or enter a hyphen (-) and select from the table or enter **A** for all stations.

2. STOCK LOCATIONS FOR DISPENSE NOW DOSES (TABLE LOOKUP)

This field contains the codes for the stock locations that use ROBOT-Rx for Dispense Now doses. Orders for Dispense Now doses to be dispensed from ROBOT-Rx for these locations are sent with a Dispense code of N (New Orders). Dispense Now doses not dispensed from ROBOT-Rx are sent with a Dispense code of B (Bill only Orders). When you access this field, the following prompt is displayed:

Enter `` or stock location(s) to use the Robot for Dispense Now doses--

Enter the codes for the stock locations, or enter a hyphen (-) and select from the list of stock locations.

3. SEND OUTPATIENTS (1-A-R)

This field indicates whether Dispense Now Doses are dispensed for Outpatients. When you access this field, the following prompt is displayed:

Send Dispense Now Doses for Outpatients? (Y/N) [N]--

Enter **Y** to send dispense now doses for outpatients. Enter **N** to prevent sending dispense now doses for outpatients.

4. SEND UPDATE LABEL DOSES (1-A-R)

This field determines if a fill order or a new order is sent to the Robot when an order is entered during the Update Label Period. When you access this field, the following prompt is displayed:

Send Update Label Doses as (F)ill or (N)ew ? (F/N) [F]--

Enter **F** to send a fill order. Enter **N** to send a new order.

CONNECT-RX AND STAR PHARMACY FORMULARY

STAR Pharmacy sends the formulary code for a drug to identify the item in an outbound order message to Connect-Rx. When preparing a formulary file for upload into Connect-RX, ensure that each formulary item is identified with the STAR formulary code.

ACUDOSE-RX AND STAR PHARMACY STOCK LOCATIONS

Processing of billing on STAR Pharmacy requires that each charge or credit is logged to a valid STAR stock location for the formulary item billed. This enables STAR Pharmacy to use billing data to maintain inventory levels for items. To support this requirement, the following build must be completed to coordinate AcuDose and STAR Pharmacy:

1. The AcuDose Cabinet ID must match the STAR Stock location code.

2. Assign all items that are stocked in the AcuDose cabinet to the appropriate Stock location on STAR. When assigning the items on STAR, be certain to define the Issue Status field appropriately.

If there is only one AcuDose cabinet on a nursing station, the STAR stock location code is defined using the STAR Patient Care Nursing station code. So, as stated above, the AcuDose Cabinet ID must be defined with that same code.

If there is more than one AcuDose cabinet on a nursing station or if one AcuDose cabinet services more than one nursing station, then an additional build step is required on STAR. In the STAR Patient Care location file, the beds that are serviced from a cabinet whose ID does not match the nursing station code must have the correct stock location defined in field 22 - Non-controlled Stock Location of the screen listed below:

General Hospital Update Location File Processor				
Mon Mar 12, 2001 05:08 pm				
Station: 3N - ONCOLOGY				
1 Nursing Station	2 Room	3 Bed Number	4 Bed Code	5 Care Type
3N - ONCOLOGY	320	01	201	
6 Pref Age Range	7 Current Status	8 Sex Pref	9 Phone	
	Occupied		3201	
10 Proximity to Station	11 Cart station(s)	12 Bed Note		
13 List Bed	14 Count Bed	15 Team	16 Overflow	
Yes	Yes			
17 Accommodation Code	18 Secondary Accommodation Code(s)			
ONCOLOGY PRIVATE	PRIVATE / CAP OBSERVATION			
19 Specialty	20 Sec Specialty(s)	21 Bed Features		
22 Non-controlled Stock Location	23 Controlled Stock Location			
24 Edit By	25 Edit Date			
Employee, HBO	07/16/96 1052			
Enter field number or '/' starting field number-				

ACUDOSE AND STAR PHARMACY FLOORSTOCK

All drugs that are dispensed from the AcuDose cabinets must exist in the STAR Floorstock for the Stock Location assigned to the AcuDose cabinet. Floorstock can be updated one of two ways:

1. Manually in STAR via the Formulary Maintenance and then Floorstock Maintenance.
2. Automatically via the interface when the drugs are loaded into the cabinet. This generates a Pocket Load message into STAR.

ACUDOSE-RX AND SOLUTION ORDERS

AcuDose-Rx (Connect-Rx) only processes the first item in a solution order. STAR Pharmacy sends all items in a order to the interface, but only the first is displayed on

the AcuDose-Rx profile. This issue is slated to be addressed in a future Connect-Rx release.

SPOOLER

In order to use the daily inbound interface audit and error reports generated by midnight processing, a printer must be assigned to the spooler reports PAPSERx and PAPSAUx for the ROBOT-Rx interface and PACUERx for AcuDose-Rx (where x is facility). These spooler reports can also be assigned to a Pharmacy report group if it is used for Pharmacy midnight processing reports.

NON-FORMULARY DEFAULT

This interface sends dispense order messages for formulary and non-formulary item orders. For non-formulary item orders, STAR sends a default item code of 99999. This code must be defined on the MAH systems in order for these messages to be processed.

TESTING INBOUND HL7 MESSAGES

The Test Inbound HL7 Messages function is available on the Generic Interface Utilities processor. This function uses a STAR program that simulates inbound HL7 transactions. This program aids in testing the interface transactions on the STAR side.

NOTE: This function must be used **only in Test IDs**. You must not use this function in a Live ID.

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!

SPECIAL ADT PROCESSING ON CONNECT-RX

Connect-Rx cannot process the A05 (Preadmit) and A31 (Update person information) messages from the STAR ADT interface. A change can be made on Connect-Rx by the McKesson Automation Interface Engineer to block these messages so that errors do not appear in the Connect-Rx Anomalies table.

Chapter 4 - USER FUNCTIONS

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CONNECT-RX INTERFACE USER FUNCTIONS

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

- Communication Line Control
- Send Patient
- Send Patient Orders
- Communication Line Status

Technical information about these functions is included in “[Chapter 6 - TECHNICAL NOTES](#)”.

Some of your options within these functions are determined during the installation of the Connect-Rx 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 the Connect-Rx interface is started or stopped, the system beeps and displays a message to notify you of activity.

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

General Hospital Interface Utilities Processor	
Mon Jul 22, 2002 02:48 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--

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 the type of Connect-Rx interface. When you select a function, the system displays the following prompt:

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

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

If the code matches an existing interface code, the system displays the chosen function. If the interface is not installed, the system displays the following message:

Error: Invalid communication code!

The system then redisplay 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 the Connect-Rx interface on the Generic Interface Utilities.

Communication Line Control

This function enables you to either activate or inactivate the Connect-Rx interface after it has been installed.

Select this function from the Generic Interface Utilities menu. Enter the 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 CONNECT-RX

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

Inactivate the Connect-Rx HL7 Inbound? (Y/N) --

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

*Connect-Rx HL7 Inbound 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 CONNECT-RX

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

Activate the Connect-Rx HL7 Inbound? (Y/N) --

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

*Connect-Rx HL7 Inbound 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 --

Send Patient

This function enables you to send all or selected patients to Connect-Rx or the Connect-Rx HL7 Outbound. You cannot send patients to the Connect-Rx HL7 Inbound.

