MEDITECH Interface Definition.

This document describes the interface capabilities between MEDITECH LIS system to EpiCenter.

The document is divided into 6 main sections

- **Driver Capabilities Overview**
  - **Demographic Download Capabilities:** this describes the actually download capabilities in more detail, specifying what fields are supported and any known issues or workflows that require special consideration.
  - **Result Capabilities:** This describes the ability of the driver to support result upload and posting.
- **Physical Architecture:** This section described the physical and low level mechanism for connecting the systems, and where relevant what tools can be used to test the low level communication is working.
- **LIS Driver:** This provides an overview of how the driver is installed and configured in the LIS system. It provides an insight into what is required in order to get the interface operational.
- **Expected Timelines:** This section gives an estimate of the ideal timeline required to install, configure and test this interface.
- **Driver Ordering Process:** This section describes the process and responsibilities for ordering this interface.

Demographic Download Capabilities

Driver able to multiplex multiple instrument type orders? (To be tested)	✓
Host Query supported?	✓
Unsolicited demographic only download supported?	✗
Unsolicited Test ordering supported?	✗
LIS result query?	✗
Able to order offline test?	✗
Able to download offline ID results to EpiCenter	✗
Able to download offline AST results to EpiCenter	✗
Able to write logic rules to change results	✓

Patient ASTM Field Mapping

EpiCenter Field Name	Sent By Meditech	F	C	R	Meditech Field Name
Patient ID	✓	4	1	1	Medical Record Number
Patient Last Name	✓	6	1	1	Person Last Name
Patient First Name	✓	6	2	1	Person First Name
Patient Middle Name	✓	6	3	1	
Patient Name Suffix	✓	6	4	1	
Patient Name Title		6	5	1	
Date of Birth	✓	8	1	1	Date of Birth
Patient Sex Code	✓	9	1	1	Sex
Street Address	✗	11	1	1	
City Address	✗	11	2	1	
State Address	✗	11	3	1	
Zip Code Address	✗	11	4	1	
Country Address	✗	11	5	1	
Patient Phone Number	✗	13	1	1	
Admitting Physician Code	✓	14	1	1	Attending Physician
Patient User Field 1 Code	✗	15	1	1	
Patient User Field 2 Code	✗	15	1	2	
Patient User Field 3 Code	✗	15	1	3	
Patient User Field 4	✗	15	1	4	
Patient User Field 5	✗	15	1	5	
Patient Diagnosis	✗	19	1	1	
Patient Therapy 1	✗	20	1	1	
Patient Therapy 2	✗	20	1	2	
Patient Therapy 3	✗	20	1	3	
Patient Therapy 4	✗	20	1	4	
Patient Therapy 5	✗	20	1	5	
Admission Date/Time	✓	24	1	1	Admission Date/Time
Room Number	✓	26	1	1	Room Number
Hospital Service LIS Code	✓	33	1	1	Location Code/Nursing Unit
Client Code	✓	34	1	1	

Order ASTM Field Mapping

Field Name	Sent By Meditech	Accepted by meditech	F	C	R	Meditech Field Name
Accession Number	✓	✓	3	1	1	Accession Number
Isolate Number	✓	✓	3	2	1	Isolate Number (#)
Organism LIS Code	✓	✓	3	3	1	Organism
Test Code	✓	✓	5	4	1	Panel
Test Sequence Number	✗	✓	5	5	1	
Collect Date/Time	✓	✓	8	1	1	Collection Date/Time
Collected By Code	✗	✓	1	1	1	
Received By Code	✗	✓	1	2	1	
Specimen Action Code	✗		1	1	1	
Isolate Source Test 1	✗		1	1	1	
Isolate Source Test 2	✗		1	1	2	
Isolate Source Test 3	✗		1	1	3	
Isol Source Test Start Time 1	✗		1	2	1	
Isol Source Test Start Time 2	✗		1	2	2	
Isol Source Test Start Time 3	✗		1	2	3	
Receipt Date/Time	✓	✓	1	1	1	Specimen Receive Date/Time
Specimen Type Code	✓	✓	1	1	1	Specimen Type
Body Site Code	✓	✓	1	2	1	Body Site
Ordering Physician Code	✓	✓	1	1	1	
Ordering Physician Phone	✗		1	1	1	
Ordering Physician Fax	✗		1	2	1	
Ordering Physician Pager	✗		1	3	1	
Specimen User Field 1 Code	✓		1	1	1	
Specimen User Field 2 Code	✓		1	1	2	
Specimen User Field 3 Code	✓		1	1	3	
Specimen User Field 4	✗		1	1	4	
Specimen User Field 5	✗		1	1	5	
Finalized Date/Time	✗	✓	2	1	1	
Specimen Reimbursement	✗		2	1	1	
Test Reimbursement Value	✗		2	1	2	
Isolate Classification	✗		2	1	1	

Result Upload Capabilities

Capability	Supported	ASTM Reference
Driver able to multiplex multiple instrument type results? Untested	✓	8
Able to receive Isolate level ID/AST results?	✓	1
Able to handle multiple Isolates?	✓	2
Isolate Results use Test Source field?	✗	1
Able to receive Test level ID/AST results?	✗	
Able to receive Preliminary results?	✗	
Able to receive Final results?	✓	1
Does retransmission of results update the LIS?.	✗	1
Rapid Complete "C" results supported? Provided the value of "C" is added as a valid MIC result for that drug.	✓	
Non-numeric MIC values supported? Provided the value is added as a valid MIC result for that drug.	✓	1
Blank MIC values supported?	✗	4
MIC and SIR "X" supported?	✗	
MIC and SIR "N" supported?	✓	
Variable number of result records supported? (To be tested)	✓	
Inferred results supported? (To be tested)	✓	4
MGIT AST supported?	✗	
Able to receive offline test-level results?	✗	
Able to receive offline Isolate results (Kirby Bauer, E-Test)? » E-tests are handled. » Any other manual susceptibilities can be defined as any other PX panel » Nothing needs to be configured in the driver for this to occur. The KB or E-test should be created in the dictionary where the PX panels were created. Specific values for the interpretations should be entered into each specific Test.	✓	
Resistance markers treated as drug results?	✗	
Resistance markers treated as separate results? Resistant markers come as a separate line under the MIC/Interpretation results.	✓	
Patient Comments supported?	✗	

Specimen Comments Supported?	✕	
Isolate comments supported?	✕	
Unrecognized LIS Code Behavior? Any unrecognized code will simply cause the result to be posted under the analyzer batch with an ”E” (Error) next to it. The user should then hit Control+ → to show the description of the error.		

Example ASTM Messages	
1	
2	
3	
4	
5	
6	
7	
8	

Isolate Result ASTM Field Mapping

Field Name	Accepted By Meditech	Coded Field	F	C	R	Comments
Result Type	✓		3	4		
Antimicrobial Code	✓	✓	3	6		
Antimicrobial Conc.	✗		3	7		
Antimicrobial Conc. Units	✗		3	8		
MIC (AST)	✓		4	2		
Organism (ID)	✓	✓	4	2		
Final SIR (AST)	✓		4	3		
Organism Profile (ID)	✓		4	3		
Interpreted SIR (AST)	✗		4	4		
Resistance Marker 1 (ID)	✓		4	4		
Expert SIR (AST)	✗		4	5		
Resistance Marker 2 (ID)	✓		4	5		
AST Test Source	✓		4	6		
Resistance Marker 3 (ID)	✓		4	6		
Resistance Marker 4 (ID)	✓		4	7		
Resistance Marker 5-10	✓		4	8		

Comment Text	✓		4	1	1	
Comment Type	✓		5	1	1	

Test Result ASTM Field Mapping

Field Name	Coded Field	F	C	R	Phoenix	MGIT	BT9000	Comments
Result Type		3	4		✗	✗	✗	
Sequence Number		3	5		✗	✗	✗	
Antimicrobial Code	✓	3	6		✗	✗	✗	
Antimicrobial Conc.		3	7		✗	✗	✗	
Antimicrobial Conc. Units		3	8		✗	✗	✗	
Test Status Code	✓	4	1		✗	✗	✗	
Result Data Field 1	✓*	4	2		✗	✗	✗	
Result Data Field 2		4	3		✗	✗	✗	
Result Data Field 3		4	4		✗	✗	✗	
Result Data Field 4		4	5		✗	✗	✗	
Result Data Field 5		4	6		✗	✗	✗	
Preliminary/Final Status		9	1	1	✗	✗	✗	
Entry Date/Time		12	1	1	✗	✗	✗	
Test Result Date/Time		13	1	1	✗	✗	✗	
Test Complete Date/Time		13	2	1	✗	✗	✗	
Instrument Type		14	1	1	✗	✗	✗	
Media Type		14	2	1	✗	✗	✗	
Protocol Length		14	3	1	✗	✗	✗	
Instrument Number		14	4	1	✗	✗	✗	
Instrument Location		14	5	1	✗	✗	✗	
Additional Result Quantity 1		15	1	1	✗	✗	✗	
Additional Result 1		15	2	1	✗	✗	✗	
Additional Result Quantity 2		15	1	2	✗	✗	✗	
Additional Result 2		15	2	2	✗	✗	✗	
Additional Result Quantity 3		15	1	3	✗	✗	✗	
Additional Result 3		15	2	3	✗	✗	✗	
Additional Result Quantity 4		15	1	4	✗	✗	✗	
Additional Result 4		15	2	4	✗	✗	✗	
Additional Result Quantity 5		15	1	5	✗	✗	✗	
Additional Result 5		15	2	5	✗	✗	✗	

*Coded Organism field for ID tests only

Query ASTM Field Mapping

Field Name	Accepted By Epi	Sent By Epi	Coded Field	F	C	R	Comments
Request Start Patient ID	✓	✗		3	1	1	
Request Start Accession No	✓	✓		3	2	1	
Request Start Sequence No	✓	✗		3	3	1	
Request End Patient ID	✓	✗		4	1	1	
Request End Accession No	✓	✗		4	2	1	
Request End Sequence No	✓	✗		4	3	1	
Request Test ID	✓	✗		5	1	1	
Request Test Status Code	✓	✗		5	2	1	
Request Instrument Type	✓	✗		5	3	1	
Request Instrument Number	✓	✗		5	4	1	
Request Result Qualifier	✓	✗		5	5	1	
Request Time Qualifier	✓	✗		6	1	1	
Request Starting Date/Time	✓	✗		7	1	1	
Request Ending Date/Time	✓	✗		8	1	1	
Request Information Status	✓	✓		1	1	1	

Comment ASTM Field Mapping

Field Name	Accepted By Epi	Sent By Epi	Coded Field	F	C	R	Comments
Comment Text	✗	✓		4	1	1	
Comment Type	✗	✓		5	1	1	

Physical Architecture

Term Server:
The serial connection from the EpiCenter is converted from 9-pin serial to CAT5 network cable using a 9-pin serial to RJ45 converted attached to the serial port of the EpiCenter. The CAT5 network cable is connected to a port on the terminal server. The terminal server typically has a number of input ports for connecting multiple serial devices. This port must be enabled for communication by logging on to the term server and using the onboard configuration software to achieve this
The single output or network port on the term server connects to the Meditech server over standard TCP/IP.

✓

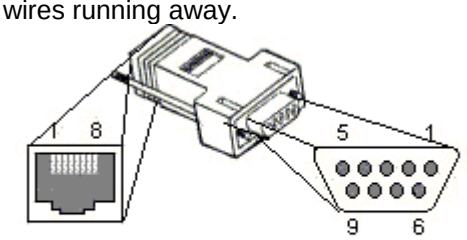
Known Term Servers Supported

- Xyplex

Serial to RJ45 Wiring.
The wiring of the 9-pin serial to RJ45 converter is typically terminal server dependant. The wiring for the Xyplex term server is defined below.

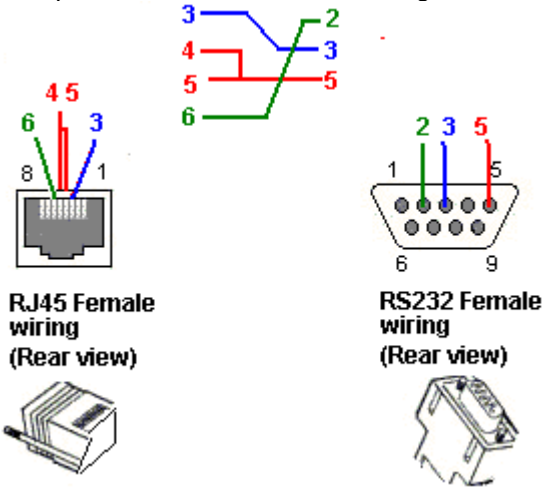
Standard RJ45 to 9-pin RS232 per Xyplex documentation
This connector only connects three pins on the serial side to 3 pins on the RJ45 side. Two pins on the RJ45 side are bridged. Please note the wire colors in the explanation are example only to easily differentiate the diagram. They will probably not be the same as your connectors so you need to do this based on pin count. Pins not mentioned below can be left disconnected.

The first diagram shows the view from the front/outside of each side of the connector with the wires running away.

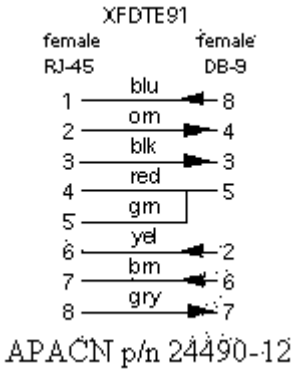


RJ45 Female (Front view) **RS232 Female (Front view)**

The second diagram is of the same connector, but from the inside viewpoint of the connector with wires facing towards you. Use this for pin counting to identify the correct pictures. On the RJ45 side, pins 4 & 5 must be soldered together and joined to the single pin 5 on the RS232 side.



RJ45 Female wiring (Rear view) **RS232 Female wiring (Rear view)**

RJ45 to 9-pin RS232 per Xyplex documentation I have no reason to doubt the previous ones will work, as EpiCenter is only making use of the three pins described. However, I found another pin diagram where all the ancillary wiring is connected between the two sides of the connector. If the first one does not work you can try this too. I believe the XFDTE91 code is actually a catalogue number for ordering the connector from Xyplex.  	
Physical Communication Logging	✓

MEDITECH Driver

Each MEDITECH Account should be provided with a document entitled:
MEDITECH Microbiology Analyzer Guide" or "Instrument Set Up Guide"

These can be found in the MEDITECH website: www.meditech.com.

Customers (Hospital LIS MEDITECH –Liason) are the only ones able to log on to this site with their MEDITECH password. After login on - They need to go to:

- Product and Resources Home Page →
  → Clinicals → Laboratory Information System
  → Under Instrument select "M" for Magic
  → Select "Laboratory Analyzers Support Documents"
  → "getting started"
  → "MEDITECH Set-up" Guide
  → Interface Testing Guide.

These documents are MEDITECH internal specifications describing the interface and how to configure it at a client site.

Driver Name Confirmation

As many LIS vendors have multiple drivers that support BD instrument direct connections as well as connections of the instruments through EpiCenter, it is useful to confirm that the correct driver has been installed.

The driver program name for MEDITECH connection to EpiCenter is:

Driver Installation

Driver installation is performed by the Meditech Analyst who typically dial-in and install the files.

The Device needs to be configured in OPS (Magic)

It is recommended to all Accounts to download-Print the documents from the "getting started" portion on the Meditech website before starting with the configuration of the Instrument Driver.
The Analyzer and Analyzer type dictionaries do not need to be completed prior to performing a watch.

A successful watch should be performed to ensure communications are established.

Driver Configuration:

Configuration of the driver is done through backend tools and can typically only be performed by the Meditech Analyst.

1. **Driver Flag Configuration**
2. **MDI Install Tool Configuration**

   Manual Db setup – Name Changes

1. **Lab Instrument Settings**

2. External File configuration

MEDITECH Application Configuration:

The configuration activities described in this section typically refer to configuration settings that can be done by the Lab LIS administrator, or by the Lab Supervisor. This configuration covers translation tables and procedures.

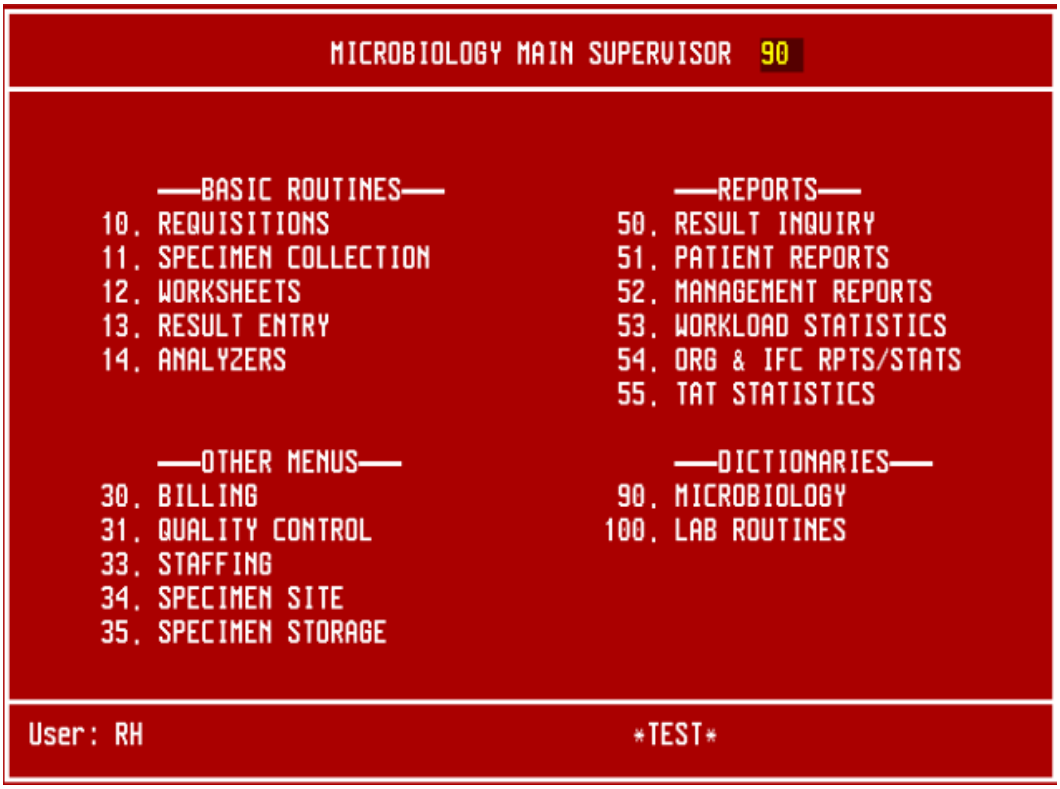
In order to create Phoenix panels with respective antimicrobials and organisms, some tables need to be defined first to be accessible when needed. These tables comprise:

- Organisms.
- Specimen Sources.
- Antimicrobials with respective MIC values.
- Procedures (Culture types)

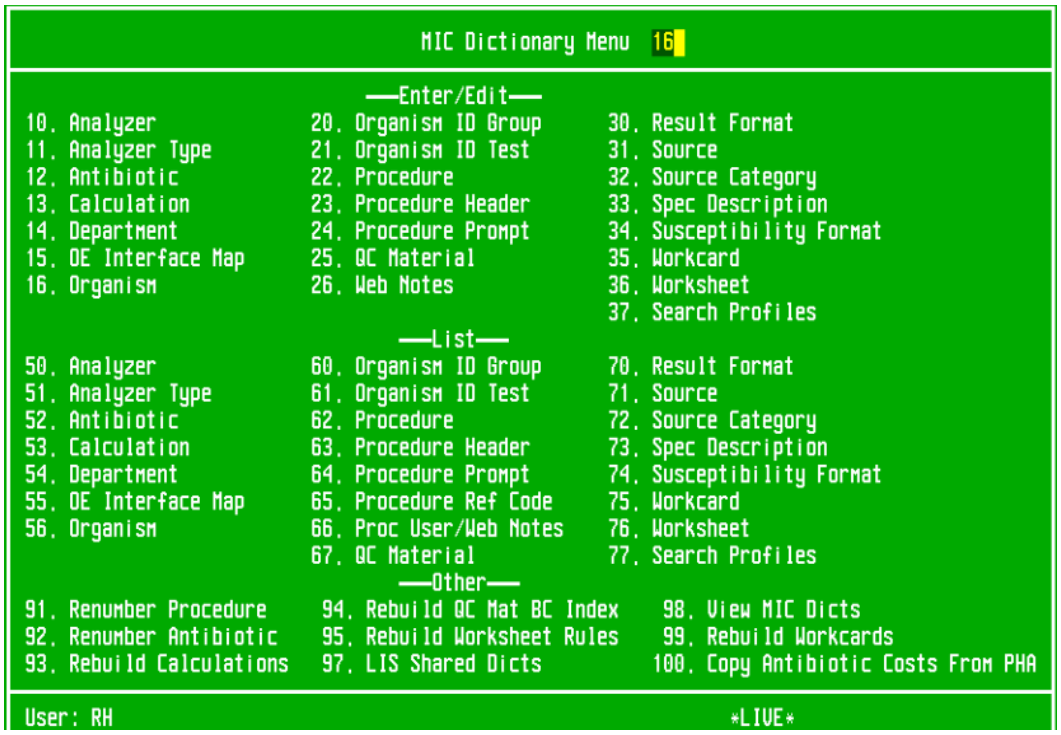
1. Organisms Creation

The Microbiology Main Supervisor Menu should be used to create the Organisms. In general these Organisms are already created in the dictionary since they are defined to be also used for other Instruments.

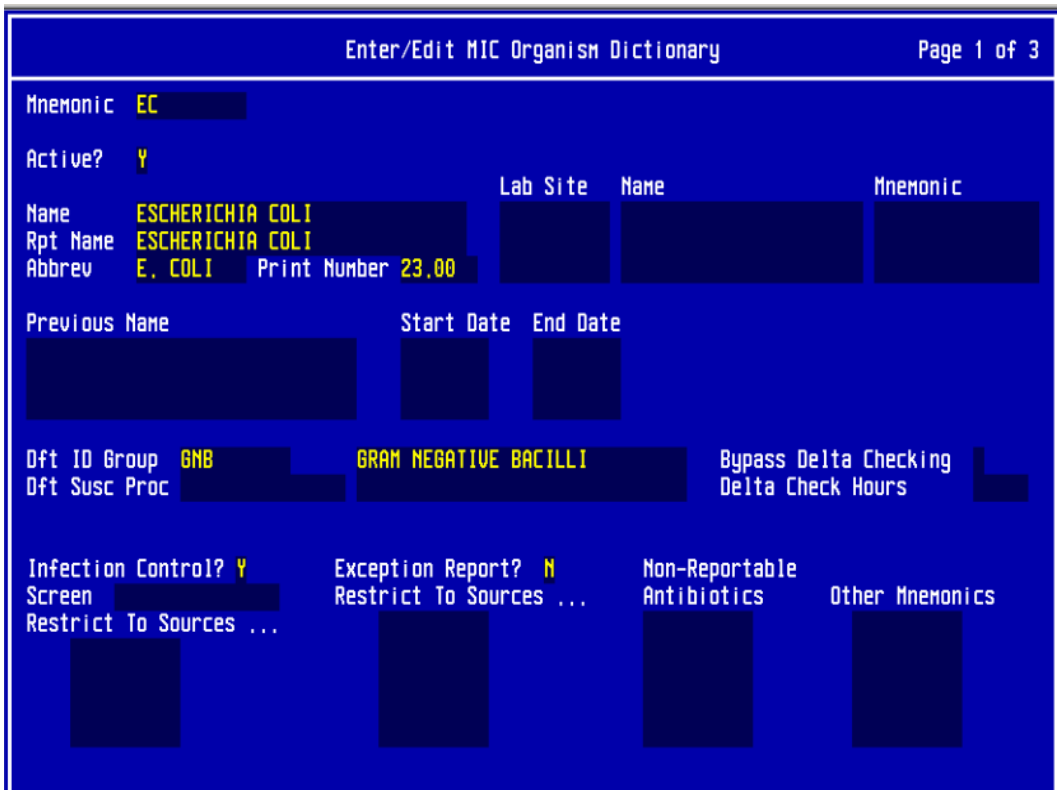
To create a specific Organisms:
From the Microbiology Main Supervisor Menu: 90



