LABORATORY ELECTRONIC DATA INTERCHANGE PHASE II (LEDI II) USER MANUAL

LA*5.2*46/LR*5.2*222

Version 5.2

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Department of Veterans Affairs
Veterans Health Administration
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Preface

The Veterans Health Information Systems and Architecture (**V***IST***A**) Laboratory Electronic Data Interchange (LEDI II) User Manual Version 5.2 for patch LA*5.2*46 and patch LR*5.2*222 provides the Department of Veterans Affairs Medical Center (DVAMC) Information Resource Management (IRM) staff, Laboratory Information Managers (LIMs), and other DVAMC users with a straightforward means for implementing and utilizing the LEDI II software.

The LEDI II User Manual (Patch LA*5.2*46 and LR*5.2*222) focuses on easy-to-follow step-by-step instructions. This user manual consists of the following sections:

Introduction: This section conveys the major functions, purposes, and how the software accomplishes the objectives.

Orientation: This section defines the symbols and computer screen dialogue used throughout the LEDI II User Manual.

Package Management: This section contains mail groups, alerts, security keys, special VA FileMan access codes, and other security measures information included with the LEDI II software release.

Package Operation: This section describes what the user needs to know in order to competently operate the LEDI software application and where to access the on-line documentation.

LEDI II Implementation Instructions: This section contains detailed setup instructions to successfully implement the LEDI II software application. LEDI II setup instructions **must** be performed in sequence, by IRM and LIM staff. The setup instructions are listed in step-by-step order.

LEDI II Setup Checklist: The checklist is provided to ensure that the LEDI II setup implementation process has been completed as instructed in the package operation section of this user manual.

Glossary: This section contains the glossary of terms that are related to the LEDI software application.

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Introduction

Overview

The Veteran Integrated Service Network (VISN) mission is to consolidate electronic lab test ordering and lab test result reporting throughout all Veterans Affairs (VA) Medical Care Facilities Laboratories within a VISN, between VISNs, and non-VA organizations (i.e., commercial reference laboratories). The existing **V***IST***A** Laboratory Electronic Data Interchange (LEDI) software application required modifications and enhancements to accomplish this mission without diminishing the quality of services in patient medical care.

V*IST***A** Laboratory Electronic Data Interchange (LEDI)

The **V***IST***A** Laboratory Electronic Data Interchange (LEDI) software provided the Laboratory V. 5.2 software package and Laboratory's Automated Instrument (AI) software application the following features and functionalities:

- Laboratory Electronic Data Interchange (LEDI) – Electronic Messaging
- Electronic Lab Test Ordering
- Electronic Lab Test Results Reporting
- Bar-code Specimen Accessioning
- Workload

V*IST***A** Laboratory Electronic Data Interchange Phase II (LEDI II)

The **V***IST***A** Laboratory Electronic Data Interchange Phase II (LEDI II) software application provides electronic messaging for Lab Test Ordering and Lab Test Results Reporting between VA Health Care Facilities laboratories based on the Health Level Seven (HL7) Version 2.3 Standard Specification and **V***IST***A** Health Level Seven (HL7) Version 1.6 Standard Specification. These Specifications are used as the basis for defining **V***IST***A** Laboratory Universal Interface (UI) and LEDI HL7 Interface Standard Specification Version 1.2.

New Functionality

LEDI II software application provides the following new features and functionality for Laboratory V. 5.2 Package and the Automated Instrument (AI) software applications.

- Laboratory Electronic Data Interchange (LEDI) - Electronic Messaging
- Electronic Lab Test Ordering
- Bar-code Specimen Accessioning
- Electronic Lab Test Results Reporting
- Workload

Patient Lookup

The patient lookup functionality relieves accessioning personnel from manually entering patient's demographics. The lookup functionality checks the PATIENT file (#2), REFERRAL PATIENT file (#67), and LAB PENDING ORDERS ENTRY file (#69.6) when using bar code scanning. This patient lookup functionality will reduce or eliminate typographical mistakes and decreases the possibility of duplicate entries. The Patient demographics displays the following fields:

⇒ **Full Name**

⇒ **Date of birth (DOB)**

⇒ **Patient Identification (SSN)**

⇒ **Sex**

LEDI II Enhancements and Modifications

Enhancements:

1. Sending/Receiving Laboratory HL7 Messages

New functionality has been added for sending and receiving Laboratory HL7 orders/results messages with non-VA facilities (Commercial Reference Laboratories).

2. TCP/IP Protocol as a Communication Protocol

Additional **new** support is added for TCP/IP protocol as a communication protocol for the transmission of LEDI HL7 messages (i.e., requiring patch HL*1.6*19 to have been successfully installed). The implementation of this communication protocol in lieu of VA MailMan protocol will significantly increase transmission speed of messages and reduce system overhead/storage. Both client and server must coordinate the switch to this **new** communication protocol transmission method. The following two logical links are established to exchange messages:

- Server (listener) logical link used to receive and process messages.
- Client logical link used to transmit messages.

3. Building Lab Test Orders

The process of building orders in the LAB PENDING ORDERS ENTRY file (#69.6) has been **enhanced** to use information from the LAB SHIPPING CONFIGURATION file (#62.9), to create orders based on the host site's specified collection sample and urgency.

4. Processing NTE Segments

The capability to process NTE segments following OBX segments have been **enhanced** to site-selectable. Comments found attached to specific lab test results are stored as comments. The AUTO INSTRUMENT file (#62.4), CHEM TESTS subfile (#30), REMARK PREFIX field (#19) can be used to specify a comment prefix that is made a part of the comment.

5. Storing Test Reference Ranges

Storing test reference ranges, abnormal flags, and the name of the performing laboratory have been **enhanced** to site-selectable. These parameters are stored as COMMENTS with the results. This information is prefixed with the REMARK PREFIX field (#19), of the AUTO INSTRUMENT file (#62.4).

6. Specifying Final or Incomplete Lab Test Results

The ability to specify whether final or incomplete lab test results are processed has been **enhanced** to site-selectable.

7. New SM40 Shipping Codes

The **new** SM40 shipping code (required shipping information update) has been added to the LAB ELECTRONIC CODES file (#64.061). The SM40 shipping code is used for recording this information in the LAB SHIPPING EVENT file (#62.85).

8. Building a Shipping Manifest

The process for building a shipping manifest has been **enhanced** to allow the user to specify the starting and ending accession numbers to check within an accession area. This feature will shorten the manifest building time when searching a yearly accession area with a large number of accessions. This new feature allows the site to skip the accessions numbers that were completed earlier in the year and no longer need to be checked to determine if any of the tests meet the criteria for building to a manifest.

9. Closing a Shipping Manifest

The process of closing a Shipping Manifest has been enhanced to perform **new** checks for the following required information:

- Each lab test has an order NLT code assigned.
- When shipping to a facility that does not use VA NLT codes for lab test ordering, the appropriate non-VA lab test codes/names is designated for all tests on the Shipping Manifest.
- Site-specified required patient/specimen information is entered.

10. Result (ORU) Messages

LEDI II Result (ORU) Messages includes the test interpretation found in LABORATORY TEST file (#60) as a comment (i.e., NTE segment) following the lab test results. Lab test results storage is checked against the VA FileMan input transform for the data name used to store the Lab test results in LAB DATA file (#63). If the lab test results does not pass the VA FileMan input transform check, then an error message is generated via the Lab Universal Interface error reporting process. Result values “canc”, “pending”, or “comment” are stored in LAB DATA file (#63).

11. Result (ORU) Messages

The process that triggers LEDI II Result (ORU) Message generation, during lab result verification, has additional checks to confirm that the results being returned to the collecting site match the ordering information from the collecting facility. Patient and specimen identifiers used by the host and collection facilities are checked for expected consistency. When identifiers do not match, the HL7 message transmission will be aborted and an error message generated via the Lab Universal Interface error reporting process. Error messages #40-45 have been added to the LA7 MESSAGE LOG BULLETINS file (#62.485) to support this functionality. These are additional safety checks being incorporated into the software in response to a recent patient safety alert involving the Laboratory V. 5.2 Package.

12. Referral Patient Multi-purpose Accession [LRLEDI] option

LEDI II software contains additional support when using the Referral Patient Multi-purpose Accession [LRLEDI] option to accession specimens thru the Laboratory Electronic Data Interface (LEDI). LEDI II now builds the LAB PENDING ORDERS ENTRY file (#69.6) with additional information concerning mapping to local host test urgency. This local urgency information, stored in File (#69.6), is utilized when accessioning LEDI specimens at the host laboratory.

Modification

VA FileMan Database Server Call
Laboratory Package V. 5.2 previously used a classical VA FileMan DIE Call when storing comments in LAB DATA file (#63). This VA FileMan DIE Call did not allow the comment to contain a semi-colon ";" character because FileMan used this character to parse fields requiring editing in the DR string. This function has been **changed** to the VA FileMan Database Server Call, which does not have this restriction. Comments can now contain the semi-colon ";"character.

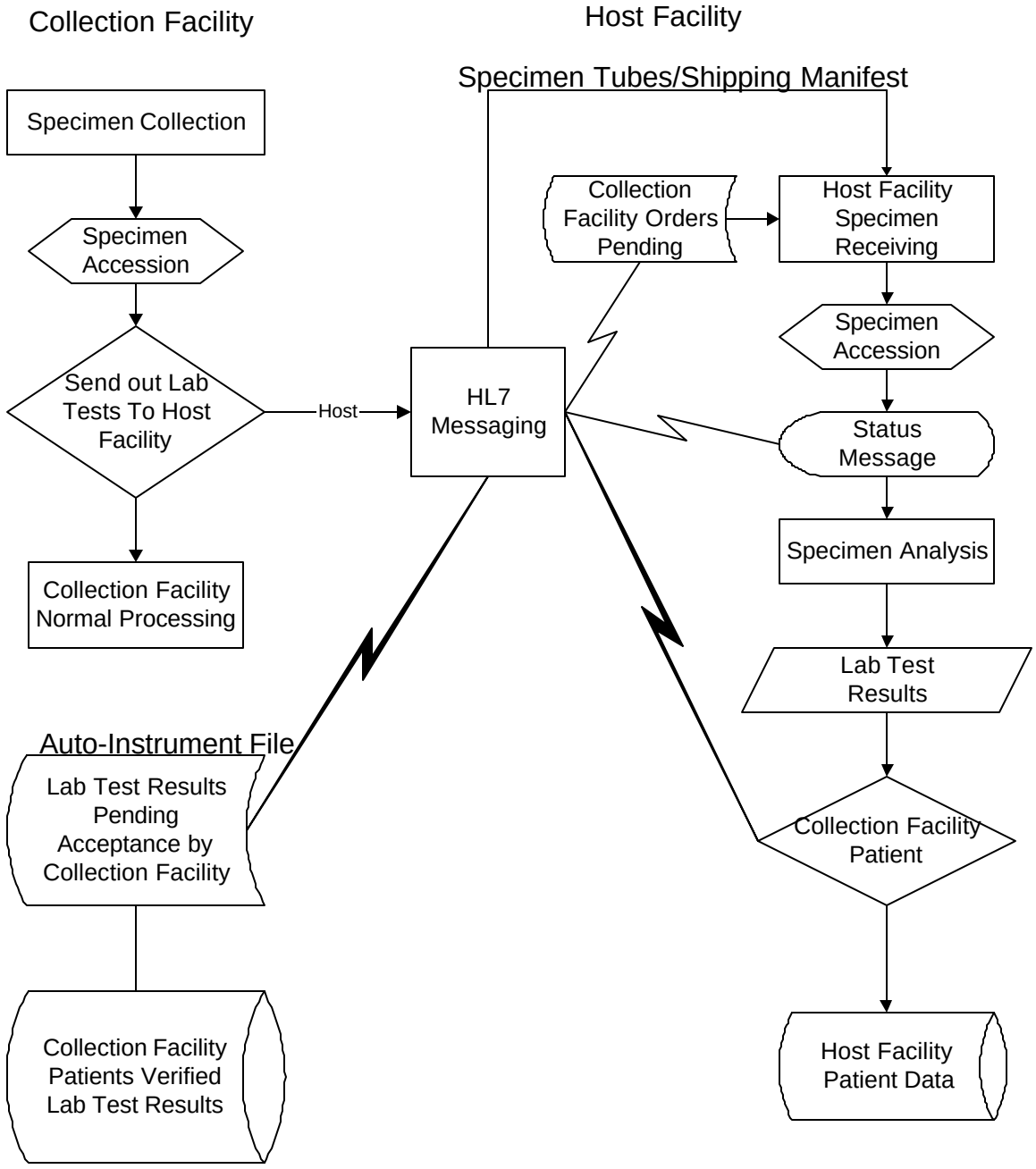
V*IST***A** BLOOD BANK SOFTWARE V5.2 DEVICE PRODUCT LABELING STATEMENT

12. June 10, 1999

V*IST***A** Laboratory Package patches LA*5.2*46/LR*5.2*222 contain no changes to software controlled by VHA DIRECTIVE 99-053, titled VISTA BLOOD BANK SOFTWARE.

Flow Chart

Laboratory Electronic Data Interchange (LEDI)
Flow Chart



Orientation

This section defines the symbols and computer screen dialogue used throughout the LEDI II User Manual.

Computer Dialogue

The computer dialogue appears in Courier font, no larger than 10 points.
Example: `Courier font 10 points`

User Entry Response

User entry response appears in boldface type Courier font, no larger than 10 points.
Example: **`Boldface type`**

Return Symbol

User response to computer dialogue is followed by the <RET> symbol, which appears in Courier font, no larger than 10 points, and bolded.
Example: **`<RET>`**

Tab Symbol

User response to computer dialogue is followed by the <Tab> symbol, which appears in Courier font, no larger than 10 points bold.
Example: **`<Tab>`**

Bracket Symbol

The bracket symbols [ ] are used for notations within the computer screen dialogue.
Example: **`[ ]`**

References

The following references may be helpful when installing and implementing the LEDI II software application:

- Kernel Systems Manual V. 8.0
- Kernel Toolkit V. 7.3
- Laboratory Universal Interface Patch LA*5.2*17-Patch LR*5.2*65 V. 1.0
- VA FileMan V. 21.0
- VA MailMan V. 7.1
- **V***IST***A** Health Level Seven Site Manager & Developer Manual Version 1.6*56
- **V***IST***A** Laboratory Health Level Seven (HL7) Interface Standard Specifications V. 1.2
- Health Level Seven Standard Version 2.3.1 © 1997 by the Health Level Seven, Inc.

NOTE: Copies of the HL7 standards are available via the HL7 (**V***IST***A** Messaging V. 1.6 Home Page at http://vista.med.va.gov/hl7/

Package Management

The LEDI II software application consists of the following mail groups, alerts, security keys, VA FileMan access codes, and security information.

Contingency Planning

Each facility using the LEDI IIsoftware application **must** develop a local contingency plan to be used in the event of application problems in a live environment. The facility contingency plan **must** identify procedures used for maintaining the functionality provided by the software in the event of a system outage.

File Security

LEDI II changes and enhancements **do not** modify any existing file security schemes. New files exported by the patch installation have no file security applied. However, VA FileMan security access Ll code is recommended if file security is deemed necessary by the facilities.

Security Keys

LRDATA key

The LRDATA security key is used to identify personnel that are allowed to edit or change test results that were done by another laboratory. If an associated division did not generate the results, this security key is required to change the results. The Laboratory responsible for the original lab test results **must** send and edit the LEDI II messages to correct errors.

LRLEDI Security Key

The LRLEDI security key is used to identify users that are charged with the setup and configuration of the LEDI II software functionality. In most instances, the LRLIASON key holder would also hold this key.

NOTE: LEDI II setup options are exported with the LRLEDI security key already assigned.

Electronic Signature

There are no electronic signatures utilized in the **V*IST*A** LEDI II software application.

Purging Capabilities

LEDI II purging capabilities are provided through the Universal Interface (UI) software. The Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option is used to purge messages in the LA7 MESSAGE QUEUE file (#62.49) when the messages become eligible for purging. This option **must** be scheduled to run daily, preferably during a period when activity in the Lab Messaging (i.e., UI and LEDI software) is at a minimum. See the Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option description for additional information and functionality. Purging of messages for each configuration can be set in the LA7 MESSAGE PARAMETER file (#62.48) using the Grace Period For Messages field (#3). The Default value is 3 days.

Instrument Interfacing

LEDI II is an enhancement to Laboratory V. 5.2 and does not specifically involve instrument interfacing. All electronic communication is via established HL7 procedures for transmitting messages. The **V*IST*A** Laboratory HL7 Interface Standards have been enhanced to accommodate expanded messaging capability.

