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

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Preface

McKesson's Pyxis interface services both the Pyxis MEDSTATION® and the Pyxis MEDSTATION RX. The interface sends patient admission, discharge, transfer (ADT) information, orders, order status changes, and formulary information to Pyxis. Upon receiving *removed* and *returned* transactions, the STAR Pharmacy system charges or credits for the quantity specified in the interface record.

The Pyxis interface is a billable module. If your facility is interested in implementing it, contact your account manager.

The STAR Pyxis interface is compliant with HL7® version 2.2. Version 3.0 of Pyxis must be installed.

This guide contains technical information about the Pyxis interface as well as information for the user of the interface. You may also need a copy of the *STAR Pharmacy Generic Interface Utilities Guide*.

NOTE: For more information about MEDSTATION and MEDSTATION RX, callPyxis Corporation at 1-800-367-9947.

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 Pyxis interface that is accessed through functions available on the STAR Pharmacy Generic Interface Utilities. For more information about the Generic Interface Utilities, you must refer to the *STAR Pharmacy Generic Interface Utilities Guide*.

Chapter 1: Overview/Description

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

Chapter 2: System Requirements

This chapter provides the hardware and software requirements needed for Pyxis.

Chapter 3: Installation

This chapter provides McKesson installers with information about installing the Pyxis interface in STAR Patient Care and STAR Pharmacy for both the HL7 and the non-HL7 interfaces. It provides 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 Pyxis 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 Pyxis interface.

Chapter 6: Technical Notes

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

Chapter 1 - OVERVIEW/DESCRIPTION

NON-TECHNICAL FUNCTIONAL OVERVIEW

McKesson’s Pyxis interface services both the Pyxis MEDSTATION, which uses formulary information, and the Pyxis MEDSTATION RX, which uses formulary and profile information.

The interface sends patient ADTs, orders, order status changes, and formulary information to Pyxis. Upon receiving *removed* and *returned* transactions, the STAR Pharmacy system charges or credits for the quantity specified in the interface record.

The Pyxis interface is a billable module. If your facility is interested in implementing it, contact your account manager.

FEATURES/ FUNCTIONS

Through the Pyxis interface on STAR Pharmacy's Generic Interface Utilities, you can do the following:

- Activate or inactivate the Pyxis interface
- For non-HL7 version, clear the queue of all transactions not yet sent to Pyxis
- For non-HL7 version, view transactions sent to and received from Pyxis
- Send all or selected formulary items to Pyxis
- Send all or selected patients to Pyxis
- Send patient orders to Pyxis
- Send entries for the selected table type to Pyxis
- Check status on the communication lines

For more information, see “Chapter 4 - USER FUNCTIONS”.

Pyxis MEDSTATIONs and STAR Pharmacy Stock Locations

The stock location table on Pyxis must match the nurse station for patients in a nursing station, room, and bed on STAR Pharmacy, or the patient type for patients not in a bed on STAR Pharmacy. The Pyxis MEDSTATIONs are floorstock locations, and STAR Pharmacy treats them the same as other floorstock locations. The name of a MEDSTATION must match a STAR Pharmacy floorstock location code.

For example: If you have a MEDSTATION on 2 East Nursing Unit and the floorstock location code for the area is 2ENU, which is also the nursing station, the MEDSTATION must be named 2ENU. If you are defining a MEDSTATION that does not already have a corresponding floorstock location, you must add the new stock location in STAR Pharmacy.

With one exception, the charging parameters in floorstock item maintenance determine how the item is charged from the Pyxis MEDSTATION. If you want only first issues to be dispensed from a specific MEDSTATION, you must set up the corresponding stock location to dispense first issues only.

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. For more information, see “Chapter 6 - TECHNICAL NOTES”.

Inventory is decremented in STAR Pharmacy when an item is removed from the Pyxis MEDSTATION. Pyxis keeps reports of its own inventory levels. In order to keep accurate inventory and usage reports in STAR Pharmacy, you must also define correct current levels for items in STAR Pharmacy.

For the HL7 interface, if a nurse dispenses an item from Pyxis that is not on the patient profile, STAR charges the first active order that contains the item.

For information about setting up stock locations, see the *Tables and Parameters Volume* of the *STAR Pharmacy Reference Guide*. For information about defining the availability of drugs and setting floorstock parameters, see the *General Applications Volume* of the *STAR Pharmacy Reference Guide*.

Solutions

For the HL7 interface, all items in a solution order are sent through the Pyxis interface and display on the MEDSTATION profile.

Charges

When you choose items from the Pyxis picklist at the MEDSTATION, stock is charged for and decremented in STAR Pharmacy.

If you do not wish forthe Pyxis MEDSTATION interface tosend charges back to STAR, the Charge Meds? field on the Communication Line Definition Screen for Pyxis must contain No. You must define the override as No for each station that does not send charges through the interface.

For the non-HL7 interface, all charges coming back to STAR are considered meds because Pyxis is not sending STAR a solution type. Therefore, it is not necessary to enter No in the Charge Solns? field.

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

For the HL7 interface, if a solution item hasan order in STAR but is dispensed from the MEDSTATION, the charging is based on the solution charging formula. If the item is dispensed from the MEDSTATION 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 item at the floorstock location. If the item is dispensed only as a solution at this location, the system uses the solution charging parameters to determine the patient charge amount. If the item is dispensed only as a medication or as Both at this location, the system charges the patient based on the medication charging parameters.

COORDINATING CHARGES

If your facility uses the Pyxis interface 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 Pyxis MEDSTATION as a floorstock location and you are also using the Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable) interface that sends back med and solution charges when administered, you must set your charging parameters, in the Chg-Med/Sol Charge Indicators parameter, to Not Charged and Horizon Clinical Documentation (or Horizon Expert Documentation, if applicable)/Pharmacy Interface Parameters must have the Meds Charge on Admin? field set to Yes. You must enter No for the appropriate station(s) in the Charge Meds? field on the Communication Line Definition for Pyxis 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 Pyxis MEDSTATION for all medication dispensing, rather than filling carts, set your charge parameters to Not Charged in the Chg-Med/Sol Charge Indicators parameter and leave the Charge Meds? field on the Communication Line Definition for Pyxis, set to Yes. This setup ensures that medications are notcharged when the dispensing reports are run, but the charges come back to STAR when they are taken out of the Pyxis MEDSTATION.

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

SPECIALTY CHARGES

STAR Pharmacy creates a specialty charge with no associated order number when:

- You choose an item from the picklist in the MEDSTATION and the Profile Spec Charges field in the Order Information page of the Formulary is set to No.

- You override the patient profile and choose an item from the picklist in MEDSTATION RX and the Profile Spec Charges field in the Order Information page of the Formulary is set to No.

The system does not perform clinical screening for the item.

STAR Pharmacy creates a specialty charge with an associated order number when:

- You choose an item from the picklist in the MEDSTATION and the Profile Spec Charges field in the Order Information page of the Formulary is set to Yes.

- You override the patient profile and choose an item from the picklist in MEDSTATION RX and the Profile Spec Charges field in the Order Information page of the Formulary is set to Yes.

Automatic Stop Orders

For the HL7 interface, stop dates and times are sent for both hard and soft stops. If the order stop date and time is automatically extended through the Automatic Stop Order program at midnight processing, the stop date and time revision is sent through the interface.

Workload Reporting

Pyxis charges appear in the daily and monthly Workload Statistics Report. If the item is an existing order, it is logged as a Floorstock Charge on the Miscellaneous Statistics page for Facility Totals. If the item is not associated with an order, it is logged as a Specialty Charge under Miscellaneous Charging on the Miscellaneous Statistics page for Facility Totals.

Chapter 2 - SYSTEM REQUIREMENTS

STAR MINIMUM REQUIREMENTS

Hardware

The following additional hardware is necessary:

- Pyxis Sidecar and either MEDSTATION or MEDSTATION Rx components
- RS232 cable or TCP network
- For the HL7 interface, two ports. For the non-HL7 interface, one low-usage, low 1AC port on the STAR Pharmacy central processing unit (CPU).

Software

NOTE: You can still install the non-HL7 version of the interface.

- 8.0 Release or later of STAR Pharmacy software
- HL7 version 2.2

Please contact your Pyxis representative to determine the appropriate level of Pyxis software for your facility.

Chapter 3 - INSTALLATION

INSTALLING THE HL7 PYXIS INTERFACE

For both the HL7 and non-HL7 interfaces, McKesson installers define the Pyxis interface both on STAR Patient Care and STAR Pharmacy. Pyxis is installed on STAR Patient Care so that admission, discharge, and transfer (ADT) information can be sent to Pyxis.

After the information is defined on both STAR Patient Care and STAR Pharmacy, the information goes to Pyxis through one line. For the HL7 interface, one port is needed for inbound and one for outbound.

NOTE: If the facility has a patient care system other than STAR Patient Care, a hook to send the information to Pyxis 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 location of the Generic Interface Utilities menu
- 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 Pyxis
- Whether the brand name or generic name is to be displayed for drug items
- The port numbers used for the attachment to the Pyxis personal computer
- Whether the pharmacy and patient care systems reside on the same central processing unit (CPU)

Defining the HL7 Pyxis Interface in STAR Patient Care

The McKesson installer uses the Communication Line Definition Processor in STAR Patient Care to install the Pyxis interface. This function allows installers to specify facility, ports, protocol routines, format routines, and so on, when implementing the Pyxis interface.

After you choose this option, the system displays the following prompt:

Enter communication code--

Enter **PXO** as the code for outbound definition, or **PXI** for inbound definition. The system displays the existing Communication Line Definition Processor for the Pyxis 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 system displays the following screen for the outbound definition in Patient Care.

```
               General Hospital Communication Line Definition Processor
                                                   Thu Apr 23, 1998 01:14 pm
Communication Code: PXO
 1 Description          2 Facilities  3 Port  4 Status    5 Protocol Routine
   Pyxis HL7 Outbound     A,D           181                 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
   1-Bit Bucket                                          No
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,D,I,R,y,u,T                                   ^AHL7S             No
19 Incoming Transactions          20 Incoming table/s 21 Process Routine 22 HL7
                                                                            Yes
23 Line Out                       24 IMNET






Enter new interface description--
```

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

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)
This field displays PXO, the communication code for Pyxis HL7 Outbound.

1. DESCRIPTION (DISPLAY ONLY)
This field identifies the interface as Pyxis HL7 Outbound.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which Pyxis 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 to be transmitted to Pyxis.

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 Pyxis. Be sure to include the carat (^) 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 Pyxis interface, so it does not matter what number you enter.

11. AUDIT GLOBAL
Enter **N** for No.

15. OUTGOING TRANSACTIONS (TABLE LOOKUP-R)
Enter the numbers that correspond to the following transaction types. These are the transactions that are sent to Pyxis.

Code	Transaction Type
A	Admission
a	Auto-daily Discharge
N	Cancel Admission
B	Cancel Discharge
D	Discharge
I	Merge
R	Registration
y	Transfer inpatient to outpatient
u	Transfer outpatient to inpatient
T	Transfer

After you enter these choices, the system displays the following codes in this field: A, a, N, B, D, I, R, y, u, T.

17. FORMAT ROUTINE (16-A-R)
Enter **^AHL7S** for the format routine.

18. PCM
Enter **N** for No.

22. HL7
Enter **Y** for Yes.

Other fields may be left blank. They have no impact on the Pyxis interface.