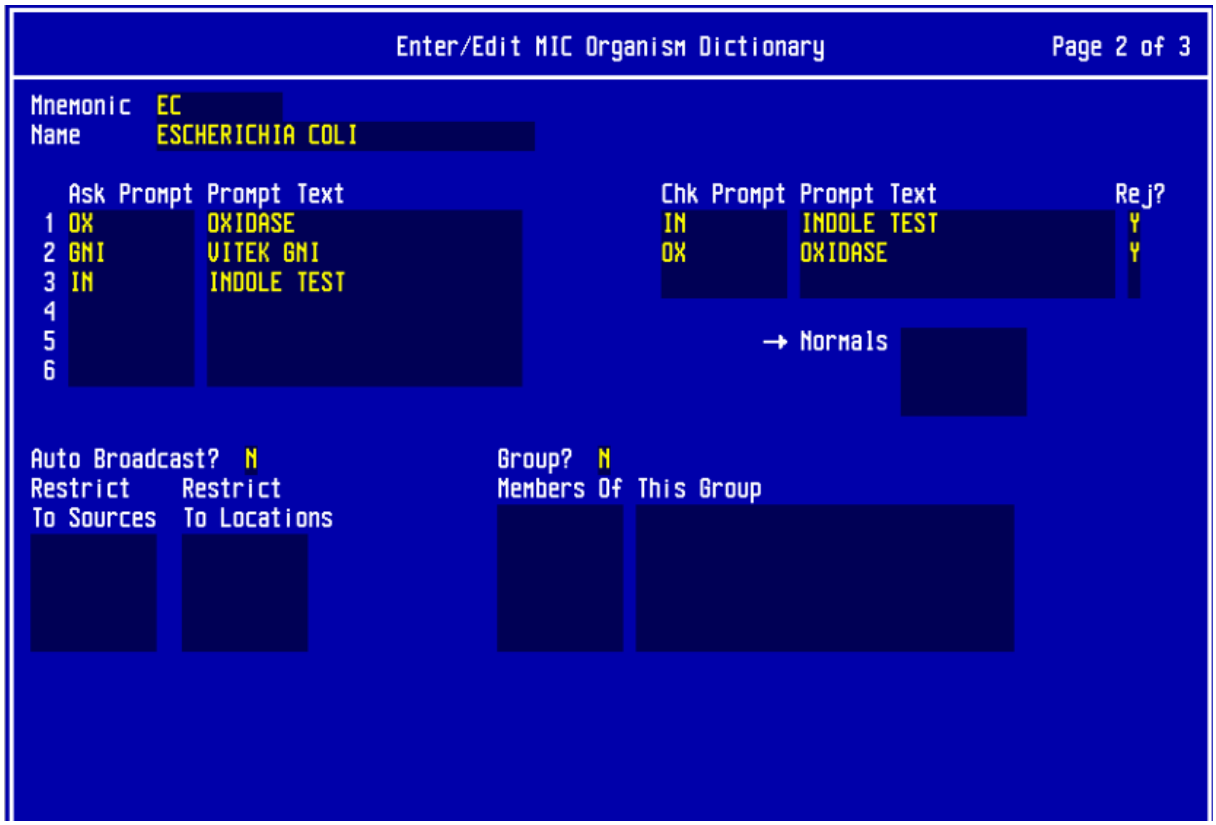
Then go to selection **16** ORGANISM:



The following example is being taken as to create an E. coli:



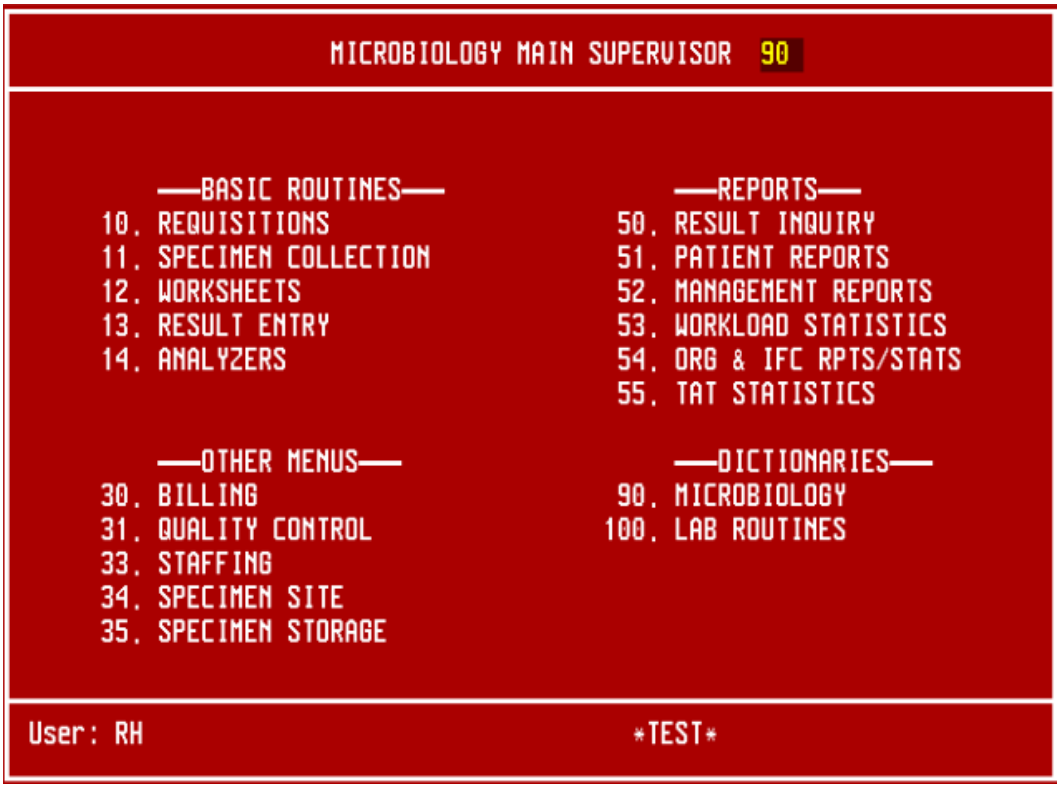
Page 2 of 3 is mainly for Manual tests in Microbiology.



Page 3 of 3 is not shown -- does not really need to be modified.

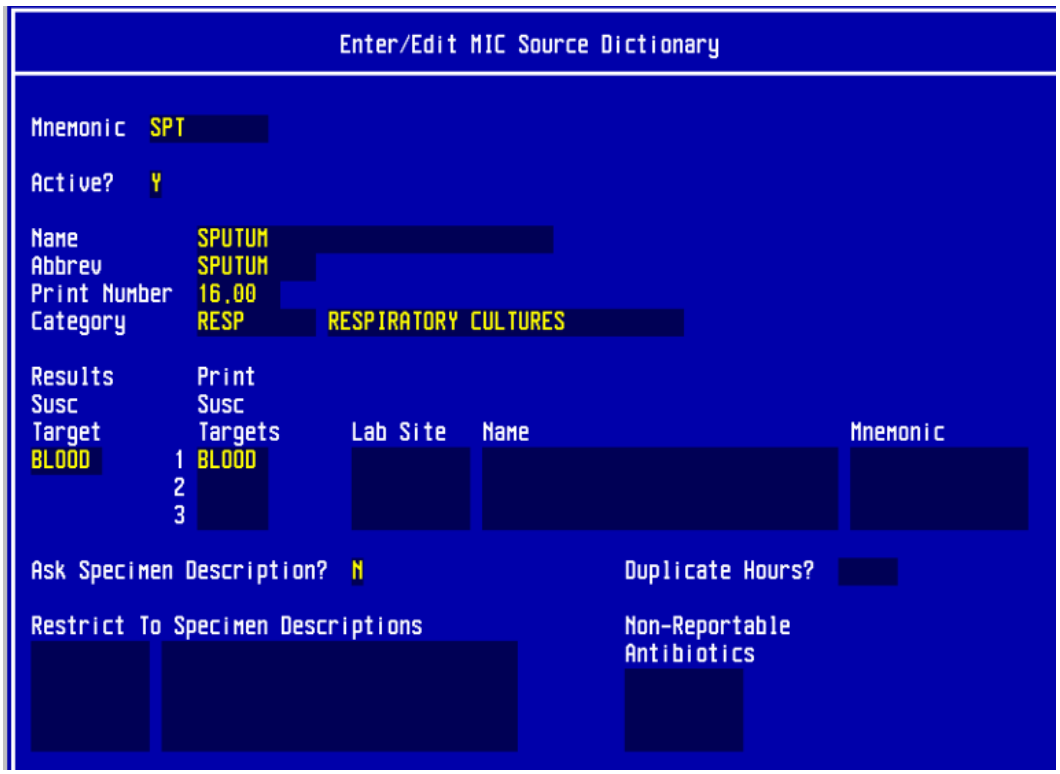
2. Sources definition:

From the Microbiology main Supervisor:



Select **31** to create specific **Source** = **Specimen Type:**

Type in specific mnemonic for source. This should match the LIS code from EpiCenter. Select ANY Print number that has not been used already.



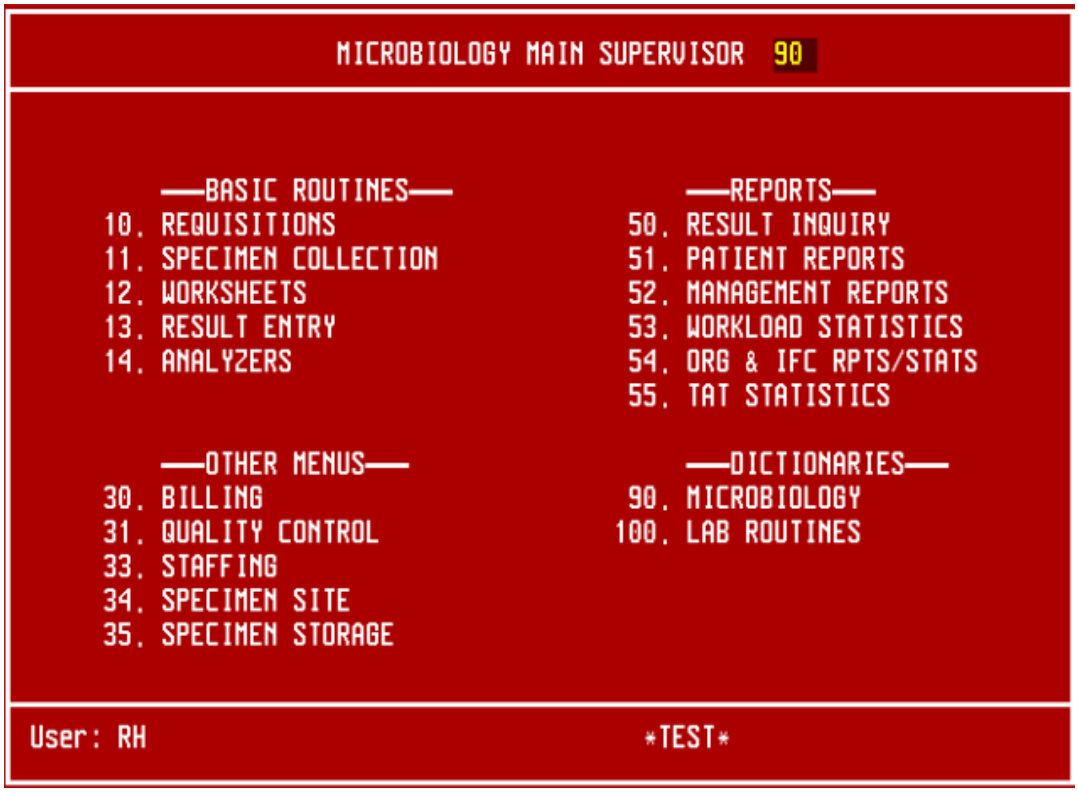
It is only one page. This in general should already be defined in the dictionary.

3. Antimicrobials Creation

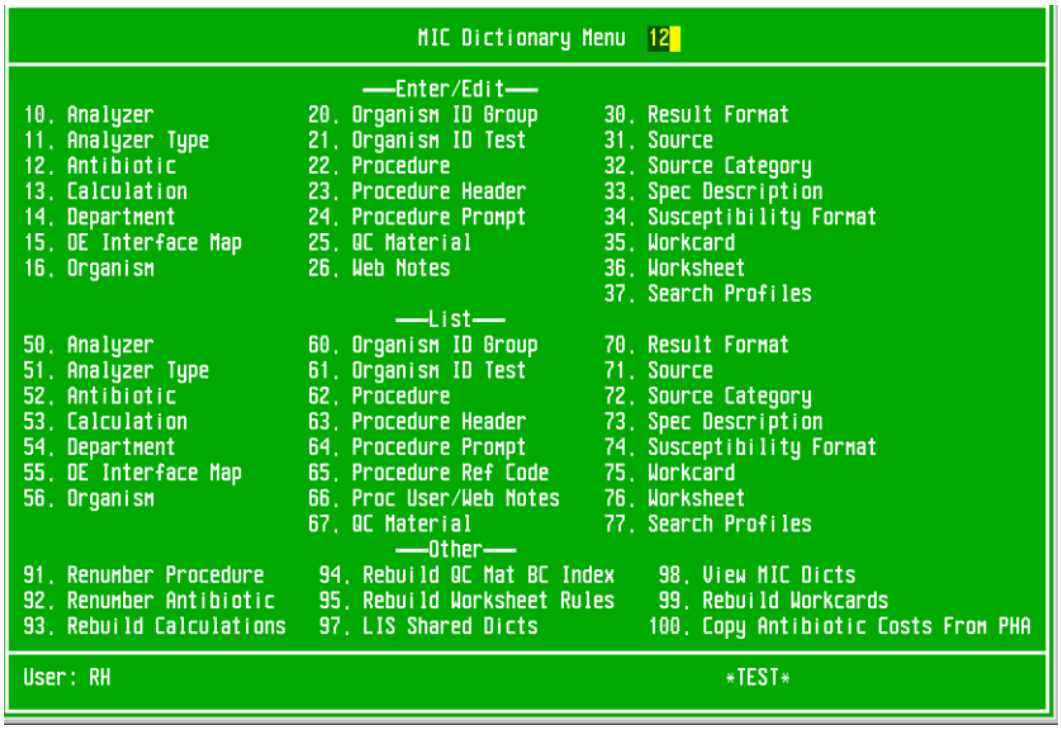
The Microbiology Main Supervisor Menu should be used to create the Antimicrobials. In general these Antimicrobials are already created in the dictionary sinc they are defined to be also used for other Instruments or for Manual KB. The susceptibility result must be created for each possible result value that could be received over the interface for each antibiotic. The same table will handle definition of both MIC values and SIR values.

MEDITECH does not handle “X” values as result. An Epicare rule to not send these “X” values through the Interface should be written in EpiCenter

To create a specific Antibiotic:
From the Microbiology Main Supervisor Menu: 90

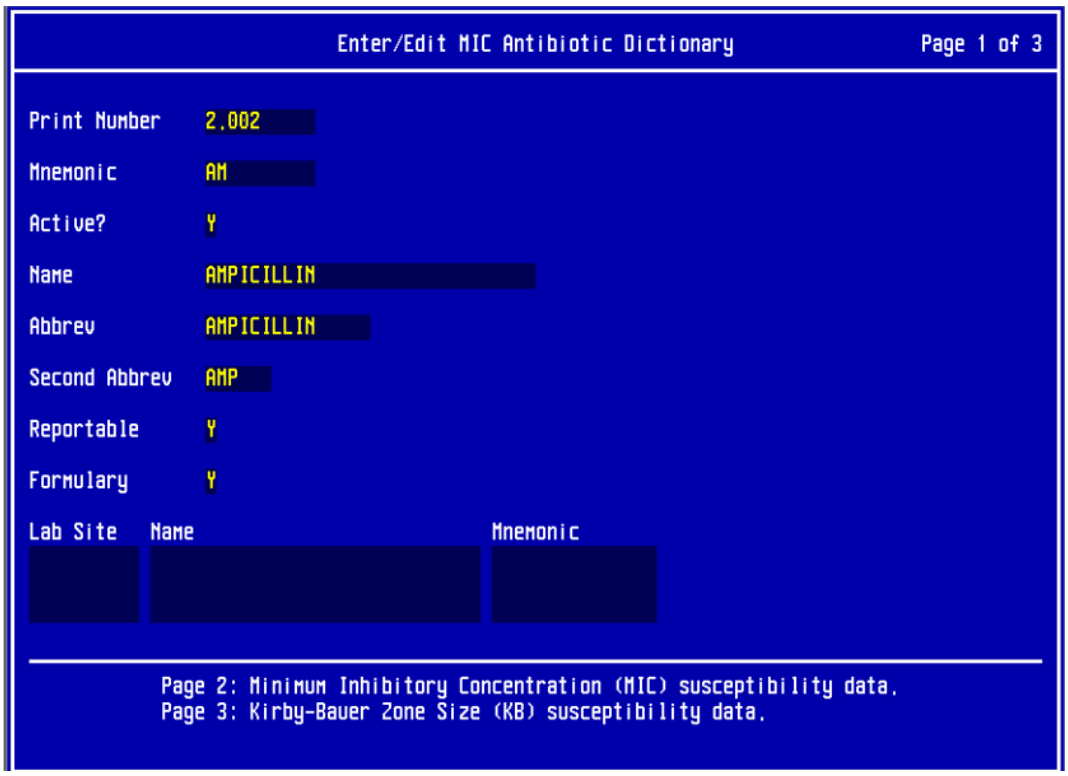


Go to MIC Antibiotic Dictionary: 12



Type in **ANY** Print number that has not been used already. (Could use F9 function as Look up)
Follow the following example to create each antimicrobial-

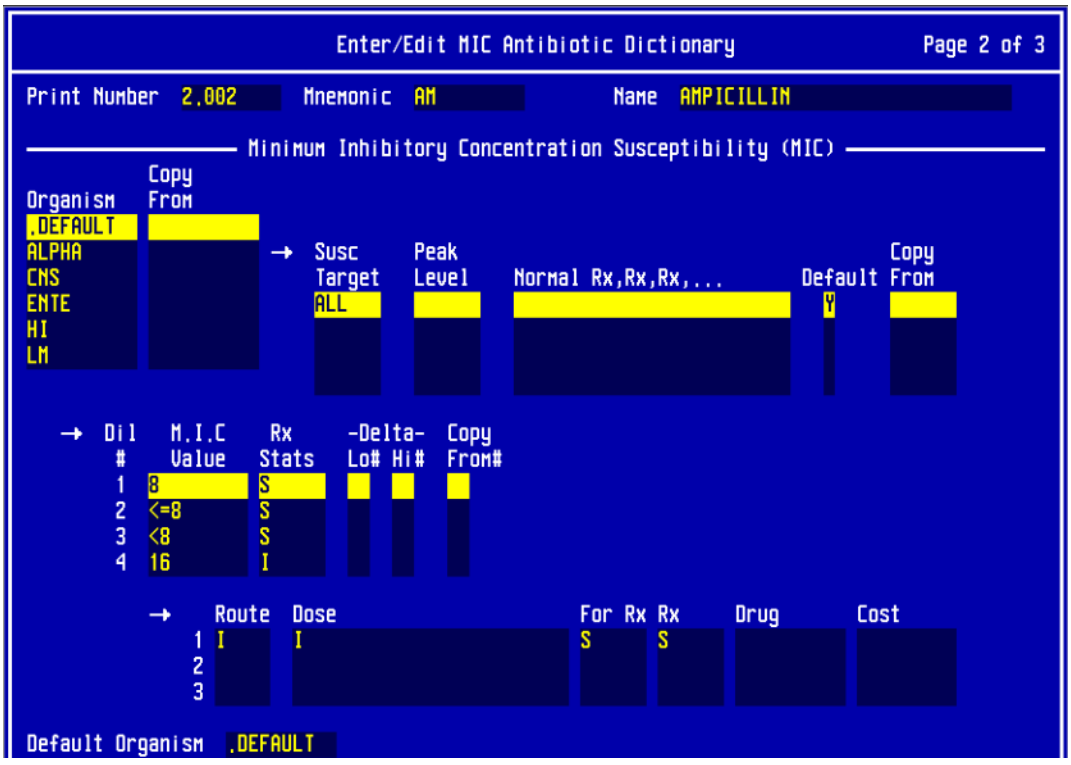
Page 1 should look like this:



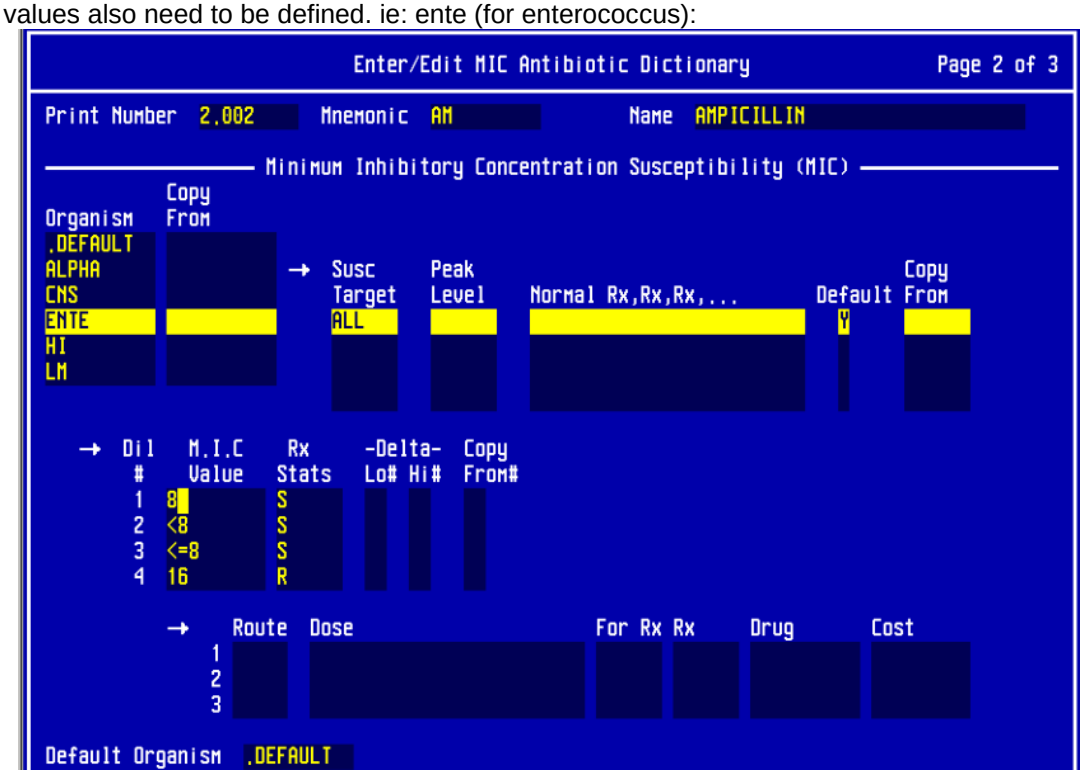
Page 2 of 3 is where the definition of the MIC values is defined for each organism. There might be different MIC values with different Interpretations for different organisms groups. Each different value would have to be entered. There are some antimicrobials that only will have one which will then be the "Default" value. The following should be exactly defined as it is shown for the values to post in the results. The "Susc Target" field always has to say **"ALL"** ?10 character limit

The MIC value field should be populated with all possible combinations that will be received from EpiCenter and the corresponding RX Stats = Interpretations.

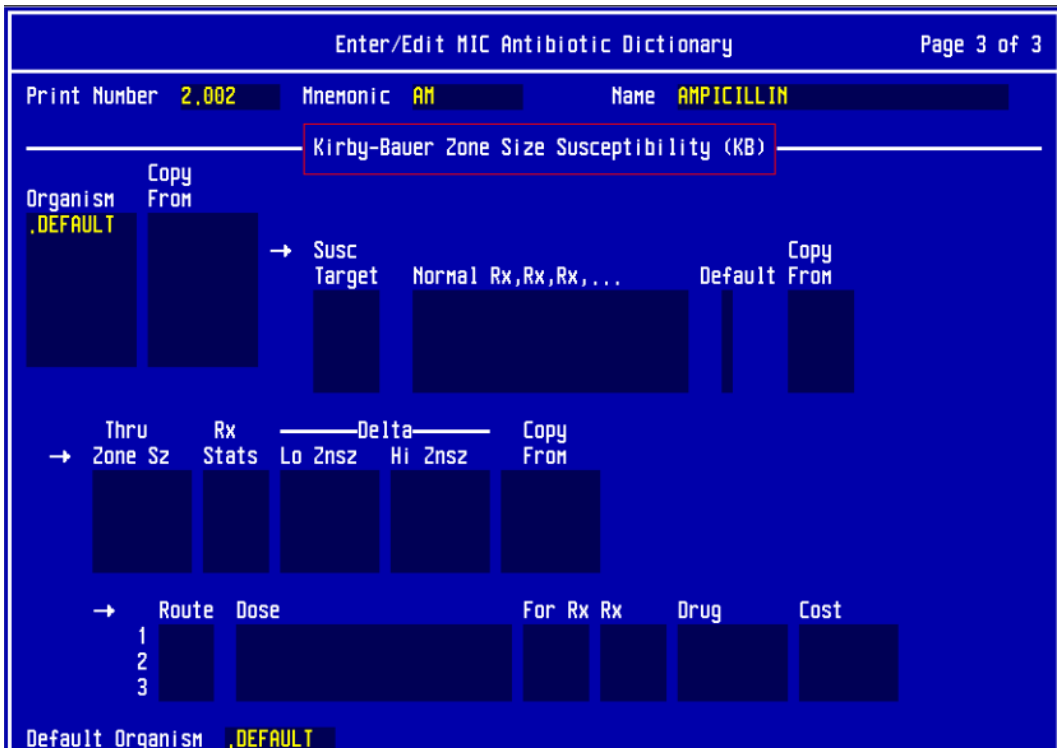
The **Route** – **Dose** – **For** – **Rx** fields need to be populated for the results to post correctly.