Remote Systems

Remote systems are defined as any computer system sending to and receiving HL7 messages from the Host laboratory computer system. In VA-to-VA configurations – this can be within the same system (i.e. multidivisional sites), or it can be from one system to another system, (i.e. non-related sites). In the case of non-VA computer systems, connection to remote systems is done via Generic Instrument Manager (GIM). The GIM is the remote system, not the non-VA computer system.

NOTE: As of the release date of this software, there is no national solution to implement a laboratory electronic HL7 standard interface to a facility or other entity outside the VA wide area network. National communication security concerns are still being debated by the Department of Veterans Affairs (VA) and are awaiting resolution. At present, a VA medical center, which intends to utilize this software in conjunction with an interface to a commercial reference laboratory or other non-VA information system entity, will need to coordinate with the vendor an acceptable communication method. Any implementation will need to be approved by the facility and VISN Information Security Officer (ISO) and meet current VA security requirements for external electronic connections. See VHA Directive 6212, Security of External Electronic Connections and VHA Directive 6210, Automated Information Systems (AIS) Security for additional information and guidance. Additional security information may be obtained from the Health Information Security Service (HISS) web page at http://vaww.va.gov/miss/

Implementation of a HL7 messaging interface between the VA **V*IST*A** Laboratory package and a non-VA information system consists basically of three parts:

- **V*IST*A** Laboratory LEDI II software.
- Certified communication software and hardware.
- Non-VA information system capable of sending and receiving Laboratory HL7 order and result messages.

All three parts must be functional to utilize the capabilities of this LEDI II software patch. The implementation, setup, and configuration of vendor provided hardware and software are NOT addressed by this documentation. Consult the vendor provided documentation and instructions to interface to the **V*IST*A** Laboratory package.

LEDI II utilize the HL7 V. 2.3.1 Standard and the **V*IST*A** HL V. 1.6 software to transmit and receive HL7 messages via VA MailMan or Transmission Control Protocol/Internet Protocol (TCP/IP). The software transmits unsolicited order and result messages and receives acknowledgments back confirming or opposing the proper delivery of the messages. One order message is transmitted for every manifest or lab delivery to a remote facility system. One result message is sent to each facility per verifying session. To reduce the turn around time and network mail traffic, TCP/IP is recommended as the message delivery medium.

LEDI II Mail Groups

The following mail groups are required to successfully utilize the LEDI II functionality. LEDI II uses VA MailMan or TCP/IP as the medium to transmit and receive data from remote systems.

LAB MESSAGING Mail Group:

This is a general mail group used by the LAB Universal Interface and LEDI II software to address alerts when conditions are detected requiring review and/or corrective action. The members of this mail group should, at the minimum, include the LIM and selected Lab and IRM personnel responsible for maintenance and support of the LAB Universal Interface and LEDI IIsoftware. The software utilizes several Kernel Alerts. These alerts are triggered and sent to members of the LAB MESSAGING mail group for the following conditions:

- When the scheduled tasked Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option or the Start/Stop Auto Download Background Job [LA7 ADL START/STOP] option is run and more than 500 entries are found scheduled for downloading via the Lab Universal Interface an alert is sent notifying members of this condition.

- When the scheduled tasked Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option or the Lab Messaging File Integrity Checker [LA7 CHECK FILES] option is run and LA7 MESSAGE QUEUE file (#62.49) is found to have bad entries and/or cross-references. An alert is sent notifying members of this condition.

LA7V* Mail Groups:

These mail groups are used by the HEALTH LEVEL SEVEN package for transmitting LEDI HL7 messages when VA MailMan is selected as the HL7 communication protocol. These mail groups are created by the LEDI Setup [LA7V SETUP] option using the LA7V name space concatenated with the receiving facility's primary station number. For example, to send HL7 messages to Dallas OI Field Office, VA Station Number 170, the LEDI Setup option would create a mail group LA7V 170. Other than the remote member added by the LEDI Setup option, no local or remote members should be added to these mail groups.

Local Mail Groups:

It is highly recommended that each facility designate local mail groups for receiving the "New Results", "Orders Received", and the "Error on Message " alerts associated with the LEDI II software application. Please review the following section on ALERTS for information on the various alerts that are generated by LEDI II.

Alerts

LEDI II software uses the LA7 MESSAGE PARAMETER file (#62.48) for sending alerts to the mail group specified in the Alert Condition subfile (#68.481). The facility should designate a local mail group to use for notification of the alerts. These alerts and the associated mail group are configured using the LEDI Setup [LEDI SETUP] option, within the message configuration section of this option. The following are the three types of alerts that can be turned on for each configuration:

1. **New Results Alert -** notifies members when the Lab Universal Interface software has processed an HL7 message containing test results. An example of this information type of alert is: "Lab Messaging – New results received for LA7V HOST 578".

2. **Error Alert -** notifies members of error conditions encountered during the processing of a Laboratory Universal Interface message. Recommend that sites utilize the LAB MESSAGING mail group to notify local users of error conditions within the Laboratory Universal Interface/LEDI software. Processing the alert allows the user to view/print the error message and the associated HL7 message. An example of this action type of alert is: "Lab Messaging error #17 on message #246164473".

3. **New Orders Received Alert** – notifies members when the Laboratory Universal Interface software has received electronic orders related to a collecting facility's shipping manifest. An example of this information type of alert is: "Lab Messaging - Manifest# 537-20011030-3 received from LA7V COLLECTION 537".

LEDI II Implementation Instructions

This section contains detailed instructions to successfully implement the LEDI II software application. LEDI II setup instructions **must** be performed in sequence, by IRM and LIM staff. The setup instructions are listed in step-by-step order.

NOTE: A checklist is provided at the end of this implementation section to ensure that the LEDI II implementation process has been completed as instructed in this section.

LEDI II Two-Part Implementation Setup

The LEDI II software application requires the following two-part implementation setup:

Collection *facility laboratories* ***must*** *be setup to perform the following:*

- Create an electronic Shipping Manifest (i.e., specifying lab tests to be performed by the receiving host facility laboratory).
- Transmit the Shipping Manifest to the host facility laboratory.
- Transport the specimens to the host facility laboratory.

Host *facility laboratories* ***must*** *be setup to perform the following:*

- Receive the electronic Shipping Manifest List (transmitted by the collection facility laboratory).
- Scan the Shipping Manifest upon specimen arrival at the host facility.
- Bar codes the specimen arrival at the host facility.
- Perform the specified lab tests and verifies the lab test results.
- Transmit lab test results back to the collection facility.

IRM and LIM Setup Instructions

NOTES:

The collection and host facilities IRM and LIM staff **must** coordinate the LEDI II implementation setup once the LA*5.2*46 and LR*5.2*222 patches have been installed.

The IRM and LIM staff **must** perform the LEDI II implementation setup instructions in the sequence specified below.

Step #1 - IRM: INSTITUTION file (#4) Setup

LEDI II software application uses the INSTITUTION file (#4), NAME field (#.01), DOMAIN field (#60), AGENCY CODE field (#95), and the STATION NUMBER field (#99), to identify both the collection and host facilities.

IRM: Use VA FileMan [DIUSER], Enter or Edit File Entries [DIEDIT] option to appropriately define the following four fields:

NAME field (#.01): Enter the name of the instiution for both the host and collection facilities. Applies ONLY for non-VA entries. The Institution Master File maintains nationally controlled entries.

DOMAIN field (#60) (VA facilities **ONLY): I**f this field is null the VA facilites **must** manually add the server to the mail group that is created by the LEDI Setup [LA7V SETUP] option. Using VA MailMan as the HL7 transport protocol is ONLY supported when both collection and host facilities are VA faciltities. Other non- VA facilities using VA MailMan for their HL7 message transfer **must** update the DOMAIN field (#60) for the associated facilities. Updating this field allows the LEDI Setup [LA7V SETUP] option to automatically setup the HL7 remote server for the host or collection facility laboratories.

NOTES:

The LEDI Setup [LA7V SETUP] option also creates an LA7V xxx mail group, (i.e., xxx is the VA facility's station number). This mail group uses the LA7V namespace concatenated with the receiving facilities primary station number.

If the DOMAIN field (#60) contains data, the LEDI Setup [LA7V SETUP] option automatically adds the HL7 remote server to the MAIL GROUP file (#3.8), REMOTE MEMBERS field (#12).

Faciltities using TCP/IP for their HL7 transport protocol will require additional setup of the HL7 links by IRM after the LEDI Setup [LA7V SETUP] option is used to create the necessary HL7 links.

AGENCY CODE field (#95): This field indicates to the LEDI II software whether the facility is a VA or non-VA facility. Applicable only for non-VA entries. The Institution Master File maintains nationally controlled entries. The AGENCY CODE field (#95) should be defined as follows:

- VA Facilities: **VA**
- Military Facilities (by the appropriate branch of service): **AIR FORCE, ARMY, or NAVY)**
- Indian Health Service: **HIS**
- Commercial reference laboratories and non-US government health care facilities: **OTHER**

NOTE: The LEDI Setup [LA7V SETUP] option uses the AGENCY CODE field (#95) to determine the status of the facility and how to setup the LEDI II software application.

STATION NUMBER field (#99) (VA facilities ONLY, unique number): The Institution Master File maintains nationally controlled entries. LEDI II uses the VA facility station number, for configuring VA facilities and creating the Lab Shipping files setup entries using the Lab Shipping Management [LA7S MGR MENU] menu.

Step #2 IRM: Create Local LEDI Mail Groups

IRM: Use VA FileMan [DIUSER], Enter or Edit File Entries [DIEDIT] option to create local LEDI mail groups and to add designate members. It is highly recommended that the LIM be designated as a member of all the LEDI mail groups. The LEDI mail groups are also used by the LEDI alert system.

NOTES:

DO NOT add any local or remote members to the LAV7* mail groups.

DO NOT use the LAV7*mail groups for local LEDI alerts.

Step #3 IRM: Schedule the Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option

IRM: Use Taskman Management [XUTM MGR], Schedule/Unschedule [XUTM SCHEDULE] option to schedule the Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option to run daily. This scheduled option will purge all data in the LA7 MESSAGE QUEUE file (#62.49).

Example: Scheduling the Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option to run daily.

```
Select OPTION to schedule or reschedule: LA7TASK NIGHTY<RET>   Lab Messaging
Nightly Cleanup
         ...OK? Yes//<RET>   (Yes)

                          Edit Option Schedule
    Option Name: LA7TASK NIGHTY<RET>
    Menu Text: Lab Messaging Nightly Cleanup            TASK ID: 8278506


  QUEUED TO RUN AT WHAT TIME: JUL 14,1997@23:15<RET>

DEVICE FOR QUEUED JOB OUTPUT: NULL DEVICE;P-OTHER;132;64<RET>

 QUEUED TO RUN ON VOLUME SET:<RET>

      RESCHEDULING FREQUENCY: 1D<RET>

             TASK PARAMETERS:<RET>

            SPECIAL QUEUEING:<RET>

_____________________________________________________________________________
Exit     Save     Next Page     Refresh

Enter a command or '^' followed by a caption to jump to a specific field.

COMMAND: N                                    Press <PF1>H for help    Insert
                       Edit Option Schedule
    Option Name: LA7TASK NIGHTY<RET>
    ____________________________________________________________________

VARIABLE NAME: LA7FIX                   VALUE: 0
    VARIABLE NAME: LA7ION                   VALUE: "IRM DEVELOP LASER1"
    VARIABLE NAME: LA7LOG                   VALUE: 1
    VARIABLE NAME:                          VALUE:
    VARIABLE NAME:                          VALUE:
```

Step #4 LIM: Collection and Host Facilities Information Requirements

Host Facility

The host facility laboratory **must** provide the collection facility laboratory with the following information requirements:

- Specimen collection requirements
- Schedule of testing
- List of tests for panel tests
- Normal range and critical values
- Patient prep instructions load
- Provide a list of National Lab Test (NLT) codes used by the host facility laboratory. (VA Host facility only)

> **NOTE:** The Electronic Catalog Menu [LAS7 CATALOG MENU] can be used to produce a list of the host facility NLT codes. This menu is located on the Lab Shipping Management Menu [LA7S MGR MENU], which is located on the Lab Liaison Menu [LRLIAISON].

- NLT order code to be used to order the test
- NLT Result/LOINC codes used to report the results
- Accession Area numeric identifier (VA Host facility only)
- Bar-code symbology and label stock
- Provide the collection facility laboratory with a list of lab tests that are available for processing. **Note:** The Electronic Catalog Menu [LAS7 CATALOG MENU] may also be used to produce a list of the host facility available lab tests requiring processing.

Step #4 continued for HOST facility

- Define and configure a Lab Shipping Configuration entry for each Collection facility laboratory. This configuration determines how the LAB PENDING ORDERS file (#69.6) data is created from the HL7 message containing the electronic Shipping Manifest, what host facility lab tests are ordered, the collection sample, and lab test urgency.

NOTES:

The LEDI II software application allows the host facility laboratory to accession and use the collecting facility's laboratory unique identifier (UID) bar-coded specimen labels. If the host facility laboratory does not want to re-label specimens, the collection facility laboratory **must** be assigned a two character NUMERIC IDENTIFIER for the accession area that the collection facility will use for shipping the specimens.

The host facility **must not** use this NUMERIC IDENTIFIER for any local accessioning. This NUMERIC IDENTIFIER is to be used ONLY by the collection facility laboratory for which it was assigned.

Collection Facility

NOTE: The collection and host facility laboratories **must** establish which lab tests will be processed.

LIM (collection facility): The host facility laboratory **must** provide the collection facility laboratory with the following information requirements:

- Provide a list of the NLT codes and specimen requirements used by the host facility laboratory. The Electronic Catalog Menu [LAS7 CATALOG MENU] can be used to produce a list of the host facility NLT codes. This menu is located on the Lab Shipping Management Menu [LA7S MGR MENU] located on the Lab Liaison Menu [LRLIAISON]. (VA Host facility only)

Step #4 continu for COLLECTION facility

NOTE: The collection facility **may** utilize existing lab test entries in the LABORATORY TEST file (#60), providing the entries are compatible with the host facility's requirements.

- The collection facility **must** create a Load List to define and accept lab test results transmitted by the host facility. The Load List **must** contain all of the lab tests that are processed by the host facility laboratory. The host facility can generate a list of their facility lab tests by using the Electronic Catalog Menu [LA7S CATALOG MENU].

NOTE: If the host facility will be forgoing relabelling specimens received from the collection facility then the host facility **must** provide the collection facility with a NUMERIC IDENTIFIER for creating an accession area.

- The collection facility **must** create an accession area in the ACCESSION file (#68).

  LIM (collection facility): Using VA FileMan [DIUSER], Enter or Edit [DIEDIT] option assign the NUMERIC IDENTIFIER provided by the host facility to ACCESSION file (#68), NUMERIC IDENTIFIER field (#.4). These specimens/lab tests **must** be accessioned to that specific accession area.

NOTE: If the host facility will be re-labeling the collection facility specimens, then the collection facility may use any accession area for these specimens/lab tests.

Step #5 LIM (collection facility): Lab Shipping Files Setup

Collection Facility:

Collection facility laboratory setting up a host facility laboratory for lab test requests and shipping specimens **must** configure the following four Lab Shipping files in the order listed below:

1. LAB SHIPPING METHOD file (#62.92) contains the transport method used to ship specimens (i.e., by Courier, Taxi, FEDEX, UPS, etc.).

2. LAB SHIPPING CONDITION file (#62.93) contains entries that describe the conditions under which a lab shipment is transported (i.e., Ambient temperature, Frozen, Refrigerated, etc.).

3. LAB SHIPPING CONTAINER file (#62.91) contains the type of containers that the laboratory uses to ship lab test specimens. There are basically three types of containers used for shipping lab test specimens:

   - **Primary –** specimen is shipped in the original collection container.
   - **Aliquot -** specimen transferred to a tube/jar before shipment.
   - **Packaging –** packaging containers used for holding the specimen containers.

4. LAB SHIPPING CONFIGURATION (#62.9) contains the specimen volume, weight, collection end date/time (collection duration), patient height, and weight. LOINC codes are used to identify patient height, weight, and specimen weight when deemed appropriate.

NOTE: Online help is available by entering two question marks ("??") at the field prompt.

Step #5 continue for COLLECTION facility

Collection Facility:

The LAB SHIPPING METHOD file (#62.92) **must** be configured **first**. This file contains the transport method used to ship specimens (i.e., by Courier, Taxi, FEDEX, UPS, etc.).

LIM (collection facility): Use the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Method [LA7S EDIT 62.92] option, located on the Lab Liaison menu [LRLIAISON] to configure the LAB SHIPPING METHOD file (#62.92).