After you accept the screen, the system displays the following screen. Following the screen is the information needed for installing the outbound definition from Patient Care for Pyxis.

```
                General Hospital Communication Line Definition Processor
                                                  Wed Apr 07, 1999 01:14 pm
Communication Code: PXO
HL7 Interface Definition
 1 STX Character     2 ETX Character  3 Receiver Binary  4 Sending Application
   11                28               Yes                 HBOC
 5 Receiving Application  6 Query Level          7 Number of Result Query Lines
   PYXISRX                  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                                              Yes
18 Inbound Messages    19 Outbound Messages   20 Outbound Tables   21 GUI HL7?
                          See Table              See Table
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 Pyxis 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 **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--

5. RECEIVING APPLICATION (15-C-R)
This field identifies the system receiving this message transmitted over this HL7 interface. Enter **PYXISRX** 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 Pyxis interface.

This field is used only for order communication over this HL7 interface. For single-level queries, all information needed to submit an order reside 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 only this interface 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.

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 **Y** for Yes because Pyxis supports null and not present.

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, 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.

A1	Preadmit	A05-01
A2	Admit	A01-02
N1	Cancel Admit	A11-01
N2	Cancel Reg	A08-01
B1	Cancel Dis	A13-06
D1	Discharge	A03-01
I1	Merge	A34-01
R1	Registration	A04-01
y1	Xfer IP to OP	A07-01
u1	Xfer OP to IP	A06-01
T1	Transfer	A02-01

At the bottom of this scrolling screen the system displays the following function keys available for you to 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.

F6 Reset Press the F6 key to reset the screen.

F7 Exit Press the F7 key to exit editing the outbound messages in the scrolling screen.

? Press the question mark (?) key to display help about the system.

Messages for each event are defined by McKesson according to the HL7 standard. You can modify the version of the message transmitted by placing your cursor on the message line and entering the number of the version to use, or enter a hyphen (-) to display and select from a list of versions for the message.

HL7 INBOUND DEFINITION IN PATIENT CARE

The following screen is an example of the Communication Line Definition screen defined for the Pyxis inbound in Patient Care.

```
                General Hospital Communication Line Definition Processor
                                                  Thu Apr 23, 1998 02:22 pm
Communication Code: PXI              Updated last by: #31002 on 04/23/98 1422
 1 Description          2 Facilities  3 Port  4 Status    5 Protocol Routine
   Pyxis HL7 Inbound      A,B,C         214                 ^AHL7IBRP
 6 Lab SIM Departments      7 Rad SIM Departments      8 Rx SIM Departments

 9 Interface Audit Report Name    10 Audit Zblock     11 Audit Global
   1-Bit Bucket                                          No
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                                                                        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 Pyxis interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)
This field displays PXI, the communication code for Pyxis HL7 Inbound.

1. DESCRIPTION (DISPLAY ONLY)
This field identifies the interface as Pyxis HL7 Inbound.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which Pyxis 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 Pyxis.

5. PROTOCOL ROUTINE (16-A-R)
Enter a protocol routine such as ^AHL7IBRP. This field indicates the program that monitors the line to, receives data from, and transmits data to Pyxis. 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 Pyxis interface, so it does not matter what number you enter.

11. AUDIT GLOBAL
Enter **N** for No.

19. INCOMING TRANSACTIONS (TABLE LOOK-UP-R)
Enter the number that corresponds to the W for Charge transaction type.

29. HL7
Enter **Y** for Yes.

Other fields may be left blank.

After you complete the first screen, the system displays the following screen. Following the screen is the information needed for installing the inbound definition from Patient Care for Pyxis.

```
               General Hospital Communication Line Definition Processor
                                                   Wed Apr 07, 1999 02:22 pm
Communication Code: PXI              Updated last by: #31002 on 03/23/99 1422
HL7 Interface Definition
 1 STX Character     2 ETX Character  3 Receiver Binary  4 Sending Application
   11                  28               Yes                PYXISRX
 5 Receiving Application  6 Query Level          7 Number of Result Query Lines
   HBOC                     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                                              Yes
18 Inbound Messages    19 Outbound Messages   20 Outbound Tables   21 GUI HL7?
                          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 Pyxis 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 **PYXISRX** 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 **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 Pyxis interface.

This field is used only for order communication over this HL7 interface. For single-level queries, all information needed to submit an order reside 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 only this interface 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.

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.

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 **Y** for Yes because Pyxis supports null and not present.

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**.

Defining the HL7 Pyxis Interface in STAR Pharmacy

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

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

Select System Management - Pharmacy, and then select the Interface Utilities option. The system displays the Interface Utilities Processor, as shown in thefollowing screen:

```
                     General Hospital Interface Utilities Processor
                                                   Thu Jul 26, 2002 10:17 am
Interface Utilities Input Options

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

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




Enter option number--
```

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

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

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


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

                9       Test Inbound HL7 Messages
               10       Communication Line Status




Enter option number--
```

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

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

Enter communication code--

Enter **PXO** to define the outbound definition for Pharmacy, or enter **PXI** to define the inbound definition. If you aredefining for the first time, the system displays the following prompt:

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

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

HL7 OUTBOUND DEFINITION FOR STAR PHARMACY

The following screen shows the Communication Line Definition processor already defined for outbound definition for Pharmacy:

```
             General Hospital Communication Line Definition Processor
                                                 Thu Apr 23, 1998 09:44 am
Communication Code: PXO              Updated last by: 99999 on 03/13/97 0923
 1 Description          2 Facilities  3 Port  4 Status      5 Protocol Program
   PYXIS HL7 Outbound     B,C           4       Inactive      RX^AHL7CT
 6 Interface Audit Report Name       7 Audit Program     8 Audit Global  9 Log
                                                           Yes
10 Audit Retn  11 ECS Prefix  12 Format Program   13 Process Routine  14 Modem
   7 days                        ^AHL7PXO                                No
15 Primary Phone   16 Secondary Phone 17 Retries 18 Line Clear Report Name

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

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)
This field displays the communication code for outbound definition from Pharmacy for Pyxis.

1. DESCRIPTION (DISPLAY ONLY)
This field identifies the interface as Pyxis HL7 Outbound.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which the Pyxis 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 Pyxis.

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 Pyxis 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 Pyxis.

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 following prompt is displayed:

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

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

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

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

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

10. AUDIT RETN (2-N-O)
Enter the number of days that the 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)--

11. FORMAT PROGRAM (16-A-R)
Enter **^AHL7PXO**. This program formats the transactions according to the specifications provided by Pyxis.

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 Pyxis. 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--

21. MED ORDERS (1-A-O)
Enter **Y** to send medication orders to Pyxis. When you access this field, the system displays the following prompt:

Send medication orders? (Y/N)--

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

22. SOL ORDERS (TABLE LOOKUP-O)
Select the solution type codes 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 (-), the system displays a list of solution type codes, as in the following example:

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

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

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

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

When should status changes be sent--

25. ALLERGIES (1-A-O)
Enter **Y** so that allergy information is sent to Pyxis. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

26. FORMULARY (1-A-R)
Enter **Y** to send formulary items and then select brand or generic, based on the facility's response on the user questionnaire.

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

Send formulary items? (Y/N)--

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

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

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

27. CHARGE SOLNS? (TABLE LOOKUP-O)
Use this field to define by location whether the interface charges for solutions.

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

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

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

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

Should the Pyxis HL7 Outbnd interface charge for solution bottles for '1E'? (Y/N)--

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

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

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

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

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

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

Should the Pyxis HL7 Outbnd interface charge for medications for '1E'? (Y/N)--

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

29. HL7 (1-A-O)
Enter **Y** because the Pyxis interface is an HL7 interface. When you access this field, the system displays the following prompt:

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

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

```
               General Hospital Communication Line Definition Processor
                                                  Wed Apr 07, 1999 10:34 am
Communication Code: PXO             Updated last by: 99999 on 03/31/99 0923
 HL7 Interface Definition
 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  9 HBOCHI     10 Pathways Care Mgr
   Yes                                                Yes
11 Outbound Tables     12 Outbound Messages         13 Inbound Messages
   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 Pyxis 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 **RX** *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--

5. RECEIVING APPLICATION (15-C-R)
This field identifies the system receiving this message transmitted over this HL7 interface. Enter **PYXISRX** 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. Enter **Y** for Yes because Pyxis supports the *null* and *not present* features of HL7.

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)--

10. PATHWAYS CARE MGR (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 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 Pyxis.

When you access this field, the system displays a table of the outbound tables, a description, and the segment. For Pyxis, the outbound table is:

*PFR Pharmacy FormularyZFM-01

You can modify the outbound tables by placing your cursor on the table line and entering the number of the table to use, or enter a hyphen (-) to display and select from a list of tables.

At the bottom of this scrolling screen, the system displays the following function keys available for you to use in selecting the outbound tables:

F1 Prev Page	Press the F1 key to display the previous page of tables.
F2 Next Page	Press the F2 key to display the next page of tables.
F3 Insert	Press the F3 key to insert a line.
F4 Delete	Press the F4 key to delete a line.
F6 Reset	Press the F6 key to reset the screen.

F7 Exit Press the F7 key to exit editing the outbound tables in the scrolling screen.

? Press the question mark (?) key to display help about the system.

12. 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-010
S2	Revised Sol Order	RDE-010
S3	Resume Sol Order	RDE-010
S4	Solution Admin	(n/a)
M1	New Medication Order	RDE-010
M2	Revise Med Order	RDE-010
M3	Resume Med Order	RDE-010
M4	Medication Admin	(n/a)
M5	Medication Give Msg	(n/a)
A1	Patient Allergies	A08-08
F1	Formulary	MFN-03
C1	Med Order Status Chg	RDE-011
C2	Sol Order Status Chg	RDE-011
T1	Tables	MFN-03

At the bottom of this scrolling screen, the system displays the following function keys available for you to 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.

F7 Exit Press the F7 key to exit editing the outbound messages in the scrolling screen.

? Press the question mark (?) key to display help about the system.

Messages for each event are defined by McKesson according to the HL7 standard. You can modify the version of the message transmitted by placing your cursor on the message line and entering the number of the version to use, or enter a hyphen (-) to display and select from a list of versions for the message.

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**.

HL7 INBOUND DEFINITION IN STAR PHARMACY

The Communication Line Definition processor is shown as follows:

```
               General Hospital Communication Line Definition Processor
                                                  Thu Apr 23, 1998 09:59 am
Communication Code: PXI
 1 Description         2 Facilities  3 Port  4 Status      5 Protocol Program
   PYXIS HL7 Inbound     A,C,D         3       Inactive      P^AHL7IBRP
 6 Interface Audit Report Name       7 Audit Program     8 Audit Global  9 Log
                                                               Yes
10 Audit Retn  11 ECS Prefix  12 Format Program   13 Process Routine  14 Modem
   10 days                     ^AHL7PXO                                  No
15 Primary Phone   16 Secondary Phone 17 Retries 18 Line Clear Report Name

19 Line Clear Program    20 Orders             21 Med Orders   22 Sol Orders
                            No Orders
23 Sol Bottles           24 Status Changes     25 Allergies    26 Formulary
                                                  No              Brand Name
27 Charge Solns? 28 Charge Meds? 29 HL7  30 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 Pyxis interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)
This field displays the communication code for Pyxis HL7 inbound.

1. DESCRIPTION (DISPLAY ONLY)
This field identifies the interface as Pyxis HL7 inbound.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which the Pyxis 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 Pyxis.

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 Pyxis 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 Pyxis.

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 following prompt is displayed:

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

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

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

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

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

10. AUDIT RETN (2-N-O)
Enter the number of days that the 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 **^AHL7PXO**. This program formats the transactions according to the specifications provided by Pyxis.

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 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--

25. ALLERGIES (1-A-O)
Enter **N** for No. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

26. 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)--

29. HL7 (1-A-O)
Enter **Y** because the Pyxis interface is an HL7 interface.

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

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

The system displays the second screen for defining the inbound HL7 interface to STAR Pharmacy for Pyxis:

```
                 General Hospital Communication Line Definition Processor
                                                  Wed Apr 07, 1999 10:34 am
Communication Code: PXI
 HL7 Interface Definition
 1 STX Character          2 ETX Character            3 Receiver Binary
   11                       28                         Yes
 4 Sending Application    5 Receiving Application    6 HL7 Version
   PYXISRX                  HBOC                       2.2
 7 NULL/Not Present Support  8 Encode  9 HBOCHI     10 Pathways Care Mgr
   Yes                         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 Pyxis 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 **PYXISRX** 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** 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. Enter **Y** for Yes because Pyxis supports the *null* and *not present* features of HL7.

