Genesys Genii™

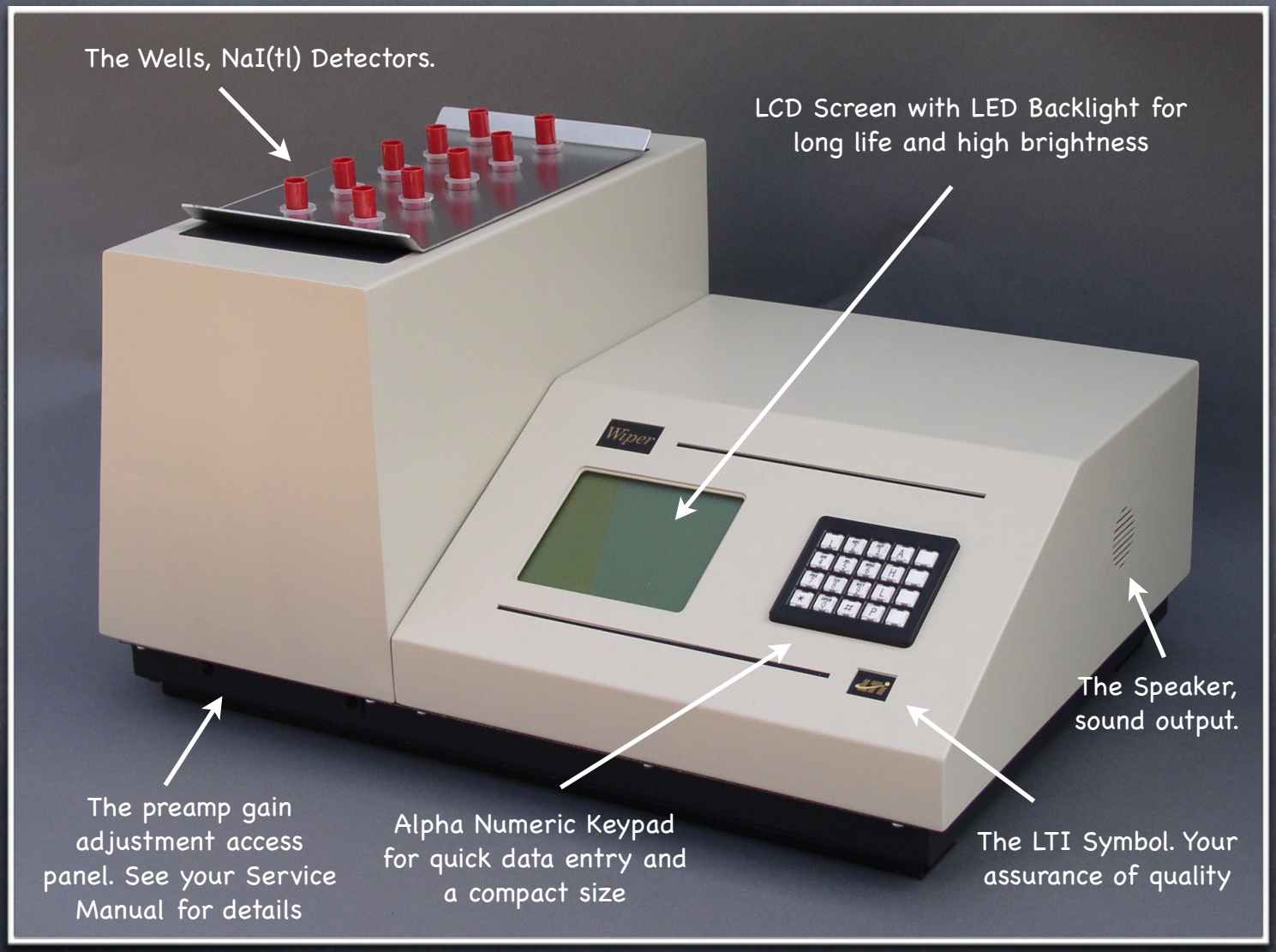
Multi-Well Gamma Counter

Sales Training Series
Genesys Genii™ Instrument Training

LABORATORY TECHNOLOGIES, INC.

July 2010

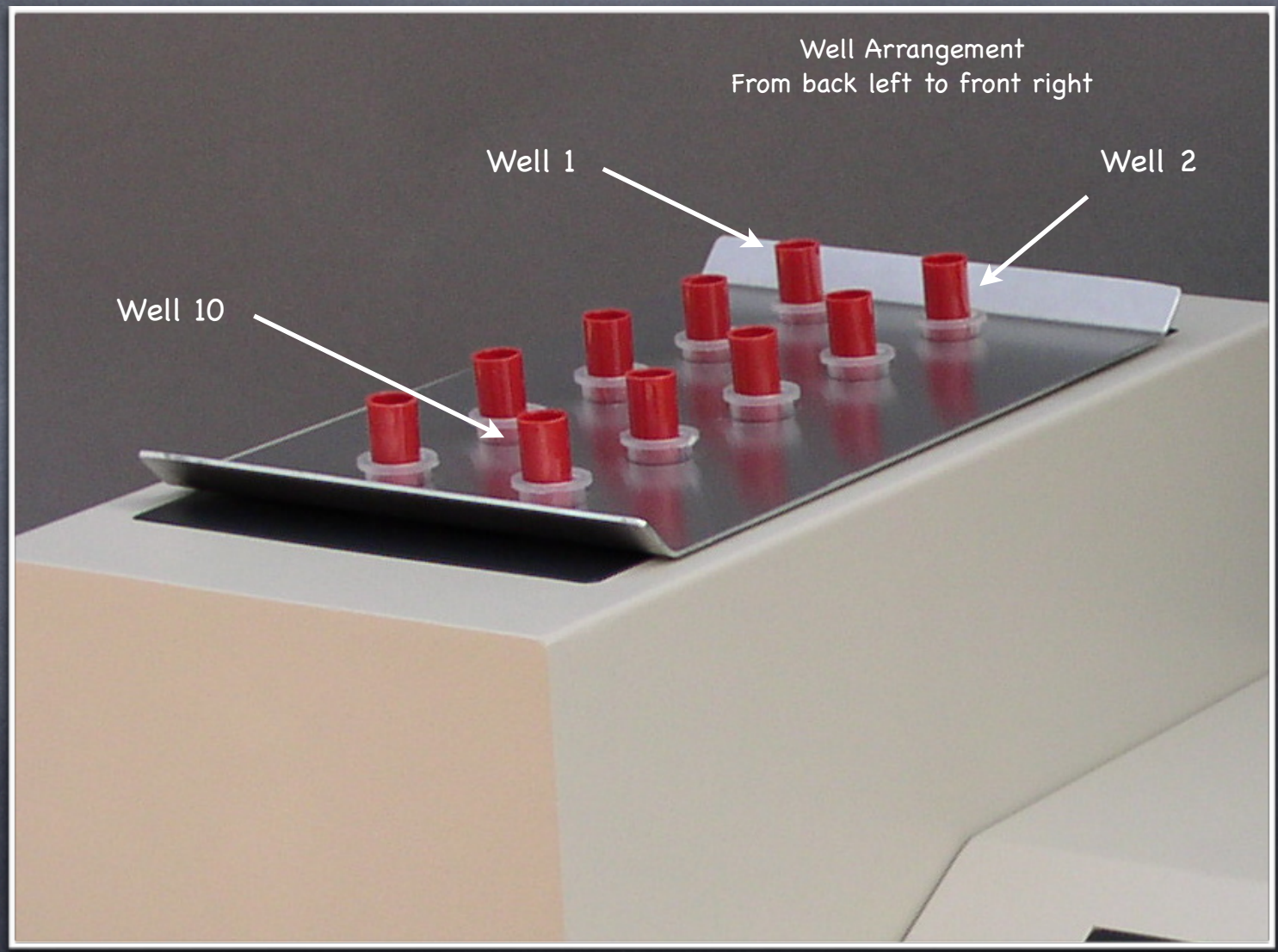
Get to know your Genesys Genii™



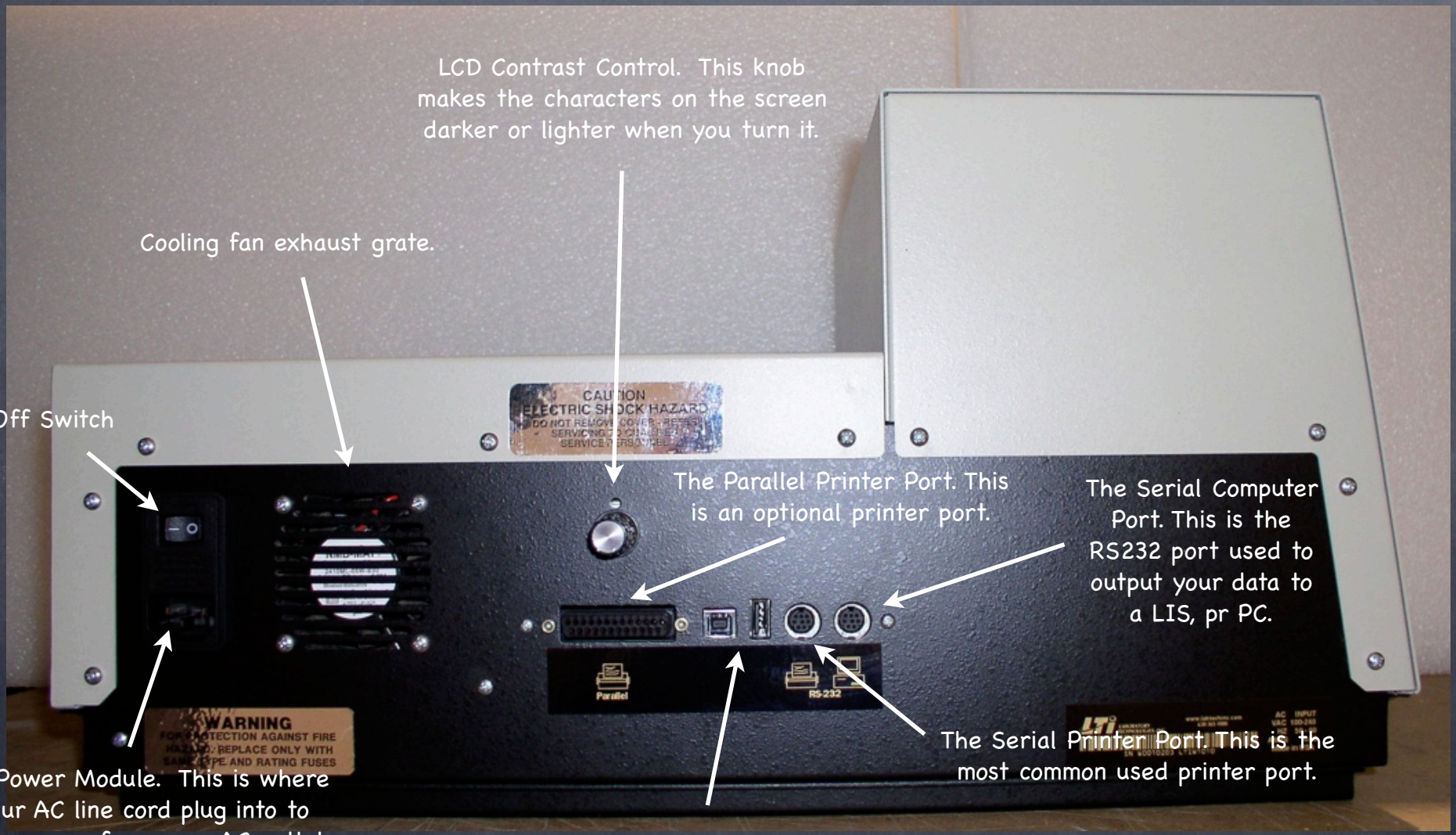
Get to know your Genesys Genii™

The wells are arranged from back to front moving in a left to right position.

Shown on the right is a tray of 10 red test tubes being counted.



Get to know your Genesys



Receiving the Package

Now that you are familiar with the different physical components of the Genesys Genii™, lets step through the receiving and setup procedure of a New Genesys Genii™.

Inspecting the package

Your Genesys Genii™ is shipped to you in carefully engineered packaging that exceeds all D.O.T. specifications. It's packaging should keep your new investment protected during shipment.

Despite our best efforts, shipping accidents can happen. Please inspect your package carefully before you open it.
Here are a few thing to look for:

- Is the box strapped properly to the skid?
- Is the box free from any visible damage?
- Does the box show any signs of water damage?

If any damage in evident, document the damage you find by taking pictures BEFORE you open it.

Before you open the box

Your New Genesys Genii™ contains NaI(tl) detectors. These detectors contain delicate crystals that are very sensitive to shock and temperature change.

It is VERY important that your Genesys Genii™ slowly adapts to the new temperature of your facility.

We recommend that the package remain unopened for at least 24 in your facility.

Opening the box

Carefully remove the top foam piece. As you pull the foam up you will be creating a vacuum. This may make the piece difficult to remove.

Your new Genesys Genii™ should be resting comfortably on the bottom foam.

Picking the right location

Choosing the proper location is critical. When selecting the location for your new Genesys Genii™ you need to consider a few things.

Picking the right location

Never place your Genesys Genii™ near a sink. Exposure to water will cause significant harm to the electronics in the Genesys Genii™ and may void your warranty.

Picking the right location

Another factor to consider is sunlight. Exposure to direct sunlight may cause rapid temperature changes to the detectors causing the crystals to crack internally.

Damages to the crystal caused by rapid temperature change and shock are not covered under warranty.

Picking the right location

It is also very important to know what other devices share your power line.

Devices such as incubators, shake tables, centrifuges and refrigerators have motors that create high magnetic fields and draw large amounts of power when the motor turns on.

Picking the right location

Find a good dry location that is as far away from such devises as available.

It is also a good idea to keep your Genesys Genii™ off of power lines that have this type of equipment plugged in.

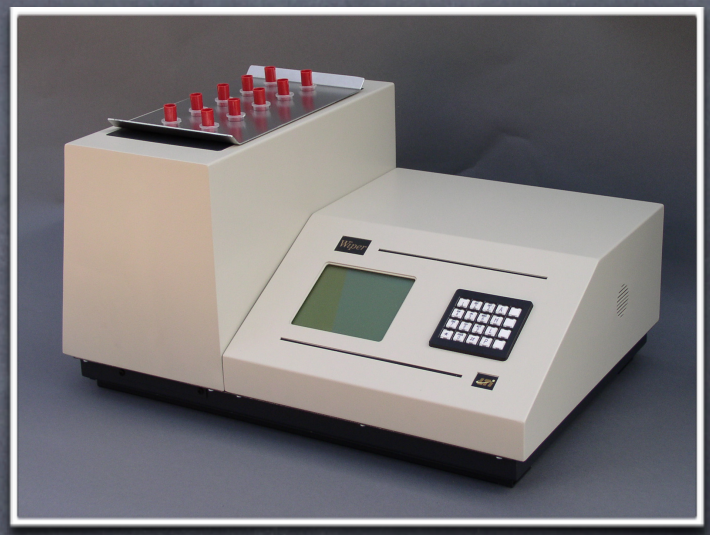
If you must share a line, try not to run any of these devices when you are counting.

Removing the instrument

When removing your new Genesys Genii™ from the box, remember that most of the total weight comes form the lead surrounding the wells.

A 10 well Genesys Genii™ weighs 90 lbs (40 Kg); 75 lbs (34 Kg) comes from the well array alone.

Carefully lift the counter out of the box and place it on the lab bench you prepared.



Where to Plug it in

The Genesys Genii™ is designed to handle a wide range of power from 100VAC- 280VAC and low draw of only 30W, it can use almost any AC Line.

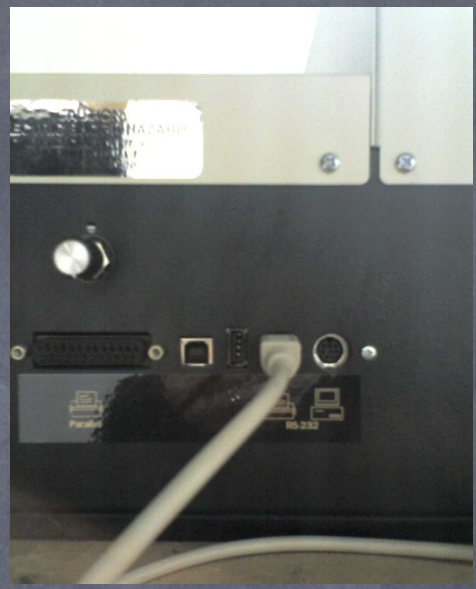
Like any electronic device, you will want to protect it from power surges, caused by lightning storms and power fluctuations.

Investing in a quality surge protector or UPS is a good idea.

System Setup

Now that you have your Genesys Genii™ is on the bench, connect the printer.

If you are using the SII DPU-414, connect the 8 pin round DIN to the Genesys Genii™ on the Serial Printer Port, and the DB9 female end to the printer as shown.



System Setup

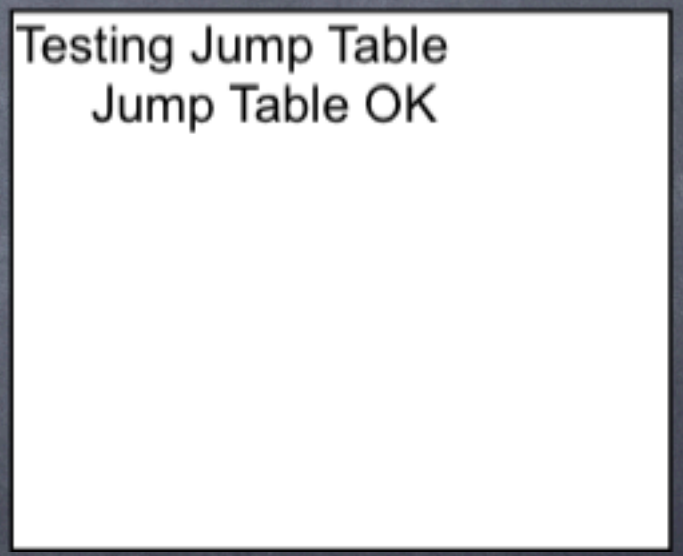
Plug the AC Line Cord
into the AC Power Module
below the "I/O" switch.
The other end is plugged
into your AC receptacle.

Turn the unit on by
flipping the switch to "I".

System Startup

System Startup

Upon startup, the system goes though stages of self-check. If all is normal, you will see the these screens appear.



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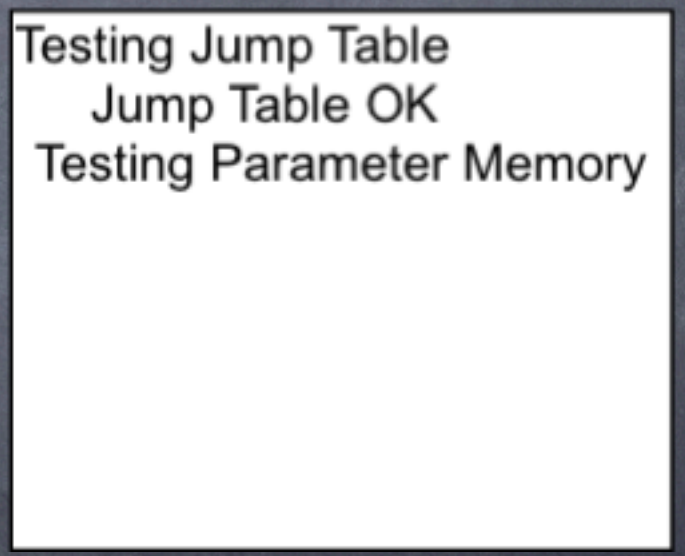

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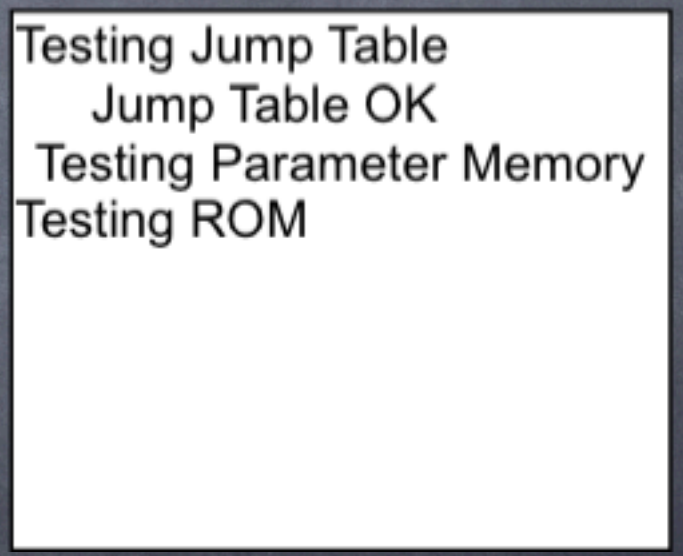

System Startup

The phrase "Saving CRC" followed be a number will appear quickly, them be covered by another quick screen showing the "Genesys Genii" with a revision number.

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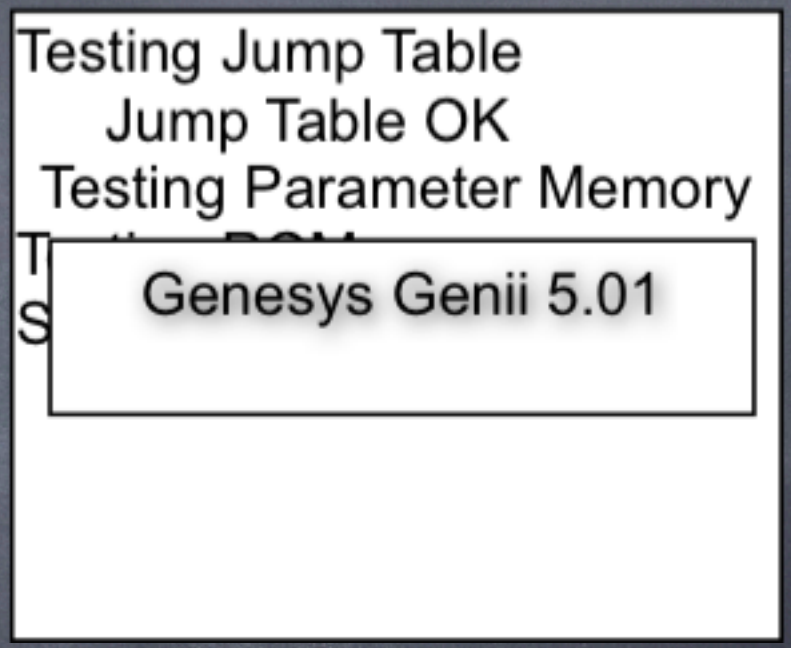
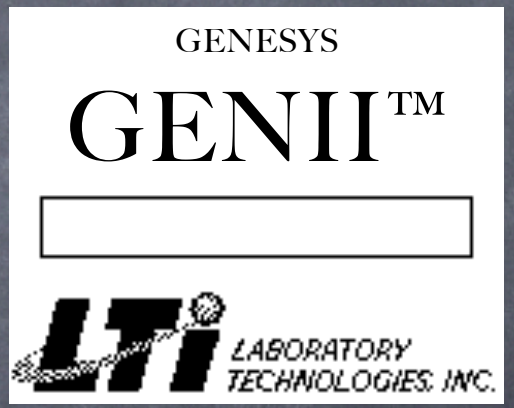


System Startup

The system will come to rest at the opening screen where a marque will scroll:

SN: 10090101

(this will be YOUR systems serial number)



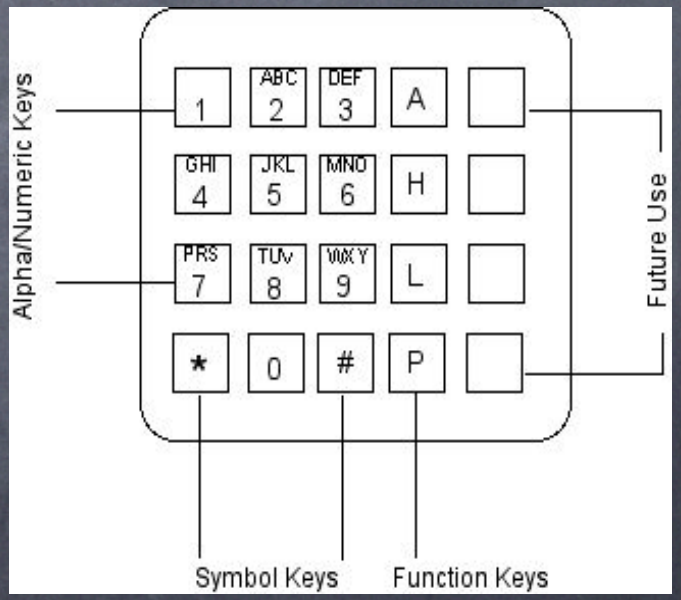
Touching any key will bring up the main menu.

Overview

Overview

Keypad

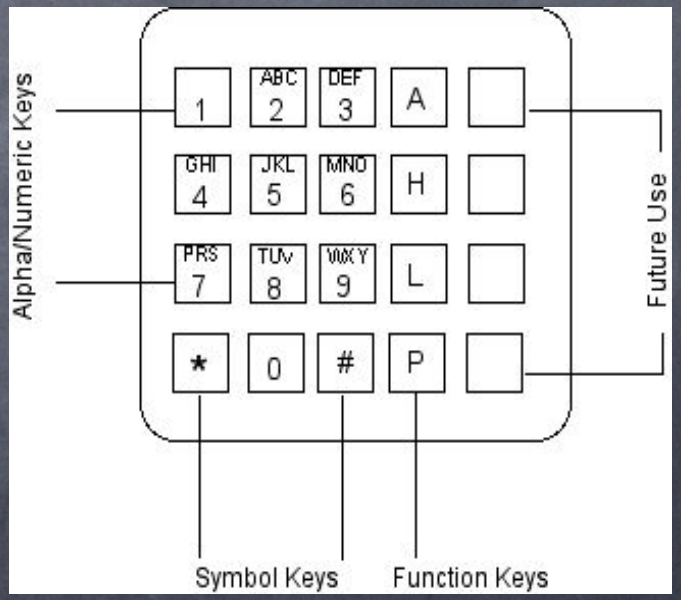
Before we start learning the details of each function listed, we must first understand the keypad.



System Setup

Keypad

The Keypad consists of:
10 Numbered keys;
4 Function keys;
2 Symbol keys,
the * (CLEAR) key
the # (ENTER) key
4 Future use keys.



The numbered keys also contain the letters of the alphabet. Each key may have different meanings dependent on the use required at the time. We will cover these changes as needed.

System Setup

Keypad

The Function Keys

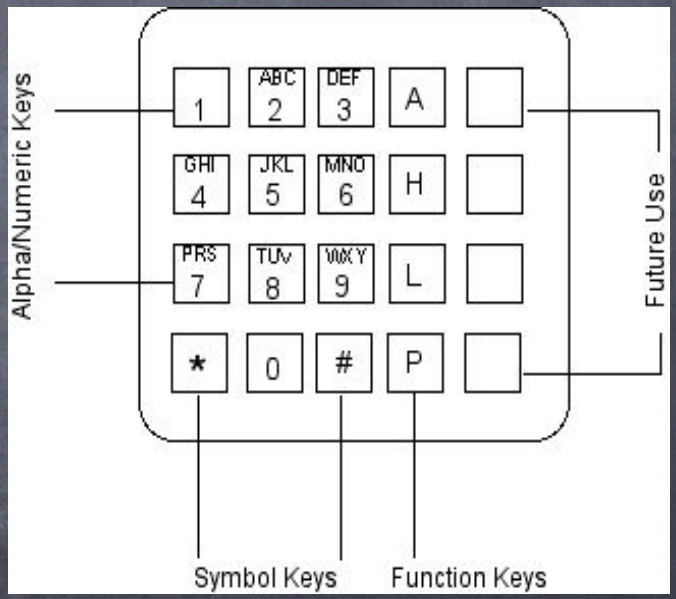
Key — Function

A: Enters a decimal point when numbers are entered. It will also enter a plus (+) or minus (-) in the upper right corner, for certain screens.

H: HELP: Accesses HELP screens. Accesses the spectrum adjust screen when in Window Functions. Press it or any numbered key to return to the previous screen.

L: SKIP: This Key advances the paper in the printer. By holding it down you may advance as far as you wish.

P: PRINT SCREEN. Any screen on the Genii™ display may be printed out using this Key. To print, you must hold down this Key until four (4) BEEPS are heard. This starts printing.



System Setup

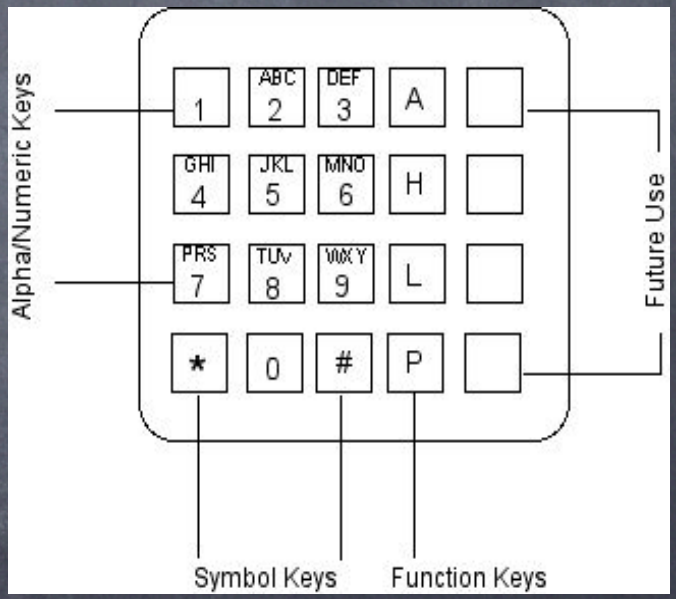
Keypad

The Symbol Keys

Key Function

: This Key is the main Enter\Exit key. After a selection is made from a menu, # "Enters" your choice. In many screens, a default or current value is shown. Pressing # without making any change "exits" and continues the currently entered values.

* : This Key clears entries not yet entered and allows you to input new values.



System Setup

Keypad

Special Character Keys:

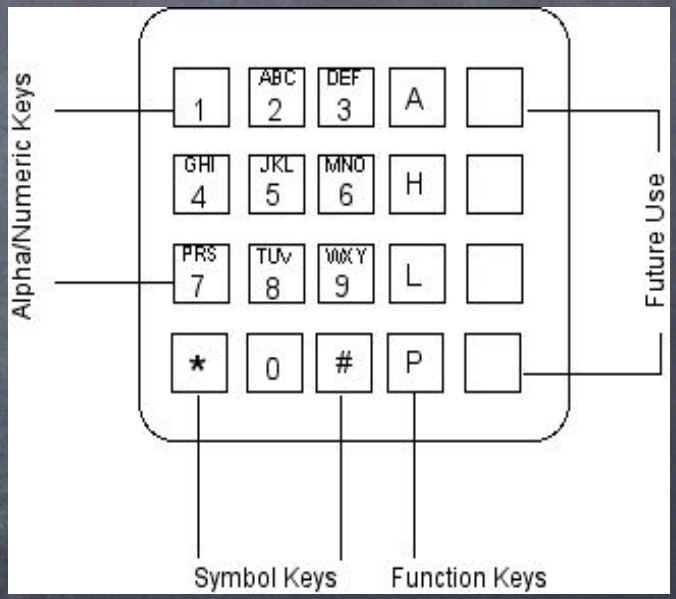
Key Function

1: 1 , : - These characters may be accessed by pressing the 1 Key sequentially.

7: 7 P Q R S Although Q is not on the Keypad it has been included for use and may be accessed.

9: 9 W X Y Z Although Z is not on the Keypad it maybe accessed as above.

0: 0 * % = These character may be accessed by pressing the 0 Key sequentially.



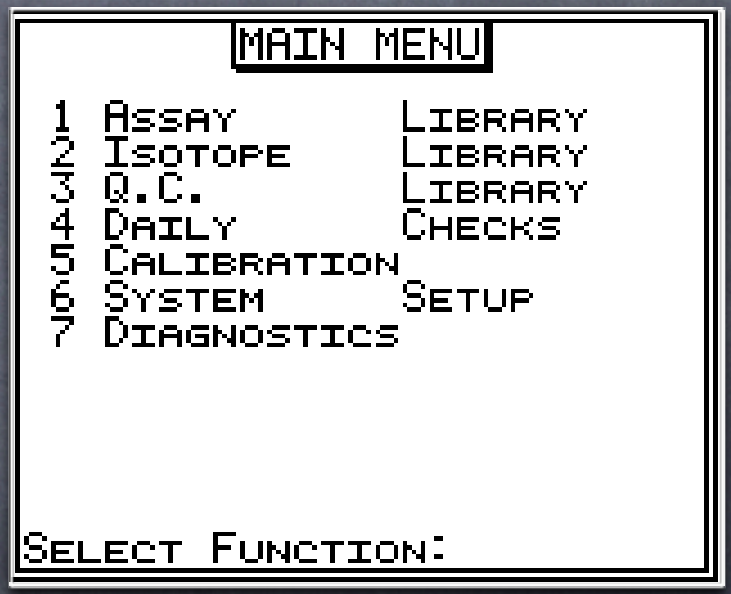
NOTE: Only the proper characters may be accessed depending upon the type of input required. The Symbols will not appear when a number input is required.