Example: CME Edit Shipping Method [LA7S EDIT 62.92] option

```
Select Lab liaison menu Option: SMGR<RET>  Lab Shipping Management Menu

Select Lab Shipping Management Menu Option: ?<RET>

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu

Enter ?? for more options, ??? for brief descriptions, ?OPTION for help text.

Select Lab Shipping Management Menu Option: CME<RET>  Edit Shipping Method
Select SHIPPING METHOD: ?<RET>
 Answer with LAB SHIPPING METHOD NAME
     You may enter a new LAB SHIPPING METHOD, if you wish
     NAME MUST BE 3-30 CHARACTERS, NOT NUMERIC OR STARTING WITH
     PUNCTUATION
Select SHIPPING METHOD: FEDEX<RET>
  Are you adding 'FEDEX' as a new LAB SHIPPING METHOD (the 1ST)? Y<RET> (Yes)
NAME: FEDEX//<RET>

Select Lab Shipping Management Menu Option: CME<RET>   Edit Shipping Method
Select SHIPPING METHOD: COURIER<RET>
  Are you adding 'COURIER' as a new LAB SHIPPING METHOD (the 2ND)? Y<RET>
(Yes)
NAME: COURIER//<RET>
```

Step #5 continued for COLLECTION facility

Collection Facility:

The LAB SHIPPING CONDITION file (#62.93) is the **second** file to be configured. This file contains entries that describe the conditions under which a lab shipment is transported (i.e., Ambient temperature, Frozen, Refrigerated, etc.).

LIM (collection facility): Use the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Condition [LA7S EDIT 62.93] option to configure the LAB SHIPPING CONDITION file (#62.93).

Example: CDE Edit Shipping Condition [LA7S EDIT 62.93] option

```
Select Lab liaison menu Option: SMGR<RET>  Lab Shipping Management Menu

Select Lab Shipping Management Menu Option: ??<RET>

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu


Select Lab Shipping Management Menu Option: CDE<RET>  Edit Shipping Condition
 Use this option to setup the Lab Shipping Condition file.

Select SHIPPING CONDITION: ?<RET>
 Answer with LAB SHIPPING CONDITIONS NAME
     You may enter a new LAB SHIPPING CONDITIONS, if you wish
     NAME MUST BE 3-30 CHARACTERS, NOT NUMERIC OR STARTING WITH
     PUNCTUATION
Select SHIPPING CONDITION: Room Temperature<RET>
  Are you adding 'Room Temperature' as
    a new LAB SHIPPING CONDITIONS (the 1ST)? No// Y<RET>   (Yes)
NAME: Room Temperature//<RET>
ABBREVIATION: RT<RET>
```

Step #5 continued for COLLECTION facility

Collection Facility:

The LAB SHIPPING CONTAINER file (#62.91) is the **third** file to be configured by the collecting facility. This file contains the type of containers that the laboratory uses to ship lab test specimens. There are basically three types of containers used for shipping specimens:

- **Primary –** specimen is shipped in the original collection container.
- **Aliquot -** specimen transferred to a tube/jar before shipment.
- **Packaging –** packaging containers used for holding the specimen containers.

LIM (collection facility): Use the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Container [LA7S EDIT 62.91] option to configure the LAB SHIPPING CONTAINER file (#62.93).

Example: CTE Edit Shipping Container [LA7S EDIT 62.91] option

```
Select Lab liaison menu Option:SMGR<RET> Lab Shipping Management Menu

Select Lab Shipping Management Menu Option: ?

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu

Select Lab Shipping Management Menu Option: CTE<RET> Edit Shipping Container
 Use this option to setup the Lab Shipping Container file.

Select SHIPPING CONTAINER: ?<RET>
 Answer with LAB SHIPPING CONTAINER NAME
     You may enter a new LAB SHIPPING CONTAINER, if you wish
     NAME MUST BE 3-30 CHARACTERS, NOT NUMERIC OR STARTING WITH
     PUNCTUATION
Select SHIPPING CONTAINER: Plastic Tube<RET>
 Are you adding 'Plastic Tube' as
    a new LAB SHIPPING CONTAINER (the 1ST)? No// Y<RET>  (Yes)
NAME: Plastic Tube//<RET>
TYPE: ?<RET>
     Enter what this container is used for.
     Choose from:
       1        PACKAGING
       2        PRIMARY
       3        ALIQUOT
TYPE: 3  ALIQUOT<RET>
```

Step #5 continue for COLLECTION facility

Collection Facility:

The LAB SHIPPING CONFIGURATION file (#62.9) is the **fourth** and final file to be configured by the collection facility. When configuring this file to send specimens/tests requests to a **Commercial Reference Laboratory** (i.e., *non-VA facility*) it is very important that the INSTITUTION file (#4), for the *non-VA facility* have the AGENCY CODE field (#95) entry defined as "OTHER". The LEDI II software asks for a three-letter identifier to identify this facility in lieu of the VA station number. During development and testing of the LEDI II software with **Commercial Reference Laboratories** the following three-letter identifiers were used:

- American Medical Laboratories – **AML**
- Laboratory Corporation of America – **LCA**
- Quest Diagnostics, Incorporated - **QDI**

Commercial Reference Laboratory (i.e., non-VA facility) Setup Example

LIM (collection facility): Use the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Configuration [LA7S EDIT 62.9] option to configure the LAB SHIPPING CONFIGURATION file (#62.9) for **a Commercial Reference Laboratory** *(i.e., non-VA facility).*

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option

```
Select Lab Shipping Management Menu Option: ?<RET>

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu ...


Select Lab Shipping Management Menu Option: CFE<RET>  Edit Shipping
Configuration
  Use this option to setup your Lab Shipping Configuration file.

Select OPTION NAME:    LA7S EDIT 62.9<RET>     Edit Shipping Configuration
Edit Shipping Configuration
```

Step #5 continues for collection facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to setup a **Commercial Reference Laboratory** *(non-VA facility).*

```
Select SHIPPING CONFIGURATION: XYZ COMMERCIAL REFERENCE LAB<RET>
  Are you adding 'XYZ COMMERCIAL REFERENCE LAB' as a new LAB SHIPPING
  CONFIGURATION (the 10TH)? No// Y<RET>  (Yes)
  LAB SHIPPING CONFIGURATION COLLECTING FACILITY: MILWAUKEE, WI<RET>  WI  VAMC
  695 LAB SHIPPING CONFIGURATION HOST FACILITY: XYZ REFERENCE LAB<RET>    WI

     Select one of the following:<RET>

          1         Collecting facility
          2         Host facility

Are you editing this entry as the: ??<RET>

      Is this entry used by the Collecting facility to ship specimens,
      or by the Host facility to accept a shipment.
      This determines which fields are edited in the file.

     Select one of the following:

          1         Collecting facility
          2         Host facility

Are you editing this entry as the: 1<RET> Collecting facility
NAME: XYZ COMMERCIAL REFERENCE LAB Replace<RET>
COLLECTING FACILITY: MILWAUKEE, WI//<RET>
COLLECTING FACILITY'S SYSTEM: ??<RET>
      The name of the institution, which houses the computer system from
      which the sender transmitted/sent the order.

COLLECTING FACILITY'S SYSTEM: MILWAUKEE, WI<RET>    WI        VAMC      695
HOST FACILITY: XYZ REFERENCE LAB//<RET>
HOST FACILITY'S SYSTEM: XYZ REFERENCE LAB<RET>    WI
NON-VA SYSTEM IDENTIFIER: ??<RET>
        If this is used to communicate with a non-VA system,
        enter the 2-3 character identifier used to name the HL7 application.

NON-VA SYSTEM IDENTIFIER: XYZ<RET>
ACCOUNT NUMBER: 1234XYZ<RET>
TEST CODING SYSTEM: ??<RET>
     Answer with type of coding system to use for this configuration.
     Choose from:
       0        NLT
       1        NON-VA
       2        LOINC
```

Step #5 continued for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option

```
TEST CODING SYSTEM: ??<RET>
      If orders are being sent to a non-VA facility and the facility can not
      accept VA test order codes then answer with the type of coding system.
      "NON-VA" indicates that the other system is using a local coding system.
      The laboratory shipping software will then use the non-VA test codes
      entered for each test on this configuration.

     If the non-VA facility can accept VA test codes then answer "NLT" and
     the software will sent VA test order codes.

     VA test order codes are usually NLT codes but in the future will
     Probably be LOINC codes. Selecting "LOINC" is currently not supported.
     Support willbe added in a future version of the LEDI software when
     LOINC coding has been implemented within VA facilities.
     Choose from:
       0        NLT
       1        NON-VA
       2        LOINC
TEST CODING SYSTEM: 1<RET> NON-VA
STATUS: ??<RET>
      This field is used to designate whether this shipping configuration is
      "active", i.e. selectable by the user for use in building, processing
      and receipting shipments of laboratory test.
     Choose from:
       0        INACTIVE
       1        ACTIVE
STATUS: 1<RET>  ACTIVE
LAB MESSAGING LINK:<RET>
        This field is used to link a shipping configuration with an
        electronic transmission of shipping manifests. When a shipping
        manifest is shipped, this field is checked to determine if the
        software should transmit the orders on the manifest to the host
        facility. It identifies the entry in the LA7 MESSAGE PARAMETER file
        #62.8 to use for building and transmitting the manifest.
Note: leave this field blank when initially setting up configuration. Then
after using LEDI Setup option enter the message configuration created in file
#62.8.
LAB MESSAGING LINK:<RET>
SHIPPING METHOD: ??<RET>
        Enter the method used to transport a shipment.
    Answer with LAB SHIPPING METHOD NAME:
   QUEST COURIER
SHIPPING METHOD: QUEST COURIER<RET>
BARCODE MANIFEST: ??<RET>
      This field determines if site/patient/specimen information is barcoded
      on the shipping manifest when it has a status of "shipped".
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option

```
        There are two styles of bar codes. The regular style (code="YES"),
        Which was released with the original version of Laboratory Electronic
        Data Interchange (LEDI), produces a long bar code. If the receiving
        site, which is reading these type of bar codes, has problems then
        switch to the compact style (code="YES-COMPACT"). This will produce
        a shorter bar code.

     Choose from:
       0        NO
       1        YES
       2        YES-COMPACT
BARCODE MANIFEST: N<RET>  NO
MANIFEST RECEIPT: ??<RET>
        Allows site to have a receipt printed with a shipping manifest when
        the status of the manifest is "SHIPPED". This receipt can be used to
        record acknowledgment of receipt of the shipment by the courier
        service used to transport the specimens to the host facility.

     Choose from:
       0        NO
       1        YES
MANIFEST RECEIPT: Y<RET>  YES
INCLUDE UNCOLLECTED SPECIMENS: ??<RET>
        If specimens that are still pending receipt in lab are to build on a
        shipping manifest then answer "YES". If only specimens that have been
        received in the lab, i.e. have a lab arrival time, are to build then
        answer "NO".
        If field is blank then default is "NO".
     Choose from:
       0        NO
       1        YES

INCLUDE UNCOLLECTED SPECIMENS: N<RET>  NO
Select TEST/PROFILE: PROSTATIC SPECIFIC ANTIGEN<RET>
  Are you adding 'PROSTATIC SPECIFIC ANTIGEN' as
  a new TEST/PROFILE (the 1ST for this LAB SHIPPING CONFIGURATION)? No//
Y<RET>  (Yes)
  ACCESSION AREA: SENDOUTS// ??<RET>
        COLLECTION FACILITIES:<RET>

        This field is used to designate the accession area to check when
        searching for tests to build onto a shipping manifest. If it is blank
        then the building process will skip over this test.

        HOST FACILITIES:<RET>
        Not used by software at host facilities.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option

```
 ACCESSION AREA: SENDOUTS//<RET>
DIVISION: ??<RET>
      Collecting facilities:<RET>
      If the manifest building process should only build accessions'
      from a certain division on a manifest then enter the division
      to screen these accessions. The division used here will be the
      division associated with the user who created the accession.
      This field will allow a site to screen accessions from
      multiple divisions, only placing on the manifest an accession
      from the specified division.

      Host facilities: This field not used.

DIVISION: MILWAUKEE, WI<RET>          WI                    VAMC      695
SPECIMEN: ??<RET>
      This field is used to determine if a test for a particular specimen
      type should build on the shipping manifest. If left blank, i.e. no
      entry then all specimens for this test are eligible for building on
      a shipping manifest. If a specimen type is entered then the specimen
      type of the accession must match before the test is eligible for
      building onto a shipping manifest.

 SPECIMEN: SERUM<RET>       0X500
URGENCY: ??<RET>
      COLLECTING FACILITIES:<RET>
      If shipping laboratory tests that are a certain
      urgency, specify the urgency that must match the
      test urgency of the accession for the accession/test
      to be placed on the shipping manifest.

      HOST FACILITIES:<RET>
      This field is used by LEDI software at the host
      facility to determine the entry in the host site's
      URGENCY file (#62.05) to use for ordering when the
      host site has more than one entry in the URGENCY
      file (#62.05) that maps to the same HL7 PRIORITY.

      Example: Host site has three urgencies which
               map to HL7 PRIORITY: ROUTINE (R).

       Entry #     Name               LEDI HL7
       -------     ---------------    --------
        2          PATIENT WAITING    ROUTINE
        9          ROUTINE            ROUTINE
       10          NO RUSH            ROUTINE
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to setup a **Commercial Reference Lab** *(non-VA facility)***.**

```
         If there is no mapping defined for this field,
         then the LEDI software will use the last entry
         in the URGENCY file that maps to HL7 PRIORITY:
         ROUTINE (R); workload urgencies are excluded.
         In this case the test would be ordered with a
         URGENCY of NO RUSH.

         If the host site enters a mapping in this field,
         i.e. ROUTINE then the test will be ordered using
         the host site's entry for ROUTINE in the URGENCY
         file when the HL7 PRIORITY matches.

   Choose from:
   1            STAT
   2            PATIENT WAITING
   3            PRE-OP
   4            CRITICAL
   5            ZZADMIT
   6            ZZOUTPATIENT
   7            ZZPURPLE TRIANGLE
   9            ROUTINE

  URGENCY: 9<RET>  ROUTINE
  SPECIMEN CONTAINER: ??<RET>
        COLLECTING FACILITIES:<RET>

        The container used to hold the specimen. This could be the original
        collection container or a tube/vial/jar that the specimen is
        transferred to prior to shipment to another facility. It is the
        container that actually hold/contains the specimen.
        HOST FACILITIES:

This field is presently not used by LEDI software at the host facility.
   Choose from:
   Plastic Tube
   Primary tube
   STERILE CUP
   STOOL CUP-SENDOUT
  SPECIMEN CONTAINER: Primary tube<RET>

  SHIPPING CONDITION: ??<RET>
        COLLECTING FACILITIES:<RET>

This field describes under what temperature/environmental condition the
specimen is to be shipped. Examples would be frozen, refrigerated, or ambient
temperature.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to setup a **Commercial Reference Lab** *(non-VA facility)***.**

```
        HOST FACILITIES:<RET>

        This field is presently not used by LEDI software at the
        host facility.

   Choose from:<RET>
   Ambient/Room Temperature
   FROZEN
   Refrigerated
  SHIPPING CONDITION: Refrigerated

  PACKAGING CONTAINER: ??<RET>
        COLLECTING FACILITIES:<RET>

        This field is used to determine what packaging container a test's
        specimen container is placed in when the specimen is being shipped
        to another facility.

        HOST FACILITIES:<RET>
This field is presently not used by LEDI software at the host facility.

   Choose from:<RET>
   Box, Container
  PACKAGING CONTAINER: Box, Container<RET>
  REQUIRE PATIENT HEIGHT: ??<RET>
        Allows site to specify that the patient's height is sent with an order
        for this test. Patient's height will be prompted for and printed on
        manifest.
     Choose from:<RET>
       0        NO
       1        YES
  REQUIRE PATIENT HEIGHT: N<RET> NO
  PATIENT HEIGHT UNITS: ??<RET>
        Units used to measure the patient's height.
        Select an entry from the LAB ELECTRONIC CODE
        file (#64.061) that are measurements.

  PATIENT HEIGHT UNITS:<RET>
  PATIENT HEIGHT CODE: ?? <RET>
      Select the appropriate LOINC code to identify the patient's height.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to setup a **Commercial Reference Lab** (non-VA facility).

```
PATIENT HEIGHT CODE:<RET>
REQUIRE PATIENT WEIGHT: ??<RET>
      Determines if the patient's weight is required
      to be sent in the HL7 ORM order message and
      printed on the shipping manifest.  Actual
      shipping and/or electronic transmission of a
      shipping manifest will check for entry of the
      patient's weight and prevent release if absent.

   Choose from:
     0        NO
     1        YES
REQUIRE PATIENT WEIGHT:<RET>
PATIENT WEIGHT UNITS: ??<RET>
      Units used to measure the patient's weight.
      Select an entry from the LAB ELECTRONIC CODE
      file (#64.061) that are measurements.

PATIENT WEIGHT UNITS:<RET>
PATIENT WEIGHT CODE: ??<RET>
      Select the appropriate LOINC code to identify the patient's weight.