Select this function from the Generic Interface Utilities menu. Enter the 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

When 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 Connect-Rx.

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

When 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 Connect-Rx.

Send Patient Orders

This function enables you to send patient orders to Connect-Rx or the Connect-Rx HL7 Outbound interface. During installation, facilities are set up to send All Orders. For more information, see “[Chapter 3 - INSTALLATION](#)”.

Patient orders cannot be sent to the Connect-Rx HL7 Inbound interface. If you enter the communication code for the inbound interface, the system displays the following message:

Patient orders/allergies are not sent to Connect-Rx HL7 Inbound!

Select this function from the Generic Interface Utilities menu. Enter the 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)electd patients to Connect-Rx--

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 displays 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)electd 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	DISC	
2	PANADOL 500 MG CAPSULE				ORAL	Spec	Chg	02/29	02/29	DISC	
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 Connect-Rx.

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 (APO) is currently: "Active"			
The Acknowledgment Audit is currently turned off!			
The TCP/IP address is: 139.177.2.59+21000			
ERROR: Same Interface code (PX0) 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 - TROUBLESHOOTING

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AUDITS

You can define views for Connect-Rx by using the HL7 Audit Inquiry function on the HL7 Interface Functions Processor. You can view the record layouts for the selected transactions. For more information about record layouts, see [“Chapter 6 - TECHNICAL NOTES”](#).

ROBOT-RX BILLING INTERFACE ERRORS

Error messages generated by the inbound interface are listed below with a description of the error. Interface messages with errors are logged and then discarded, therefore, credits for medications in rejected messages must be applied manually in STAR Pharmacy. Inbound interface errors print on the console log as they occur and can be viewed in the category APS-ID_ID#. Also, a daily report of interface errors is generated by midnight processing.

Inactive patient

The account number sent in the interface message is inactive on STAR Patient Care. The account number is sent in the PID segment, field 18.

Patient internal number mismatch

The STAR internal patient number assigned to the account number sent does not match the STAR internal number assigned to the STAR internal account number for this patient. Notify McKesson to correct this situation.

Unit number mismatch for account number

The unit number assigned by STAR Patient Care to the account number sent in the interface message does not match the unit number sent in the interface message. The unit number is sent in the PID segment, field 3. To correct this error, validate the patient unit numbers on STAR and ROBOT-Rx.

Patient information not found

Critical patient visit data cannot be found in the STAR database. Notify McKesson to correct this situation.

Invalid transaction type

STAR only accepts a transaction type of Credit or Charge. The transaction type is sent in the FT1 segment, field 6.

NOTE: ROBOT-Rx sends only credits.

Invalid Order Number

The patient does not have an order on STAR Pharmacy with the order number sent in the message. The order number is sent in the FT1 segment, field 23.

SIM code not on file

STAR Pharmacy does not have a formulary item with the code sent in the interface message. The formulary code is sent in the FT1 segment, field 7.

SIM code mismatch

The formulary code sent in the interface message does not match a formulary code assigned to the order number in STAR Pharmacy.

Order cancelled/Cannot process credit

The order referenced in the interface message has been cancelled.

Invalid quantity for credit

The quantity sent in the interface message is less than one, or is greater than the quantity charged for that order. The quantity is sent in the FT1 segment, field 10.

The error report generated by midnight processing uses the spooler report name PAPSERx where x is the facility code. It is formatted as follows:

General Hospital	STAR Pharmacy / Robot Exception Report for billing posted 03/14/01		Page: 1	
			Date: 03/15/01	
			Time: 00:07	
Patient Name	Account #	Drug Code - Name	Order#	Qty
GARCIA, ROSA	A0105700503	3304-NUTRITIONAL, DELIVER	15	-3
Invalid quantity for billing				
DRUMM, POUNDA	A0106500340	1939-OPHTHALMIC LUBRICANT	9	-1
Invalid quantity for billing				
TESTER, CHESTER B	A0106800502	1939-OPHTHALMIC LUBRICANT	13	-4
Inactive patient				
End of Report				

ACUDOSE-RX BILLING INTERFACE ERRORS

Error messages generated by the inbound interface are listed below with a description of the error. Interface messages with errors are logged and then discarded, therefore, charges and credits for medications in rejected messages must be applied manually in STAR Pharmacy. Inbound interface errors print on the console log as they occur and can be viewed in the category PI_interface code. Also, a daily report of interface errors is generated by midnight processing.

Account Number is Not Active

The account number sent in the interface message is inactive on STAR Patient Care. The account number is sent in the PID segment, field 18.

Patient Account Number mismatch

The STAR internal patient number assigned to the account number does not match the STAR internal number assigned to the STAR order for this patient. Notify McKesson to correct this situation.

Patient Internal Number mismatch

The internal number that is assigned to the account number on STAR is not the same as the number assigned to the account number in the interface message. Notify McKesson to correct this situation.

Order Number does not exist

The patient does not have an order on STAR Pharmacy with the order number sent in the message. The order number is sent in the FT1 segment, field 9.

Internal Order Number mismatch

The external order number stored in the order is not the same as the external order number sent in the interface message.

Formulary Code does not exist

STAR Pharmacy does not have a formulary item with the code sent in the interface message. The formulary code is sent in the FT1 segment, field 7.

Formulary Code invalid for STAR order

The formulary code sent in the interface message does not match a formulary code assigned to the order number in STAR Pharmacy.

Stock Location invalid for STAR Formulary Code

The formulary item is not stocked at the stock location whose code was sent in the MedStation field of the ZPM segment.

The error report generated by midnight processing uses the spooler report name PACUERx (x=facility code). It is formatted as follows:

General Hospital		STAR Pharmacy/AcuDose		Page: 1
		Exception Report		Date: 03/12/01
		for charges posted 03/11/01		Time: 0010
Med				
Stn	Patient Name	Account #	Drug Code - Name	Doses

2L	HARRIS,TESTER	A999999	2808-FENTANYL CITRATE 0.0	1
	Charged @ 09:06 by MILLER, JOE			
	Patient Internal Number Mismatch...Data Discarded!			
2L	HARRIS,TESTER	A999999	2876-MIDAZOLAM HCL 1MG/ML	1
	Charged @ 09:06 by MILLER, JOE			
	Patient Internal Number Mismatch...Data Discarded!			
ED3	FEILDS,FREDDIE	A145927	2718-KETOROLAC TROMETHAMI	1
	Charged @ 07:39 by HBO,EMPLOYEE			
	Patient Internal Number Mismatch...Data Discarded!			
ED3	PRINCE,ALBERT	A339465	3341-PROMETHAZINE HCL 25M	2
	Charged @ 10:51 by THOMAS, DAVID			
	Patient Internal Number Mismatch...Data Discarded!			
ED3	TRAVIS,BRANDY	AER	1239-CYCLOGYL OPTH 1% 2ML	1
	Charged @ 09:49 by THOMAS, DAVID			
	Patient Internal Number Mismatch...Data Discarded!			
Total (Listed) Charge Errors = 6				
Total API Errors = 6				
Total Transactions = 126				
End of Report				

STAR PHARMACY/ROBOT REPORTS

STAR Pharmacy/Robot Exception Report

The following is an example of the STAR Pharmacy/Robot Exception Report. The Exception report contains the name of the patient, the patient's account number, the drug code and name, the order number and the number of doses. The second line contains the reason for the exception (failure to bill the item).