Future Function Keys: The last four vertical keys are to perform future functions.

The Main Menu

The Main Menu is the your gateway to all things Genesys Genii™.

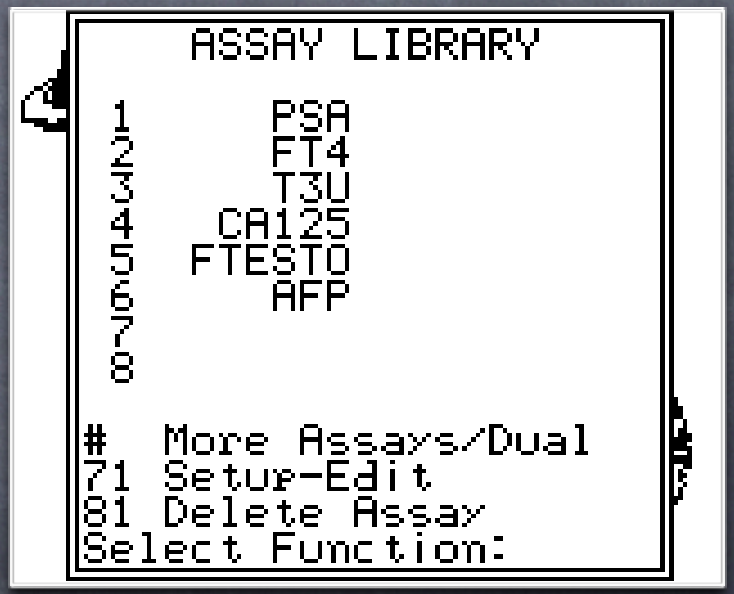
From here you can set up the system parameters, count assay tubes, edit isotopes, calibrate your detectors, check the system health or edit your patient information.



Assay Library

The ASSAY LIBRARY is where all the Assays are stored, from here you can run, edit or delete an assay.

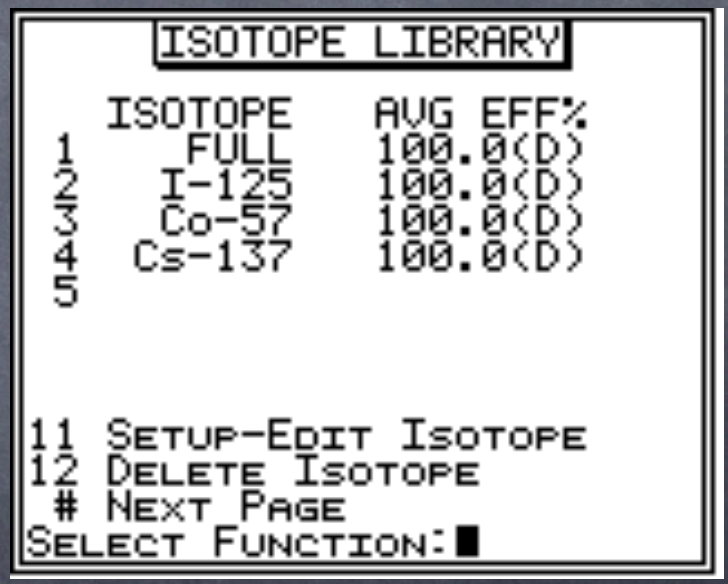
With Genesys Genii™ you can create and store up to 30 single isotope (label) Assays and 2 Dual isotope Assays (e.g. B12/Folate).



Isotope Library

The Genesys Genii™ comes preloaded with 4 isotopes plus 6 more that may be added.

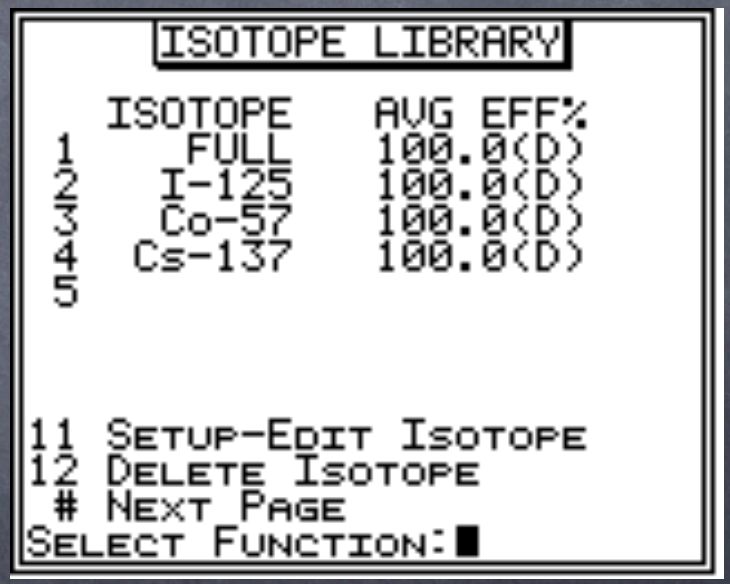
Genesys Genii™ allows you to measure the efficiency, using a calibrated standard, a set of Calibrated Standards, or with I125, you can use tracer.



Q.C Library

The QC Library is where the Quality Control sample results are stored, average QC limits calculated for comparison to measured values, and the QC results plotted over time to show any variance or trends from normal or expected.

QC samples are measured as unknowns, but their value is already known. This allows verification of the Assay's preparation, counting, data reduction, and interpolation of sample results using these known samples value.



Daily Counter Checks

DAILY COUNTER CHECK consists of system checks. Not the type a Biomed might use, but a system health checkup for daily use.

From here you can get a quick view of the last background, an isotopes efficiency or count the current background.

The EFFICIENCY CHECK, is used to check the consistency of your isotope efficiency. Here's how ---

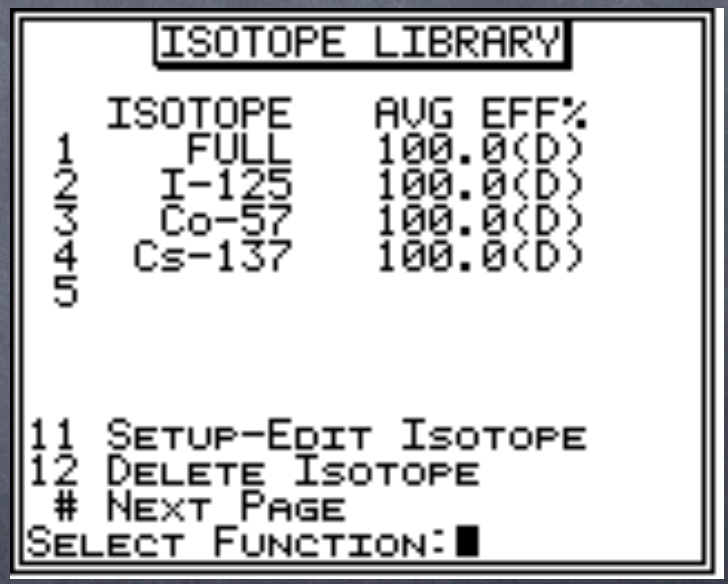
Daily Counter Checks

Efficiency Check

When an isotope is entered in the ISOTOPE LIBRARY, a measured efficiency is normally stored using a calibrated reference (details later).

The EFFICIENCY CHECK measures the current efficiency, and compares it to the one stored in the library.

This Check monitors any changes in efficiency to ensure accurate reporting of DPM results.



Calibration

For some, setting up an isotope is referred to as calibration. In the Genesys Genii™ Calibration refers to the Detectors Gain Adjustment.

This is a procedure that is run at the factory before it ships. Unless The Genesys Genii™ recommends a calibration, there normally is no need to run it.

Calibration

However, if your laboratory policy mandates you perform a calibration, then you may do it as often as you like.

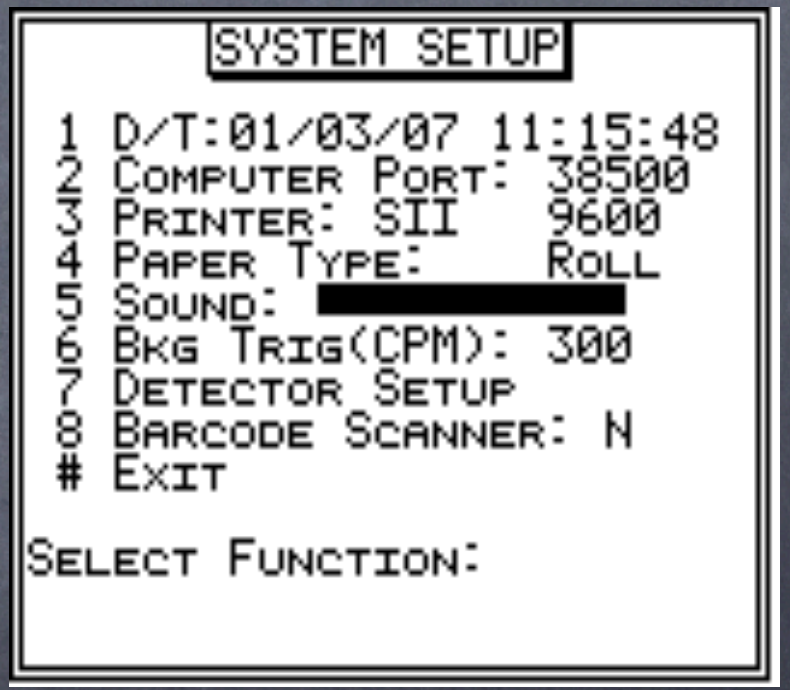
Calibration is run using Co-57, Cs-137 or I125. The procedure can take up to 60 minutes depending on the isotope activity and configuration.

Because Calibration changes the Detector Gain and other parameters, several isotope settings are reset.

System Setup

System customization is done here. Settable parameters are:

- Date and time
- Computer Port, baud rate
- Printer Port, language, baud rate.
- Sound level
- Paper type
- Background trigger level
- Detector Setup
- Barcode Scanner



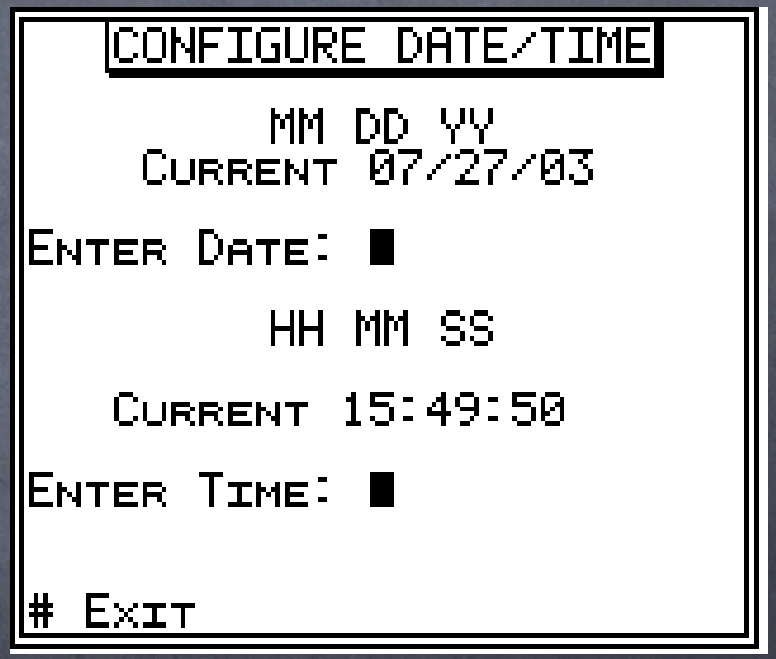
System Setup

Date/Time

The Genii™ uses the date format MM/DD/YY.

Time uses a 24 hour HH/MM/SS format, as an example 1:00PM is represented as 13:00:00.

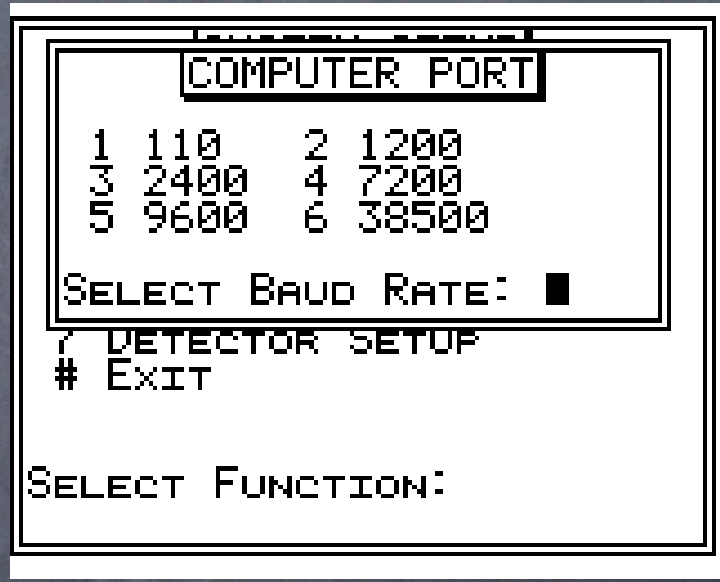
Note: The * key clears an entry.



System Setup

Computer Port

The computer port allows you to send data to an external PC. You can select the baud rate. The bits and handshaking are preset. See the operations manual for more information.



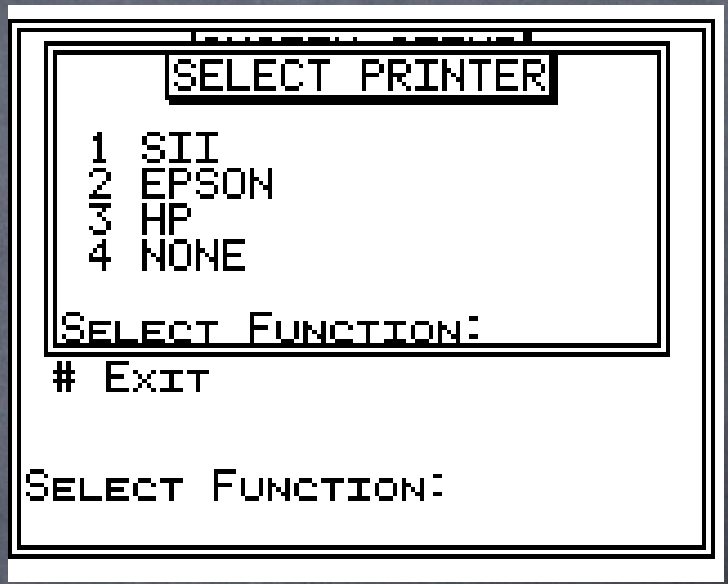
System Setup

Printer

Select Printer allows you to choose the printer language needed to properly communicate with your printer. The Genii™ supports:

- SII - Epson ESP/2 Language
- EPSON - Epson LX/FX Language
- HP - Basic PCL

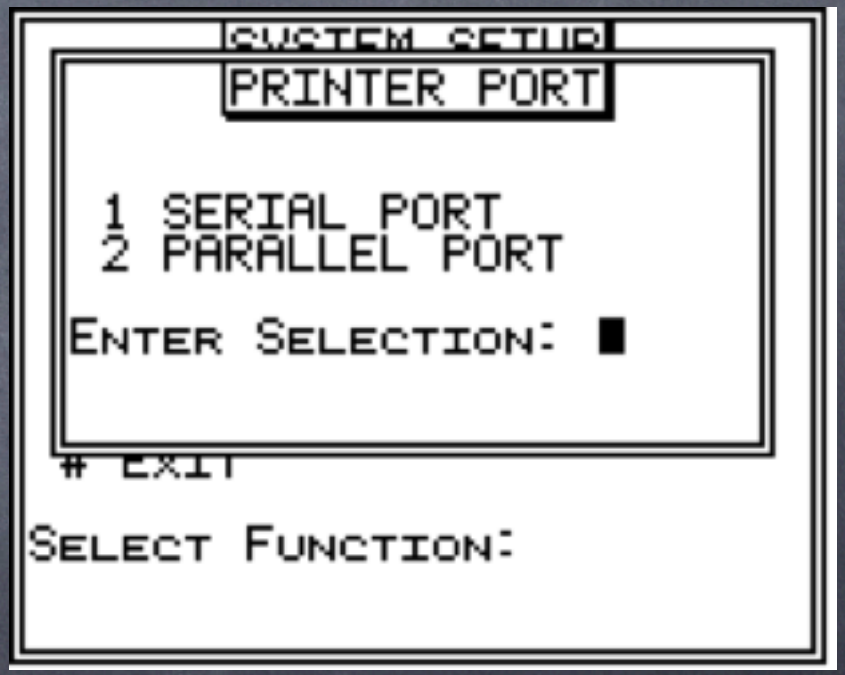
If no printer is used you MUST select NONE (4) for proper operation.



System Setup

Printer

The printer selected may be either a serial (RS232C) or a Parallel (Centronics) printer. NOTE: If you are using the Barcode Scanner, it is connected to the serial port, and any printer then used would have to be a parallel printer connected to the parallel port.



When a serial printer is to be used a baud rate must be selected to match that of the printer. The Seiko SII DPU-414 (9600 baud rate(5)) printer is supplied by LTI with the **GENII™**.

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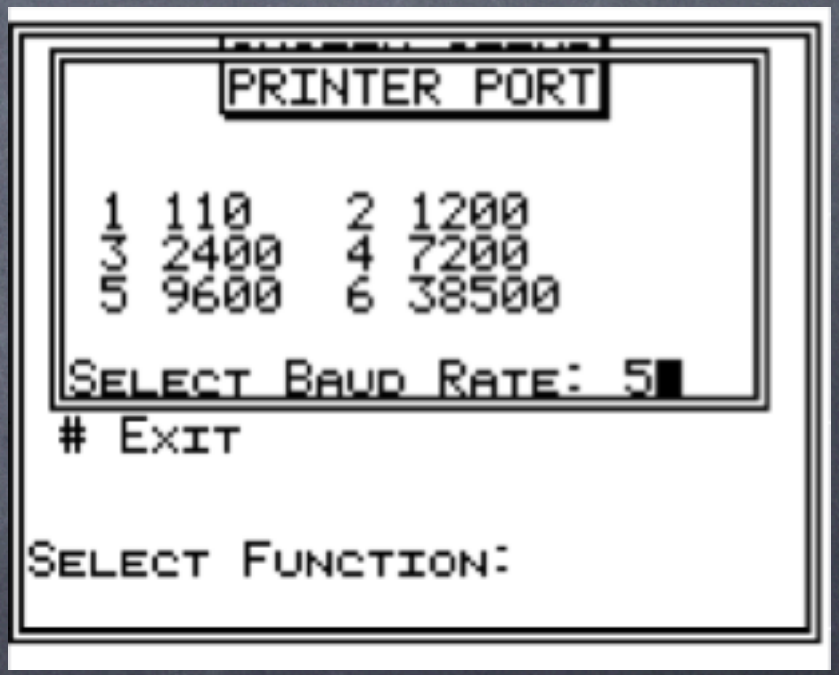

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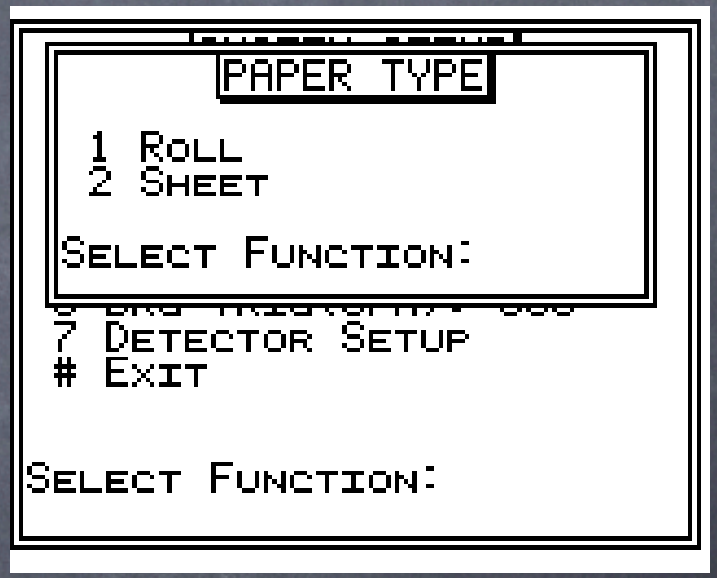
System Setup

Paper Type

Paper type allows for the choice of using continuous(roll) paper or single(sheet) feed paper.
A selection of sheet will force the printer to form feed after 60 lines are printed.

Roll(1) is the default for the Seiko printer.



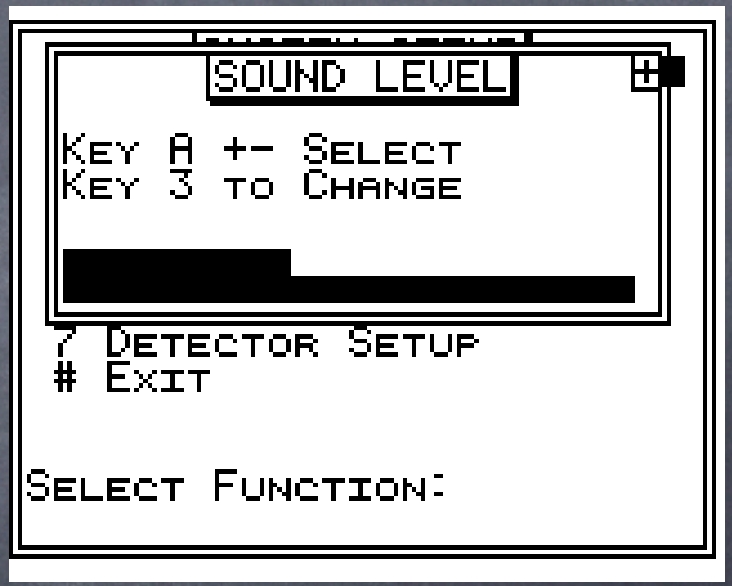
System Setup

Sound Level

The Sound level adjusts the volume of all system beeps. The system beeps as you alter this setting.

An increase(+) or decrease(-) in volume direction is set by the A key.

Set the volume using the 3 key to where it is appropriate for your application.



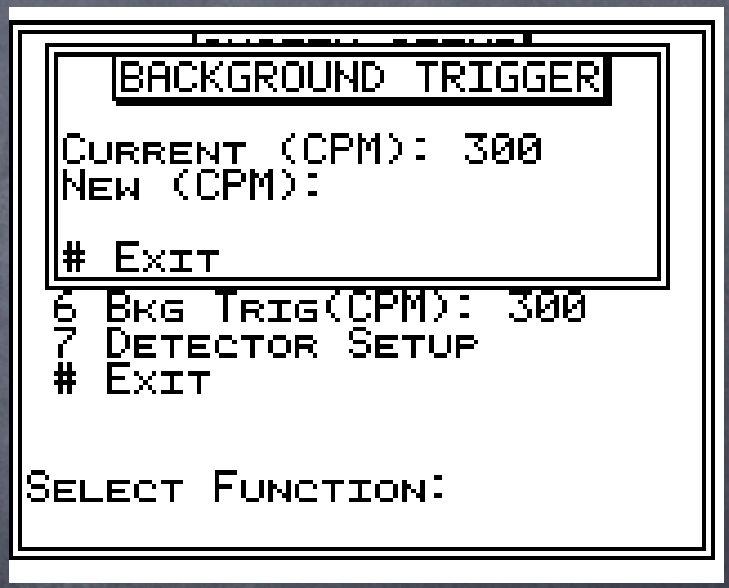
System Setup

Background Trigger

The Background Trigger is selected in CPM. This value applies to the entire spectrum of 0-1 mev.

The Background default setting is 300 CPM. A background of more then 300 CPM will trigger a "Background Failed" message. This is settable as required for your area.

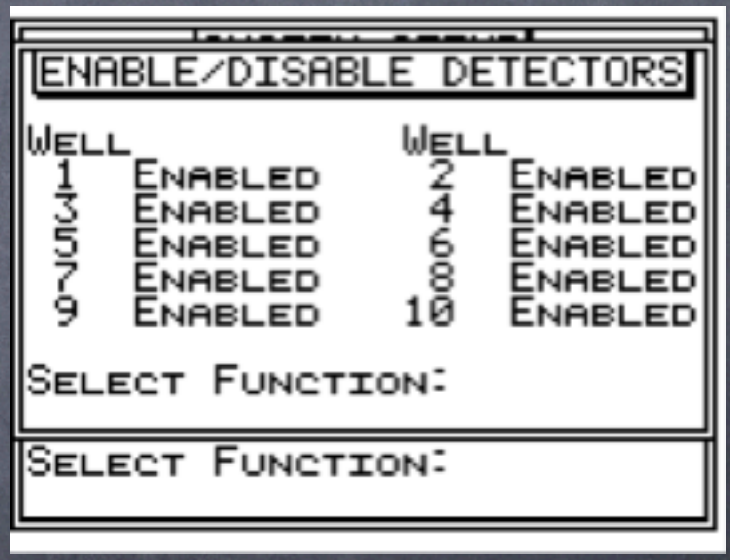
The Genii™ will automatically calculate and show each Detectors' (wells) Isotope Background in the Daily Checks section of the main menu.



System Setup

Detector Setup

This section allows you to disable/enable detector wells from counting. The will Genii™ automatically correct for the disabled detector and perform as though the was configured without the missing well(s). (i.e. A 10 well Genii™ with one well turned off becomes a 9 well system).



To disable/enable a well enter its well number, then select the Enable or Disable. The resulting screen show well status.

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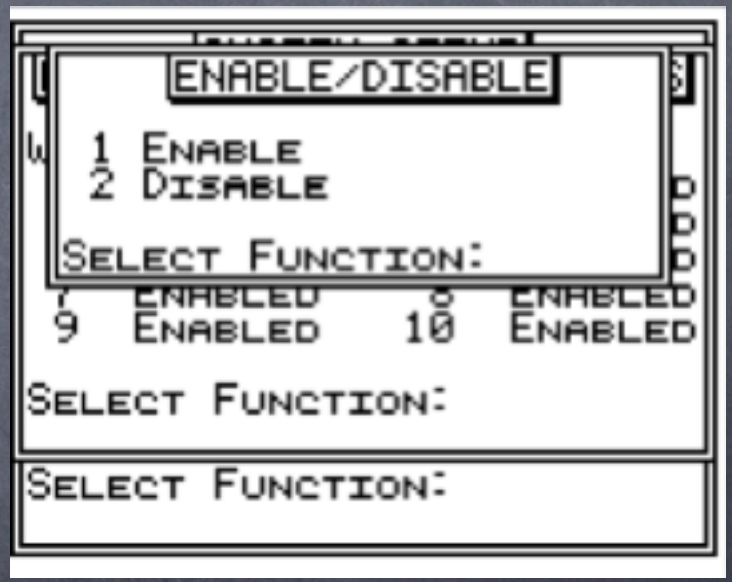

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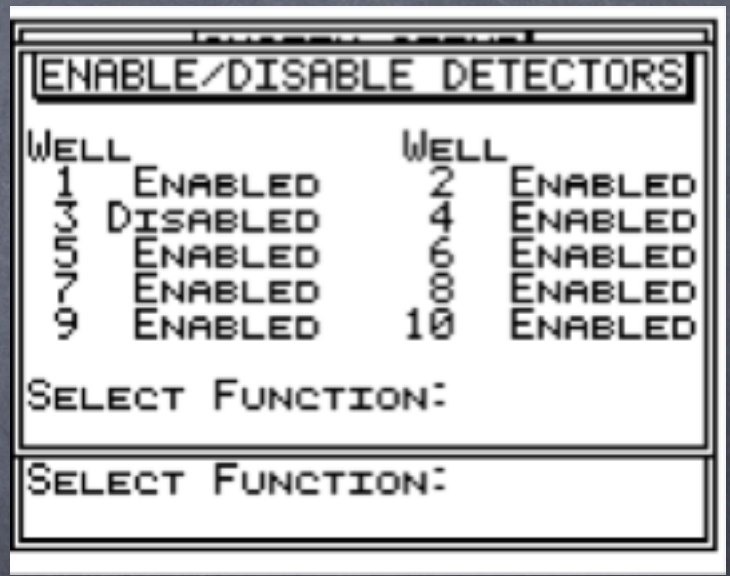

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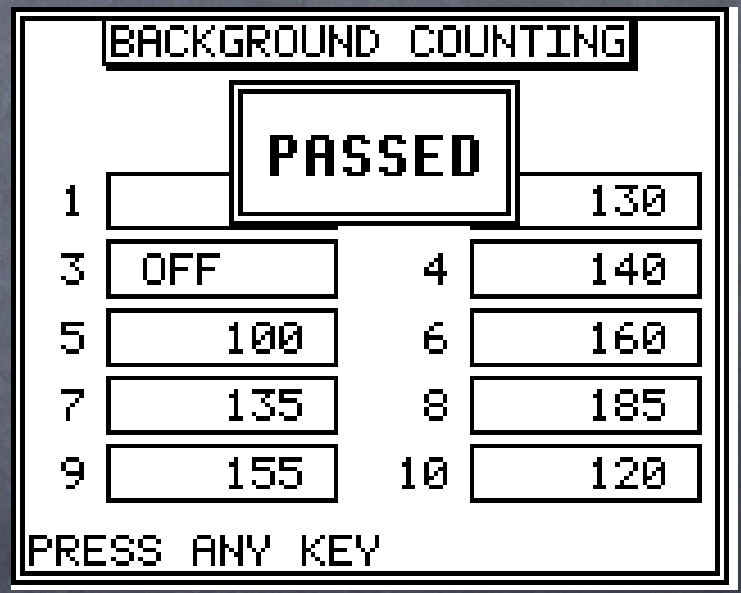
System Setup

Detector Setup

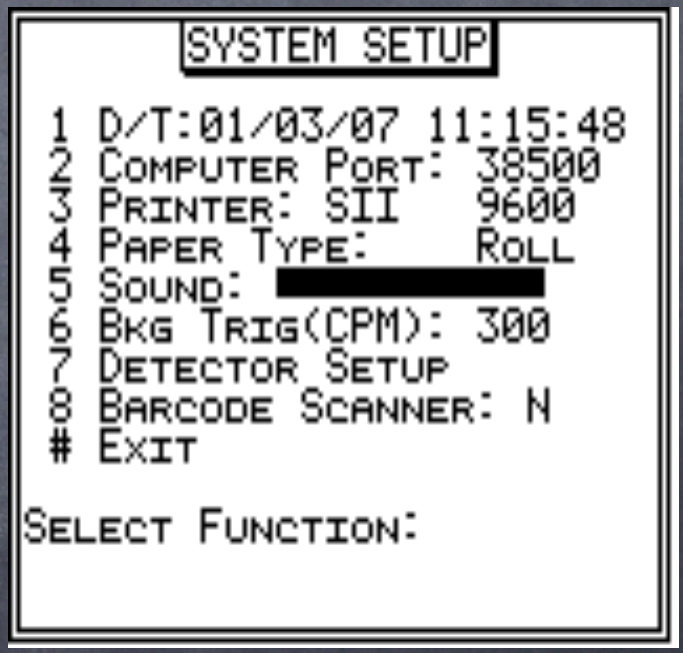
This is an example of a Background Count with Detector(well) 3 Disabled.



System Setup

Barcode Scanner

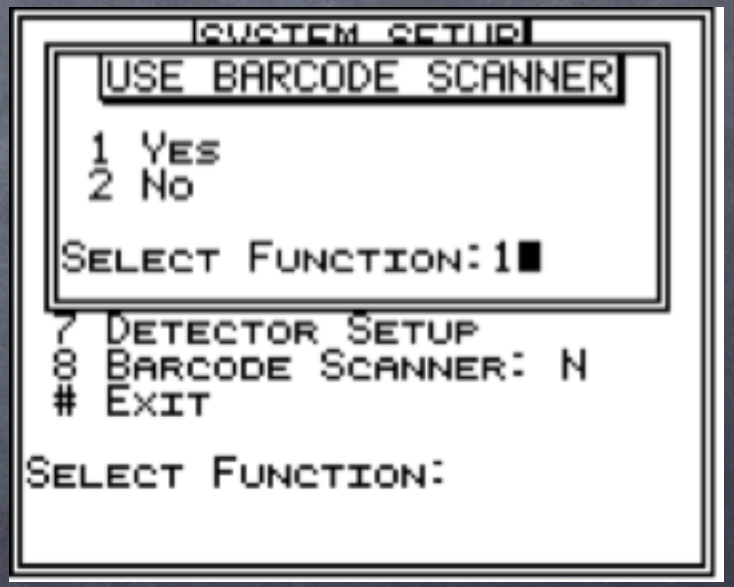
The optional Barcode Scanner(8) allows you to enter an identification number (ID #) for each unknown or patient group. This is accomplished with an external serial barcode scanner ordered from LTI. The scanner allows you to enter a series of patient ID's for their samples to be counted. Then upon counting of the Assay the patient ID # (# = number up to 20 printable characters long, but only the last 8 characters are shown on the screen) as well as the assay test result is printed together.



System Setup

Barcode Scanner

When selecting YES(1) in, Use Barcode Scanner, the Genii™ checks that the printer has not been selected for connection to the serial printer port. If it is, the Scanner Enabled screen alerts you of a conflict that you need to adjust.



NOTE: When using the Barcode Scanner , it is connected through the serial port and therefore a serial printer can not be used at the same time. The parallel and computer ports remain functional.