PATIENT WEIGHT CODE:<RET>

REQUIRE COLLECTION VOLUME: ??<RET>
      Determines if the specimen's collection volume
      is required to be sent in the HL7 ORM order
      message and printed on the shipping manifest.
      Actual shipping and/or electronic transmission
      of a shipping manifest will check for entry of
      the specimen's collection volume and prevent
      release if absent.

   Choose from:<RET>
     0        NO
     1        YES
REQUIRE COLLECTION VOLUME:<RET>
COLLECTION VOLUME UNITS: ??<RET>
      Units used to measure the specimen's collection
      volume.  Select an entry from the LAB ELECTRONIC
      CODE file #64.061) that is a measurement.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to setup a **Commercial Reference Lab (non-VA facility)**

```
COLLECTION VOLUME UNITS:<RET>
COLLECTION VOLUME CODE: ??<RET>
      Enter the appropriate LOINC code to identify
      the specimen's collection volume.

COLLECTION VOLUME CODE:<RET>
REQUIRE COLLECTION END D/T: ??<RET>
      Determines if the specimen's collection end
      date/time is required to be sent in the HL7 ORM
      order message and printed on the shipping
      manifest.  Actual shipping and/or electronic
      transmission of a shipping manifest will check
      for entry of the specimen's collection end
      date/time and prevent release if absent.

   Choose from:<RET>
     0        NO
     1        YES
REQUIRE COLLECTION END D/T:<RET>
COLLECTION DURATION UNITS: ??<RET>
      Units used to calculate the specimen's
      collection duration.  Select an entry from the
      LAB ELECTRONIC CODE file (#64.061) that is a
      measurement and relate to time.

COLLECTION DURATION UNITS:<RET>
COLLECTION DURATION CODE: ??<RET>
      Enter the appropriate LOINC code to identify
      the specimen's collection duration.

COLLECTION DURATION CODE:<RET>
REQUIRE COLLECTION WEIGHT: ??<RET>
      Determines if the specimen's collection weight
      is required to be sent in the HL7 ORM order
      message and printed on the shipping manifest.
      Actual shipping and/or electronic transmission
      of a shipping manifest will check for entry of
      the specimen's collection weight and prevent
      release if absent.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to setup a **Commercial Reference Lab** *(non-VA facility).*

```
     Choose from:<RET>
       0        NO
       1        YES
  REQUIRE COLLECTION WEIGHT:<RET>
  COLLECTION WEIGHT UNITS: ??<RET>
        Units used to measure the specimen's collection weight.
        Select an entry from the LAB ELECTRONIC CODE file
        ( #64.061) that is a measurement.

   COLLECTION WEIGHT UNITS:<RET>
  COLLECTION WEIGHT CODE: ??<RET>
        Enter the appropriate LOINC code to identify
        the specimen's collection weight.

  COLLECTION WEIGHT CODE:<RET>
  NON-VA TEST ORDER CODE: ??<RET>
        Collecting faciliies:<RET>

        If sending test orders to a non-VA facility use this field to store
the test order codes used by the non-VA system. It will be used when the TEST
CODING SYSTEM field (#.14) is set to "NON-VA".

        Host facilities:<RET>
        If receiving test orders from a non-VA collecting facility that does
not use VA NLT codes use this field to map the collecting facilities test
order codes to the corresponding VA test.

  NON-VA TEST ORDER NAME:??<RET>
        Collecting facility:<RET>

        If sending test orders to a non-VA facility use this field to store
the test order name used by the non-VA system. The lab software will identify
the test name on the non-VA system when orders are transmitted electronically.
uses this field. It will be used when the TEST CODING SYSTEM field (#.14) is
set to "NON-VA".

        Host facility: <RET>
        Not used - mapping of non-VA tests coding systems
        for test order codes is via NON-VA TEST ORDER CODE
        field (#5.1).
NON-VA TEST ORDER CODE: XYZ-GLU123<RET>
Select TEST/PROFILE:
```

Step #5 continues for COLLECTION facility

LIM (collection facility): Use the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Configuration [LA7S EDIT 62.9] option to configure the LAB SHIPPING CONFIGURATION file (#62.9) for a **VA Facility**.

Example: CFE: Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility.**

```
Select Lab Shipping Management Menu Option: ?<RET>

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu ...

Select Lab Shipping Management Menu Option:CFE<RET> Edit Shipping
Configuration<RET>
Select SHIPPING CONFIGURATION:?<RET>
 Answer with LAB SHIPPING CONFIGURATION NAME, or COLLECTING FACILITY, or
     HOST FACILITY, or HOST FACILITY'S SYSTEM, or COLLECTING FACILITY'S SYSTEM
 Do you want the entire 11-Entry LAB SHIPPING CONFIGURATION List?<RET>
        You may enter a new LAB SHIPPING CONFIGURATION, if you wish
        Answer must be 3-30 characters in length.

Select SHIPPING CONFIGURATION: DALLAS OIFO SENDOUTS<RET>
  Are you adding 'DALLAS OIFO SENDOUTS' as
    a new LAB SHIPPING CONFIGURATION (the 12TH)? No// Y<RET>  (Yes)

     LAB SHIPPING CONFIGURATION COLLECTING FACILITY: ?<RET>
     Select the institution which will be collecting and shipping lab
     test specimens.
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 290-Entry INSTITUTION List?<RET>
LAB SHIPPING CONFIGURATION COLLECTING FACILITY: MILWAUKEE, WI<RET> WI VAMC 695
   LAB SHIPPING CONFIGURATION HOST FACILITY: ?<RET>
     Select the institution which will be the Host facility receiving the lab
     test shipment.
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 290-Entry INSTITUTION List?<RET>
   LAB SHIPPING CONFIGURATION HOST FACILITY: DALLAS OIFO<RET>    TX  ISC  170

     Select one of the following:<RET>

          1         Collecting facility
          2         Host facility
```

Step #5 continues for COLLECTION facility

Example: CFE: Edit Shipping Configuration [LA7S EDIT 62.9] option

```
Are you editing this entry as the: ?<RET>

Is this entry used by the Collecting facility to ship specimens, or by the
Host facility to accept a shipment.
This determines which fields are edited in the file.
     Select one of the following:
          1         Collecting facility
          2         Host facility

Are you editing this entry as the: 1<RET>  Collecting facility
NAME: DALLAS OIFO SENDOUTS  Replace<RET>
COLLECTING FACILITY: MILWAUKEE, WI//<RET>
COLLECTING FACILITY'S SYSTEM: ?<RET>
     Institution which has collector's computer system.
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 290-Entry INSTITUTION List?<RET>
COLLECTING FACILITY'S SYSTEM: MILWAUKEE, WI<RET>    WI        VAMC      695
HOST FACILITY: DALLAS OIFO//<RET>
HOST FACILITY'S SYSTEM: ?<RET>
     Institution which has host's computer system.
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 290-Entry INSTITUTION List?<RET>
HOST FACILITY'S SYSTEM: DALLAS OIFO<RET>    TX               ISC       170
STATUS: ? <RET>
     Enter the status of this sending/receiving combination.
     Choose from:
       0        INACTIVE
       1        ACTIVE
STATUS: A<RET> ACTIVE
LAB MESSAGING LINK:<RET>
SHIPPING METHOD: ?<RET>
        Enter the method used to transport a shipment.
    Answer with LAB SHIPPING METHOD NAME: QUEST COURIER<RET>

SHIPPING METHOD: QUEST COURIER<RET>
BARCODE MANIFEST: ??<RET>
        This field determines if site/patient/specimen information is barcoded
        on the shipping manifest when it has a status of "shipped".

        There are two styles of bar codes. The regular style (code="YES"),
        which was released with the original version of Laboratory Electronic
        Data Interchange (LEDI), produces a long bar code. If the receiving
        site, which is reading these type of bar codes, has problems then
        switch to the compact style (code="YES-COMPACT"). This will produce a
        shorter bar code.
```

Step #5 continues for the COLLECTION facility

Example: CFE: Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility**

```
     Choose from:?<RET>
       0        NO
       1        YES
       2        YES-COMPACT
BARCODE MANIFEST:2<RET> YES-COMPACT
MANIFEST RECEIPT:??<RET>
        Allows site to have a receipt printed with a shipping manifest when
        the status of the manifest is "SHIPPED". This receipt can be used to
        record acknowledgment of receipt of the shipment by the courier
        service used to transport the specimens to the host facility.

     Choose from:??<RET>
       0        NO
       1        YES
MANIFEST RECEIPT: 1<RET> YES
INCLUDE UNCOLLECTED SPECIMENS:??<RET>
        If specimens that are still pending receipt in lab are to build on a
        shipping manifest then answer "YES". If only specimens that have been
        received in the lab, i.e. have a lab arrival time, are to build then
        answer "NO".

        If field is blank then default is "NO".

     Choose from:<RET>
       0        NO
       1        YES
INCLUDE UNCOLLECTED SPECIMENS: N<RET>  NO
Select TEST/PROFILE: ?<RET>
        You may enter a new TEST/PROFILE, if you wish
        Enter the laboratory test that is used by this shipping
        configuration.

 Answer with LABORATORY TEST NAME, or LOCATION (DATA NAME), or
     PRINT NAME
 Do you want the entire 1359-Entry LABORATORY TEST List?
Select TEST/PROFILE: THEOPHYLLINE<RET>
  Are you adding 'THEOPHYLLINE' as a new TEST/PROFILE (the 1ST for this
  LAB SHIPPING CONFIGURATION)? No// Y<RET>  (Yes)
  ACCESSION AREA: ??<RET>
        COLLECTION FACILITIES:<RET>

        This field is used to designate the accession area to check when
        searching for tests to build onto a shipping manifest. If it is blank
        then the building process will skip over this test.
```

Step #5 continues for COLLECTION facility

Example: CFE: Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility**.

```
       HOST FACILITIES:<RET>
       Not used by software at host facilities.

 ACCESSION AREA: SENDOUTS<RET>
 DIVISION: ?<RET>
    Enter the accession's division (?? - additional help).
Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
    CURRENT LOCATION
Do you want the entire 290-Entry INSTITUTION List?<RET>
 DIVISION: ??<RET>
       Collecting facilities:<RET>

       If the manifest building process should only build accessions'
       from a certain division on a manifest then enter the division
       to screen these accessions. The division used here will be the
       division associated with the user who created the accession.
       This field will allow a site to screen accessions from
       multiple divisions, only placing on the manifest an accession
       from the specified division.

       Host facilities: This field not used.

  DIVISION: MILWAUKEE, WI          WI                    VAMC      695
 SPECIMEN: ??<RET>
       This field is used to determine if a test for a particular specimen
       type should build on the shipping manifest. If left blank, i.e. no
       entry then all specimens for this test are eligible for building on
       a shipping manifest. If a specimen type is entered then the specimen
       type of the accession must match before the test is eligible for
       building onto a shipping manifest.

 SPECIMEN: SERUM<RET>       0X500
 URGENCY: ?? <RET>
       COLLECTING FACILITIES:<RET>
       If shipping laboratory tests that are a certain
       urgency, specify the urgency that must match the
       test urgency of the accession for the accession/test
       to be placed on the shipping manifest.
```

Step #5 continues for the COLLECTION facility

Example: CFE: Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility**

```
       HOST FACILITIES:<RET>

       This field is used by LEDI software at the host
       facility to determine the entry in the host site's
       URGENCY file (#62.05) to use for ordering when the
       host site has more than one entry in the URGENCY
       file (#62.05) that maps to the same HL7 PRIORITY.

       Example: Host site has three urgencies which map to HL7 PRIORITY:
       ROUTINE (R).

        Entry #     Name               LEDI HL7
        -------     ---------------    --------
         2          PATIENT WAITING    ROUTINE
         9          ROUTINE            ROUTINE
        10          NO RUSH            ROUTINE

        If there is no mapping defined for this field,
        then the LEDI software will use the last entry
        in the URGENCY file that maps to HL7 PRIORITY:
        ROUTINE (R); workload urgencies are excluded.
        In this case the test would be ordered with a
        URGENCY of NO RUSH.

        If the host site enters a mapping in this field,
        i.e. ROUTINE then the test will be ordered using
        the host site's entry for ROUTINE in the URGENCY
        file when the HL7 PRIORITY matches.

  Choose from:
  1            STAT
  2            PATIENT WAITING
  3            PRE-OP
  4            CRITICAL
  5            ADMIT
  6            OUTPATIENT
  7            PURPLE TRIANGLE
  9            ROUTINE

 URGENCY:9<RET>ROUTINE
 SPECIMEN CONTAINER:??<RET>
       COLLECTING FACILITIES:<RET>

       The container used to hold the specimen. This could be the original
       collection container or a tube/vial/jar that the specimen is
       transferred to prior to shipment to another facility. It is the
       container that actually hold/contains the specimen.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility.**

```
        HOST FACILITIES:<RET>

        This field is presently not used by LEDI software at the host
facility.

  SPECIMEN CONTAINER: Primary tube<RET>
  SHIPPING CONDITION: ??<RET>
        COLLECTING FACILITIES:<RET>

        This field describes under what temperature/environmental condition
        the specimen is to be shipped. Examples would be frozen, refrigerated
        or ambient temperature.

        HOST FACILITIES:<RET>

        This field is presently not used by LEDI software at the
        host facility.

  SHIPPING CONDITION: Refrigerated<RET>
  PACKAGING CONTAINER: ??<RET>
        COLLECTING FACILITIES: <RET>

        This field is used to determine what packaging container a test's
        specimen container is placed in when the specimen is being shipped
        to another facility.

        HOST FACILITIES:<RET>
        This field is presently not used by LEDI software at the
        host facility.

  PACKAGING CONTAINER: Box, Container<RET>
  REQUIRE PATIENT HEIGHT: ?? <RET>
        Allows site to specify that the patient's height is sent with
        an order for this test. Patient's height will be prompted for
        and printed on manifest.

     Choose from: <RET>
       0        NO
       1        YES
  REQUIRE PATIENT HEIGHT: n<RET>  NO
  PATIENT HEIGHT UNITS: ??<RET>
        Units used to measure the patient's height.
        Select an entry from the LAB ELECTRONIC CODE
        file (#64.061) that are measurements.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility**.

```
PATIENT HEIGHT UNITS: <RET>
PATIENT HEIGHT CODE: ??<RET>
      Select the appropriate LOINC code to identify
      the patient's height.

PATIENT HEIGHT CODE:<RET>
REQUIRE PATIENT WEIGHT: YES// ??<RET>
      Determines if the patient's weight is required
      to be sent in the HL7 ORM order message and
      printed on the shipping manifest.  Actual
      shipping and/or electronic transmission of a
      shipping manifest will check for entry of the
      patient's weight and prevent release if absent.

   Choose from:<RET>
     0        NO
     1        YES
REQUIRE PATIENT WEIGHT: YES//<RET>
PATIENT WEIGHT UNITS: kg  kg     MEASUREMENTS     Kilograms
PATIENT WEIGHT CODE: ??<RET>
      Select the appropriate LOINC code to identify
      the patient's weight.

              ^<RET>
PATIENT WEIGHT CODE: 3142<RET>    -7
 BODY WEIGHT:MASS:PT:~PATIENT:QN:STATED
REQUIRE COLLECTION VOLUME: ??<RET>
      Determines if the specimen's collection volume
      is required to be sent in the HL7 ORM order
      message and printed on the shipping manifest.
      Actual shipping and/or electronic transmission
      of a shipping manifest will check for entry of
      the specimen's collection volume and prevent
      release if absent.