Figure 5.1 STAR Pharmacy/Robot Exception Report (PAPSER_Y%)

General Hospital		STAR Pharmacy / Robot Exception Report for billing posted 12/03/01		Page: 1
				Date: 12/04/01
				Time: 00:08
Patient Name	Account #	Drug Code - Name	Order#	Qty
TEST, PHARMACY Inactive patient	A0132700191	1024-DOCUSATE SODIUM	3	-1
TEST, PHARMACY Inactive patient	A0132700191	401-CIPROFLOXACIN HCL	6	-1
EST, PHARMACY Inactive patient	A0132700191	1024-DOCUSATE SODIUM	3	-2
TEST, PHARMACY Inactive patient	A0132700191	1138-FERROUS SULFATE	4	-2
TEST, PHARMACY Inactive patient	A0132700191	401-CIPROFLOXACIN HCL	6	-2
ROBOT, TEST A Inactive patient	A0133000253	1866-PROMETHAZINE HCL	3	-1
ROBOT, TEST A Inactive patient	A0133000253	1866-PROMETHAZINE HCL	3	-2
ROBOT, TEST A Inactive patient	A0133000253	1866-PROMETHAZINE HCL	4	-1
ROBOT, TEST A Inactive patient	A0133000253	1866-PROMETHAZINE HCL	3	-2
TEST, INTERFACE Inactive patient	A0133200546	1866-PROMETHAZINE HCL	3	-1
TEST, INTERFACE Inactive patient	A0133200546	1866-PROMETHAZINE HCL	3	-1
TEST, INTERFACE Inactive patient	A0133200546	1866-PROMETHAZINE HCL	3	-1
End of Report				

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HL7 OVERVIEW

This subsection contains information about the record layouts and error messages for outgoing and incoming transactions. Information is included about both STAR Patient Care and STAR Pharmacy transactions.

All HL7 messages from STAR require acknowledgment from Connect-Rx. Messages are queued based on trigger events in the STAR Patient Care/Pharmacy products. Messages remain in this queue until they are passed to Connect-Rx and an ACK message is received from Connect-Rx confirming that the transmission was successful. The HL7 message is then deleted from the STAR interface queue and the next message is processed.

STAR transmits all data elements for each corresponding segment that are available at the time of the Trigger Event. If the data is not available at the time of the Trigger Event, no value is sent for that data element.

Because the interface sends fully populated messages, usually the Null vs. Not Present functionality of the HL7 interface standard is not supported. However, in some fields, the null value ("") is sent to indicate that any data previously sent in that field needs to be deleted.

The encoding characters utilized by STAR may not be modified. The encoding characters are sent after the segment ID in the MSH segment and are as follows:

Type	Definition
Field Separator	Colon (:)
Component Separator	Semicolon (;)
Repetition Separator	Tilde (~)
Escape Character	Backslash (\)
Sub-component Separator	Ampersand (&)

Acknowledgement Message

Upon receipt of a message from STAR, Connect-Rx returns a standard HL7 Acknowledgement message. This message contains the following segments:

ACK - GENERAL ACKNOWLEDGMENT MESSAGE

ACK	General Acknowledgement	Chapter
MSH	Message Header	2
MSA	Message Acknowledgement	2

MSH - Message Header

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Field Separator	1	ST	R	Field Separator	1	Y	:
2	Encoding characters	4	ST	R	Encoding characters	4	Y	;~\&
3	Sending application	15	ST		Sending application			
4	Sending facility	20	ST		Sending facility			
5	Receiving application	30	ST		Receiving application			
6	Receiving facility	30	ST		Receiving facility			
7	Date/time of message	26	TS		Date/time of message			
8	Security	40	ST		Security			
9	Message type	7	CM		Message type			
10	Message control ID	20	ST		Message control ID	20	Y	
11	Processing ID	1	ID		Processing ID			
12	Version ID	8	ID		Version ID			
13	Sequence number	15	NM		Sequence number			
14	Continuation pointer	180	ST		Continuation pointer			
15	Accept ack. type	2	ID		Accept ack. type			
16	Application ack. type	2	ID		Application ack. type			
17	Country code	2	ID		Country code			

MSA - Message Acknowledgement

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Acknowledgement Code	2	ID	R	Acknowledgement Code	2	Y	AA = Application Accept AE = Application Error AR = Application Reject
2	Message Control ID	20	ST	R	Message Control ID	20	Y	
3	Text Message	80	ST		Text Message			
4	Expected Sequence Number	15	NM		Expected Sequence Number			
5	Delayed Ack. Type	1	ID		Delayed Ack. Type			
6	Error condition	100	CE		Error condition			

HL7 OUTGOING TRANSACTIONS

The following subsections provide STAR Patient Care and STAR Pharmacy information for HL7 outgoing transactions to Connect-Rx.

HL7 STAR Patient Care Information

The McKesson installer defines the Connect-Rx interface on the STAR Patient Care system so ADT information can be sent to the Connect-Rx console PC. The installer uses the Patient Care Communication Line Definition function to define the function.

NOTE: Facilities that do not have STAR PatientCare may customize the patient care side and still use the STAR Pharmacy generic interface and Connect-Rx interface.

The McKesson installer sets the Outgoing Transactions field so the following transactions are sent to Connect-Rx:

A	Admission
a	Auto-daily Discharge
B	Cancel Discharge
C	Clinical/Financial Patient Revision
D	Date Adjustment
D	Discharge
I	Merge
N	Cancel Admission/Registration
M	Unit/Corporate Number Change
R	Registration
T	Transfer
y	Transfer Inpatient to Outpatient
u	Transfer Outpatient to Inpatient

The HL7 Format Routine field calls the base program AHL7S. This program formats the outbound messages.

The HL7 interface uses the ^CI comm code global to store messages waiting to be transmitted.

In the ADT interface transactions, the format for the patient name is Last,First Middle. STAR Pharmacy sends the attending physician in the physician field.

HL7 MESSAGE LAYOUTS

The message layouts in this section are required for the interface. Segment layouts are located at the end of this section.

HL7 Message Definition - Outbound

The tables in this section detail the HL7 messages and segments sent in the outbound interface and are based on the STAR HBOCHI 2.2b interface specifications.