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)--

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).

13. INBOUND MESSAGES (TABLE DISPLAY-R)
This field contains the inbound messages. The following messages must be selected:

P03-04
Q02-1
Z03-1

When you enter this field, the system displays the Processed Inbound HL7 Message Triggers table.

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

If you are adding P03-04, Q02-1, and Z03-1, 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**.

TESTING INBOUND HL7 MESSAGES

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

When you access this function and enter a communications code, the system displays a list of defined inbound transactions. Enter the number for the transaction you want to test. The system displays a screen or series of prompts based on your transaction into which you enter 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!

INSTALLING THE NON-HL7 PYXIS INTERFACE

For both the HL7 and non-HL7 interfaces, McKesson installers define the Pyxis interface both on STAR Patient Care and STAR Pharmacy. Pyxis is installed on STAR Patient Care so that admission, discharge, and transfer (ADT) information can be sent to Pyxis.

After the information is defined on both STAR Patient Care and STAR Pharmacy, the information goes to Pyxis through one line. Only one port is required.

NOTE: If the facility has a patient care system other than STAR Patient Care, a hook to send the information to Pyxis 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 location of the Generic Interface Utilities menu
- 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 Pyxis
- Whether the brand/trade name or generic name is to be displayed for drug items
- The port numbers used for the attachment to the Pyxis personal computer
- Whether the pharmacy and patient care systems reside on the same central processing unit (CPU)

Defining the Non-HL7 Pyxis Interface in STAR Patient Care

The McKesson installer uses the Communication Line Definition Processor in STAR Patient Care to install the Pyxis interface. This function allows installers to specify facility, ports, protocol routines, format routines, and so on, when implementing the Pyxis interface.

After you choose this option, the system displays the following prompt:

Enter communication code--

Enter **PYX** as the code. The system displays the existing Communication Line Definition Processor for the Pyxis 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.

```
              General Hospital Communication Line Definition Processor
                                                  Fri Apr 24, 1998 12:03 pm
Communication Code: PYX
 1 Description          2 Facilities  3 Port  4 Status    5 Protocol Routine
   PYXIS                  A             214                 ^PCHAP
 6 Lab SIM Departments      7 Rad SIM Departments      8 Rx SIM Departments

 9 Interface Audit Report Name    10 Audit Zblock     11 Audit Global
   PORT 207-Port 207 Printer                             No
12 Dump Queue Report Name         13 Queue Zblock     14 DCU Ports

15 Outgoing Transactions          16 Outgoing table/s 17 Format Routine  18 PCM
   A,N,B,C,D,R,T,a                                       PC^PIPYX
19 Incoming Transactions          20 Incoming table/s 21 Process Routine 22 HL7
   E
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 Pyxis interface.

Field Explanations

COMMUNICATION CODE (DISPLAY ONLY)
This field displays PYX, the communication code for Pyxis.

1. DESCRIPTION (DISPLAY ONLY)
This field identifies the interface as Pyxis.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which Pyxis 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 to be transmitted to Pyxis. This field is required in Patient Care but is not used for the Pyxis interface, so it does not matter what number you enter.

5. PROTOCOL ROUTINE (16-A-R)
Enter a protocol routine such as ^PCHAP. This field indicates the program that monitors the line to, receives data from, and transmits data to Pyxis. Be sure to include the carat (^) before the program name.

9. INTERFACE AUDIT REPORT NAME (TABLE LOOKUP-R)
Select a report name. This field is required in Patient Care but is not used for the Pyxis interface, so it does not matter what number you enter.

15. OUTGOING TRANSACTIONS (TABLE LOOKUP-R)
Enter the numbers that correspond to the following transaction types. These are the transactions that are sent to Pyxis.

Code	Transaction Type
A	Admission
N	Cancel Admission
B	Cancel Discharge
C	Clinical/Financial Patient Revision
D	Discharge
R	Registration
T	Transfer
a	Auto-daily Discharge

After you enter these choices, the system displays the following codes in this field: A, N, B, C, D, R, T, a.

17. FORMAT ROUTINE (16-A-R)
Enter **PC^PIPYX** for the format routine.

Defining the Non-HL7 Pyxis Interface in STAR Pharmacy

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

NOTE: You must use the same code to define the Pyxis interface on STAR Pharmacy that is used to define the interface on STAR Patient Care.

Select System Management - Pharmacy, and then select the Interface Utilities option. The system displays the Interface Utilities Processor, as shown in the following screen:

```
                     General Hospital Interface Utilities Processor
                                                   Thu Jul 25, 2002 10:17 am
Interface Utilities Input Options

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

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


Enter option number--
```

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

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

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


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

                 9       Test Inbound HL7 Messages
                10       Communication Line Status



Enter option number--
```

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

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

Enter communication code--

Enter **PYX**, which is the code for the Pyxis interface. The system displays the following prompt:

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

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

The Communication Line Definition processor is shown as follows:

```
                General Hospital Communication Line Definition Processor
                                                 Thu Apr 23, 1998 10:49 am
Communication Code: PYX             Updated last by: 99999 on 12/09/97 1059
 1 Description         2 Facilities 3 Port  4 Status      5 Protocol Program
   PYXIS                 A,B          3       Active        ^PCHAP
 6 Interface Audit Report Name       7 Audit Program     8 Audit Global  9 Log
   PORT 207-Port 207 Printer                              Yes              No
10 Audit Retn  11 ECS Prefix  12 Format Program   13 Process Routine  14 Modem
   4 days                       RX^PIPYX            ^PIPYXI             No
15 Primary Phone   16 Secondary Phone 17 Retries 18 Line Clear Report Name

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






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

Field Explanations

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

1. DESCRIPTION (DISPLAY ONLY)
This field identifies the interface as Pyxis.

2. FACILITIES (TABLE LOOKUP-R)
Enter the facilities for which the Pyxis 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 Pyxis.

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 Pyxis is active or inactive.

5. PROTOCOL PROGRAM (16-A-R)
Enter **^PCHAP**. This program monitors the line to, receives data from, and transmits data to Pyxis.

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

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

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

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

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

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

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

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

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

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

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

9. LOG (1-A-O)
This field determines if data errors are reported on the Console Log. 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 displays:

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

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

10. AUDIT RETN (2-N-O)
Enter the number of days that the information in the Audit Global is to be retained. The facility specifies the number on the user questionnaire. 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)--

11. ECS PREFIX (3-C-O)
Leave this field blank.

12. FORMAT PROGRAM (16-A-R)
Enter **RX^PIPYX**. This program formats the transactions according to the specifications provided by Pyxis.

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

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

13. PROCESS ROUTINE (16-A-O)
Enter **^PIPYXI**. This program processes incoming transactions from Pyxis.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20. ORDERS (1-N-R)
Select Formulary Only as the type of order to send to Pyxis if you plan to use the MEDSTATION for medication charting.

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--

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

21. MED ORDERS (1-A-O)
Enter **Y** to send medication orders to Pyxis. When you access this field, the system displays the following prompt:

Send medication orders? (Y/N)--

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

22. SOL ORDERS (TABLE LOOKUP-O)
Select the solution type codes 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 (-), the system displays a list of solution type codes, as in the following example:

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

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

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

23. SOL BOTTLES (1-A-O)
Enter **N** in this field because Pyxis cannot handle individual bottle information.

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

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

You cannot access this field if you selected to send no solution orders to Pyxis in the Sol Orders field.

24. STATUS CHANGES (1-N-O)
Select to send either orders when entered or orders when effective.

NOTE: Pyxis has software that can handle orders sent when entered. Previously, you could send status changes only when they were effective. Pyxis displays the order on the picklist at the MEDSTATION in a time frame specified on the Pyxis system. For more information, contact your Pyxis representative.

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

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

When should status changes be sent--

25. ALLERGIES (1-A-O)
Enter **Y** so that allergy information is sent to Pyxis. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

26. FORMULARY (1-A-R)
Enter **Y** to send formulary items and then select brand or generic, based on the facility's response on the user questionnaire. McKesson recommends that the brand name be displayed because the Pyxis system truncates drug names longer than 30 characters and generic names tend to be longer than brand names.

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

Send formulary items? (Y/N)--

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

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

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

27. CHARGE SOLNS? (TABLE LOOKUP-O)
Use this field to define by location whether the interface charges for solutions. When you access this field, the system displays the Station Locations table:

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

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

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

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

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

28. CHARGE MEDS? (TABLE LOOKUP-O)
Use this field to define by location whether the interface charges for medications. When you install the Pyxis interface, the default is for all nurse stations to charge. Change the setting to No for those stations that do not charge for medications.

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

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

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

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

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

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

29. HL7 (1-A-O)
If you are using the non-HL7 interface, enter **N**.

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

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

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

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

If you select more than one code, use a slash (/) to separate the codes. After you complete the fields, the system displays the following prompt:

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

To accept, enter **Y** or press ENTER. 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**.

Networking Jobstarts/VT

The McKesson installer defines this jobstart on the STAR Patient Care CPU if Patient Care and STAR Pharmacy are on separate CPUs and the facility is using or plans to use the Pyxis interface.

The function of this jobstart is to send ADT transactions that affect Pyxis from the STAR Patient Care CPU to the STAR Pharmacy CPU. This is necessary because communications between the two systems in the Pyxis interface are sent through the STAR Pharmacy CPU.

In the base system, the network definition fields contain the following data:

Module type	Null
Run if Same Proc?	No
Same Processor Routine	Null
Src Include Classes	Null
Src Var Check	Null
Destination Processor Routine	P1^PIPYX
Check Valid Classes	No
Run in Foreground	No
Additional Variables	A>, C%

Chapter 4 - USER FUNCTIONS

PYXIS INTERFACE USER FUNCTIONS

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

- Communication Line Control
- Communication Line Clear (Non-HL7 only)
- Communication Audit (Non-HL7 only)
- Send Formulary
- Send Patient
- Send Patient Orders
- Send Tables
- 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 Pyxis 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 Pyxis interface is started or stopped, the system beeps and displays a message to notify you of activity.

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

```
                    General Hospital Interface Utilities Processor
                                                  Thu Jul 25, 2002 10:17 am
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 Pyxis 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 redisplays the previous prompt.

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

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

Communication Line Control

This function enables you to either activate or inactivate the Pyxis 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 PYXIS

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

Inactivate the PYXIS HL7 Inbound? (Y/N) --

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

PYXIS 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 PYXIS

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

Activate the PYXIS HL7 Inbound? (Y/N) --

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

PYXIS 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 --

Communication Line Clear (Non-HL7 Only)

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

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

Clear PYXIS HL7 Inbound queue? (Y/N)

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

Deleting all queued transactions.

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

Cannot empty communication queue on an active line!

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

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

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

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

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

Are you sure? (Y/N)--

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

Clearing queued transactions!

If you enter N, the system returns you to the communication code prompt:

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

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

Communication Audit (Non-HL7 Only)

NOTE: HL7 customers can use the HL7 Audit Inquiry.

This function enables you to view transactions sent to and received from Pyxis. 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 screen, with the interface description displayed:

```
                   General Hospital Communication Audit Processor
                                                Thu Jun 30, 1994 03:17 pm

 1 Interface Description
   PYXIS HL7 Inbound
 2 Date               3 Transaction Type          4 Search String
->






Enter date [today]--
```

Field Explanations

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

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

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

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

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

Enter your choice.