   Choose from:<RET>
     0        NO
     1        YES
REQUIRE COLLECTION VOLUME: n<RET>  NO
COLLECTION VOLUME UNITS: ??<RET>
      Units used to measure the specimen's collection
      volume.  Select an entry from the LAB ELECTRONIC
      CODE file (#64.061) that is a measurement.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility**.

```
  COLLECTION VOLUME UNITS:<RET>
  COLLECTION VOLUME CODE: ??<RET>
        Enter the appropriate LOINC code to identify
        the specimen's collection volume.

   COLLECTION VOLUME CODE:<RET>
  REQUIRE COLLECTION END D/T: ??<RET>
        Determines if the specimen's collection end
        date/time is required to be sent in the HL7 ORM
        order message and printed on the shipping
        manifest.  Actual shipping and/or electronic
        transmission of a shipping manifest will check
        for entry of the specimen's collection end
        date/time and prevent release if absent.

     Choose from:<RET>
       0        NO
       1        YES
  REQUIRE COLLECTION END D/T: n<RET> NO
  COLLECTION DURATION UNITS: ??<RET>
        Units used to calculate the specimen's
        collection duration.  Select an entry from the
        LAB ELECTRONIC CODE file (#64.061) that is a
        measurement and relate to time.

  COLLECTION DURATION UNITS:<RET>
  COLLECTION DURATION CODE: ??<RET>
  Enter the appropriate LOINC code to identify the specimen's collection
duration.
```

Step #5 continues for COLLECTION facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option used to configure a **VA Facility**

```
  COLLECTION DURATION CODE:<RET>
  REQUIRE COLLECTION WEIGHT: ??<RET>
        Determines if the specimen's collection weight
        is required to be sent in the HL7 ORM order
        message and printed on the shipping manifest.
        Actual shipping and/or electronic transmission
        of a shipping manifest will check for entry of
        the specimen's collection weight and prevent
        release if absent.

     Choose from:<RET>
       0        NO
       1        YES
  REQUIRE COLLECTION WEIGHT: n<RET>  NO
  COLLECTION WEIGHT UNITS: ??<RET>
        Units used to measure the specimen's collection weight.
        Select an entry from the LAB ELECTRONIC CODE file
        ( #64.061) that is a measurement.

  COLLECTION WEIGHT UNITS:<RET>
  COLLECTION WEIGHT CODE: ??<RET>
        Enter the appropriate LOINC code to identify
        the specimen's collection weight.
  COLLECTION WEIGHT CODE:<RET>
Select TEST/PROFILE:<RET>
```

Step #6 LIM (host facility): LAB SHIPPING CONFIGURATION file (#62.9) Setup

Host Facility:

Host facility laboratory setting up a collection facility laboratory to receive electronic orders **must** configure ONLY the LAB SHIPPING CONFIGURATION file (#62.9). This file is used to define the two members (institutions) that have a relationship. File #62.9 groups both facilities (collection/host facilities), describes the specimen ID used, types of tests/specimens being shipped, identifies the collection/host facility, if the collection/host facilities are linked electronically, and if the collection/host facilities are on the same computer system. Additonally, the LAB SHIPPING CONFIGURATION file (#62.9) allows the host facility to map local tests, urgencies, and specimen types to incoming orders from the collection facilities. This mapping enables the appropriate host facitily test to be ordered when the specimen shipment arrives at the host facility.

Commercial Reference Laboratory (non-VA facility) Setup

LIM (host facility): Select the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Configuration [LA7S EDIT 62.9] option to configure the LAB SHIPPING CONFIGURATION file (#62.9) for a **Commercial Reference Laboratory** *(non-VA facility).*

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option

```
Select Lab Shipping Management Menu Option:?<RET>

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu ...

Select Lab Shipping Management Menu Option:CFE<RET> Edit Shipping
Configuration

Select SHIPPING CONFIGURATION:XYZ COLLECTING LAB<RET>

  Are you adding 'XYZ COLLECTING LAB' as
    a new LAB SHIPPING CONFIGURATION (the 11TH)? No//Y<RET>  (Yes)
   LAB SHIPPING CONFIGURATION COLLECTING FACILITY:XYZ<RET>REFERENCE LAB WI
   LAB SHIPPING CONFIGURATION HOST FACILITY:MILWAUKEE<RET>  WI  VAMC 695
```

Step #6 continues for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **Commercial Reference Laboratory** (non-VA facility).

```
     Select one of the following:<RET>
          1         Collecting facility
          2         Host facility

Are you editing this entry as the: 2<RET>    Host facility

     Select one of the following: <RET>

          0         Do NOT copy
          1         Another Shipping Configuration
          2         Test Catalog - LABORATORY TEST File #60

Copy a test profile from: Do NOT copy//<RET>
NAME: XYZ COLLECTING LAB//<RET>
COLLECTING FACILITY: XYZ REFERENCE LAB//<RET>
COLLECTING FACILITY'S SYSTEM:XYZ REFERENCE LAB<RET>  WI

HOST FACILITY: MILWAUKEE, WI//<RET>
HOST FACILITY'S SYSTEM: MILWAUKEE,WI  MILWAUKEE, WI  WI  VAMC    695<RET>
NON-VA SYSTEM IDENTIFIER: ??<RET>
        If this is used to communicate with a non-VA system, enter the 2-3
        character identifier used to name the HL7 application.

NON-VA SYSTEM IDENTIFIER: XYZ<RET>
TEST CODING SYSTEM: ?<RET>
     Answer with type of coding system to use for this configuration.
     Choose from:
       0        NLT
       1        NON-VA
       2        LOINC
TEST CODING SYSTEM: 1<RET>  NON-VA
SPECIMEN CODING SYSTEM: ?<RET>
     Answer with type of coding system to use for this configuration.
     Choose from:
       0        HL7 TABLE 0070
       1        LOCAL-NON HL7
SPECIMEN CODING SYSTEM:??<RET>
        If orders are received from a non-VA facility and the facility can
        not transmit HL7 specimen codes from HL7 table 0070 then answer
        with the type of coding system "LOCAL".
```

Step #6 continues for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **Commercial Reference Laboratory** (non-VA facility).

```
     Choose from: <RET>
       0        HL7 TABLE 0070
       1        LOCAL-NON HL7
SPECIMEN CODING SYSTEM: 1 <RET> LOCAL-NON HL7
STATUS: ??
        This field is used to designate whether this shipping configuration is
        "active", i.e. selectable by the user for use in building, processing
        and receipting shipments of laboratory test.
     Choose from:
       0        INACTIVE
       1        ACTIVE
STATUS: A <RET>ACTIVE
COLLECTING FACILITY'S SPEC ID: ??<RET>
        This field is used to determine the source of the specimen id
        (Lab UID) used to identify a specimen. It is used by the
        Host facility when accessioning tests requests from Collecting
        facilities to determine if the Host facility needs to generate
        a new specimen id/label or use the specimen id/label from the
        Collecting facility.

        If both the Collecting and Host facilities on operating on
        the same computer system then select #3 - SAME SYSTEM.

     Choose from:
       0        COLLECTING FACILITY
       1        HOST FACILTY
       3        SAME SYSTEM
COLLECTING FACILITY'S SPEC ID: 0<RET>  COLLECTING FACILITY
LAB MESSAGING LINK:<RET>
Select TEST/PROFILE:    PROSTATIC SPECIFIC ANTIGEN<RET>
  Are you adding 'PROSTATIC SPECIFIC ANTIGEN' as
    a new TEST/PROFILE (the 1ST for this LAB SHIPPING CONFIGURATION)? No//
Y<RET>  (Yes)
   TEST/PROFILE ACCESSION AREA: CHEMISTRY
     1   CHEMISTRY
     2   CHEMISTRY MISC
CHOOSE 1-2: 1<RET>  CHEMISTRY
   TEST/PROFILE SPECIMEN: SERUM       0X500
  URGENCY: ??<RET>
        COLLECTING FACILITIES:<RET>

        If shipping laboratory tests that are a certain
        urgency, specify the urgency that must match the
        test urgency of the accession for the accession/test
        to be placed on the shipping manifest.
```

Step #6 continued for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **Commercial Reference Laboratory** (non-VA facility).

```
        HOST FACILITIES:<RET>
        This field is used by LEDI software at the host
        facility to determine the entry in the host site's
        URGENCY file (#62.05) to use for ordering when the
        host site has more than one entry in the URGENCY
        file (#62.05) that maps to the same HL7 PRIORITY.

        Example: Host site has three urgencies which
                 map to HL7 PRIORITY: ROUTINE (R).

         Entry #     Name               LEDI HL7
         -------     ---------------    --------
          2          PATIENT WAITING    ROUTINE
          9          ROUTINE            ROUTINE
         10          NO RUSH            ROUTINE

         If there is no mapping defined for this field,
         then the LEDI software will use the last entry
         in the URGENCY file that maps to HL7 PRIORITY:
         ROUTINE (R); workload urgencies are excluded.
         In this case the test would be ordered with a
         URGENCY of NO RUSH.

         If the host site enters a mapping in this field,
         i.e. ROUTINE then the test will be ordered using
         the host site's entry for ROUTINE in the URGENCY
         file when the HL7 PRIORITY matches.

   Choose from:<RET>
   1            STAT
   2            PATIENT WAITING
   3            PRE-OP
   4            CRITICAL
   5            ZZADMIT
   6            ZZOUTPATIENT
   7            ZZPURPLE TRIANGLE
   9            ROUTINE

  URGENCY:9<RET>ROUTINE
  HOST COLLECTION SAMPLE:SERUM??<RET>
     Enter the collection sample to be associated with this test.
  HOST COLLECTION SAMPLE:??<RET>
  COLLECTING FACILITIES:<RET>

This field is presently not used by LEDI software at the collecting facility.
```

Step #6 continues for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **Commercial Reference Laboratory** (non-VA facility).

```
        HOST FACILITIES:<RET>

        This field is used by host facility laboratories to designate the
        collection sample to be used when processing electronic orders for
        this test/specimen combination. It is used to build the order in
        file # 69.6, LAB PENDING ORDERS, with the test/specimen/collection
        sample that the host facility uses.

  HOST COLLECTION SAMPLE: BLOOD<RET>

  NON-VA TEST ORDER CODE: PSA123//??<RET>
        Collecting faciliies:

        If sending test orders to a non-VA facility use this field to store
the the test order codes used by the non-VA system. It will be used when the TEST
CODING SYSTEM field (#.14) is set to "NON-VA".

        Host facilities:<RET>

        If receiving test orders from a non-VA collecting facility that does
not use VA NLT codes use this field to map the collecting facilities test
order codes to the corresponding VA test.

  NON-VA TEST ORDER CODE: PSA123//<RET>
  NON-VA TEST ORDER NAME: PSA// ??<RET>
        Collecting facility:

        If sending test orders to a non-VA facility use this field to store
the the test order name used by the non-VA system. The lab software will identify
the test name on the non-VA system when orders are transmitted electronically.
It will be used when the TEST CODING SYSTEM field (#.14) is set to "NON-VA".

        Host facility:<RET>

        Not used - mapping of non-VA tests coding systems
        for test order codes is via NON-VA TEST ORDER CODE
        field (#5.1).

  NON-VA TEST ORDER NAME: PSA//<RET>
  NON-VA SPECIMEN CODE: SERUM//??<RET>
        Collecting facilities: not applicable
```

Step #6 continues for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **Commercial Reference Laboratory** (non-VA facility).

```
        Host facilities:<RET>

        If receiving test orders from a non-VA facility that
        does not used HL7 Table 0070 Specimen Source this
        field is used to store the specimen name used by the
        non-VA system. It is based on the value of field
        SPECIMEN CODING SYSTEM (#.15) and only used if
        LOCAL-NON HL7 is selected.

  NON-VA SPECIMEN CODE: SERUM//<RET>
  NON-VA SPECIMEN NAME: SERUM//??<RET>
        Collecting facilities: not applicable

        Host facilities:

        If receiving test orders from a non-VA facility that
        does not used HL7 Table 0070 Specimen Source this
        field is used to store the specimen name used by the
        non-VA system. It is based on the value of field
        SPECIMEN CODING SYSTEM (#.15) and only used if
        LOCAL-NON HL7 is selected.

  NON-VA SPECIMEN NAME: SERUM<RET>
  Select TEST/PROFILE: <RET>
```

Step #6 continues for HOST facility

VA Facility Setup

LIM (host facility): Use the Lab Shipping Management [LA7S MGR MENU] menu, Edit Shipping Configuration [LA7S EDIT 62.9] option to configure the LAB SHIPPING CONFIGURATION file (#62.9) for a **VA facility.**

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option

```
Select Lab Shipping Management Menu Option: Edit Shipping Configuration<RET>
Select SHIPPING CONFIGURATION:DALLAS OIFO COLLECTING<RET>
  Are you adding 'DALLAS OIFO COLLECTING' as
    a new LAB SHIPPING CONFIGURATION (the 13TH)? No//Y<RET> (Yes)
   LAB SHIPPING CONFIGURATION COLLECTING FACILITY:?<RET>
     Select the institution which will be collecting and shipping lab test
     specimens.
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 290-Entry INSTITUTION List?<RET>
   LAB SHIPPING CONFIGURATION COLLECTING FACILITY:DALLAS OIFO TX ISC 170
   LAB SHIPPING CONFIGURATION HOST FACILITY:MILWAUKEE, WI

     Select one of the following:<RET>
          1         Collecting facility
          2         Host facility

Are you editing this entry as the:2<RET>  Host facility

     Select one of the following:<RET>

          0         Do NOT copy
          1         Another Shipping Configuration
          2         Test Catalog - LABORATORY TEST File #60

Copy a test profile from: Do NOT copy//<RET>
NAME: DALLAS OIFO COLLECTING  Replace<RET>
COLLECTING FACILITY: DALLAS OIFO//<RET>
COLLECTING FACILITY'S SYSTEM: DALLAS OIFO    TX         ISC       170
HOST FACILITY: MILWAUKEE, WI//<RET>
HOST FACILITY'S SYSTEM: ? <RET>
     Institution which has host's computer system.
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 290-Entry INSTITUTION List?<RET>
HOST FACILITY'S SYSTEM: MILWAUKEE, WI<RET>    WI          VAMC    695
STATUS: A<RET>ACTIVE
COLLECTING FACILITY'S SPEC ID:?<RET>
     Select the source of the specimen id provided by the collector.
```

Step #6 continues for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **VA facility.**

```
     Choose from:
       0        COLLECTING FACILITY
       1        HOST FACILTY
       3        SAME SYSTEM
COLLECTING FACILITY'S SPEC ID: 0<RET>  COLLECTING FACILITY
Select TEST/PROFILE: THEOPHYLLINE<RET>
  Are you adding 'THEOPHYLLINE' as a new TEST/PROFILE (the 1ST for this
  LAB SHIPPING CONFIGURATION)? No// Y  (Yes)
  URGENCY: ?
     Collecting facility - if only certain urgencies are shipped, specify the
     accession's test urgency. Host facility - see field description (??) for
     information.
     Select regular urgencies only. Workload urgencies are excluded.
 Answer with URGENCY, or NUMBER
 Do you want the entire URGENCY List?<RET>
  URGENCY: ??<RET>
        COLLECTING FACILITIES:

        If shipping laboratory tests that are a certain
        urgency, specify the urgency that must match the
        test urgency of the accession for the accession/test
        to be placed on the shipping manifest.

        HOST FACILITIES:

        This field is used by LEDI software at the host
        facility to determine the entry in the host site's
        URGENCY file (#62.05) to use for ordering when the
        host site has more than one entry in the URGENCY
        file (#62.05) that maps to the same HL7 PRIORITY.

        Example: Host site has three urgencies which
                 map to HL7 PRIORITY: ROUTINE (R).

         Entry #     Name               LEDI HL7
         -------     ---------------    --------
          2          PATIENT WAITING    ROUTINE
          9          ROUTINE            ROUTINE
         10          NO RUSH            ROUTINE

         If there is no mapping defined for this field,
         then the LEDI software will use the last entry
         in the URGENCY file that maps to HL7 PRIORITY:
         ROUTINE (R); workload urgencies are excluded.
         In this case the test would be ordered with a
         URGENCY of NO RUSH.
```

Step #6 continues for HOST facility

Example: CFE Edit Shipping Configuration [LA7S EDIT 62.9] option is used to configure a **VA facility.**

```
         If the host site enters a mapping in this field,
         i.e. ROUTINE then the test will be ordered using
         the host site's entry for ROUTINE in the URGENCY
         file when the HL7 PRIORITY matches.

   Choose from:<RET>
   1            STAT
   2            PATIENT WAITING
   3            PRE-OP
   4            CRITICAL
   5            ADMIT
   6            OUTPATIENT
   7            PURPLE TRIANGLE
   9            ROUTINE

  URGENCY: ROUTINE
  HOST COLLECTION SAMPLE: ??<RET>
        COLLECTING FACILITIES:<RET>

        This field is presently not used by LEDI software at the collecting
        facility.

        HOST FACILITIES:<RET>

        This field is used by host facility laboratories to designate
        the collection sample to be used when processing electronic orders
        for this test/specimen combination. It is used to build the order
        in file # 69.6, LAB PENDING ORDERS, with the test/specimen/
        collection sample that the host facility uses.

  HOST COLLECTION SAMPLE: SERUM??<RET>
     Enter the collection sample to be associated with this test.
  HOST COLLECTION SAMPLE: BLOOD
     1   BLOOD       BLOOD     CULTURE SET
     2   BLOOD       BLOOD     GREEN
     3   BLOOD       SERUM     RED
     4   BLOOD       PLASMA     GREEN
     5   BLOOD       PLASMA     LAVEN W/DYE

Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 3<RET>  BLOOD     SERUM     RED
Select TEST/PROFILE:<RET>
```

Step #7 LIM: LEDI II Setup for Laboratory Auto-Instruments and HL7 Environment

The LEDI Setup [LA7V SETUP] option allows the LIM to setup a collection and/or host facility laboratory Auto-Instruments and HL7 environment. This option is located on the Lab Shipping Management [LA7S MGR MENU] menu of the Lab Liaison [LRLIAISON] menu.

