STAR 2000™

STAR PHARMACY
SureMed® Interface Guide

Release 17.0
October 2011

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Preface

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

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

The SureMed interface requires Release 8.0 or later of STAR Pharmacy and SureMed Version 3.0.

This guide contains technical information about the SureMed 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.*

For more information about the SureMed software, contact Baxter™ Healthcare Corporation.

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 SureMed 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 SureMed 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 SureMed.

Chapter 3: Installation

This chapter provides McKesson installers with information about installing the SureMed interface in STAR Patient Care and STAR Pharmacy. 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 SureMed 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 SureMed interface.

Chapter 6: Technical Notes

This chapter contains information about message layouts and segment definitions for the SureMed interface.

Chapter 1 - OVERVIEW/DESCRIPTION

NON-TECHNICAL FUNCTIONAL OVERVIEW

The STAR SureMed interface is installed both on STAR Pharmacy and STAR Patient Care. If you do not have STAR Patient Care, the SureMed interface must be customized to insert the triggers for the interface.

The interface sends patient ADTs, orders, order status changes, and formulary information to SureMed. Upon receiving *removed* and *returned* transactions, the STAR Pharmacy system charges or credits for the quantity specified in the interface record. The SureMed interface does *not* handle non-formulary items; only formulary items can be set up as SureMed medications.

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

FEATURES/FUNCTIONS

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

- Activate or inactivate the SureMed interface

- Send all or selected formulary items to SureMed

- Send all or selected patients to SureMed

- Send all active orders to SureMed

- Send entries for the selected table type to SureMed

- Check the status of the communication line

For more information, see "Chapter 4 - USER FUNCTIONS".

SureMed Stations and STAR Pharmacy Stock Locations

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

For example: If you have a SureMed station on 2 East Nursing Unit and the floorstock location code for the area is 2ENU, which is also the nursing station, the SureMed station must be named 2ENU. If you are defining a SureMed station 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 SureMed station. If you want only first issues to be dispensed from a specific SureMed station, 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 SureMed station. SureMed 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 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.*

Charges

When you choose items from the SureMed station, stock is charged for and decremented in STAR Pharmacy.

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

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

COORDINATING CHARGES

If your facility uses the SureMed 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 SureMed station 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 SureMed 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 SureMed station 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 SureMed, 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 SureMed station.

If you are running an ATC to fill carts, SureMed 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 SureMed charges off on the Charge Meds? field on the Communication Line Definition for SureMed. 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

SureMed does not keep any order numbers. When the charge comes back to STAR, the system creates a specialty charge.

Chapter 2 - SYSTEM REQUIREMENTS

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STAR MINIMUM REQUIREMENTS

Hardware

The following additional hardware is necessary:

- MSE platform

- Either the X3.28-1976 or the HL7® Hybrid link layers. The HL7 Hybrid, which uses a serial line forphysical-level communications, is the preferred method for connections of less than 300 feet.

Software

- 8.0 Release or later of STAR Pharmacy software

- HL7 version 2.2

The Baxter Hospital Integration Controller (BHIC) provides hospitals with a single interface between the hospital computer system and Baxter products, including SureMed.

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

Chapter 3 - INSTALLATION

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INSTALLING THE SUREMED INTERFACE

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

After the information is defined on both STAR Patient Care and STAR Pharmacy, the information goes to SureMed through one line. One port is required for inbound, and another port is required for outbound.

NOTE: If the facility has a patient care system other than STAR Patient Care, a hook to send the information to SureMed 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 SureMed

*   Whether the brand name or generic name is to be displayed for drug items

*   The port numbers used for the attachment to the SureMed personal computer

*   Whether the pharmacy and patient care systems reside on the same central processing unit (CPU)

NOTE: For patient account numbers to pass through the interface, they must be preceded by the hospital's facility code within SureMed. If a hospital is already Live on SureMed prior to installing the interface, it must change all patient account numbers so that they are preceded by the hospital's facility code. A simple method for changing the numbers is to discharge all patients from SureMed and use the Send Patient option on the generic interface menu to re-send all patients through the interface. Any ADT information that passes through the interface automatically attaches the hospital facility code to the patient account number.