In the previous example there are different values for other organisms with the same antimicrobial. These values also need to be defined. ie: ente (for enterococcus):



Page 3 of 3 is for KB results if entered manually in Meditech. This page does not need to be populated for Phoenix to post results. This is how it looks:

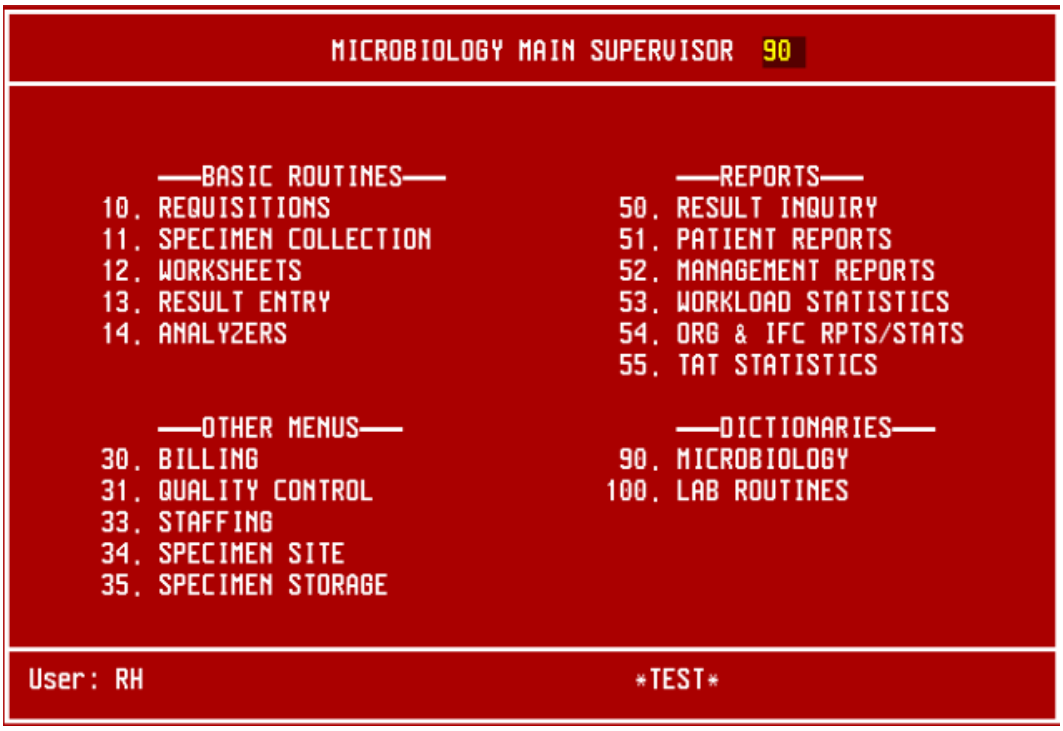


4. Panel Creation

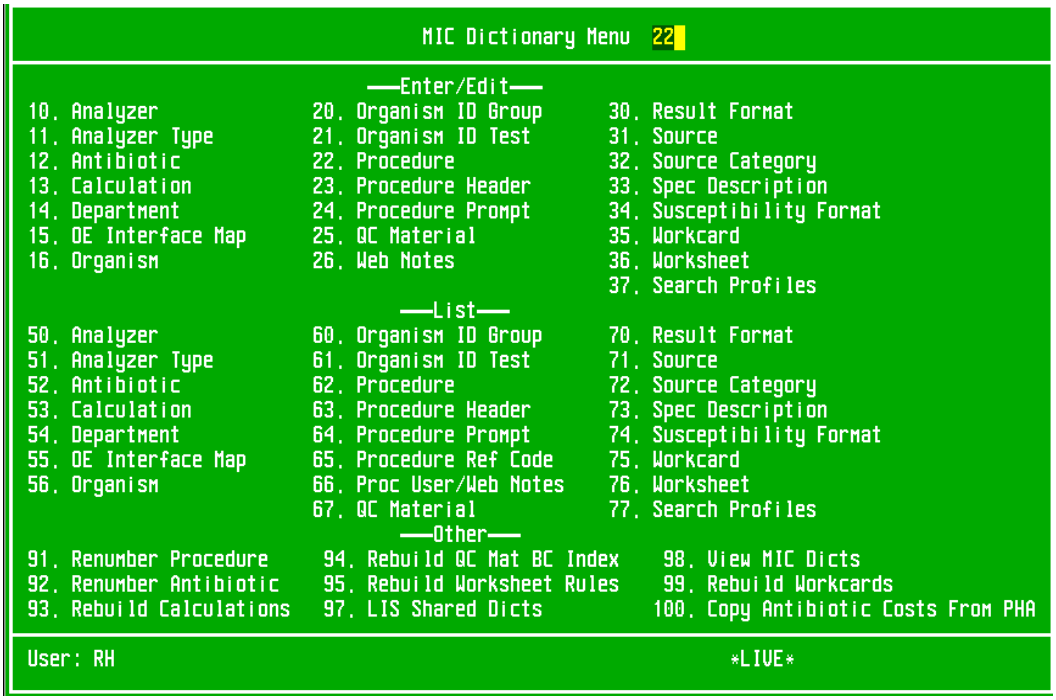
This section will describe how to build specific panel types. As an example NMIC/ID-110 has been chosen:
Make sure the "/" is removed from the Mnemonics to translate correctly. Meditech does not handle this character. Therefore each panel mnemonic should be modified as the example:

NMICID/110 → Should be modified to → NMICID-110 (note: may be more of 10 character limit)

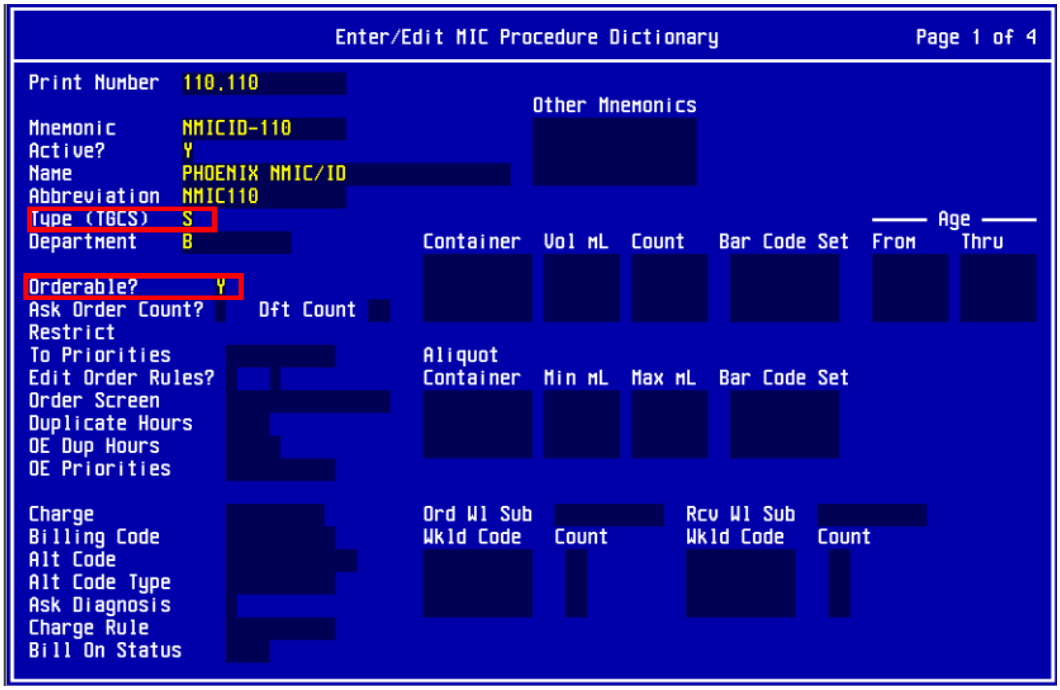
Starting again from the Microbiology Main Supervisor Menu Select 90:



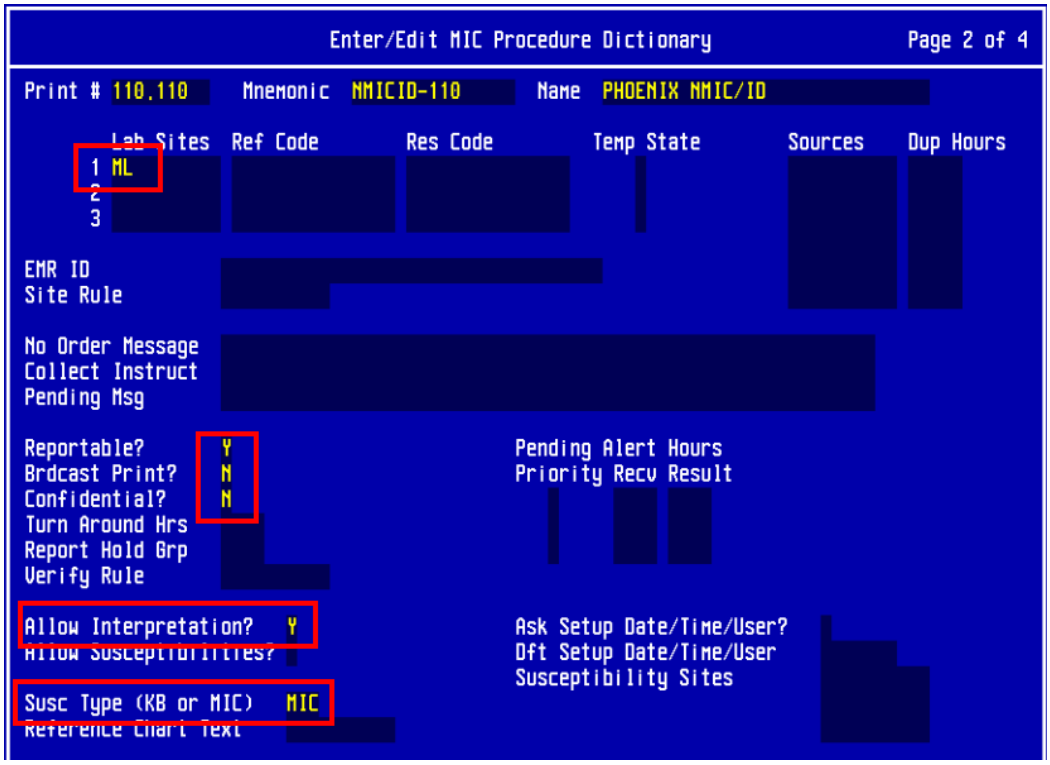
Select **22** for **Procedure:**



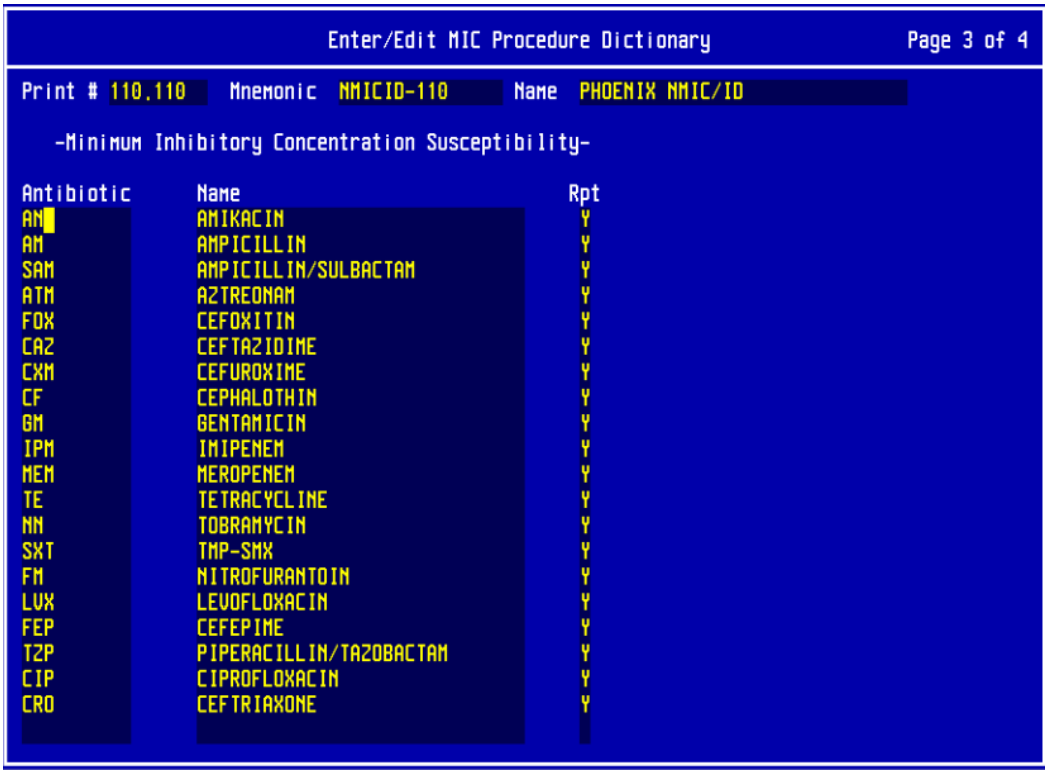
Type in ANY Print number that has not been used before. Use **F9** to look up: In this example 110.110 was used just to follow the convention of the panel being defined:



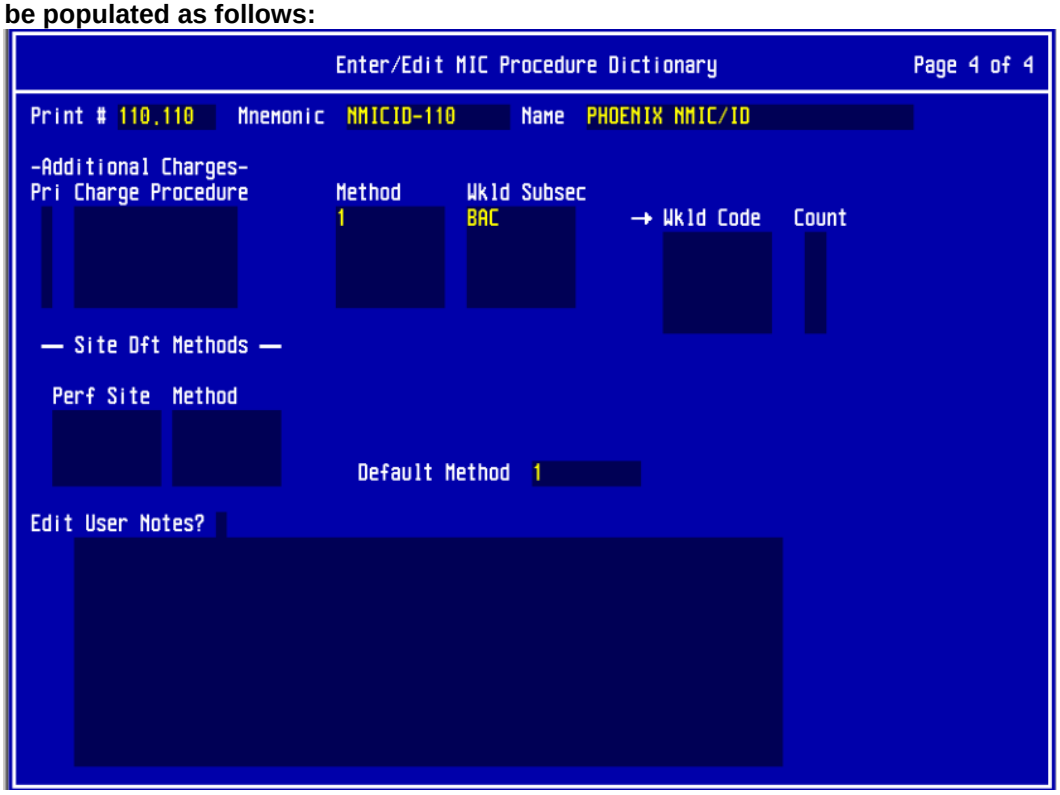
Page 2 of 4 should be set as follows:



Page 3 of 4:
This is where all antimicrobials defined for the panel are listed. Care should be followed when using the specific antimicrobial codes. These should match Epicenter codes. The Rpt column should be set up to "Y" for all antimicrobials:

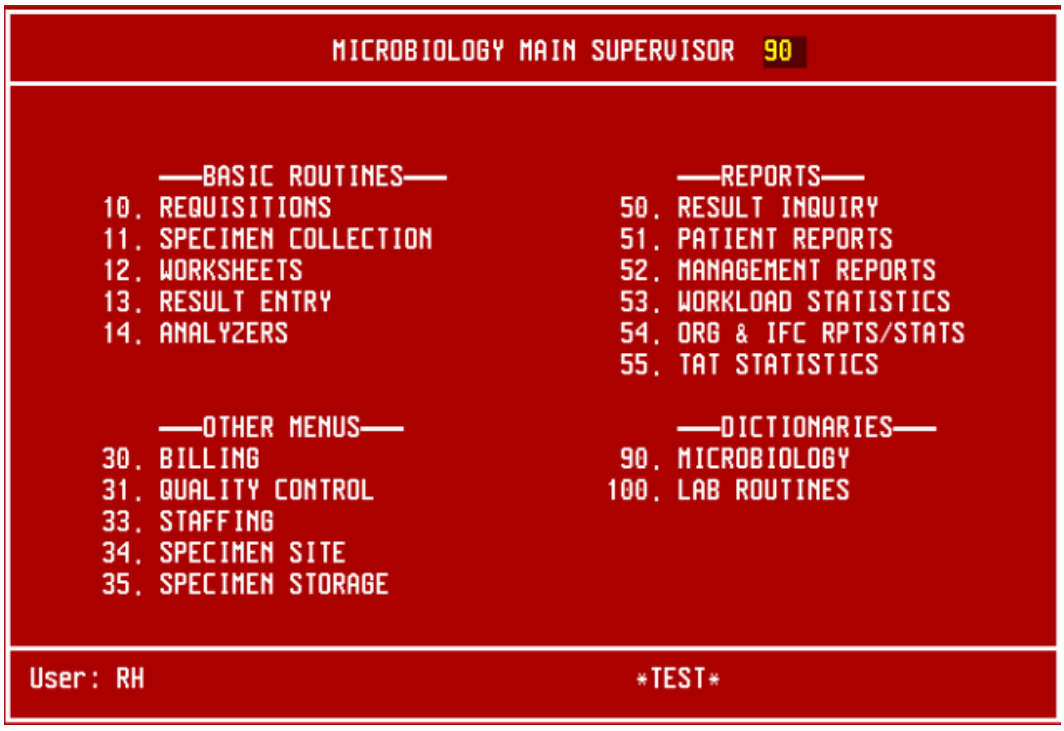


Page 4 of 4
Should be populated as follows:

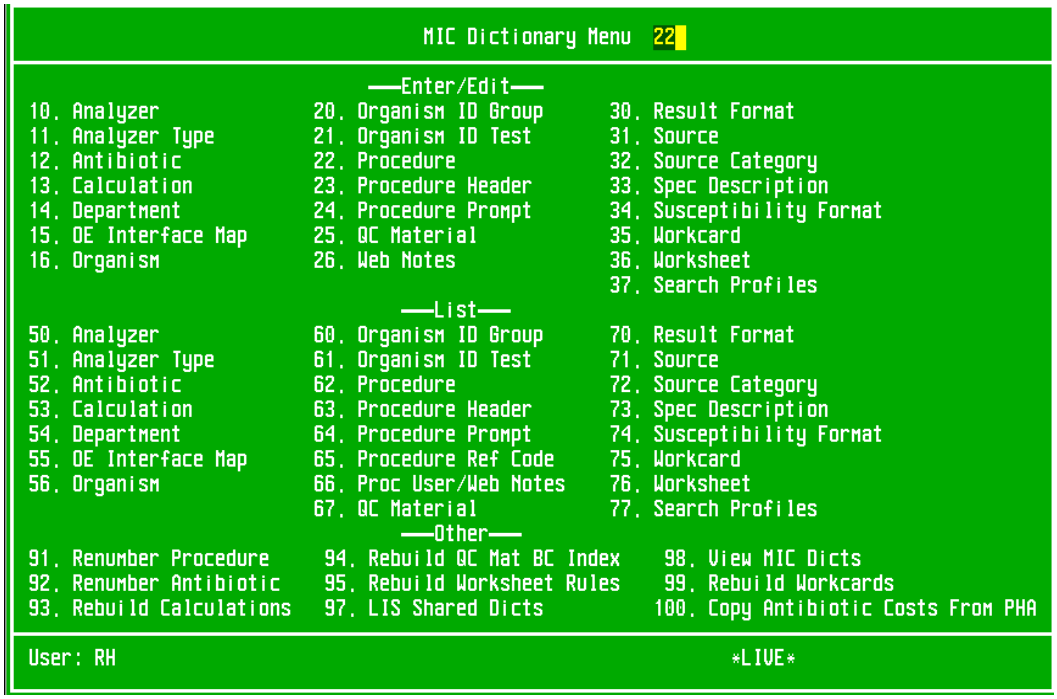


5. Culture Procedure Creation:

This is should be already created on Meditech for each culture procedure.
In this case an example for Urine Culture is shown:
Start from the Microbiology Main Supervisor Menu:

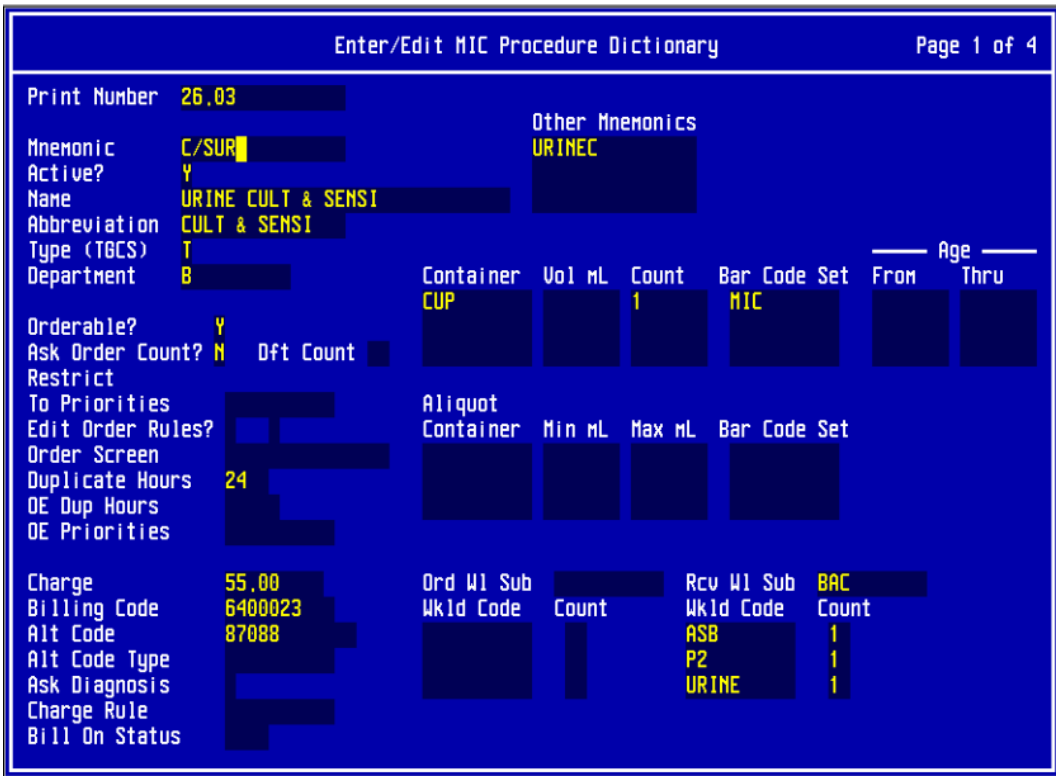


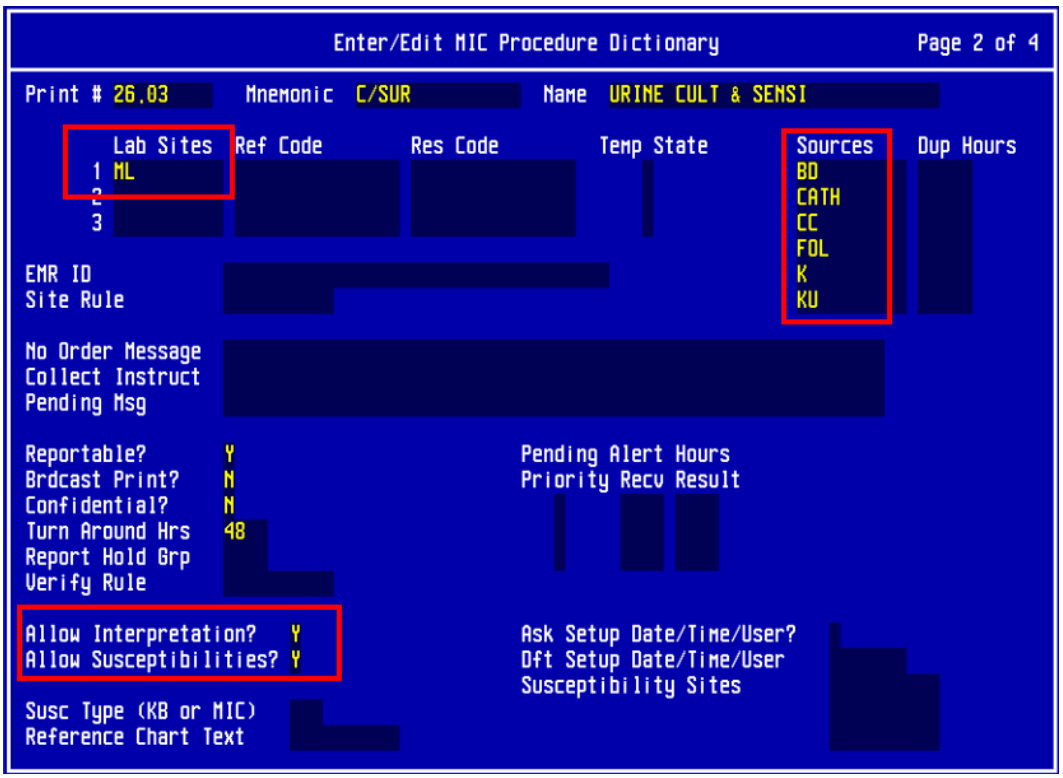
Select **22** for **Procedure:**

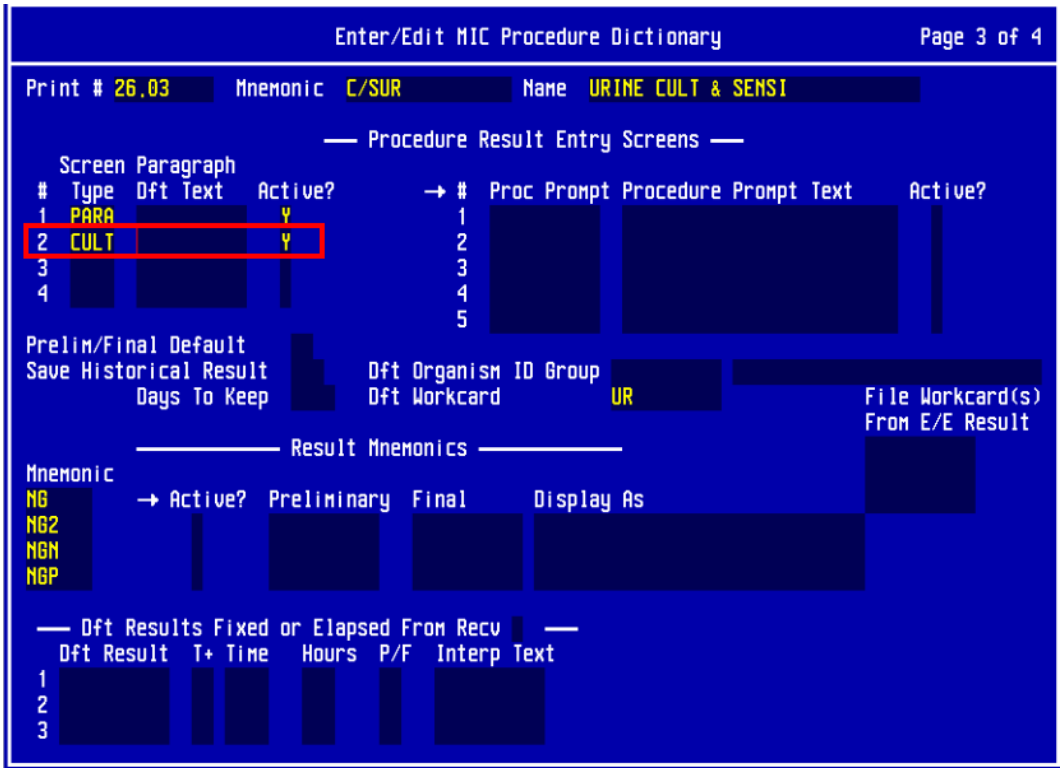


The following example is for information only. However **page 3 of 4** should be defined exactly as it is shown to allow the posting of multiple isolates in the Report.
Each Account **SHOULD** already had each procedure defined:

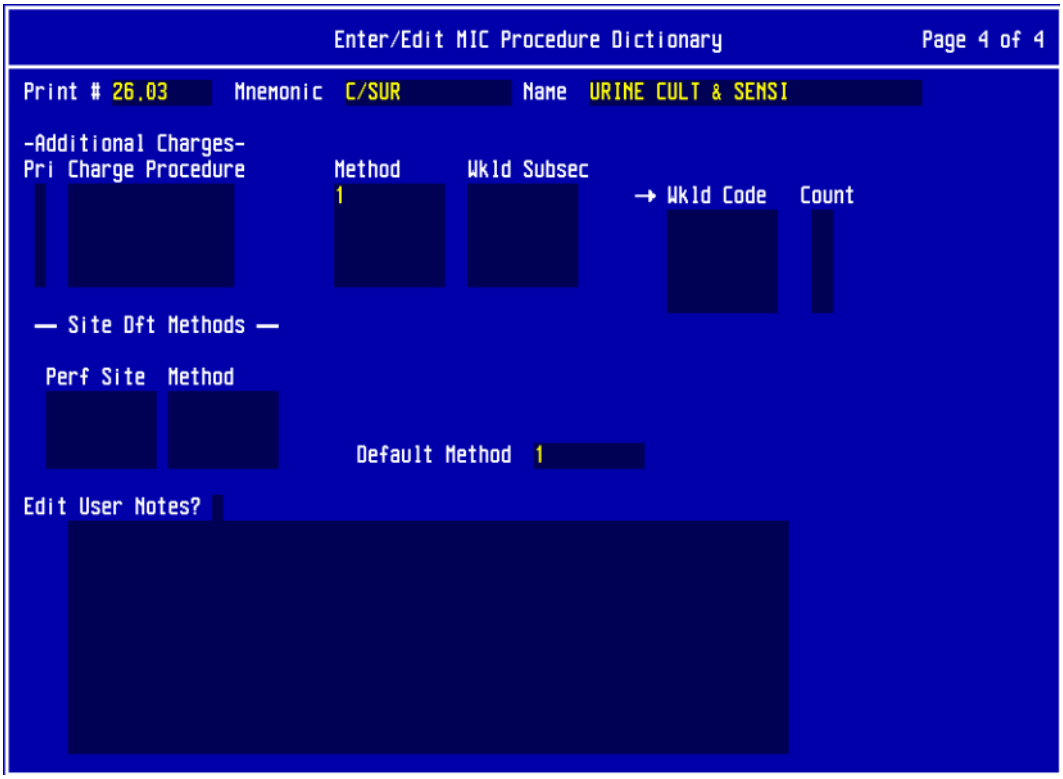
In this case C/SUR means = Culture and Sensitivity / Urine
Type is defined as = T (Test)







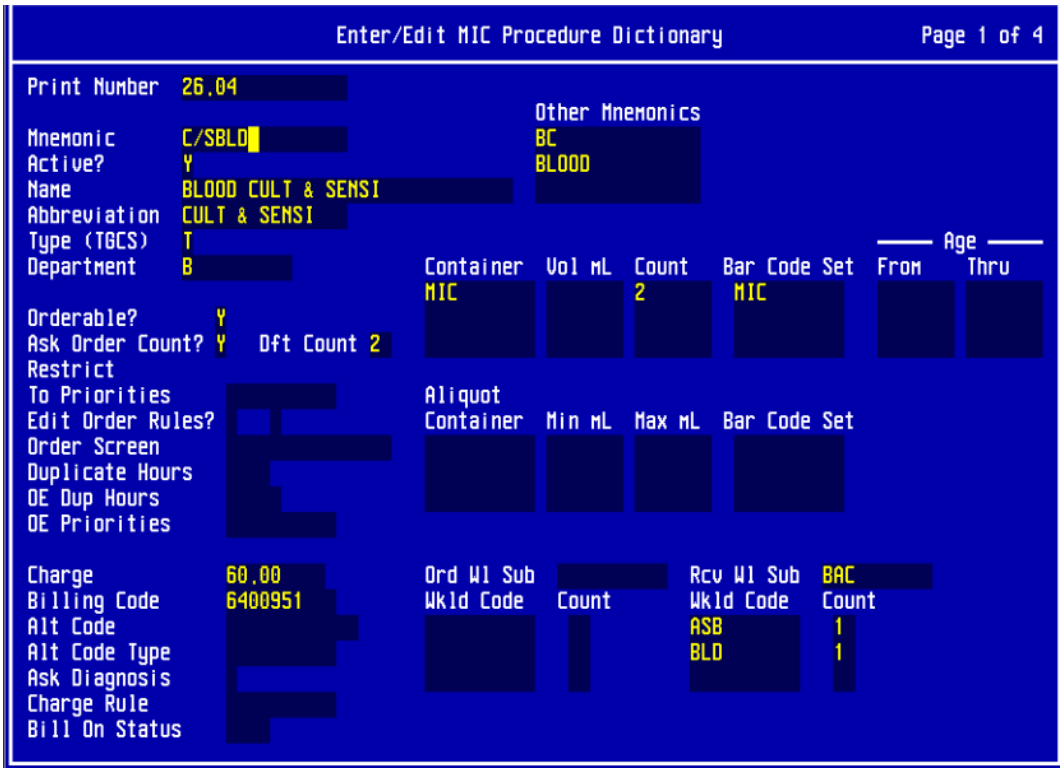
This specific definition for **"CULT"** set to **"Y"** → **MUST** be defined for **ALL** culture procedures to allow the posting of multiple organisms per specimen.

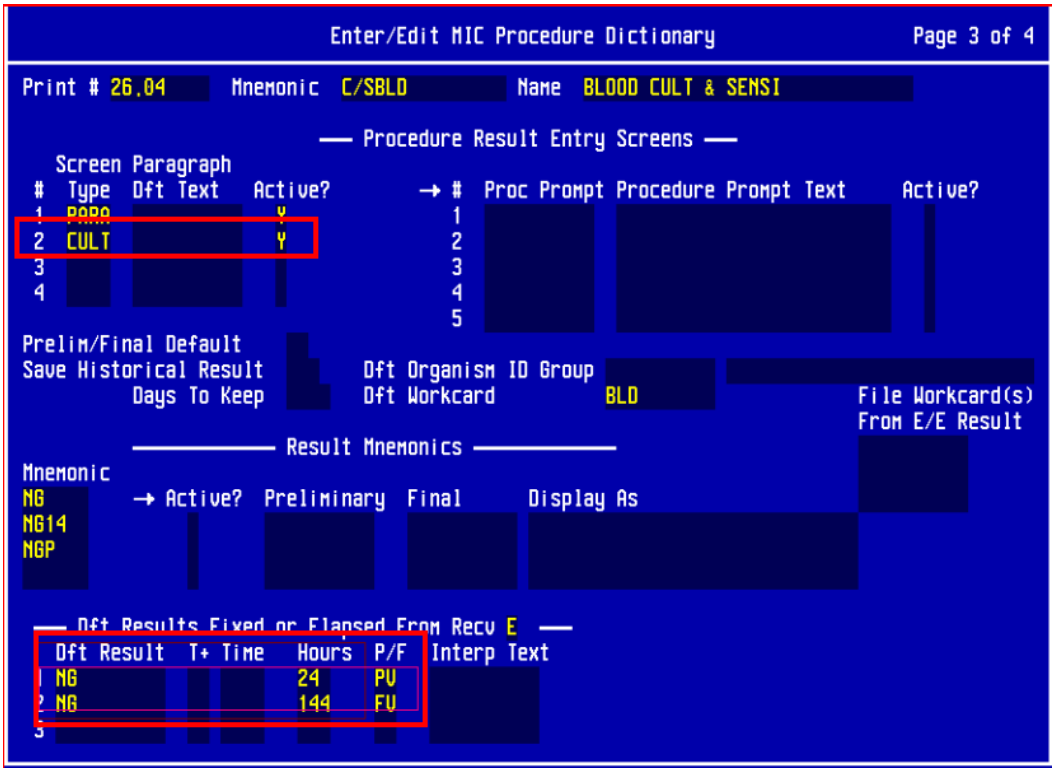


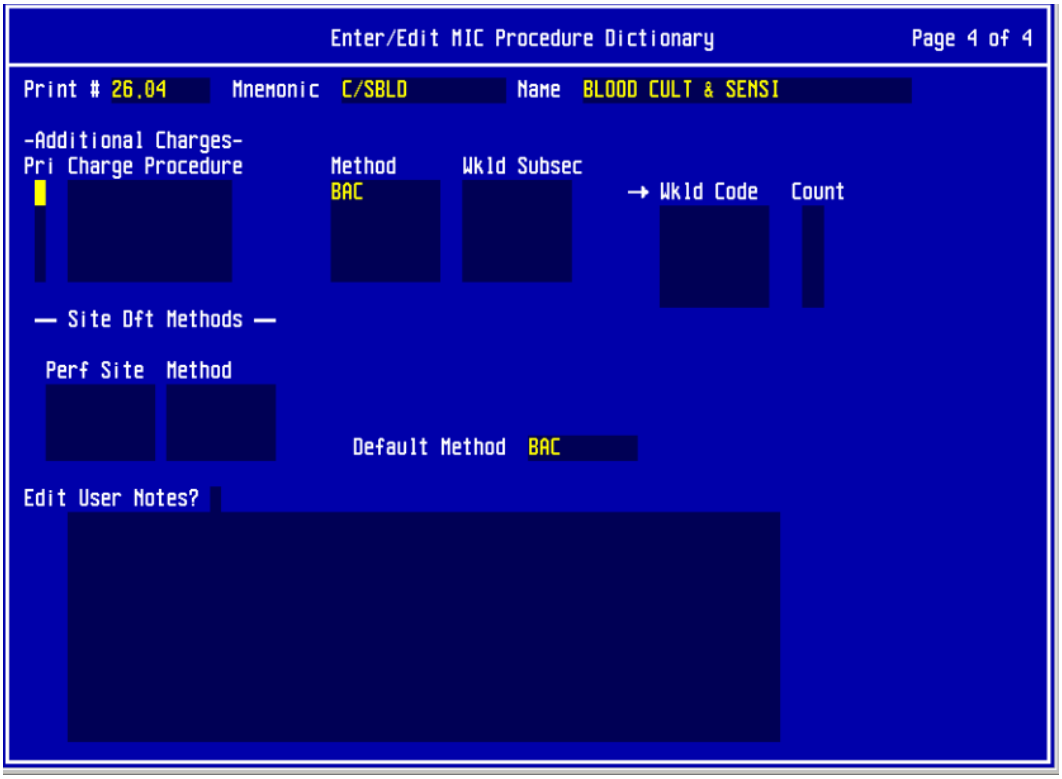
6. Blood Culture Setup

The supervisor could define the Blood Culture Test. This however should have been defined already in the Laboratory.

This is the definition of Blood Cultures. Follow the same procedure than for Urine culture. Notice in **Page 3 of 4** there is a flag set for the blood cultures to be forced automatically negative by Meditech after a period of time:







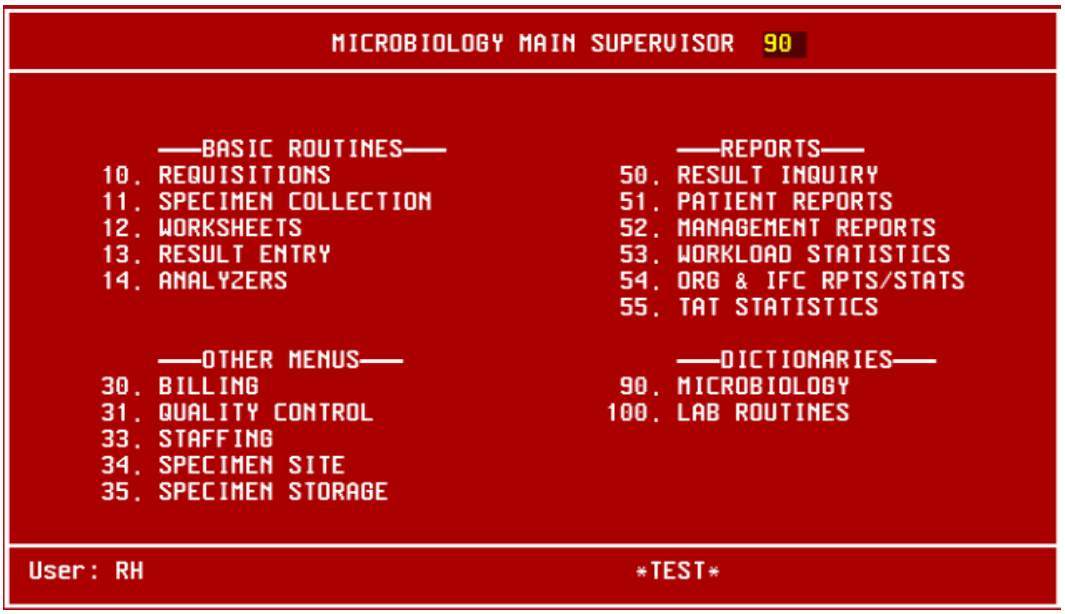
7. Inferred Results

8. Resistance Markers

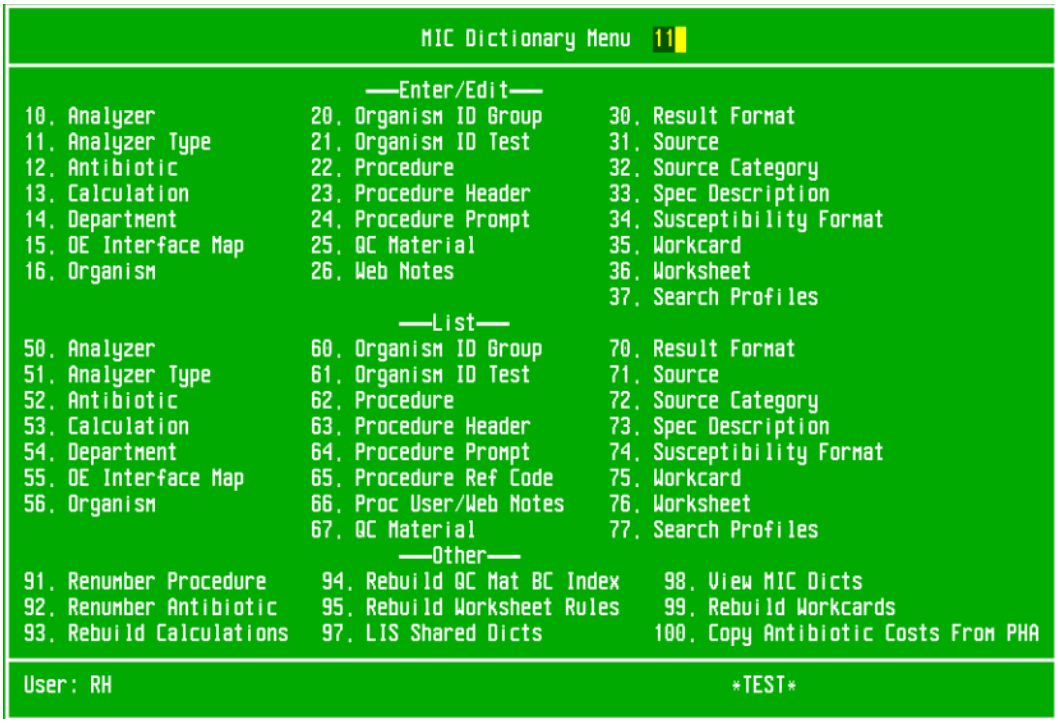
Resistance Markers are handled by the Meditech driver as an additional results. They will be printed at the end of the report as a comment line.

9. Definition of Epicenter in The Dictionary:

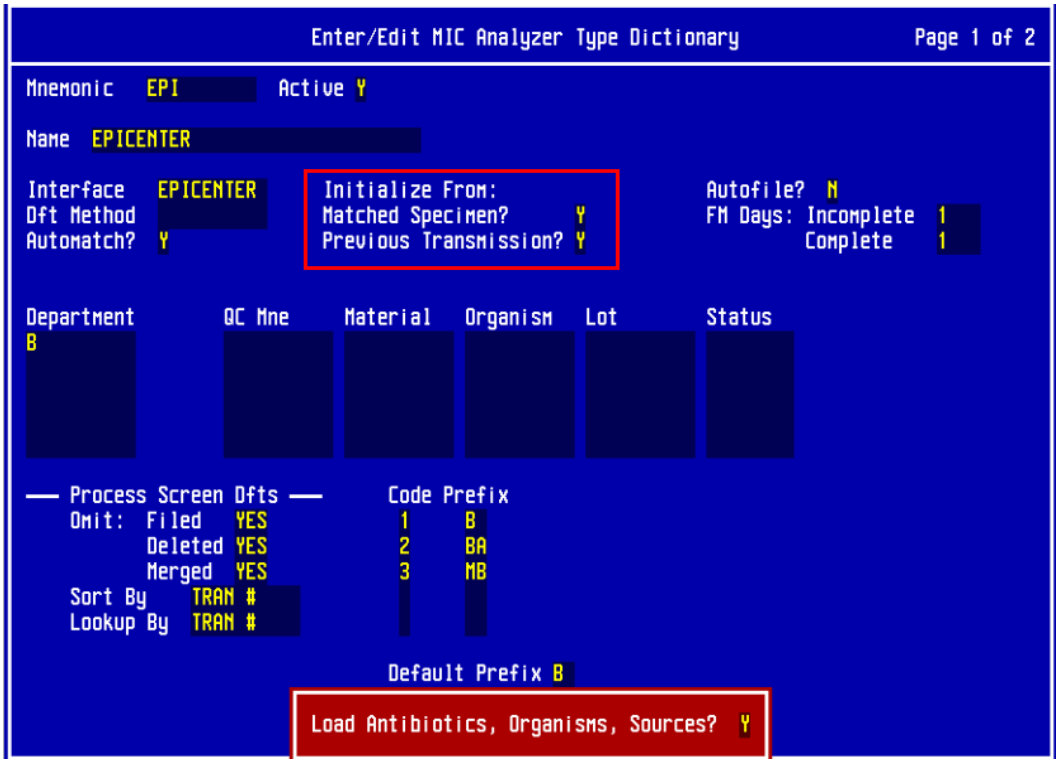
From the Microbiology Main Menu select 90



Select next 11 for Analyzer Type:

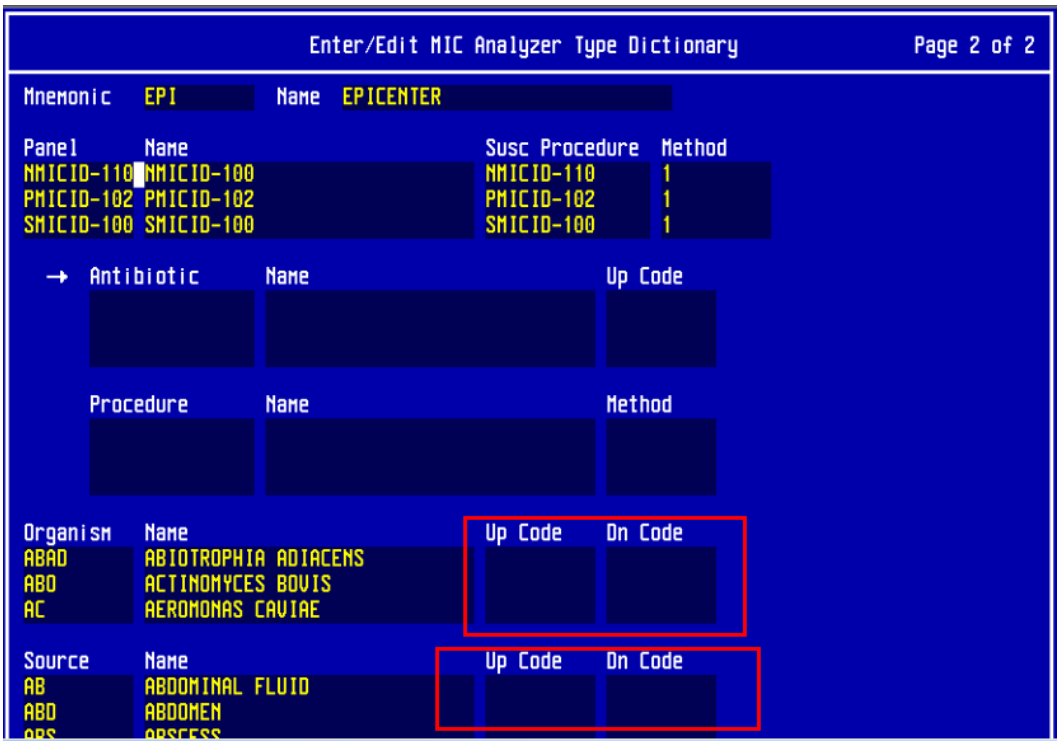


Type in the mnemonic that will be used for EpiCenter. In this Example EPI was utilized by Meditech to name the EpiCenter. This should have already been “enabled” by MEDITECH. Perform F9 to look-up the options given:



The fields for “Matched Specimen?” and “Previous Transmission?” **MUST** be set to **“Y”** → to allow the posting of multiple organisms per specimen.

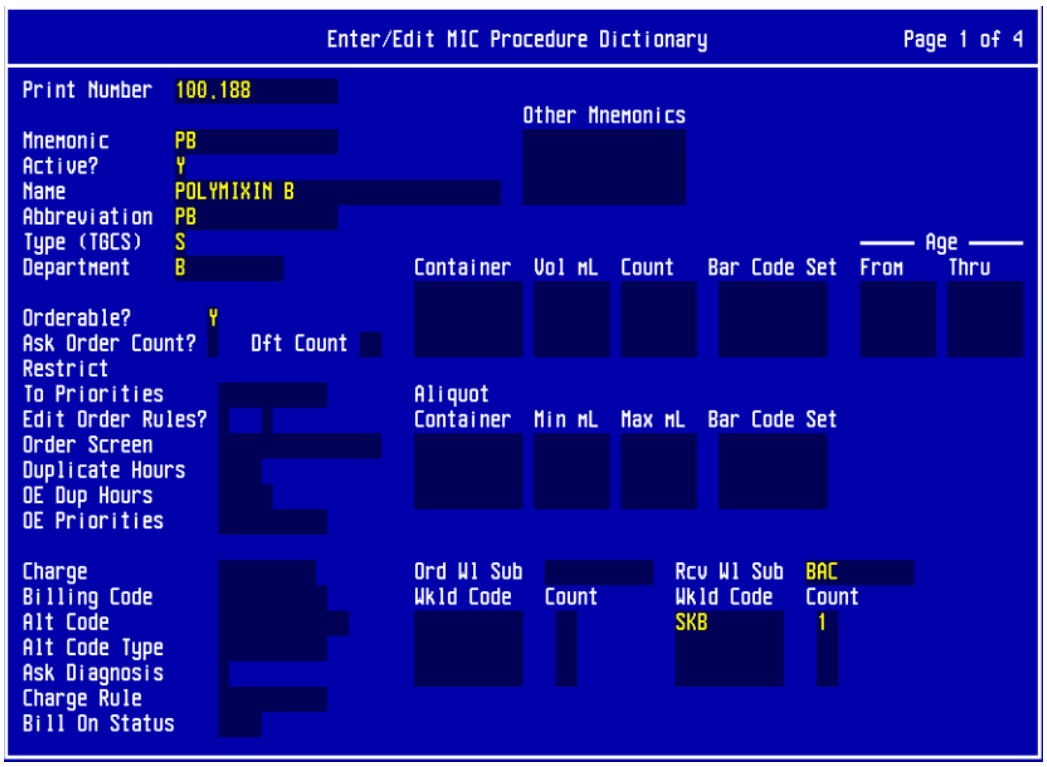
In the following page make sure Up and Dn Codes are populated exactly with the **same Organisms and Sources codes** EpiCenter uses. In the following example these codes are not populated yet.