The LEDI software application is using the INSTITUTION file (#4), DOMAIN field (#60), to route HL7 messages to the collection and host facilities when VA MailMan is used as the HL7 transport protocol.

The collection facility's STATION NUMBER **must** be defined in the host facility INSTITUTION file (#4), DOMAIN field (#60), when VA MailMan is used as the HL7 transport protocol.

The host facility's STATION NUMBER **must** be defined in the collection facility INSTITUTION file (#4), DOMAIN field (#60), when VA MailMan is used as the HL7 transport protocol.

NOTES:

Multi-divisional facilities should ONLY use the LEDI Setup option for the primary facility. All other facilities within a multi-divisional facility will use the primary facility to transmit and receive HL7 messages.

If the collecting facility is a division of a multi-divisional facility then setup the primary facility's system as the collecting facility.

If the host facility is a multi-divisional facility then setup the primary facility's system as the host facility.

Step #7 continues - LEDI II Setup for Laboratory Auto-Instruments and HL7 Environment

NOTE: The two-instution names used in the following screen displays are examples **ONLY**. Do **NOT** use these two institutions host or collection facility.

Example: LSU LEDI Setup

```
Select Lab liaison menu Option: SMGR <RET> Lab Shipping Management Menu

Select Lab Shipping Management Menu Options:?<RET>

   CFE    Edit Shipping Configuration
   CTE    Edit Shipping Container
   CME    Edit Shipping Method
   CDE    Edit Shipping Condition
   LSU    LEDI Setup
   CAT    Electronic Catalog Menu

Select Lab Shipping Management Menu Option:LSU<RET>   LEDI Setup

------------------------------------------------------------------------------
                                  LEDI Setup
------------------------------------------------------------------------------

COLLECTION Labs:  Use option #1 to setup HOST labs.
  HOST Labs    :  Use option #2 to setup COLLECTION labs.

1.   Add/Edit HOST Lab
2.   Add/Edit COLLECTION Lab

Enter a number (1-2):?<RET>

Option #1 will setup HOST site auto-instruments, HOST site message
configuration, and HOST and COLLECTION sites HL7 environment.

Option #2 will setup COLLECTION site auto-instruments, COLLECTION site message
configuration, and COLLECTION and HOST sites HL7 environment.

Option #1 and #2 SHOULD be used by sites that are both a HOST
and a COLLECTION site.

Enter a number (1-2):1<RET>
```

Step #7 continues

```
-------------------------------------------------------------------------------
                                  HOST Lab(s)
-------------------------------------------------------------------------------

1.   DALLAS CIOFO  (LA7V HOST 170)
2.   BIRMINGHAM, AL.  (LA7V HOST 521)
3.   HINES, IL  (LA7V HOST 578)
4.   MILWAUKEE, WI  (LA7V HOST 695)
5.   Add HOST Lab


Enter a number (1-5): ? <RET>

Enter a '5' to create a new HOST lab.
Enter a number between 1 and 5.

Enter a number (1-5): 5<RET>
```

```
-------------------------------------------------------------------------------
                               HOST Lab Setup
-------------------------------------------------------------------------------

1 1. HOST Lab: <RET>
2. Logical Link (MailMan or TCP/IP): <RET>
3. Auto Instrument: <RET>

Enter a number (1-3): ?<RET>

Enter a '1' to create the HL7 environment along with the Auto-Instrument
and LA7 Message Configuration.
Enter a '2' to create the link between the HOST and COLLECTION labs.
Enter a '3' to identify the list of test you expect back from the HOST lab.
Enter a '4' to configure the LA7 MESSAGE PARAMETER file.
Enter a '5' to identify the type of Error Conditions you wish to receive for
this Auto-Instrument.

Enter a number (1-3): 1<RET>
Select INSTITUTION NAME: [Type your host laboratory's institution name]<RET>
Select INSTITUTION NAME: ?<RET>
 Answer with INSTITUTION NAME, or STATION NUMBER, or OFFICAL VA NAME, or
     CURRENT LOCATION
 Do you want the entire 289-Entry INSTITUTION List? <RET>
Select INSTITUTION NAME: XYZ REFERENCE LAB    WI<RET>
Enter a non-VA code (2-3 alpha character): XYZ<RET>
Select LAB SHIPPING CONFIGURATION NAME: XYZ REFERENCE LAB<RET>  WI  XYZ
COLLECTING LAB
```

Step #7 continues

```
XYZ^MILWAUKEE, WI
Setting up the following Host Labs for MILWAUKEE, WI
  Updating HL7 APPLICATION PARAMETER file (#771).
     Adding LA7V HOST XYZ
   Updating PROTOCOL file (#101).
LA7V Receive Results from XYZ
  Located in the LA7 (LAB UNIVERSAL INTERFACE) namespace.
     Adding LA7V Receive Results from XYZ
LA7V Process Results from XYZ
  Located in the LA7 (LAB UNIVERSAL INTERFACE) namespace.
     Adding LA7V Process Results from XYZ
LA7V Order to XYZ
  Located in the LA7 (LAB UNIVERSAL INTERFACE) namespace.
     Adding LA7V Order to XYZ
LA7V Send Order to XYZ
  Located in the LA7 (LAB UNIVERSAL INTERFACE) namespace.
     Adding LA7V Send Order to XYZ
Updating LA7 MESSAGE PARAMETER file (#62.48) for the HOST Lab MILWAUKEE, WI.
     Adding LA7V HOST XYZ
Updating LAB AUTO INSTRUMENT file (#62.4) for HOST Lab MILWAUKEE, WI.
     Adding LA7V HOST XYZ

HL7 v1.6 Environment setup is complete!!
Enter RETURN to continue or '^' to exit:
------------------------------------------------------------------------------
                                HOST Lab Setup
------------------------------------------------------------------------------

1. HOST Lab:   MILWAUKEE, WI  (Uneditable)
2. Logical Link (MailMan or TCP/IP):
3. Auto Instrument:
4. Message Configuration: LA7V HOST XYZ
5. Alert Condition:

Enter a number (1-5): 2
------------------------------------------------------------------------------
             Logical Link for transmissions to/from MILWAUKEE, WI
------------------------------------------------------------------------------
   Protocol                              Logical Link
   ----------                            ---------------
   LA7V Process Results from XYZ
   LA7V Send Order to XYZ

Enter a Logical Link:  (MM/TCP): TCP/IP

Updating HL LOGICAL LINK file (#870).
     Adding LA7V XYZ
Updating the PROTOCOL file (#101).
```

Step #7 continues

```
-------------------------------------------------------------------------------
                                HOST Lab Setup
-------------------------------------------------------------------------------

1. HOST Lab:   REGION 7 ISC,TX (DEMO)  (Uneditable)
2. Logical Link (MailMan or TCP/IP): DATA
3. Automated Instrument:
4. GRACE PERIOD FOR MESSAGES:
5. ALERT CONDITION:

Enter a number (1-5): 2

-------------------------------------------------------------------------------
          Logical Link for transmissions to/from REGION 7 ISC,TX (DEMO)
-------------------------------------------------------------------------------
   Protocol                              Logical Link
   ----------                            ---------------
LA7V Process Results from 170        LA7V 170 (TCP)
LA7V Send Query to 170               LA7V 170 (TCP)
LA7V Send Order to 170               LA7V 170 (TCP)

Enter a Logical Link:  (MM/TCP): ?

Enter a code from the list.
     Select one of the following:

          MM        MAILMAN
          TCP       TCP/IP

Enter a Logical Link:  (MM/TCP): ??
Enter a code from the list.
     Select one of the following:

          MM        MAILMAN
          TCP       TCP/IP

Enter a Logical Link:  (MM/TCP): ^
```

Step #7 continued

```
------------------------------------------------------------------------------
                                HOST Lab Setup
------------------------------------------------------------------------------

1. HOST Lab:   MILWAUKEE, WI<RET>  (Uneditable)
2. Logical Link (MailMan or TCP/IP): DATA
3. Auto Instrument:
4. Message Configuration: LA7V HOST XYZ
5. Alert Condition:

Enter a number (1-5): 3

AUTOMATED INSTRUMENT: LA7V HOST XYZ
LOAD/WORK LIST: SENDOUTS
METHOD: XYZ REF LAB??
     ANSWER MUST BE 1-10 CHARACTERS IN LENGTH
METHOD: XYZ LAB
DEFAULT ACCESSION AREA: SEND  SENDOUTS
OVERLAY DATA: Y  YES
STORE REMARKS: YES//
Add Chem Tests to the LA7V HOST XYZ Automated Instrument for MILWAUKEE, WI.

Select CHEM TESTS: PSA
     1   PSA  PROSTATE SPECIFIC ANTIGEN (AXSYM STUDY)
     2   PSA-% FREE
     3   PSA-TOTAL
CHOOSE 1-3: 1  PROSTATE SPECIFIC ANTIGEN (AXSYM STUDY)
  Are you adding 'PROSTATE SPECIFIC ANTIGEN (AXSYM STUDY)' as
    a new CHEM TESTS (the 1ST for this AUTO INSTRUMENT)? No// Y  (Yes)
   CHEM TESTS NUMBER: 1//
   CHEM TESTS TEST: PROSTATE SPECIFIC ANTIGEN (AXSYM STUDY) //
TEST: PROSTATE SPECIFIC ANTIGEN (AXSYM STUDY)//
PARAM 1:
UI TEST CODE: 89760.0000// PSAXYZ
NUMBER OF DECIMAL PLACES: 1
CONVERT RESULT TO REMARK: N  NO
ACCEPT RESULTS FOR THIS TEST: Y  YES
IGNORE RESULTS NOT ORDERED: Y  YES
REMOVE SPACES FROM RESULT: N  NO
STORE REMARKS: YES//   YES
REMARK PREFIX: PSA
STORE PRODUCER'S ID: Y  YES
STORE REFERENCE RANGE: Y  YES
STORE ABNORMAL FLAGS: Y  YES
```

Step #7 continued

```
-------------------------------------------------------------------------------
                                HOST Lab Setup
-------------------------------------------------------------------------------

1. HOST Lab:   XYZ REFERENCE LAB  (Uneditable)
2. Logical Link (MailMan or TCP/IP): DATA
3. Auto Instrument: DATA
4. Message Configuration: LA7V HOST XYZ
5. Alert Condition:
Enter a number (1-5): 4
Enter a number (1-5): 4
GRACE PERIOD FOR MESSAGES: 30// ??
      Grace period determines the number of days that messages for this
      configuration are kept on the system before purging when the message
      status is "purgable".  If this field is left blank, the system assumes 3
      days. These messages are found in the LA7 MESSAGE QUEUE file (#62.49).
      When messages have status of "error" they remain on the system until
      their corresponding error message is removed from the XTMP global by a
      KERNEL cleanup task. The messages then become "purgable".

GRACE PERIOD FOR MESSAGES: 30//
LOG ERRORS: ON// ??
        If turned on, errors or exceptional conditions that occur during
message processing are stored in the ^XTMP global for review.  To review the
log, in programmer mode, type D PRINT^LA7LOG.
     Choose from:
       0        OFF
       1        ON
LOG ERRORS: ON//
MULTIPLE ORDERS: SINGLE ORDER// ??
        Determines when building a HL7 message if message should contain only
        one patient/order or multiple patients/orders.

        Default is multiple patients per message if possible.
        This allows site to configure message building when communicating with
        a non-VA system that can not handle a message that has more than one
        patient in the message. It applies to both order (ORM) and result
        (ORU) messages.

        When communicating with a VA facility this field can be left blank
        (default) or set to 0 - MULTIPLE PATIENTS

        If the receiving system can only accept one patient per HL7 message
        then select 1 - SINGLE PATIENT. This will place multiple orders or
        results for multiple orders in one message but only one patient will
        be contained in the message.

        If the receiving system can only accept one order per HL7 message then
        select 2 - SINGLE ORDER. This will place in the message one order or
        the results associated with one order for a single patient.
```

Step #7 continued

```
        Note: An order in the VA is considered those tests found on one
        accession. What the VA considers as an accession other non-VA systems
        may refer to as an order.
     Choose from:
       0        MULTIPLE PATIENTS
       1        SINGLE PATIENT
       2        SINGLE ORDER
MULTIPLE ORDERS: 2 SINGLE ORDER//<RET>

---------------------------------------------------------------------------
                                HOST Lab Setup
---------------------------------------------------------------------------

1. HOST Lab:   REGION 7 ISC,TX (DEMO)  (Uneditable)
2. Logical Link (MailMan or TCP/IP): DATA<RET>
3. Automated Instrument: DATA  <RET>
4. GRACE PERIOD FOR MESSAGES: 4<RET>
5. ALERT CONDITION:

Enter a number (1-5): 5  <RET>
Select ALERT CONDITION: ? <RET>
        You may enter a new ALERT CONDITION, if you wish
        Enter "1" to receive alerts for new results, a "2" to receive alerts
        for errors during processing. and "3" when orders are received.
        Error on message alert may only be selected if Field #4, LOG
        ERRORS,is set to "ON".
   Choose from:
          1    NEW RESULTS
          2    ERROR ON MESSAGE
          3    ORDERS RECEIVED

Select ALERT CONDITION:NEW  (1   NEW RESULTS)<RET>
  Are you adding 'NEW RESULTS' as a new ALERT CONDITION (the 1ST for this LA7
MESSAGE PARAMETER)? No//Y  (Yes)<RET>
  MAIL GROUP:LAB REPORT
```

Step #8 IRM: Completing the HL7 Environment Setup

The HL LOGICAL LINK file (#870) contains the links used by the HL7 software to send messages. This file stores parameters that define the actions of the lower level protocols and information used within the Systems Link Monitor, which provides the users feedback regarding the status of each link.

IRM: Use the Link Edit [HL EDIT LOGICAL LINKS] option within the Filer and Link Management Options [HL MENU FILER LINK MGT] menu within the HL7 Main Menu [HL MAIN MENU] to edit the HL LOGICAL LINK file (#870), AUTOSTART field (#4.5) in the Logical Link Information section. Set the AUTOSTART field (#4.5) entry to '1' (Enabled) if you want this to start automatically after TaskMan is restarted. Otherwise, these links will need to be manually started using the Start/Stop Links [HL START] option within the Filer and Link Management Options [HL MENU FILER LINK MGT] menu within the HL7 Main Menu [HL MAIN MENU].

1a. TCP/IP Interfaces

NOTE: Please consult the **V***IST***A** HEALTH LEVEL SEVEN (HL7) SITE MANAGER & DEVELOPER MANUAL for information on single and multi-threaded listeners.

IRM: **Complete the HL7 Environment Setup.**

To utilize TCP/IP as the communication protocol the following actions are required:

IRM: Coordinate with the facility that will be receiving and sending LEDI HL7 messages. Both sites need to have installed patch HL*1.6*19. Determine the respective IP addresses and sockets (ports) that both sites will be using to exchange messages. Sockets in the range 10000-20000 are recommended for the Lab HL7 server (listener) from the sites pool of available sockets. See Port Assignments for TCP [DBA TCP PORT ASSIGNMENTS] option on FORUM.

Step #8 continues

In the following (i.e.,xxx) is your VA facility number and (i.e., yyy) is the VA facility number of the system you are exchanging HL7 messages with. In the case of non-VA facilities yyy will contain the three-letter identifier specified in the LAB SHIPPING CONFIGURATION file (#62.9), NON-VA SYSTEM IDENTIFIER field (#.11) that relates to this link.

LA7V xxx (listener) is used to receive order/result messages. All facilities that are sending order/result messages will connect to this link to transmit LEDI HL7 messages to your facility. This is why this link should be set to PERSISTENT: NO. Otherwise the link will be tied up and other systems will not be able to connect and transmit messages to you. The client type links will connect to this listener to transmit order/result messages. Collection facilities will receive their test result messages via this link. Host facilities will receive their order messages (shipping manifest) via this link. If the two systems are host and collection labs for each other, then both types of messages will be received via this link. This link will ONLY need to be configured the first time a facility is setting up a TCP/IP connection to another facility. When setting up additional facilities just provide the client facilities with the TCP/IP address and port number that this server is using.

LA7V yyy (client) is used to send order/result messages. This is the link that connects to the other system's listener (link above) to transmit order/result messages. Collection facilities will transmit their order messages (shipping manifests) via this link. Host facilities will transmit their result messages via this link. If the two systems are both host and collecting labs for each other, then both types of messages will be sent via this link.

IRM: Provide the TCP/IP address/port that the LA7V xxx server will be listening on to the clients that will be connecting to your system. You will also need the TCP/IP address/port of the facility/system you will be transmitting messages to. The other system **must** support a non-persistent connection.

The LEDI Setup [LA7V SETUP] option populates the HL LOGICAL LINK file (#870), NODE field (#.01), and LLP TYPE field (#2).