ADT MESSAGES

A01 - Admit a patient

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	

ADT	ADT Message	Chapter
ZIN	Additional Insurance	
ZAC	Additional Accident	

A02 - Transfer a patient

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	

A03 - Discharge a patient

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	

A04 - Register a patient

ADT	ADT Message	Chapter
MSH	Message Header	2

ADT	ADT Message	Chapter
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	
ZCA	Contract Administration	

A05 - Preadmit a patient

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
NK1	Next of Kin	3

ADT	ADT Message	Chapter
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	

A06 - Transfer an outpatient to an inpatient

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
MRG	Merge Patient Information	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3

ADT	ADT Message	Chapter
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	

A07 - Transfer an inpatient to an outpatient

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
MRG	Merge Patient Information	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6

ADT	ADT Message	Chapter
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	

A08 - Update patient information

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6

ADT	ADT Message	Chapter
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	
ZAB	Additional Abstract	
ZNB	Newborn Abstract	
ZCA	Contract Administration	

A11 - Cancel admit

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
PV1	Patient Visit	3
PV2	Patient Visit Additional information	3
OBX	Observation/Result	7
DG1	Diagnosis	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	

A13 - Cancel discharge

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3

ADT	ADT Message	Chapter
PD1	Patient Additional Demographic	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	

A17 - Swap patients

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification - Patient 1	3
PD1	Patient Additional Demographic - Patient 1	3

ADT	ADT Message	Chapter
PV1	Patient Visit - Patient 1	3
PV2	Patient Visit Additional Information - Patient 1	3
PID	Patient Identification - Patient 2	3
PD1	Patient Additional Demographic - Patient 2	3
PV1	Patient Visit - Patient 2	3
PV2	Patient Visit Additional Information - Patient 2	3

A31 - Update person information

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
NK1	Next of Kin	3
PV1	Patient Visit	3
PV2	Patient Visit Additional Information	3
OBX	Observation/Result	7
AL1	Patient Allergy Information	3
DG1	Diagnosis	6
PR1	Procedures	6
GT1	Guarantor	6
IN1	Insurance	6
IN2	Insurance Additional Information	6
IN3	Insurance Additional Information - Certification	6
ACC	Accident	6
UB1	UB82 data	6
UB2	UB92 data	6
ZPI	Additional Patient Identification	
ZPV	Additional Patient Visit	
ZDG	Additional Diagnosis	

ADT	ADT Message	Chapter
ZPR	Additional Procedure	
ZIN	Additional Insurance	
ZAC	Additional Accident	

A34 - Merge patient information - patient ID only

ADT	ADT Message	Chapter
MSH	Message Header	2
EVN	Event Type	3
PID	Patient Identification	3
PD1	Patient Additional Demographic	3
MRG	Merge information	3
ZPI	Additional Patient Identification	

ORDER MESSAGES**RDE - Pharmacy Encoded Order Message (Dispense / Medication Order)**

RDE	Pharmacy Encoded Order	Chapter
MSH	Message Header	2
PID	Patient Identification	3
PV1	Patient Visit	3
ORC	Common Order	4
RXE	Pharmacy Encoded Order	4
{ NTE }	Notes and Comments	2
RXR	Pharmacy Route	4
RXC	Pharmacy Order Component	4
ZRX	Connect-Rx Extended Pharmacy Order	

NOTE: A separate order messages is sent for each component of a multiple item medication order.

RDE - Pharmacy Encoded Order Message (Solution Order)

RDE	Pharmacy Encoded Order	Chapter
MSH	Message Header	2
PID	Patient Identification	3
PV1	Patient Visit	3
ORC	Common Order	4
RXE	Pharmacy Encoded Order	4
{ NTE }	Notes and Comments	2
RXR	Pharmacy Route	4
{ RXC }	Pharmacy Order Component	4
ZRX	Connect-Rx Extended Pharmacy Order	

NOTE: Solutions are flagged for bottle messages if they are not given every day, or if they have an ingredient that is not in every bottle. A single order message is sent for each solution order. An RXC segment is sent for each ingredient in the order if the order is not flagged for bottle messages. If the order is flagged for bottle messages, no RXC segments are sent in the order message.

RDS - Pharmacy Dispense Message (Solution Bottles)

RDE	Pharmacy Encoded Order	Chapter
MSH	Message Header	2
PID	Patient Identification	3
PV1	Patient Visit	3
ORC	Common Order	4
RXE	Pharmacy Encoded Order	4
{ NTE }	Notes and Comments	2
RXR	Pharmacy Route	4
{ RXC }	Pharmacy Order Component	4
RXD	Pharmacy Dispense	4
ZRX	Connect-Rx Extended Pharmacy Order	

NOTE: Bottle messages are sent only for those orders that are flagged (as described above). A separate dispense message is sent for each solution bottle/bag dispensed. An RXC segment is sent for each ingredient in the bottle/bag.

HL7 SEGMENT DETAIL - OUTBOUND

MSH - Message Header

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Field Separator	1	ST	R	Field Separator	1	Y	:
2	Encoding characters	4	ST	R	Encoding characters	4	Y	;~\&
3	Sending application	15	ST		Sending application	3	Y	SRX
4	Sending facility	20	ST		Sending facility	1	Y	STAR facility code
5	Receiving application	30	ST		Receiving application	9	Y	CONNECTRX
6	Receiving facility	30	ST		Receiving facility	1	Y	STAR facility code
7	Date/time of message	26	TS		Date/time of message	12	Y	YYYYMMDDHHMM
8	Security	40	ST		Security		N	
9	Message type	7	CM		Message type	16	Y	Message type;Event;STAR Msg Version
10	Message control ID	20	ST		Message control ID	20	Y	
11	Processing ID	1	ID		Processing ID	1	Y	P = ID 1, D = ID 2, T = all other IDs
12	Version ID	8	ID		Version ID	3	Y	2.2
13	Sequence number	15	NM		Sequence number	20	Y	Message control ID
14	Continuation pointer	180	ST		Continuation pointer		N	
15	Accept ack. type	2	ID		Accept ack. type		Y	AL
16	Application ack. type	2	ID		Application ack. type		N	
17	Country code	2	ID		Country code		N	

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
18	N/A				Principal language of message		N	
19	N/A				Organization		N	
20	N/A				Plant		N	
21	N/A				HBOCHI Version Number	3	Y	2.2b

PID - Patient Identification

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Set ID - Patient ID	4	SI		Set ID - Patient ID	1	Y	
2	Patient ID (External ID)	16	CK		Corporate Number	12	Y	Corporate Number;;; STAR facility code
3	Patient ID (Internal ID)	20	CM	R	Medical Record Number, Corporate Number	110	Y	See note 1
4	Alternate Patient ID	12	ST		Alternate Patient ID		N	
5	Patient Name	48	PN	R	Patient Name	37	Y	Last;First;Middle;Entitle
6	Mother's Maiden Name	30	ST		Mother's Maiden Name	30	Y	
7	Date of Birth	26	TS		Date of Birth	8	Y	YYYYMMDD
8	Sex	1	ID		Sex	1	Y	M or F
9	Patient Alias	48	PN		Patient Alias	37	Y	Last;First;Middle;Entitle
10	Race	1	ID		Ethnic Group	1	Y	Code, Race table
11	Patient Address	106	AD		Patient Address	83	Y	Addr1;Addr2;City; State;Zip;Country