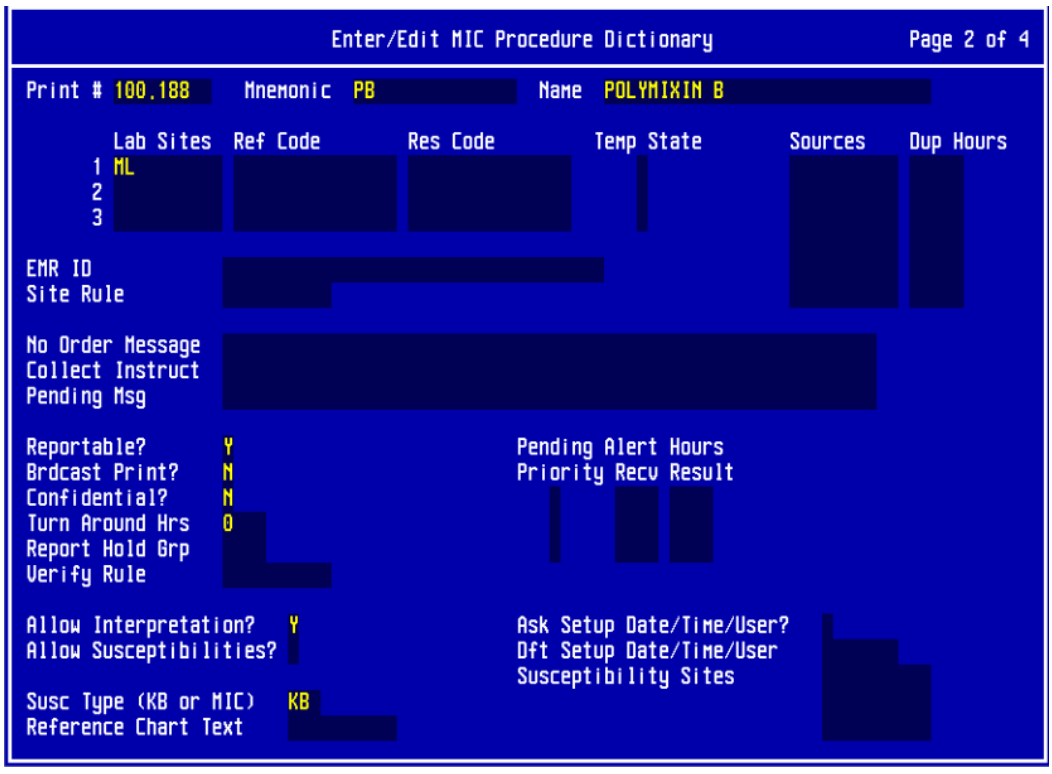


To ADD a Kirby-Bauer Test:

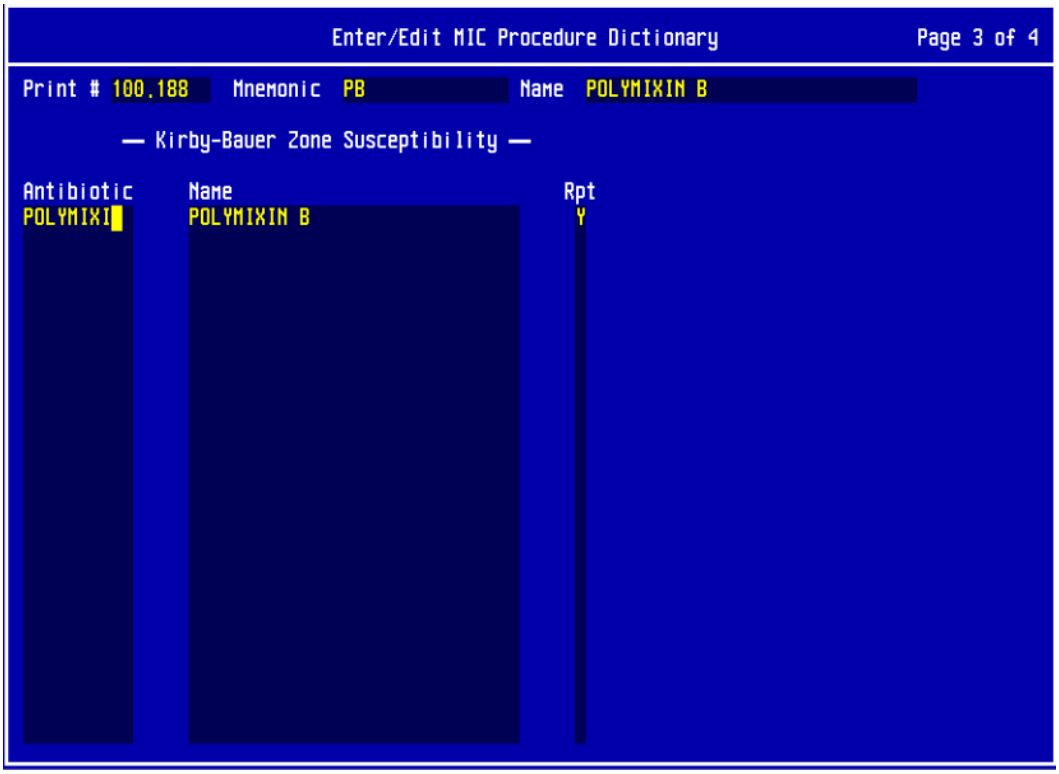
The same procedure as above should be followed if a KB Test needs to be added. The test will also have to be created in EpiCenter and the Test – LIS – Code needs to match exactly in the Panel definition area. In the following example a KB for Polimixin B was added.
The Test code used in both MEDITECH and EpiCenter was **PB**

First the Test is created under Procedures:
Following Main Microbiology Supervisor menu 90 → 22 (Procedures)
Type in **ANY** Print number:

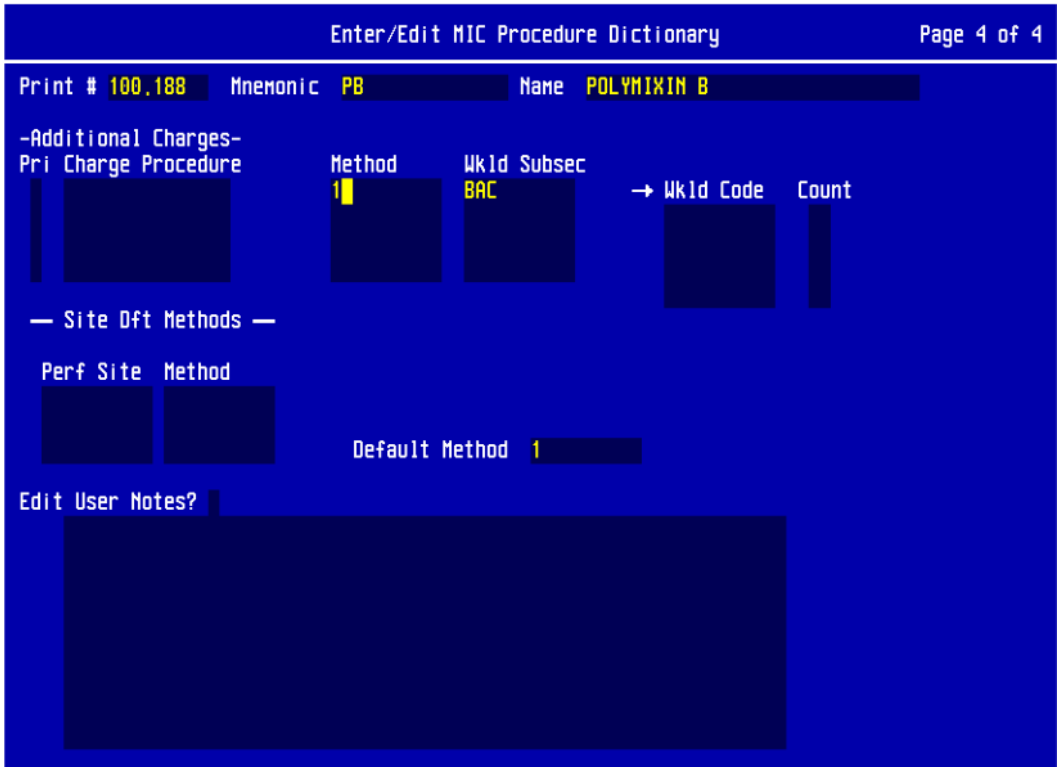




In the following page type ALL antibiotics for the Test. In this example only one was chosen:



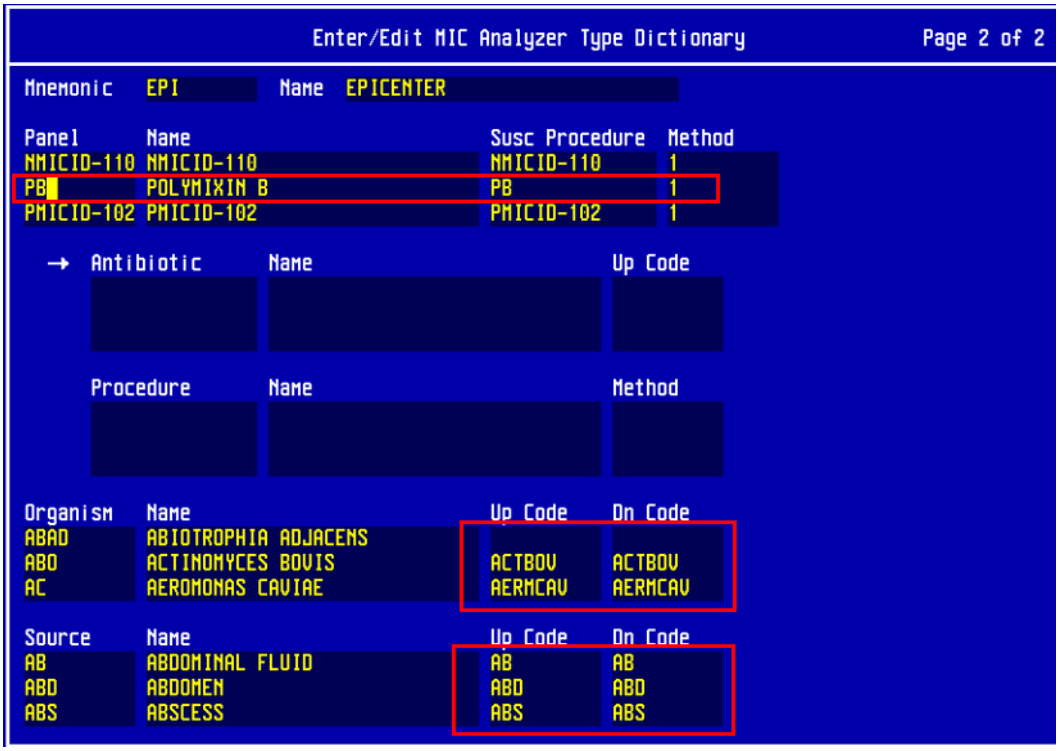
Page 4 of 4 should look as follows:



Next step is to add this Test as a Panel into the EpiCenter Definition as follows:

From Microbiology Main Supervisor Menu **90** **Then** **11** (Analyzer type)

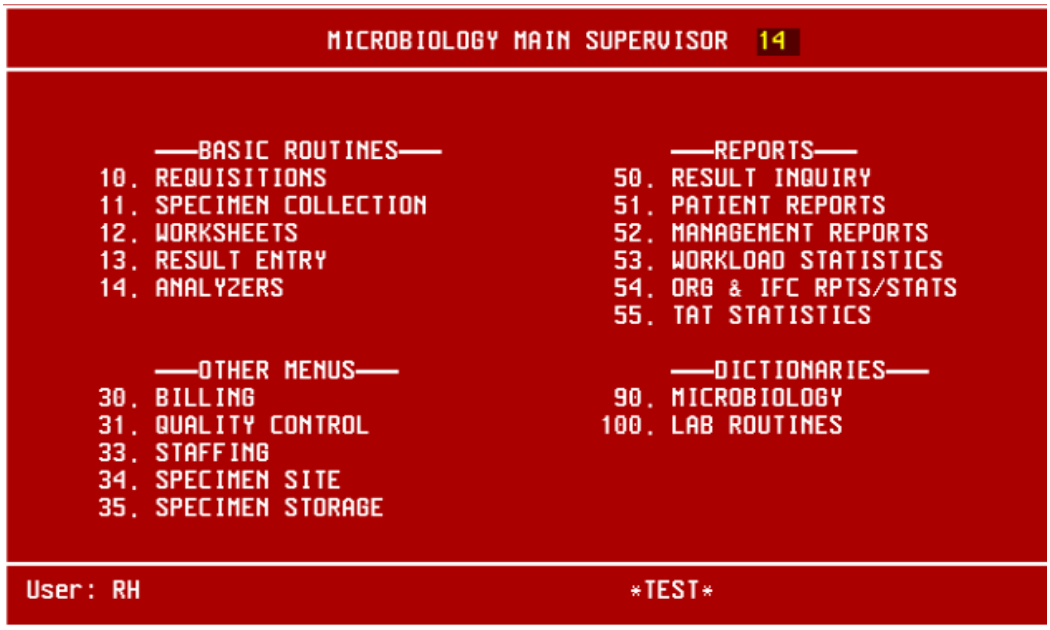
The addition of the Test PB should be under the Panels as the PX Panels, as follows:



Look up Results in MEDITECH:

After the dictionaries are defined, Testing can start by sending Results to MEDITECH on the Test environment. The following section will describe how to View the results, Transfer results for Printing and Troubleshooting Results when they do not come across. If a particular result has any particular error the Result Transfer option would not show any result to transfer.

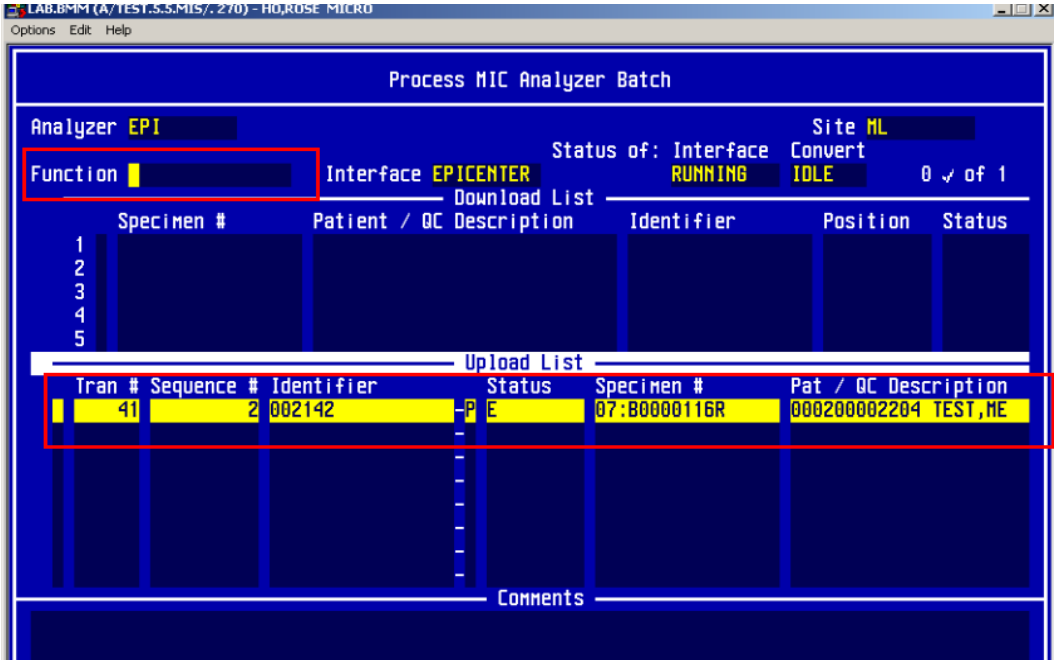
To View results and Transfer start with Microbiology Main Supervisor menu Selection 14:



Then select **11** – Process:

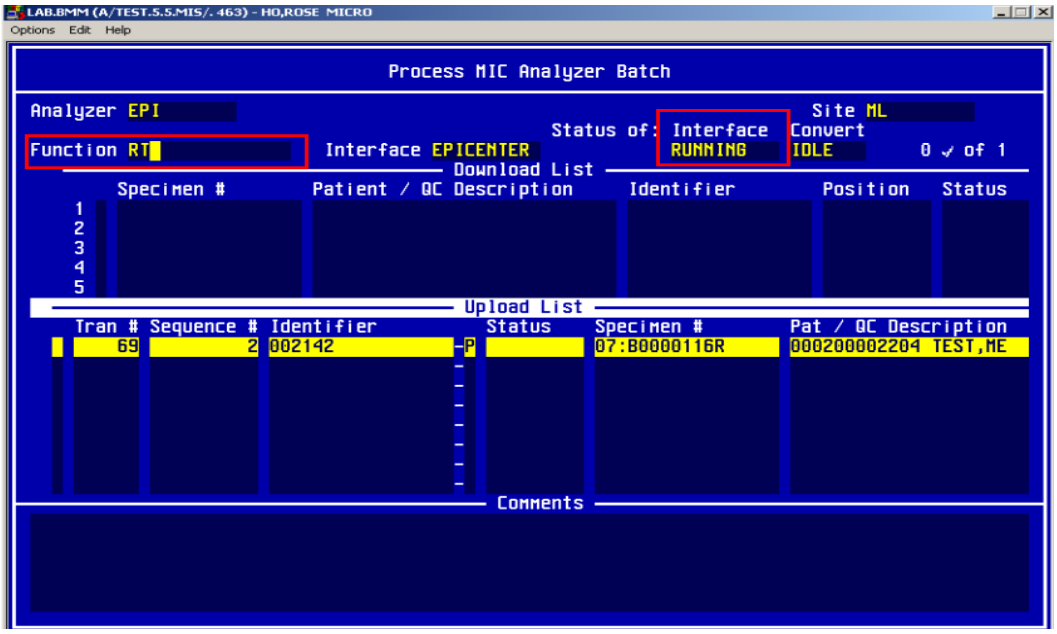
Under Analyzer type in : **EPI.**

The function field can be used for many different steps. Type F9 to look up the choices. To transfer results RT will be used. If a result transmission has an error it will post as follows with an **"E"** under the Status column

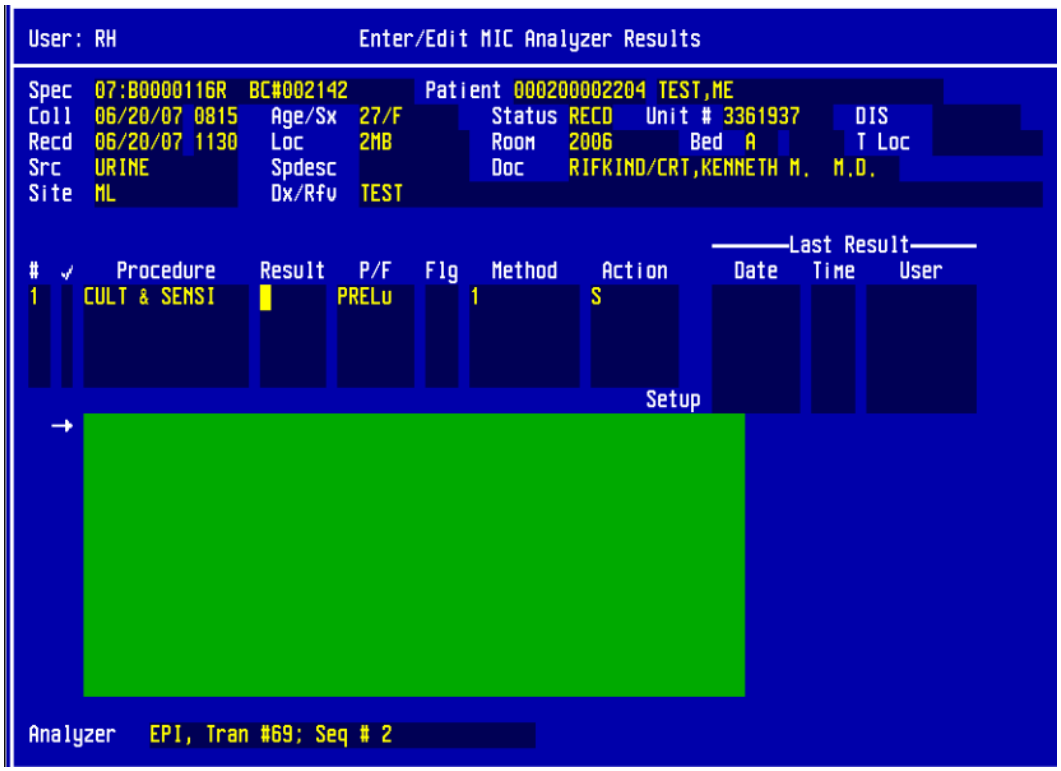


In the previous view the transmission has an error. If an Error is posted under the status the error will have to be resolved **before** any result can be transfered. This will be addressed under the section **"Troubleshooting Transmissions"**

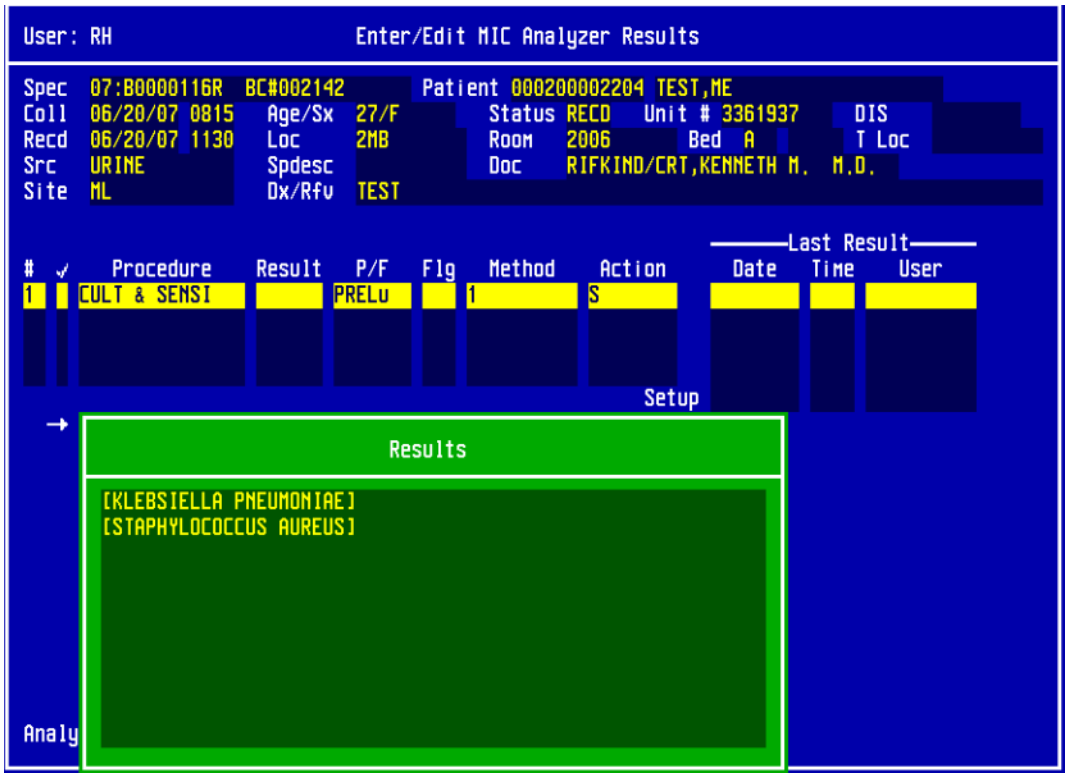
The following will show exactly the steps when **NO** errors are posted and the result can be transferred then Print out or view on the screen:
Type in "RT" for Results to be transferred.
Select the transmission to be transferred by using Control **+** arrow down (↓).
If more than one result needs to be transmitted they can all be selected to be transferred in batch.