Step #8 continues

IRM: Edit the following fields within the TCP LLP Parameters section:

On a server logical link these fields:
TCP/IP Address: Null (DSM for OpenVMS); IP address of listener system (Caché for NT)
TCP/IP Port: Port (socket) that your system is listening on.
Startup Node: Sets the startup node for the listener when the link is Autostarted. This setting is honored if a) a Task Manager process is running on the specified startup node, or b) you are an OpenVMS site running TaskMan in a DCL context.
TCP/IP Service Type: Single Listener.
Autostart: If ENABLED, will start up automatically on system boot

On a client logical link the fields:
TCP/IP Address: IP address of target system you are going to connect to.
TCP/IP Port: Port (socket) that target system is listening on.
Persistent: NO
Startup Node: Set the startup node for the link. This setting is honored if a) Task Manager is running on the specified startup node, or b) you are an OpenVMS site running TaskMan in a DCL context.
TCP/IP Service Type: Client (Sender).
Autostart: If ENABLED, will start up automatically on system boot.

1b. MailMan Interfaces

No additional setup required.

NOTE: VA MailMan Interfaces utilizes **only one** Logical Link.

LEDI II Configuration Setup Checklist

This checklist is provided to ensure that all required LEDI II Implementation Setup instructions has been completed.

Checklist for Collection Facility setting up Host Facility

NOTE: Use this checklist to confirm that the LEDI II **Step #5 LIM (COLLECTION facility): Lab Shipping Files Setup** instructions located in the Implementation Section of this manual has been completed as instructed.

1. Enter the name of the host facility in the INSTITUTION file (#4), NAME field (.01). The Institution Master File maintains nationally controlled entries. **[ ]**

   If the host facility is a VA Institution, then verify that the: **[ ]**
   AGENCY CODE field (#95) = "VA" and the
   STATION NUMBER field (#99) = A unique Central Office assigned station number.

   If host facility is a **non-VA Institution** then verify that the: **[ ]**
   AGENCY CODE field (#95) = "OTHER" and the
   STATION NUMBER field (#99) = <blank>

2. Setup LAB SHIPPING METHOD file (#62.92). **[ ]**
   Use Edit Shipping Method [LA7S EDIT 62.92] option.

3. Setup LAB SHIPPING CONDITION file (#62.93). **[ ]**
   Use Edit Shipping Condition [LA7S EDIT 62.93] option.

4. Setup LAB SHIPPING CONTAINER file (#62.91). **[ ]**
   Use Edit Shipping Container [LA7S EDIT 62.91] option.

5. Setup LAB SHIPPING CONFIGURATION (#62.9). [ ]
   Use the Edit Shipping Configuration [LA7S EDIT 62.9] option to configure this file. When initially setting up the lab shipping configuration DO NOT edit the LAB MESSAGING LINK field (#.07) of this file. This field will be filled in after the LEDI Setup option [LA7V SETUP] configures the HL7 interface for this configuration. If the host facility is a non-VA facility then determine a three-letter identifier to assign in lieu of the VA Station Number.

NOTE: See **Step #5 LIM (COLLECTION facility): Lab Shipping Files Setup** in the Implementation Section of this manual for examples used during software testing for several Commercial Reference Laboratories.

6. When setting up an electronic link (HL7 interface) to the host facility laboratory use the LEDI Setup [LA7V SETUP] option to add/edit a host lab. This option will setup the Lab and HL7 files for the HL7 interface to the host facility. [ ]

7. If using HL7 TCP/IP interface have IRM complete the HL LOGICAL LINK file (#870) setup. [ ]

8. If an electronic link (HL7 interface) has been setup for this host facility then use Edit Shipping Configuration [LA7S EDIT 62.9] option to edit the LAB MESSAGING LINK field (#.07) to link the shipping configuration to the HL7 interface. Select the message configuration “LA7V HOST xxx” (i.e., xxx is the VA station number of the host facility or the three-letter identifier previously assigned for a non-VA facility). The LEDI Setup [LA7V SETUP] option will attempt to fill in this field. However, if you have multiple shipping configurations for the same collection and host facility you will need to manually setup these configurations. [ ]

Checklist for Host Facility setting up Collection Facility

NOTE: Use this checklist to ensure that **Step #6 LIM (HOST facility): LAB SHIPPING CONFIGURATION file (#62.9) Setup** located in the Implementation section of this manual has been completed.

1. Enter/configure the collecting facility entry in INSTITUTION file (#4). The Institution Master File maintains nationally controlled entries. [ ]

   If the collecting facility is a VA institution then verify that: [ ]
   AGENCY CODE field (#95) = "VA"
   STATION NUMBER field (#99) = Unique Central Office assigned station number.

   If the collecting facility is a non-VA institution then verify that: [ ]
   AGENCY CODE field (#95) = "OTHER"
   STATION NUMBER field (#99) = <blank>

2. Setup SHIPPING CONFIGURATION file (#62.9). [ ]
   Use Edit Shipping Configuration [LA7S EDIT 62.9] option.
   Specify, "Host facility", when asked how the configuration is being edited.
   Add local lab tests that the Collecting facility will be shipping, specifiying local collection sample and urgency to use to build the LAB PENDING ORDERS ENTRY file (#69.6) entries. If collecting facility is a non-VA facility then determine a three-letter identifier to assign in lieu of the VA Station Number. See Step #5 LIM: Lab Shipping Files Setup above for suggested values of some commercial reference laboratories.

3. If setting up an electronic link (HL7 interface) to the collection lab use LEDI Setup [LA7V SETUP] option to add/edit a collection lab. This option will setup the Lab and HL7 files for the HL7 interface to the collection facility. [ ]

4. If using HL7 TCP/IP interface then have IRM complete the HL LOGICAL LINK file (#870) setup. [ ]

Package Operation

This section contains information regarding the **V***IST***A** LEDI II Installation Guide and User Manual retrival formats and on-line access locations. The LEDI II new and modified menus and options descriptions are also included in this section.

LEDI II Documentation Retrieval Formats

LEDI II Installation Guide and User Manual files are exported in the following formats:

File Names	Contents	Retrieval Formats
LAB_LEDI_II_IG.PDF	LABORATORY ELECTRONIC DATA	BINARY
LAB_LEDI_II_UM.PDF	LABORATORY ELECTRONIC DATA	BINARY

LEDI II Documentation Retrieval Locations

NOTE: All sites are encouraged to use the File Transfer Protocol (FTP) capability. Use the FTP address "*download.vista.med.va.gov*" (without the quotes) to connect to the first available FTP server where the files are located.

LEDI II Installation Guide and User Manual files are available on the ANONYMOUS.SOFTWARE directories at the following Office of Information Field Offices (OIFOs): (LAB_LEDI_II_IG.PDF and LAB_LEDI_II_UM.PDF).

OI FIELD OFFICE	FTP ADDRESS	DIRECTORY
ALBANY	ftp.fo-albany.med.va.gov	[ANONYMOUS.SOFTWARE]
HINES	ftp.fo-hines.med.va.gov	[ANONYMOUS.SOFTWARE]
SALT LAKE	ftp.fo-slc.med.va.gov	[ANONYMOUS.SOFTWARE]

Website Locations:

The **V*IST*A** LEDI II Installation Guide (i.e., LAB_LEDI_II_IG.PDF and LAB_LEDI_II_IG.DOC) and LEDI II User Manual (i.e., LAB_LEDI_II_UM.PDF and LAB_LEDI_II_UM.DOC) in Portable Document Format (PDF) and MS Word (DOC) Format are available at the following **V*IST*A** Intranet locations:

Laboratory Version 5.2 Home Page:
http://vista.med.va.gov/ClinicalSpecialties/lab/

V*IST*A Documentation Library (VDL):
http://vista.med.va.gov/vdl/

LEDI II New and Modified Options

The following options were created or modified to accommodate LEDI II **new** functionality:

LEDI II New Options

Edit Required Test Information [LA7S MANIFEST TEST REQ INFO] option
This option allows a user to enter/edit information that is required to be sent with a Lab test when it is shipped. Examples can be the total volume of urine collected for a timed urine test, weight of specimen collected, duration of specimen collection, patient height, and weight.

Retransmit LEDI Lab Results [LA7S RESULTS RETRANSMIT] option:
This **new** option allows a user at a host facility to select one or more accessions that were received from other LEDI collection facility and retransmit test results associated with the accession(s) to the sending/collecting facility via HL7 messaging.

These two **new** options are located on the Lab Shipping Menu [LA7S MAIN MENU], which is located on the Laboratory DHCP Menu [LRMENU].

LEDI II Modified Options

Print LEDI Pending Orders [LA7S PENDING PRINT LEDI] option:
This option is used by the host facility to print a collection facility LEDI shipping manifest report from the host facility's LAB PENDING ORDERS ENTRY file (#69.6). This option can be used to reprint a shipping manifest report, which is lost or damaged during shipping. The user is prompted to enter the shipping manifest number, which prints a barcoded-shipping manifest report containing all of the patients entered for that manifest. The new shipping manifest report format is similiar to the regular shipping manifest report received from the collection (shipping) facility.

Display Lab Universal Interface Message [LA7 PRINT LAB UI MESSAGE] option:
The logic used to print error messages associated with a UI message is **modified** to prompt the user when the Kernel Browser should be used to display a form message. If the browser is not selected then a standard “scroll and roll” display of the selected message(s) is produced. This option is located on the Lab Universal Interface Menu [LA7 MAIN MENU]. This submenu is located on the Lab Interface Menu [LA INTERFACE].

LEDI II Menus and Options

LEDI II software application contains two menus; the Lab Shipping Management Menu [LA7S MGR MENU] is assigned to the LIM, and Lab Shipping Menu [LA7S MAIN MENU]) is assigned to the user. The Lab Universal Interface Menu [LA7 MAIN MENU] and Accessioning Menu [LR IN] are also exported with this release. The following charts contain detailed descriptions of all menus and options exported by this release:

Lab Shipping Management Menu [LA7S MGR MENU]

The Lab Shipping Management menu [LA7S MGR MENU] contains all implementation related options available for the LIM.

LEDI Menu Options	Description
Lab Shipping Management Menu [LA7S MGR MENU]	This submenu can be found on the Lab liaison menu [LRLIAISON] containing the following options:
Edit Shipping Configuration [LA7S EDIT 62.9] option	This option sets up the LAB SHIPPING CONFIGURATION file (#62.9). *See example in the Implementation section Step #5.*
Edit Shipping Container [LA7S EDIT 62.91] option	This option sets up the LAB SHIPPING CONTAINER file (#62.91). *See example in the Implementation section Step #5.*
Edit Shipping Method [LA7S EDIT 62.92] option	This option sets up the LAB SHIPPING METHOD file (#62.92). *See example in the Implementation section Step #5.*
Edit Shipping Conditions [LA7S EDIT 62.93] option	This option sets up the LAB SHIPPING CONDITIONS file (#62.93). *See example in the Implementation section Step #5.*
LEDI Setup [LA7V SETUP] option	This option sets up the HL7 and Lab Auto Instrument environment for a HOST or COLLECTION system. This option also sets up entries in the: • HL7 APPLICATION PARAMETER file (#771) • HL LOGICAL LINK file (#870) • HL LOWER LEVEL PROTOCOL PARAMETER file (#869.2) • PROTOCOL file (#101) • AUTO INSTRUMENT file (#62.4) • LA7 MESSAGE PARAMETER file (#62.48) *See examples in the Implementation section Steps #6 and #7.*

Electronic Catalog Menu [LA7S CATALOG MENU]

This menu contains the options that maintain, produce, and print the laboratory test available for the collection site to order.

LEDI Menu Options	Description
Electronic Catalog Menu [LA7S CATALOG MENU]	This submenu is located on the Lab Shipping Management Menu [LA7S MGR MENU] consisting of the following options:
Electronic Catalog Information Entry [LA7S CATALOG ENTRY] option	This option allows the user to enter laboratory test information for the electronic catalog. *For an example, see the Option Examples section.*
View Individual Electronic Catalog Entry [LA7S VIEW INDIVIDUAL ENTRY] option	This option allows the user to view or print an individual entry in the Electronic Test Catalog. *For an example, see the Option Examples section.*
Electronic Catalog Print [LA7S PRINT CATALOG] option	This option allows the user to produce a report of all catalog entries.

Lab Shipping Menu [LA7S MAIN MENU]

The Lab Shipping [LA7S MAIN MENU] Menu contains 10 options, including two **new** options (i.e., Retransmit LEDI Lab Results [LA7S RESULTS RETRANSMIT] and Edit Required Test Information [LA7 MANIFEST TEST REQ INFO]). The following charts include a detailed description of the existing LEDI options and the two **new** LEDI II options:

LEDI Menu Options	Descriptions
Lab Shipping Menu [LA7S MAIN MENU]	The Lab Shipping Menu [LA7S MAIN MENU] contains all the workload related options available to the LIM. This submenu is located on the Laboratory DHCP [LRMENU] menu consisting of the following 10 options:
Add/Remove a Shipping Manifest [LA7S MANIFEST TEST ADD/ REMOVE] option	This option allows a test to be added or removed from an "Open" shipping manifest.
Build Shipping Manifest [LA7S MANIFEST BUILD] option	This option builds specimens on to a shipping manifest.
Cancel a Shipping Manifest [LA7S MANIFEST CANCEL] option	This option cancels an open shipping manifest. All tests are removed and made available for building on another shipping manifest.
Close/Ship a Shipping Manifest [LA7S MANIFEST CLOSE/SHIP] option	This option marks a shipping manifest as closed and/or shipped.
Edit Required Test Information [LA7 MANIFEST TEST REQ INFO] option	This **new** option allows a user to enter/edit information required to be sent with a lab test when it is shipped. Examples can be the total volume of urine collected for a timed urine test, weight of specimen collected, duration of specimen collection, patient height and weight.

Lab Shipping [LA7S MAIN MENU] Menu continued

LEDI Menu Options	Descriptions
Order Status Report [LA7S ORDER STATUS REPORT] option	This report allows the user to produce a report based on selected criteria.
Print LEDI Pending Orders [LA7S PENDING PRINT LEDI] option	This option is used to print a collecting facility's LEDI shipping manifest from the host facility's LAB PENDING ORDER ENTRY (#69.6) file. This option could be used to reprint a shipping manifest lost or damaged during shipment. The user is prompted for the shipping manifest number. The option will then print a barcoded-shipping manifest containing all of the patients on that manifest. The format is similar to the regular shipping manifest received from the collecting (shipping) facility.
Print Shipping Manifest [LA7S MANIFEST PRINT] option	This option allows the user to print a shipping manifest list for lab specimens sent outside the facility to a reference lab.
Retransmit LEDI Lab Results [LA7S RESULTS RETRANSMIT] option	This **new** option allows a user at a host facility to select one or more accessions that were received from other LEDI collecting facilities and retransmit results associated with the accession(s) to the sending/collecting facility via HL7 messaging.
Retransmit Shipping Manifest [LA7S MANIFEST RETRANSMIT] option	This option allows the users to retransmit a shipping manifest electronically to the host facility. Manifest needs to be in status of "SHIPPED" to be able to select and the shipping configuration associated with the manifest **must** be "ACTIVE".

Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option

This is a stand-alone option that should be scheduled to run daily via TaskMan as a scheduled task.

Options	Description

Lab Messaging Nightly Cleanup [LA7TASK NIGHTY] option	This is tasked option is used to check the integrity of the LA7 MESSAGE QUEUE file (#62.49), and to purge messages that are eligible for purging.
	
	This option should be tasked daily, preferably during a period when activity in the Lab Messaging (that is, Universal Interface, LEDI) package is at a minimum.
	
	Before the purge of LA7 MESSAGE QUEUE file (#62.49), an integrity check is performed. The integrity check can be run with a couple of switches.
	
	`LA7FIX = 0 - do not fix errors`
	`1 - do fix errors`
	`LA7LOG = 0 - do not log errors in XTMP global.`
	`1 - do log errors in XTMP global`
	`LA7ION = name of device to print error report if set to log errors (LA7LOG=1)`
	
	These parameters can be setup by TaskMan if the site defines them when scheduling the task.
	
	Example:
	`Edit Option Schedule Option Name:` **`LA7TASK NIGHTY`**
	
	`VARIABLE NAME: LA7FIX VALUE: 0`
	`VARIABLE NAME: LA7ION VALUE: "IRM DEVELOP LASER1"`
	`VARIABLE NAME: LA7LOG VALUE: 1`
	
	If errors are found, an alert is sent to members of the mail group “LAB MESSAGING” notifying them that errors were detected. If logging of errors occurred then alert recipients will be able to print or view error log from the alert system. Alternatively the error report can be printed using the Print Lab Messaging Integrity Check Report [LA7 PRINT INTEGRITY CHECK] option. The integrity report can be run alone using Lab Messaging File Integrity Checker [LA7 CHECK FILES] option.
	For an example, see the Implementation section Step #3.