HL7 account numbers also send the facility code, but they are placed in a subfield of the Patient Acct field of the PID segment: 95360000001^^^C. SureMed is required to store the facility code with the patient account number.

Defining the SureMed Interface in STAR Patient Care

The McKesson installer uses the Communication Line Definition function in STAR Patient Care to install the SureMed interface.

COMMUNICATION LINE DEFINITION

This function allows installers to specify facility, ports, protocol routines, format routines, and so on, when implementing the SureMed interface.

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

Enter communication code--

Enter **SMO** as the code for outbound definition. The system displays the existing Communication Line Definition screen for the SureMed 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 screen. If you enter N, the system displays the original *Enter communication code* prompt.

Outbound Definition in Patient Care

The following screen is an example of the communication Line Definition screen defined for the SureMed outbound in Patient Care.

```
               General Hospital Communication Line Definition Processor
                                             Fri Apr 24, 1998 01:21 pm
Communication Code: SMO
 1 Description         2 Facilities  3 Port  4 Status    5 Protocol Routine
   SureMed HL7 Outboun    A,B,C,D       249                 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
                                                         Yes
12 Dump Queue Report Name         13 Queue Zblock     14 DCU Ports

15 Outgoing Transactions          16 Outgoing table/s 17 Format Routine  18 PCM
   A,a,N,B,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 field number or '/' starting field number--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed interface.

Field Explanations

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

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

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

5. PROTOCOL ROUTINE (16-A-R)
Enter a protocol routine such as PC^AHL7CT. This field indicates the program that monitors the line to, receives data from, and transmits data to SureMed. 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 SureMed interface, so it does not matter what number you enter.

11. AUDIT GLOBAL
Enter **Y** if you want to view an audit trail of outbound messages using the HL7 Audit Inquiry function. Audits are stored in ^CIA($H,CommCode,SEQ#,message seq#).

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

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 SureMed interface.

- • 6. Lab SIM Departments
- • 7. Rad SIM Departments
- • 8. Rx SIM Departments
- • 10. Audit Zblock
- • 12. Dump Queue Report Name
- • 13. Queue Zblock
- • 14. DCU Ports
- • 16. Outgoing Table/s
- • 19. Incoming Transactions
- • 20. Incoming Table/s
- • 21. Process Routine
- • 23. Line Out
- • 24. IMNET

The system displays the following screen. Following the screen is the information needed for installing the outbound definition from Patient Care for SureMed.

```
                General Hospital Communication Line Definition Processor
                                                    Wed Apr 07, 1999 01:34 pm
Communication Code: SMO                    Updated last by: #31002 on 03/24/99 1334
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
   BHIC                   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--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed 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 **HBOC** 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 **BHIC** 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 SureMed interface.

This field is only used 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.

Errors are classified as either fatal or minor. In the HL7 Interface, the only fatal error
occurs when protocol numbers are not synchronized.

10. HL7 VERSION (6-C-R)
This field identifies the version of the HL7 standards. Enter **2.2.**

11. 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.

12. MULTIPLE MERGE MESSAGES (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.

13. 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.

14. 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 SureMed supports null and
not present.

16. 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.

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Inbound Definition in Patient Care

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

```
               General Hospital Communication Line Definition Processor
                                                   Fri Apr 24, 1998 01:40 pm
Communication Code: SMI
 1 Description          2 Facilities  3 Port  4 Status    5 Protocol Routine
   Suremed HL7 Inbound    A              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--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed interface.

Field Explanations

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

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

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

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 SureMed. 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 SureMed interface, so it does not matter what number you enter.

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

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

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

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 SureMed.