System Setup

Barcode Scanner

When selecting YES(1) in, Use Barcode Scanner, the Genii™ checks that the printer has not been selected for connection to the serial printer port. If it is, the Scanner Enabled screen alerts you of a conflict that you need to adjust.

NOTE: When using the Barcode Scanner , it is connected through the serial port and therefore a serial printer can not be used at the same time. The parallel and computer ports remain functional.

System Diagnostics

System Diagnostics is full of useful tests to help Service Engineers diagnose the health of your Multi-Wiper™.

For detailed information on the tests presented here read Section 11 in your Multi-Wiper™ Operations Manual.

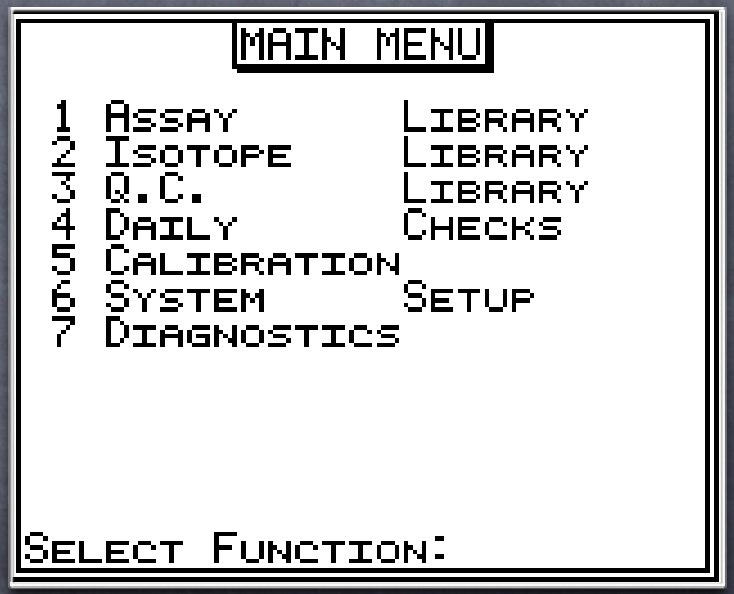
The Isotope Library

The Main Menu

The MAIN MENU, is your home base. This is where you will start all your various functions.

For this tutorial we will select 2 -- the ISOTOPE LIBRARY.

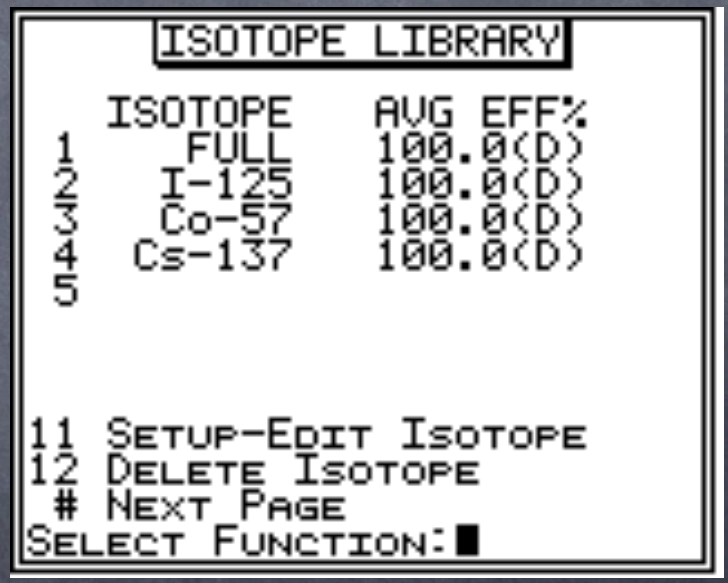
So press the 2 Key followed by the #



The Isotope Library

The first thing you will notice about the ISOTOPE LIBRARY is that every isotope shows an AVG EFF% (average efficiency). If your Genii™ has been factory calibrated, I125 and Co57 will show a measured efficiency value.

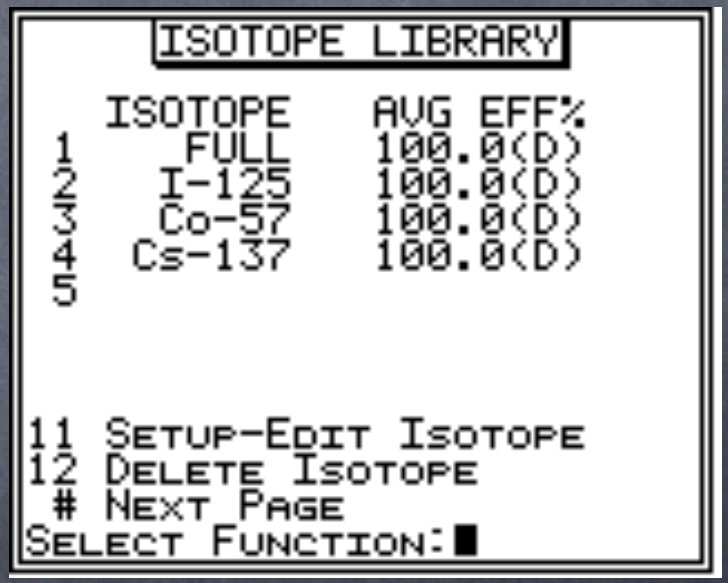
This value will be >80%. An efficiency followed by (D) is the default(100%) efficiency. A measured efficiency is followed by (M).



The Isotope Library

The Genesys Genii™ Efficiency may be obtained by one of three different methods. The current method is shown next to the % efficiency.

Three designators are: (D) Default, (C) Calculated (I125 only) and (M) Measured.



The Isotope Library

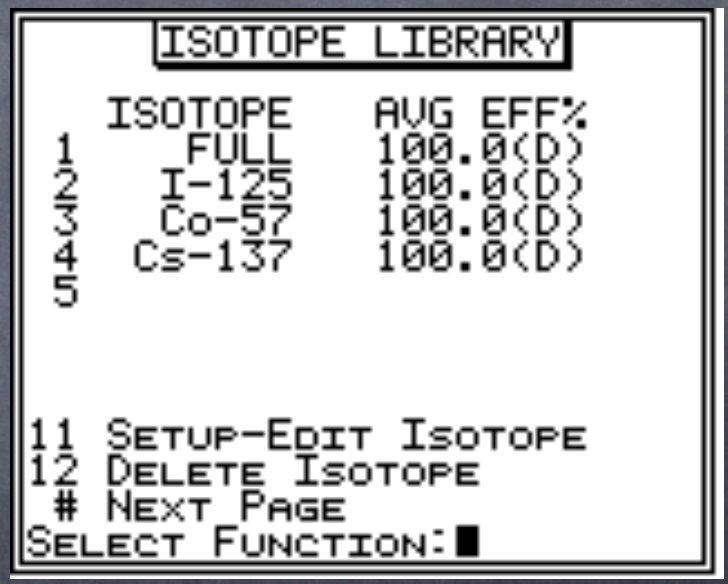
When talking about efficiencies, we actually are referring to the overall detection efficiency. This is composed of several parts. The emission efficiency or the gamma abundance of the isotope, each detector's crystal efficiency for the energy window, absorption, geometry, etc. Lumped all together, we usually just call it, although --- technically incorrect --- Isotope Efficiency.

Normalization is a process that balances the differences in counts between wells, when each well counts the same sample, or matched samples for the same time. A sample counted in any well, then reports the same statistial counts for the same time.

The Isotope Library

Isotopes, used in Assays, should have the detector efficiencies calculated or least should be normalized.

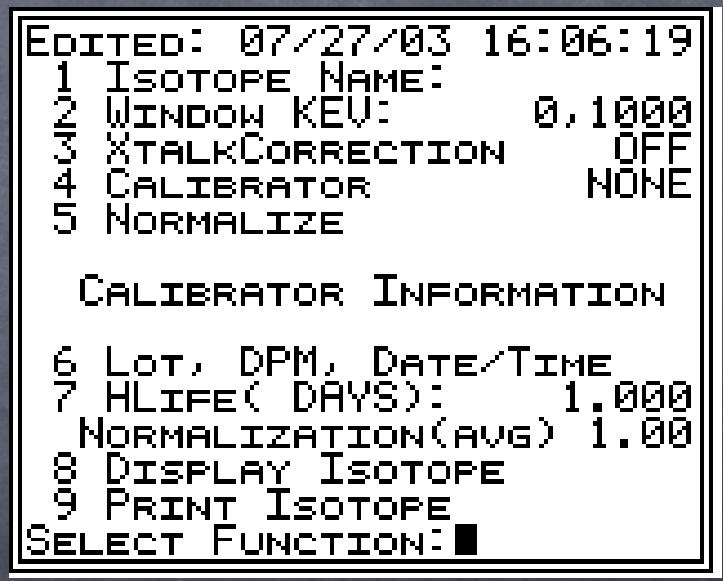
Using the efficiency check regularly allows your laboratory to monitor the health of your Genesys Genii™.



Normalization of Isotopes

If you are not concerned with monitoring Efficiency, then at least a detector Normalization must be performed for all isotopes used in Assays.

Normalization, using a single tube of the isotope, can be done by pipetting isotope tracer. A source should be counted to at least a count of 100,000 for minimum statistics. The more the better.

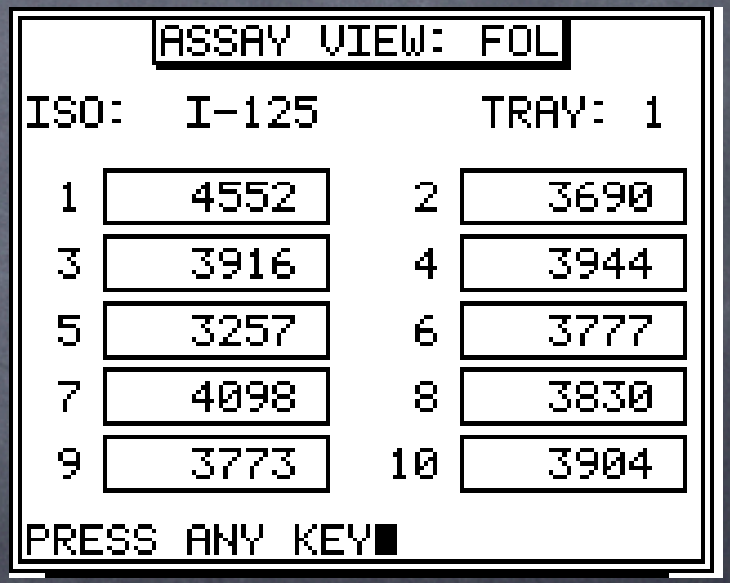


Normalization of Isotopes

The same source is measured in each well. The Genesys Genii™ compares the results and creates a table of "Normalization Factors" that will be applied to every assay using the isotope.

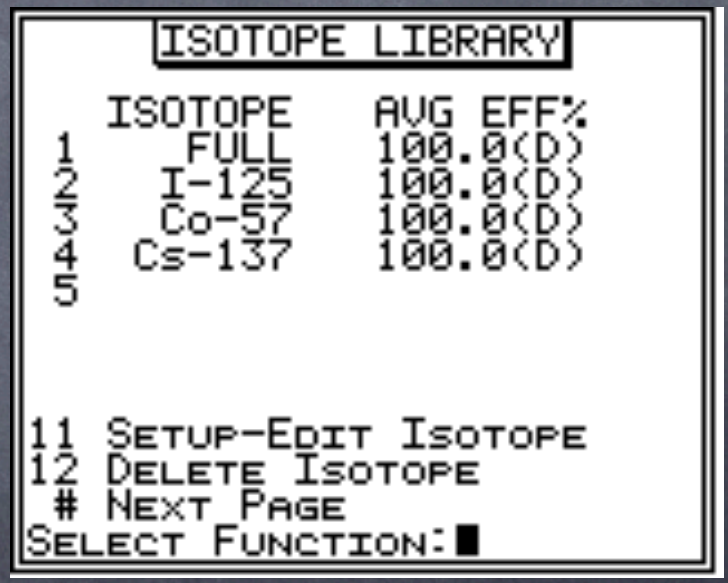
Normalization of Isotopes

This Normalization data is used to balance all detectors. Balancing any detector differences insures that a sample counted in any well produces the same results.



The Isotope Library

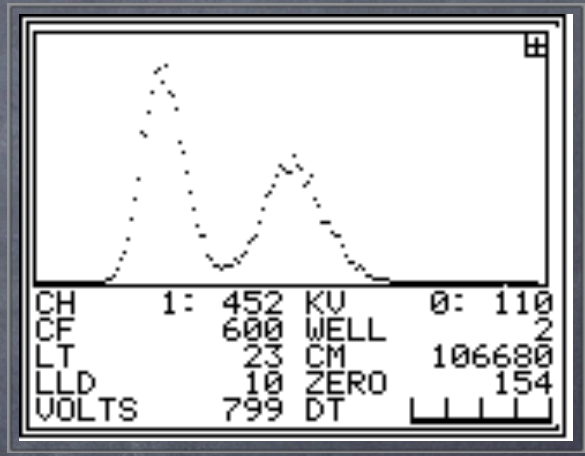
I125, the most common isotope used in RIA, can be setup two ways Calculated Efficiency and Measured Efficiency.



Calculated I125 Efficiency

Calculated I125 Efficiency

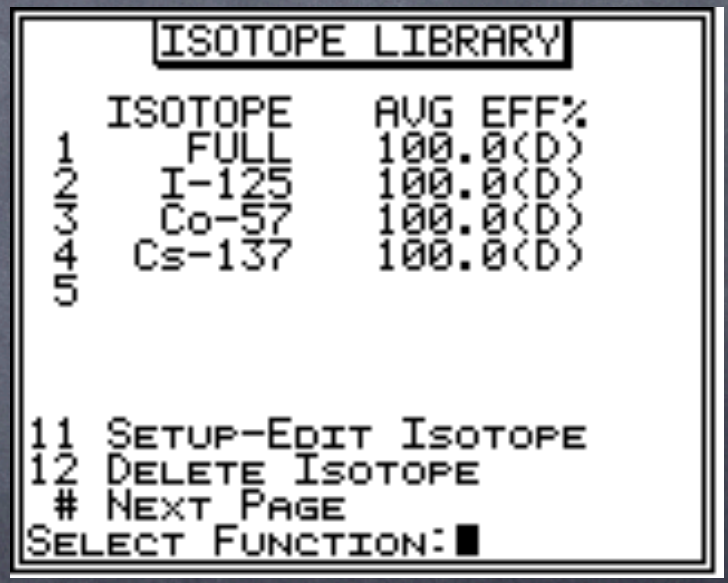
The Genesys Genii™ has a unique feature, calculated I125 Efficiency. It uses a special algorithm to determine the absolute DPM of any I125 sample (greater then 5000 CPM), then determines your efficiency. Note: A count of 100,000 is highly recommended for best statistics.



This feature can be run with standard calibrators or you can pipette your own I125 samples.

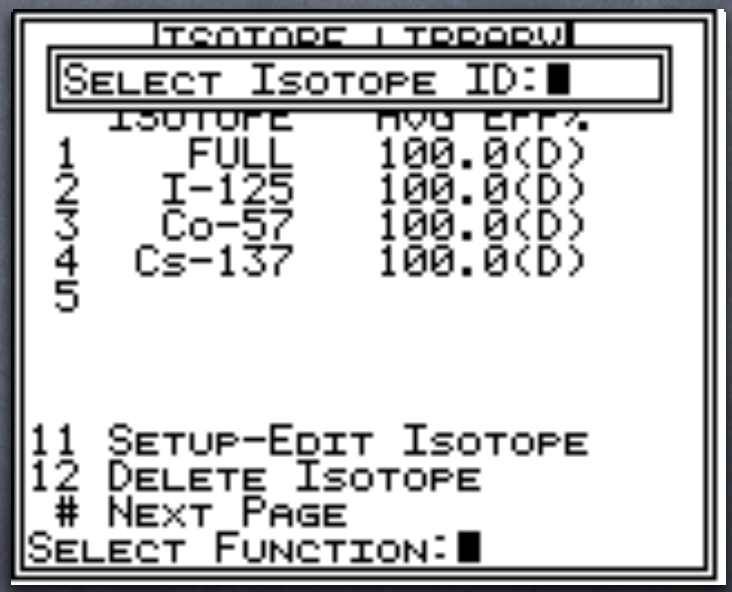
The Isotope Library

From the Isotope Library type 11# to edit an Isotope.



The Isotope Library

An alert box will appear prompting you to enter the number of the isotope to edit. Choose I125 by pressing 2#



Calculated I125 Efficiency

The Edit Screen will appear. This is where all the isotope information is configured and stored.

For I125 the isotope name and window settings are configured for you.

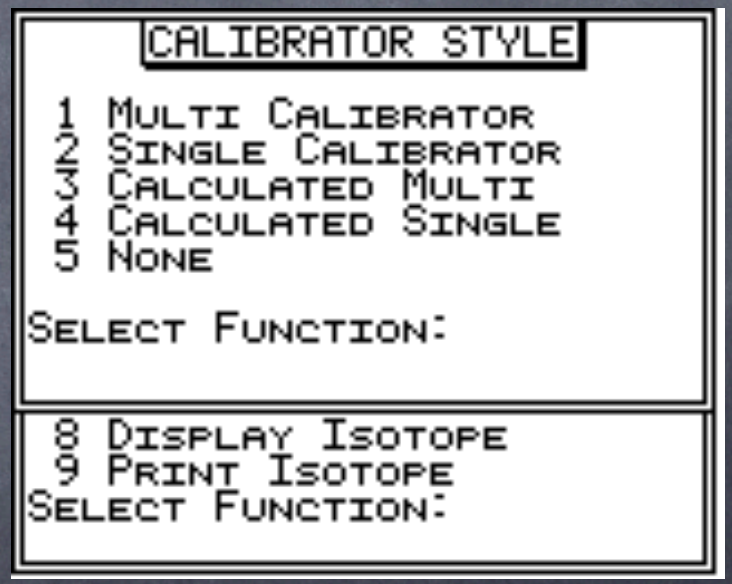
Select Calibrator by pressing 4#.

Calculated I125 Efficiency

This will open a menu that presents 5 options.

In this example we are going to calculate the I125 efficiency. Calculated means that we will use an uncalibrated source of I125.

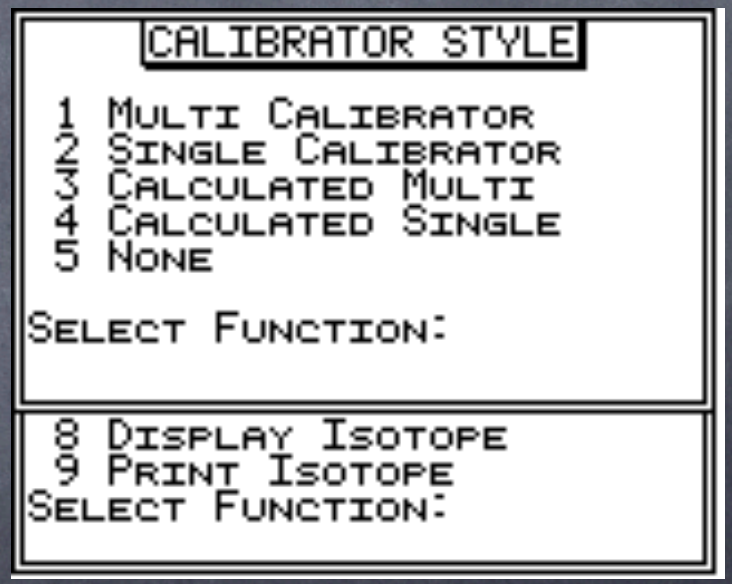
At this point, you will need to know if you plan to use a single sample, and move the tube through the wells, or measure all the detectors at once using a set.



Calculated I125 Efficiency

Press 3# to measure all detectors simultaneously. This would require 10 samples for a 10 well Genii.

Press 4# to count in one detector at a time, using a single source.



Calculated I125 Efficiency

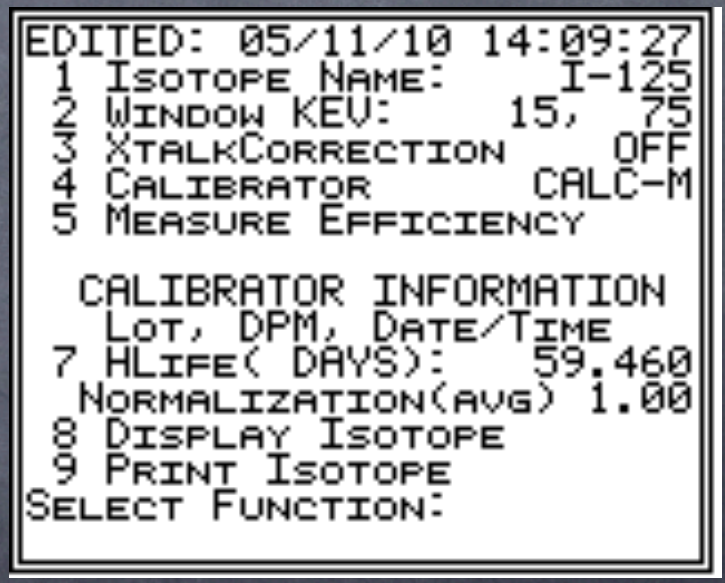
Remember a source(s) may be almost any I125 sample, most customers use I125 tracer pipetted to 250µl. The sample activity must be at least 2nC (5000 CPM). A hotter such as 50,000 + speeds up the measurement significantly.

A set does NOT need to be matched, just pipette the samples to be close in activity and sample volume.

Calculated I125 Efficiency

You will notice that selection 5 now reads Measure Efficiency and selection 6 is no longer active.

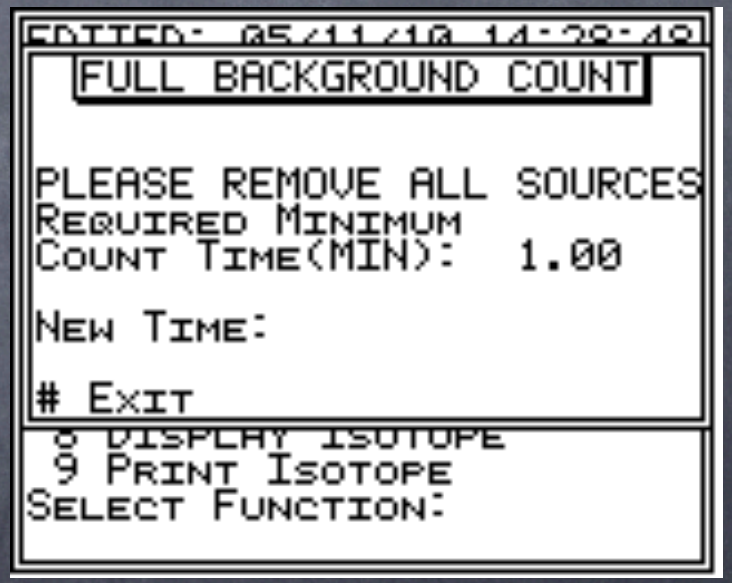
Press 5# to start the counting to measure the I125 and calculate the efficiency.



Calculated I125 Efficiency

If you have not run background in the last 24 hours, or if you have turned off the power, you will be instructed to run a background count.

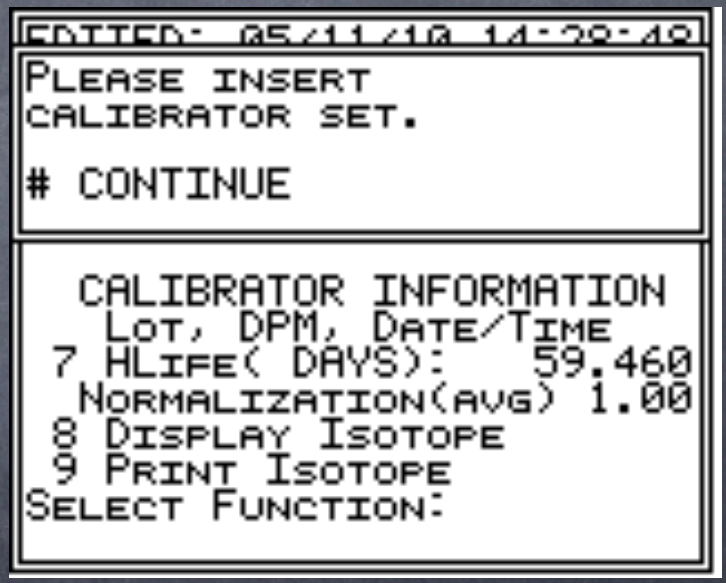
Make sure your sources are at least at arms distance from the counter, while running background. Enter a new count time or press # to begin the count. Entering a zero for count time will temperately disable background subtraction.



Calculated I125 Efficiency

Once the background is complete, or if you did not run one, you will be prompted to "insert your calibrator set." Insert your sample tubes into the wells.

If you chose to use a single source you will be prompted to "insert your calibrator into well one."

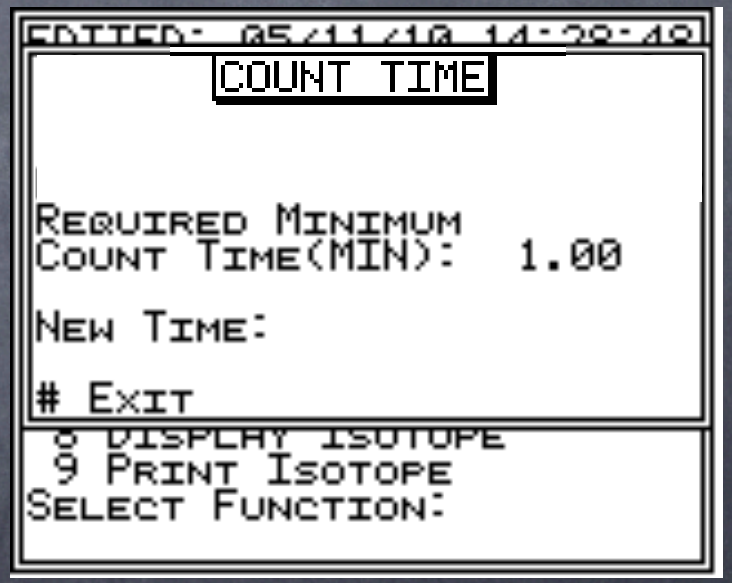


Calculated I125 Efficiency

The Genii will run a quick test count to see how active your sample is. A minimum count time will be presented.

You may INCREASE the count time or press # to accept and begin counting.

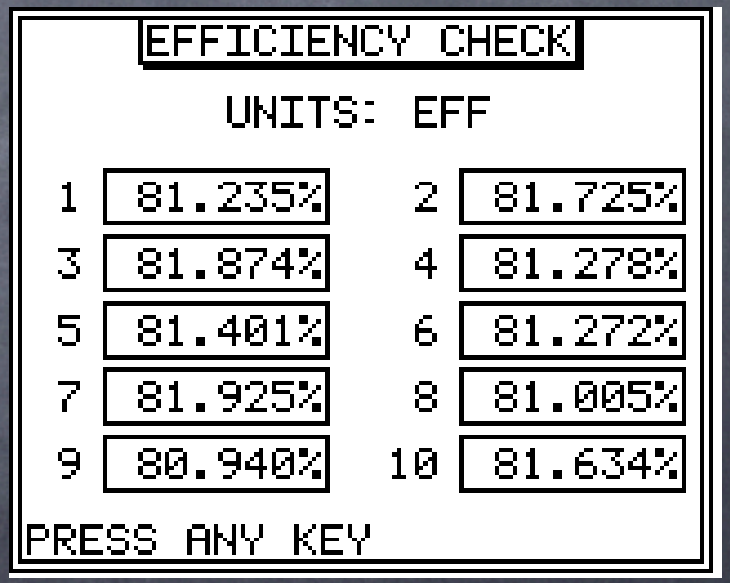
The count time is dependent on the activity of your source, the hotter the sample, the shorter the count time.



Calculated I125 Efficiency

Once the Count is complete the individual detector efficiencies will be displayed.

If you have your printer connected and turned on, the Genii will print a report that contains more details about the efficiency spread, high and low tubes etc.



Measure your Efficiency

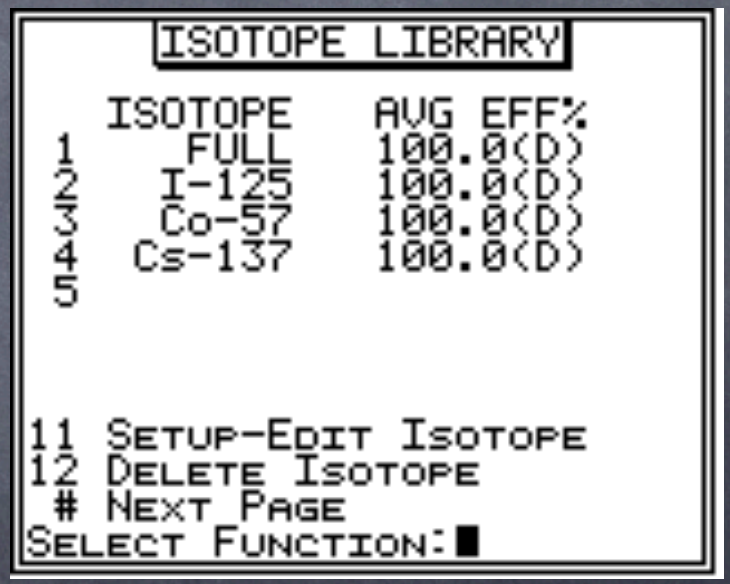
Measure your Efficiency

The method of obtaining Isotope efficiency for all other isotopes, is by measuring a calibrated source. This method may also be used for I125.

Isotopes are measured by using known reference sources such as Multi-Calibrators™ sold by Laboratory Technologies, Inc. and our authorized distribution partners.

Measure your Efficiency

For this example we will use a MATCHED set of I-125 Multi-Calibrators™.

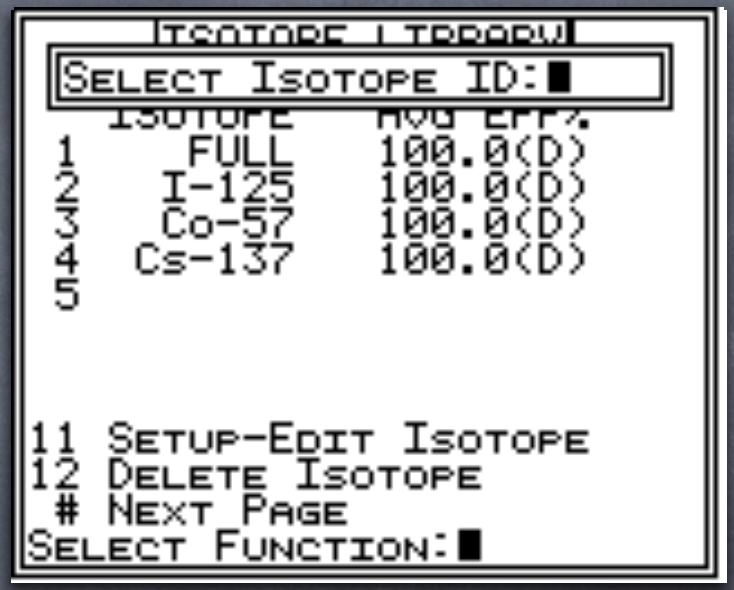


Measure your Efficiency

Type 11# for Setup-Edit Isotope

An alert box will appear:
SELECT ISOTOPE ID.

Enter 2# to select I-125

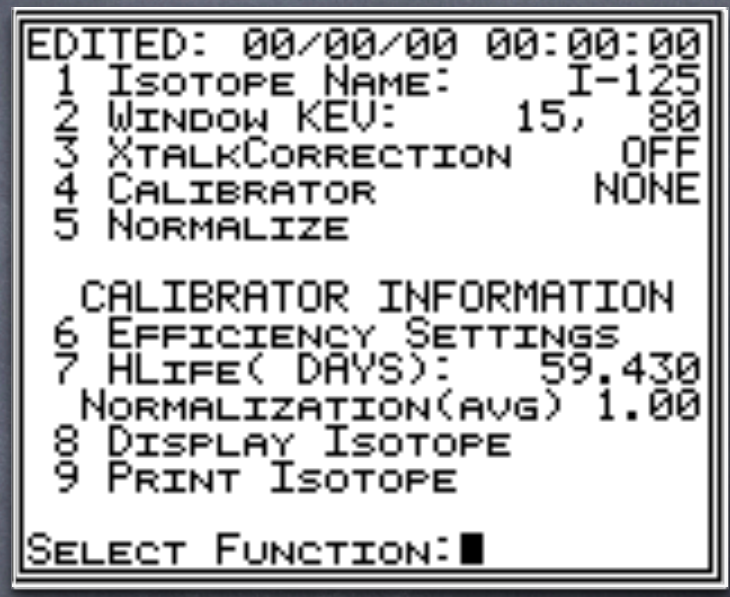


Measure your Efficiency

The Edit Screen will appear. This is where all the isotope information is stored and configured.

For I125 the isotope name and window settings are already configured for you.

Select Calibrator by pressing 4#.