Lab Universal Interface (LA7 MAIN MENU) Menu

The Lab Universal Interface Menu [LA7 MAIN MENU] contains one **modified** option for the release of LEDI II. This menu is located on the Lab Interface Menu [LA INTERFACE]:

LAB UI Menu Options	Descriptions
Lab Universal Interface Menu (LA7 MAIN MENU)	The Lab Universal Interface Main Menu contains options to setup, manage and use the Lab Universal Interface. This submenu is located on the Lab interface Menu [LA INTERFACE] containing one modified option:
Display Lab UI Message [LA7 PRINT LAB UI MESSAGE] option	This option logic used to print error messages associated with a UI message is **modified** to prompt the user when the Kernel Browser should be used to display a message. If the browser is not selected then a standard "scroll and roll" display of the selected message(s) is produced.
Download to UI [LA7 ADL SEND] option	This option fixes the logic to handle alphanumeric UIDs when building listing of accession to schedule for downloading.
Lab Messaging File Integrity Checker [LA7 CHECK FILES] option	This option performs the following checks: *Integrity of LA7 MESSAGE QUEUE file (#62.49). *Entries having proper cross-references and cross-references pointing to the correct entry. *Fixes bad entries. *Provides a printed report of errors found.
Print Lab Messaging Integrity Check Report [LA7 PRINT INTEGRITY CHECK] option	This option prints a Lab Messaging Integrity Check Report.
Start/Stop Auto Download Background Job [LA7 ADL START/STOP] option:	This option adds a display of the current number of accessions awaiting checks to determine if the accession meets the criteria for downloading to an instrument.

Accessioning [LR IN] Menu

The Accessioning menu [LR IN] is located on the Laboratory DHCP menu [LRMENU].

LEDI Menu Options	Descriptions
Accessioning menu [LR IN]	This submenu is located on the Laboratory DHCP menu [LRMENU] and contains the following option:
Referral Patient Multi-purpose Accession [LRLEDI] option	This option is used to accession referral patients from another medical center. The patient **must** already exist in the PATIENT file (#2) to be selected. The option will accession the patient into the REFERRAL PATIENT file (#67) if it does not already exist. The user will be prompted for the Unique Identifier. The user will then be able to order tests for that patient. *For an example, see the Option Examples section*.

LEDI Menu and Option Examples

Electronic Catalog Information Entry [LA7S CATALOG ENTRY]

This option allows the user to enter laboratory test information for the electronic catalog.

Example: ENT Electronic Catalog Information Entry option

```
   ENT    Electronic Catalog Information Entry
   IND    View Individual Electronic Catalog Entry
   ALL    Electronic Catalog Print

Select Electronic Catalog Menu Option: ENT  Electronic Catalog Information
Entry

Select LABORATORY TEST NAME:    PROSTATE SPECIFIC ANTIGEN
NAME: PROSTATE SPECIFIC ANTIGEN  Replace
NATIONAL VA LAB CODE: Prostate Specific Ag//<RET>
RESULT NLT CODE: Prostate Specific Ag//<RET>
CATALOG ITEM: YES//<RET>
  COST: 11.18
  PRICE: 22.36
  Select SPECIMEN: SERUM//<RET>
    SPECIMEN: SERUM//<RET>
    SP COST: 21.32
    SP PRICE: 32.72
  Select SPECIMEN: ^
```

View Individual Electronic Catalog Entry [LA7S VIEW INDIVIDUAL ENTRY]

This option allows the user to view or print an individual entry in the Electronic Test Catalog.

Example: IND View Individual Electronic Catalog Entry option

```
   ENT    Electronic Catalog Information Entry
   IND    View Individual Electronic Catalog Entry
   ALL    Electronic Catalog Print

Select Electronic Catalog Menu Option: IND  View Individual Electronic
Catalog Entry

Select LABORATORY TEST NAME:    PROSTATE SPECIFIC ANTIGEN

DEVICE:   VIRTUAL TERMINAL


Electronic Test Catalog                    JUL 10,1997  14:08    PAGE 1
------------------------------------------------------------------------

PROSTATE SPECIFIC ANTIGEN
         Collection Tube: BLOOD        RED OR GOLD
         Ship 1 ml aliquot; Refrigerate
         Site/Specimen: SERUM
           Snomed: 0X500
           Reference Low: 0
           Reference High: 4.0
           Units: ng/mL

         NLT Code: 89760.0000          +Prostate Specific Ag
         NLT Result Code: 89760.0000   +Prostate Specific Ag

         Default Cost: 11.18           Default Price: 22.36
         Specimen: SERUM
         Specimen Cost: 21.32          Specimen Price: 32.72
```

Referral Patient Multi-purpose Accession [LRLEDI]

The Host facility laboratory users **must** record all patient's demographics and accession the specimens received from the Collection facility laboratory. The Edit Shipping Configuration option is used for recording this data.

The Referral Patient Multi-purpose Accession [LRLEDI] option prompts the user to respond to the question "are you using a bar-code reader?" the user may accept the default of "YES" or type "NO" as a response.

When the default of "YES" ("are you using a bar-code reader?") is accepted for the Shipping Configuration the user may scan the bar coded Shipping Manifest list (initiated by the Collection facility laboratory). The bar coded Shipping Manifest list contains the patient's demographics and specimens accessioning data. The Shipping Manifest data are stored in the LAB SHIPPING MANIFEST file (#62.8) or the LAB PENDING ORDERS ENTRY file (#62.9) at the Collection facility.

The selection not to use a bar code reader requires the users to type in the patient's demographics (i.e., name or social security number) before the specimens can be accessioned. This selection allows typographical mistakes and the possibility of duplicate entries.

Example 1: Manual Accession

```
Select Accessioning menu Option: REF    Referral Patient Multi-purpose
Accession

Are you using a barcode reader? YES//NO  (No)<RET>
Select Shipping Configuration: WHITE RIVER JUNCTION VAMC<RET>

WANT TO ENTER COLLECTION TIMES? Y//<RET>  (Yes)
Select ACCESSION TEST GROUP:CHEMISTRY<RET>

Select Patient Name -'^M' To enter New Name:G4451<RET>

     Searching for a Patient file entry

     Searching for a Referral Patient  GREAT,JOY      FEMALE
04-25-65     017784451
        ...OK? Yes//<RET>  (Yes)

NAME: GREAT,JOY      SEX: FEMALE              DOB: 04/25/65

IDENTIFIER:017784451<RET>

Is this the correct patient?YES<RET>
```

```
Enter Remote UID: 5250710001      [NOTE: You must manually enter the
COLLECTION LAB UI Number] LAB Order number: 185<RET>

Choose one (or more, separated by commas)  ('*' AFTER NUMBER TO CHANGE
URGENCY)
1   ASTRA                              23  MAGNESIUM
2   IDEAL                              24  OSMOLARITY
3   ELECTROLYTES                       25  PO4
4   ACID PHOSPHATASE                   26  POTASSIUM
5   ALKALINE PHOSPHATASE               27  PROTEIN,TOTAL
6   ALBUMIN                            28  PROTEIN ELECTROPHORESIS
7   AMYLASE                            29  SALICYLATE
8   CALCIUM                            30  SGOT
9   CHLORIDE                           31  SGPT
10  CHOLESTEROL                        32  SODIUM
11  CO2                                33  THEOPHYLLINE
12  CPK                                34  TOT. BILIRUBIN
13  CPK ISOENZYMES                     35  TRIGLYCERIDE
14  CREATININE                         36  UREA NITROGEN
15  DIR. BILIRUBIN                     37  URIC ACID
16  ETHANOL                            38  PROTEIN (CSF)
17  GENTAMICIN                         39  LIPID PROFILE
18  GENTAMICIN (PRE)                   40  CARDIAC ENZYMES (SGOT,LDH,CPK)
19  GENTAMICIN (POST)                  41  LFTS
20  GLUCOSE                            42  ARTHRITIS PROFILE
21  LDH                                43  CX-3A:NA,K,CL,CO2,BUN,CREA,GLU
22  LDH ISOENZYMES                     44  CX-3B:LYTES,BUN,CREA,GLU,CA

TEST number(s): 8

Other tests? N// Y (Yes)

You have just selected the following tests for GREAT,JOY  017-78-4451
     entry no. Test                          Sample
     1         CALCIUM                       BLOOD  SERUM

All satisfactory? Yes// <RET>  (Yes)

LAB Order number: 185

 Collection Date@Time: NOW// <RET> (JUL 10, 1997@10:56:30)

PRINT LABELS ON: LABEL PRINTER  [NOTE: Enter the name of your site's label
printer]

DO YOU WISH TO TEST THE LABEL PRINTER? No//<RET>  (No)

ACCESSION:  R/CH 0710 17  <5250710001>
CALCIUM                        BLOOD  SERUM

Select Patient Name -'^M' To enter New Name: ^
```

Example 2: Using Bar Code Reader

```
Select Accessioning menu Option:REF<RET>   Referral Patient Multi-purpose
Accession


Are you using a barcode reader? YES//<RET>(Yes)
Scan Remote Site Bar code (SM):<RET>
STX^SITE^521^2970623.133509^521-19970623-2^ETX
[NOTE: This response appears after the bar code is scanned]

Select ACCESSION TEST GROUP:    CHEMISTRY

Scan Patient/Accession Barcode (PD):<RET>
STX^PD^382486204^521^3471740016^m^2970623.133509^ETX
[NOTE: This response appears after the bar code is scanned]

NAME: FORD,HARRISON                         SEX: MALE
DOB: 04/01/60            IDENTIFIER: 000000000

LAB Order number: 201
Choose one (or more, separated by commas)  ('*' AFTER NUMBER TO CHANGE
URGENCY)

1   CHEM 7                              14  CHEM 7, URINE
2   CHEM 20                             15  LIPASE
3   URINALYSIS                          16  LITHIUM
4   LIVER FUNCTION                      17  AMMONIA
5   MAGNESIUM                           18  OSMOLARITY
6   PO4                                 19  OSMOLARITY, URINE
7   LDH                                 20  PROTEIN,TOTAL
8   ETHANOL                             21  LACTIC ACID
9   CPK                                 22  HDL
10  CHOLESTEROL                         23  CO2
11  TRIGLYCERIDE                        24  SODIUM
12  ACID PHOSPHATASE                    25  GLUCOSE
13  CALCIUM, URINE

You have just selected the following tests for ROGERS,ROY  100-10-1000
     entry no. Test                          Sample
     1         MAGNESIUM                     BLOOD    SERUM
     2         GLUCOSE                       BLOOD    SERUM
Other tests? N// <RET>  (No)

You have just selected the following tests for ROGERS,ROY  100-10-0000
     entry no. Test                          Sample
     1         MAGNESIUM                     BLOOD    SERUM
     2         GLUCOSE                       BLOOD    SERUM

All satisfactory? Yes// <RET>  (Yes)
```

Example 2: Using Bar Code Reader (continues)

```
LAB Order number: 201

PRINT LABELS ON: LABLABEL// <RET>  R7 GP

DO YOU WISH TO TEST THE LABEL PRINTER? No// <RET>  (No)
~For Test: CPK ISOENZYMES PANEL (IMMONO) WR   BLOOD     SERUM
Enter Order Comment: FIRST SET OF ISO'S SENT   (~FIRST SET OF ISO'S SENT)
  OK? Yes// <RET>  (Yes)


ACCESSION:  R/CH 0716 397  <1171970397>
CPK                     BLOOD    SERUM

ACCESSION:  R/SPC 0716 49  <8671970049>
TOTAL CK FOR ISO                        BLOOD    SERUM
CPK MB (NG/ML)                          BLOOD    SERUM
CPK MB INDEX                            BLOOD    SERUM


LAB PROCESSING INSTRUCTIONS:  Please freeze sample [NOTE: This comment is from
File #60]

GLUCOSE                          BLOOD    SERUM
 GENERAL PROCESSING INST.:   Send sample on ice

Scan Patient/Accession Barcode (PD): <RET>
```

Turnaround times By Urgency [LR TAT URGENCY]

This option generates a report of the turnaround times for selected lab test for selected urgencies.

Example: Turnaround times by Urgency

```
Select Lab statistics menu Option: TURnaround times By Urgency

                    LEDI Utility - Urgency Turnaround Time
     This option generates a report of the turnaround time for selected
    lab tests. Enter only those urgencies you want extracted. WKLD urgencies
          will be included for each normal urgency selected. Enter the
                  test(s) you want the report display.

         A detailed report is available to show the data being used to
                        compute the turnaround times.

                  Regular hours are from 7:01 AM to 5:00 PM
      Irregular hours includes all other times, holidays and weekends.

Date to START with: TODAY// <RET> (JUL 16, 1997)
Date to END  with: 07/16/97// T  (JUL 16, 1997)

Select the laboratory tests to be used in this report --

     LABORATORY TEST:    GLUCOSE
     LABORATORY TEST: <RET>

Urgencies:
          STAT
          PLEASE DO NOT USE
          ROUTINE
Enter all urgencies you want extracted.
     URGENCY: STAT
     URGENCY: <RET>

Include a detailed report? No// <RET>   (No)

DEVICE: HOME//   PRINTER [NOTE: Enter the site's printer name]
```

Example: Turnaround times by Urgency (continues)

```
              LEDI Management Report - Urgency Turnaround Time
                      From JUL 16,1997 To JUL 16,1997
                    Date Printed: JUL 16,1997@11:25:26
_____________________________________________________________________________
Turnaround Time (TAT) - Regular (0701-1700)  hours

    Number of tests                Total time             Ave TAT
   ----------------------         ----------             -------
             2                     62 min                31 min

      Turnaround Time (TAT) - Irregular hours

   Number of tests                Total time             Ave TAT
   ----------------------         ----------             -------
            13                    300 min                23 min
Urgencies:
     STAT
     WKL - STAT

Tests:
     GLUCOSE
```

Glossary

The glossary of terms is related to the LEDI II software application:

CAP:	College of American Pathologists
Collection facility:	The laboratory that collects the patient's specimen. After the specimen is collected, the Collection facility should: *Create an electronic Shipping Manifest (specifying the lab tests to be performed by the Host facility laboratory). *Transmit the Shipping Manifest List to the Host facility laboratory. *Transport the specimen by carrier to the Host facility laboratory.
Data Fields:	The information base associated with a segment.
Data Type (DT):	Restrictions on the contents of the data field as defined by the HL7 Standard.
Electronic Catalog:	The new Electronic Catalog contains laboratory test available for the collection site to order.
Element Name:	Globally unique descriptive name for the field.
Host facility:	The laboratory that receives the patient's specimen and the electronic Shipping Manifest List (transmitted by the Collection facility laboratory) The Host facility performs the following steps: *Bar codes the specimen arrival. *Performs the specified lab test. *Verifies the lab test results. *Transmits the lab test results back to the Collection facility.

LEDI:	Laboratory Electronic Data Interchange
Length (LEN):	The maximum number of characters that one occurrence of the data field may occupy.
NLT:	National Laboratory Test
Optionally (R/O/C):	Whether the data field is required, optional, or conditional in a segment. The designations are: *R - required *O (null) - optional *C - conditional on the trigger event
PID:	Patient Identification
Repetition (RP/#):	Whether the field may repeat. The designations are: N (null) - for no repetition allowed; Y - the field may (null) - for no repetition allowed; Y - the field may repeat an indefinite or site determined number of times; and (integer) - the field may repeat up to the number of times specified in the integer. The ordinal position of the data field within.
Segments:	A logical grouping of data fields.
Shipping Manifest:	The shipping manifest is a printout list of lab specimens sent outside the facility to a reference lab for processing.
Sequence Number (SEQ):	The ordinal position of the data field within the segment. This number is used to refer to the data field in the text comments that follow the segment definition table.

Table (TBL#):	This is a table of values that may be defined by HL7 or negotiated between the VISTA Laboratory application and the vendor system.
TCP/IP:	Transmission Communication Protocol/Internet Protocol
Trading Partners:	An established relationship between two or more laboratories for receiving and processing lab specimens.
UI:	Universal Interface
UID:	Unique Identifier
VAMC:	Department of Veterans Affairs Medical Center
VISN:	Veterans Integrated Service Network
V*IST*A	Veterans Health Information Systems and Technology Architecture
V*IST*A Laboratory UI and LEDI HL7 Interface Standard Specifications V. 1.1:	This document specifies an interface to the **V*IST*A** Laboratory software application based upon the Health Level Seven (HL7) Standard. This interface forms the basis for the exchange of healthcare information between the **V*IST*A** Laboratory software application and all non- **V*IST*A** systems. Especially those non- **V*IST*A** systems that generate laboratory result information.
Workload System:	This is a method of tracking number of LEDI specimens processed.