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

Enter string to search for --

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

```
                   General Hospital Communication Audit Processor
                                                Thu Jun 30, 1994 03:17 pm
Current PYXIS status:  Active

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

Transaction Number: 1

 Press NL--
```

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

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

Send Formulary

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

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

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

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

Sending All Items

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

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

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

Sending all formulary items!

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

Sending Items From a Specified Stock Location

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

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

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

Sending 1E floorstock items

Sending Controlled Items

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

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

Enter control class--
```

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

Sending Class 2 items!

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

Sending Selected Items

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

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

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

Formulary item sent!

The system prints a message on the console log under the category PI_interface code, indicating that all or selected formulary items were sent to Pyxis.

Send Patient

This function enables you to send all or selected patients to Pyxis or the Pyxis HL7 Outbound. You cannot send patients to the Pyxis 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

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

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

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

Sending patient census

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

The system sends census information for all patients who are not PREs or who have not been discharged. The system displays a message on the console log under the category PI_interface code, indicating that the entire patient census information was sent to Pyxis.

SENDING BY PATIENT TYPE

If 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

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

Enter Nurse Station or '-' for list--

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

Enter choice--

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

SENDING SELECTED PATIENTS

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

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 Pyxis.

Send Patient Orders

This function enables you to send patient orders to Pyxis or the Pyxis HL7 Outbound interface. During installation, non-HL7 facilities are set up to send Formulary orders only. HL7 facilities are set up to send All Orders. For more information, see “Chapter 3 - INSTALLATION”.

Patient orders cannot be sent to the Pyxis 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 PYXIS 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)elected patients to PYXIS--

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 the following prompt:

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

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

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

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

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

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

Enter order numbers or '-' to list --

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

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

Send Tables (Non-HL7 Only)

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

Tables are sent through the HL7 Table Loader function!

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

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

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

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

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

Sending table entries!

The system then displays the Generic Utilities Interface menu. The system displays a message on the console log under the category PI_interface code, indicating that all entries for the selected table were sent to Pyxis.

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

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

No tables are sent to PYXIS!

Communication Line Status

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

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

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


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

To check the status of a specific communication line, enter the number.

The system displays the status screen for the specific communication line, as in the following example.

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


This interface (PXO) is currently: "Active"

The Acknowledgment Audit is currently turned off!

The TCP-IP address is: 111.111.2.59+21000

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

Press NL--
```

This screen indicates the following:

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

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

Chapter 5 - TROUBLESHOOTING

Illustrations

AUDITS

You can define audits by using the Communication Audit function on the Generic Interface Utilities Processor. You can view the record layouts for the selected transactions. For more information about record layouts, see "Chapter 6 - TECHNICAL NOTES".

ERROR MESSAGES - HL7

Pyxis error messages print on the console log under the category PI_interface code. The user can view all errors for the interface for a given day.

The STAR Pharmacy/Pyxis Exception Report is created during midnight processing.

Following is an alphabetized list of Pyxis error messages along with the instances in which they may occur:

Account Number Is Not Active in CLINSTAR-Rx...Data Discarded!

- The account number that is sent in the PID segment is not valid.

Contract Patient. Charging not allowed!

- Charges on a contract patient are blocked if a pharmacy product is vended from a Pyxis dispensing cabinet. This avoids errors on the financial system.

Could Not Determine Outbound Communication Line...Query Data Discarded!

- The Sending Application field in the MSH segment does not match any of the Receiving Application fields in the Pharmacy Communication Line definitions.

Formulary Code Does Not Exist In CLINSTAR-Rx...Data Discarded!

- The formulary item that is sent to STAR Pharmacy in the FTI segment is not a valid formulary code.

Internal Order Number Mismatch...Data Discarded!

- The external number stored in the order is not the same as the external order number sent in the FTI segment.

Message Transaction Type Error...Data Discarded!

- For Query and Pocket Maintenance message, when the What Subject filter in the QRD or Pocket Code in the ZPM segment are invalid.

Order Number Does Not Exist In CLINSTAR-Rx...Data Discarded!

- The patient does not have an order with the same number that was sent in the FTI segment.

Patient Account Number Mismatch...Data Discarded!

- The internal account number associated with the external account number is not the same as the internal account number stored in the order.

Patient Internal Number Mismatch...Data Discarded!

- The internal number that is associated with the external account number on STAR Pharmacy is not the same as the Patient Acct # field of the PID segment.

Stock Location does not Exist in CLINSTAR-RX...Data Discarded!

- For Pocket Lode transactions, when adding a new location to formulary floorstock and the MEDSTATION field of the ZPM segment is not valid.

Stock Location Invalid for CLINSTAR-Rx Formulary Code...Data Discarded!

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

ERROR MESSAGES - NON-HL7

Pyxis error messages print on the console log under the category PI_interface code. The user can view all errors for the interface for a given day.

The STAR Pharmacy/Pyxis Exception Report is created during midnight processing.

Following is an alphabetized list of Pyxis error messages along with the instances in which they may occur:

Pyxis - Account Number Is Not Active in CLINSTAR-Rx...Data Discarded!

- The patient ID that is sent to STAR Pharmacy in the EPQ transaction is not a valid external account number.
- The account number that is sent in the EVM or ERM transaction record is not valid.

Pyxis - Formulary Code Does Not Exist In CLINSTAR-Rx...Data Discarded!

- The formulary item that is sent to STAR Pharmacy in the EFQ transaction is not a valid formulary code.

Pyxis - Formulary Code Invalid for CLINSTAR-Rx Order...Data Discarded!

- The formulary code stored in the order is not the same as the Med ID code sent in the EVM or ERM transaction record.

Pyxis - Internal Order Number Mismatch...Data Discarded!

- The external number stored in the order is not the same as the external order number sent in the EVM or ERM transaction record.

Pyxis - Order Number Does Not Exist In CLINSTAR-Rx...Data Discarded!

- The patient does not have an order with the same number that was sent in the EVM or ERM transaction record.

Pyxis - Patient Account Number Mismatch...Data Discarded!

- The internal account number associated with the external account number is not the same as the internal account number stored in the order.

Pyxis - Patient Internal Number Mismatch...Data Discarded!

- The internal number that is associated with the external account number on STAR Pharmacy is not the same as the alternate patient ID sent in the EVM or ERM transaction record.

Pyxis - Stock Location Invalid for CLINSTAR-Rx Formulary Code...Data Discarded!

- The formulary item is not stocked at the stock location whose code was sent in the MedStation field of the EVM or ERM transaction record.

The following example shows the STAR Pharmacy/Pyxis Exception Report. The Exception report contains the total listed charge errors, the total PYX errors, and the total number of transactions. The report contains the medical station, the name of the patient, the patient's account number, the drug code and name, and the number of doses. The second line contains the name of the nurse operating the MEDSTATION unit. The third line contains the error message.

Figure 5.1 STAR Pharmacy/Pyxis Exception Report (PIPYX)

```
                       STAR Pharmacy/Pyxis Exception Report       Page: 1
                            for charges posted 04/30/98           Date: 04/30/98
                                                                  Time: 11:40am

Med
Stn   Patient Name        Account #      Drug Code - Name           Doses
--------------------------------------------------------------------------------
1E    KLEIN, CARLA JANE   A9418800001    761-CEFUROXIME 250MG TAB     1
                         @ 09:33 by RONROE, JANET PYXIS
Account Number Is Not Active in CLINSTAR-Rx...Data Discarded!

1E    SNUFF, ENID CARA    A9367812422    1006-APAP/HYDROCOD %MG TA    1
                         @ 10:02 by RONROE, JANET PYXIS
Account Number Is Not Active in CLINSTAR-Rx...Data Discarded!

                                 <more>
```

```
                       STAR Pharmacy/Pyxis Exception Report       Page: 4
                              for charges posted 04/30/98         Date: 04/30/98
                                                                  Time: 11:40am


Med
Stn   Patient Name        Account #      Drug Code - Name      Doses
-------------------------------------------------------------------------


Total (Listed) Charge Errors = 0

Total PYX Errors = 7

Total Transactions = 293
```

GENERAL INFORMATION

The interface needs to be monitored on a regular basis to ensure it is functioning properly. McKesson recommends a check of system status at least once a week.

Chapter 6 - TECHNICAL NOTES

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.

NOTE: The field delimiter for all inbound HL7 Pyxis transaction records is the vertical bar (|). The field delimiter for outbound HL7 Pyxis transactions is the colon (:). The field delimiter is defined in the MSH segment.

HL7 Outgoing Transactions

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

HL7 STAR PATIENT CARE INFORMATION

The McKesson installer defines the Pyxis interface on the STAR Patient Care system so that ADT information can be sent to Pyxis. 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 Pyxis interface.

The McKesson installer sets the Outgoing Transactions field so that the following transactions are sent to Pyxis:

A	Admission
a	Auto-daily Discharge
B	Cancel Discharge
C	Clinical/Financial Patient Revision
D	Discharge
I	Merge
N	Cancel Admission/Registration
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.

HL7 Patient Record

For HL7, the patient type is sent in the Patient Type field of the PVI segment.

The following list shows the HL7 type of transaction sent to Pyxis for each value:

Value of AT	HL7 Type of Transaction
null - Patient Revision	A08
ADB - Newborn Admission	A05/A01
ADM - Admissions	A05/A01
CAD - Cancel Admission	A11
CDS - Cancel Discharge	A13
CPT - Change Patient Type	A06 (OP to IP); A07 (IP to OP)
CRG - Cancel Registration	A08
DIS - Discharge	A05, A01, or A08
DSP - Disposition	A08
OPB - Outpatients in Bed	A05, A01, A08
PAT - Preadmit Testing	A08
REG - Registration	A04
SDS - Series Discharge	A03
TRN - Transfer	A02
a - Auto-daily Discharge	A03

In the HL7 interface, the PID segment contains patient data. The following fields are sent:

Patient ID (external)	STAR external corporate #
Patient ID (internal)	STAR medical record #
Alternate Patient ID	STAR internal patient ID; internal account #
Patient Acct #	STAR external patient account #

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 Formulary Record

HL7 sends an MFN record with the message type defined.

HL7 Message Layouts

The following message layouts are required for the interface. Segment layouts can be found at the end of this section.

ADT TRANSACTIONS

Patient information is sent when a patient is admitted, discharged, or has patient data updated. STAR Patient Care maintains the ADT transactions and trigger events. The following events, and their corresponding message versions, are supported by Patient Care:

Event	Version	Description
A01	02	Admit a Patient
A02	01	Transfer a Patient
A03	01	Discharge a Patient
A04	01	Register a Patient
A05	01	Preadmit a Patient
A06	01	Transfer Outpatient to Inpatient
A07	01	Transfer Inpatient to Outpatient
A08	01	Update Patient Information
A11	01	Cancel Admit
A13	06	Cancel Discharge

Patient Allergy Information is sent using an ADT message indicating a patient update. The AL1 (Patient Allergy) segment is repeated for each pharmacy-coded allergy, the pharmacy free-form allergy (if it exists) and the nursing free-form allergy (if it exists). The ADT message contains the following segments:

<u>A08-08</u>	<u>ADT Message</u>
MSH-04	Message Header (message type = ADT;A08")
EVN-01	Event Type
PID-01	Patient Identification
{[AL1-06]}	Patient Allergy

NOTE: Segments enclosed in square brackets ([ ]) are optional. Segments enclosed in braces ({ }) may repeat.