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
12	County Code	4	ID		County Code	5	Y	Code, County table
13	Phone Number-Home	40	TN		Phone Number-Home	18	Y	(nnn)nnn-nnnnXnnnn
14	Phone Number-Business	40	TN		Phone Number-Business	18	Y	(nnn)nnn-nnnnXnnnn
15	Language - Patient	25	ST		Language - Patient	40	Y	See note 2
16	Marital Status	1	ID		Marital Status	1	Y	Code, Marital Status table
17	Religion	3	ID		Denomination	3	Y	Code, Denomination table
18	Patient Account Number	20	CK		Patient Account Number	20	Y	Account #;;;Assigning Authority_Facility
19	SSN Number-Patient	16	ST		SSN Number-Patient	11	Y	nnn-nn-nnnn
20	Driver's License Number - Patient	25	CM		Driver's License Number - Patient		N	
21	Mother's Identifier	20	CK		Mother's Account Number	20	Y	Mother's Account Number;;;Facility
22	Ethnic Group	1	ID		Ethnic Group		N	
23	Birth Place	25	ST		Birth Place	25	Y	
24	Multiple Birth Indicator	2	ID		Multiple Birth Indicator	1	Y	Y or N
25	Birth Order	2	NM		Birth Order	1	Y	
26	Citizenship	3	ID		Citizenship		N	
27	Veteran's Military Status	60	CE		Veteran's Military Status		N	
28	N/A				Nationality		N	
29	N/A				Patient Death Date/Time	3	Y	YYYYMMDD

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
30	N/A				Patient Death Indicator	1	Y	Y or N
31-49	N/A				Reserved for HL7 expansion		N	
50	N/A				Identity Unknown Indicator	1	Y	Y or N

NOTE: 1. The following is sent in PID-3:

Medical Record number;;;Assigning Authority_facility code;"MR"~Corporate number;;;Assigning Authority;"PI"

2. The following is sent in PID-15:

Code;description;coding system;alternate code;alternate description;alternate coding system

PV1 - Patient Visit

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Set ID - Patient Visit	4	SI		Set ID - Patient ID	1	Y	
2	Patient Class	1	ID	R	Patient Class	1	Y	P = Preadmit I = Inpatient O = Outpatient E = Emergency R = Recurring B = Obstetrics N = N/A
3	Assigned Patient Location	12	CM		Assigned Patient Location	17	Y	Station;Room;Bed; Facility;Bed Status
4	Admission Type	2	ID		Admission Type	2	Y	Code, Admission Type table

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
5	Preadmit Number	20	ST		Preadmit Number		N	
6	Prior Patient Location	12	CM		Prior Patient Location	15	Y	Station;Room;Bed; Facility
7	Attending Doctor	60	CN		Attending Doctor	50	Y	Code;Last;First;Middle; ; title;coding system
8	Referring Doctor	60	CN		Referring Doctor	50	Y	Code;Last;First;Middle; ; title;coding system
9	Consulting Doctor	60	CN		Consulting Doctor	300	Y	Code;Last;First;Middle; ; title;coding system Repeats for each consultant
10	Hospital Service	3	ID		Hospital Service	3	Y	Code, Service table
11	Temporary Location	12	CM		Temporary Location		N	
12	Preadmit Test Indicator	2	ID		Preadmit Test Indicator		N	
13	Readmission Indicator	2	ID		Readmission Indicator	1	Y	Y or N
14	Admit Source	3	ID		Admit Source	3	Y	Code, Admit Source table
15	Ambulatory Status	2	ID		Ambulatory Status		N	
16	VIP Indicator	2	ID		Patient Classification	2	Y	Code, Classification table
17	Admitting Doctor	60	CN		Admitting Doctor	50	Y	Code;Last;First;Middle; ; title;coding system
18	Patient Type	2	ID		Patient Type	3	Y	Code, Patient Type table
19	Visit Number	15	NM		Visit Number		N	
20	Financial Class	50	CM		Financial Class	2	Y	Code, Financial Class table
21	Charge Price Indicator	2	ID		Charge Price Indicator		N	
22	Courtesy Code	2	ID		Courtesy Code		N	
23	Credit Rating	2	ID		Credit Rating		N	

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
24	Contract Code	2	ID		Contract Code		N	
25	Contract Effective Date	8	DT		Contract Effective Date		N	
26	Contract Amount	12	NM		Contract Amount		N	
27	Contract Period	3	NM		Contract Period		N	
28	Interest Code	2	ID		Interest Code		N	
29	Transfer to Bad Debt Code	1	ID		Transfer to Bad Debt Code		N	
30	Transfer to Bad Debt Date	8	DT		Transfer to Bad Debt Date		N	
31	Bad Debt Agency Code	10	ID		Bad Debt Agency Code		N	
32	Bad Debt Transfer Amount	12	NM		Bad Debt Transfer Amount		N	
33	Bad Debt Recovery Amount	12	NM		Bad Debt Recovery Amount		N	
34	Delete Account Indicator	1	ID		Delete Account Indicator		N	
35	Delete Account Date	8	DT		Delete Account Date		N	
36	Discharge Disposition	3	ID		Discharge Disposition	3	Y	Code, Discharge Status table
37	Discharged to Location	25	CM		Discharged to Location		N	
38	Diet Type	2	ID		Diet Type		N	
39	Servicing Facility	2	ID		Servicing Facility	1	Y	Facility code
40	Bed Status	1	ID		Bed Status	3	Y	Code, Bed Status table
41	Account Status	2	ID		Account Status	1	Y	Billing Status

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
42	Pending Location	12	CM		Pending Location		N	
43	Prior Temporary Location	12	CM		Prior Temporary Location		N	
44	Admit Date/ Time	26	TS		Admit Date/ Time	12	Y	YYYYMMDDHHMM
45	Discharge Date/Time	26	TS		Discharge Date/Time	12	Y	YYYYMMDDHHMM
46	Current Patient Balance	12	NM		Current Patient Balance		N	
47	Total Charges	12	NM		Total Charges		N	
48	Total Adjustments	12	NM		Total Adjustments		N	
49	Total Payments	12	NM		Total Payments		N	
50	Alternate Visit ID	20	CM		Alternate Visit ID		N	

ORC - Common Order

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Order Control	2	ID	R	Order Control	2	Y	NW = New Order OC = Cancel OD = Discontinue OH = Hold Order OR = Resume Order XX = Revise Bottle RE = Bottle Message
2	Placer Order Number	75	CM		Placer Order Number	10	Y	External Order Number - Item Sequence Number