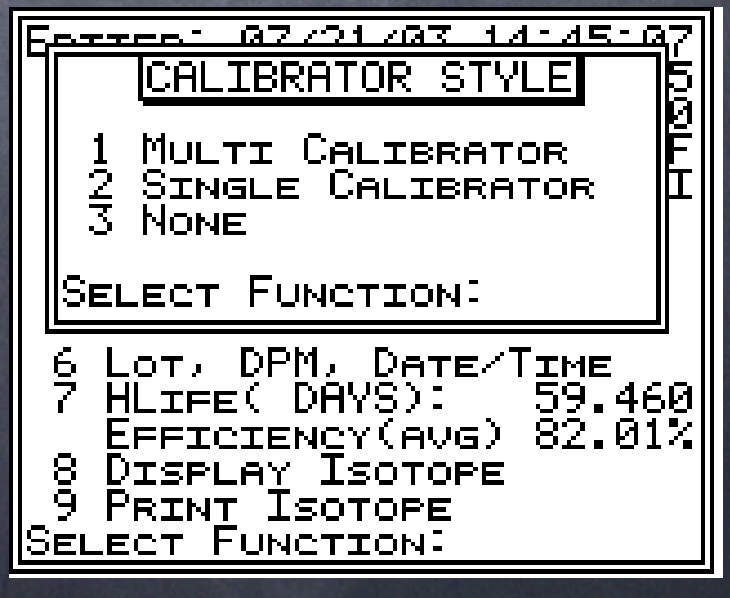


Measure your Efficiency

This will open a menu that presents 5 options. Choose 1# for a set of Multi Calibrators, or 2# for a Single Calibrator.

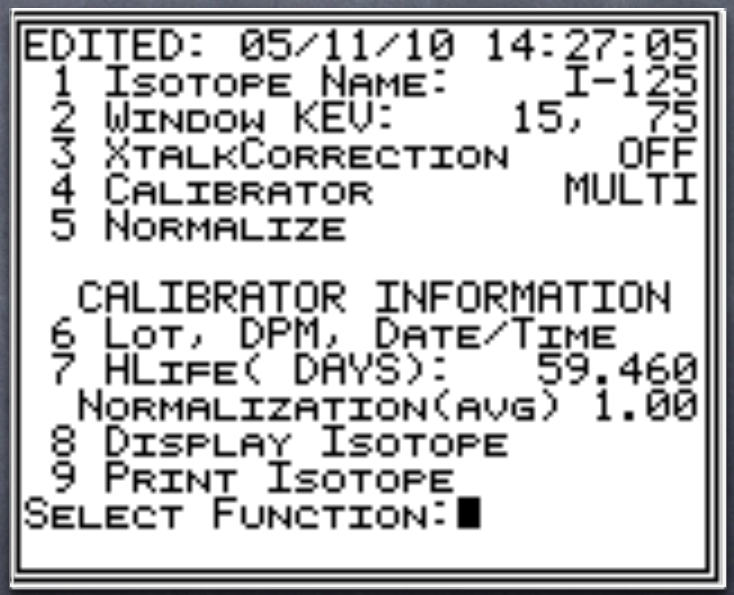
Note: if you have a Genii™ Model 1001 or 2001, choose 1# Multi Calibrators.

If you are using an isotope other then I125 you will be presented with only 3 options



Measure your Efficiency

To enter the Efficiency Settings Menu and set up the reference sources, press 6#.

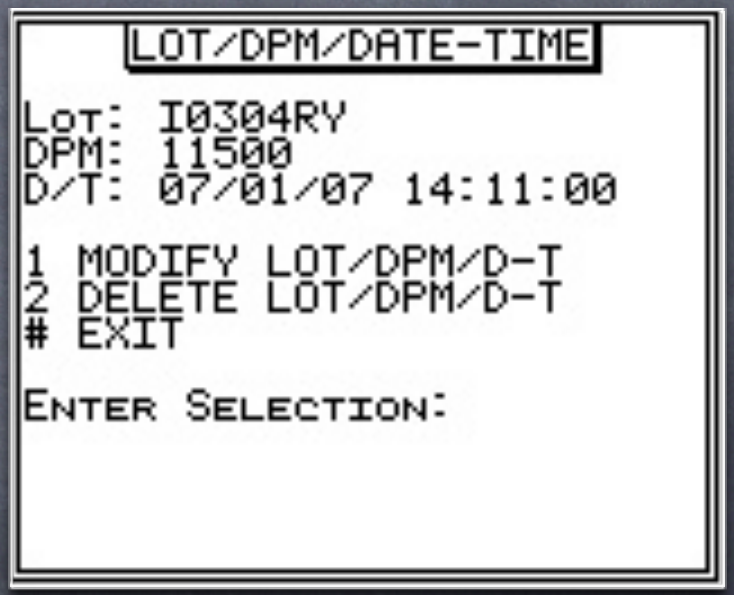


Measure your Efficiency

The LOT/DPM/DATE-TIME screen will appear. select 1# to modify the calibrator setting.

Use the supplied Calibrator information to fill in the LOT, DPM and the Date of the DPM.

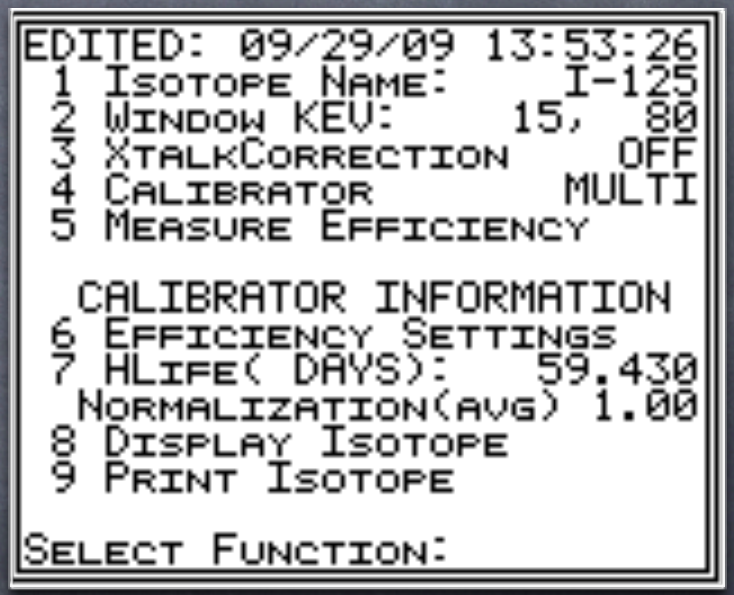
Press # to exit.



Measure your Efficiency

Once back on the edit screen you will notice that selection 5 has changed from NORMALIZE to MEASURE EFFICIENCY.

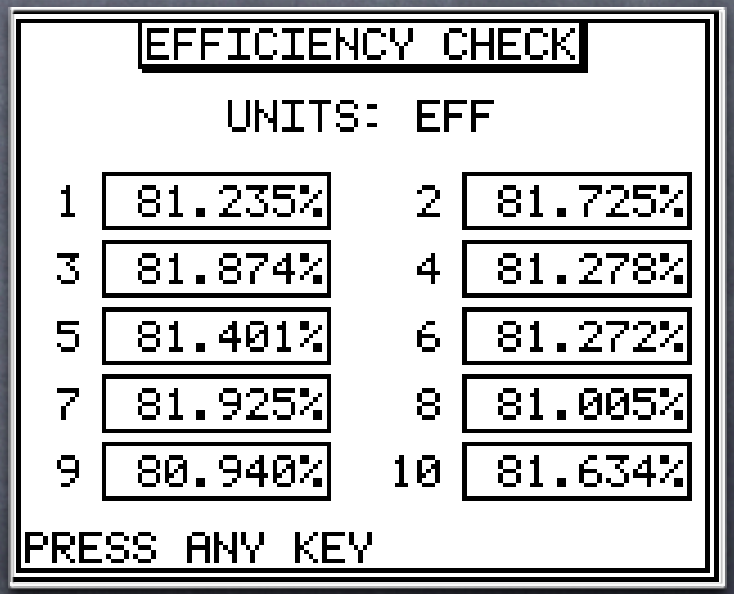
Press 5# to measure the efficiency. Follow the on-screen instructions to count your sources.



Measure your Efficiency

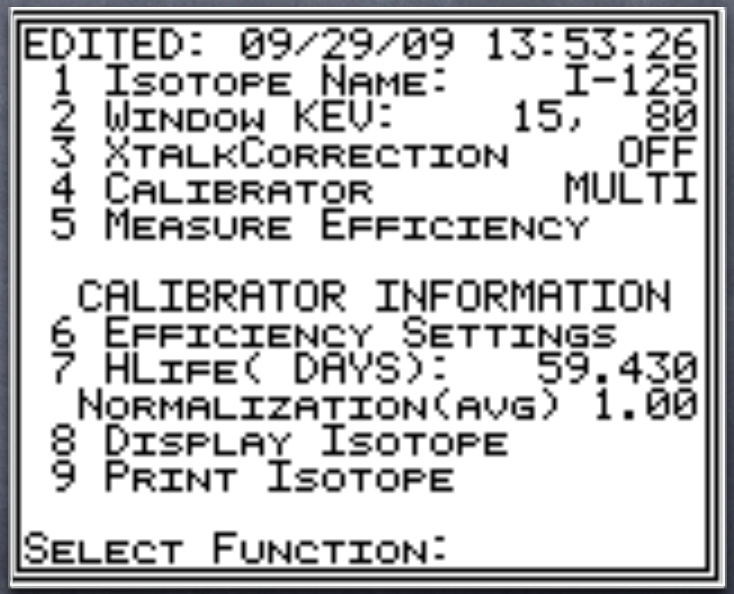
When the count has finished the system will display the efficiency number for each well.

Press # to return to the edit screen.



Measure your Efficiency

Press # again to exit to the Isotope Library.



Measure your Efficiency

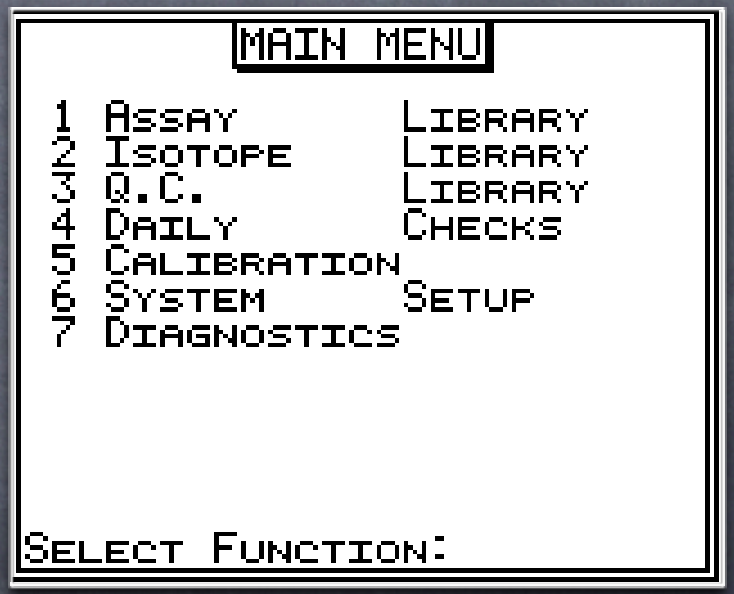
Notice that now the I-125 average % eff is followed by (M) indicating that the % efficiency shown was Measured.

Press # again to exit to the Isotope Library.

The Isotope Library

Now that you know how to set up your Isotope Library you are ready to learn your next lesson.

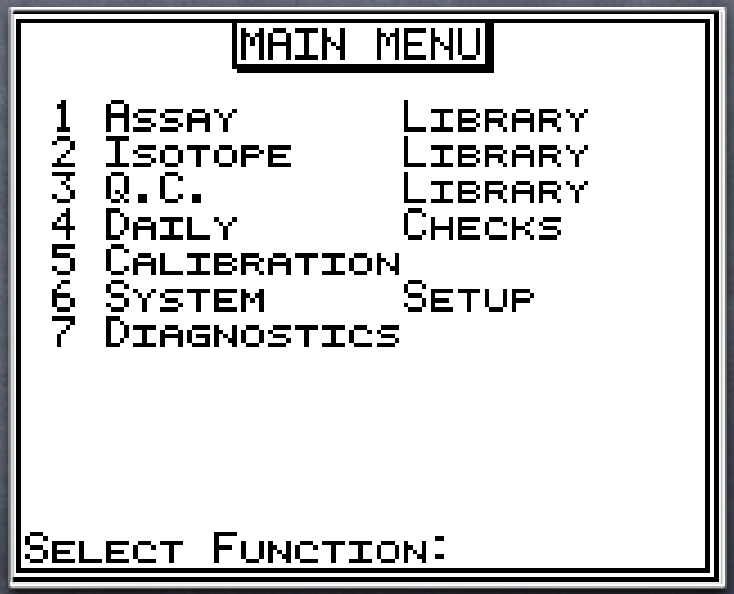
Thank you for choosing the Genesys Genii™.



The Assay Library

The Main Menu

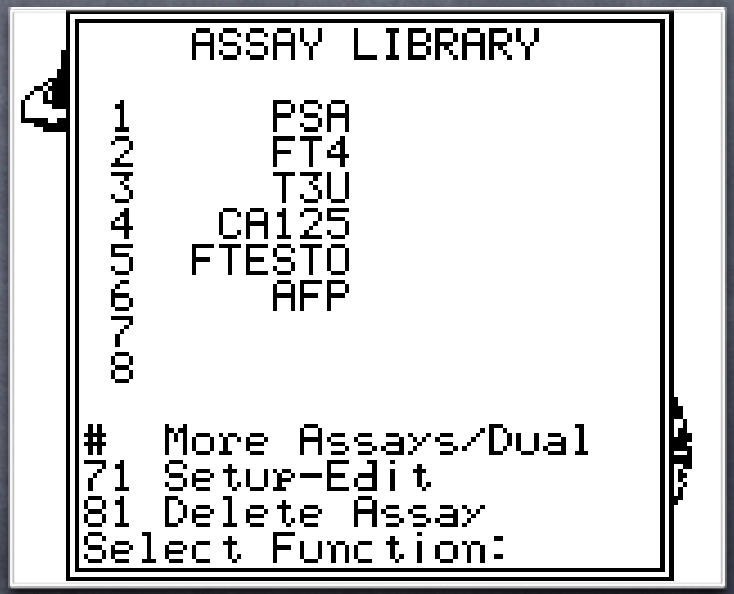
The MAIN MENU, is your home base. This is where you will start all your various functions. For this tutorial we will select #1 the ASSAY LIBRARY. So press the 1 Key followed by the #



The Assay Library

The ASSAY LIBRARY is where all the Assays are stored, from here you can run, edit or delete an assay.

With Genesys Genii™ you can create and store up to 30 single isotope (label) Assays and 2 Dual isotope Assays (e.g. B12/Folate).



The Assay Library

What's an assay?

An assay is like a cooks recipe, containing all the ingredients, the amounts used and the blending procedure to produce a final result.

Normally in a "kit" format, but also user created such as in research in contains all the information to set up a "Standard Curve" if it's a curve type assay or the reference standard if it's a % of reference type assay.

The Assay Library

What's an Assay

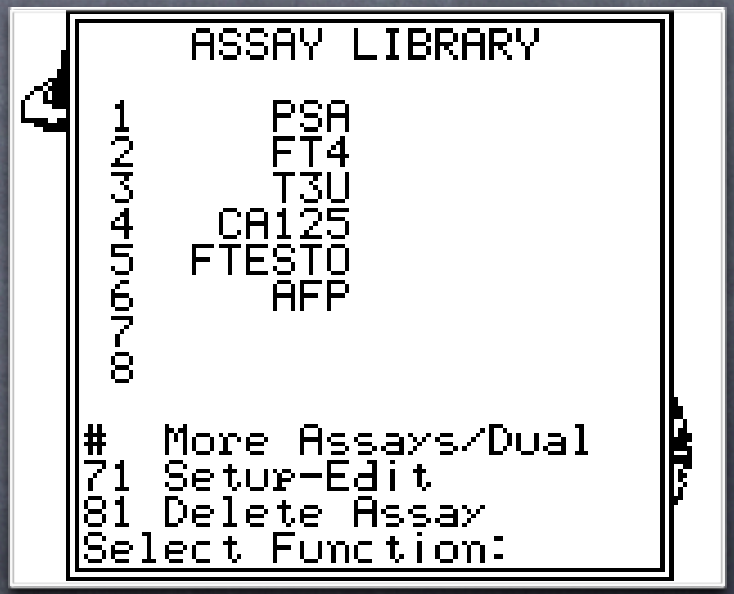
Following the instructions in the "kit insert" sheet the assay is set up to generate the proper format so that the unknowns --"patients" sample are measured and compared to the standard range. Quality controls, which in essence are "known unknowns" are measured using the assay just created to verify proper performance.

The "unknowns" are them measured and their concentration (dose), or % ratio is calculated.

The Assay Library

Let's first Delete an Assay, just to show how to remove old ones if so desired.

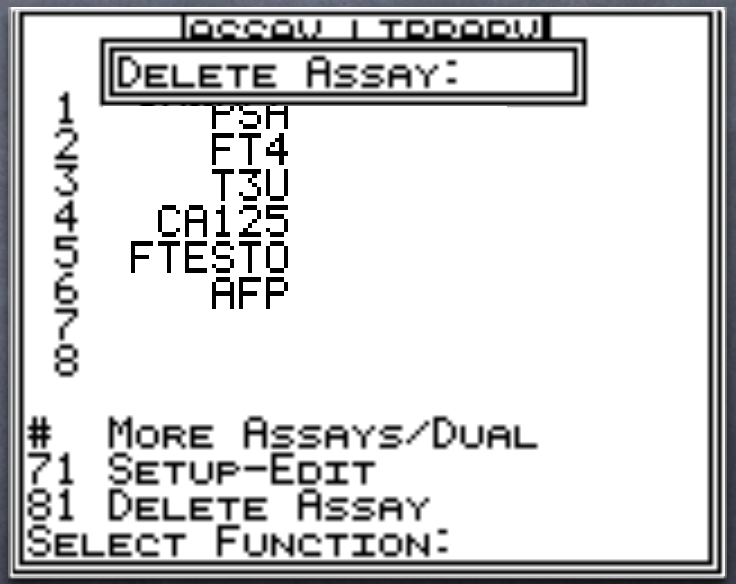
Selecting Delete Assay, will remove all the configuration data from the assay location.



The Assay Library

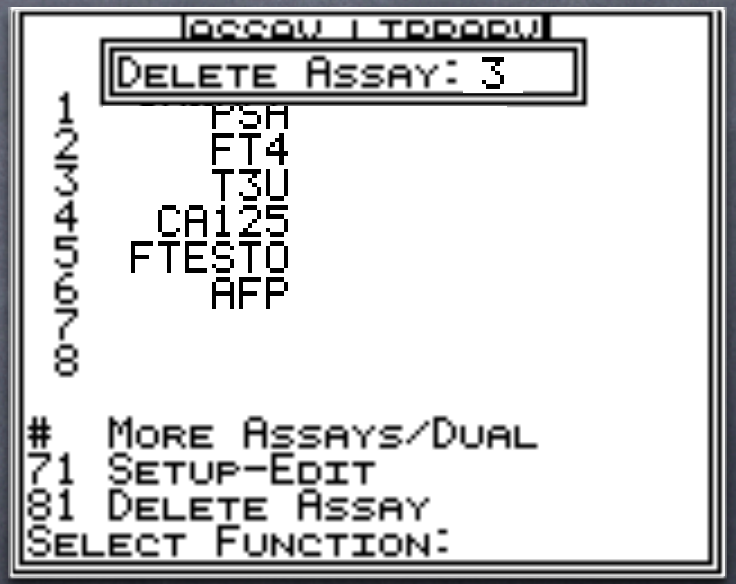
To delete an assay type 81# on the Assay Library screen.

An alert box will appear.



The Assay Library

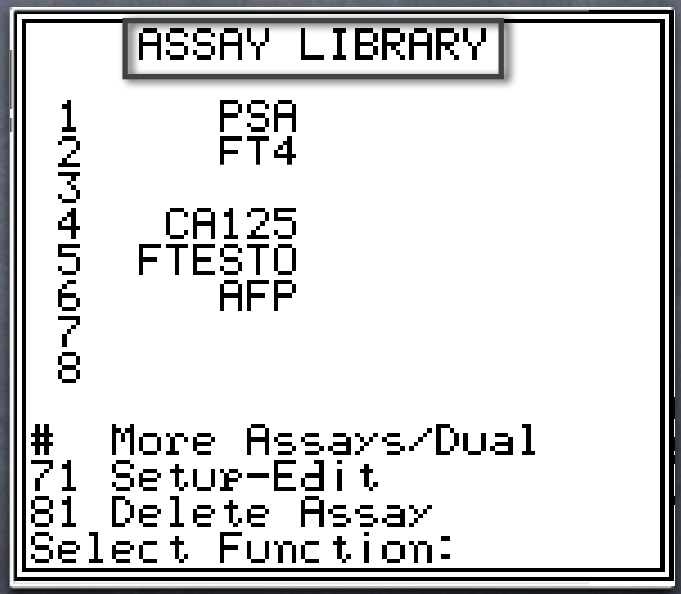
Enter the number of the Assay you wish to delete followed by the # (e.g. 3#).



The Assay Library

You will notice the assay location(3) is now empty.

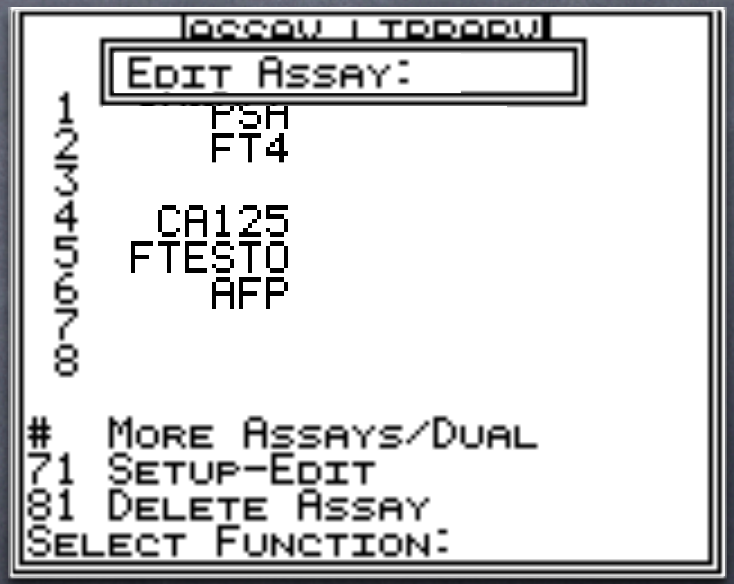
You can enter a new assay into this location by editing the location, so let's create a new Assay.



The Assay Library

To create a new assay, type
71# -- Setup-Edit

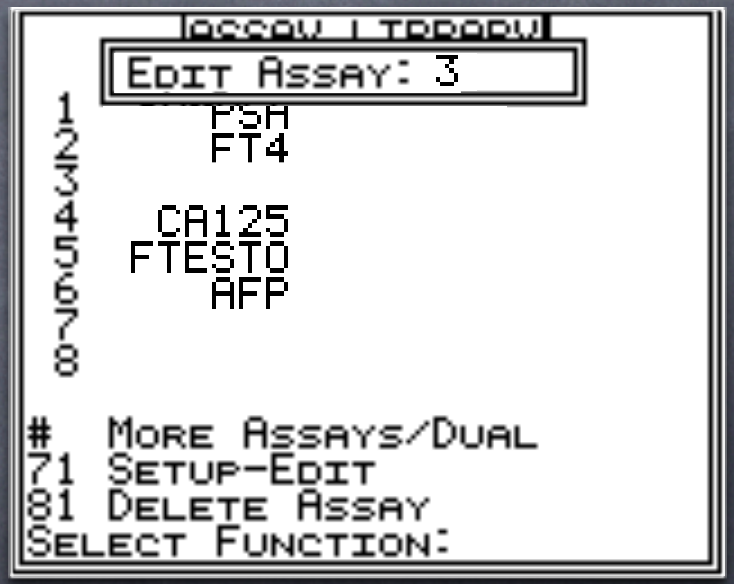
An alert box will appear.



The Assay Library

Enter the location number you want to edit. In this example we will use the blank location that we just created above; Location 3.

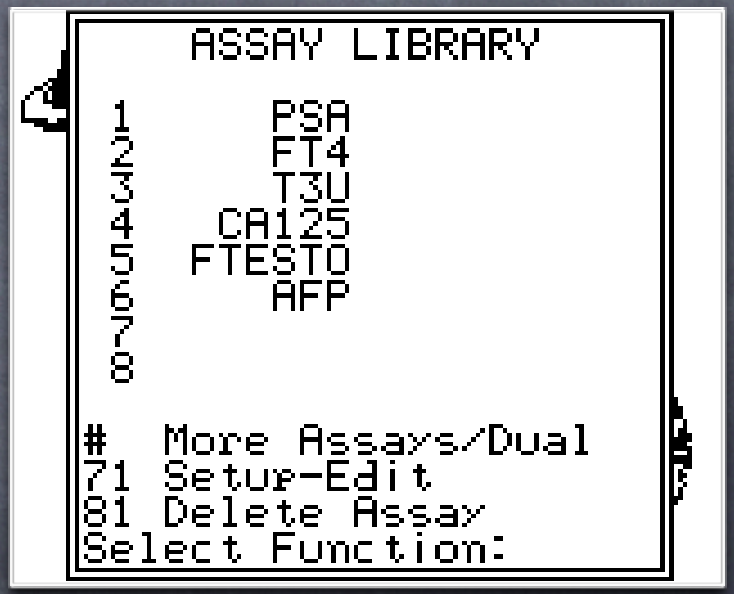
Type 3#



The Assay Library

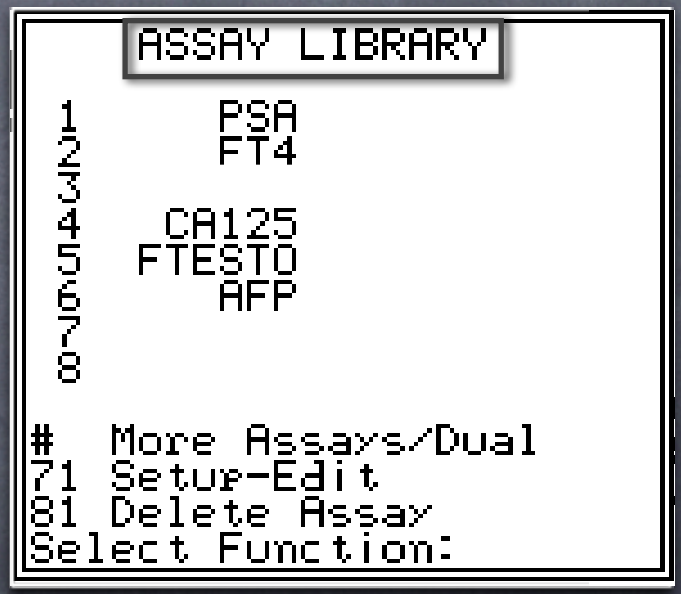
Once an assay is configured, it is ready to run.

To run an assay simply select the number of the assay you want to count followed by the # key.



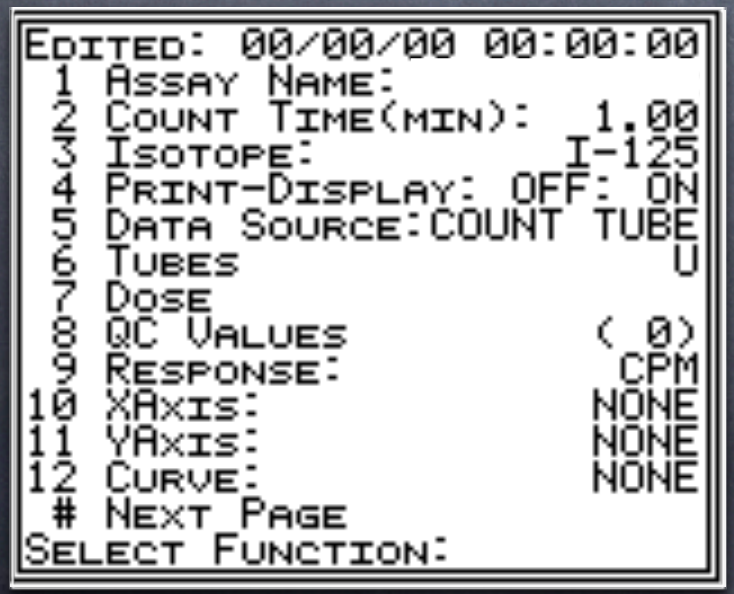
The Assay Library

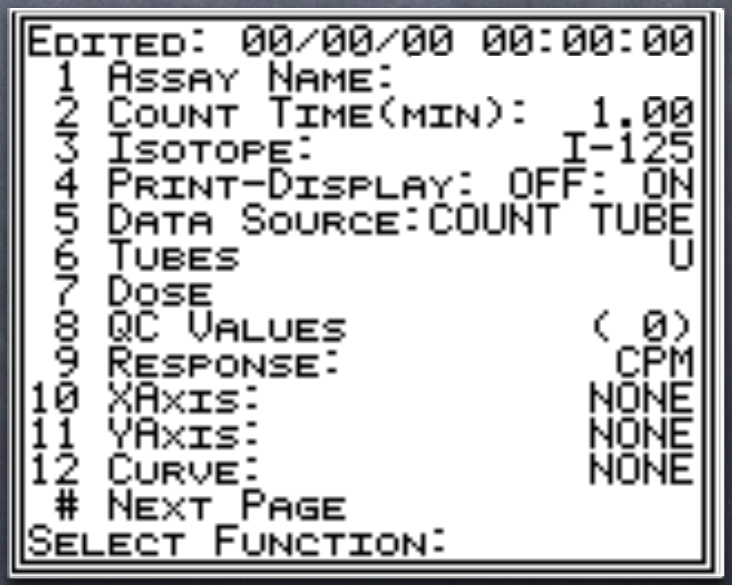
When you choose you edit an assay, you can create a new assay by selecting a blank location or you can modify an existing assay by selecting it from the menu.



Assay Configuration

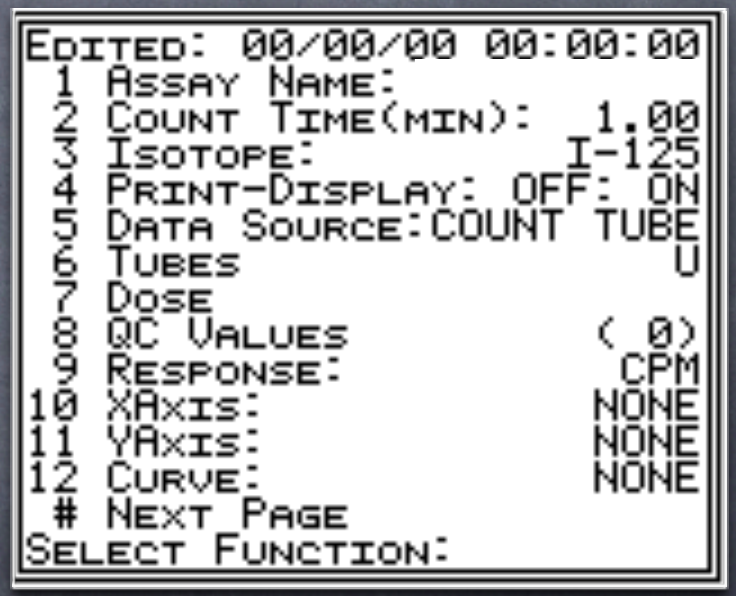
The Assay Edit Menu will appear. The Assay Edit Menu consists of 2 screens with 24 different submenus to configure.





Assay Configuration

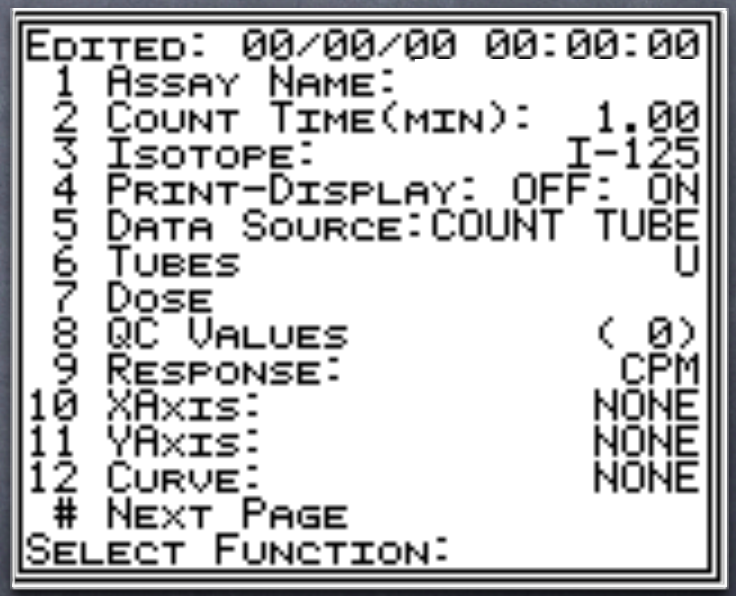
Lets start with the First Assay Menu Screen and take the items one at a time.