RX ORDERS

When medication orders are entered, resumed, revised, and so on, the Pharmacy Encoded Order (RDE) message is sent to the HL7 interface. Since the resume function allows you to change order information, the entire order is sent again. The RXC segment is repeated for each compound item in the medication order, and each solution item in a solution order. In the Common Order (ORC) segment, the order control field indicates the function that has been performed on the order. The segments included in the RDE message that is sent for New, Revised, and Resumed orders are:

RDE-010	Pharmacy Encoded Order Message
MSH-04	Message Header
PID-01	Patient Identification
ORC-012	Common Order
RXE-03	Pharmacy Order
RXR-02	Pharmacy Route Information
{RXC}-04	Pharmacy Components

NOTE: Segments enclosed in square brackets ([ ]) are optional. Segments enclosed in braces ({ }) may repeat.

The segments included in the RDE message that is sent for Hold, Cancel and Discontinued orders are:

RDE-011	Pharmacy Encoded Order Message
MSH-04	Message Header
PID-01	Patient Identification
ORC-012	Common Order
RXE-03	Pharmacy Order

TABLES

The additions, deletions, and revisions made to the tables identified in the generic interface for HL7 are sent through the interface in the Master File Notification Message (MFN). Only one formulary or schedule table segment may be present in each message. The MFN message contains the following segments:

MFN-03	Master File Notification Message
MSH-04	Message Header
MFI-03	Master File Identification
MFE-02	Master File Entry
ZFM-01	Formulary File

CHARGING/BILLING UPDATES TO STAR

The Detail Financial Transaction (DFT) is used to accept incoming messages from Pyxis 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

INVENTORY MANAGEMENT

Inventory/Floorstock is maintained between Pyxis 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
ZPM	Load/Unload/Count

QUERY TRANSACTIONS

The Query Message (QRY) is sent by Pyxis to STAR Pharmacy when a reference is made to a medication or patient not on the Pyxis system. The query message is responded to with a corresponding message type detailed below:

Pyxis Query: "EFQ"	STAR Response: MFN message (formulary update)
Pyxis Query: "EPQ"	STAR Response: ADT Message (A08 patient update)
Pyxis Query: "EOQ"	STAR Response: RDE Message (order update)

The incoming query message contains the following segments:

QRY-02	Query Message
MSH	Message Header
QRD	Query Definition

HL7 Segment Definition

This section contains the elements in each segment that is used by STAR Pharmacy. The tables include the element name, the item number, global, HL7 segment, and comments, if any are needed. The patient information (PID, PV1) segments are not under pharmacy ownership. For patient care systems other than STAR, use their corresponding HL7 interface between Pharmacy and Patient Care.

MSH-04 SEGMENT

Element Name	Item #	Global	HL7 Seg	Comments
FIELD SEPARATOR		":"	MSH(1)	
ENCODING CHARACTERS	509-01	";~\&"	MSH(2)	
SENDING APPLICATION	6-04	$P(D%,,2)	MSH(3)	As defined in the Sending Application on the HL7 interface definition screen
SENDING FACILITY	512-01	Y%	MSH(4)	
RECEIVING APPLICATION	9-04	$P(D%,,3)	MSH(5)	As defined in the Receiving Application on the HL7 interface definition screen
RECEIVING FACILITY	513-01	Y%	MSH(6)	
DATE/TIME OF MESSAGE	10-01	@$ZZDH (,"yMDHI")	MSH(7)	Current Date/Time
SECURITY	8-01	NOT USED	MSH(8)	
MESSAGE TYPE	12-01	@$P (%%C,";"1,3)	MSH(9)	trigger event HL7 Table 0076_;_HL7 Table 0003
MESSAGE CONTROL	ID 3-01	@MSQ	MSH(10)	Assigned by the comm process after transaction is formatted
PROCESSING ID	14-01	$S(+$ZI=1:"P" ,+$ZI=2:"D",1:"T")	MSH(11)	P = production (only one accepted), D = debugging, T = training
VERSION ID	15-03	"2.2"	MSH(12)	As defined in the HL7 Version field on the HL7 interface definition screen
SEQUENCE NUMBER	633-05	NOT USED	MSH(13)	
CONTINUATION POINTER	699-01	NOT USED	MSH(14)	

AL1-08 SEGMENT

Element Name	Item #	Global	HL7 Seg	Comments
SET ID - ALLERGIES	Z087-01	NOT USED	AL1(01)	
ALLERGY TYPE	Z088-01	NOT USED	AL1(02)	

Element Name	Item #	Global	HL7 Seg	Comments
ALLERGY CODE	0376-04	Rx Coded:code;text;"PDS"Rx free-form: ";" _$P(PK) Nrs free-form: ";"_$P(AK,,12)	AL1(03)	Rx Coded Allergies Rx free-form: (sent only if exists) Nursing free-form: (sent only if exists)
ALLERGY SEVERITY	Z0121-01	NOT USED	AL1(04)	
ALLERGY REACTION	Z0122-01	NOT USED	AL1(05)	

ORC-012 SEGMENT

Element Name	Item #	Global	HL7 Seq	Comments
ORDER CONTROL	714-010	_D OC^AHL7 SRX1	ORC(1)	NW=New Order, CA=Cancel Order, DC=Discontinue, HD=Hold, RL=Resume, XO=Change Order
PLACER ORDER #	715-08	@$ZJ($P(PO,, 18),8)_$ ZJ(SQ,2)	ORC(2)	External Order #_sequence # filled with zeros, formatted to 10 characters
FILLER ORDER #	716-04	NOT USED	ORC(3)	
PLACER GRP #	717-02	NOT USED	ORC(4)	
ORDER STATUS	718-03	based on $P(PO,,23)	ORC(5)	SC=act,HD=hold, DC=dc, CA=can
RESPONSE FLAG	719-01	@"N"	ORC(6)	Always "N"
QTY/TIMING	720-011	_D QT^AHL7SRX2	ORC(7)	See Note 1
PARENT	721-02	NOT USED	ORC(8)	
DATE/TIME OF TRANSACTION	722-02	@$ZZDH(,"yMDHI")	ORC(9)	Current Date/Time
ENTERED BY	723-03	@$P($P(PM,,5),";")	ORC(10)	See Note 2
VERIFIED BY	724-02	2)	ORC(11)	See Note 2
ORDERING PROVIDER	725-03	$P(PO,,29)	ORC(12)	Free-form Physician name. See Note 2.
ENTERER'S LOCATION	726-03	@$P(ZS)	ORC(13)	User PC or terminal ID
CALL BACK PHONE #	727-01	NOT USED	ORC(14)	

Element Name	Item #	Global	HL7 Seq	Comments
ORDER EFFECTIVE DATE/TIME	Z0180-03	SC^AHL7CMF3	ORC(15)	Order Add/Update = Order Start Time Order Delete = Order Stop Time Order Hold = Order on Hold Time Order Resume= Order Resume Time
ORDER CONTROL CODE REASON	Z0181-01	_D CC^AHL7SRX	ORC(16)	code;reason For Hold, DC, Cancelled orders only

Note 1: The format for the Qty/Timing field is:

Qty&dosage;Freq code&admin times;duration;start date./time;stop date/time;prn flag (1=prn, 0=not prn)

Admin times are separated by commas. The Duration # is preceded by the following code:

X= duration in Doses, D=duration in Days, H=duration in Hours

Note 2: The format of the entered by, verified by, and ordering provider fields is:

id#;last name;first name;middle initial;suffix (JR);prefix (DR);degree;source table

RXE-03 Segment

Element Name	Item #	Global	HL7 Seg	Comments
QTY/TIMING	720 -011	_D QT^AHL7SRX 2	RXE(1)	See Note 1 in the ORC segment
GIVE CODE	Z0188-05	@$P(PO)_;_@P (PO,,2)	RXE(2)	Medication ID (formulary code) _;_generic name
GIVE AMOUNT - MINIMUM	Z0189-05	_D A^AHL7SRX1	RXE(3)	Medication Dose Strength, uses variable MN from program
GIVE AMOUNT - MAXIMUM	Z0190-03	@MX	RXE(4)	Set by A^AHL7SRX1
GIVE UNITS	Z0191-03	@UN	RXE(5)	Medication Dose Strength Units Set by A^AHL7SX1
GIVE DOSAGE FORM	Z0193-04	@$P(PO,,4)	RXE(6)	Medication Dosage Form

Element Name	Item #	Global	HL7 Seg	Comments
PROVIDER'S ADMINISTRATION INSTRUCTIONS	Z0201-02	OD^ALH7CMF6	RXE(7)	inpatient label warning, nursing comment, ordered as name, prof notes (each field separated by &)
DELIVER-TO-LOCATION	Z0194-01	@$ZX($P(MP,,1,3),	RXE(8)	Current Patient Location Nurse ":&")_"&"_Y% Station&Room &Bed&facility
ALLOW SUBSTITUTION	480-01	NOT SUPPORTED	RXE(9)	N =substitutions not authorized G =allow generic substitutions
DISPENSE AMOUNT	Z0199-01	_S;$ZE(^A(IN,"PO", IO,"A2")) AA=+$P(P O,,18)	RXE(10)	Amount dispensed (QTY for ordered dose) If the lowest charge is: • units: RXE-10 is populated with the adm/ dose quantity • package or mix: RXE-10 is populated with the number of packages required to fulfill a dose (disp/dose divided by the package size)
DISPENSE UNITS	Z0200-05		RXE(11)	If the lowest charge is: • units: RXE-11 is set to units • package or mix: RXE-11 is set to PKG
NUMBER OF REFILLS	481-01	NOT USED	RXE(12)	

Element Name	Item #	Global	HL7 Seg	Comments
ORDERING MD'S DEA NUMBER	620-04	$P(^D(Y%,$P(PO,, 29),1),,10)	RXE(13)	Physician DEA #
PHARMACIST VERIFIER ID	Z0381-01	$P($P(PM,,5),";",2)	RXE(14)	See Note 2 in the ORC segment
PRESCRIPTION NUMBER	Z0195-01	@$P(PO,,19)	RXE(15)	External Order Number
NUMBER OF REFILLS REMAINING	482-01	NOT USED	RXE(16)	
NUMBER OF REFILLS/ DOSES DISPENSED	Z0202-01	NOT USED	RXE(17)	
DATE/TIME OF MOST PERCENT REFILL OR DOSE DISPENSED	Z0203-01	NOT USED	RXE(18)	
TOTAL DAILY DOSE	Z0204-01	NOT USED	RXE(19)	
NEEDS HUMAN REVIEW	Z0205-01	NOT USED	RXE(20)	
PHARMACY SPECIAL DISPENSING INSTRUCTIONS	Z0206-01	NOT USED	RXE(21)	
GIVE PER (TIME UNIT)	Z0196-02	NOT USED	RXE(22)	
GIVE RATE AMOUNT	Z0197-02	NOT USED	RXE(23)	
GIVE RATE UNITS	Z0198-02	NOT USED	RXE(24)	

RXR-02 SEGMENT

Element Name	Item #	Global	HL7 Seg	Comments
ROUTE	129 -03	$P(PO,,5)	RXR(01)	HL7 Table 0162,code; description;facility
SITE ADMINISTERED	130-01	NOT USED	RXR(02)	
ADMINISTRATION DEVICE	Z0182-01	NOT USED	RXR(03)	
ADMINISTRATION METHOD	Z0183-01	NOT USED	RXR(04)	

RXC-04 SEGMENT

Element Name	Item #	Global	HL& Seg	Comments
RX COMPONENT TYPE	Z0185-01	S:$P(PL,,34)'=1:$P (PO,,2 5)="S" AA="A" S; AA="B"	RXC (01)	A =additive, B =base. For meds this is always a "B"
COMPONENT CODE	Z0184-01	@$P(PO)	RXC (02)	Medication ID (formulary code)
COMPONENT AMOUNT	Z0186-01	_S:$P(PM,,3) AA= +$P(PM,,3) S; AA= +$P(PO,,18)	RXC (03)	Strength or Volume
COMPONENT UNITS	Z0187-01	_S:$P(PM,,3) AA= $P($P(PM,,3)," ",2) S; AA=$P($P(PO,, 18),",",2)	RXC (04)	Strength or Volume Units

ZWD SEGMENT (NOT SENT)

NOT SENT (data sent in QTY/Timing field)

Element Name	Item #	Global	HL7 Seg	Comments
DAY OF THE WEEK		ZWD(01)		First 7 characters are day of the week, Any non-zero character denotes order is to be carried out on that day. 8th char represents every other

NOTE: If any of the characters representing the days of the week are non-zero, then the every other day character must be zero.