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
3	Filler Order Number	75	CM		Filler Order Number	30	Y	Filler Order Number; STRX
4	Placer Group Number	75	CM		Order Trigger	2	Y	For dispense orders only, order trigger code
5	Order Status	2	ID		Order Status	2	Y	SC = Active OH = Held or Not Started CA = Cancelled DC = Discontinued
6	Response Flag	1	ID		Response Flag	1	Y	Always N
7	Quantity/ Timing	200	TQ		Quantity/ Timing	135	Y	See RXE, field 1
8	Parent	200	CM		Parent		N	
9	Date/Time of Transaction	26	TS		Date/Time of Last Status Update	12	Y	YYYYMMDDHHMM
10	Entered by	80	CN		Entered by	40	Y	Code;Last;First;Middle
11	Verified by	80	CN		Verified by	40	Y	Code;Last;First;Middle
12	Ordering Provider	80	CN		Ordering Provider	40	Y	Code;Last;First;Middle
13	Enterer's Location	80	CM		Enterer's Location	3	Y	CRT ID
14	Call Back Phone Number	40	TN		Call Back Phone Number		N	
15	Order Effective Date/Time	26	TS		Status Change Date/Time	12	Y	YYYYMMDDHHMM Sent for cancel, hold, discontinue status change
16	Order Control Code Reason	200	CE		Order Control Code Reason			
17	Entering Organization	60	CE		Entering Organization		N	
18	Entering Device	60	CE		Entering Device	3	Y	CRT ID
19	Action by	80	CN		Action by	40	Y	Code;Last;First;Middle

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
20-29	N/A				Reserved for HL7 expansion		N	
30	N/A				Pharmacy Order Type	1	Y	M = Medication S = Solution O = Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) Meds as Solutions

RXE - Pharmacy Encoded Order

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Quantity/Timing	200	TQ	R	Quantity/Timing	135	Y	See Note 1
2	Give Code	100	CE	R	Give Code	80	Y	See Note 2
3	Give Amount - Minimum	20	NM	R	Give Amount - Minimum	15	Y	Dosage Amount Minimum Dosage Amount (Admin/ Dose if dosage null)
4	Give Amount - Maximum	20	NM		Give Amount - Maximum	15	Y	Maximum Dosage Amount (Admin/ Dose if dosage null)
5	Give Units	60	CE	R	Give Units	15	Y	Dosage Units or (Admin/ Dose if dosage null)

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
6	Give Dosage Form	60	CE		Give Dosage Form	10	Y	Text
7	Provider's Administration Instructions	200	CE		Provider's Administration Instructions	100	Y	See Note 3
8	Deliver-to Location	12	CM		Deliver-to Location	13	Y	Patient Location Station& Room&Bed &facility
9	Substitution Status	1	ID		Substitution Status		N	
10	Dispense Amount	20	NM		Number of Robot packages	2	Y	For dispense orders, number of Robot packages
11	Dispense Units	60	CE		Dispense Units		N	
12	Number of Refills	3	NM		Number of Refills		N	
13	Ordering Provider's DEA Number	60	CN		Ordering Provider's DEA Number	45	Y	DEA Number; Last;First; Middle
14	Pharmacist Verifier ID	60	CN		Pharmacist Verifier ID	40	Y	Code;Last; First;Middle
15	Prescription Number	20	ST	R	Prescription Number	5	Y	External Order Number_ Item Sequence Number for medication orders
16	Number of Refills Remaining	20	NM		Number of Refills Remaining		Y	
17	Number of Refills/ Doses Dispensed	20	NM		Number of Refills/ Doses Dispensed		Y	
18	D/T of Most Recent Refill or Dose Dispensed	26	TS		D/T of Most Recent Refill or Dose Dispensed		Y	

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
19	Total Daily Dose	10	CQ		Total Daily Dose		Y	
20	Needs Human Review	1	ID		Needs Human Review		Y	
21	Pharmacy Special Dispensing Instruct.	200	CE		Pharmacy Special Dispensing Instruct.	65	Y	;Nursing Comment~ ;Ordered As
22	Give Per (Time Unit)	20	ST		Infusion Period	12	Y	M = minutes or H = hours_ Infusion period
23	Give Rate Amount	6	ST		Give Rate Amount	3	Y	Solution Rate or Drip Rate Number
24	Give Rate Units	60	CE		Give Rate Units	12	Y	ML/HOUR or DRIPS/ MINUTE
25	Give Strength	20	NM		Dosage Amount	15	Y	
26	Give Strength Units	60	ST		Dosage Units	15	Y	;Description
27	Give Indication	200	ST		Give Indication		Y	
28	N/A				Dispense Package Size		Y	
29	N/A				Dispense Package Size Unit		Y	
30-39	N/A				Reserved for HL7 expansion			
40	N/A				Generic Code/ Name	40	Y	Generic Code; Generic Name
41	N/A				Multiple Item Data	20	Y	Code; Description

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
42	N/A				Multiple Item Order Link Number	16	Y	Account Number_ Internal Order Number_ External Order Number
43	N/A				Hard Stop Indicator	1	Y	Y = Hard Stop
44	N/A				Drug Volume	15	Y	Dispense/ Dose Amount
45	N/A				Drug Volume Units	15	Y	;Dispense/ Dose Units

NOTE: 1. The following fields are sent for Quantity/Timing:

1	Quantity	Not sent
2	Interval	Frequency Code, Schedule code Frequency and Schedule not sent for solutions flagged for bottle messages. Schedule sent for Special Days and Interval orders only as follows: Special Days = "j"_days number (1=Sunday through 7=Saturday) Interval Orders = "Q"_number of days_"D"
3	Duration	"H"_# of hours, "D"_# of days, or "X"_# of doses
4	Start date/time	YYYYMMDDHHMM
5	Stop date/time	YYYYMMDDHHMM
6	Priority	P = PRN, R = Routine
7	Condition	Not sent
8	Text	Not sent
9	Conjunction	Not sent
10	Administration Times	Separated by commas

NOTE: 2. The following fields are sent for Give Code:

1	Code	STAR formulary code or 9998 for non-formulary orders
2	Description	Generic or Brand Name, Strength/Volume, and Dosage Form separated by spaces

NOTE: 3. The following fields are sent for Provider's Administration Instructions:

1	Not Sent	
2	Order Comments	Duration comment (Times X Hours, Days, or Doses), Rx Nursing Comment
3	Ordered As	Ordered As text
4	Special Instructions	"PTO"=Home Medication&&"CS"=Controlled Substance&&"IV"=Solution&&"RT"=order route is RT
5	Not Sent	
6	Special Instructions Indicator	CRX802 is sent if component 4 is valued

NTE - Notes and Comments

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Set ID - Notes and Comments	4	SI		Professional Notes Line Number	1	Y	
2	Source of Comment	8	ID		Source of Comment	1	Y	P
3	Comment	64K	FT		Professional Notes Text Line	75	Y	

RXR - Pharmacy Route

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Route	60	CE	R	Route	30	Y	Code; Description; Coding system Route table for meds Solution type for solutions
2	Site	60	CE		Site		N	
3	Administration Device	60	CE		Administration Device		N	
4	Administration Method	60	CE		Solution Type	20	Y	Code; Description; Coding system

RXC - Pharmacy Component

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Rx Component Type	1	ID	R	Rx Component Type	1	Y	B = Base A = Additive
2	Component Code	100	CE	R	Component Code	100	Y	See Note 1
3	Component Amount	20	NM	R	Component Amount	15	Y	See Note 2
4	Component Units	20	CE	R	Component Units	15	Y	Code; Description See Note 1