```
                General Hospital Communication Line Definition Processor
                                             Wed Apr 07, 1999 01:40 pm
Communication Code: SMI
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
   BHIC                   Single
 8 Result Query Lines                        9 Minor Error Halt
                                               No
10 HL7 Version 11 HBOCHI    12 Price From      13 Multiple Merge Segments
   2.2                                           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--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed 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 **HBOC** 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 **BHIC** 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 SureMed interface.

This field is only used fororder 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.

Errors are classified as either fatal or minor. In the HL7 Interface, the only fatal error occurs when protocol numbers are not synchronized.

10. HL7 VERSION (6-C-R)
This field identifies the version of the HL7 standards. Enter **2.2.**

12. 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.

13. BROADCAST ADT CHANGES (1-A-R)
This field identifies how the system processes changes to ADT information.

Enter **N** for No. This feature is not currently supported by the HL7 Interface.

14. 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 SureMed 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 SureMed Interface in STAR Pharmacy

The McKesson installer uses the Communication Line Definition function to install the SureMed interface on STAR Pharmacy.

NOTE: You must use the same code to define the SureMed 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 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.

COMMUNICATION LINE DEFINITION

This function allows McKesson installers to specify facility, ports, protocol routines, format routines, and the types of Pharmacy data to send to SureMed.

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

Enter communication code--

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

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

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

Outbound Definition for Pharmacy

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

```
                General Hospital Communication Line Definition Processor
                                                Fri Apr 24, 1998 01:52 pm
Communication Code: SMO
 1 Description          2 Facilities  3 Port  4 Status      5 Protocol Program
   SureMed HL7 Outbnd     C               181      Inactive      RX^AHL7CT
 6 Interface Audit Report Name       7 Audit Program    8 Audit Global  9 Log
                                                             No
10 Audit Retn  11 ECS Prefix  12 Format Program   13 Process Routine  14 Modem
                               ^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 effective      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--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed interface.

Field Explanations

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

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

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

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 SureMed 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 SureMed.

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

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

8. AUDIT GLOBAL (1-A-O)
Enter **N** for No

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.

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

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

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

19. ORDERS (1-N-R)
Select All Orders as the type of order to send to SureMed. 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 screen.

20. MED ORDERS (1-A-O)
Enter **Y** to send medication orders to SureMed. 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.

21. 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. 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--

24. ALLERGIES (1-A-O)
Enter **Y** so that allergy information is sent to SureMed.

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

Send patient allergies? (Y/N)--

25. 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/trade name or **G** for generic name.

26. 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 SureMed interface and station 1East:

Should the SureMed 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.

27. 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 SureMed interface and station 1East:

Should the SureMed 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.

28. HL7 (1-A-O)
Enter **Y** because the SureMed 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 following screen.

```
                  General Hospital Communication Line Definition Processor
                                                  Wed Apr 07, 1999 10:34 am
 Communication Code: SMO                  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                     BHIC                     2.2
  7 NULL/Not Present Support  8 Encode  9 HBOCHI    10 Pathways Care Mgr
    Yes                           No                   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--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed 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 **BHIC** 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 SureMed 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)--

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

Enter **Y** for Yes. This field must be set to Yes to get the correct allergy and table message types.

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).

9. OUTBOUND TABLES (TABLE DISPLAY-R)

This field identifies the outbound tables for which updates are sent to SureMed.

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

*PFR	Pharmacy Formulary	ZFO-01
PFRQ	Frequency	ZFQ-02

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.

10. OUTBOUND MESSAGES (TABLE DISPLAY-O)

This field identifies the version of the messages to be sent over this interface.