Assay Configuration

To enter or alter an Assay Name

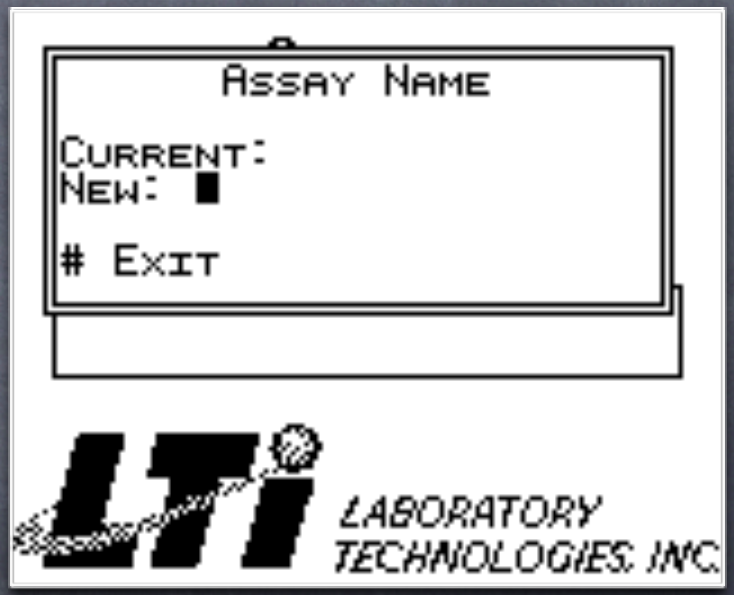
Type 1#



Assay Configuration

A new window will appear.
Enter the name for your assay.

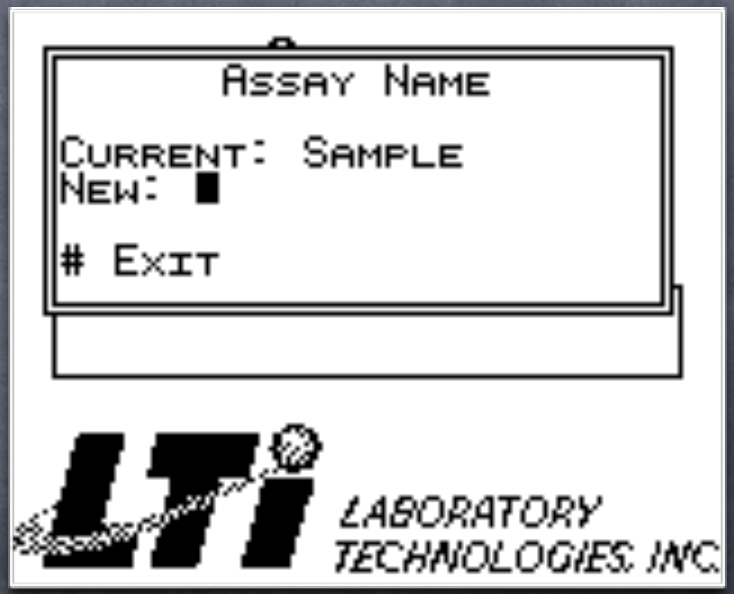
To enter data into an alpha-numeric field you must press the multifunction keys more than once to access the letter you wish to enter. For example to enter the letter "S" you press the 7 key 5 times. This will display an S on the screen.



Assay Configuration

In order to spell out the assay name Sample you will need to hit the # key after every character you enter. To enter the name Sample the entire key sequence is.

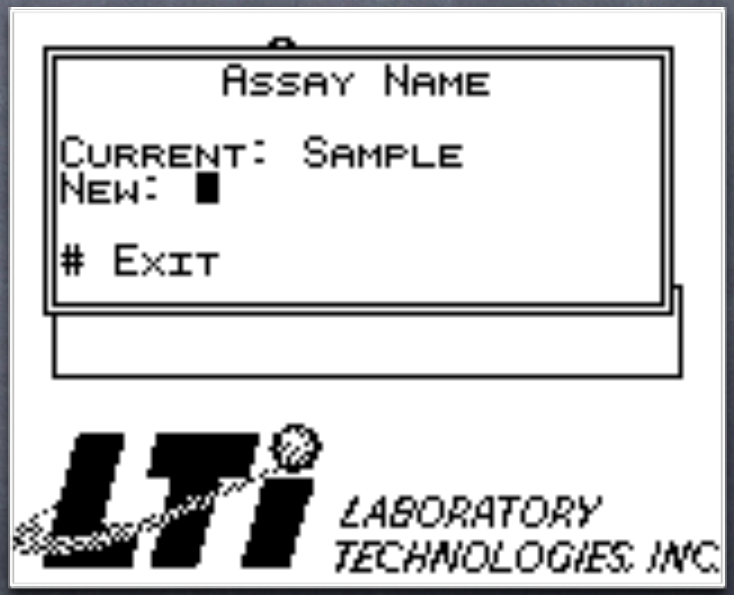
77777# 22# 66# 77# 5555# 333#



Assay Configuration

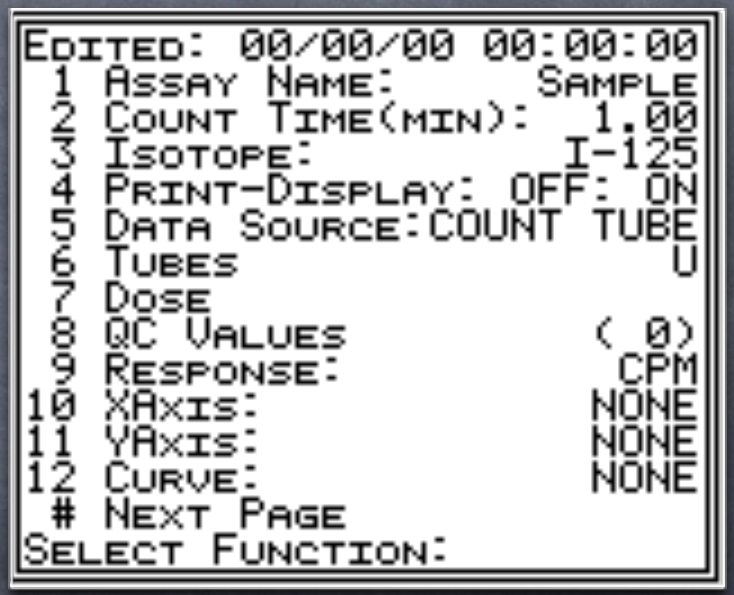
Enter an additional # to accept the name and return to the Edit Menu.

If you make a mistake press the * to erase the entry and start over.



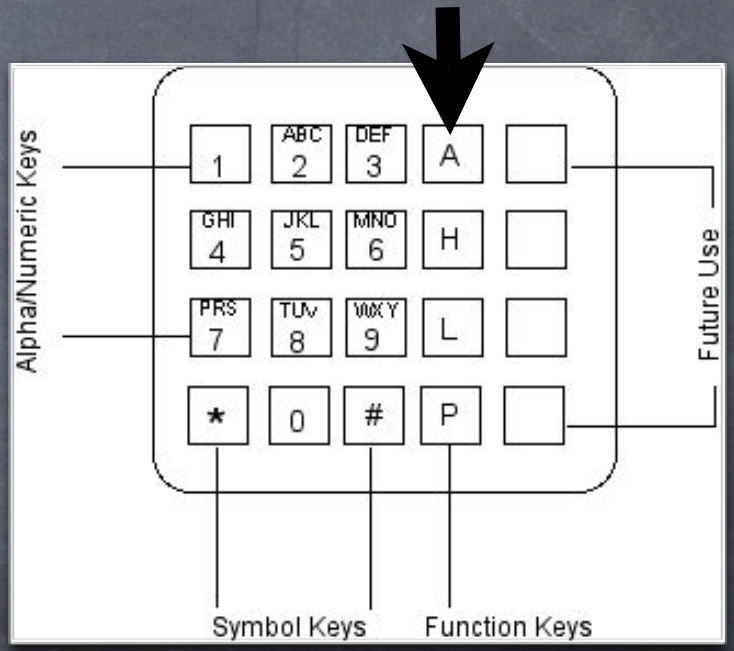
Assay Configuration

The Count Time(2). The count time is expressed in minutes and decimals of minutes. For example you can enter a count time of 1 Minute 30 Seconds by entering 1.50 minutes



Assay Configuration

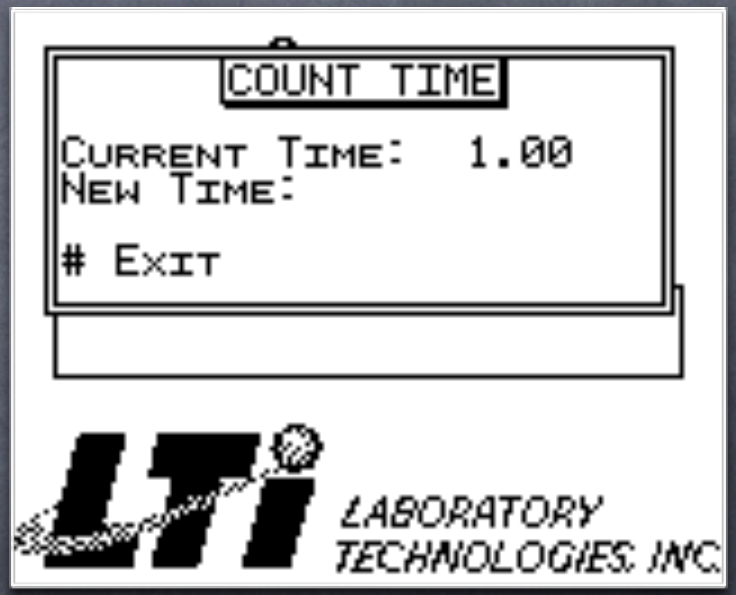
To use a decimal number press the A key, not the multifunction ABC 2 key, the A key in the upper right hand corner of the keypad.



Assay Configuration

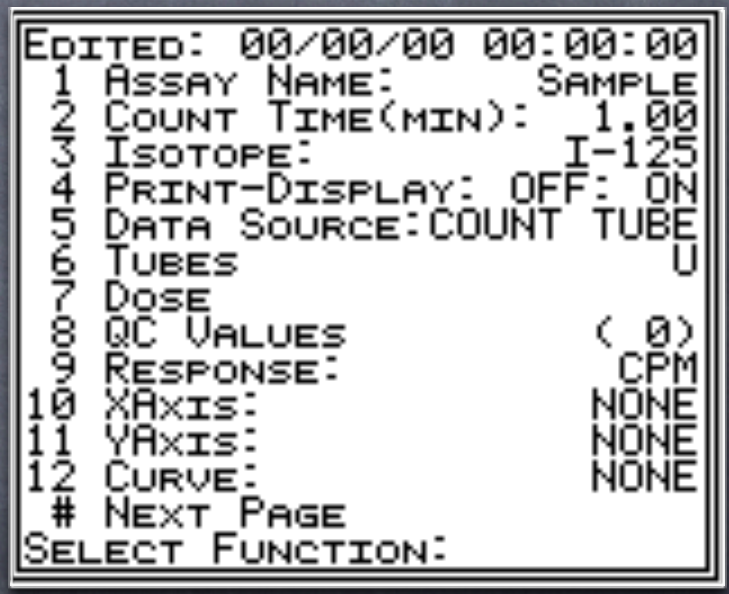
If you wish to change the time to 1 minute 30 seconds, you would enter: 1 then the special A key followed by 50 #. Since the Genii knows that entire entry is numeric the # key is entered only after the full number is entered.

For this example we will keep the the 1.00 minute count time. Pressing only # will accept current time and return to the Edit Assay Menu.



Assay Configuration

The Isotope(3). This option allows you to pick the specific isotope used by the assay. To modify the Isotope selection press 3#



Assay Configuration

Choose the isotope for your assay by selecting the number of the isotope.

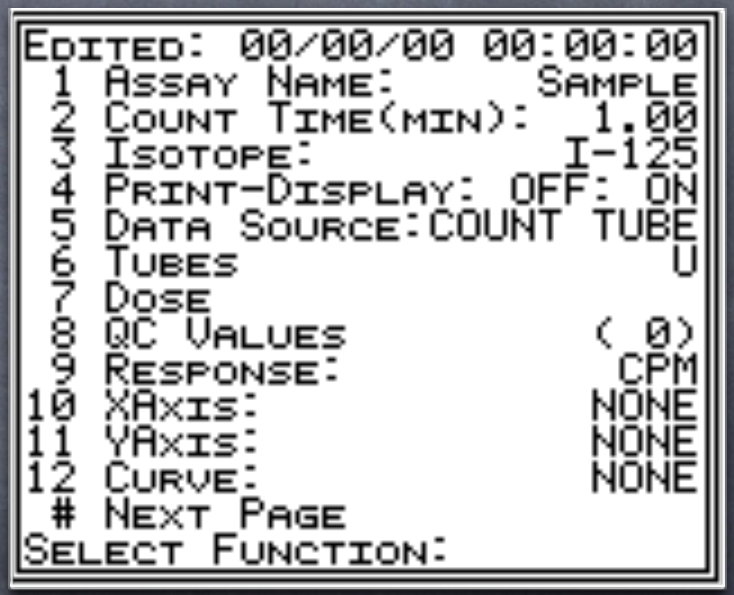
The most commonly used isotope is I125, to choose this press 2.

You will be returned to the Edit Assay Menu

Assay Configuration

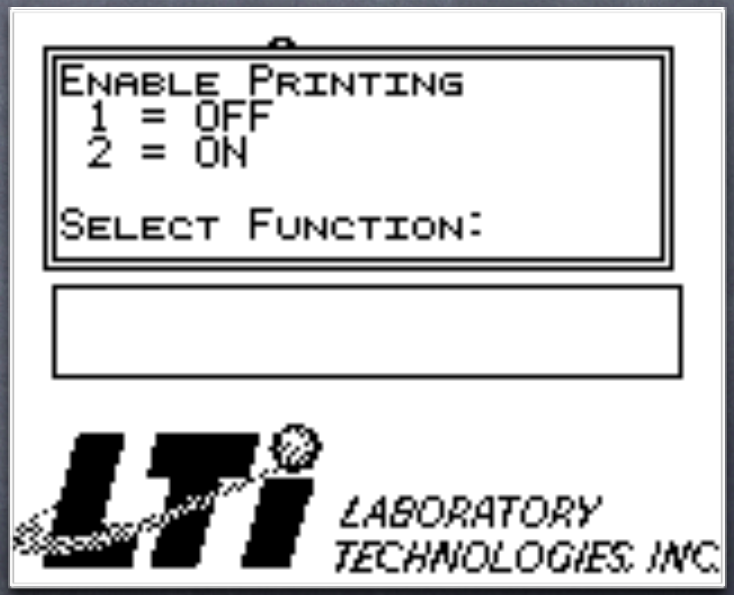
Print-Display(4). This option allows you to choose if you want your assay results to show on the LCD display and if you want to print the results to the printer.

Type 4# to open configuration screen.



Assay Configuration

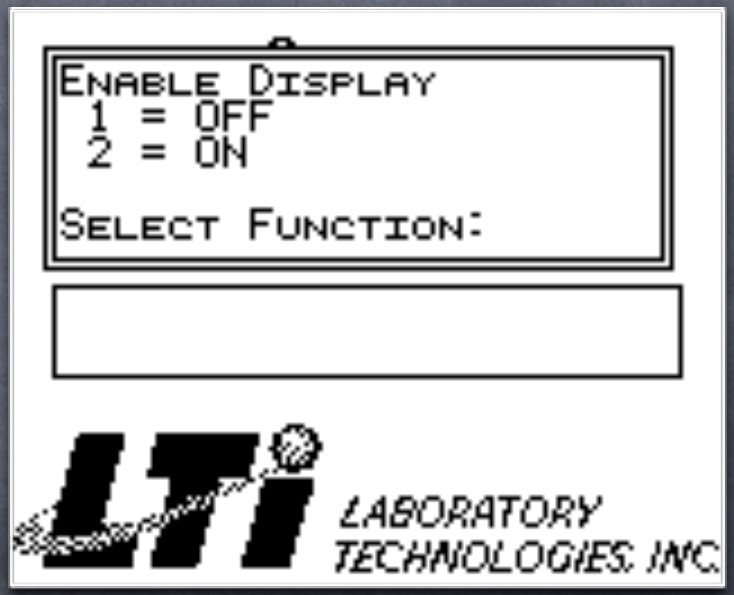
If you wish to have your assay results printed to an attached printer select 2, otherwise select 1.



Assay Configuration

If you wish to have your assay results printed to LCD display, select 2

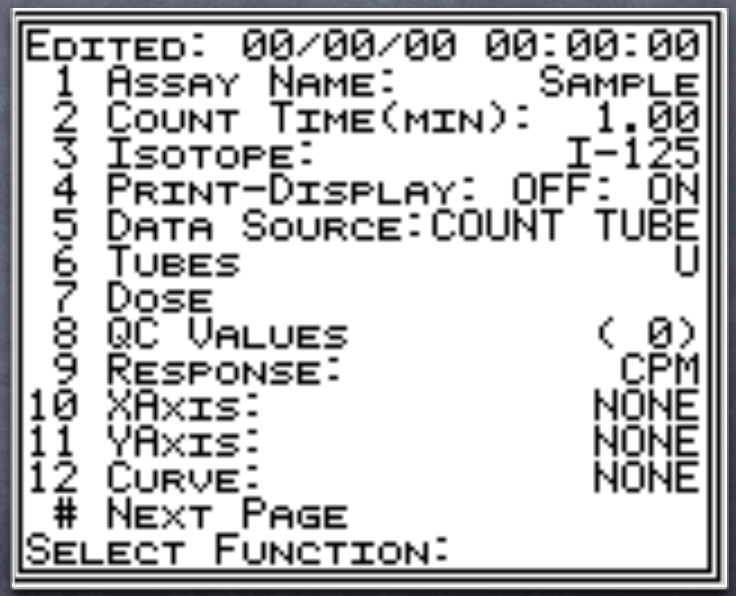
Otherwise select 1



Assay Configuration

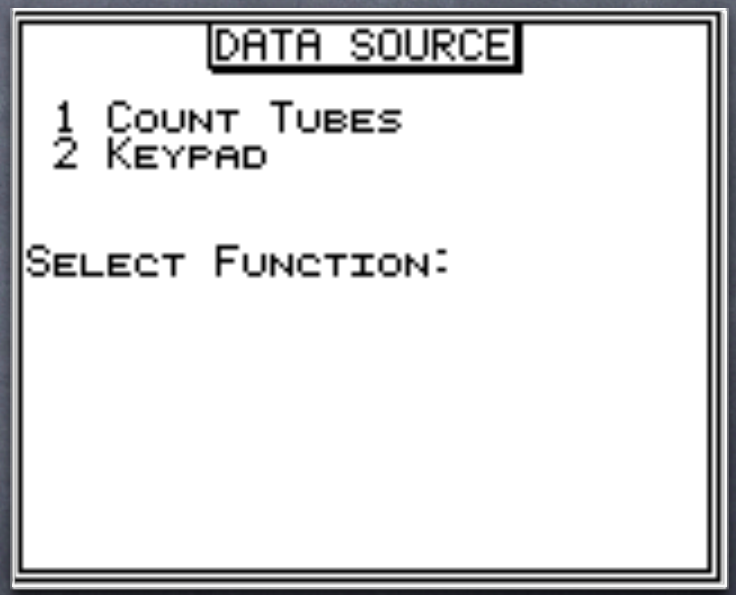
Data Source(5). This is an unique feature to the Genesys line. This option allows you to run an assay by hand entering Standards,controls and unknowns.

To make a selection type 5#.



Assay Configuration

Data Source has three options, Count Tubes, Keypad and Recall counts. The last option only appears after tubes have been counted and are still in memory. We will cover this later.



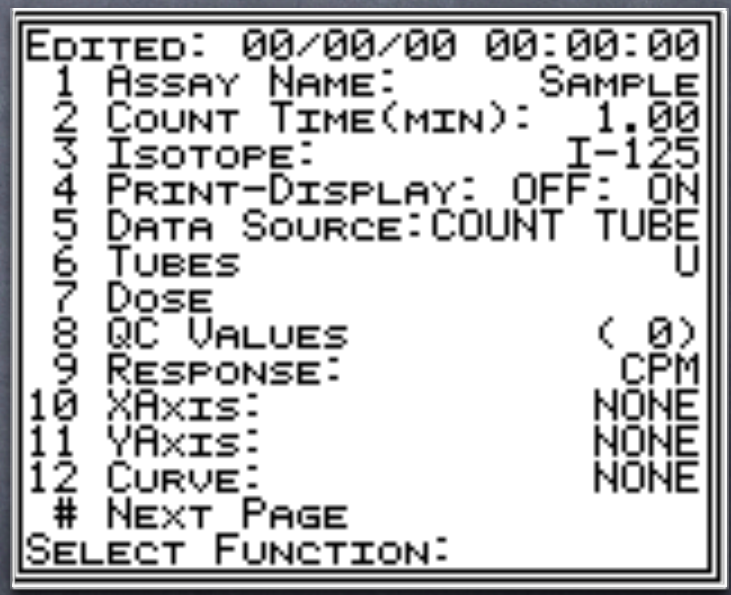
Count tubes is the normal mode of operation. For this option press 1

Keypad sets the assay to use the keypad to enter data for each "tube" to select this press 2.

Assay Configuration

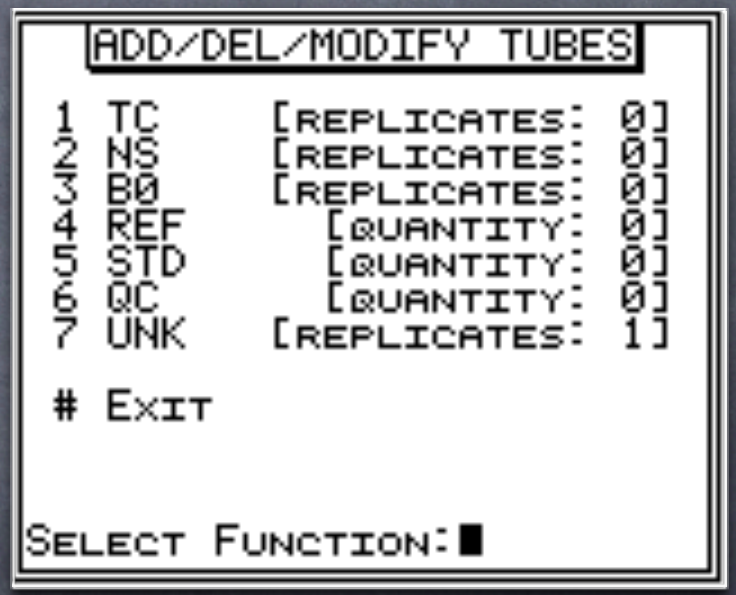
Tubes(6) is where you set up your standards and controls. The Genesys Genii is flexible and allows for replicates of all tubes types. The assay will default to only unknowns.

To edit the tube controls type 6#



Assay Configuration

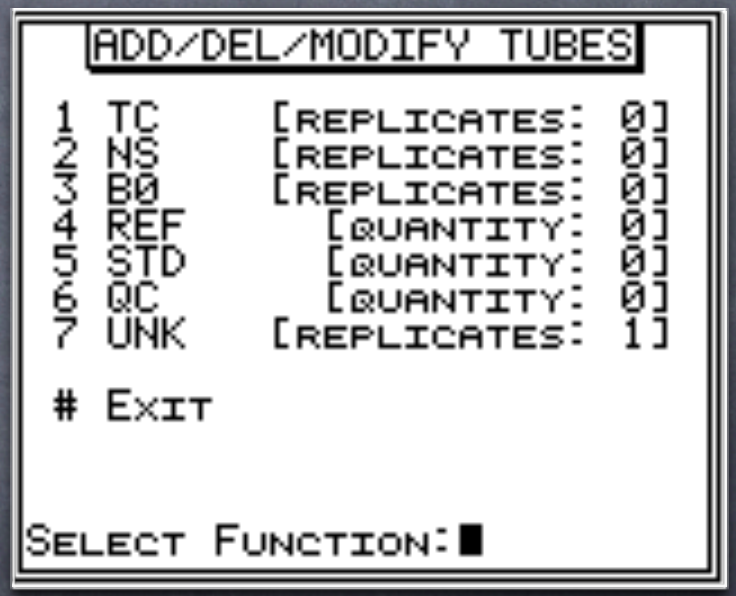
Instead of specifying a predetermined tube loading order, the Genesys Genii™ will auto generate the order based on the specific standards and controls along with the replications of each tube type chosen.



Assay Configuration

The Tube selections are:

- TC-Total Counts
- NS- Non Specific Binding
- B0- % binding at zero dose
- REF- Reference Tube
- SDT- Standard Tube
- QC- Quality Control Tube
- UNK- Unknowns

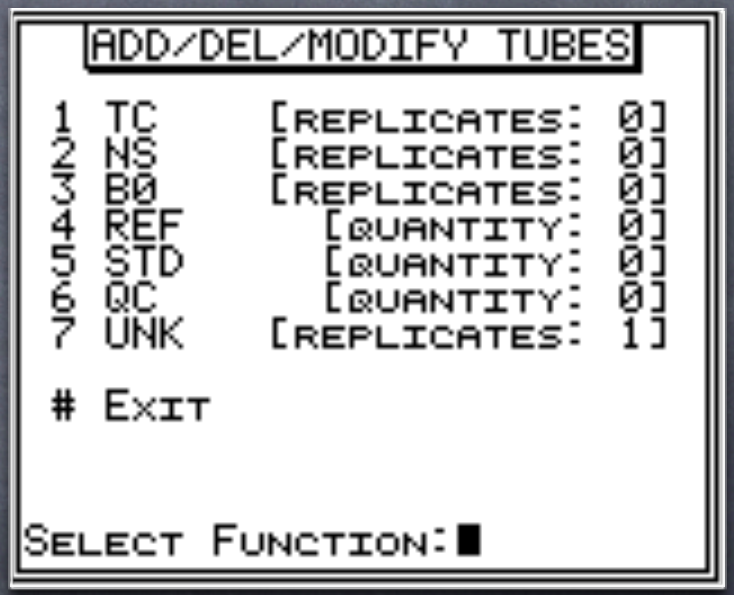


Note: Standard tubes define curve assays and Reference tubes define ratio type assays. Standards and Ref tubes are never in the same assay.

Assay Configuration

The Genii automatically removes the Reference tube from selection if the Standards were first chosen and vice versa.

Each tubes selection may be replicated individually. Follow on screen instructions after tube selection.

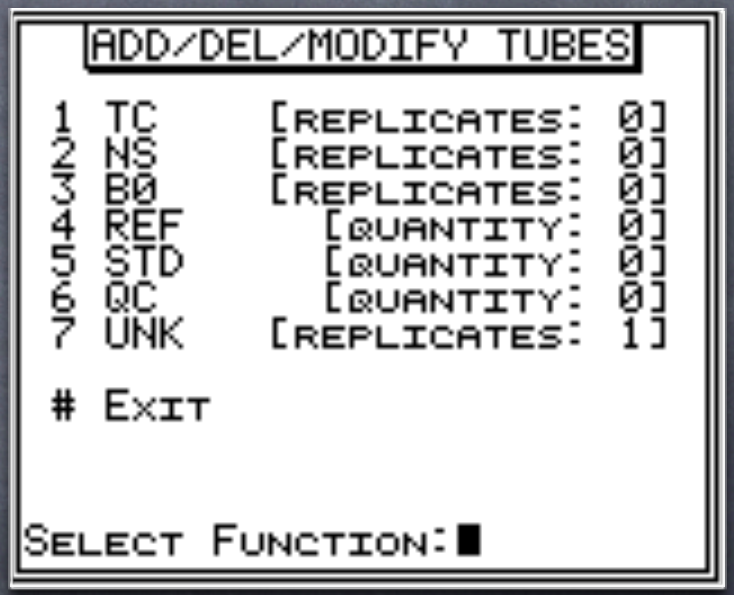


Assay Configuration

Just as in all the other menus choose your selection by typing the number and press # to accept.

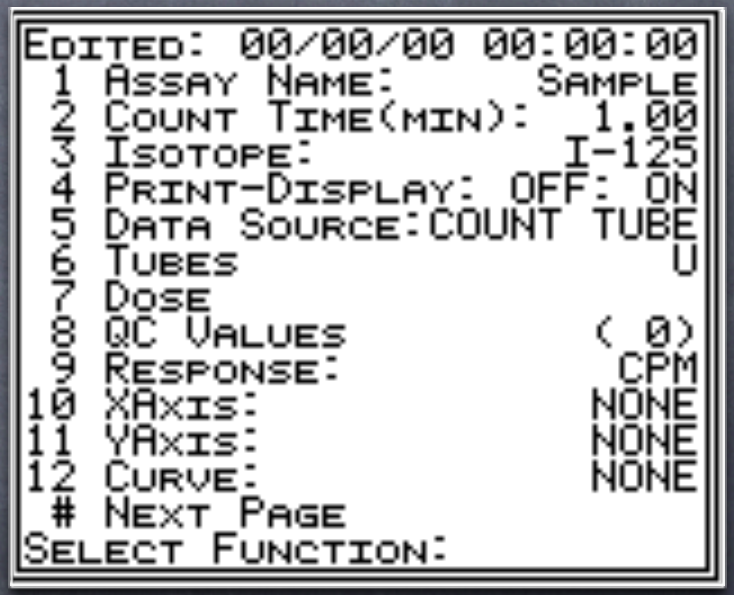
As always * will delete your selection.

Once complete you can return to the Assay Edit Menu by pressing #.



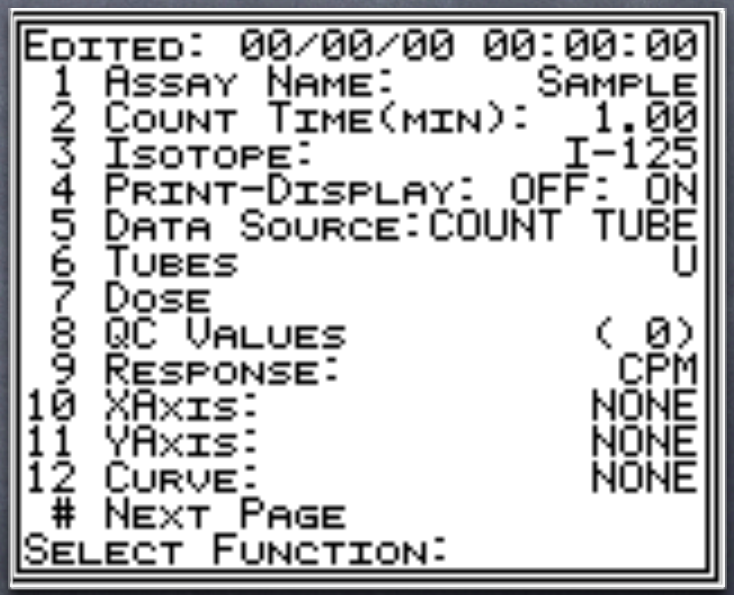
Assay Configuration

Dose(7) is another name for concentration. This is where the concentration of each Standard is entered. Dose is the value of the standard on the X axis.



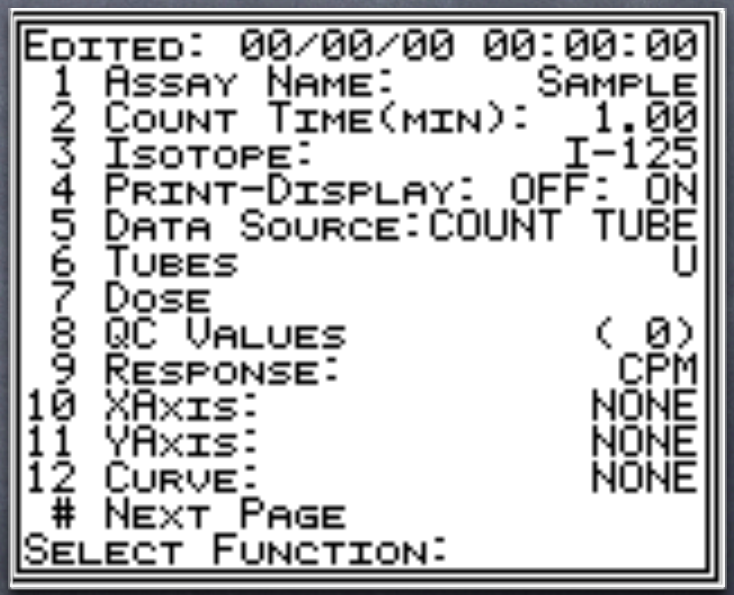
Assay Configuration

QC Values(8) is the selection where the number of different Quality Controls is entered. You may enter their values or tha values may be calculated by the Genii after counting the controls



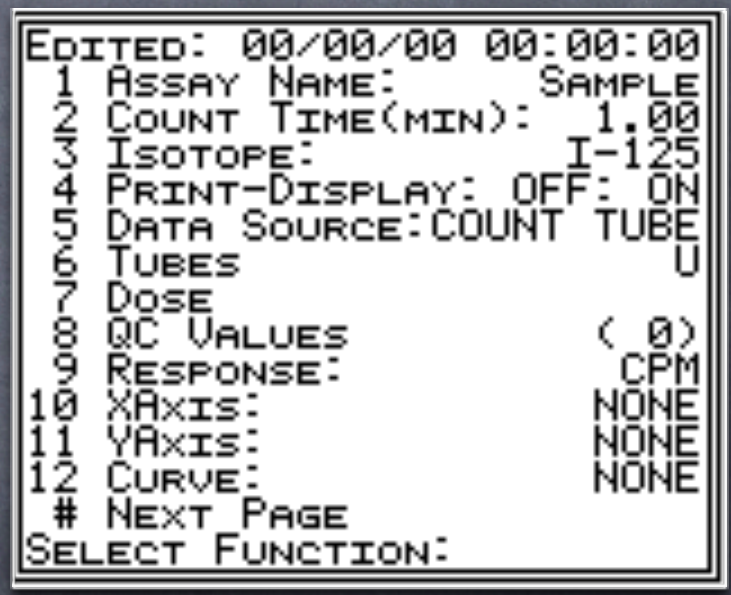
Assay Configuration

Response(9) is the selection of the formula to be used in calculating the value on the Y axis. It is normally either CPM, %CPM/B0, or %CPM/Hi Standard. If NS(non-specific bound) was selected in the loading order it will automatically be subtracted by the Genii, where appropriate.