MFI-03 SEGMENT

Element Name	Item #	Global	HL7 Seg	Comments
MASTER FILE IDENTIFIER	Z0279 - 03	@$S(TC="PFR" "ZFM;Formulary" ,1:TC)	MFI(1)	Identifier; text
MASTER FILE APPLICATION ID	Z0282-01	NOT USED	MFI(2)	
FILE-LEVEL EVENT CODE	Z0287-01	@"UPD"	MFI(3)	Always UPD (update)

Element Name	Item #	Global	HL7 Seg	Comments
ENTERED DATE/TIME	Z0289-01	NOT USED	MFI(4)	
EFFECTIVE DAT/TIME	Z0296-01	@$ZZDH(,"yMDHI")	MFI(5)	Current Date./Time
RESPONSE LEVEL CODE	Z0301-01	NOT USED	MFI(6)	

MFE-02 Segment

Element Name	Item #	Global	HL7 Seg	Comments
RECORD LEVEL EVENT CODE	Z0317-01	based on variable DT	MFE(01)	"MAD"=added"MUP"=update "MDC"= discontinued
MFN CONTROL ID	Z0318-01	NOT USED	MFE(02)	
EFFECTIVE DATE/TIME	Z0296-01	NOT USED	MFE(03)	
PRIMARY KEY VALUE	Z0320-02	_D TD^AHL7PFM	MFE(04)	id;text;coding system;alternate id;;coding system

NOTE: The Primary Key value contains the following for the Formulary table:

Formulary code (internal);brand or generic name; RX ;ndc#;; NDC

ZFM-01 Segment (for Formulary Table)

Element Name	Item #	Global	HL7	Comments
TABLE UPDATE TYPE	Z077-07	@$S(DT?`*A`:"A,DT= "R":"C",DT="D":"D", 1:DT)	ZFM(1)	"A" = Add, "C" =Change, "D" = Delete
FORMULARY CODE	Z0223-01	@CD	ZFM(2)	Medication ID
PRIMARY NAME	Z0225-01	@$P(F0,,2)	ZFM(3)	Generic Name
DEA CODE	Z0227-01	@$P(F0,,12)	ZFM(4)	DEA Code. See Note 1.
PHARMACY NDC NUMBER	Z0224-01	@$ZJ($P(FI,,11),11)	ZFM(5)	NDC Number
FACILITY	512-01	@Y%	ZFM(6)	Facility Code
BRAND/TRADE NAME	Z0509-01	@$P(F0,,18)	ZFM(7)	Label Name
DOSAGE FORM DESCRIPTION	Z0232-01	@$P(F0,,5)	ZFM(8)	description, e.g.: TABLE
DRUG STRENGTH	133-02	@$P($P(F0,,3),",")	ZFM(9)	numeric

Element Name	Item #	Global	HL7	Comments
STRENGTH UNITS	Z0510-01	@$P($P(F0,,3),",",2)	ZFM(10)	description, e.g.: MG
VOLUME NUMBER	Z0511-01	@$P($P(F0,,4),",")	ZFM(11)	numeric
VOLUME UNITS	Z0512-01	@$P($P(F0,,4),",",2)	ZFM(12)	description, e.g.: ML AHFS (may be multiple)
AHFS THERAPEUTIC CLASS CODES	Z0344-01	based on $P(F0,,9)	ZFM(13)	
COST			ZFM(14)	
CHARGE			ZFM(15)	
MANUFACTURER			ZFM(16)	
UNITS OF ISSUE			ZFM(17)	units issued to MEDSTATION, e.g.: 10's, 20's
UNITS OF ORDER			ZFM(18)	units ordered, e.g.: CASE
DISPLAY OPTION FLAG			ZFM(19)	Whether the medication is displayed on the MEDSTATION: 0=accept default

NOTE: DEA class table for Pyxis (used in the Medication Class field)

0-Uncontrolled (unscheduled)
1-Misc Controlled 1 (class I)
2-Schedule II (class II)
3-Schedule III (class III)
4-Schedule IV (class IV)
5-Schedule V (class v)

ZPM-01 Segment (Pocket Activities)

Element Name	Item #	Global	HL7 Seg	Comments
TRANSACTION TYPE	353-04	AT(I%)	ZPM(1)	"C"= count, "L"= load, "U"= unload, "V"= charge, "W" =wasted
MEDSTATION SYSTEM	Z0524-01	MDS	ZPM(2)	PYXISRX
MEDSTATION UNIT	Z0525-01	DL	ZPM(3)	Floorstock Location
DRAWER NUMBER	Z0526-01	$P($P(FP), /)	ZPM(4)	Shelf

Element Name	Item #	Global	HL7 Seg	Comments
POCKET DESCRIPTOR	Z0528-01	$P($P(FP), / ,2)	ZPM(5)	Bin
FORMULARY CODE	Z0223-01	CD	ZPM(6)	Medication ID
MEDICATION NAME	Z0226-01	NOT USED	ZPM(7)	Medication Name
MEDICATION CLASS	Z0227-01	NOT USED	ZPM(8)	DEA Class 0-5
EXPECTED BEGIN COUNT	Z0529-01	NOT USED	ZPM(9)	
ACTUAL BEGIN COUNT	Z0530-01	NOT USED	ZPM(10)	
RANSACTION AMOUNT	358-01	$P(CG(I%))	ZPM(11)	Amount Loaded/ Unloaded
USER ID	Z010-02	$P(PID)	ZPM(12)	Employee ID
USER NAME	Z89-01	NOT USED	ZPM(13)	
WITNESS ID	Z87-01	NOT USED	ZPM(14)	
WITNESS NAME	Z88-01	NOT USED	ZPM(15)	
TOTAL COUNT IN STATION	Z0531-01	$P(F7,,3)	ZPM(16)	Current Level
ALTERNATE MEDICATION ID	Z0224-01	NOT USED	ZPM(17)	Pharmacy NDC#
FACILITY CODE	512-01	NOT USED	ZPM(18)	Y%
ALTERNATE MEDICATION ID2	Z0344-01	NOT USED	ZPM(19)	AHFS Codes
NURSING UNIT	361-02	NOT USED	ZPM(20)	Patient Location
SUBDRAWER	Z0534-01	NOT USED	ZPM(21)	
FULL COUNT IN POCKET	Z0532-01	$P(F7)	ZPM(22)	Maximum Level
PAR COUNT IN POCKET	Z0533-01	$P(F7,,2)	ZPM(23)	Reorder Level
DATE/TIME OF TRANSACTION	722-02	NOT USED	ZPM(24)	
TRANSACTION COMMENTS		NOT USED	ZPM(25)	

QRD SEGMENT

Element Name	Item #	Global	HL7 Seg	Comments
QUERY DATE/TIME			QRD(1)	Date/time MMDDYYHHMMSS
QUERY FORMAT	@ R		QRD(2)	R

Element Name	Item #	Global	HL7 Seg	Comments
QUERY PRIORITY	@ D		QRD(3)	D = deferred
QUERY ID		NOT USED	QRD(4)	
DEFERRED RESPONSE TYPE		NOT USED	QRD(5)	
DEFERRED RESPONSE DATE/TIME		NOT USED	QRD(6)	
QUANTITY LIMITED REQUEST		NOT USED	QRD(7)	
WHO SUBJECT FILTER			QRD(8)	See What Subject Filter field below "ZFM" type = Medication ID APA type = Patient ID "RER" type = Patient ID
WHAT SUBJECT FILTER			QRD(9)	"ZFM" = formulary query "APA" = patient query "RER" order query
WHAT DEPT DATA CODE			QRD(10)	"ZFM" type = alt medication id "APA" type = alt patient id "RER" type = alt patient id
WHAT DATA CODE VALUE		NOT USED	QRD(11)	
QUERY RESULTS LEVEL		NOT USED	QRD(12)	

NON-HL7 OVERVIEW

This section 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.

NOTE: The field delimiter for all non-HL7 Pyxis transaction records is the vertical bar (|).

Non-HL7 Outgoing Transactions

The following subsections provide STAR Patient Care and STAR Pharmacy information for outgoing transactions to Pyxis.

NON-HL7 STAR PATIENT CARE INFORMATION

The McKesson installer defines the Pyxis interface on the STAR Patient Care system so that ADT information can be sent to Pyxis. The installer uses the Patient Care Communication Line Definition function to define the function.

NOTE: Facilities that do not have STAR Patient Care may customize the patient care side and still use the STAR Pharmacy generic interface and Pyxis interface.

The McKesson installer sets the Outgoing Transactions field so that the following transactions are sent to Pyxis:

A Admission
B Cancel Discharge
C Clinical/Financial Patient Revision
D Discharge
N Cancel Admission/Registration
R Registration
T Transfer
a Auto-daily Discharge

The Format routine field calls the STAR Pharmacy base program PC^PIPYX. This program formats the ADT transaction records according to the base Pyxis specifications. It then calls the appropriate label in ^PCCOM2 so that the transaction record is sent to Pyxis from the STAR Pharmacy generic interface driver.

Patient Record

STAR Pharmacy sends all ADTs to Pyxis. For outpatients, STAR Pharmacy sends the patient type in the Station field. The Pyxis system can define which Pyxis station to use for a given patient type and ignores the transactions for patients not serviced by a Pyxis system.

When the formatting routine (PC^PIPYX) is called from the Patient Care generic interface program ^CCCOM, the variableAT contains a value that indicates what event triggered the call to the interface. The following list shows the type of transaction sent to Pyxis for each value:

Value of AT	Type of Transaction
null - Patient Revision	EPA (patient add/update)
ADB - Newborn Admission	EPA (patient add/update)
ADM - Admissions	EPA (patient add/update)
CAD - Cancel Admission	EPD (patient discharge)
CDS - Cancel Discharge	EPA (patient add/update)
CPT - Change Patient Type	EPA (patient add/update)
CRG - Cancel Registration	EPD (patient discharge)
DIS - Discharge	EPD (patient discharge)
DSP - Disposition	EPD (patient discharge)
OPB - Outpatients in Bed	EPA (patient add/update)
PAT - Preadmit Testing	EPA (patient add/update)
REG - Registration	EPA (patient add/update)
SDS - Series Discharge	EPD (patient discharge)
TRN - Transfer	EPA (patient add/update)
a - Auto-daily Discharge	EPD(patient discharge)

In the ADT interface transactions, STAR Pharmacy sends the external account number (EN) as the patient ID (because it prints or displays this number) and the internal number (IN) as the alternate ID number. At some facilities, it may be necessary to run a conversion to send the new patient IDs to the Pyxis system. STAR Pharmacy can accommodate this by sending an EPI (patient change ID) transaction to Pyxis. This conversion is not included in the base product.

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.

The program PC^PIPYX is called from within the For loop in I^CCCOM. This program sets up the ADT transaction record in the A(1) variable.

If STAR Patient Care and STAR Pharmacy are on separate CPUs:

1. The system initiates a jobstart on the Pharmacy CPU. This jobstart is named PIPYX and uses the sameline that is used to send ADTs to the Pharmacy machine (typically the CLN line).