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

Event	Description	Message
S1	New Solution Order	RDE 013-RX-SureMed Med/Solution Orders
S2	Revise Solution Order	RDE 013-RX-SureMed Med/Solution Orders
S3	Resume Solution Order	RDE 013-RX-SureMed Med/Solution Orders
S4	Solution Administration	RAS
M1	New Medication Order	RDE 013-RX-SureMed Med/Solution Orders
M2	Revise Medication Order	RDE 013-RX-SureMed Med/Solution Orders
M3	Resume Medication Order	RDE 013-RX-SureMed Med/Solution Orders
M4	Medication Administration	RAS
M5	Medication Give Message	RGV
A1	Patient Allergies	A08 08-RX-Pyxis/SureMed Allergy
F1	Formulary	MFN 04-RX-SureMed Formulary
C1	Medication Order Status Changes	RDE 014-RX-SureMed Status Changes
C2	Solution Order Status Changes	RDE 014-RX-SureMed Status Changes
T1	Tables	MFN 04-RX-SureMed Formulary

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**.

Inbound Definition for Pharmacy

The Communication Line Definition screen defined for inbound for STAR Pharmacy is as follows:

```
                    General Hospital Communication Line Definition Processor
                                              Fri Apr 24, 1998 02:00 pm
Communication Code: SMI
 1 Description          2 Facilities  3 Port  4 Status      5 Protocol Program

   SureMed HL7 Inbound    C,D            3          Inactive        P^AHL7IBRP
 6 Interface Audit Report Name      7 Audit Program     8 Audit Global  9 Log
   1-                                                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            Don't Send
27 Charge Solns? 28 Charge Meds? 29 HL7   30 Tables
   See Table        See Table      Yes



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

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed interface.

Field Explanations

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

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

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

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3. PORT (3-N-R)
Enter the number for the physical port over which the data is transmitted from SureMed.

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 SureMed is active or inactive.

5. PROTOCOL PROGRAM (16-A-R)
Enter **P^AHL7IBRP**. This program monitors the line to and receives data from SureMed.

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. 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 SureMed and is stored in the audit global ^CIA($H, CommCode, SEQ#, segment SEQ#).   You must have an entry in this field to access the Audit Retn field.

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 used to hold the exception report data. 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. FORMAT PROGRAM (16-A-R)
Enter **^AHL7PXO**.   This program formats the transactions according to the specifications provided by SureMed.

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

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

19. 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--

When 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 screen.

24. ALLERGIES (1-A-O)
Enter **N** so that no allergy information is sent to SureMed. When you access this field, the system displays the following prompt:

Send patient allergies? (Y/N)--

25. FORMULARY (1-A-R)
Enter **N** to not send formulary items. When you access this field, the system displays the following prompt:

Send formulary items? (Y/N)--

28. HL7 (1-A-O)
Enter **Y** because the SureMed 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 interface to STAR Pharmacy for SureMed:

```
                    General Hospital Communication Line Definition Processor
                                                    Wed Apr 07, 1999 10:34 am
 Communication Code: SMI
  HL7 Interface Definition
  1 STX Character          2 ETX Character          3 Receiver Binary
    11                        28                       Yes
  4 Sending Application     5 Receiving Application   6 HL7 Version
    BHIC                      HBOC                      2.2
  7 NULL/Not Present Support  8 Encode  9 HBOCHI     10 Pathways Care Mgr
    Yes                                                 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--
```

Explanations are provided only for fields that display information or that are used by the installer when installing the SureMed 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 (STX)--

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 **BHIC** 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 SureMed 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)--

8. PATHWAYS CARE MGR (1-A-R)
Enter **N** for No because this field is not used with the inbound interface.

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

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

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

11. INBOUND MESSAGES (TABLE DISPLAY-R)
This field contains the inbound messages. Select only PO3-05.

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 PO3-05, enter **A** to add. Then press a slash(/) to page to its location. Enter the number for PO3-05.

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**.

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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!

Chapter 4 - USER FUNCTIONS

SUREMED INTERFACE USER FUNCTIONS

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

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

Technical information about these functions is included in "Chapter 6 - TECHNICAL NOTES".

Some of your options within these functions are determined during the installation of the SureMed 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 SureMed 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 SureMed interface. When you select a function, the system displays the following prompt:

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

Enter **SMI** for SureMed HL7 Inbound or **SMO** for SureMed HL7 Outbound, or enter a hyphen (-) and select from the list.

If the code matches an existing interface code, the system displays the chosen function.   If SureMed 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 SureMed interface.

Communication Line Control

This function enables you to either activate or inactivate the SureMed inbound or outbound interfaces after they have been installed.

Select this function from the Generic Interface Utilities menu. Enter the communication code for either the inbound or outbound 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 THE SUREMED INTERFACE

If the status is active, the system displays a prompt specific to the interface:

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

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

SureMed 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 THE SUREMED INTERFACE

If the status is inactive, the system displays a prompt specific to the interface:

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

If you enter Y, the system displays a message specific to the interface:

SureMed 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

This function is not used for HL7 interfaces.

Communication Audit

This function is not used for HL7 interfaces. You can use the HL7 Audit Inquiry.

Send Formulary

This function enables you to send all formulary items, items from a specified floorstock location, controlled items, or selected formulary items to SureMed HL7 Outbound. These transactions are sent as Master File Notifications to SureMed.

If you try to send formulary items to SureMed HL7 Inbound, the system displays the following message:

Formulary is not sent to SureMed HL7 Inbound!

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 **SMO** as 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 prompt:

Enter first letters '-' or control class

If you enter a hyphen (-), you can select the following list:

```
( 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 the following message:

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 # --*

Enter your selection, or enter a hyphen (-) and select from the list. 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 SureMed.

Send Patient

This function enables you to send all or selected patients to SureMed outbound. You cannot send patients to the Suremed 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 SureMed.

SENDING SELECTED PATIENTS

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

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

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

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

Sending census for [patient]!

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

Send Patient Orders

This function enables you to send patient orders to the SureMed HL7 Outbound interface. During installation, your facility was set up to send all orders. For more information, see "Chapter 3 - INSTALLATION".

Patient orders cannot be sent to the SureMed HL7 Inbound interface.

If enter the communication code for the inbound interface, the system displays the following message:

Patient orders/allergies are not sent to SureMed HL7 Inbound!

Select this function from the Generic Interface Utilities menu. Enter **SMO** as 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 SureMed HL7 Outbound--

SENDING ALL PATIENTS

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

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

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

Sending all patient orders/allergies!

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

SENDING SELECTED PATIENTS

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

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

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

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

Send (A)ll orders/allergies or (S)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 SureMed.

Send Tables

For the SureMed 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!

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 (SMI) is currently: "Active"

 The Acknowledgment Audit is currently turned off!

 The TCP-IP address is: 111.111.2.59+21000

 ERROR: Same Interface code (SMI) 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 cannot define audits for HL7 interfaces by using the Communication Audit function on the Generic Interface Utilities Processor.

CRITICAL? no

ERROR MESSAGES

SureMed 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/Suremed exception report is created during midnight processing.

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

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

- The patient ID that is sent to STAR Pharmacy in the PID segment is not a valid external account number.

- 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 SureMed dispensing cabinet. This avoids errors on the financial system.

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

- The formulary item that is sent to STAR Pharmacy in the FT1 segment is not a valid formulary code.

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 Assigned Patient location field of the PV1 segment.

The following example shows a STAR Pharmacy/SureMed HL7 Inbound Exception Report. 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 SureMed station unit. The third line contains the error message.

Figure 5.1 STAR Pharmacy/SureMed HL7 Inbound Exception Report

```
                    STAR Pharmacy / SureMed HL7 Inbound      Page:        1
                            Exception Report                 Date: 03/07/96
                        for charges posted 03/07/96          Time:  01:41pm

Med
Stn    Patient Name         Account #        Drug Code - Name            Doses
--------------------------------------------------------------------------------
1E     KLEIN, CARLA JANE    A9418800001      761-CEFUROXIME 250MG TAB      1
                            @ 09:33 by RONROE, JANET
Stock Location Invalid for CLINSTAR-Rx Formulary Code...Data Discarded!

1E     SNUFF, ENID CARA     A9367812422      1006-APAP/HYDROCOD %MG TA     1
                            @ 10:02 by RONROE, JANET
Stock Location Invalid for CLINSTAR-Rx Formulary Code...Data Discarded!

                               End of Report
```

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Chapter 6 - TECHNICAL NOTES

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OVERVIEW

This section contains technical information about the message layouts and segments for the SureMed interface.