Assay Configuration

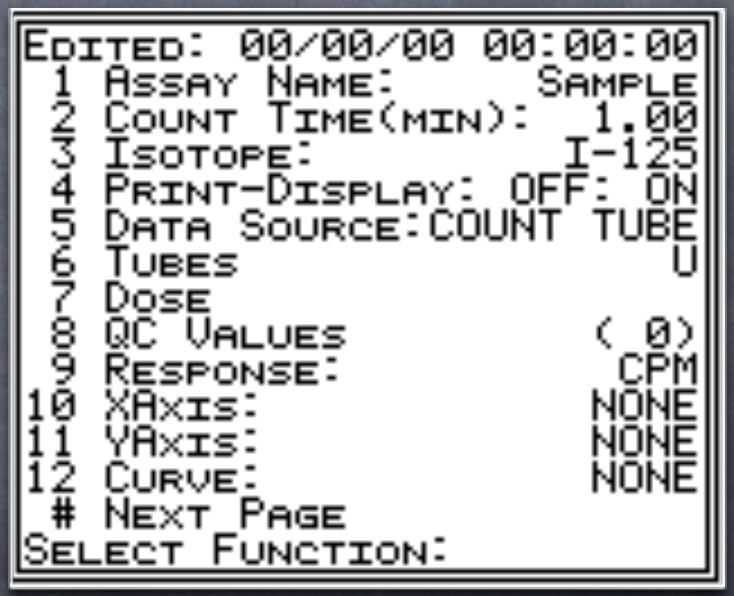
X Axis(10) is where the "graph paper" is selected. The horizontal(X axis) may be Linear or Log. When considering your choice remember: There is no defined log value for zero(0), so it will not appear on a log scale, and if the ratio of the lowest, nonzero, standard dose to the highest one is over 25:1 it's normally best to use a log scale.



Assay Configuration

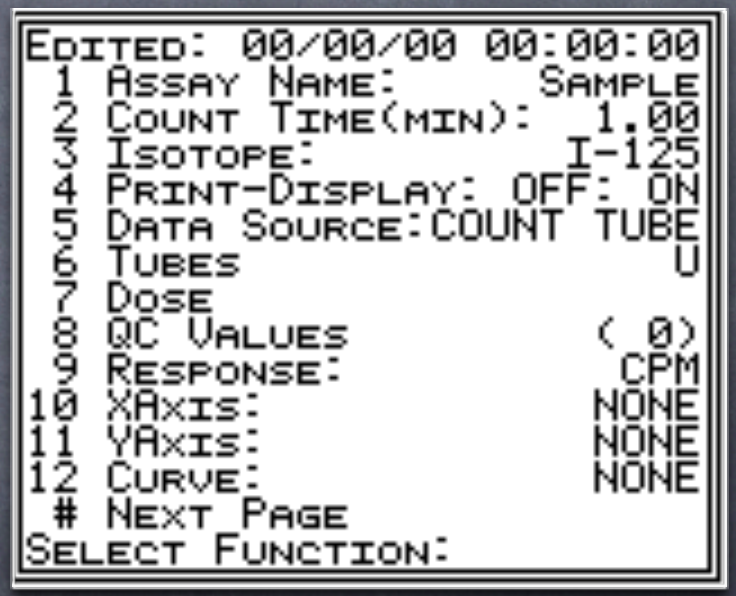
Y Axis(11) is the response axis. There are three choices: Linear, Log or Logit. It is normally best to refer to the kit insert to see what the kit used and select the same one.

Logit is always used with a log scale on the X axis. Log is used when it's known that the response values will traverse over a decade or more. Linear is the most commonly used Y axis.



Assay Configuration

Curve(12) is the connect the dots function selection. Depending on the data, the response and axes chosen, the shape of the standard curve may be anywhere from a straight line to a sigmoid(S shaped curve). The Genii provides selections from a point to point, a straight line, weighted or non-weighted, a cubic spline or a 4 parameter curve fit.



Assay Configuration

Stored Curve(13) is a feature built into the Genii series that saves the standard curve from an assay when run. Corrects for the isotope decay, and allows you to run a new assay at a later time using the decay corrected stored curve instead of having to generate a new curve. Simply run new QC samples to verify the curve. This feature saves time and money for the lab.

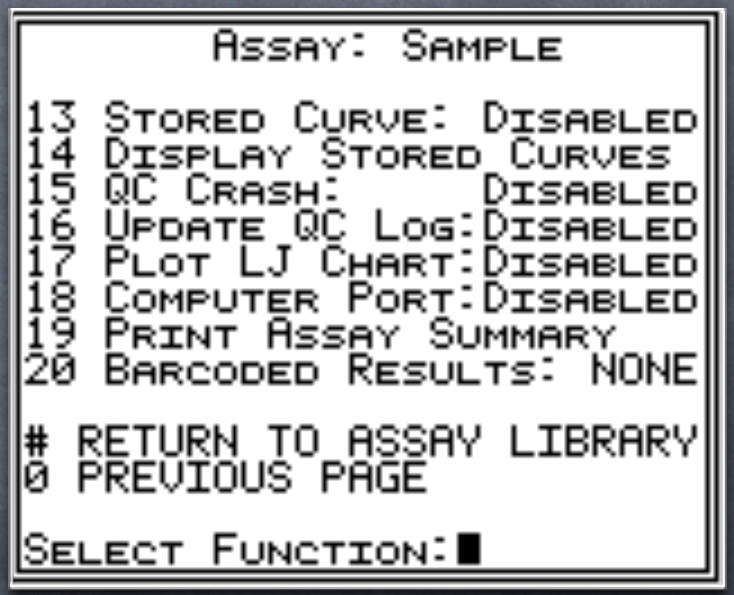
Assay Configuration

Display Stored Curve(14) displays the standard curve that has been previously stored, but with the count values corrected for decay to the exact minute you use it.

One restriction is that the isotope used must be from the same lot as the original curve.

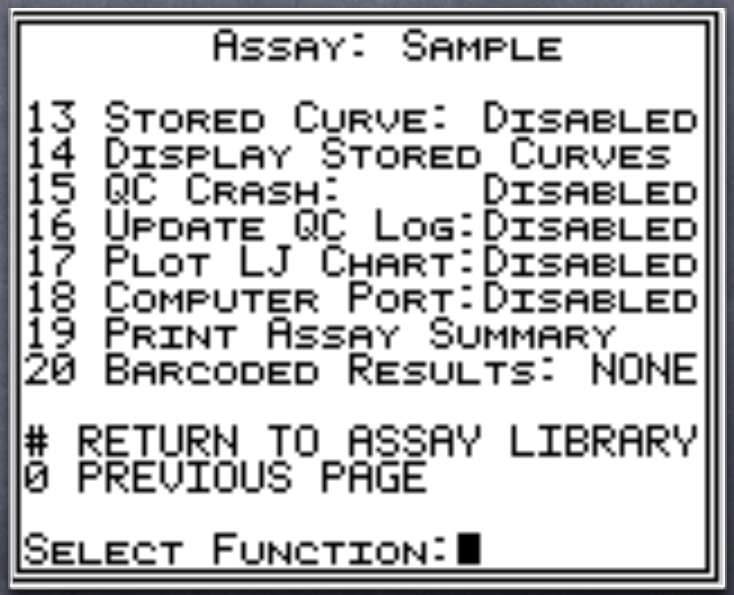
Assay Configuration

QC Crash(15) allows you to select the QC variance criteria from the stored values. Any QC greater than this variance stops the assay and requires the operator intervene to correct or accept the variance before continuing with the assay counting.



Assay Configuration

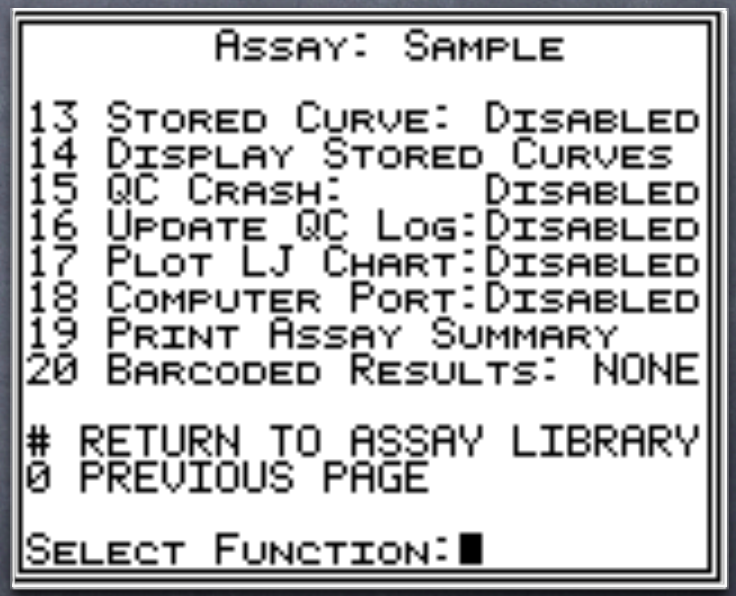
Update QC Log(16) option applies the QC values from the currently counting assay to be rolled into the existing QC averages. This keeps a running average of each QC value.



Assay Configuration

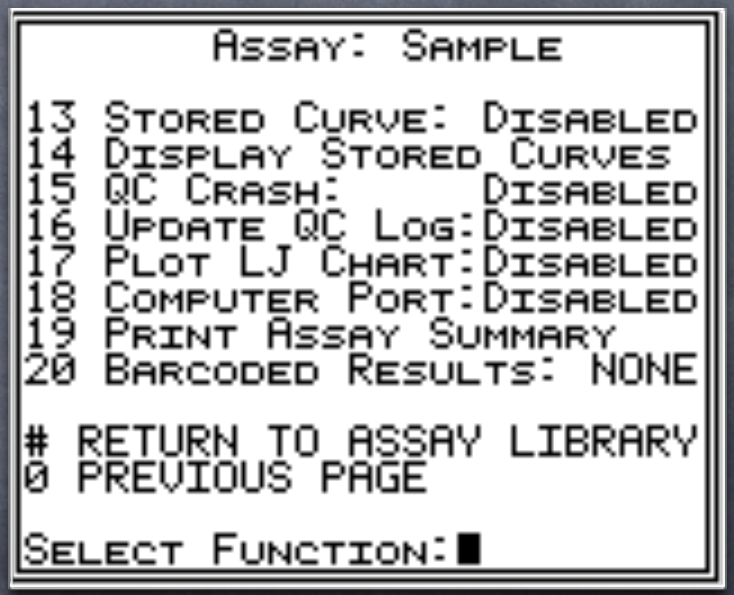
PLot LJ Chart(17) if selected will plot a Levey Jennings chart of the QC values over the last 30 runs of the assay.

Trend analysis shows the assays competence over time allowing adjustment to be made before assay crashing occurs.



Assay Configuration

Computer Port(18) selection sends the assay data to the Genii's computer port. This data is the dame as goes to the printed minus any graphics.

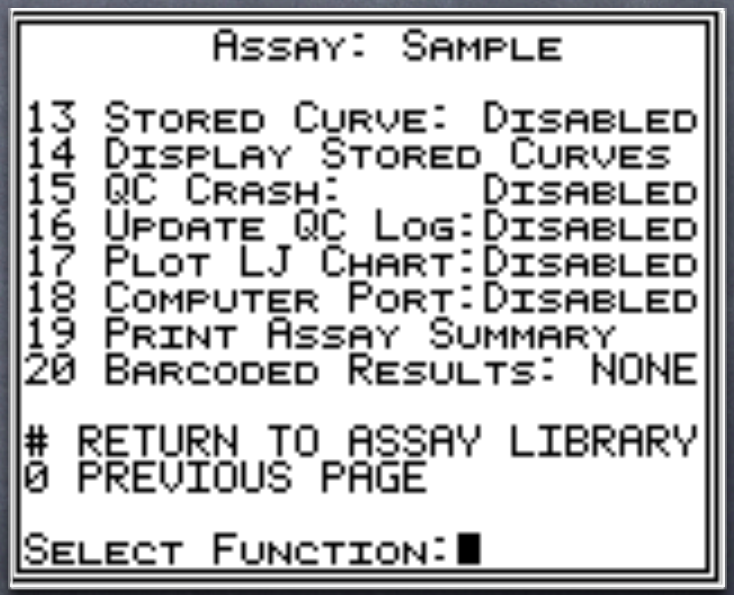


Assay Configuration

Print Assay Summary(19) prints out the various assay selections, options etc. that have been chosen by the lab personnel for this assay.

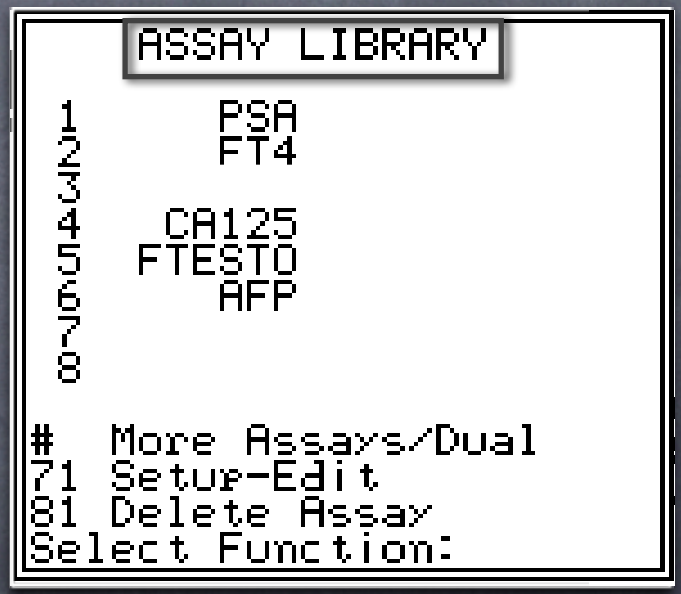
Assay Configuration

Barcoded Results(20) This option allows you to enter barcoded test tube ID. Using the optional barcode reader, positive patient ID attached to each patient sample tube may be entered into the Genii. The printout of the results will then ID each sample counted.



Dual Label Assays

Dual Label assays are stored on the last page of the ASSAY LIBRARY. Press # to step through to the next several pages or enter 31# to immediately go to the Dual Label Assay Library.

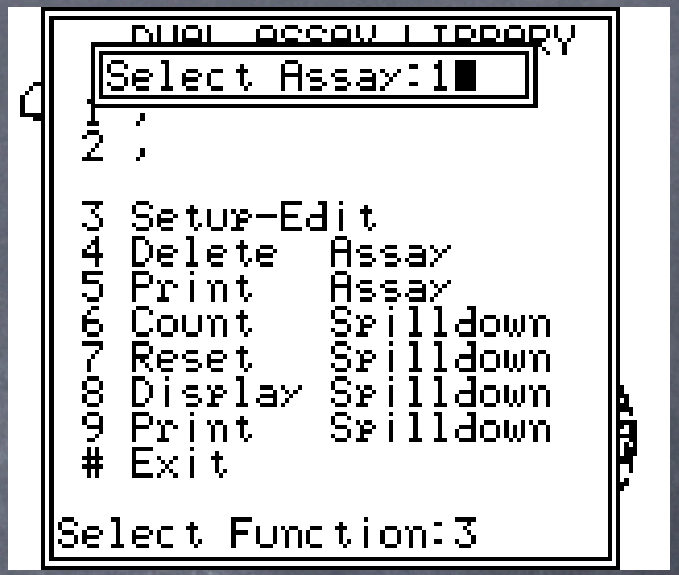


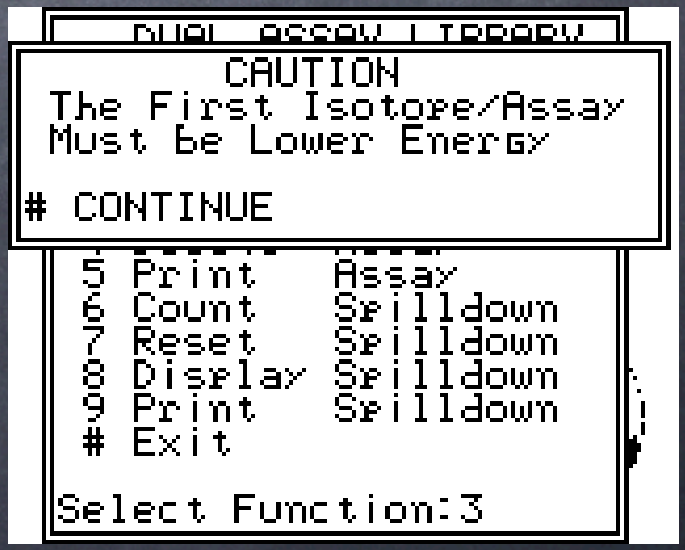
Dual Label Assays

To enter a dual labeled assay, such as B12-Folate Enter a 3# (Setup-Edit) from the Dual Assay Library.

Dual Label Assays

A dual labeled assay is an assay that contains two separate tests --- each with a different isotope --- within the same test tube. These tests must have certain commonalities, such as the same number of standards and control tubes as well as QC's, Unknowns(patients), along with identical replications of each. Data reduction, such as response, curve fit, axis selection etc. is test selectable.





Dual Label Assays

The first edit assay screen is for the lower energy isotope(I-125 if this is a Folate-B12 assay).

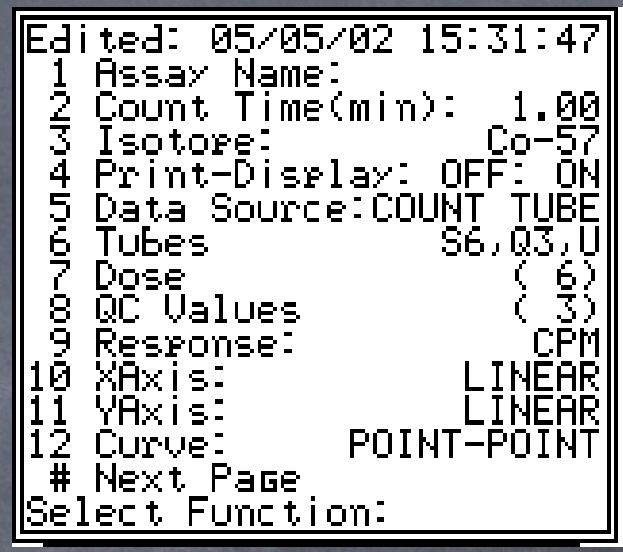
Enter each field as in the single labeled assay. When both pages are completed, enter the # key.

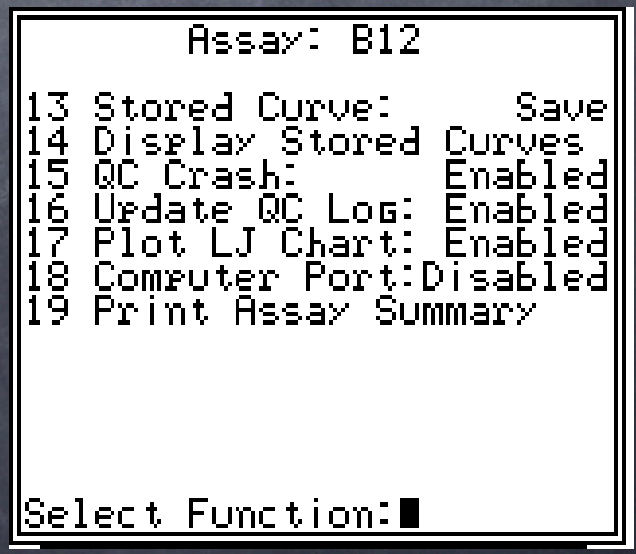
```
Edited: 05/05/02 15:30:17
 1 Assay Name:       FOLATE
 2 Count Time(min):    1.00
 3 Isotope:            I-125
 4 Print-Display: OFF: ON
 5 Data Source:COUNT TUBE
 6 Tubes            S6,Q3,U
 7 Dose                 ( 6)
 8 QC Values            ( 3)
 9 Response:          %B/B0
10 XAxis:               LOG
11 YAxis:             LOGIT
12 Curve:     CUBIC SPLINE
 # Next Page
Select Function:
```

```
          Assay: FOLATE

13 Stored Curve:       Save
14 Display Stored Curves
15 QC Crash:        Enabled
16 Update QC Log:   Enabled
17 Plot LJ Chart:   Enabled
18 Computer Port:Disabled
19 Print Assay Summary




Select Function:
```

Dual Label Assays

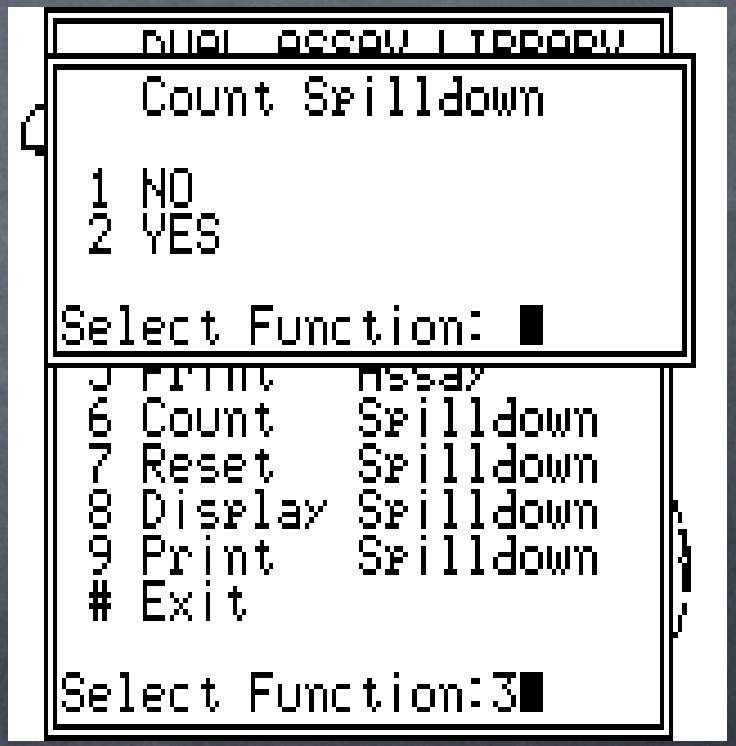
The second assay screen is now shown. Enter the required fields such as the name, dose values and curve fitting selections. Notice that certain fields are already entered. This is because they must have the same components that the first test has as both are in the same tube. When done press # to exit.





Dual Label Assays

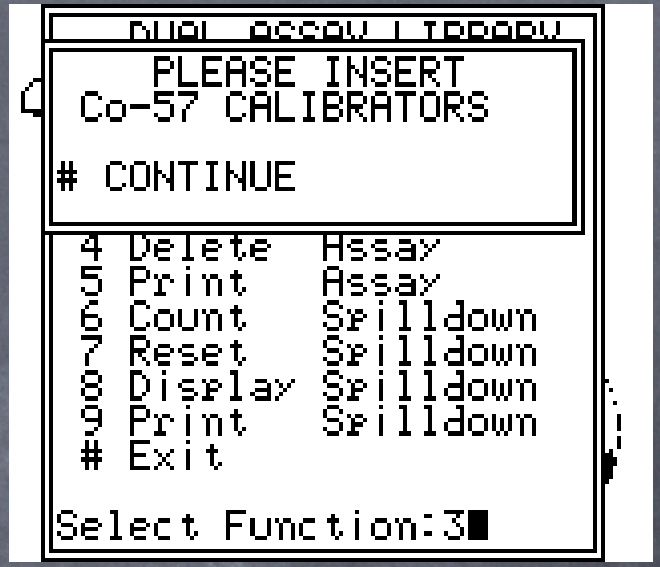
Any interference, commonly called spill-down, from the higher energy isotope should be removed from the counts of the lower energy isotope's counts to correctly separate the two tests from interfering with each others results. This is done by the Genii™ by selecting 6 from the Dual Assay Library, after the assay is entered into the Library.

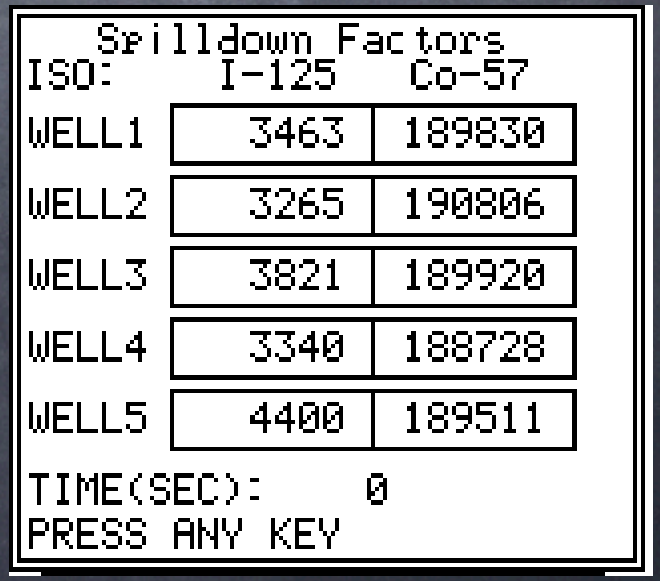


Dual Label Assays

To correct for the spill-down effect, select 6# from the Library Menu. The Genii™ will now count the higher isotope in its own defined window, as well as the spill-down counts occurring in the lower energy window.

Follow the on-screen instructions. Upon completion of counting, the SDF(Spill down factor) per well will be calculated and applied when running the dual labeled test.



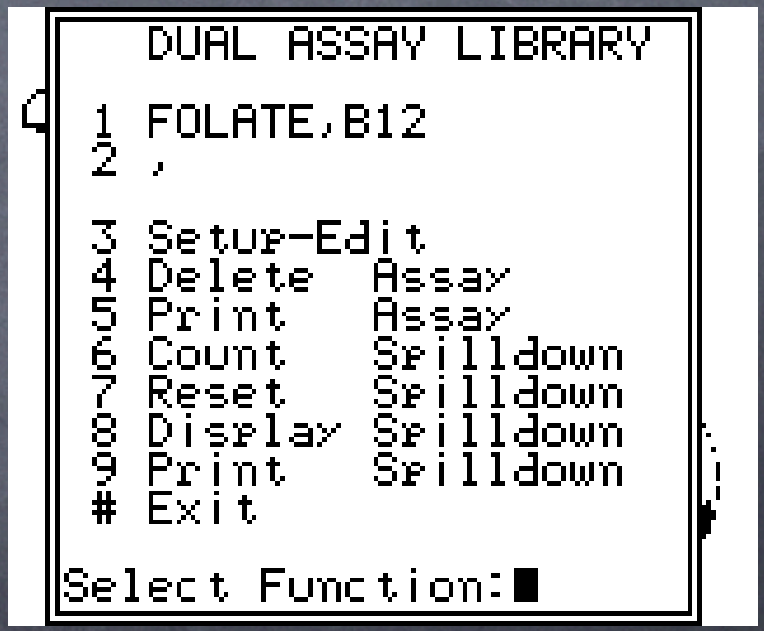


Dual Label Assays

The other options on the Dual Label Assay, are self explanatory.

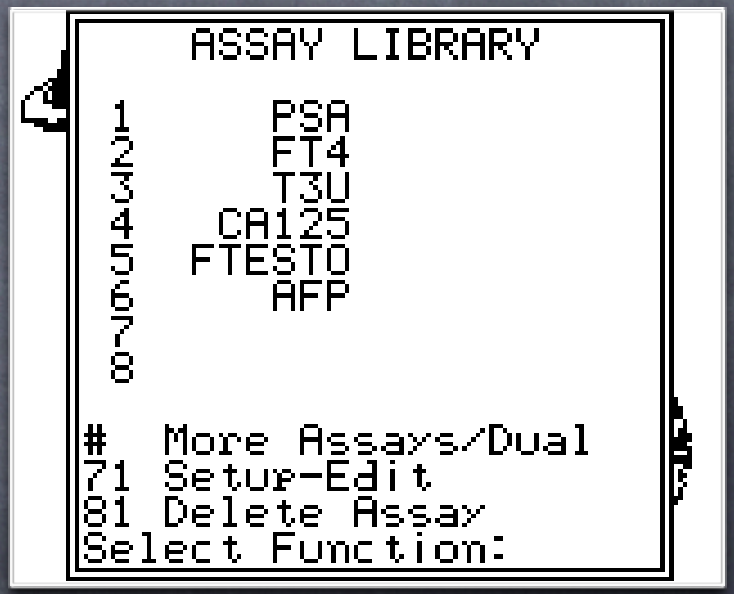
Print, reset, display etc.

the # key exits the Dual Assay Library.



The Assay Library

The combinational possibilities in the Assay Library are almost. Virtually any clinical or research assay can be configured with the Genesys Genii™. Refer to the operation manual for more information or visit our website at www.labtechinc.com



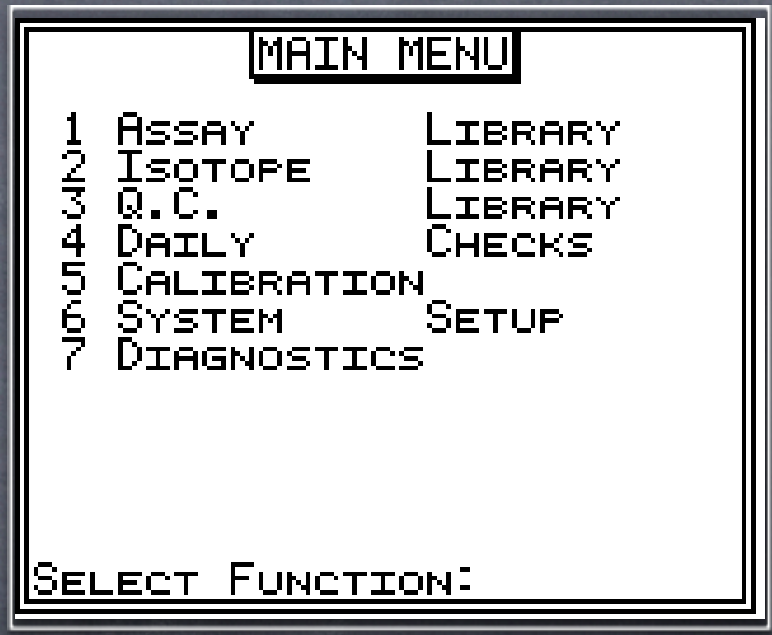
Quality Control

The Main Menu

The MAIN MENU, is your home base. This is where you will start all your various functions.

For this tutorial we will select 3 Q.C. Library.

So press the 3 Key followed by the #

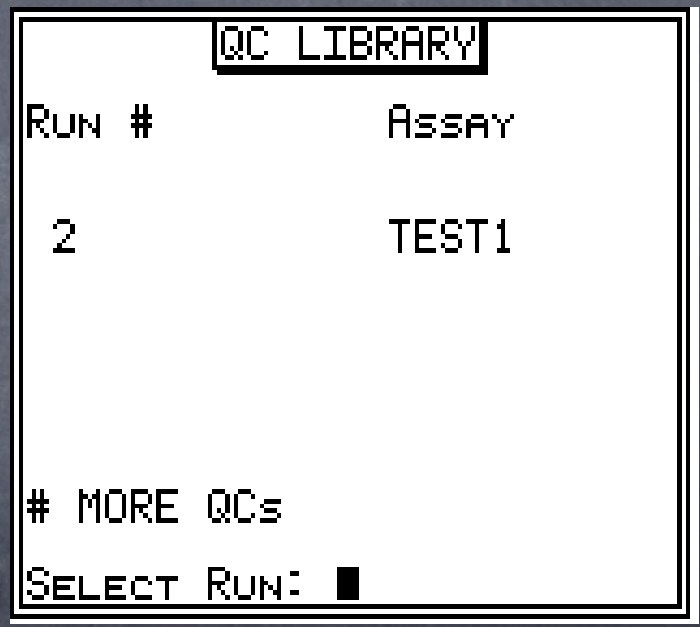


Q.C.Library

Upon entering the Library notice that only the Assays that have accumulated QC data are shown in the Q C Library

Select the ID number of the assay containing the QC data you wish to see.