2. The jobstart sends the A array and C% (interface transaction code) and calls P1^PIPYX. This label is set to B%=^PT(,COMM,,C%) and then calls I2^PCCOM2. Label I2^PCCOM2 sets the transaction records up in the ^PJ global to be sent to Pyxis from STAR Pharmacy.

3. The system then kills the A array. This prevents I^CCCOM from calling J^CCCOM and attempting to send the ADT to Pyxis from STAR Patient Care.

If STAR Patient Care and STAR Pharmacy are on the same CPU, the system calls label P1^PIPYX. This label sets B%=^PT(,COMM,,C%) and then calls I2^PCCOM2. Label I2^PCCOM2 sets the transaction records up in the ^PJ global to be sent to Pyxis. The system then kills the A array, preventing I^CCCOM from calling J^CCCOM and attempting to send the ADT to Pyxis for a second time.

EPD - Patient Discharge

Transaction Code	Patient Discharge Transaction Code	EPD
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Patient ID	Unique Code identifying the patient	up to 15 characters

EPI - Patient I.D. Change

Transaction Code	Patient I.D. Change Transaction Code	EPI
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Old Patient ID	Old Unique Code identifying the patient	up to 15 characters
New Patient ID	New Unique Code identifying the patient	up to 15 characters

Patient ID Change Transaction

This transaction type is not sent to Pyxis in the base interface. It may be needed if an ID number conversion is required.

EPI - Patient I.D. Change

Transaction Code	Patient I.D. Change Transaction Code	EPI
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Old Patient ID	Old Unique Code identifying the patient	up to 15 characters
New Patient ID	New Unique Code identifying the patient	up to 15 characters

NON-HL7 STAR PHARMACY INFORMATION

The McKesson installer defines the Pyxis interface on the STAR Pharmacy system, using the Pharmacy Communication Line Definition function. This enables pharmacy information to be sent to Pyxis. The code that is used to define the interface on STAR Pharmacy is the same code used to define the interface on STAR Patient Care.

The installer defines the following fields as shown:

(protocol program)	^PCHAP
(audit global)	yes
(format program)	RX^PIPYX
(process program)	^PIPYXI
(orders)	Formulary Orders Only
(solution orders)	Hospital Determined
(solution bottles)	No
(medication orders)	Yes
(formulary)	Brand or Generic (whichever the hospital prefers)
(patient allergies)	Yes
(tables)	None
(status changes)	when effective or when entered

Formulary Record

When the format routine RX^PIPYX is called, %1 contains F, %2 contains the formulary code, and %3 contains the action code (add, revise, delete). If the action code in %3 is A (add) or R (revise), STAR Pharmacy sends an EFA (formulary add/update) transaction to Pyxis. If the action code in %3 is D (delete), STAR Pharmacy sends an EFD (formulary delete) transaction to Pyxis.

In the EFA transaction record, STAR Pharmacy sends the medication description in the following ways. Because the description field is only 30 characters in length, STAR Pharmacy sends the first 30 characters of the description. For this reason, McKesson recommends using the brand name, which can be selected on the STAR Pharmacy Communication Line Definition Processor. It sends blanks in the pick area and MEDSTATION Med flag fields.

- Unit dose each - name display strength dosage form
  (for example, erythromycin 250mg tablet)
  When Pyxis sends an administration record, STAR Pharmacy treats the quantity as the number of dosage forms.

- Unit dose ml/gm - name display strength package size ml/gm dosage form
  (for example, tagamet 150mg/ml 2ml injection or neosporin .9gm ointment)
  When Pyxis sends an administration record, STAR Pharmacy treats the quantity as the number of packages.

- Bulk each - name display strength dosage form
  (for example, Chemstrip strip or Ortho-Novum 1/35-21 tablet)
  When Pyxis sends an administration record, STAR Pharmacy treats the quantity as the number of dosage forms.

- Bulk ml/gm - name display strength package size ml/gm dosage form
  (for example, Maalox 150ml suspension or hydrocortisone 1% 30gm cream)

When Pyxis sends an administration record, STAR Pharmacy treats the quantity as the number of packages.

For ml/gm products, STAR Pharmacy sends the first 5 characters of the package description as the *unit*. For each product, STAR Pharmacy sends the first 5 characters of the dosage form as the unit.

STAR Pharmacy charges for items based upon defined item types. If the item is a Pyxis charge, the transaction type on the Charge Inquiry screen contains *Pyx-Chg on Admin*. Pyxis charges print on the Daily Activity journal in midnight processing.

EFA - Formulary Add/Update

Transaction Code	Formulary Add/Update Transaction Code	EFA
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Class	DEA classification	1 digit
Pick Area	Label typically used to indicate storage location in Pharmacy	up to 15 characters (optional)
Flag	Indicates whether the med is used in the Pyxis MedStation System	0=No,1=Yes (optional)
Unit	Unit designation of med (tabs, drops, etc.)	up to 5 characters (optional)

EFD - Formulary Delete

Transaction Code	Formulary Delete Transaction Code	EFD
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Med I.D.	Unique Code identifying the medication	up to 15 characters

Profile Record

When the format routine is called for an order addition or revision,

- %1 contains M or S
- %2 contains IN
- %3 contains IO
- %4 contains an action code (add or revise)
- %5 contains the list of items that were revised (if %4= revise)
- %6 contains the solution type code for solution orders

When the order routine is called for a status change,

- %1 contains C
- %2 contains IN
- %3 contains IO
- %4 contains a status code (cancel, discontinued, hold, resume)
- %5 contains the status date/time;flag
- %6 contains a med/sol indicator
- %7 contains a 1 if the status change was rejected

Under the following circumstances, STAR Pharmacy sends an EOA (profile add/ update) transaction:

1. %1=M or S. For medication or solution revisions, STAR Pharmacy sends an EOA record for each drug in the order that has a formulary code. For revisions (%4=R), STAR Pharmacy sends only a record for those items listed in %5 that were actually revised.

2. %1=C, %4=R (resume), and %7 is null. In this case, the user has resumed the order and STAR Pharmacy needs to send an *add* transaction to Pyxis.

3. %1=C, %4=C (cancel), D (D/C), or H (hold), and %7=1. In this case, the user has rejected an order stop that was sent to Pyxis, and STAR Pharmacy now needs to send an *add* transaction to cancel out the previous transaction.

Under the following circumstances, STAR Pharmacy sends an EOD (profile delete) transaction:

1. %1=C, %4=C (cancel), D (D/C), or H (hold) and %7 is null. In this case, the user has canceled, discontinued or held the order, so STAR Pharmacy needs to send a *stop* transaction to Pyxis.

2. %1=C, %4=R (resume), and %7=1. In this case, the user has rejected a resume that was sent to Pyxis, and STAR Pharmacy now needs to send a *stop* transaction to cancel out the previous transaction.

STAR Pharmacy sends only items that have a formulary code. It does not send manual or PIF items.

Pyxis cannot handle multiple items that have the same order number. STAR Pharmacy sends the order number as the first 8 digits and the sequence number as the last 2 digits of the order number in the EOA and EOD transactions.

STAR Pharmacy does not send a multi-item medication order if the order type is compound because MEDSTATIONS stock only medications that are defined in the formulary and that do not have to be compounded.

Similarly, if a facility elects to send solution orders to Pyxis, STAR Pharmacy sends only EOA and EOD records for the first item in the order. STAR Pharmacy sends EOA and EOD records for each *thing* that is to be administered to the patient and treats the entire solution order as the thing that is to be administered. STAR Pharmacy does not know what else to send for the entire solution order, so it sends the first drug in the order because multi-item solution orders are not typically stocked in a Pyxis machine.

If the client has elected to send solution orders to Pyxis, STAR Pharmacy sends an EOA record when the first thing in the order is revised. If the order level information is revised or if the item level information for drugs 2-N is revised, no transactions are sent to Pyxis.

STAR Pharmacy sends the following in EOA transactions:

- The ordering physician's name in the physician field
- A 1 in the one-time field if the duration is 1 dose
- The nursing comment in the notation field

EOA - Patient Profile Add/Update

Transaction Code	Order Add/Update Transaction Code	EOA
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Order Number	External Order Number	up to 10 characters
Effective Time	Time order goes into effect	MMDDYYHHMMSS (optional)
Stop Time*	Time order expires and drug is disallowed	MMDDYYHHMMSS (optional)
Patient ID	Unique Code identifying the patient	up to 15 characters
Med I.D.	Unique Code identifying the medication	up to 15 characters
Physician	Prescribing physician name or code	up to 30 characters
One Time Order Flag	Indicates when order is to be given once	0=No,1=Yes
Notation	Free Text notation for order	up to 30 characters (optional)

* If a medication item contains a soft stop that does *not* auto-extend, this field is blank. If the medication contains a soft stop that does auto-extend, the modified stop date/time is sent to Pyxis during midnight processing of ASOs.

EOD - Patient Profile Delete

Transaction Code	Order Delete Transaction Code	EOD
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Order Number	External Order Number	up to 10 characters
Patient ID	Unique Code identifying the patient	up to 15 characters
Med I.D.	Unique Code identifying the medication	up to 15 characters

Non-HL7 Incoming Transactions

This material describes the incoming transactions, their error messages, and their record layouts.

NON-HL7 STAR PATIENT CARE INFORMATION

Patient ID Query

Pyxis sends an EPQ transaction if it receives a transaction that references an account number not currently in its database. When an EPQ transaction is received, STAR Pharmacy sends an EPA (patient add/update) transaction to Pyxis.

If the patient ID that is sent to STAR Pharmacy in the EPQ transaction is not a valid external account number, the system prints the following error message and the interface record on the console log, under the category PI_interface code:

Pyxis - Account Number Is Not Active in CLINSTAR-Rx...Data Discarded!

EPQ - Patient I.D. Query

Transaction Code	Patient I.D. Query Transaction Code	EPQ
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Patient ID	Unique Code identifying the patient	up to 15 characters

EPA - Add/Update

Transaction Code	Patient Add/Update Transaction Code	EPA
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Patient Name	Patient Name	up to 30 characters
Patient ID	Unique Code identifying the patient	up to 15 characters
Alternate ID	Alternate Patient Identifier	up to 15 characters(optional)

Physician	Physician Name or Code	up to 30 characters (optional)
Nursing Unit	Patient's Location - Station	up to 10 characters
Room	Patient's Location - Room	up to 10 characters (optional)
Bed	Patient's Location - Bed	up to 2 characters (optional)

NON-HL7 STAR PHARMACY INFORMATION

Interface Status Query

Pyxis sends an ETO transaction to query the status of the interface. When an ETO transaction is received, the system sends an ETR (status response) transaction to Pyxis. In the ETR transaction, STAR Pharmacy sends HBO as the source name, active as the status, and the timestamp from the ETO transaction as the query timestamp.

ETO - Interface Status Query

Transaction Code	Interface Status Query Transaction Code	ETO
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of System sending ETO message	up to 30 characters

ETR - Interface Status Response

Transaction Code	Interface Status Response Transaction Code	ETR
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of System sending ETR message	up to 30 characters
Reserved	Reserved for future use	up to 30 characters
Query Timestamp	Timestamp for ETO that invoked this ETR	MMDDYYHHMMSS

Formulary Query

Pyxis sends an EFQ transaction if it receives a transaction that references a formulary item that is not currently in its database. When an EFQ transaction is received, STAR Pharmacy sends an EFA (formulary add/update) transaction to Pyxis for each Pyxis facility for which the formulary item is active.

If the formulary item that is sent to STAR Pharmacy in the EFQ transaction is not a valid formulary code, the system prints the following error message and the interface record on the console log under the category PI_interface code:

Pyxis - Formulary Code Does Not Exist In CLINSTAR-Rx...Data Discarded!