MESSAGE LAYOUTS

The following message layouts are required for the interface.

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 (ver 06 resends active orders after 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:

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

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

Pharmacy Orders

When medication orders are entered, resumed, revised, and so on, the Pharmacy Encoded Order (RDE) message is sent to the HL7 interface. Because the resume function allows you to change order information, the entire order is sent again. The RXC segment is not sent because SureMed does not use this information. 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-013   Pharmacy Encoded Order Message
MSH-04   Message Header
PID-01   Patient Identification
PV1-01   Patient Visit
ORC-013   Common Order
RXE-04   Pharmacy Order
RXR-01   Pharmacy Route Information

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

RDE-014   Pharmacy Encoded Order Message
MSH-04   Message Header
PID-01   Patient Identification
ORC-013   Common Order
RXE-04   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 (MFN) message. Only one formulary or schedule table segment may be present in each message. The MFN message contains the following segments:

MFN-04   Master File Notification Message
MSH-04   Message Header
MFI-02   Master File Identification
MFE-02   Master File Entry
[ZFO-01]   Formulary File*
[ZFQ-02]   Frequency File*

*   The table message has either the Formulary File or the Frequency File, depending on the table data that is sent.

Charging/Billing Updates to STAR

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

<u>PO3-05</u>	<u>Detail Financial Transaction</u>
MSH	Message Header
PID-09	Patient Identification
PV1-01	Patient Visit
FT1-07	Financial Transaction

SEGMENT DEFINITION

This section contains the elements in each segment that is used by STAR Pharmacy. The tables include the element name, item number, global, HL7 segment, and comments, if needed. The patient information (PID, PV1) segments are not under Pharmacy ownership. For patient care systems other than STAR Patient Care, you must use the third party's 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	$H	MSH(7)	
SECURITY	8-01	NOT USED	MSH(8)	
MESSAGE TYPE	12-01		MSH(9)	message type_;_trigger event HL7 Table 0076_; _HL7 Table 0003
MESSAGE CONTROL ID	3-01		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 "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	633-01		MSH(13)	Assigned by the comm process after transaction is formatted
CONTINUATION POINTER	699-01	NOT USED	MSH(14)	

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EVN-01 Segment

Element Name	Item #	Global	HL7Seg	Comments
Event Type Code	29-01	@AT	EVN(1)	HL7 Table # 0003, "A08" = update patient
Date/Time of Event	30-01	S AA=$ZZDK($S (AT= "A0 2":EDT,1), "yMDHI")	EVN(2)	
Date/Time of Planned Event	32-01		EVN(3)	date/time when event is scheduled to occur
Event Reason Code	69-01		EVN(4)	HL7 Table 0062, 1=Patient Request, 2=Physician Order, 3=Census Mgmnt

ORC-013 Segment

Element Name	Item #	Global	HL7 Seg	Comments
ORDER CONTROL	714-10	_D OC^AHL7SRX1	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) _$ZJ(SQ,2)	ORC(2)	External Order #_Sequence # filled with zeros, formatted to 10 characters
FILLER ORDER #	716-04	NOT USED	ORC(3)	
PLACER GRP #	717-02	NOT SUPPORTED	ORC(4)	
ORDER STATUS	718-03	NOT USED	ORC(5)	
RESPONSE FLAG	719-01	@"N"	ORC(6)	
QTY/TIMING	720-12	QTS^AHL7SRX2	ORC(7)	See Note 1, SureMed uses the Qty/Timing field in the RXE segment
PARENT	721-02	NOT SUPPORTED	ORC(8)	
DATE/TIME OF TRANSACTION	722-02	@$ZZDH($P($P (PL,,1 1),"yMDHI")	ORC(9)	