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
5	N/A				Component Strength	15	Y	Dosage amount (Maximum for variable doses)
6	N/A				Component Strength Units	15	Y	Code; Description; Dosage Units
7-16	N/A				Reserved for future HL7 expansion		N	
17	N/A				Bottle Schedule	40	Y	Code; Description; Coding system
18	N/A				Hard Stop Indicator	1	Y	Y = Hard Stop
19	N/A				Timing/Quantity	135	Y	Not used by Connect-Rx
20	N/A				Stop Type	40	Y	Code; Description; Coding system
21	N/A				Order Sequence	5	Y	External Order Number_ Item Sequence Number
22	N/A				Generic Code/ Name	40	Y	Generic Code; Generic Name
23	N/A				Volume Amount	15	Y	Dispense/ Dose Amt
24	N/A				Volume Units	15	Y	;Dispense/ Dose Units

NOTE: 1. The following fields are sent for Component Code:

1	Code	STAR formulary code or 9998 for non-formulary orders
2	Description	Generic or Brand Name, Strength/Volume, and Dosage Form separated by spaces

NOTE: 2. Component Amount and Units are determined as follows: Dosage; Administer/Dose if dosage null; Dispense/Dose if dosage and administer/dose null. For variable doses, maximum amount is sent.

RXD - Pharmacy Dispense

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Dispense Sub-ID Counter	4	NM	R	Dispense Sub-ID Counter	3	Y	Bottle Number
2	Dispense/Give Code	100	CE	R	Dispense/Give Code	80	Y	See Note 1
3	Date/Time Dispensed	26	TS	R	Date/Time Dispensed	12	Y	YYYYMMDD DHHMM Bottle Hang date/time
4	Actual Dispense Amount	20	NM	R	Actual Dispense Amount	5	Y	Bottle volume
5	Actual Dispense Units	60	CE		Actual Dispense Units	2	Y	Always ML
6	Actual Dosage Form	60	CE		Actual Dosage Form	10	Y	Text
7	Prescription Number	20	NM		Prescription Number	3	Y	Bottle Number
8	Number of Refills Remaining	20	NM		Number of Refills Remaining		N	
9	Dispense Notes	200	CE		Dispense Notes		N	
10	Dispensing Provider	200	CN		Dispensing Provider	40	Y	Code;Last; First;Middle
11	Substitution Status	1	ID		Substitution Status		N	
12	Total Daily Dose	10	NM		Total Daily Dose		N	

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
13	Dispense-to Location	12	ID		Dispense-to Location	13	Y	Patient Location Station& Room&Bed &facility
14	Needs Human Review	1	ID		Needs Human Review		N	
15	Pharmacy Special Dispensing Instruct.	200	CE		Pharmacy Special Dispensing Instruct.		N	

NOTE: The following fields are sent for Give Code:

1	Code	STAR formulary code or 9998 for non-formulary orders
2	Description	Generic or Brand Name, Strength/Volume, and Dosage Form separated by spaces

ZRX - Connect-Rx Extended Pharmacy Order

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Dispense Code	1	CE	R	Dispense Code	1	Y	B = Bill only F = Fill dose N = Initial dose O = Order only
2	Cycle Date/Time	12	TS	R	Cycle Date/Time	12	Y	YYYYMMD DHHMM Next fill cycle start d/t for Fill doses or Current date/time

HL7 MESSAGE DEFINITION - INBOUND

Both ROBOT-Rx and AcuDose-Rx send the HL7 DFT-P03 (Post Detail Financial Transaction) for billing. However, the data sent is not exactly the same. Differences are noted in this section.

Billing message

P03 - POST DETAILED FINANCIAL TRANSACTION

DFT	Detail Financial Transaction	Chapter
MSH	Message Header	2
PID	Patient Identification	3
PV1	Patient Visit	3
FT1	Financial Transaction	6
ZPM	Pocket Activities	N/A

NOTE: The PV1 and ZPM segments are used by AcuDose-Rx only.

HL7 Segment Detail - Inbound

CHARGING/BILLING UPDATES TO STAR

The Detail Financial Transaction (DFT) is used to accept incoming messages from Connect-Rx to STAR Pharmacy about dispense information. Each message is associated with a dispense or return of a medication for a particular patient. The DFT message contains the following segments:

PO3-04	Detail Financial Transaction
MSH	Message Header
PID	Patient Identification
PV1	Patient Visit
FT1	Financial Transaction
ZPM	Pocket Activities

MSH - Message Header

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Field Separator	1	ST	R	Field Separator	1	R	See note
2	Encoding characters	4	ST	R	Encoding characters	4	R	See note
3	Sending application	15	ST		Sending application	7	R	Must be PYXISR for AcuDose- Rx billing
4	Sending facility	20	ST		Sending facility	1		
5	Receiving application	30	ST		Receiving application			
6	Receiving facility	30	ST		Receiving facility	1	R	STAR facility code AcuDose- Rx only
7	Date/time of message	26	TS		Date/time of message	12		
8	Security	40	ST		Security			
9	Message type	7	CM		Message type	10		
10	Message control ID	20	ST		Message control ID	20		
11	Processing ID	1	ID		Processing ID	1		
12	Version ID	8	ID		Version ID	3		
13	Sequence number	15	NM		Sequence number	20		
14	Continuation pointer	180	ST		Continuation pointer			
15	Accept ack. type	2	ID		Accept ack. type			
16	Application ack. type	2	ID		Application ack. type			
17	Country code	2	ID		Country code			

NOTE: STAR accepts any encoding characters in the inbound interface provided that they are properly documented in the Encoding Characters field of the MSH segment.

PID - Patient Identification

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Set ID - Patient ID	4	SI		Set ID - Patient ID			
2	Patient ID (External ID)	16	CK		Patient ID (External ID)			
3	Patient ID (Internal ID)	20	CM	R	Medical Record Number	24	R	Medical record number;;; facility code
4	Alternate Patient ID	12	ST		Alternate Patient ID			
5	Patient Name	48	PN	R	Patient Name	37	O	
6	Mother's Maiden Name	30	ST		Mother's Maiden Name			
7	Date of Birth	26	TS		Date of Birth			
8	Sex	1	ID		Sex			
9	Patient Alias	48	PN		Patient Alias			
10	Race	1	ID		Race			
11	Patient Address	106	AD		Patient Address			
12	County Code	4	ID		County Code			
13	Phone Number- Home	40	TN		Phone Number- Home			
14	Phone Number- Business	40	TN		Phone Number- Business			
15	Language - Patient	25	ST		Language - Patient			
16	Marital Status	1	ID		Marital Status			
17	Religion	3	ID		Religion			
18	Patient Account Number	20	CK		Patient Account Number	18	R	Account number;;; facility code
19	SSN Number- Patient	16	ST		SSN Number- Patient			
20	Driver's License Number - Patient	25	CM		Driver's License Number - Patient			