EFQ - Formulary Query

Transaction Code	Formulary Query Transaction Code	EFQ
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Med I.D.	Unique Code identifying the medication	up to 15 characters

Patient Profile Query

Pyxis sends an EOQ message whenever a patient is added to the Pyxis system without accompanying profile data. When an EOQ transaction is received, STAR Pharmacy sends an EOB (profile query, begin response) record, an EOA (profile add/ update) transaction for each active order, and an EOE (profile query, end response) transaction.

If the patient ID that is sent to STAR Pharmacy in the EPQ transaction is not a valid external account number, the system prints the following error message and the interface record on the console log, under the category PI_interface code:

Pyxis - Account Number Is Not Active in CLINSTAR-Rx...Data Discarded!

NOTE: STAR Pharmacy sends orders that have a current status of ACT or NS. Pyxis does not ever receive a message about a canceled order. If a discontinued order is restarted, the order receives a new order number and the new order is sent to Pyxis. If a held order is resumed, the Pyxis system receives an EOA transaction when the order is resumed.

EOQ - Patient Profile Query

Transaction Code	Order Query Transaction Code	EOQ
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Patient ID	Unique Code identifying the patient	up to 15 characters

EOB - Patient Profile Query - Begin Response

Transaction Code	Order Query Begin Response Code	EOB
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Patient ID	Unique Code identifying the patient	up to 15 characters

EOE - Patient Profile Query - End Response

Transaction Code	Order Query End Response Code	EOE
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Patient ID	Unique Code identifying the patient	up to 15 characters

Medication Usage Records

Pyxis sends an EVM (remove medication) transaction whenever a medication is removed from a MEDSTATION. STAR Pharmacy generates a charge for the patient and order based on the quantity taken.

Pyxis sends an ERM (return medication) transaction whenever a medication is returned to a MEDSTATION. STAR Pharmacy generates a credit for the patient and order based on the quantity taken.

Pyxis has an EWM (wasted medication) transaction that indicates that a medication was removed from the station and was not used, but for some reason, such as being spilled or contaminated, cannot be returned to the MEDSTATION. However, the quantities in this record are free text and are not used for charging and crediting purposes. Pyxis does not send the EWM transactions because STAR Pharmacy does not charge, credit, or report against them.

The order number that is sent to STAR Pharmacy in the EVM and ERM records has the same format as the order number sent to Pyxis: the first 8 digits are the external order number, and the last 2 digits are the sequence number. The system then performs the data integrity checks.

1. If the account number that is sent in the transaction record is not valid, the system prints the following error message and the transaction record on the console log and quits:

   Pyxis - Account Number Is Not Active In CLINSTAR-Rx...Data Discarded!

2. If the internal number that is associated with the external account number on STAR Pharmacy is not the same as the alternate patient ID sent in the transaction record, the system prints the following error message and the transaction record on the console log and quits:

   Pyxis - Patient Internal Number Mismatch...Data Discarded!

3. If the patient does not have an order with the same number that was sent in the transaction record, the system prints the following error message and the transaction record on the console log and quits:

   Pyxis - Order Number Does Not Exist In CLINSTAR-Rx...Data Discarded!

4. If the external number stored in the order is not the same as the external order number sent in the transaction record, the system prints the following message and the transaction record on the console log and quits:

   Pyxis - Internal Order Number Mismatch...Data Discarded!

5. If the formulary code stored in the order is not the same as the med ID code sent in the transaction record, the system prints the following message and the transaction record on the console log and quits:

   Pyxis - Formulary Code Invalid for STAR Rx Order...Data Discarded!

6. If the internal account number associated with the external account number is not the same as the internal account number stored in the order, the system prints the following message and the transaction record on the console log and quits:

   Pyxis - Patient Account Number Mismatch...Data Discarded!

7. If the formulary item is not stocked at the stock location whose code was sent in the MedStation field of the transaction record, the system prints the following message and the transaction record on the console log and quits:

   Pyxis - Stock Location Invalid for CLINSTAR-Rx Formulary Code...Data Discarded!

NOTE: All of the previous error messages print on the console log under the category PI_interface code. The user can view all errors for the interface for a given day.

After the transaction passes all data integrity checks, the system calls ^PCCHG to charge or credit for the quantity taken. If the drug form code is *ea*, the number of units to be charged is the same as the quantity taken. If the drug form code is *ml* or gm, the number of units to be charged is the quantity taken multiplied by the package size. In both situations, the number of doses is the number of units divided by the dispense/ dose.

If STAR Pharmacy receives an EVM or ERM transaction with no order number, it creates a charge with no associated order. The system then performs the several data integrity checks.

1. If the account number that is sent in the transaction record is not valid, the system prints the following error message and the transaction record on the console log and quits:

   Pyxis - Account Number Is Not Active In CLINSTAR-Rx...Data Discarded!

2. If the internal number that is associated with the external account number on STAR Pharmacy is not the same as the alternate patient ID sent in the transaction record,

the system prints the following error message and the transaction record on the console log and quits:

Pyxis - Patient Internal Number Mismatch...Data Discarded!

3. If the formulary code that is sent as the med ID code in the transaction record is not valid, the system prints the following message and the transaction record on the console log and quits:

   Pyxis - Formulary Code Invalid for CLINSTAR-Rx Order...Data Discarded!

4. If the formulary item is not stocked at the stock location whose code was sent in the MedStation field of the transaction record, the system prints the following message and the transaction record on the console log and quit:

   Pyxis - Stock Location Invalid for CLINSTAR-Rx Formulary Code...Data Discarded!

NOTE: All of the previous error messages print on the console log under the category PI_interface code. The user can view all errors for the interface for a given day.

After the transaction has passed all data integrity checks, the system calls ^PCCHG to charge/credit for the quantity taken. If the drug form code is *ea*, the number of units to be charged is the same as the quantity taken. If the drug form code is *ml* or *gm*, the number of units to be charged is the quantity taken multiplied by the package size. In both situations, the number of doses is one.

NOTE: Because of the length of the EVM, ERM, and EWM records that are defined in the Pyxis Patient Profile Interface Requirements document, the format for these records has been modified to accommodate McKesson's 255 character limit.

EVM - Removed Medication

Transaction Code	Removed Medication Transaction Code	EVM
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of MedStation System	up to 30 characters
Patient ID	Unique Code identifying the patient	up to 15 characters
Alternate ID	Alternate Patient Identifier	up to 15 characters
Patient Name	Patient Name	up to 30 characters
Nursing Unit	Patient's Location - Station	up to 10 characters
Room	Patient's Location - Room	up to 10 characters
Bed	Patient's Location - Bed	up to 2 characters

MedStation Name	Name of MedStation Unit	up to 10 characters
Order Number	External Order Number	up to 10 characters
Physician	Physician Name or Code	up to 30 characters
Profile Override	Flag set when order not on profile list	0=No,1=Yes
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med Class	DEA classification	1 digit
Quantity Taken	Number of Units in Transaction	up to 5 digits
Nurse I.D.	I.D. of Nurse operating MedStation Unit	up to 10 characters
Nurse Name	Name of Nurse operating MedStation Unit	up to 20 characters

ERM - Returned Medication

Transaction Code	Returned Medication Transaction Code	ERM
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of MedStation System	up to 30 characters
Patient ID	Unique Code identifying the patient	up to 15 characters
Alternate ID	Alternate Patient Identifier	up to 15 characters
Patient Name	Patient Name	up to 30 characters
Nursing Unit	Patient's Location - Station	up to 10 characters
Room	Patient's Location - Room	up to 10 characters
Bed	Patient's Location - Bed	up to 2 characters
MedStation Name	Name of MedStation Unit	up to 10 characters
Order Number	External Order Number	up to 10 characters
Physician	Physician Name or Code	up to 30 characters
Profile Override	Flag set when order not on profile list	0=No,1=Yes
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med Class	DEA classification	1 digit
Quantity Returned	Number of Units in Transaction	up to 5 digits

Nurse I.D.	I.D. of Nurse operating MedStation Unit	up to 10 characters
Nurse Name	Name of Nurse operating MedStation Unit	up to 20 characters

EWM - Wasted Medication

Transaction Code	Wasted Medication Transaction Code	EWM
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of MedStation System	up to 30 characters
Patient ID	Unique Code identifying the patient	up to 15 characters
Alternate ID	Alternate Patient Identifier	up to 15 characters
Patient Name	Patient Name	up to 30 characters
Nursing Unit	Patient's Location - Station	up to 10 characters
Room	Patient's Location - Room	up to 10 characters
Bed	Patient's Location - Bed	up to 2 characters
MedStation Name	Name of MedStation Unit	up to 10 characters
Order Number	External Order Number	up to 10 characters
Physician	Physician Name or Code	up to 30 characters
Profile Override	Flag set when order not on profile list	0=No,1=Yes
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med Class	DEA classification	1 digit
Amount Given	Free Text describing size of partial dose	
Nurse I.D.	I.D. of Nurse operating MedStation Unit	up to 10 characters
Nurse Name	Name of Nurse operating MedStation Unit	up to 20 characters

Pocket Records

Pyxis sends an EPC (pocket content) transaction when a nurse inventories a pocket in a station, 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. STAR Pharmacy ignores these transactions for the non-HL7 interface.

EPC - Pocket Content

Transaction Code	Pocket Content Transaction Code	EPC
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of MedStation System	up to 30 characters
MedStation Name	Name of MedStation Unit	up to 10 characters
Drawer	Drawer Number on MedStation Unit	2 digits (1-24)
Pocket	Pocket Descriptor in drawer	up to 5 characters
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med Class	DEA classification	1 digit
Full	Full count in pocket	up to 4 digits
Par	Par count in pocket	up to 4 digits
Current	Current count in pocket	up to 4 digits
Total	Total count of meds of this ID in this station	up to 7 digits

EPL - Pocket Load

Transaction Code	Pocket Load Transaction Code	EPL
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of MedStation System	up to 30 characters
MedStation Name	Name of MedStation Unit	up to 10 characters
Drawer	Drawer Number on MedStation Unit	2 digits (1-24)
Pocket	Pocket Descriptor in drawer	up to 5 characters
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med Class	DEA classification	1 digit
Expected	Expected count in pocket	up to 4 digits
Actual	Actual count in pocket	up to 4 digits
Amount	Amount loaded into pocket	up to 4 digits
Nurse I.D.	I.D. of Nurse operating MedStation Unit	up to 10 characters
Nurse Name	Name of Nurse operating MedStation Unit	up to 20 characters

Witness I.D.	I.D. of Nurse witnessing transaction	up to 10 characters
Witness Name	Name of Nurse witnessing transaction	up to 20 characters
Total	Total count of meds of this ID in this station	up to 7 digits

EPU - Pocket Unload

Transaction Code	Pocket Unload Transaction Code	EPU
Msg Timestamp	System Date/Time	MMDDYYHHMMSS
Source Name	Name of MedStation System	up to 30 characters
MedStation Name	Name of MedStation Unit	up to 10 characters
Drawer	Drawer Number on MedStation Unit	2 digits (1-24)
Pocket	Pocket Descriptor in drawer	up to 5 characters
Med I.D.	Unique Code identifying the medication	up to 15 characters
Med Description	Name on Picklist in MedStation System	up to 30 characters
Med Class	DEA classification	1 digit
Expected	Expected count in pocket	up to 4 digits
Actual	Actual count in pocket	up to 4 digits
Amount	Amount unloaded from pocket	up to 4 digits
Nurse I.D.	I.D. of Nurse operating MedStation Unit	up to 10 characters
Nurse Name	Name of Nurse operating MedStation Unit	up to 20 characters
Witness I.D.	I.D. of Nurse witnessing transaction	up to 10 characters
Witness Name	Name of Nurse witnessing transaction	up to 20 characters
Total	Total count of meds of this ID in this station	up to 7 digits

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■ Reader Comment Form ■

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

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

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

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