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Element Name	Item #	Global	HL7 Seg	Comments
ENTERED BY	723-03	$P($P(PM,,5),";")	ORC(10)	See Note 2
VERIFIED BY	724-02	$P($P(PM,,5),";",2)	ORC(11)	See Note 2
ORDERING PROVIDER	725-03	$P(PO,,29) or physician override fields	ORC(12)	Free-form Physician name or table code. See Note 2.
ENTERER'S LOCATION	726-03	@$P(ZS)	ORC(13)	
CALL BACK PHONE #	727-01	NOT SUPPORTED	ORC(14)	Phone # to call for clarification of an order
ORDER EFFECTIVE DATE /TIME	Z0180-03	SC^AHL7CMF3	ORC(15)	If order status="CAN" this field is blank
ORDER CONTROL CODE REASON	Z0181-01	CC^AHL7SRX	ORC(16)	Blank for NW(new) orders, but contains cancel/discontinue reason

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-04 Segment

Element Name	Item #	Global	HL7 Seg	Comments
QTY/TIMING	720 -12	QTS^AHL7SRX2	RXE(1)	Same as Qty/Timing in the ORC Seg
GIVE CODE	Z0188- 05	@$P(PO)_;_$P (PO,, 2)	RXE(2)	Medication ID(formulary code)_;_generic name
GIVE AMOUNT - MINIMUM	Z0189- 05	A^AHL7SRX1	RXE(3)	Medication Dose Strength, uses variable MN from program
GIVE AMOUNT - MAXIMUM	Z0190- 03	@MX	RXE(4)	MX set up in A^AHL7SRX1
GIVE UNITS	Z0191- 03	@UN	RXE(5)	UN set up in A^AHL7SRX1
GIVE DOSAGE FORM	Z0193- 04	@$P(PO,,4)	RXE(6)	dosage form
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),":&")_"&"_Y%	RXE(8)	nurse station&room&bed
ALLOW SUBSTITUTION	480-01	NOT SUPPORTED	RXE(9)	
DISPENSE AMOUNT	Z0199- 06	_S;$ZE(^A(IN,"PO",IO,"A2")) AA=+$P (PO,,18)	RXE(10)	Amount dispensed to nursing station
DISPENSE UNITS	Z0200- 05	NOT USED	RXE(11)	identifier_;_text _;_coding system
NUMBER OF REFILLS	481-01		RXE(12)	(outpatient only)
ORDERING MD'S DEA NUMBER	620-04	$P(^D(Y%,$P)	RXE(13)	
PHARMACIST VERIFIER ID	Z0381- 01	$P($P(PM,,5),";", 2) (PO,,29),1),,10	RXE(14)	

Element Name	Item #	Global	HL7 Seg	Comments
PRESCRIPTION NUMBER	Z0195- 02	@$P(PO,,19)_SQ	RXE(15)	External Order Number_sequence #
NUMBER OF REFILLS REMAINING	482-01	NOT USED	RXE(16)	(outpatient only)
NUMBER OF REFILLS/ DOSES DISPENSED	Z0202- 01	NOT USED	RXE(17)	(outpatient only)
DATE/TIME OF MOST PERCENT REFILL OR DOSE DISPENSED	Z0203- 01	NOT USED	RXE(18)	format YYMMDDHHMMSS
TOTAL DAILY DOSE	Z0204- 01	NOT USED	RXE(19)	quantity_;_units
NEEDS HUMAN REVIEW	Z0205- 01	NOT USED	RXE(20)	"Y"=warning in provider or pharmacy instructions field, "N"=no warning
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
SITE ADMINISTERED	130-01	NOT USED	RXR(02)	HL7 Table 0163
ADMINISTRATION DEVICE	Z0182- 01	NOT USED	RXR(03)	HL7 Table 0164
ADMINISTRATION METHOD	Z0183- 01	NOT USED	RXR(04)	HL7 Table 0165