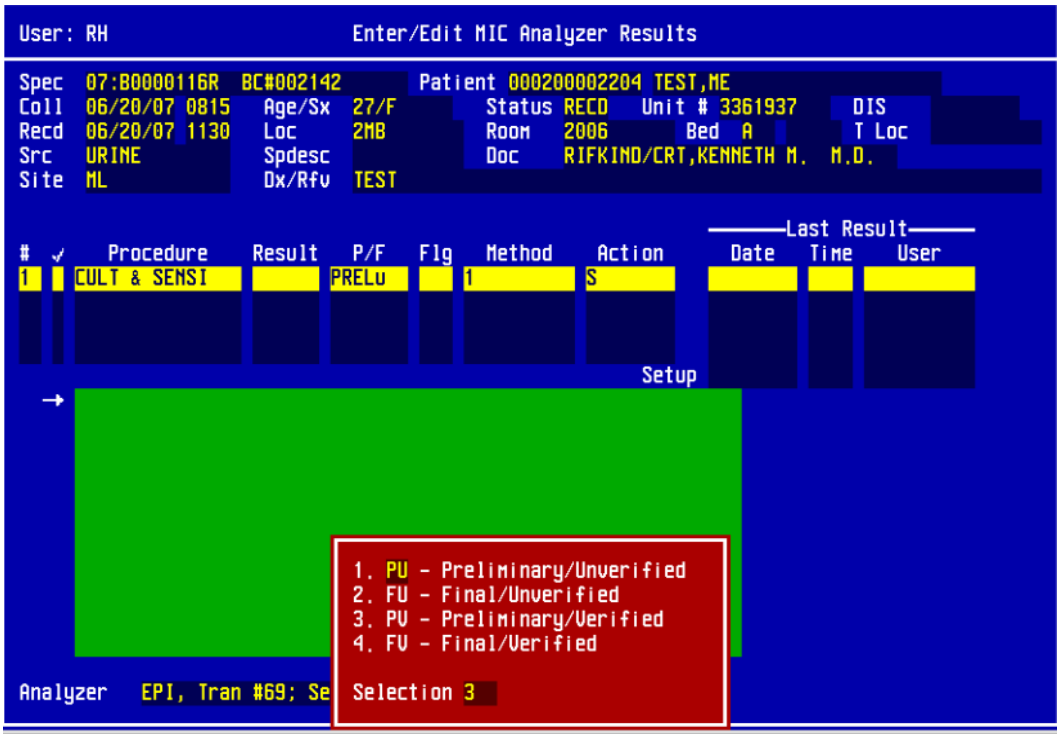
The following are the sequential events to transfer the results and the way they should look:



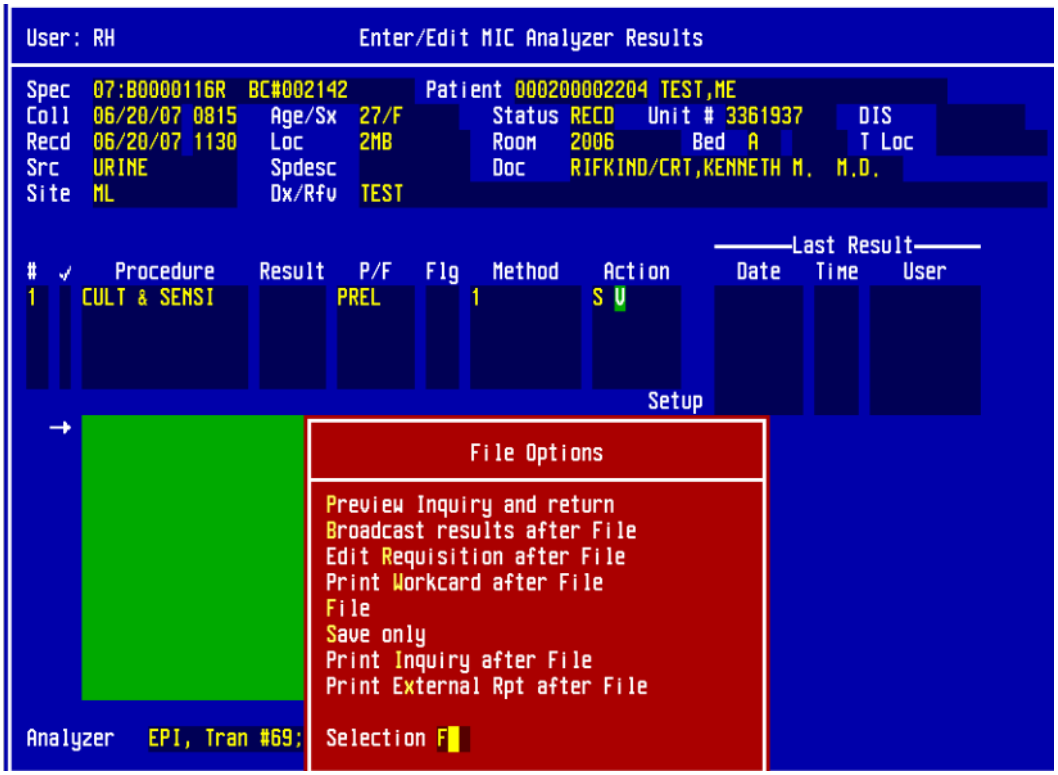
In this example there are two organisms on the same specimen:



Use F12 function and select 3 for PV Preliminary/Verified Result as shown:



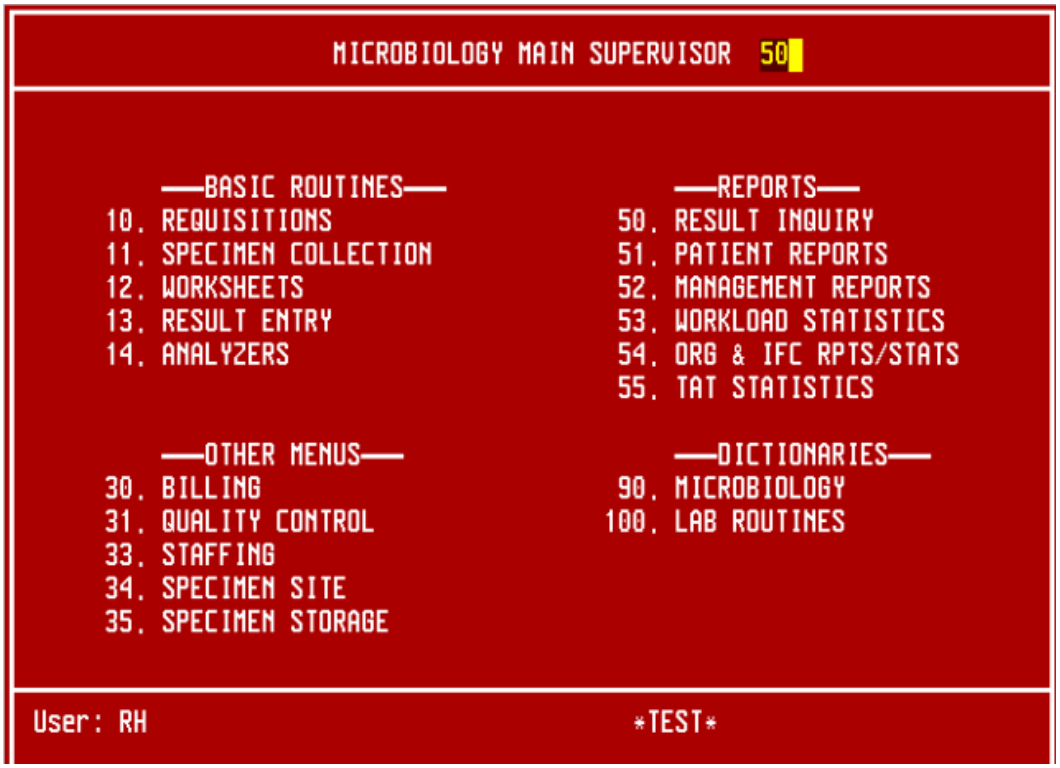
The final step is to File the result as follow: - Press F12



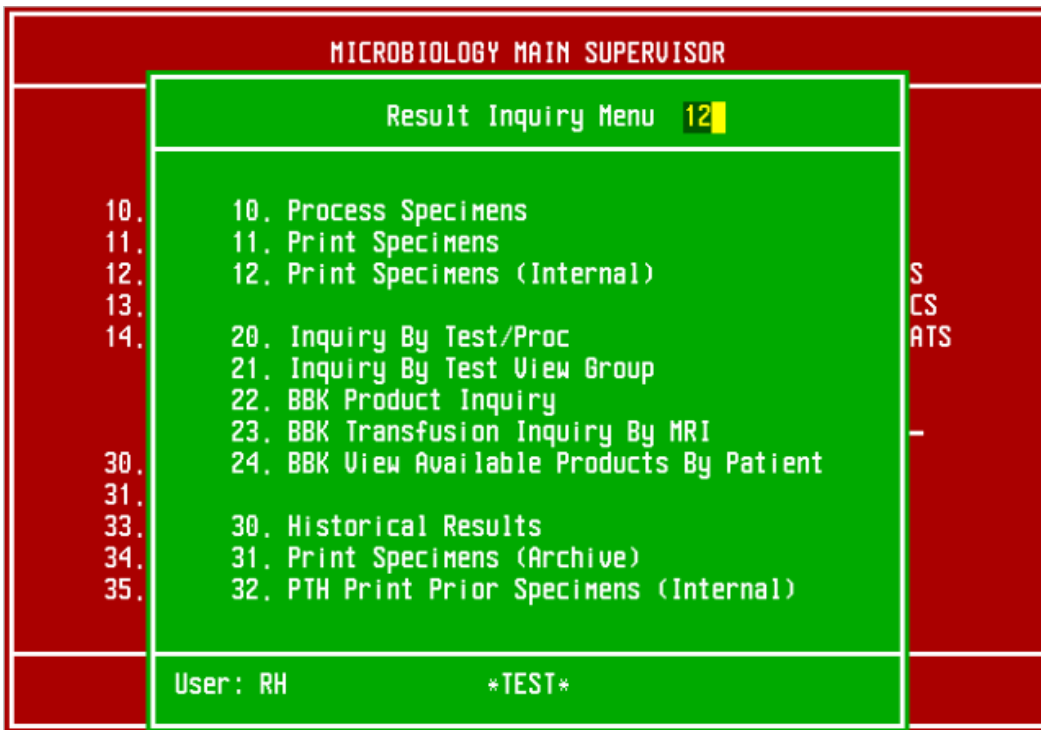
Viewing Results:

The following steps are to follow to View Results and Print. Once the results are transferred:

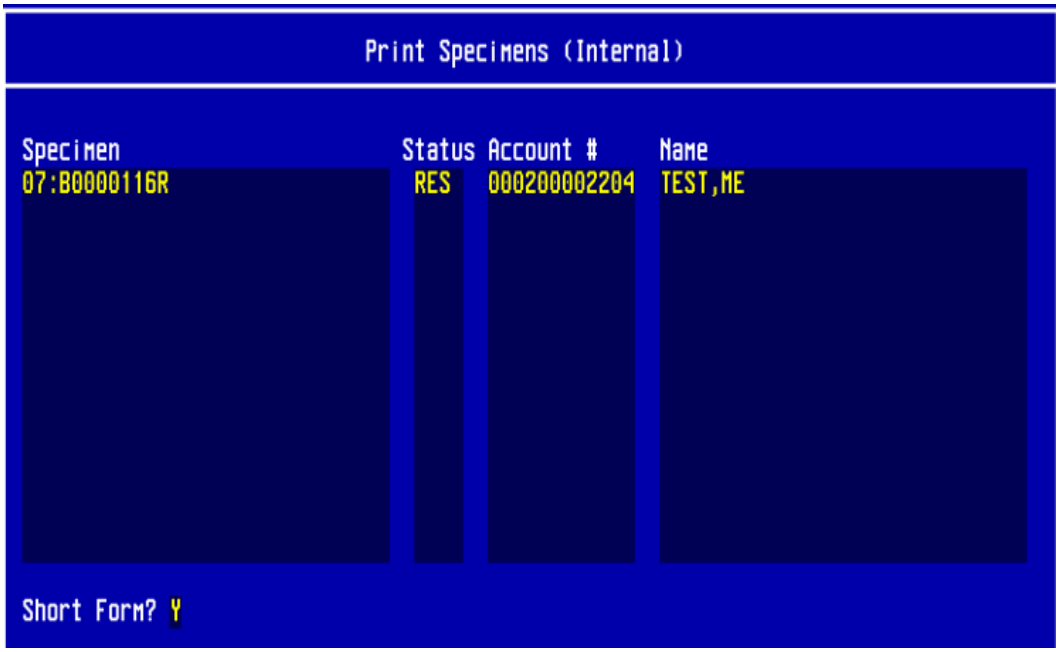
Select **RESULT INQUIRY** under the Microbiology Main Supervisor Menu:



Select Print Specimen **12**

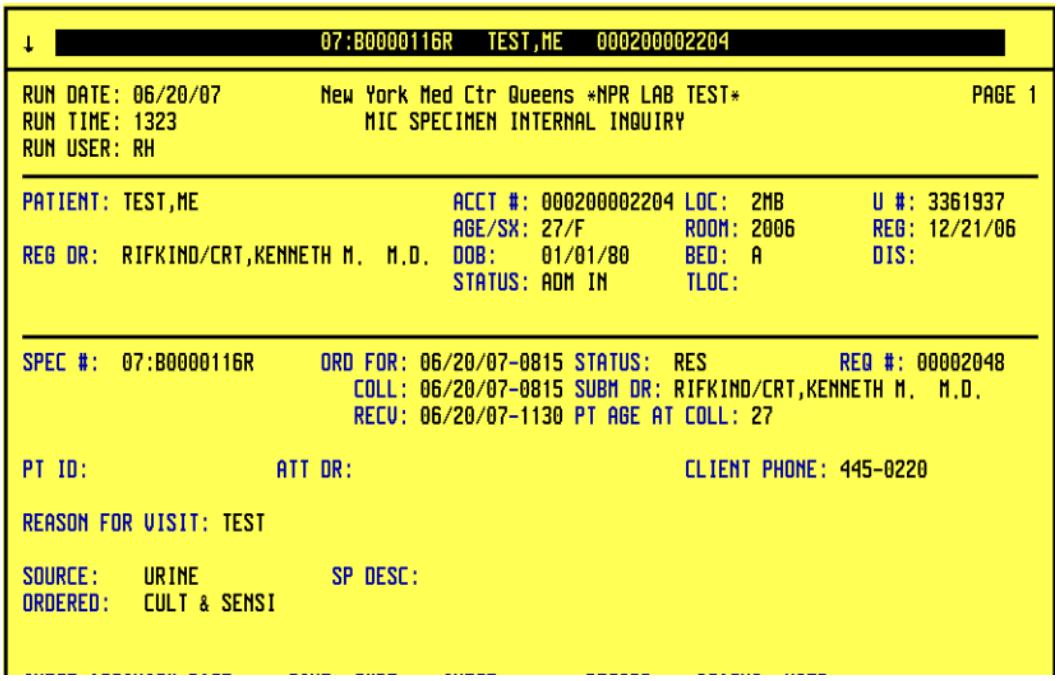


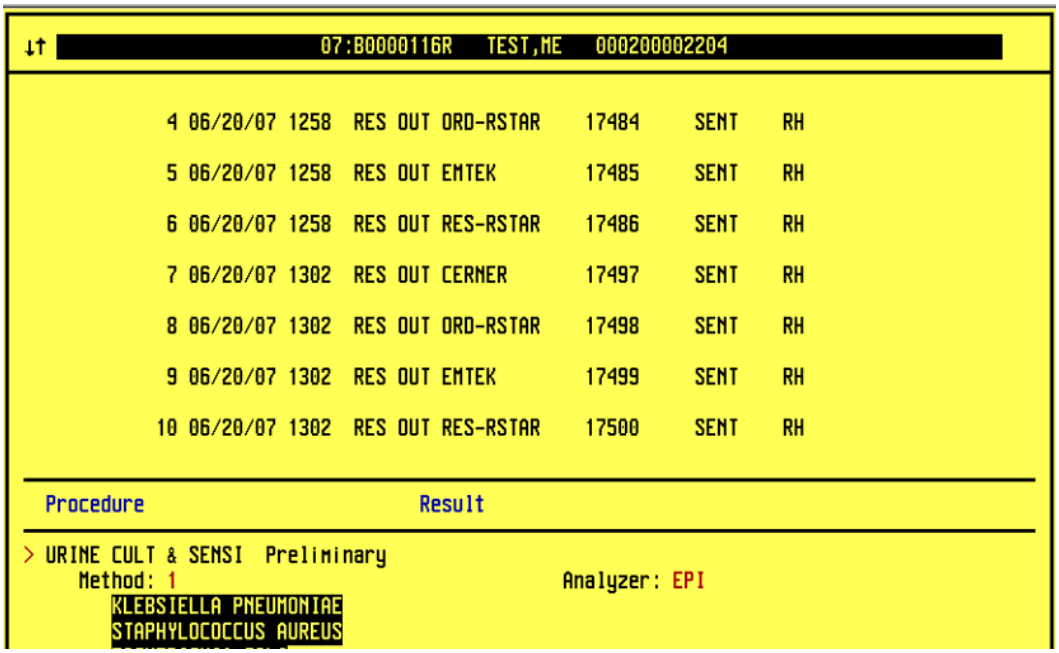
Type in **Specimen Number:**



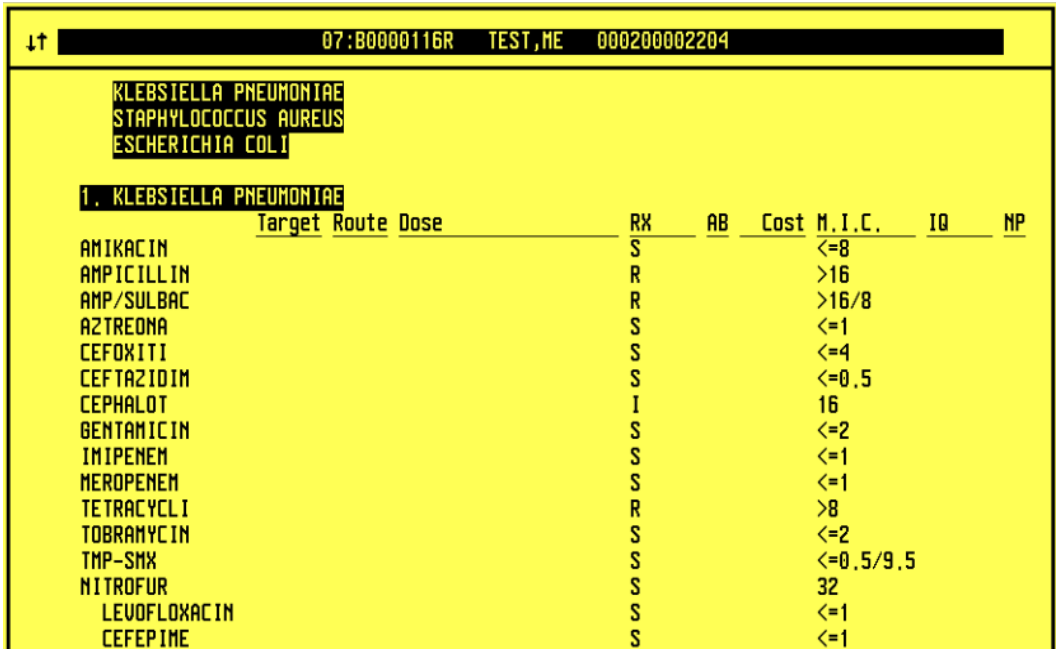
These are the pages how the report will look to be printed. This is an Internal report:

Press “Enter” to View:

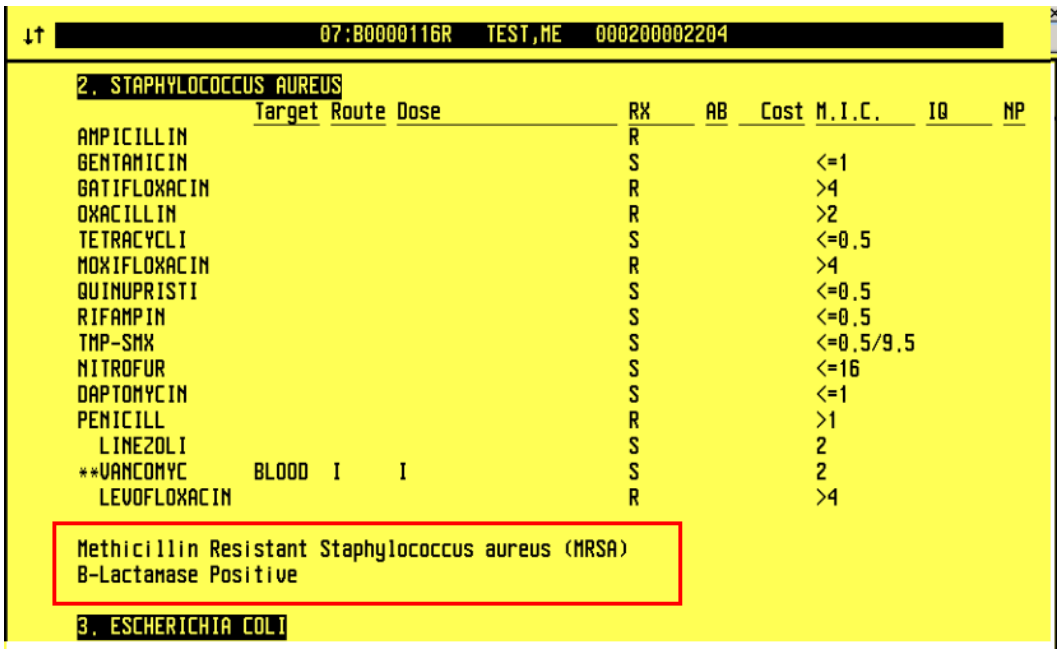




The Organisms are listed first then the report will list each separate RX and MIC.

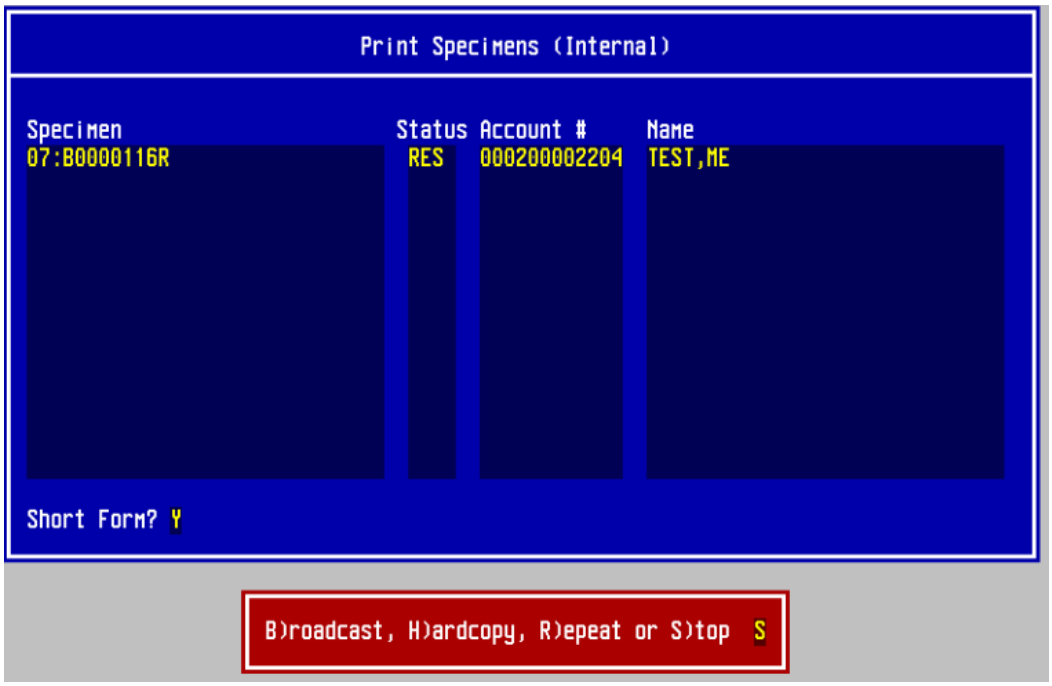


In this example the Staphylococcus aureus is an MRSA. The Resistant marker is printed as a separate line under the organism as shown.



The Result can be printed in Hard Copy by selecting "**H**" and sending it to a specific Printer.