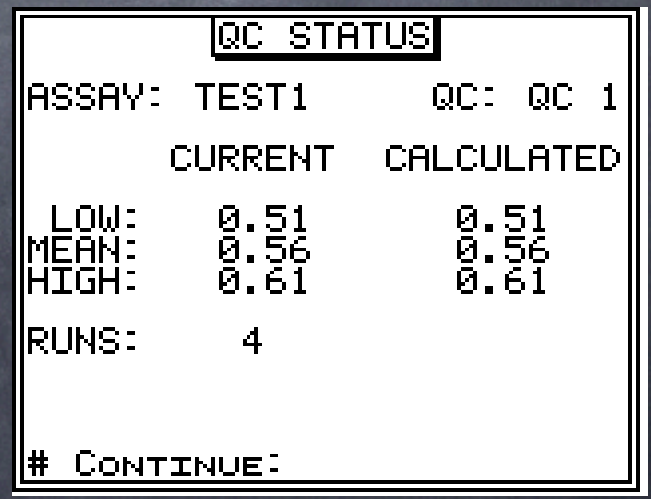
In this case 2# -- Test1



Q.C.Library

Update Limits

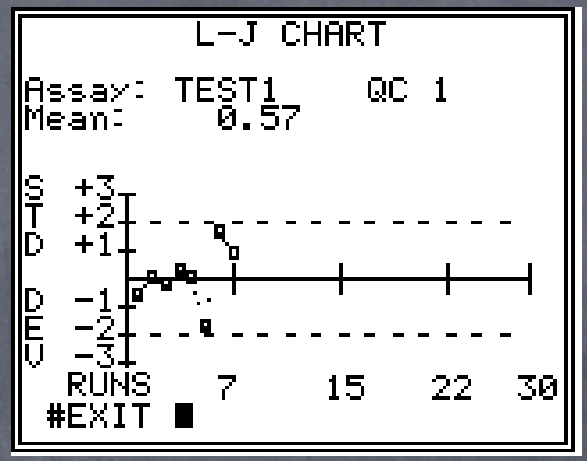
Update Limits: (1#) This selection allows you to update the limits which you initially defined for the QC parameters. New limits are generated for all the data stored within the tables. By using this feature, you may run QC evaluations based on your past runs.

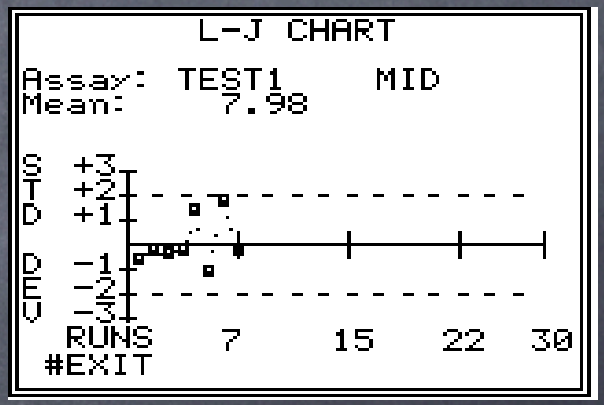


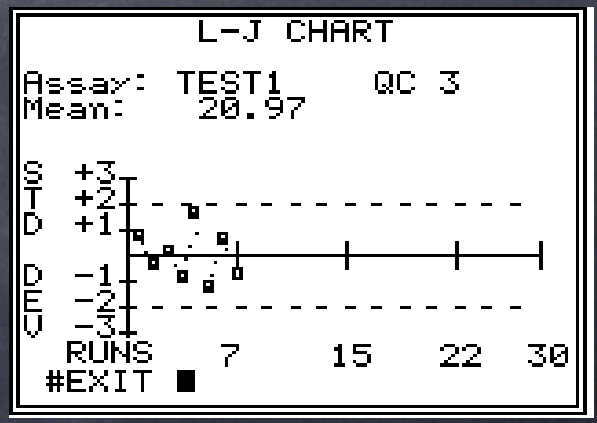
Q.C.Library

L-J Charts

Plot L-J QC: (2#) QC data stored is plotted on a chart using the current limits established. Thirty QC runs may be stored for each QC. QC run thirty one replaces the oldest stored QC etc.







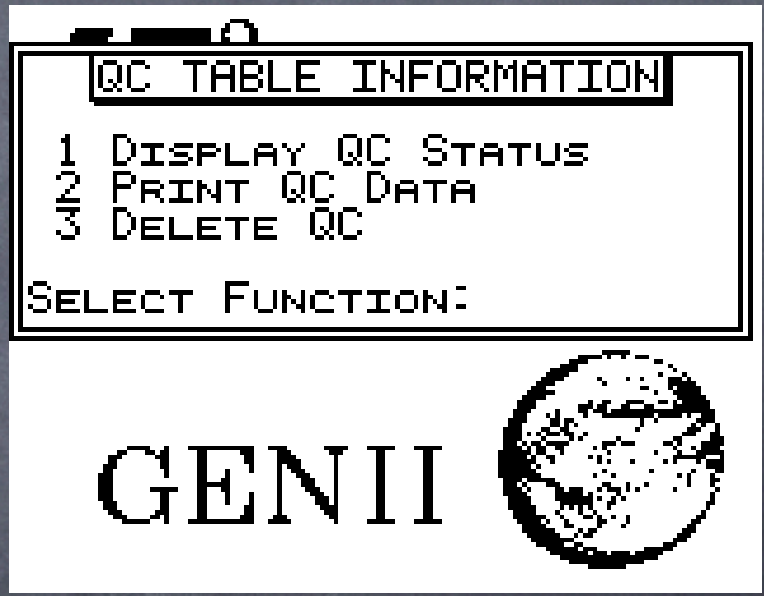
Q.C.Library

QC Table Information

Display Tables: (3#) This selection causes the Genii™ to produce the QC Table information screen

Let's explore the options.

Enter 1#



Q.C.Library

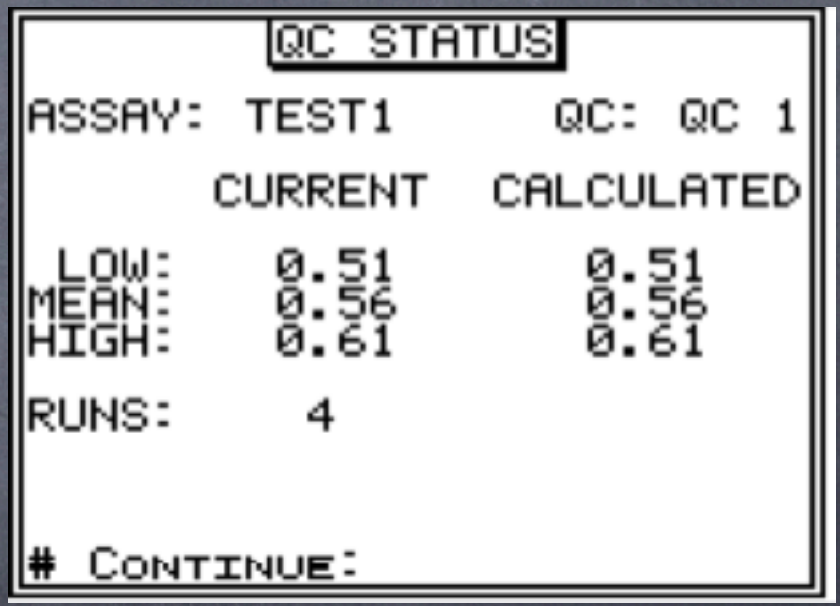
QC Status

Display QC Status (1#): This selection provides the information for each QC as shown.

Along with each QC's Name(QC1, QC2, QC3), the Low, Mean, High level is shown.

The current values are those currently entered from the assay.

The calculated is from the entire data stored for that QC.



Q.C.Library

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Along with each QC's Name(QC1, QC2, QC3), the Low, Mean, High level is shown.

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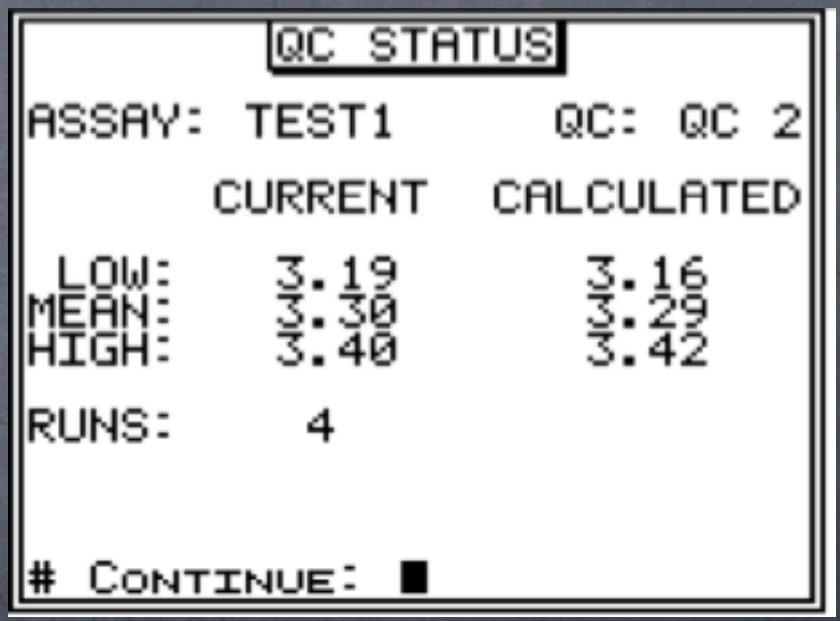
The calculated is from the entire data stored for that QC.



Q.C.Library

QC Status

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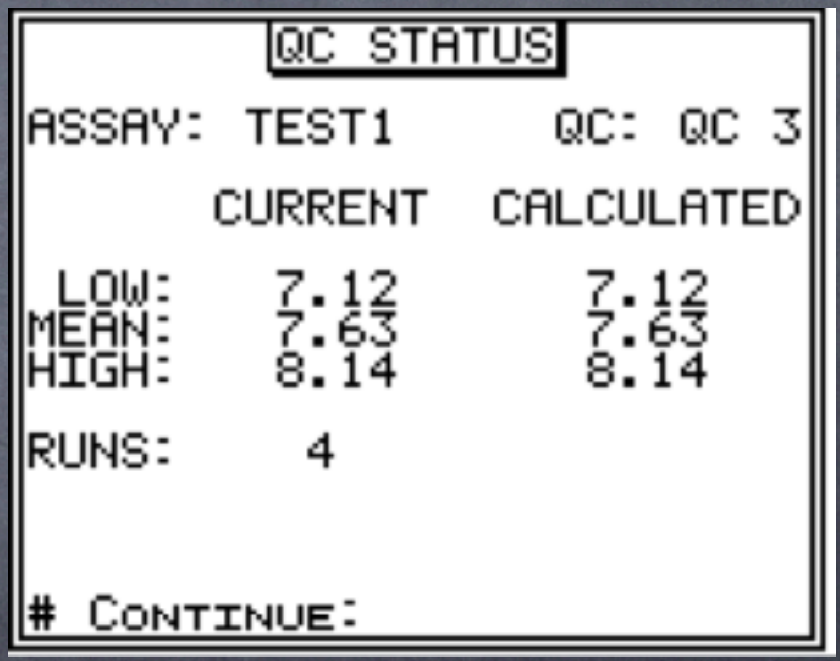
Along with each QC's Name(QC1, QC2, QC3), the Low, Mean, High level is shown.

The current values are those currently entered from the assay.

The calculated is from the entire data stored for that QC.



Q.C.Library

Print QC Data

Print QC data (2#): This is a printout of the QC data stored for an assay.

Notice that the Date and Time along with the data for each QC is given

This is the entire (9 runs) stored data base for the assay selected(Test1).

QC Display Table

QC DATA FOR: TEST1

	QC1	QC2	QC3
LOW LIM:	0.42	6.74	16.54
MEAN:	0.57	7.98	20.97
HI LIM:	0.72	9.21	25.41

Record	Date	Time	QC1	DEV	QC2	DEV	QC3	DEV
1	05/01/02	12:29	0.47	-1.31	8.38	0.65	20.12	-0.38
2	04/26/02	16:44	0.64	0.87	7.76	-0.34	19.34	-0.73
3	04/26/02	16:43	0.69	1.62	9.05	1.74	22.48	0.68
4	04/26/02	16:43	0.44	-1.70	7.30	-1.09	18.07	-1.30
5	04/26/02	16:42	0.56	-0.09	8.81	1.35	24.57	1.62
6	04/26/02	16:33	0.60	0.32	7.82	-0.25	18.99	-0.89
7	04/26/02	16:32	0.55	-0.34	7.69	-0.46	21.42	0.20
8	04/26/02	16:32	0.57	-0.01	7.82	-0.25	20.11	-0.38
9	04/26/02	16:30	0.52	-0.66	7.56	-0.68	22.78	0.81

Q.C.Library

Delete QC Data

Delete QC (3#): Allows you to delete data from the stored QC records.

To delete a QC you must first enable that QC.

Notice that you may enable any or all of the QC levels as desired.

Q.C.Library

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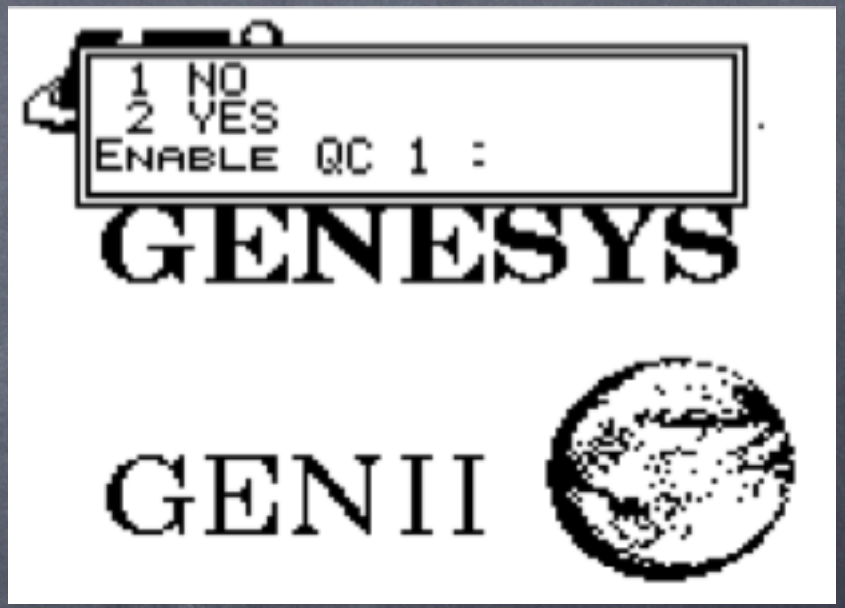


Q.C.Library

Delete QC Data

Delete QC (3#): Allows you to delete data from the stored QC records.

To delete a QC you must first enable that QC.

Notice that you may enable any or all of the QC levels as desired.

Q.C.Library

Delete QC Data

After enabling the QC' levels desired you may then select which run you wish to remove.

Review the results of removing record number 7 of the data from QC1

Q.C.Library

Delete QC Data

After enabling the QC' levels desired you may then select which run you wish to remove.

Review the results of removing record number 7 of the data from QC1

Q.C.Library

Delete QC Data

This is an example of the QC1 data removed from the Display Table.

Printout of all QC data for assay TEST1 with run 7 removed from QC1.

The # key returns you to the Quality Control Library.

QC Display Table

QC DATA FOR: TEST1

	QC1	QC2	QC3
LOW LIM:	0.42	6.74	16.54
MEAN:	0.57	7.98	20.97
HI LIM:	0.72	9.21	25.41

Record	Date	Time	QC1	DEV	QC2	DEV	QC3	DEV
1	05/01/02	12:29	0.47	-1.31	8.38	0.65	20.12	-0.38
2	04/26/02	16:44	0.64	0.87	7.76	-0.34	19.34	-0.73
3	04/26/02	16:43	0.69	1.62	9.05	1.74	22.48	0.68
4	04/26/02	16:43	0.44	-1.70	7.30	-1.09	18.07	-1.30
5	04/26/02	16:42	0.56	-0.09	8.81	1.35	24.57	1.62
6	04/26/02	16:33	0.60	0.32	7.82	-0.25	18.99	-0.89
7	04/26/02	16:32			7.69	-0.46	21.42	0.20
8	04/26/02	16:32	0.57	-0.01	7.82	-0.25	20.11	-0.38
9	04/26/02	16:30	0.52	-0.66	7.56	-0.68	22.78	0.81

Q.C.Library

Clear Run/Limit Data

To remove all the QC data from the stored for this assay enter 4# from the Library screen.

WARNING: Once data is cleared it cannot be retrieved

Q.C.Library

Clear Run/Limit Data

1. Removes all QC data stored for this assay.
2. The Limit Data is cleared, the QC data from the Assay runs remain. This also removes the QC limit values in the Assay.
3. All data , both the existing Limits and the Stored QC data is removed

WARNING: Once the data is CLEARED it cannot be retrieved.

4. Exits the Clear Run/Limit Data screen without changes to the QC Library.

Q.C.Library

Clear Run/Limit Data

1. Removes all QC data stored for this assay.
2. The Limit Data is cleared, the QC data from the Assay runs remain. This also removes the QC limit values in the Assay.
3. All data , both the existing Limits and the Stored QC data is removed

WARNING: Once the data is CLEARED it cannot be retrieved.

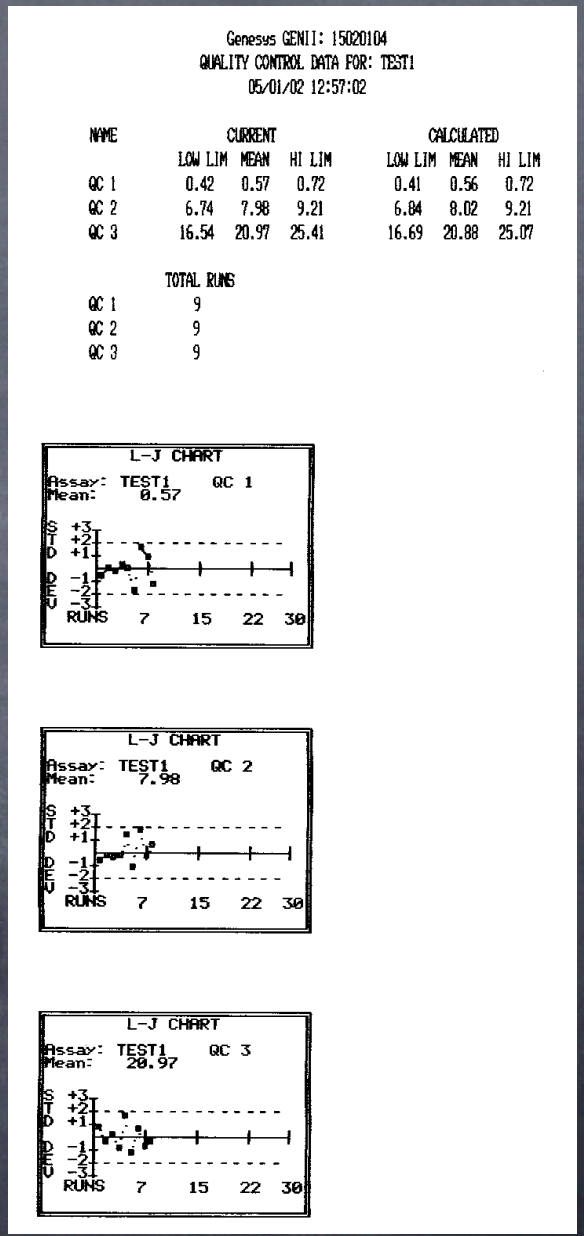
4. Exits the Clear Run/Limit Data screen without changes to the QC Library.

Q.C.Library

Print Report

The final selection in the Library is the Print Report(5).

An example is shown here, with the QC1, QC2, QC3, current and calculated values, the number of runs, and the L-J plots.



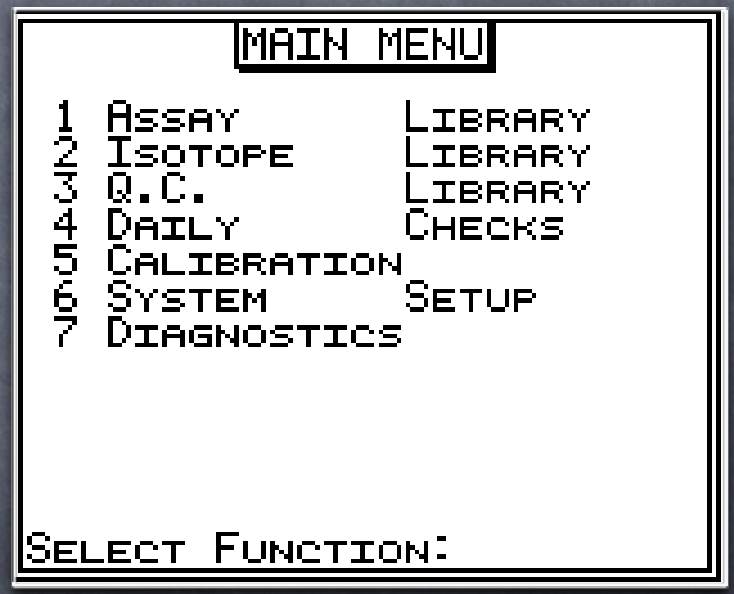
Genesys GENII: 15020104
QUALITY CONTROL DATA FOR: TEST1
05/01/02 12:57:02

NAME	CURRENT			CALCULATED		
	LOW LIM	MEAN	HI LIM	LOW LIM	MEAN	HI LIM
QC 1	0.42	0.57	0.72	0.41	0.56	0.72
QC 2	6.74	7.98	9.21	6.84	8.02	9.21
QC 3	16.54	20.97	25.41	16.69	20.88	25.07

	TOTAL RUNS
QC 1	9
QC 2	9
QC 3	9

Q.C.Library

The # key returns you to the Main Menu.



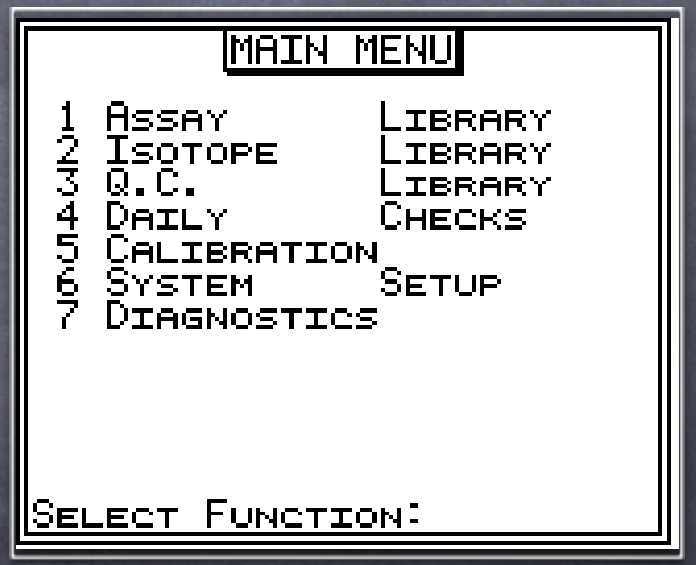
Daily Checks

The Main Menu

The MAIN MENU, is your home base. This is where you will start all your various functions.

For this tutorial we will select 6 System Setup.

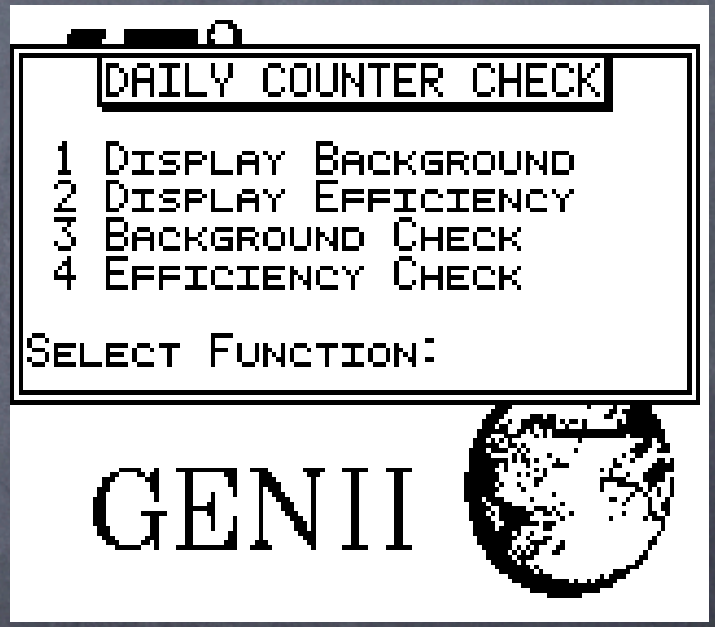
So press the 6 Key followed by the #



Daily Checks

Display Background

To display the currently stored background, enter 1 followed by the # key.



Daily Checks

Display Background

The Isotope Library appears allowing you to select the isotope background that you wish displayed.

Selecting 1 followed by the # key displays the current background for each well. # will display the next five wells if present.

Daily Checks

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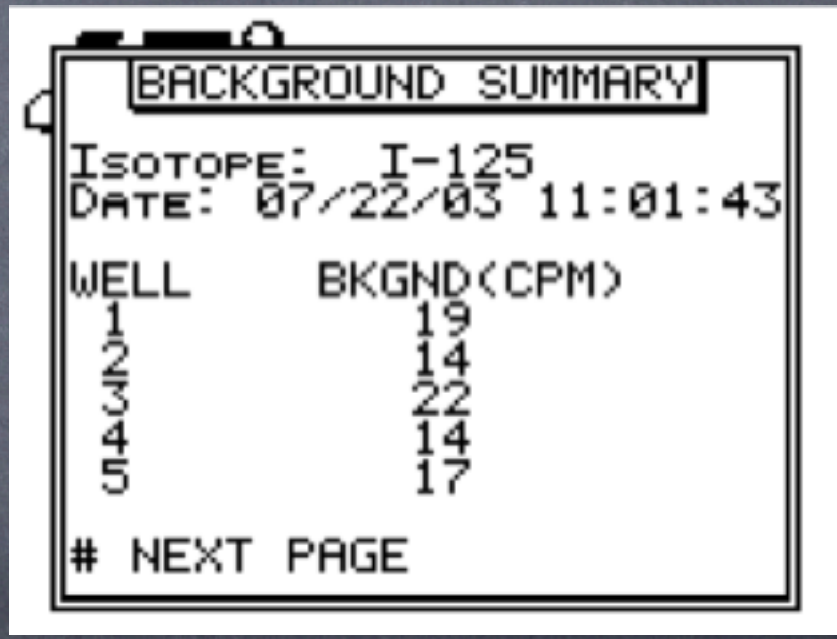
Selecting 1 followed by the # key displays the current background for each well. # will display the next five wells if present.



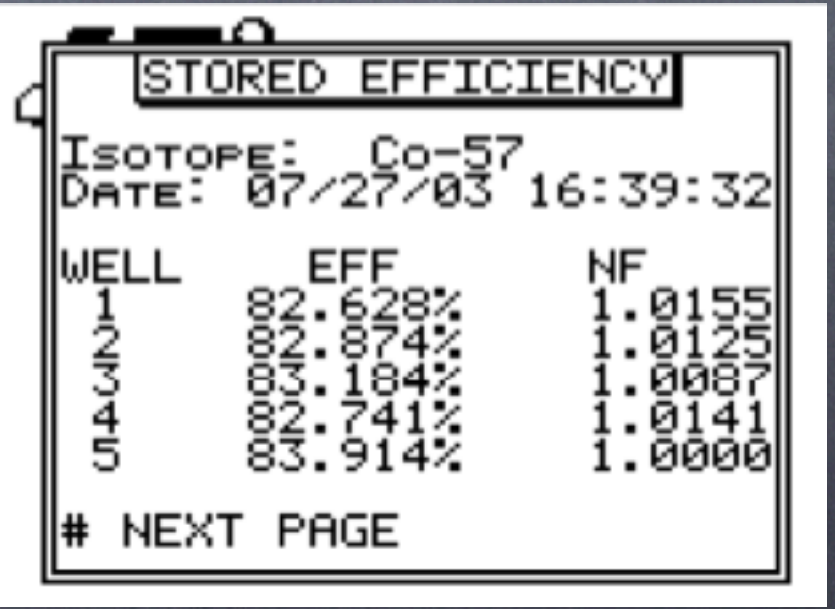
Daily Checks

Display Efficiency

To display the currently stored efficiencies for an Isotope, enter 2# from the Daily Checks Menu.

When the Isotope Library appears, select the Isotope to be displayed

The date/time that was last done is displayed along with the efficiency and normalization factor of each well.



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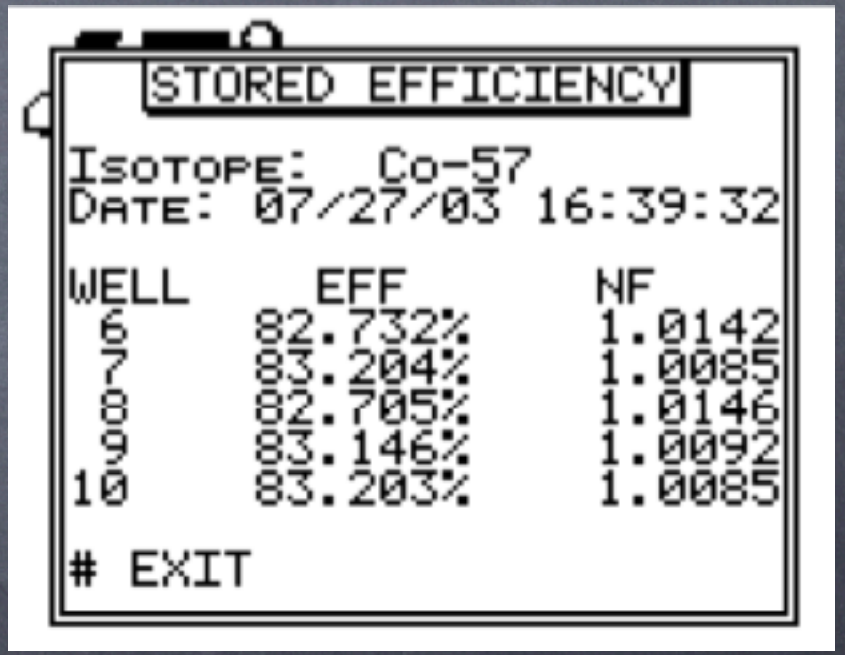
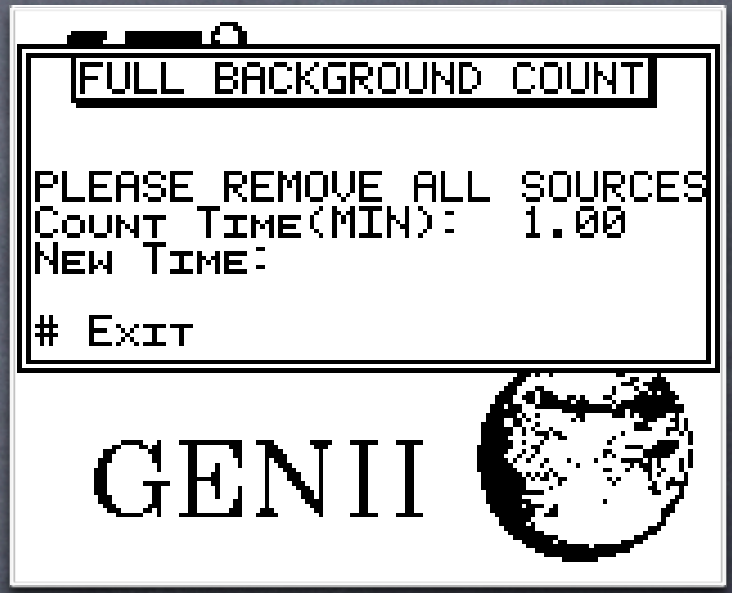


Daily Checks

Background Check

To check or redo the stored background, enter the 3 # keys.

The Genii™ will ask you to remove any sources from the wells. Change the shown count time is desired and start the count.

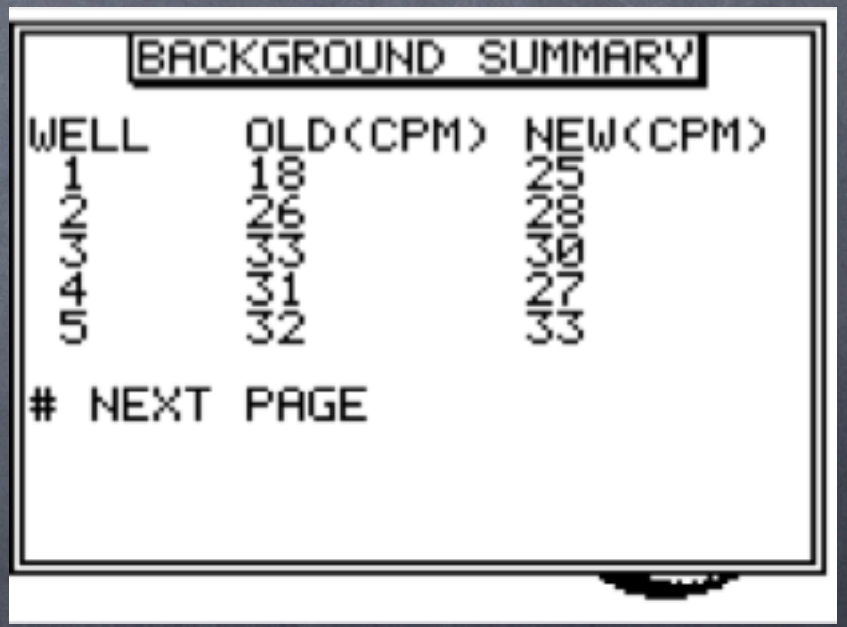


Daily Checks

Background Check

When the counting is finished the new Background values are displayed.