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)	
ALLERGY CODE	Z0376- 04	RX: $P($P(PH),";", XX) Patient Upd, Rx free-form: ";"_$P(PK) Patient Upd, Nrs free-form: ";"_$P (AK,,12)	AL1(03)	Rx: XX=counter 1-15 (sends codes) Patient Upd Rx free-form: (sent only if exists) Patient Upd, Nursing free-form: (sent only if exists)
ALLERGY SEVERITY	Z0121- 01	NOT USED	AL1(04)	
ALLERGY REACTION	Z0122- 01	NOT USED	AL1(05)	

NOTE: For patient updates, each coded allergy sends a separate AL1 segment.

MFI-02 Segment

Element Name	Item #	Global	HL7 Seg	Comments
MASTER FILE IDENTIFIER	Z0279 - 02		MFI(1)	Formulary = "ZFO;Formulary; BHIC" Schedule = "ZSC;Schedule;BHIC "
MASTER FILE APPLICATION ID	Z0282- 01	NOT USED	MFI(2)	
FILE-LEVEL EVENT CODE	Z0287- 01	@"UPD"	MFI(3)	"UPD"
ENTERED DATE/TIME	Z0289- 01		MFI(4)	
EFFECTIVE DAT/TIME	Z0296- 01	@$ZZDH(,"yMDHI")	MFI(5)	
RESPONSE LEVEL CODE	Z0301- 02	@"NE"	MFI(6)	"NE" only valid entry

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"=revised, "MDC"=discontinued
MFN CONTROL ID	Z0318- 01	NOT SUPPORTED	MFE(02)	
EFFECTIVE DATE/TIME	Z0296- 01	NOT SUPPORTED	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 is sorted differently for each table type:

Formulary: formulary code;primary name;"RX";ndc#;;"NDC"
Schedule: sched code;sched label description

ZFO-01 Segment (for Formulary Table)

Element Name	Item #	Global	HL7 Seg	Comments
BRAND NAME	Z0509- 01	@$P(F0,,18)	ZFO(1)	
GENERIC NAME	Z0225- 01	@$P(F0,,2)	ZFO(2)	
TRADE NAME	Z0509- 01	@$P(F0,,18)	ZFO(3)	
PHARMACY DRUG CODE	Z0223- 01	@CD	ZFO(4)	internal formulary number
DOSE FORM	Z0232- 01	$P(F0,,5)	ZFO(5)	
DOSAGE	0513- 01	$ZX($P(F0,,3),",; ") _";"_$ZX($P(F0,,4),",;")	ZFO(6)	strength_;_strength units_; _volume_; _volume units
NDC NUMBER	Z0224- 01	$P(FI,,11)	ZFO(7)	
PACKAGE SIZE	Z0270- 02	$P(F0,,6)_";;"_$P(F0,,7)	ZFO(8)	size/vol_;_units_; _description

ZFQ-02 Segment (for Schedule/Frequency Table)

Element Name	Item #	Global	HL7 Seg	Comments
PHARMACY SCHEDULE CODE	Z0514- 01	@$P(P)	ZSC(1)	SIG, e.g. Q12H
PHARMACY SCHEDULE DESCRIPTION	Z0515- 01	@$P(P,,2)	ZSC(2)	description, e.g. "Every 12 hours"
BAXTER SIG CODE	Z0516- 01	NOT SUPPORTED	ZSC(3)	
ADMINISTRATION TIMES	Z0246- 01	_S AA D:TC= "PFRQ":$P(P, ,11)] TM^AHL7SRXT	ZSC(4)	List of daily admin times, separated by the repetition character ~, e.g. 0700~1100~1400~ 1800

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■ R e a d e r   C o m m e n t   F o r m ■

We value your suggestions for improving our documentation. Please use this form to evaluate the *SureMed® 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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Other Comments:

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