PV1 - Patient Visit

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Set ID - Patient Visit	4	SI		Set ID - Patient ID			
2	Patient Class	1	ID	R	Patient Class			
3	Assigned Patient Location	12	CM		Assigned Patient Location	10	O	Station^ Room^Bed AcuDose- Rx only
4	Admission Type	2	ID		Admission Type			
5	Preadmit Number	20	ST		Preadmit Number			
6	Prior Patient Location	12	CM		Prior Patient Location			
7	Attending Doctor	60	CN		Attending Doctor			
8	Referring Doctor	60	CN		Referring Doctor			
9	Consulting Doctor	60	CN		Consulting Doctor			
10	Hospital Service	3	ID		Hospital Service			
11	Temporary Location	12	CM		Temporary Location			
12	Preadmit Test Indicator	2	ID		Preadmit Test Indicator			
13	Readmission Indicator	2	ID		Readmission Indicator			
14	Admit Source	3	ID		Admit Source			
15	Ambulatory Status	2	ID		Ambulatory Status			
16	VIP Indicator	2	ID		VIP Indicator			
17	Admitting Doctor	60	CN		Admitting Doctor			
18	Patient Type	2	ID		Patient Type			
19	Visit Number	15	NM		Account Number			
20	Financial Class	50	CM		Financial Class			
21	Charge Price Indicator	2	ID		Charge Price Indicator			
22	Courtesy Code	2	ID		Courtesy Code			
23	Credit Rating	2	ID		Credit Rating			

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
24	Contract Code	2	ID		Contract Code			
25	Contract Effective Date	8	DT		Contract Effective Date			
26	Contract Amount	12	NM		Contract Amount			
27	Contract Period	3	NM		Contract Period			
28	Interest Code	2	ID		Interest Code			
29	Transfer to Bad Debt Code	1	ID		Transfer to Bad Debt Code			
30	Transfer to Bad Debt Date	8	DT		Transfer to Bad Debt Date			
31	Bad Debt Agency Code	10	ID		Bad Debt Agency Code			
32	Bad Debt Transfer Amount	12	NM		Bad Debt Transfer Amount			
33	Bad Debt Recovery Amount	12	NM		Bad Debt Recovery Amount			
34	Delete Account Indicator	1	ID		Delete Account Indicator			
35	Delete Account Date	8	DT		Delete Account Date			
36	Discharge Disposition	3	ID		Discharge Disposition			
37	Discharged to Location	25	CM		Discharged to Location			
38	Diet Type	2	ID		Diet Type			
39	Servicing Facility	2	ID		Servicing Facility			
40	Bed Status	1	ID		Bed Status			
41	Account Status	2	ID		Account Status			
42	Pending Location	12	CM		Pending Location			
43	Prior Temporary Location	12	CM		Prior Temporary Location			
44	Admit Date/Time	26	TS		Admit Date/Time			
45	Discharge Date/Time	26	TS		Discharge Date/Time			
46	Current Patient Balance	12	NM		Current Patient Balance			

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
47	Total Charges	12	NM		Total Charges			
48	Total Adjustments	12	NM		Total Adjustments			
49	Total Payments	12	NM		Total Payments			
50	Alternate Visit ID	20	CM		Alternate Visit ID			

FT1 - Financial Transaction

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Set ID - Financial transaction	4	SI		Set ID - Financial transaction			
2	Transaction ID	12	ST		Transaction ID			
3	Transaction Batch ID	10	ST		Transaction Batch ID			
4	Transaction Date	8	DT	R	Transaction Date	12	O	YYYYMMDDHHMM AcuDose-Rx only
5	Transaction Posting Date	8	DT		Transaction Posting Date	12	O	YYYYMMDDHHMM
6	Transaction Type	8	ID	R	Transaction Type	6	R	ROBOT-Rx: Charge or Credit AcuDose-Rx: V=Charge, R=Credit
7	Transaction Code	20	ID	R	Transaction Code	5	R	STAR formulary code
8	Transaction Description	40	ST		Transaction Description			
9	Transaction Description - Alt	40	ST		Transaction Description - Alt	7	O	STAR External Order Number - AcuDose-Rx
10	Transaction Quantity	4	NM		Transaction Quantity	4	R	

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
11	Transaction Amount - Extended	12	NM		Transaction Amount - Extended			
12	Transaction Amount - Unit	12	NM		Transaction Amount - Unit			
13	Department Code	60	CE		Department Code			
14	Insurance Plan ID	8	ID		Insurance Plan ID			
15	Insurance Amount	12	CM		Insurance Amount			
16	Patient Location	12	NM		Patient Location			
17	Fee Schedule	1	ID		Fee Schedule			
18	Patient Type	2	ID		Patient Type			
19	Diagnosis Code	8	CE		Diagnosis Code			
20	Performed by Code	60	CN		Performed by Code			
21	Ordered by Code	60	CN		Ordered by Code			
22	Unit Cost	12	NM		Unit Cost			
23	Filler Order Number	75	CM		Filler Order Number	7	O	STAR External Order Number - ROBOT-Rx

ZPM - Pocket Activities

POCKET RECORDS

Connect-Rx sends an EPL (pocket load) transaction when a medication is loaded/refilled in a station, and an EPU (pocket unload) transaction when a medication is unloaded from a pocket in a station.

INVENTORY MANAGEMENT

Inventory/Floorstock is maintained between Connect-Rx and STAR Pharmacy with the use of a special message. This message is sent when a medication is loaded or unloaded from a MEDSTATION. ZPM is sent for all three types of pocket activities.

ZPM	Count/Load/Unload Message
MSH	Message Header

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
1	Transaction Type	1		R	Transaction Type			
2	Medstation System	10		R	Medstation System			
3	Medstation Unit	10		R	Floorstock Location	5	R	Stock Location code
4	Drawer Number	2		R	Medstation Drawer			
5	Pocket Description	5		R	Medstation Pocket			
6	Medication ID	15		R	Formulary Code			
7	Medication Name	30		R	Secondary Name			
8	Medication Class	1		R	DEA Code			
9	Expected Begin Count				Expected Begin Count			
10	Actual Begin Count				Actual Begin Count			
11	Transaction Amount	8		R	Transaction Amount	4	R	Quantity
12	Employee ID	10		R	Employee ID Number	6	O	
13	Employee Name	20		R	Employee Name			

SEQ	ELEMENT NAME	HL7			STAR FIELD	STAR		
		LEN	DT	R/O		LEN	Sppt	FORMAT
14	Witness ID	10			Witness ID			
15	Witness Name	20			Witness Name			
16	Medstation Total Count	8			Medstation Total Count			
17	Alternate Med ID	15			Pharmacy NDC Number			
18	Facility Code	15		R	Facility Code			
19	Alternate Med ID 2	15			AHFS Therapeutic Class Codes			
20	Nursing Unit	10			Patient Location			
21	Subdrawer	2		R	Subdrawer			
22	Medstation Full Count	8		R	Full Count in Pocket			
23	Medstation Par Count	8		R	Par Count in Pocket			

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■ R e a d e r C o m m e n t F o r m ■

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

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Organization of information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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