Update to the new values or retain the ones previously in memory.



Daily Checks

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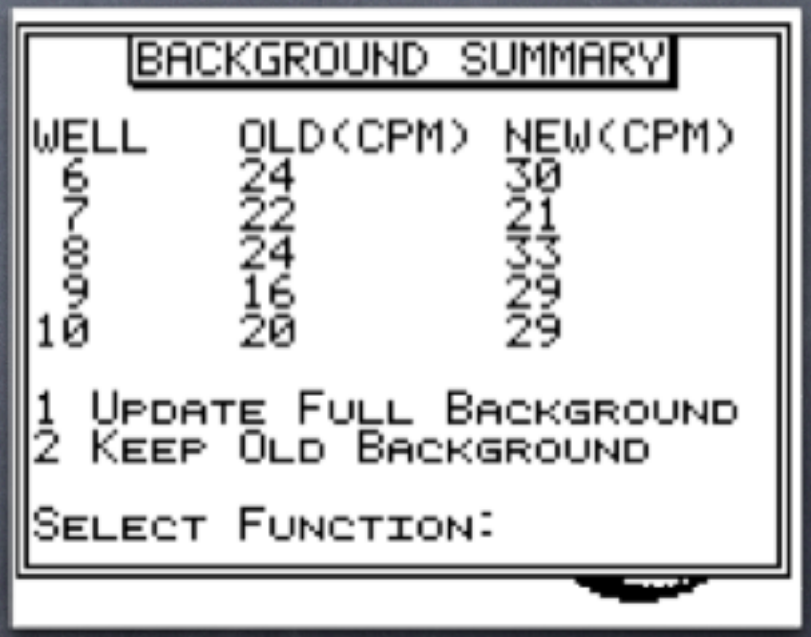
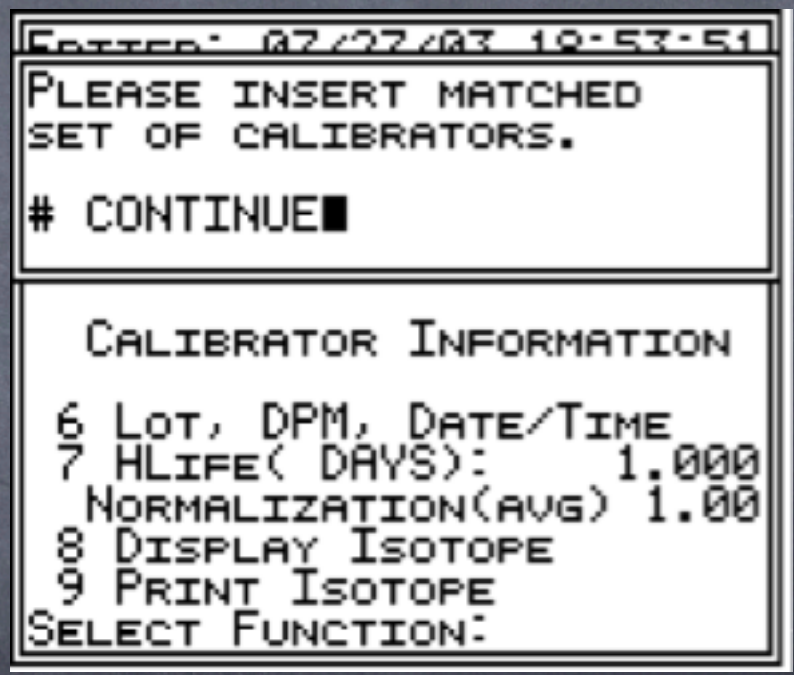


Daily Checks

Efficiency Check

From the Daily Checks Menu enter 4# for a current efficiency check of the detectors. The Genii™ will instruct you to insert the matched set of calibrators and count them. The results will be displayed upon count completion.

NOTE: The calibrators used MUST be the same ones that were used for this isotopes Efficiency/Normalization in the Isotope Library.



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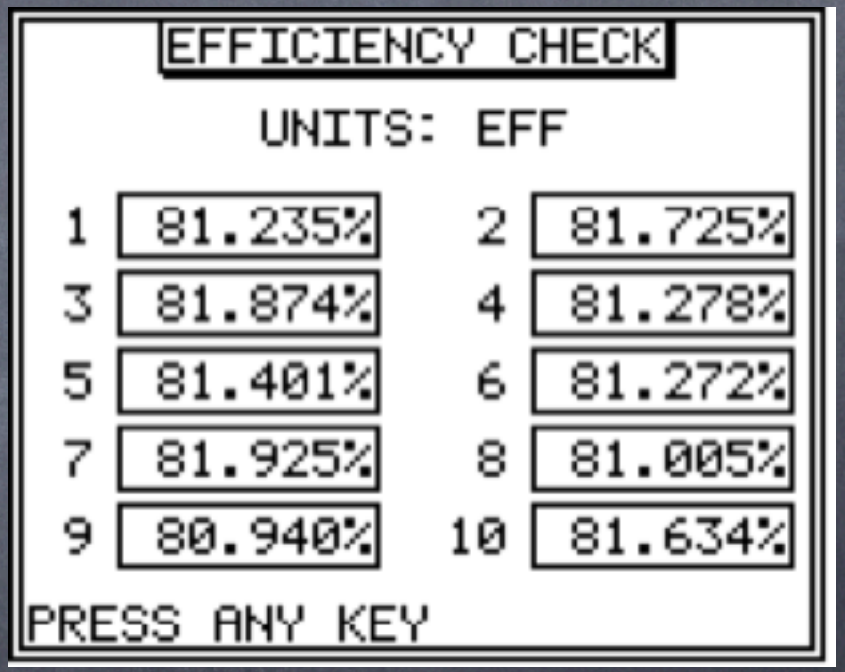
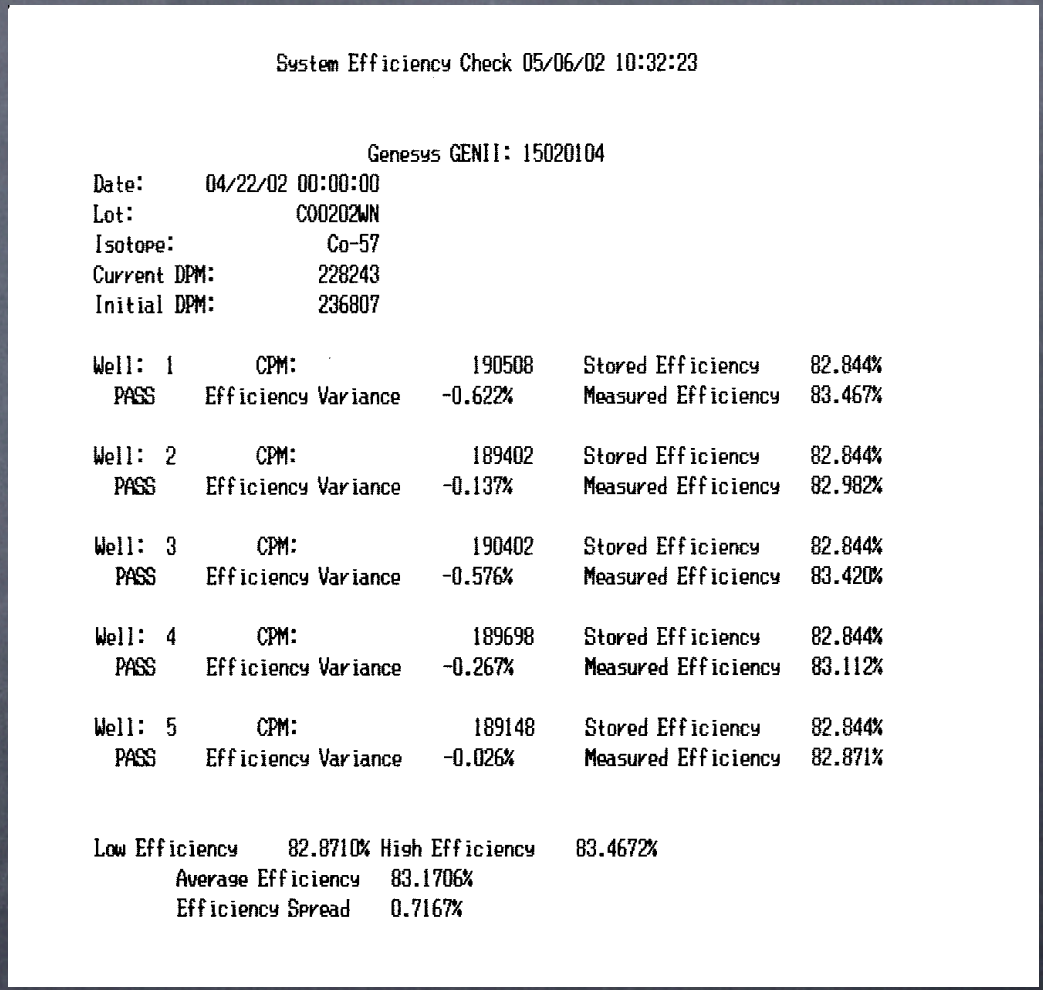


Daily Checks

Efficiency Check

This is a printout of the Isotope efficiency check.

Notice that each well is marked PASS or FAIL dependent on its variance from the stored values in the Isotope Library for this isotope. A 5% or greater variance causes a FAIL.



System Efficiency Check 05/06/02 10:32:23

Genesys GENII: 15020104

Date: 04/22/02 00:00:00
Lot: C00202WN
Isotope: Co-57
Current DPM: 228243
Initial DPM: 236807

Well: 1	CPM:	190508	Stored Efficiency	82.844%
PASS	Efficiency Variance	-0.622%	Measured Efficiency	83.467%
Well: 2	CPM:	189402	Stored Efficiency	82.844%
PASS	Efficiency Variance	-0.137%	Measured Efficiency	82.982%
Well: 3	CPM:	190402	Stored Efficiency	82.844%
PASS	Efficiency Variance	-0.576%	Measured Efficiency	83.420%
Well: 4	CPM:	189698	Stored Efficiency	82.844%
PASS	Efficiency Variance	-0.267%	Measured Efficiency	83.112%
Well: 5	CPM:	189148	Stored Efficiency	82.844%
PASS	Efficiency Variance	-0.026%	Measured Efficiency	82.871%

Low Efficiency 82.8710% High Efficiency 83.4672%
Average Efficiency 83.1706%
Efficiency Spread 0.7167%

Daily Checks

The # key returns you to the Main Menu.

Calibration

Calibration

The Calibration Menu is entered from the MAIN MENU with the 4 key, followed by the # key.

Five choices are presented

1: Count Background (CPM)
2: Efficiency Check
3: Gain Adjust (Date calibrated)
4: Gain, FWHM, Chi-Square
5: View Spectrum

Calibration

Background should be counted every day. The Genesys Genii™ requires the background to be measured at least once every 24 hours, or after power has been turned off.

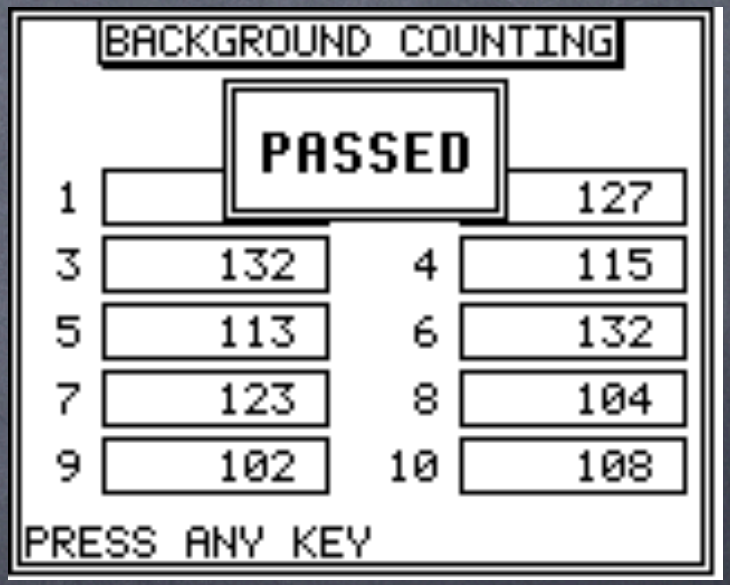
The Genesys Genii™ will automatically request that you perform a background check if you haven't done it within that time frame.

Calibration

Background

When the FULL BACKGROUND COUNT screen appears you may either select a new count time or press the # Key to continue. For good statistics, a 10 minute or longer count time is recommended

The background in each well is measured and displayed. Entering a 0(zero) for time will temporarily disable background subtraction.

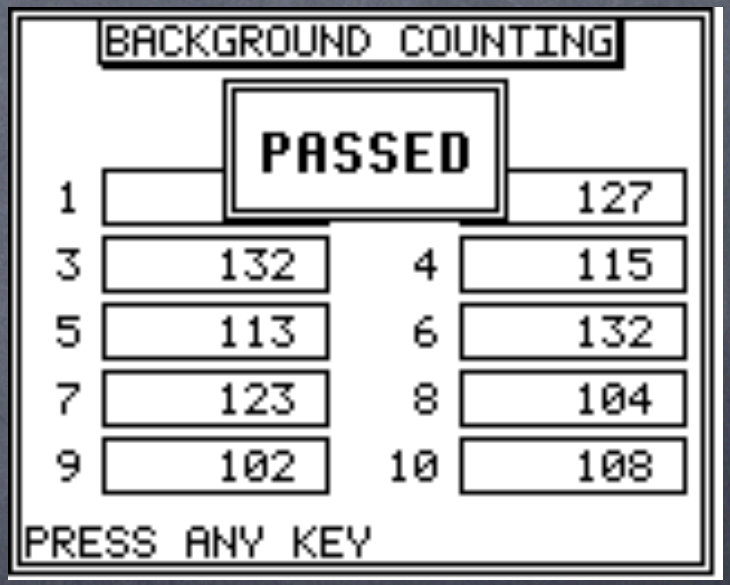


Calibration

Background

The default setting for background subtraction is 500 CPM. This default level is for the full range of 0 to 999 KEV(1MEV). Some areas may require a higher trigger level, adjust as required.

The trigger level may be changed in the System Setup (Main Menu).

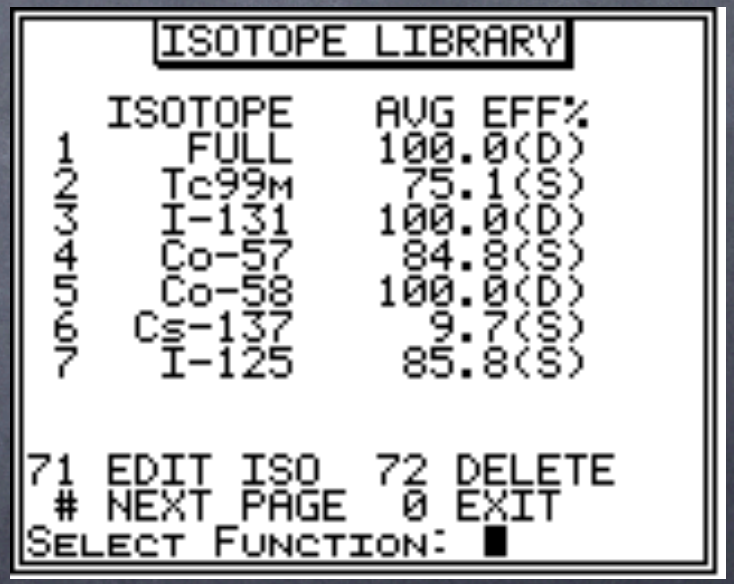


Calibration

Efficiency

The Isotope Efficiency check is used to check any changes or drift in the efficiency of the Genesys Genii™ s detectors.

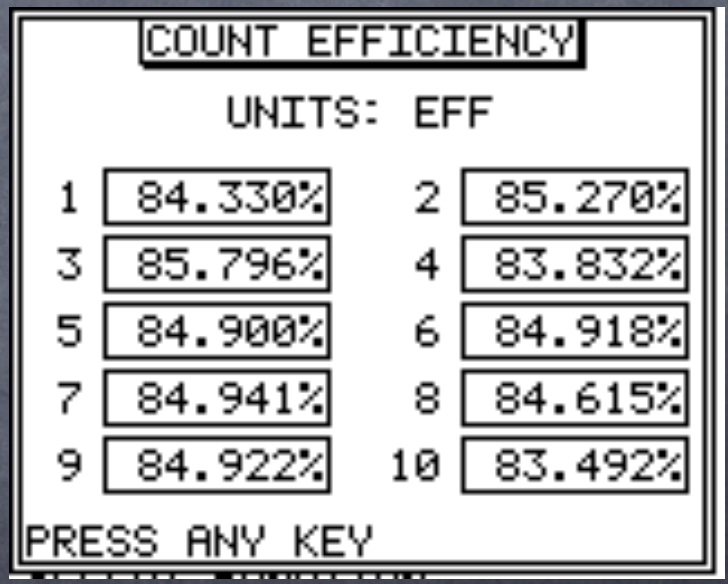
To use the Isotope Efficiency Check, the Genesys Genii™ requires reference values of the calibrated standard to have been previously entered in the Isotope Library.



Calibration

Efficiency

Using the same single, or multiple calibration standard (whose DPM, Date and Time were originally entered in the Isotope Library), the Genesys Genii™ will measure the current % Efficiency, correct for isotope decay, and calculate any difference since the original measurement.



Calibration

Efficiency

The printout shows the measured efficiency and the NF (normalizing factor) for each well. It also provides the % variance from stored values, and may allow you to update the stored data if a large variance has occurred.

Calibration

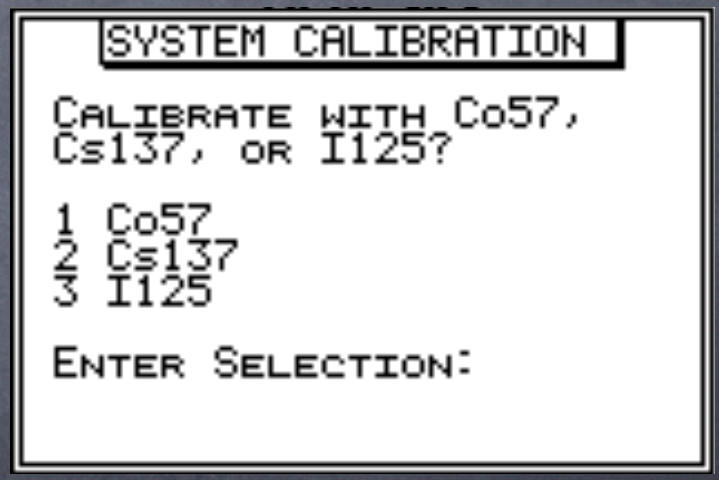
Gain Adjust

The Genesys Genii™ Gain Adjust program will calculate and perform the calibrations required for each detector. This routine will correctly set an overall voltage for the system, adjust the LLD(the point above which true isotope signals are detected), the zero offset and balance the Gain for each detector.

Calibration

Gain Adjust

Gain Adjust can be run with either Co57 (single or a set), Cs137 (single only) or I125 (single or a set)



Calibration

Gain Adjust

Selecting the option 4 (Gain, FWHM, ChiSquare), will add a Full Width Half Max detector resolution test and a ChiSquare statistical test.

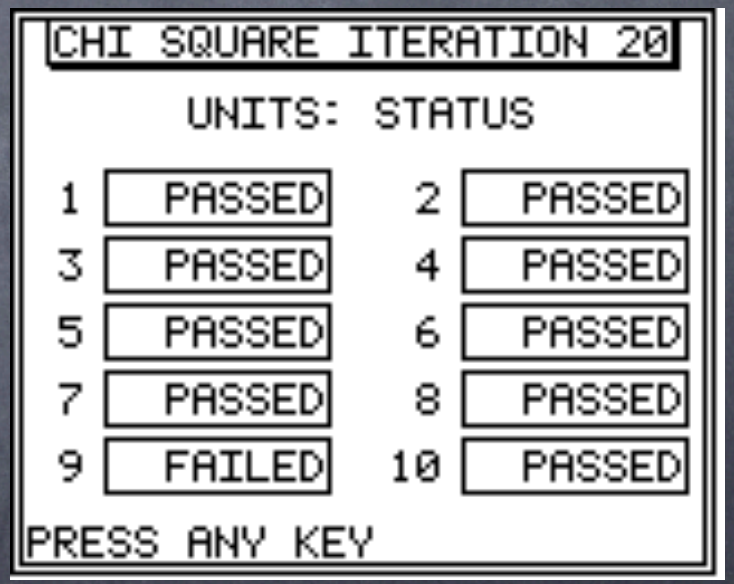
A background count will end both routines.

Calibration

Chi Square

This statistical test is a goodness of fit test. Since radioactivity is a random phenomenon that follows a Poisson distribution, the Chi Square test automatically measures and validates that no deviation from statistics is occurring.

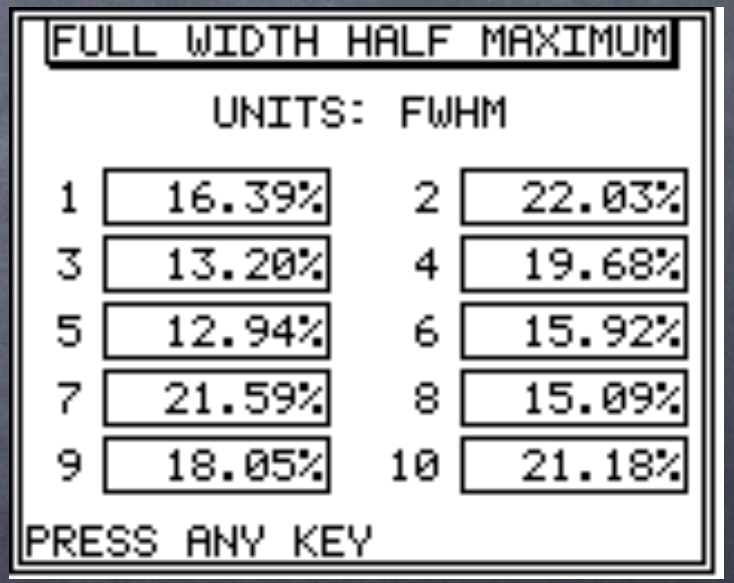
When complete: A PASSED or FAILED message is observed.



Calibration

Full Width Half Max

The FWHM is a calculation that measures the channel width(higher channel minus lower channel) of the isotope spectra counted at 1/2 the peak(maximum) counts The lower the number the "cleaner" the isotope peaks will be. Typical values of 20% or less will be observed.

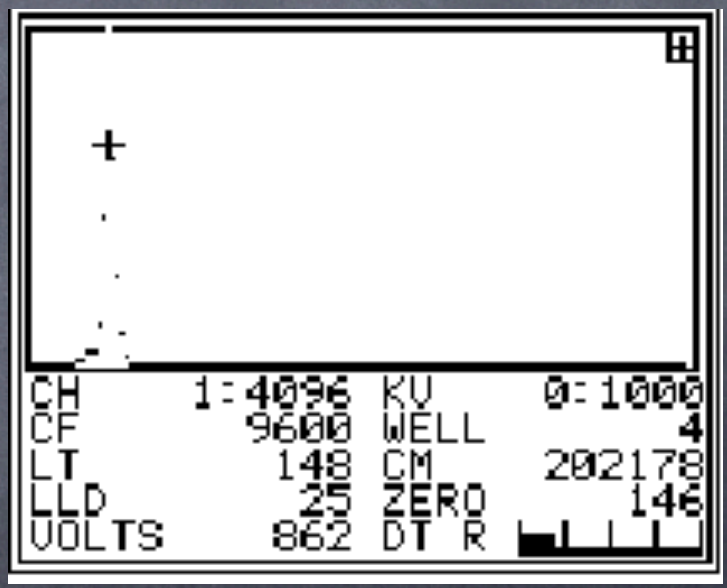


When complete: values for each detector is shown.

Calibration

View Spectrum

The View Spectrum mode allows viewing the actual multi-channel spectrum (4096 channels) of any Isotope that you insert into the well. The energy range shown is 0 KEV to 999 KEV (0-2 MEV in the HE series).

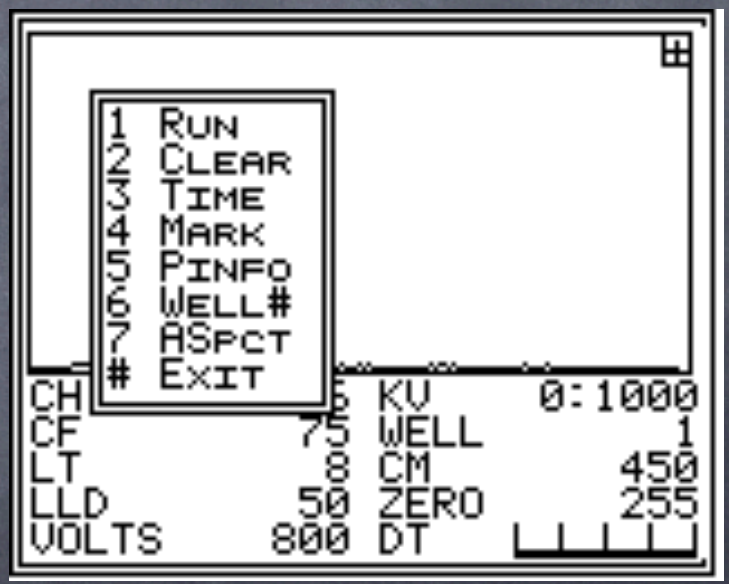


Calibration

View Spectrum

When you press the * key a function menu will appear. These functions are:

RUN: (on-off)
CLEAR: Clears the spectrum
TIME: Allows entry of counting time.
MARK: Specifies where the marker(+) is.
PINFO: Prints information
WELLS: Displays the spectrum for a selected well
ASCPT: Applies the Autospect™ feature.



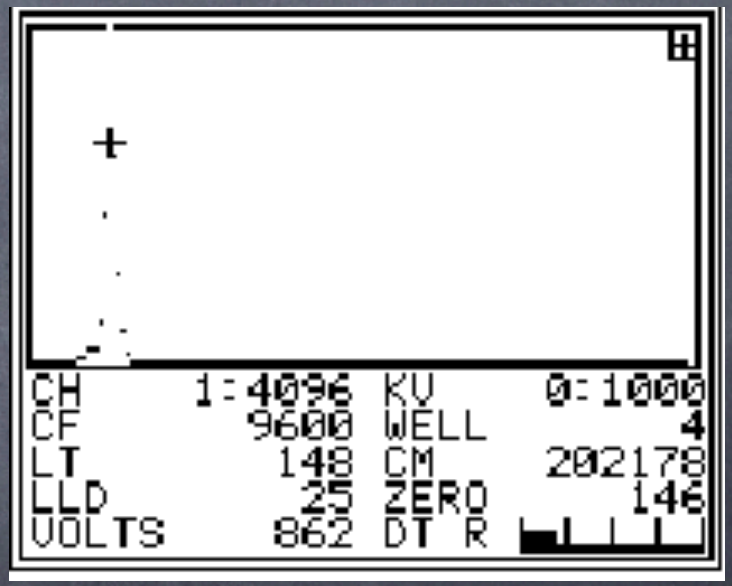
These commands allow the user to view various isotopes and determine, with the mark feature, the kev values of the photo peaks; watch the entire spectrum accumulate, in each of the wells, clear, and restart the Spectrum, etc.

Calibration

View Spectrum

The meanings of the abbreviations below the spectrum are:

CH: Channel number displayed. 0-4096.
CF: Counts Full Scale. The value of the Y axis.
LT: Live Time -- the time left for counting
LLD: Lower Level Detector discrimination value.
VOLTS: The voltage level applied to the Detectors.
KV: The keV values being displayed
WELL: The number of the detector displayed.
CM: Counts per minute being measured.
ZERO: Internal code of the zero offset value.
DT: This is a graph of the systems dead time.



Calibration

View Spectrum

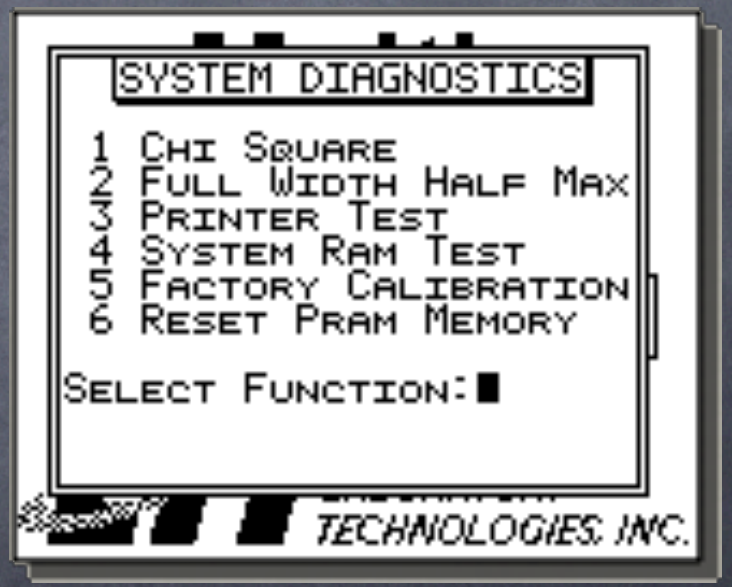
Additional keypad functions, shown by pressing the H key, allow you to expand and move the view to get a closer look at any region of the spectrum.

With these features you can view an isotope down to 1/4 keV per channel

Diagnostics

Diagnostics

The System Diagnostics menu consists of 4 tests and 2 functions. The CHI Square and FWHM were discussed in the Calibration section, these calculations can be run independently here.



Diagnostics

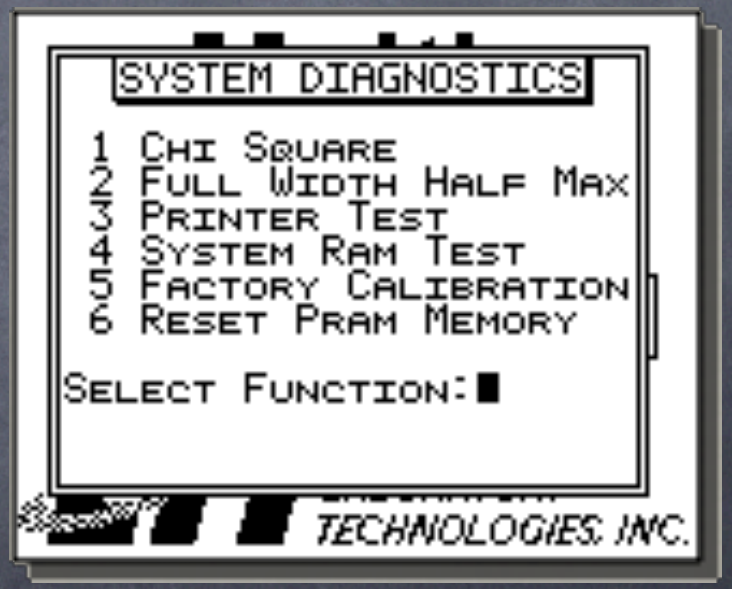
The Printer Test will print text to ensure that your printer is properly communicating with the Multi-Wiper™, here is an example of the test output.

```
This is a Printer Test
0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz
0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz
0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz

0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz
0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz
0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz
```

Diagnostics

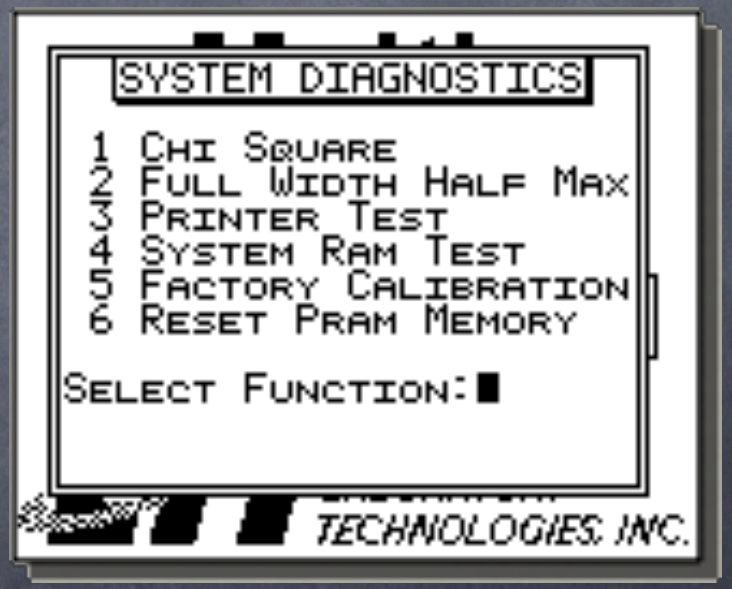
Factory Calibration is a "backdoor" into the detector gain adjust function. This should not be used unless you are trained in its operation. For this reason a password is required to enter.



Diagnostics

The Reset PRAM Memory function will remove all stored data from the Genesys Genii™.

This function is used only when a memory corruption has occurred.



Tutorial Complete

Your tutorial is now complete. You may also consult the Operation Manual for addition information on the operation of the Genesys Genii™ from Laboratory Technologies, Inc.