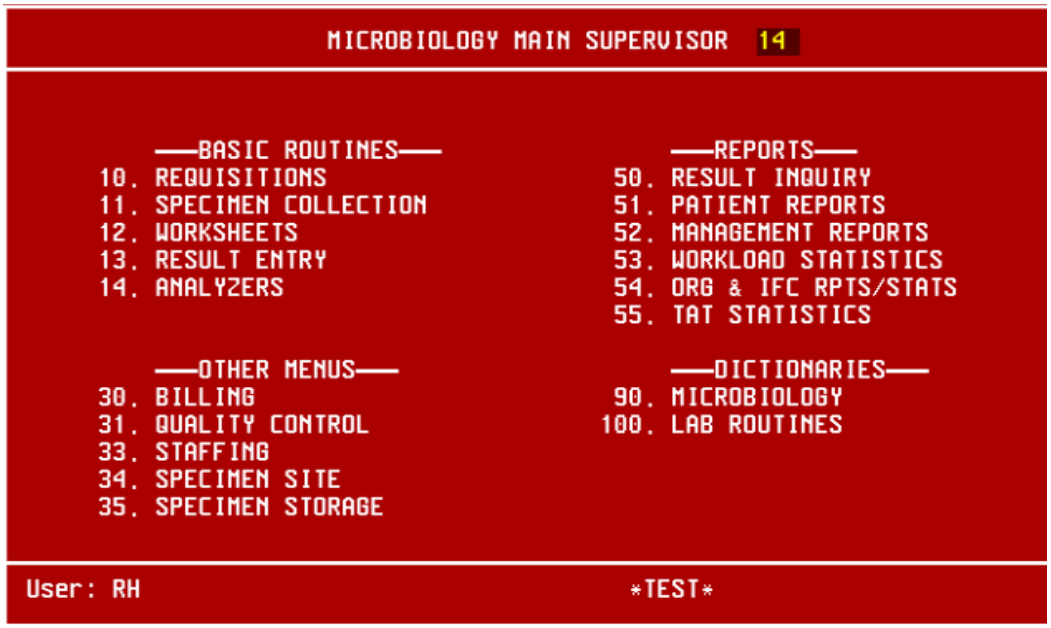
After typing the Specimen number press F12 to have the selections:



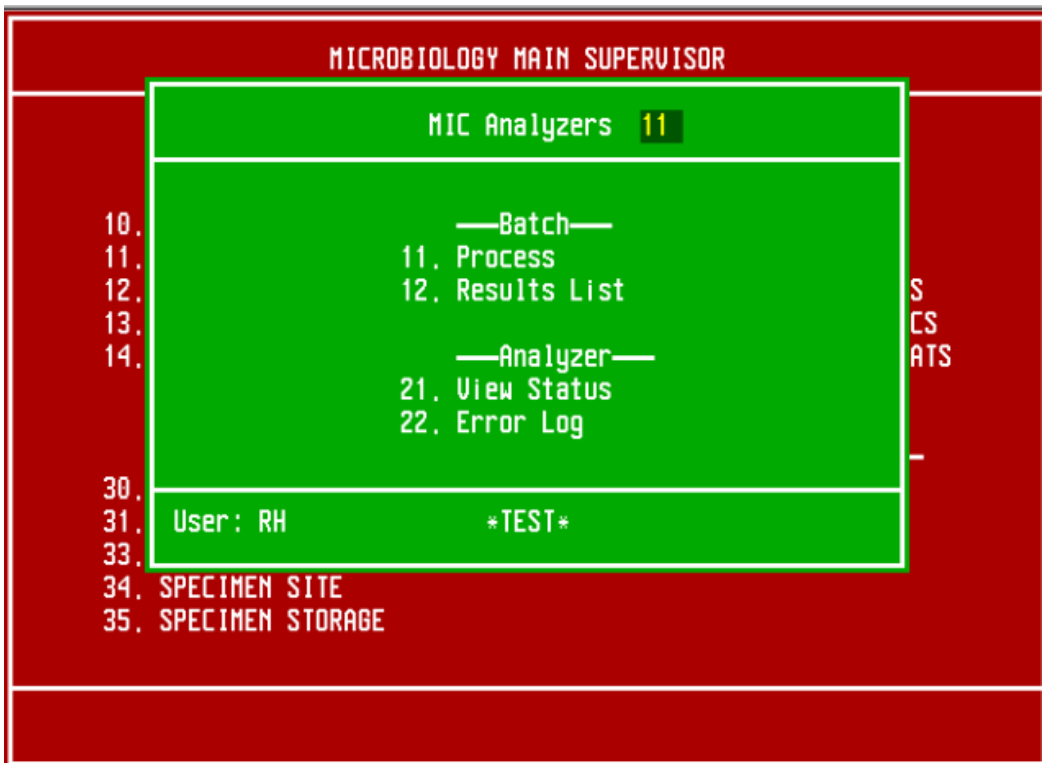
Troubleshooting Transmissions:

The following is an example of an error in a transmission. The error should be corrected before any result can be transferred. After the result has been received from Epicenter the Analyzer batch should be observed for any errors. Errors will show with an “E” on the column:

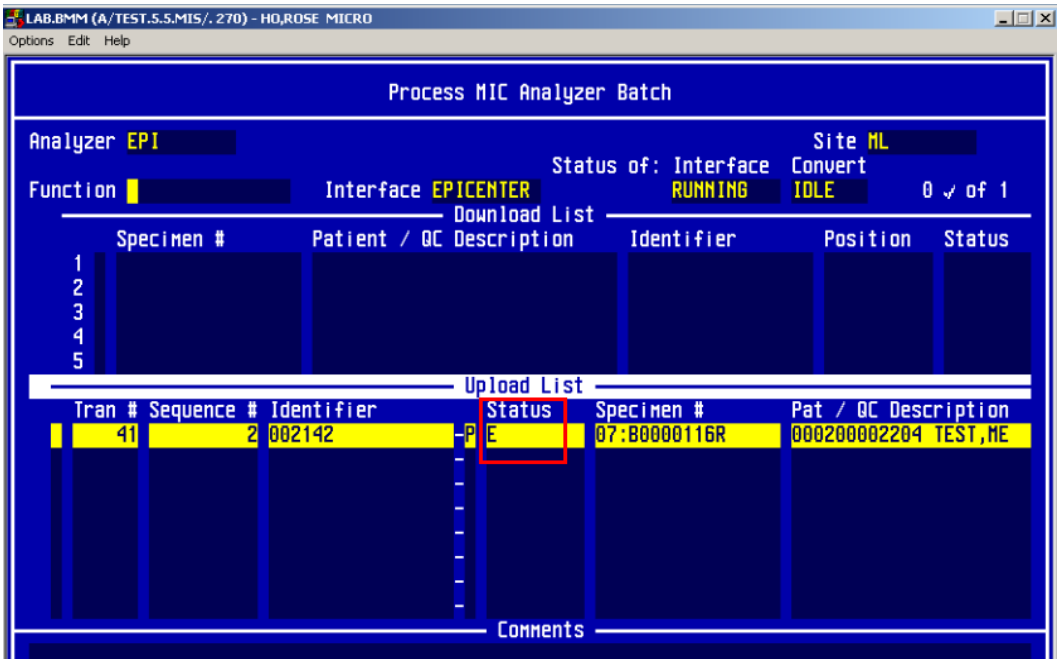
Start by selecting Analyzers under the Microbiology Main Supervisor Menu:



Then Select 11 for Process:



Type **EPI on the Analyzer Field:**



If an “E” is posted as shown press **Control + → (right arrow)** to show the description of the error:

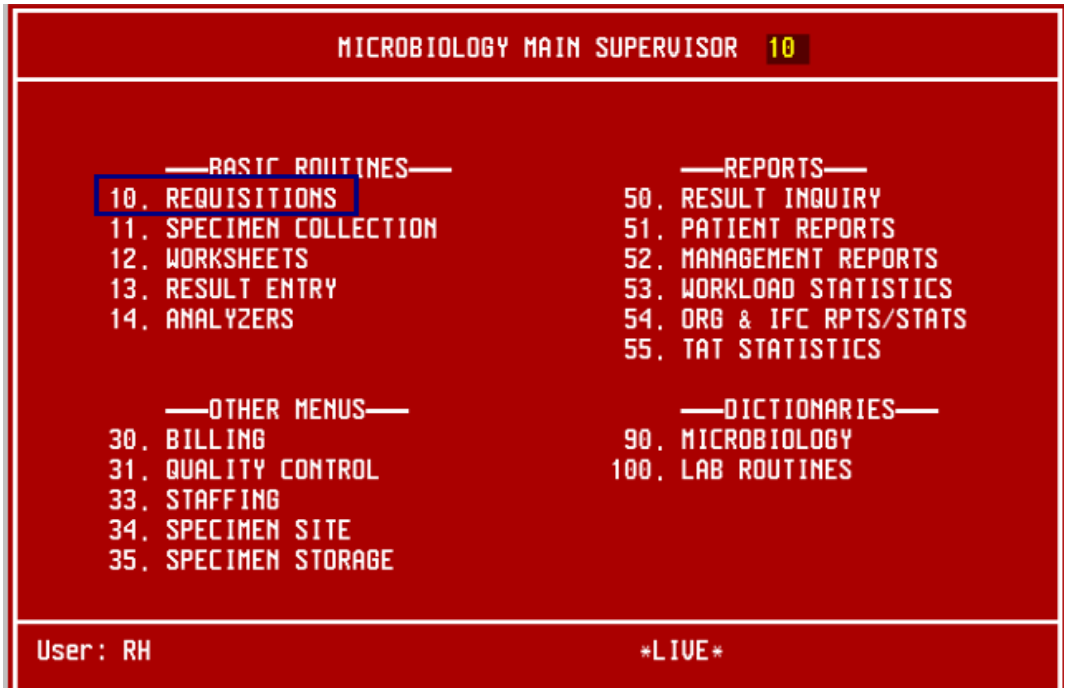
In the previous example the error read: MIC value not defined for antimicrobial Synercyd.

In this case just proceed to the dictionary under the Microbiology Main Supervisor Menu and go to the specific antibiotic as if this is being defined. Select the specific drug and add the value that is missing with the corresponding Interpretation as shown in Definition of Antibiotics section.

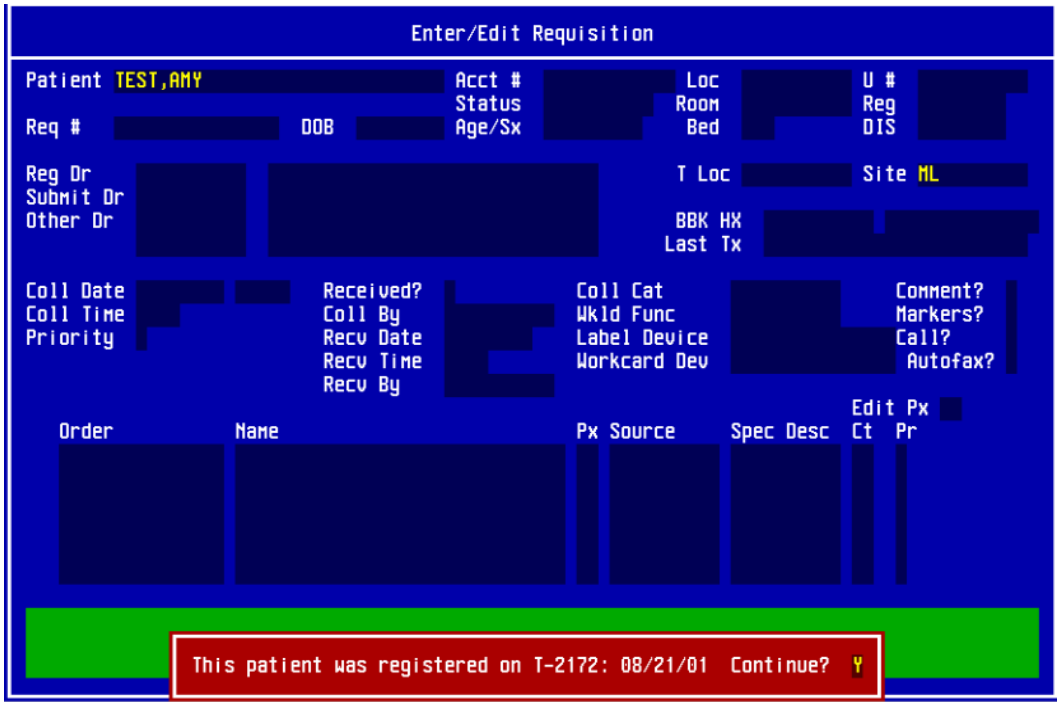
Ordering Process in the LIS

The following section will give a brief overview of the process and screens used in Meditech to Order a test and generate a barcode to scan at the Phonix Instrument:

Go to the Microbiology Main Supervisor Menu: Select **10**

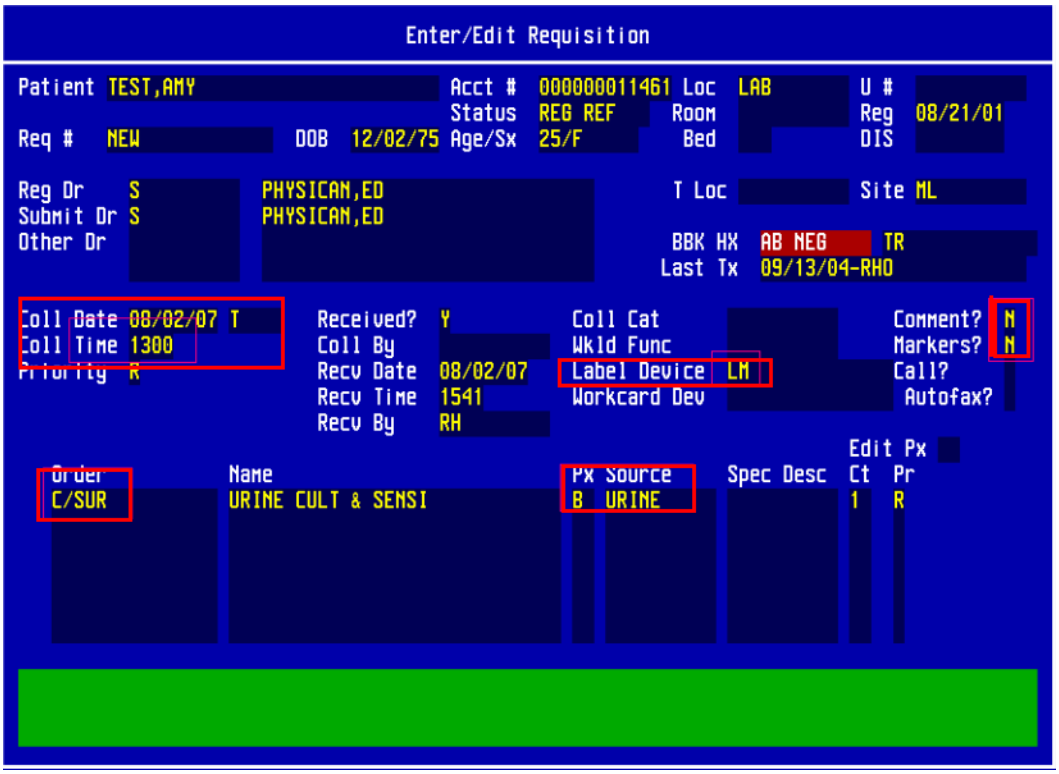


Select 11 under LIS Requisition Menu: Requisitions: <<Enter/Edit>>
Type in Patient's name or hit F9 for look-up.



Input the following fields. Label device field will generate a barcode. Select specific culture procedure.

In the following example a Urine culture was ordered.



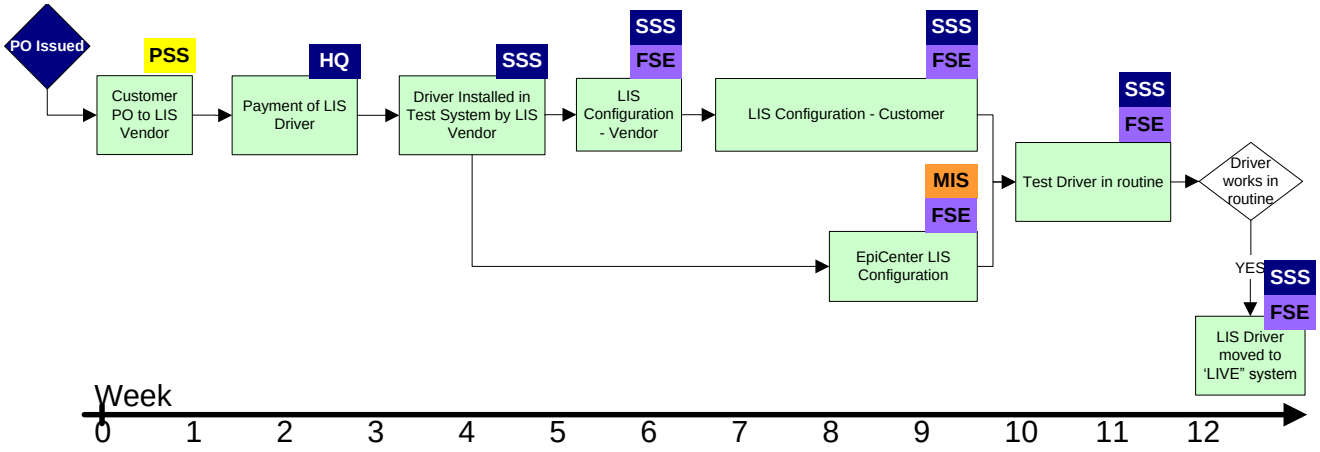
Expected Timelines

A Meditech interface project can be expected to complete within 3 months. The following points highlight activities in the process, how long each activity should take and the potential risks for delay. This timeline should be used as a guide only and assumes:

- A completed driver with no additional requirements needed for development.
- A Meditech MDI is assigned to the account
- A dedicated resource from the customer is available to configure the Meditech system, and they have some experience in preparing instrument interfaces.

Interface Ordering

1. **Interface quotation:** The interface quotation should normally be requested by BD. The response to an interface quotation request is normally prompt. This is done during the sales process so does not impact the timeline. Allow 1 week.
2. **Customer PO to Meditech:** Once the PO has been placed with BD for the instrument, the PO should be placed with Meditech for the interface. See the driver ordering process description in the following section. Allow 1 week for receipt and processing.
3. **Driver Payment:** Once the PO has been received, payment should be made. Depending on the sales agreement, the PO Invoice should normally be settled by BD. Typically the driver is not installed until payment is received. Allow 2 weeks for processing and confirmation of receipt.
4. **Driver installed in Customer Test System:** After payment of the driver, driver installation is based on (MDI schedule?). Allow 2 weeks.
5. **Meditech Configuration – MDI**: The basic configuration of the driver done by the MDI. While the MDI may continue to do configuration with the customer, typically they have to do theirs first before the customer can begin. Note that while the activity is performed by the LIS vendor, someone from BD is accountable for ensuring the activity takes place. Allow 1 week
6. **Meditech Configuration – Customer**: Configuration by the customer using the User interface tools. Resource availability and skills impact the duration of the activity, but it should be possible to complete in 4 weeks. Note that the activity is performed by the customer, but a BD associate is accountable for monitoring progress.
7. **EpiCenter Configuration:** Configuration of LIS based on Audit, loading of coded lists. The customer providing the coded lists and reformatting is often related to their configuration effort in the LIS, so while it can be done quickly in EpiCenter, can only be completed over an extended period of time. Allow 2 weeks.
8. **Driver Testing**: There will normally be an element of testing during the configuration process, but once all configuration is completed, final testing of all aspects should be done using a normal routine workflow, covering as many variations as possible. Note that some customers may elect to do their configuration and testing directly in to the “Live” environment. This is often done as a result of time pressures, or where the test environment differs so much from the live environment that testing there would not provide significant benefit. In such cases the last step is not required. Duration is variable based on customer protocols, but allow 2 weeks.
9. **Configuration Transport to Live Meditech**: This final step copies the setup in the test environment to the live environment and may involve some limited testing again. This could take between 1-2 weeks.



Driver Ordering Process

The process for ordering a Meditech Interface driver is described below.

1. Send request for interface ordering to Roger Nicolson. This should only be done once the PO has been received by BD with all signatures. Detailed information about the interface needs to be included in the request:
    a. Listing all the instruments that will be connected.
    b. Indicate whether the connection is via EpiCenter or a direct instrument-LIS connection.

2. Meditech Regional sales associate or regional team leader is contacted, requesting Interface quotation and Interface invoice. The request for quotation should indicate the detailed connection requirements, and include the Meditech specific interface codes.

3. Meditech will respond with a quotation and invoice that should be reviewed for correctness of the driver and charges.

4. If correct and no invoice correction is needed, the invoice will be paid by BD.

The following SECTION will be specifically related to **MEDITECH HCA** Driver configuration and characteristics:

DRIVER CONFIGURATION:

Notes from Meditech interface programmer about configuration of driver:

There are three major interface dictionaries to be built in MEDITECH: The Analyzer Interface Dictionary (which defines the program that will run), the Analyzer Type Dictionary (which defines panels, upload/download codes, etc.) and the Analyzer Dictionary (which defines the ports used for communication).

Upon requesting the MEDITECH/HCA EpiCenter interface, our Central Software Distribution utilities will ftp the entire Analyzer Interface Dictionary and a shell for the Analyzer Type Dictionary. We do provide the ability to pull organisms, antibiotics and source mnemonics/descriptions directly from the associated dictionaries, and users would then need to define upload and download codes for any entries they will use. The Analyzer Dictionary is not build, since users often like to name this on their own for convenience, plus we do not know the port names at the time of delivery.

Other than that, they'll just need to worry about any organisms, antibiotics, sources, procedures, methods, etc. that may not be built but this would need to be done regardless of the interface.

LIS LOGICAL DATA TRANSFER

HCA MEDITECH DRIVER

Demographic Download Capabilities

Driver able to multiplex multiple instrument type orders?	✓
Host Query supported?	✓
Unsolicited order download supported?	✓
LIS result query?	✗
Able to order offline test?	✗
Able to download offline ID results to EpiCenter	✗
Able to download offline AST results to EpiCenter	✗

Patient ASTM Field Mapping

Field Name	Sent By HCA Meditech	Sent By Epi	Coded Field	F	C	R	Comments
Patient ID	✓	✓		4	1	1	
Patient Last Name	✓	✓		6	1	1	
Patient First Name	✓	✗		6	2	1	
Patient Middle Name	✗	✗		6	3	1	
Patient Name Suffix	✗	✗		6	4	1	
Patient Name Title	✗	✗		6	5	1	
Date of Birth	✓	✓		8	1	1	
Patient Sex Code	✓	✓		9	1	1	
Admitting Physician Code	✗	✗		14	1	1	
Patient User Field 1 Code	✗	✗		15	1	1	
Patient User Field 2 Code	✗	✗		15	2	1	
Patient User Field 3 Code	✗	✗		15	3	1	
Patient User Test Field 1	✗	✗		15	4	1	
Patient User Test Field 2	✗	✗		15	5	1	
Admission Date/Time	✓	✓		24	1	1	
Room Number	✗	✗		26	1	1	
Hospital Service LIS Code	✓	✓	✓	33	1	1	Location (Unit)
Client Code	✗	✗		34	1	1	

*Antimicrobial Code

Order ASTM Field Mapping

Field Name	Sent By HCA Meditech	Sent by Epi	Coded Field	F	C	R	Comments
Accession Number	✓	✓		3	1	1	Barcode number
Isolate Number	✗	✓		3	2	1	
Organism LIS Code	✗	✓		3	3	1	
Test Code	✗	✓		5	4	1	
Test Sequence Number	✗	✗		5	5	1	
Priority	✓	✗		6	1	1	A will be sent on stats
Collect Date/Time	✓	✓		8	1	1	
Collected By Code	✓	✓	✓	11	1	1	
Received By Code	✓	✓	✓	11	2	1	
Receipt Date/Time	✓	✓		15	1	1	
Specimen Type Code	✓	✓	✓	16	1	1	
Body Site Code	✓	✓	✓	16	2	1	
Ordering Physician Code	✓	✓	✓	17	1	1	
Specimen User Field 1 Code	✗	✗		19	1	1	
Specimen User Field 2 Code	✗	✗		19	2	1	
Specimen User Field 3 Code	✗	✗		19	3	1	
Specimen User Text Field 1	✓	✓		19	4	1	Account Number
Specimen User Text Field 2	✓	✓		19	5	1	Specimen Number (microbiology accession)
Finalized Date/Time	✗	✓		23	1	1	
Isolate Classification	✗	✓		29	1	1	

Result Capabilities

Driver able to multiplex multiple instrument type results?	✓
Able to receive Isolate level ID/AST results?	✓
Isolate Results use Test Source field?	✓
Able to receive Test level ID/AST results?	✗
Able to receive preliminary results?	✓
Able to receive Final results?	✓
Rapid Complete “C” results supported?	✓
Inferred results supported?	✓ (First AST result record must have test source)
MGIT AST supported?	✗
Able to receive offline test results?	✗
Able to receive offline Isolate results (Kirby Bauer, E-Test)?	✓
Resistance markers treated as drug results?	✓
Resistance markers treated as separate results?	✗

Isolate Result ASTM Field Mapping

Field Name	Accepted By HCA Meditech	Coded Field	F	C	R	Comments
Result Type	✓		3	4		
Antimicrobial Code	✓	✓	3	6		
Antimicrobial Conc.	✗		3	7		
Antimicrobial Conc. Units	✗		3	8		
MIC (AST)	✓		4	2		
Organism (ID)	✓	✓	4	2		
Final SIR (AST)	✓		4	3		Acceptable interpretations are defaulted to S, I and R. If site wants to post X or N, this protected setting must be changed by request to HCA.
Organism Profile (ID)	✓		4	3		
Interpreted SIR (AST)	✗		4	4		
Resistance Marker 1 (ID)	✓		4	4		RM LIS codes and associate text are built into the interface. Custom RM or new RM cannot be added without modification to the driver. Driver has LIS codes defined for all RM that come predefined with Epi v5.5 and will post by default. If site does not want a RM to post, change the LIS code in EpiCenter to something else (i.e. XXRM_ESBL)
Expert SIR (AST)	✗		4	5		
Resistance Marker 2 (ID)	✓		4	5		
AST Test Source	✓		4	6		
Resistance Marker 3 (ID)	✓		4	6		
Resistance Marker 4 (ID)	✓		4	7		
Resistance Marker 5-10	✓		4	8		
Comment Text	✓		4	1	1	Meditech test must be set up with paragraph box. Comment text appends to end of text already in paragraph box with each transmission. Comment will be preceded by organism mnemonic. Comment length is not restricted to 240 characters.
Comment Type	✓		5	1	1	

Test Result ASTM Field Mapping

Field Name	Coded Field	F	C	R	Phoenix	MGIT	BT9000	Comments
Result Type		3	4		✗	✗	✗	
Sequence Number		3	5		✗	✗	✗	
Antimicrobial Code	✓	3	6		✗	✗	✗	
Antimicrobial Conc.		3	7		✗	✗	✗	
Antimicrobial Conc. Units		3	8		✗	✗	✗	
Test Status Code	✓	4	1		✗	✗	✗	
Result Data Field 1	✓*	4	2		✗	✗	✗	
Result Data Field 2		4	3		✗	✗	✗	
Result Data Field 3		4	4		✗	✗	✗	
Result Data Field 4		4	5		✗	✗	✗	
Result Data Field 5		4	6		✗	✗	✗	
Preliminary/Final Status		9	1	1	✗	✗	✗	
Entry Date/Time		12	1	1	✗	✗	✗	
Test Result Date/Time		13	1	1	✗	✗	✗	
Test Complete Date/Time		13	2	1	✗	✗	✗	
Instrument Type		14	1	1	✗	✗	✗	
Media Type		14	2	1	✗	✗	✗	
Protocol Length		14	3	1	✗	✗	✗	
Instrument Number		14	4	1	✗	✗	✗	
Instrument Location		14	5	1	✗	✗	✗	
Additional Result Quantity 1		15	1	1	✗	✗	✗	
Additional Result 1		15	2	1	✗	✗	✗	
Additional Result Quantity 2		15	1	2	✗	✗	✗	
Additional Result 2		15	2	2	✗	✗	✗	
Additional Result Quantity 3		15	1	3	✗	✗	✗	
Additional Result 3		15	2	3	✗	✗	✗	
Additional Result Quantity 4		15	1	4	✗	✗	✗	
Additional Result 4		15	2	4	✗	✗	✗	
Additional Result Quantity 5		15	1	5	✗	✗	✗	
Additional Result 5		15	2	5	✗	✗	✗	

*Coded Organism field for ID tests only

Query ASTM Field Mapping

Field Name	Accepted By Epi	Sent By Epi	Coded Field	F	C	R	Comments
Request Start Patient ID	✓	✗		3	1	1	
Request Start Accession No	✓	✓		3	2	1	
Request Start Sequence No	✓	✗		3	3	1	
Request End Patient ID	✓	✗		4	1	1	
Request End Accession No	✓	✗		4	2	1	
Request End Sequence No	✓	✗		4	3	1	
Request Test ID	✓	✗		5	1	1	
Request Test Status Code	✓	✗		5	2	1	
Request Instrument Type	✓	✗		5	3	1	
Request Instrument Number	✓	✗		5	4	1	
Request Result Qualifier	✓	✗		5	5	1	
Request Time Qualifier	✓	✗		6	1	1	
Request Starting Date/Time	✓	✗		7	1	1	

Request Ending Date/Time	✓	✗		8	1	1	
Request Information Status	✓	✓		1	1	1	

Comment ASTM Field Mapping

Field Name	Accepted By Epi	Sent By Epi	Coded Field	F	C	R	Comments
Comment Text	✗	✓		4	1	1	
Comment Type	✗	✓		5	1	1	

Example of demographic download:

1H|\^&|||MEDITECH

2P|1||M00000001||PATIENT^TEST^^^||19500601|M|||||^^^^|||||||||20070619000000|||||||||M.SURG||

3O|1|AS000001^||^^^^|||20070619084300|||MLAB.MAS^MLAB.MAS||||20070619084300|LEG^L|WALJ
E||^^^M000000001^07:MT:B0000001R|||||

4L|1|F

Example of Isolate level results:

1H|\^&|||Becton Dickinson|||||||V1.0|20070622120428

2P|1||M00000001||PATIENT TEST||19520729|F|||||||||||||||20070620000000|||||||||M.DS

3O|1|AS000001^1^ESCCOL||^^^ISOLATE
RESULT|||20070412105301|||MLAB.MAS^MLAB.MAS||||20070412105301|BAC^NS|ISAMA||^^^M000
000001^07:MT:B0000001R|||||||||UNK

4C|1||<280>Nitrofurantoin is indicated for use against urinary tract infections only.(FM)|E

5R|1|^^^ID|^ESCCOL^000012FFFBC16020|||||F

6R|2|^^^AST^^AM|^>16^R^R^^NMICID110|||||F

7R|3|^^^AST^^AN|^<=8^S^S^^NMICID110|||||F

0R|4|^^^AST^^ATM|^<=1^S^S^^NMICID110|||||F

1R|5|^^^AST^^CAZ|^<=0.5^S^S^^NMICID110|||||F

2R|6|^^^AST^^CF|^8^S^S^^NMICID110|||||F

3R|7|^^^AST^^CIP|^<=0.5^S^S^^NMICID110|||||F

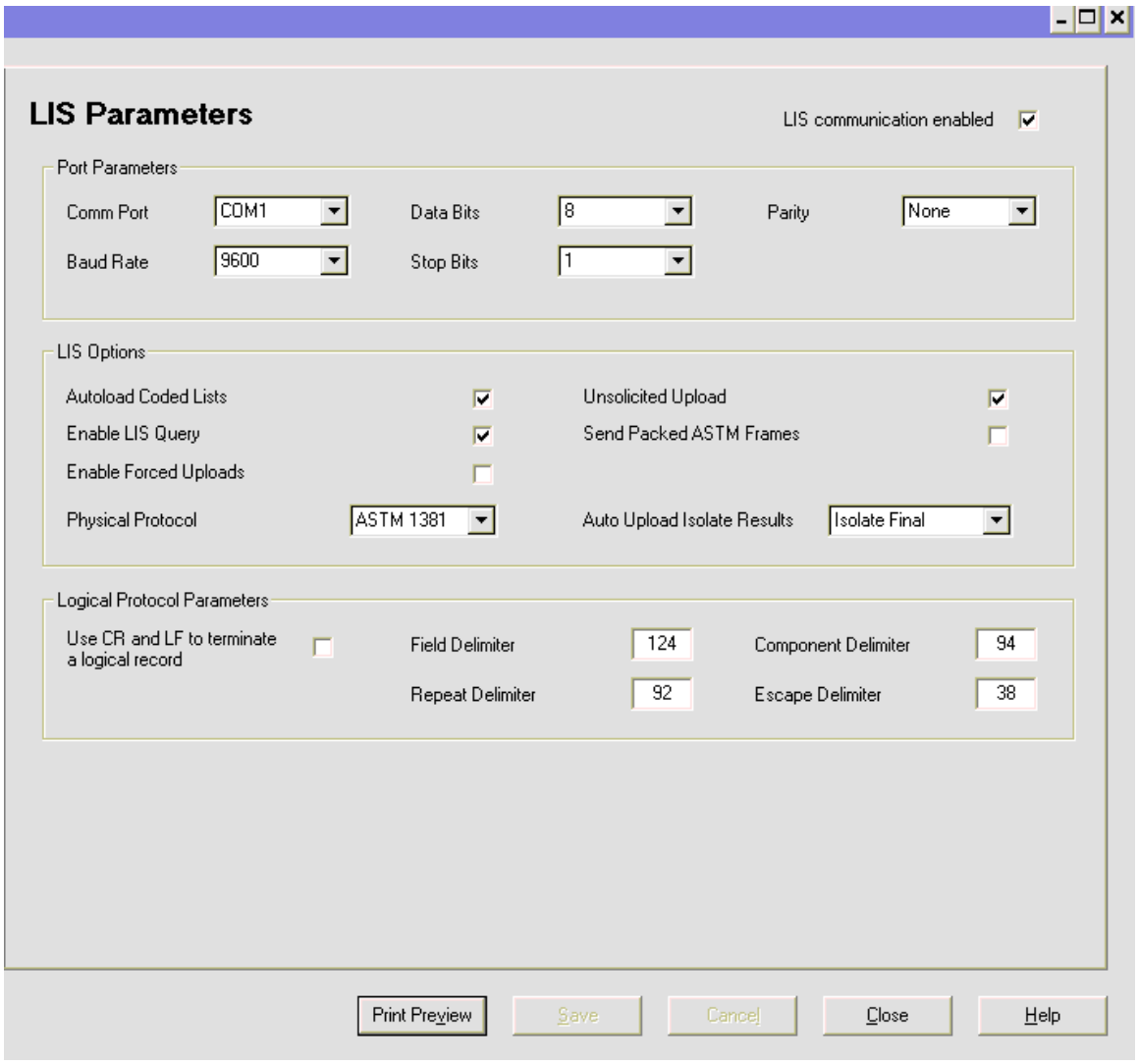
4R|8|^^^AST^^CRO|^<=2^S^S^^NMICID110|||||F

5R|9|^^^AST^^CXM|^8^S^S^^NMICID110|||||F

6R|10|^^^AST^^FEP|^<=1^S^S^^NMICID110|||||F

7R|11|^^^AST^^FOX|^8^S^S^^NMICID110|||||F

8L|1|N


LIS Parameters
LIS communication enabled
Port Parameters
Comm Port
COM1
Data Bits
8
Parity
None
Baud Rate
9600
Stop Bits
1
LIS Options
Autoload Coded Lists
Unsolicited Upload
Enable LIS Query
Send Packed ASTM Frames
Enable Forced Uploads
Physical Protocol
ASTM 1381
Auto Upload Isolate Results
Isolate Final
Logical Protocol Parameters
Use CR and LF to terminate a logical record
Field Delimiter
124
Component Delimiter
94
Repeat Delimiter
92
Escape Delimiter
38
Print Preview
Save
Cancel
Close
Help

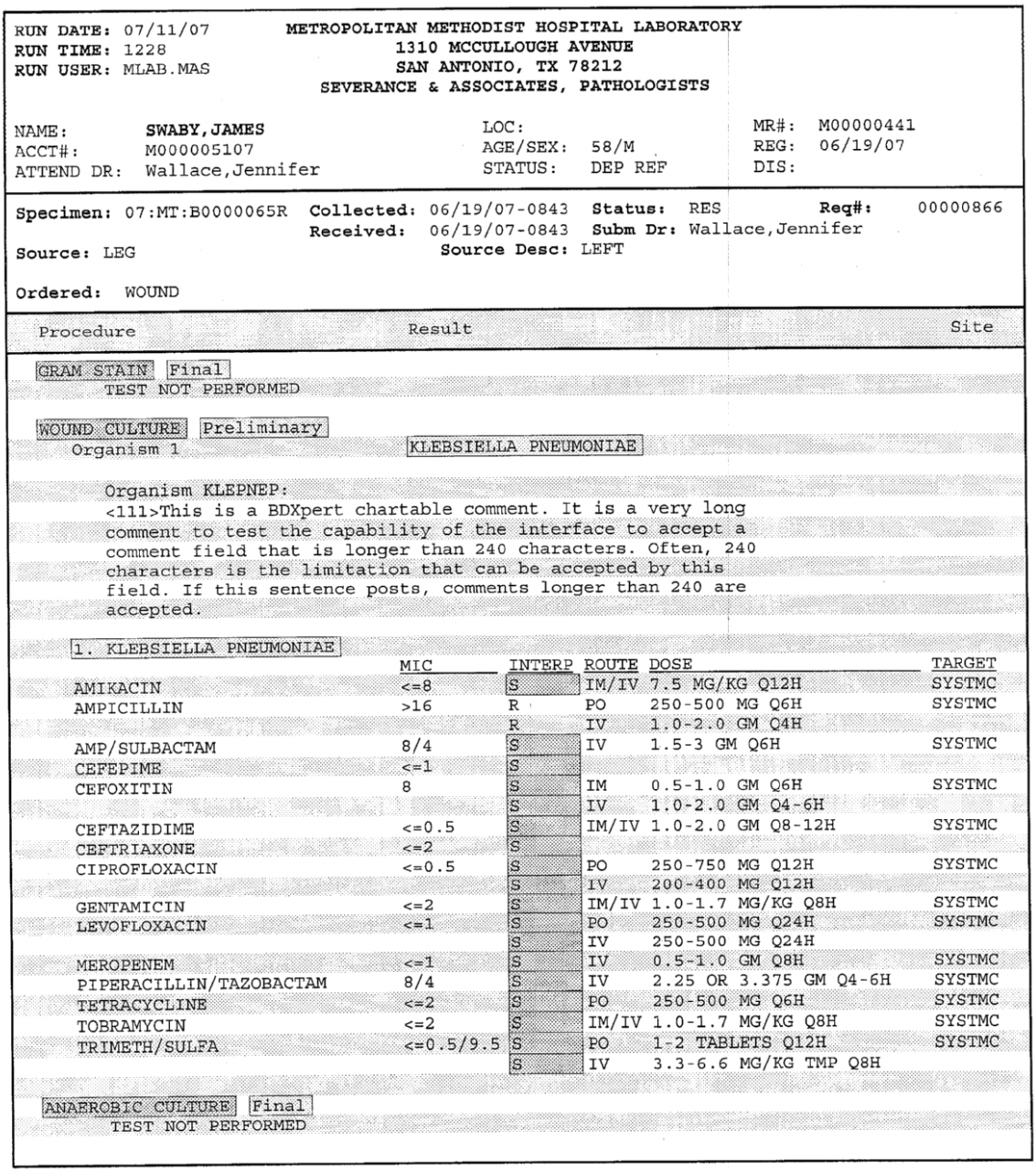
EpiCenter LIS Field Map

Field Name	Record Type	Field Number	Repeat	Component Number	Upload	Download
Patient ID	Patient	4	1	1	Enabled	Enabled
Patient Last Name	Patient	6	1	1	Enabled	Enabled
Patient First Name	Patient	6	1	2		Enabled
Patient Middle Name	Patient	6	1	3		Enabled
Patient Name Suffix	Patient	6	1	4		Enabled
Patient Name Title	Patient	6	1	5		Enabled
Date of Birth	Patient	8	1	1	Enabled	Enabled
Patient Sex Code	Patient	9	1	1	Enabled	Enabled
Street Address	Patient	11	1	1	Enabled	Enabled
City Address	Patient	11	1	2		Enabled
State Address	Patient	11	1	3		Enabled
Zip Code Address	Patient	11	1	4		Enabled
Country Address	Patient	11	1	5		Enabled
Patient Phone Number	Patient	13	1	1	Enabled	Enabled
Admitting Physician Code	Patient	14	1	1	Enabled	Enabled
Patient User Fld 1	Patient	15	1	1	Enabled	Enabled
Patient User Fld 2	Patient	15	2	1	Enabled	Enabled
Patient User Fld 3	Patient	15	3	1	Enabled	Enabled
Patient User Text 1	Patient	15	4	1	Enabled	Enabled
Patient User Text 2	Patient	15	5	1	Enabled	Enabled
Diagnosis	Patient	19	1	1	Enabled	Enabled
Patient Therapy1	Patient	20	1	1	Enabled	Enabled
Patient Therapy2	Patient	20	2	1	Enabled	Enabled
Patient Therapy3	Patient	20	3	1	Enabled	Enabled
Patient Therapy4	Patient	20	4	1	Enabled	Enabled
Patient Therapy5	Patient	20	5	1	Enabled	Enabled
Admission Date/Time	Patient	24	1	1	Enabled	Enabled
Room Number	Patient	26	1	1	Enabled	Enabled
Hospital Service LIS Code	Patient	33	1	1	Enabled	Enabled
Hospital Client Code	Patient	34	1	1	Enabled	Enabled
Accession Number	Order	3	1	1	Enabled	Enabled
Isolate Number	Order	3	1	2	Enabled	Enabled
Organism LIS Code	Order	3	1	3	Enabled	Enabled
Isolate Exclude from Statistics	Order	3	1	4	Enabled	Enabled
Test Code	Order	5	1	4	Enabled	Enabled
Test Sequence Number	Order	5	1	5	Enabled	
Priority	Order	6	1	1	Enabled	Enabled
Collection Date/Time	Order	8	1	1	Enabled	Enabled
Collected By Code	Order	11	1	1	Enabled	Enabled
Received By Code	Order	11	1	2	Enabled	Enabled
Specimen Action Code	Order	12	1	1	Enabled	
Isolate Source Test 1	Order	14	1	1	Enabled	Enabled
Isolate Source Test Start Time 1	Order	14	1	2	Enabled	Enabled
Isolate Source Test 2	Order	14	2	1	Enabled	Enabled
Isolate Source Test Start Time 2	Order	14	2	2	Enabled	Enabled
Isolate Source Test 3	Order	14	3	1	Enabled	Enabled
Isolate Source Test Start Time 3	Order	14	3	2	Enabled	Enabled

Receipt Date/Time	Order	15	1	1	Enabled	Enabled
Specimen Type Code	Order	16	1	1	Enabled	Enabled
Body Site Code	Order	16	1	2	Enabled	Enabled
Ordering Physician Code	Order	17	1	1	Enabled	Enabled
Ordering Physician Phone	Order	18	1	1	Enabled	
Ordering Physician Fax	Order	18	1	2	Enabled	
Ordering Physician Pager	Order	18	1	3	Enabled	
Specimen User Fld 1	Order	19	1	1	Enabled	Enabled
Account Number (Specimen User Text 1)	Order	19	1	4	Enabled	Enabled
Specimen Number (Specimen User Text 2)	Order	19	1	5	Enabled	Enabled
Specimen User Fld 2	Order	19	2	1	Enabled	Enabled
Specimen User Fld 3	Order	19	3	1	Enabled	Enabled
Finalized Date/Time	Order	23	1	1	Enabled	Enabled
Specimen Reimbursement Value	Order	24	1	1	Enabled	
Test Reimbursement Value	Order	24	2	1	Enabled	
Isolate Classification	Order	29	1	1	Enabled	Enabled
Result Type	Result	3	1	4	Enabled	Enabled
Sequence Number	Result	3	1	5	Enabled	Enabled
Antimicrobial Code	Result	3	1	6	Enabled	Enabled
Antimicrobial Concentration	Result	3	1	7	Enabled	Enabled
Antimicrobial Concentration Units	Result	3	1	8	Enabled	Enabled
Test Status Code	Result	4	1	1	Enabled	Enabled
Result Data Field 1	Result	4	1	2	Enabled	Enabled
Result Data Field 2	Result	4	1	3	Enabled	Enabled
Result Data Field 3	Result	4	1	4	Enabled	Enabled
Result Data Field 4	Result	4	1	5	Enabled	Enabled
Result Data Field 5	Result	4	1	6	Enabled	Enabled
Result Data Field 6	Result	4	1	7	Enabled	Enabled
Result Data Field 7	Result	4	1	8	Enabled	Enabled
Preliminary/Final Status	Result	9	1	1	Enabled	Enabled
Start Date/Time	Result	12	1	1	Enabled	Enabled
Test Result Date/Time	Result	13	1	1	Enabled	Enabled
Test Complete Date/Time	Result	13	2	1	Enabled	
Instrument Type	Result	14	1	1	Enabled	
Media Type	Result	14	1	2	Enabled	
Protocol Length	Result	14	1	3	Enabled	Enabled
Instrument Number	Result	14	1	4	Enabled	
Instrument Location	Result	14	1	5	Enabled	
Additional Result Quantity 1	Result	15	1	1	Enabled	Enabled
Additional Result 1	Result	15	1	2	Enabled	Enabled
Additional Result Quantity 2	Result	15	2	1	Enabled	Enabled
Additional Result 2	Result	15	2	2	Enabled	Enabled
Additional Result Quantity 3	Result	15	3	1	Enabled	Enabled
Additional Result 3	Result	15	3	2	Enabled	Enabled
Additional Result Quantity 4	Result	15	4	1	Enabled	Enabled
Additional Result 4	Result	15	4	2	Enabled	Enabled
Additional Result Quantity 5	Result	15	5	1	Enabled	Enabled

Additional Result 5	Result	15	5	2	Enabled	Enabled
Request Starting Patient Id	Query	3	1	1		Enabled
Request Starting Accession Number	Query	3	1	2	Enabled	Enabled
Request Starting Sequence Number	Query	3	1	3		Enabled
Request Ending Patient Id	Query	4	1	1		Enabled
Request Ending Accession Number	Query	4	1	2		Enabled
Request Ending Sequence Number	Query	4	1	3		Enabled
Request Test Code	Query	5	1	1		Enabled
Request Test Status Code	Query	5	1	2		Enabled
Request Instrument Type	Query	5	1	3		Enabled
Request Instrument Number	Query	5	1	4		Enabled
Request Result Qualifier	Query	5	1	5		Enabled
Request Time Qualifier	Query	6	1	1		Enabled
Request Starting Date/Time	Query	7	1	1		Enabled
Request Ending Date/Time	Query	8	1	1		Enabled
Request Information Status Code	Query	13	1	1	Enabled	Enabled
Comment Text	Comment	4	1	1	Enabled	Enabled
Comment Type	Comment	5	1	1	Enabled	Enabled

Chart examples:



RUN DATE: 07/11/07
RUN TIME: 1228
RUN USER: MLAB.MAS

METROPOLITAN METHODIST HOSPITAL LABORATORY
1310 MCCULLOUGH AVENUE
SAN ANTONIO, TX 78212
SEVERANCE & ASSOCIATES, PATHOLOGISTS

NAME: SWABY,JAMES
ACCT#: M000005107
ATTEND DR: Wallace,Jennifer

LOC:
AGE/SEX: 58/M
STATUS: DEP REF

MR#: M00000441
REG: 06/19/07
DIS:

Specimen: 07:MT:B0000065R Collected: 06/19/07-0843 Status: RES Req#: 00000866
Received: 06/19/07-0843 Subm Dr: Wallace,Jennifer
Source: LEG Source Desc: LEFT

Ordered: WOUND

Procedure	Result	Site

GRAM STAIN Final
TEST NOT PERFORMED

WOUND CULTURE Preliminary
Organism 1 KLEBSIELLA PNEUMONIAE

Organism KLEPNEP:
<111>This is a BDXpert chartable comment. It is a very long comment to test the capability of the interface to accept a comment field that is longer than 240 characters. Often, 240 characters is the limitation that can be accepted by this field. If this sentence posts, comments longer than 240 are accepted.

1. KLEBSIELLA PNEUMONIAE

	MIC	INTERP	ROUTE	DOSE	TARGET
AMIKACIN	<=8	S	IM/IV	7.5 MG/KG Q12H	SYSTMC
AMPICILLIN	>16	R	PO	250-500 MG Q6H	SYSTMC
		R	IV	1.0-2.0 GM Q4H	
AMP/SULBACTAM	8/4	S	IV	1.5-3 GM Q6H	SYSTMC
CEFEPIME	<=1	S			
CEFOXITIN	8	S	IM	0.5-1.0 GM Q6H	SYSTMC
		S	IV	1.0-2.0 GM Q4-6H	
CEFTAZIDIME	<=0.5	S	IM/IV	1.0-2.0 GM Q8-12H	SYSTMC
CEFTRIAXONE	<=2	S			
CIPROFLOXACIN	<=0.5	S	PO	250-750 MG Q12H	SYSTMC
		S	IV	200-400 MG Q12H	
GENTAMICIN	<=2	S	IM/IV	1.0-1.7 MG/KG Q8H	SYSTMC
LEVOFLOXACIN	<=1	S	PO	250-500 MG Q24H	SYSTMC
		S	IV	250-500 MG Q24H	
MEROPENEM	<=1	S	IV	0.5-1.0 GM Q8H	SYSTMC
PIPERACILLIN/TAZOBACTAM	8/4	S	IV	2.25 OR 3.375 GM Q4-6H	SYSTMC
TETRACYCLINE	<=2	S	PO	250-500 MG Q6H	SYSTMC
TOBRAMYCIN	<=2	S	IM/IV	1.0-1.7 MG/KG Q8H	SYSTMC
TRIMETH/SULFA	<=0.5/9.5	S	PO	1-2 TABLETS Q12H	SYSTMC
		S	IV	3.3-6.6 MG/KG TMP Q8H	

ANAEROBIC CULTURE Final
TEST NOT PERFORMED

NAME: SWABY,JAMES MED REC# : M00000441 LOC:

RUN DATE: 07/11/07
RUN TIME: 1228
RUN USER: MLAB.MAS

METROPOLITAN METHODIST HOSPITAL LABORATORY
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NAME: **FLORES,LAURA L** LOC: MR#: M00000292
ACCT#: M000005118 AGE/SEX: 54/F REG: 06/20/07
ATTEND DR: Isaeff,Mark Andrew STATUS: DEP REF DIS:

Specimen: 07:MT:B0000066R **Collected:** 06/20/07-0836 **Status:** RES **Req#:** 00000867
Received: 06/20/07-0836 **Subm Dr:** Isaeff,Mark Andrew
Source: BACK **Source Desc:** NOT SPECIFIED

Ordered: WOUND

Procedure	Result	Site

WOUND CULTURE Preliminary (continued)

Organism KLEPNEP:
<105>Ampicillin is the class representative for amoxicillin.
Organism ESCCOL:
<280>Nitrofurantoin is indicated for use against urinary tract infections only.(FM)

	K PNEUMONI MIC	K PNEUMONI INTERP	E COLI MIC	E COLI INTERP
AMIKACIN	<=8	S	<=8	S
AMPICILLIN	>16	R	>16	R
AMP/SULBACTAM	8/4	S	8/4	S
CEFEPIME	<=1	S	<=1	S
CEFOXITIN	8	S	8	S
CEFTAZIDIME	<=0.5	S	<=0.5	S
CEFTRIAXONE	<=2	S	<=2	S
CEFUROXIME			8	S
CIPROFLOXACIN	<=0.5	S	<=0.5	S
GENTAMICIN	<=2	S	<=2	S
LEVOFLOXACIN	<=1	S	<=1	S
MEROPENEM	<=1	S	<=1	S
PIPERACILLIN/TAZOBACTAM	8/4	S	8/4	S
TETRACYCLINE	<=2	S	<=2	S
TOBRAMYCIN	<=2	S	<=2	S
TRIMETH/SULFA	<=0.5/9.5	S	<=0.5/9.5	S

1. KLEBSIELLA PNEUMONIAE

	MIC	INTERP	ROUTE	DOSE	TARGET
AMIKACIN	<=8	S	IM/IV	7.5 MG/KG Q12H	SYSTMC
AMPICILLIN	>16	R	PO	250-500 MG Q6H	SYSTMC
		R	IV	1.0-2.0 GM Q4H	
AMP/SULBACTAM	8/4	S	IV	1.5-3 GM Q6H	SYSTMC
CEFEPIME	<=1	S			
CEFOXITIN	8	S	IM	0.5-1.0 GM Q6H	SYSTMC
		S	IV	1.0-2.0 GM Q4-6H	
CEFTAZIDIME	<=0.5	S	IM/IV	1.0-2.0 GM Q8-12H	SYSTMC
CEFTRIAXONE	<=2	S			
CIPROFLOXACIN	<=0.5	S	PO	250-750 MG Q12H	SYSTMC
		S	IV	200-400 MG Q12H	
GENTAMICIN	<=2	S	IM/IV	1.0-1.7 MG/KG Q8H	SYSTMC
LEVOFLOXACIN	<=1	S	PO	250-500 MG Q24H	SYSTMC
		S	IV	250-500 MG Q24H	
MEROPENEM	<=1	S	IV	0.5-1.0 GM Q8H	SYSTMC
PIPERACILLIN/TAZOBACTAM	8/4	S	IV	2.25 OR 3.375 GM Q4-6H	SYSTMC
TETRACYCLINE	<=2	S	PO	250-500 MG Q6H	SYSTMC

NAME: FLORES,LAURA L MED REC# : M00000292 LOC: