# CRC®-25R/W Communications

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# OWNER'S MANUAL

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## INTRODUCTION

The CRC®-25R/W Communications Program can communicate with the CRC®-25R or CRC®-25W via RS-232 or USB ports.

## INSTALLATION

***Note:*** *Before proceeding, it is recommended that you close any applications you may be running. Setup cannot install system files or update shared files if they are in use.*

### From Capintec Web Site

Click on the Download link.

If your browser gives you a choice of running or saving the file, select Save and save to your Desktop.

Click on the downloaded icon.

Follow directions as the program is installed.

### From CD

Insert the CRC®-25R/W Communications CD into your CD drive.

The CD is self-starting. If it does not start, perform the following steps:

Select *Run…* from the Start Menu.

Click the **Browse…** button.

From the Look in: drop-down list, select *Communications (CD Drive)*.

Click on the file ***setup.exe*** to select it.

Click the **Open** button.

Click the **OK** button.

The CRC-25R/W Communications Setup window appears as shown in Figure 1.

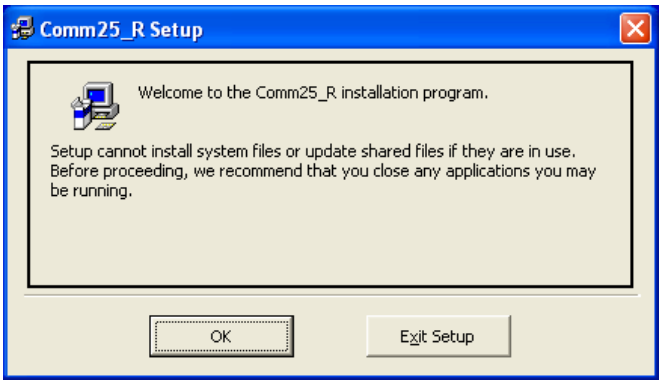



Figure 1 Install Screen 1

Click the **OK** button. Click the large setup icon (button) to begin the installation. Click the **Exit Setup** button to cancel the installation.

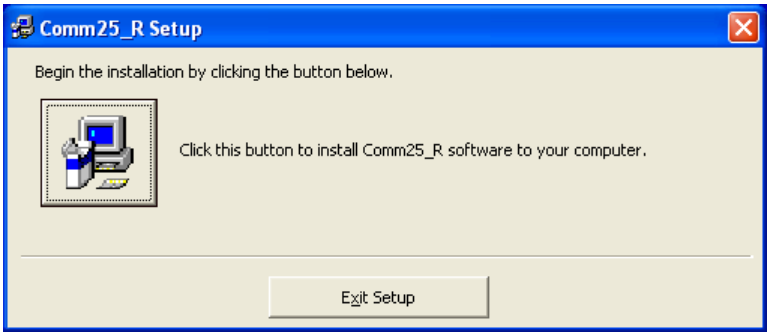



Figure 2 Install Screen 2

The CRC-25R/W Communications – Choose Program Group Window appears.

Click the **Continue** button.

The Program begins to run through its setup procedure. Once Setup is completed successfully, Figure 3 will appear.

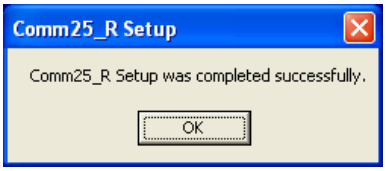



Figure 3 Install Screen 3

Click the **OK** button.

After the installation is complete, click the Start Menu, Programs, right-click on the Comm25_R icon and select *Create Shortcut*.

Drag one of the shortcuts to the Desktop.

Restart the computer.

## CONNECTING THE CALIBRATOR

The calibrator must be connected to the PC and on the Chamber measurement screen before starting the Communications program.

### RS-232

Connect one end of the cable to the “RS-232” port on the rear panel of the Calibrator. Connect the other end of the cable to the Serial (Comm) port of the computer.

### USB

Connect one end of the cable to the “PC” USB port on the side of the Calibrator. Connect the other end of the cable to a USB port on the computer.

## LICENSING

A valid license is needed to communicate with the CRC®-25R/W.

The license is tied to your PC’s hard drive. The activation code and form for obtaining a license are accessed via the Setup Screen.

## MAIN SCREEN

When the program is launched, Figure 4 Main Screen will appear. All functions are accessed from the Main Screen.

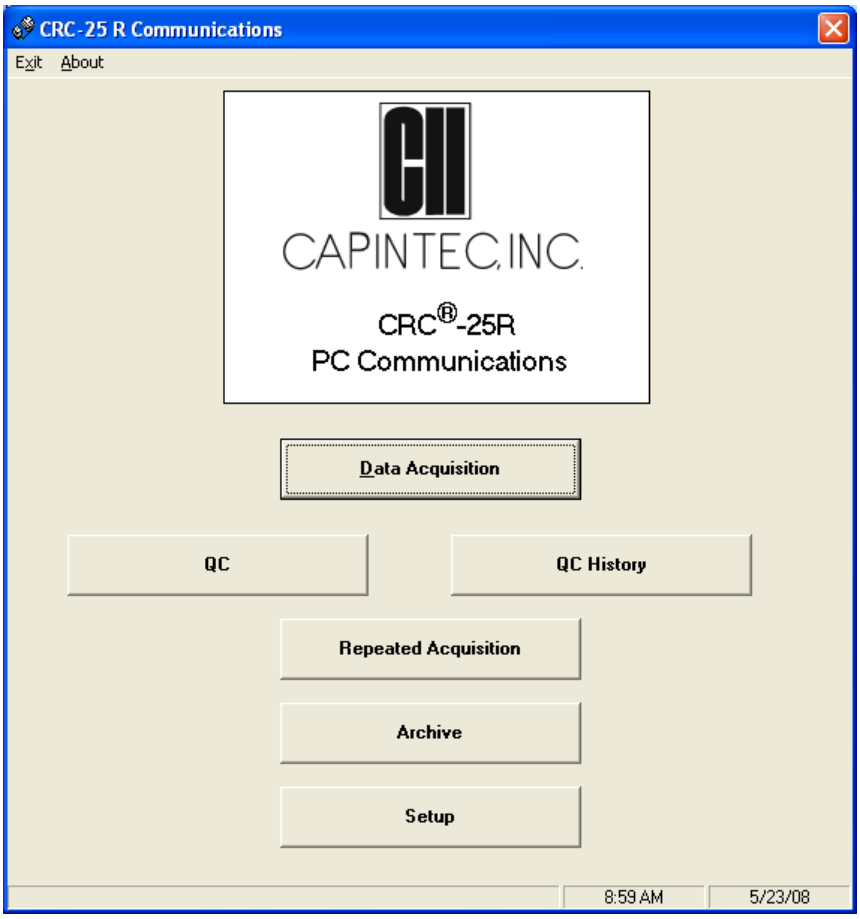



Figure 4 Main Screen

From the Main Screen, the following functions can be accessed:

- Data Acquisition
- QC
- QC History
- Repeated Acquisition
- Archive
- Setup

**Data Acquisition**

*(Reference DATA ACQUISITION page 13 for operational instructions.)*

This function reads and saves activity measured by the Chamber.

The Nuclide may be selected.

**QC**

*(Reference QC TEST page 16 for operational instructions.)*

This function allows the user to perform Daily Chamber Tests and saves the data.

**QC History**

*(Reference QC HISTORY page 18 for operational instructions.)*

This function allows the user to view, print and manage saved QC data history.

**Repeated Acquisition**

*(Reference REPEATED ACQUISITION page 20 for operational instructions.)*

The nuclide and activity are displayed and updated at time intervals set by the user and for the number of measurements set by the user. The data for each interval are automatically saved and may be printed or exported to Excel.

**Archive**

*(Reference ARCHIVE page 24 for operational instructions.)*

This function allows the user to save the current database and access previously saved databases for viewing and printing.

**Setup**

*(Reference SETUP page 10 for operational instructions.)*

This function is used to:

- obtain the data needed to attain a license,
- generate the License Request Form,
- input the License information,
- input the Report Header information,
- to select communications port, and
- specify if a printer is attached to the computer (PC).

## SETUP

From the Figure 4 Main Screen, click the **Setup** button. Figure 5 Setup Screen will appear.

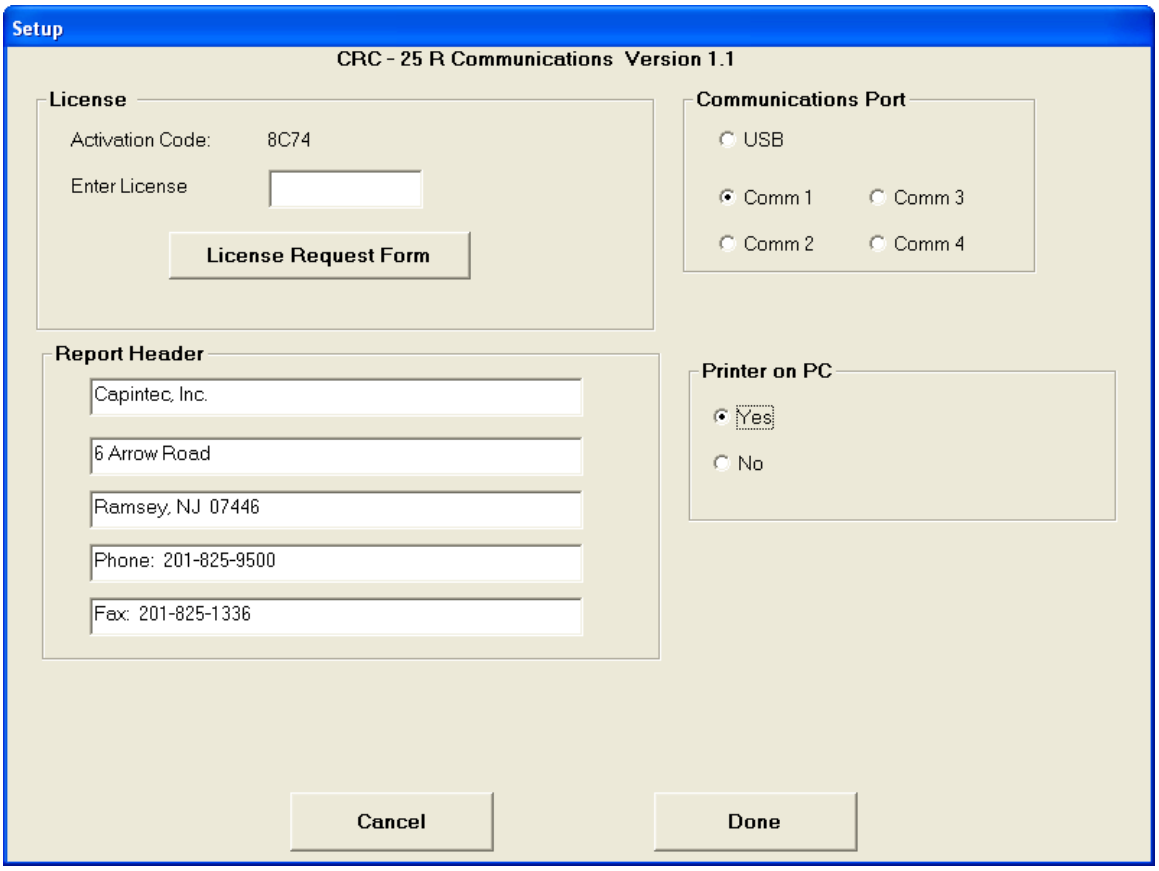



Figure 5 Setup Screen

### Obtaining the License

The program's license is tied to your computer's hard drive. An example activation code is shown below in Figure 6.

Figure 6 License Frame

Click the **License Request Form** button to print a form containing the information necessary to obtain a license. Contact the Capintec Sales department at (800) ASK-4CRC to order your license. You will be given a License code that will work only with **your** computer.

***Note:*** *A printer attached to your computer is required to obtain the License Request Form.*

### Inputting the License

Enter the License Code making sure that you enter the License with upper case letters. If the license is correctly entered, you will be able to obtain data from the CRC®-25R/W.

### Report Header Frame

Up to 40 characters per line may be entered in these 5 fields. The report header will be printed on all the reports.

### Communications Port Frame

The CRC®-25R/W can communicate with a PC via RS-232 or USB.

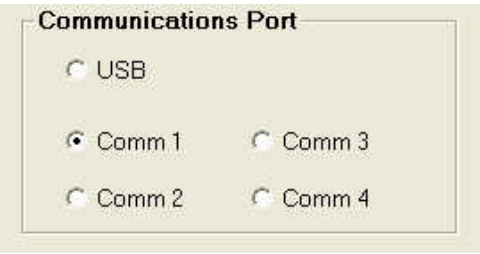



Figure 7 Communications Port Frame

Comm 1 is set as the default. If you want to use the USB port or another RS-232 port for communications with the CRC®-25R/W, select that port. The port will be set up when the **Done** button is pressed.

### Printer on PC Frame

Reports may be printed from this program if a printer is connected to your PC. On first startup, it is assumed that there is no printer.

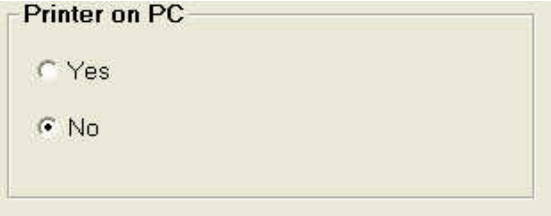



Figure 8 Printer on PC Frame

Click the **Yes** radio button if a printer is connected to the PC. This will enable the **Print** buttons throughout the program.

### Exiting Setup

To exit Setup and save the entries, click the **Done** button.

To exit Setup without saving entries, click the **Cancel** button.

## DATA ACQUISITION

From Figure 4 Main Screen, click the **Data Acquisition** button. Figure 9 Data Acquisition Screen will appear.

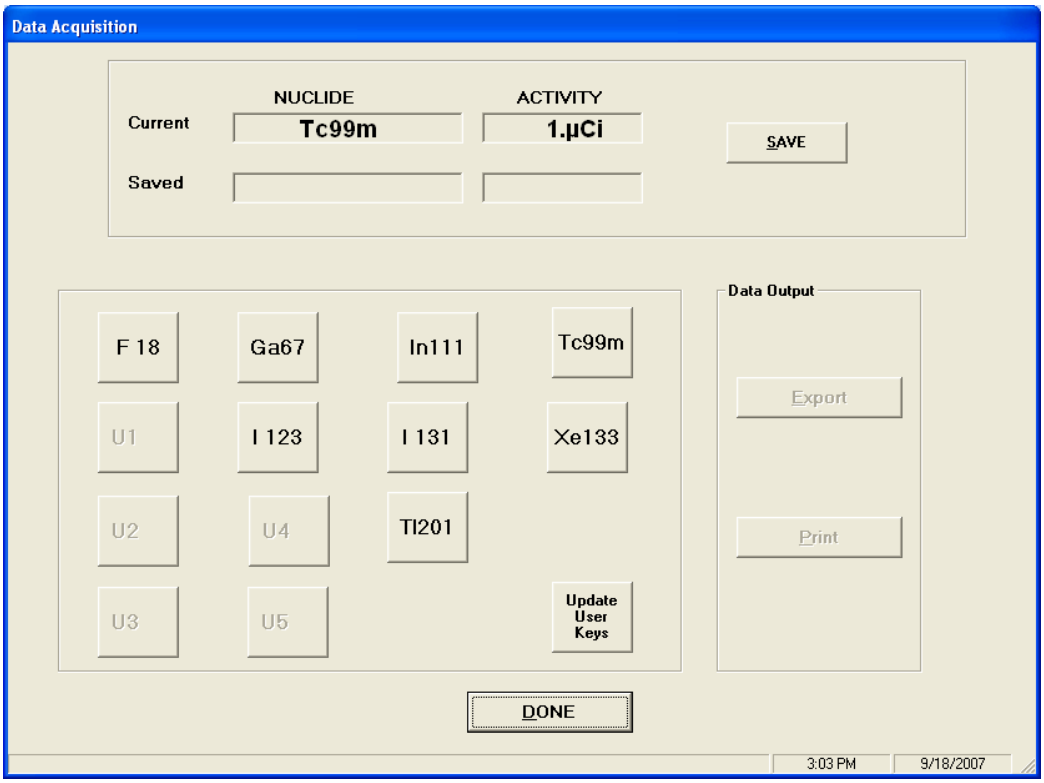



Figure 9 Data Acquisition Screen

The activity and nuclide are automatically acquired every second. Data Acquisition begins when the Data Acquisition screen is displayed. The current calibrator reading is displayed.

The Pre-set Nuclide and User keys are displayed on the Data Acquisition screen. The nuclide may be changed from the PC and the User keys will display the assigned nuclide.

When the Data Acquisition screen is accessed, the Calibrator sends the names of the nuclides assigned to the User Keys to the PC. These names are displayed on the User keys on the Data Acquisition screen. If a User Key does not have a nuclide assigned to it, the key will not be active (grayed out).

### Change Nuclide

The nuclide on the calibrator can be changed from the PC program by clicking one of the Pre-Set Nuclide keys or a User key shown on Figure 10. The data for the new nuclide will be displayed.

### Update User Keys

If the assignment for any User key on the calibrator is changed, click the **Update User Keys** button so that the User keys on the PC program will reflect the assignments on the calibrator.

### Saving Data

To save the measurement for printing or exporting, click the **SAVE** button.

The nuclide name and activity will appear in the Saved Nuclide and Activity boxes as shown in Figure 10 Saved Data Acquisition Screen.

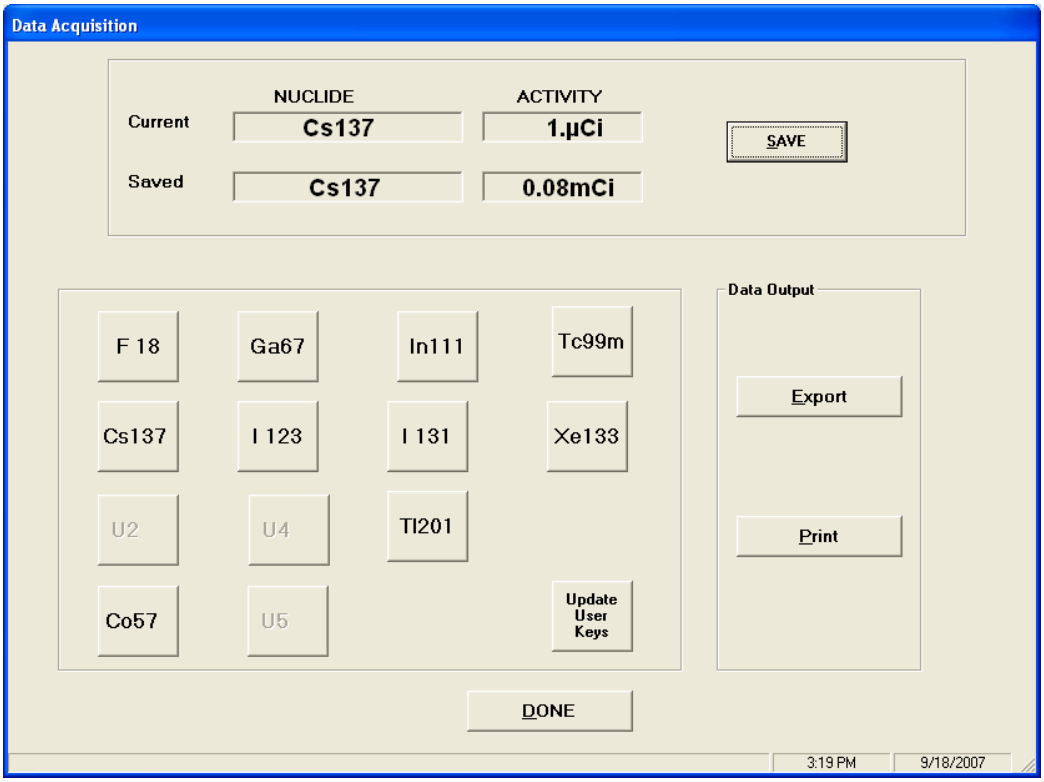



Figure 10 Saved Data Acquisition Screen

Each time the **SAVE** button is pressed, the current data is added to the previously saved data.

Once the **DONE** button is pressed, the saved data is erased.

If you wish to retain the saved data, you must either print it or export it to a file. The **Print** and **Export** buttons will become active after the **SAVE** button is pressed.

### Printing

***Note:*** *The **Print** button is not active until the **SAVE** button is pressed. (The **Print** button will never be active if the "Printer on PC" is set to No in the Setup Module.)*

Click the **Print** button for a printout of the saved data. After printing, you will be asked if you want to retain the data. Click the **Yes** button to retain the data.

If the **No** button is pressed, all saved data will be erased and the **Print** button will become inactive.

### Exporting

***Note:*** *The **Export** button is not active until the **SAVE** button is pressed.*

Click the **Export** button to create a file of the saved data that may be used in Excel or a similar program. (The default save folder is C:\CRC-25 Communications\Data. The default file extension is .xls) Figure 11 Default Extension is xls Screen will appear.

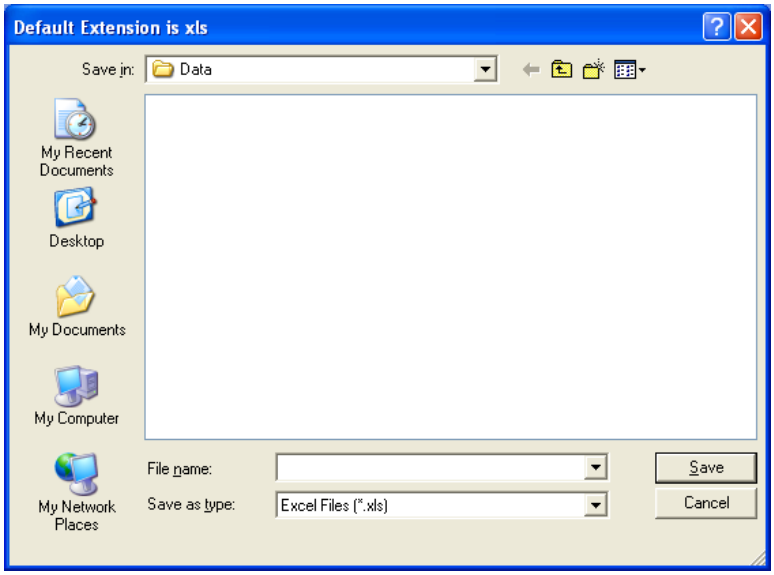



Figure 11 Default Extension is xls Screen

Type a name in the File name: drop-own box and press the **Save** button.

After exporting, you will be asked if you want to retain the data. Click the **Yes** button to retain the data.

If the **No** button is pressed, all saved data will be erased and the **Export** button will become inactive.

### Exiting Data Acquisition

Click the **DONE** button or press the *Esc* key to exit the Data Acquisition screen and return to Figure 4 Main Screen.

## QC TEST

This module is used to step the Chamber through the Daily Chamber Test. The following test will be performed:

- Auto Zero
- Background
- Chamber Voltage
- Data Check
- Accuracy Test (if Test Source(s) are setup)

From Figure 4 Main Screen, click the **QC** button. Figure 12 QC Test Screen will appear.

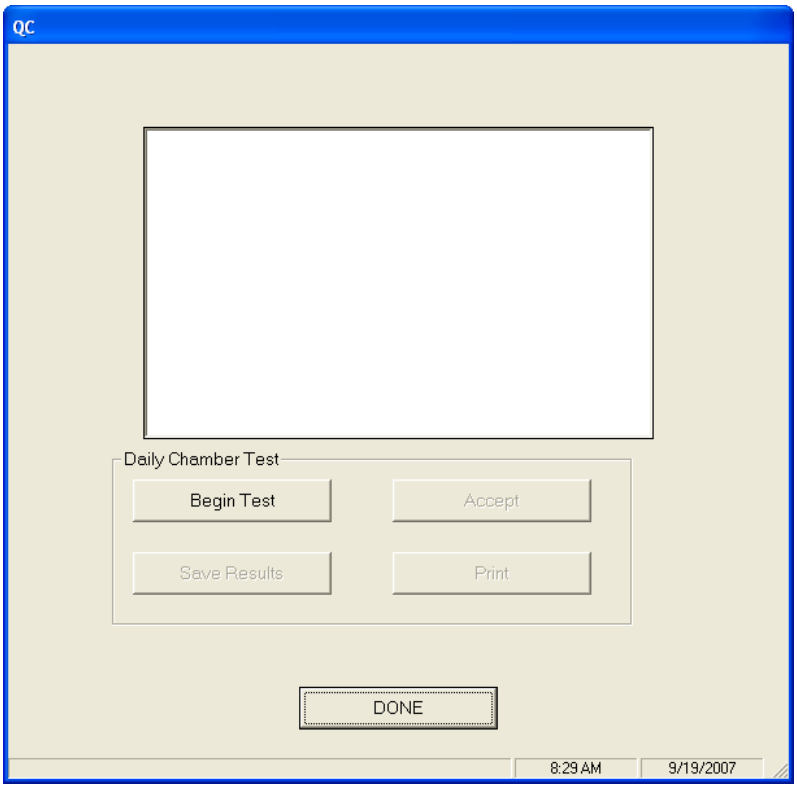



Figure 12 QC Test Screen

***Note:*** *The calibrator must be on the Chamber Measurement screen before beginning the test.*

To start the test, click the **Begin Test** button. Figure 13 Remove Sources Screen will appear.

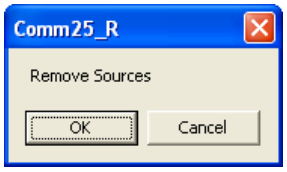



Figure 13 Remove Sources Screen

Remove all sources from the vicinity of the Chamber and click the **OK** button.

To abort the Daily Chamber Test, click the **Cancel** button.

When each section of the test is finished, the **Accept** button will be activated. Click the **Accept** button to continue to the next part of the test.

If Test Sources have been input, Figure 14 Measure Sources Screen will appear for each source; otherwise a "NO SOURCES" message will appear on the screen and the test is complete.

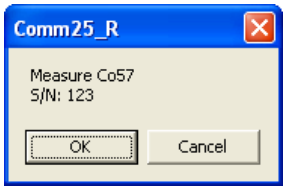



Figure 14 Measure Sources Screen

When the test is complete, the **Save Results** and **Print** (if the "Printer on PC" is set to Yes in the Setup Module) buttons will be enabled.

Click the **Print** button to print a report for this test.

Click the **Save Results** button to save the data to the database for future viewing and printing in QC History (refer to QC HISTORY section on page 18).

### Exiting QC Test

Click the **DONE** button or press the *Esc* key to exit the QC Test Screen.

## QC HISTORY

This module allows the user to view, print, save to file or delete the QC History.

From Figure 4 Main Screen, click the **QC History** button. Figure 15 QC History Screen will appear.

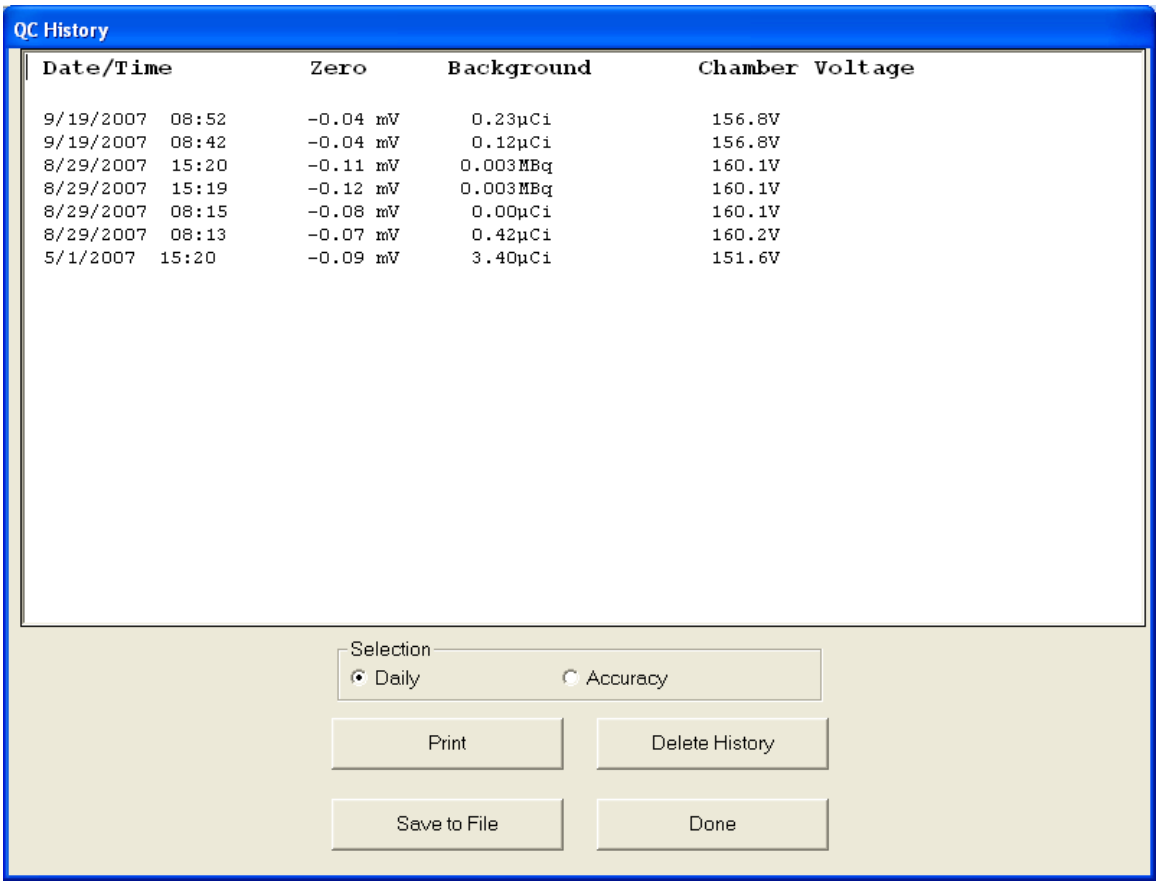



Figure 15 QC History Screen

### Test Selection

Data from Daily Chamber and Accuracy Tests may be displayed.

To change the selection, click on the desired radio button as shown in Figure 16 QC Test Selection Frame.

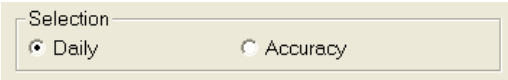



Figure 16 QC Test Selection Frame

### Printing

***Note:*** *The **Print** button will not be active if the "Printer on PC" is set to No in the Setup Module)*

The displayed QC History data may be printed. To print a report of the displayed data, click the **Print** button.

### Save to File

The displayed QC History data may be saved to a file. To save the data to a file, click the **Save to File** button.

### Delete History

***Note:*** *Before deleting the history, the database should be archived.*

The **Delete History** button is only active when Daily is selected. It is not active when Accuracy is selected.

To delete the history, click the **Delete History** button. The Daily Test and Accuracy Test data for the Chamber will be deleted.

### Exiting QC History

Click the **Done** button or press the *Esc* key to exit the QC History Screen.

## REPEATED ACQUISITION

Repeated Acquisition is used to acquire data at a constant time interval for a given number of measurements.

From Figure 4 Main Screen, click the **Repeated Acquisition** button. Figure 17 Repeated Acquisition Screen will appear.

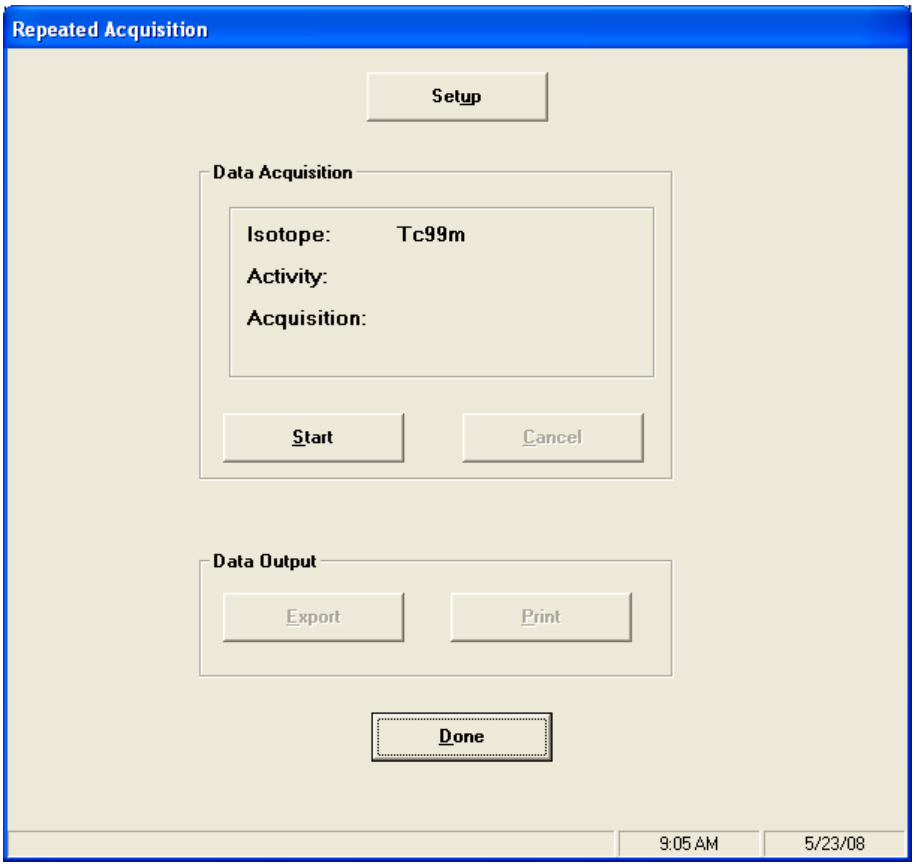



Figure 17 Repeated Acquisition Screen

### Setup for Repeated Acquisition

Click the **Setup** button to display Figure 18 Repeated Acquisition Setup Screen.

The Repeated Acquisition Setup Screen is used for entering the parameters needed to acquire repeated data.

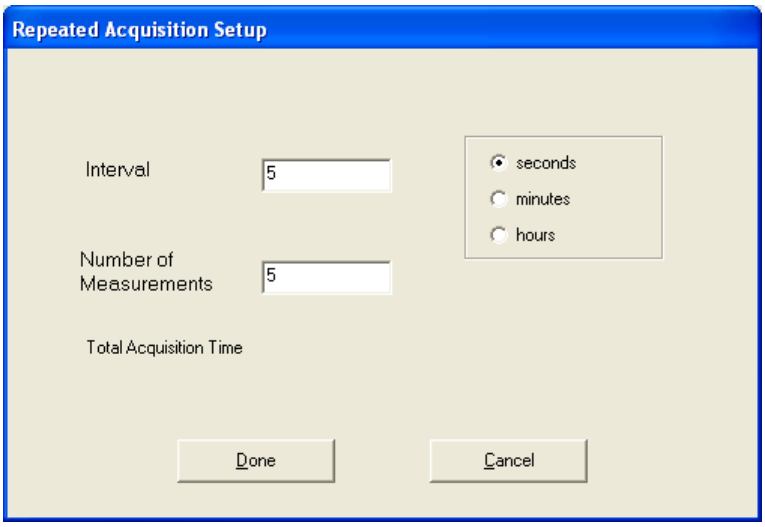



Figure 18 Repeated Acquisition Setup Screen

### Entering Interval

The default value for the interval between measurements is 5 seconds.

To change this value, input the desired interval in seconds, minutes or hours (integral seconds, minutes or hours only).

### Number of Measurements

Input the desired number of measurements. The Total Acquisition time will then be displayed.

### Exiting Repeated Acquisition Setup

Click the **Done** button to exit Repeated Acquisition Setup and save the values.

Click the **Cancel** button to exit Repeated Acquisition Setup without saving the values.

Figure 17 Repeated Acquisition Screen will re-appear.

### Starting Repeated Acquisition

Click the **Start** button to begin the acquisition.

Data is read from the calibrator at the requested interval for the requested number of measurements. The Isotope, Activity and Acquisition number are displayed.

When the acquisition is complete, the time, Isotope and Activity for each measurement are saved for output and the **Export** and **Print** buttons become active.

***Note:*** *The **Print** button will not be active if the "Printer on PC" is set to No in the Setup Module)*

### Canceling Repeated Acquisition

Click the **Cancel** button to stop the acquisition before all the requested measurements have been made.

### Printing

***Note:*** *The **Print** button will not be active if the "Printer on PC" is set to No in the Setup Module)*

Click the **Print** button for a printout of the measurements. After printing, you will be asked if you want to retain the data. Click the **Yes** button to retain the data.

If the **No** button is pressed, all saved data will be erased and the **Print** button will become inactive.

### Exporting

Click the **Export** button to create a file of the measurements that may be used in Excel or a similar program. (The default save folder is C:\CRC-25 Communications\Data. The default file extension is .xls) Figure 19  Default Extension is xls Screen will appear.

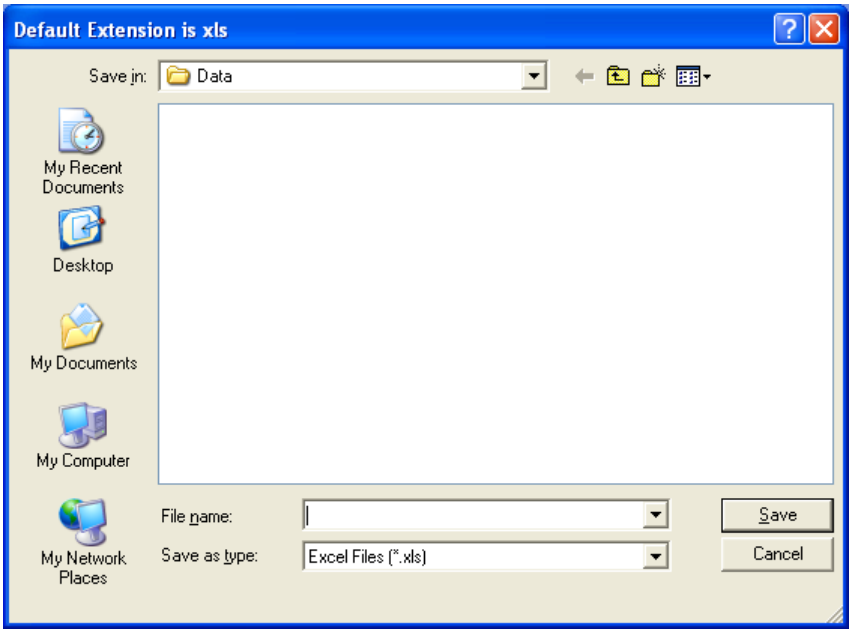



Figure 19  Default Extension is xls Screen

Type a name in the File name: drop-own box and click the **Save** button.

After exporting, you will be asked if you want to retain the data. Click the **Yes** button to retain the data.

If the **No** button is pressed, all saved data will be erased and the **Export** button will become inactive.

### Exiting Repeated Acquisition

Click the **Done** button or press the *Esc* key to exit the Repeated Acquisition screen.

All saved data will be erased upon exiting the Repeated Acquisition screen.

## ARCHIVE

From Figure 4 Main Screen, click the **Archive** button. Figure 20 Archive Screen will appear.

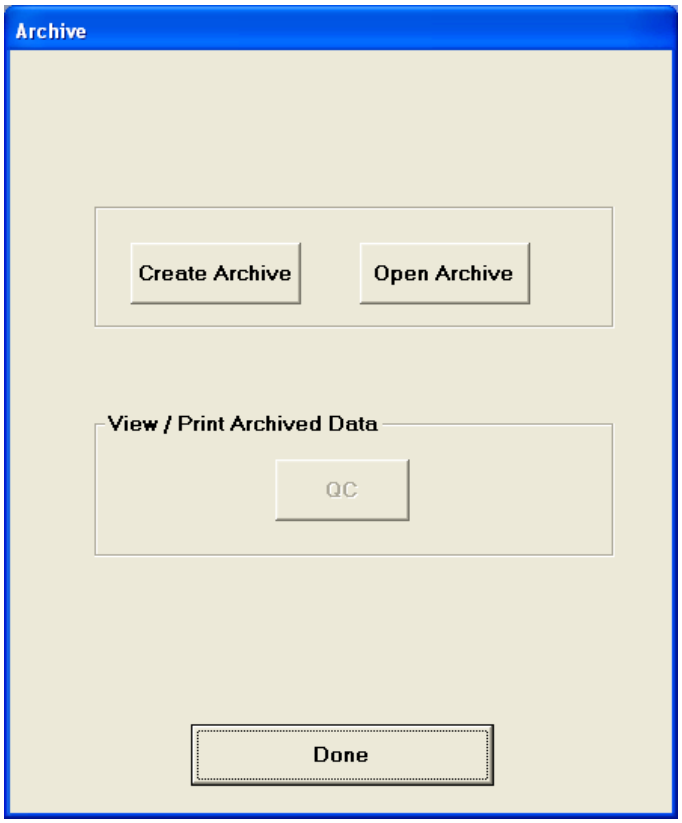



Figure 20 Archive Screen

Archive is used to save the current database and to access previously saved databases. All archived databases are in the sub-folder Archive.

Archive should always be performed before deleting QC data.

### Creating an Archive

To create a new archive (save the current database) click the **Create Archive** button. Figure 21 Create Archive Dialog Screen will appear:

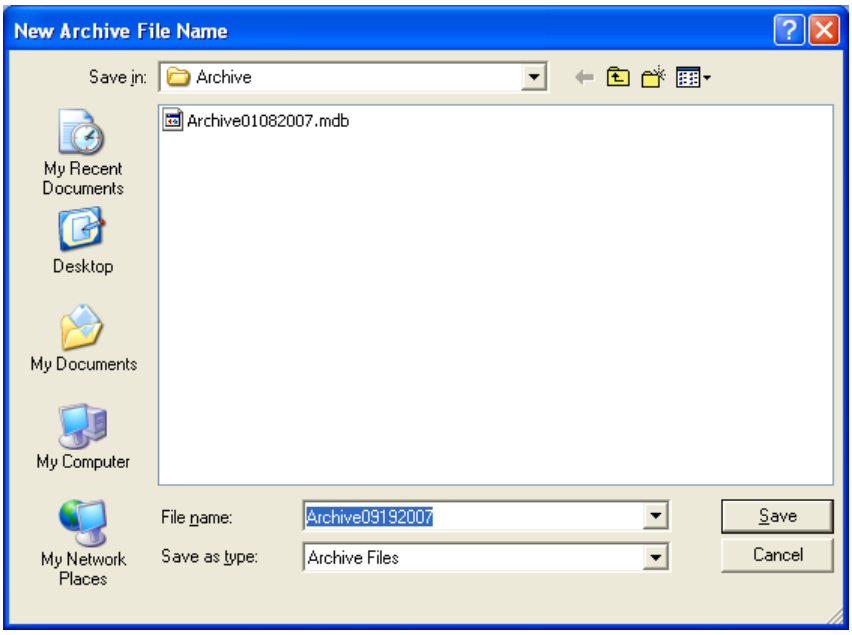



Figure 21 Create Archive Dialog Screen

The previously archived databases will be shown.

The file name will default to the word “Archive” followed by the current date in format MMDDYYYY. The filename may be changed, but the folder cannot be changed.

When the correct file name is displayed, click on the **Save** button.

Figure 20 Archive Screen will re-appear with the full name of the created archive file displayed on the top of the screen.

### Opening an Archive

To open a previously archived database, from Figure 20 Archive Screen, click on the **Open Archive** button. Figure 22 Open Archive Dialog Screen will appear.

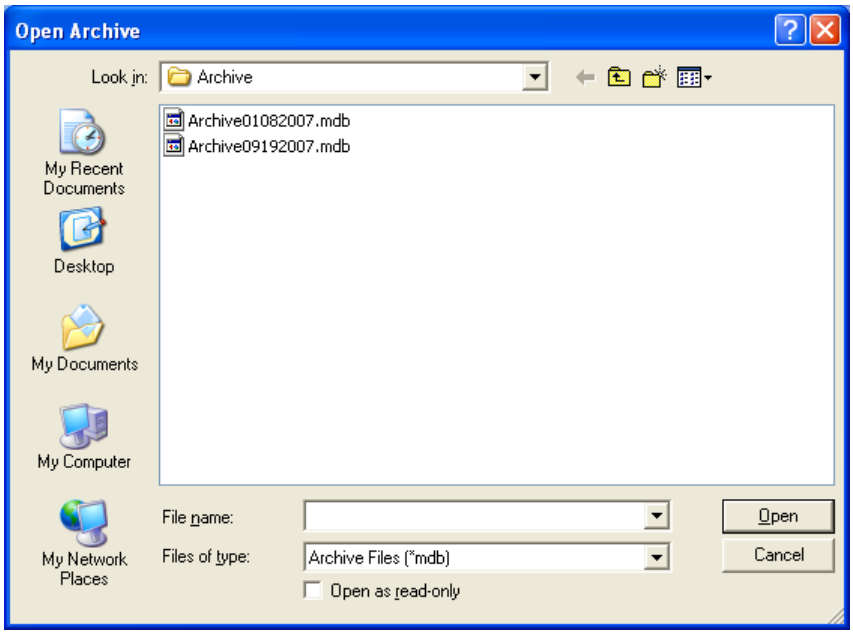



Figure 22 Open Archive Dialog Screen

The previously archived databases will be shown. Click on the database to be opened. The selected database's name will appear in the File name text box. Click the **Open** button to open the database.

Figure 20 Archive Screen will re-appear with the name of the opened archive displayed on the top of the screen and the **QC** button will be enabled.

### Viewing / Printing Archived Data

After an archived database is opened, you may view and print the archived data by clicking on the **QC** button.

The screen will be the same as Figure 15 QC History Screen.

### Exiting Archive

Click the **Done** button or press the *Esc* key to exit the Archive Screen.

If an archived file has been opened, it will be closed and the current database will be opened.

## IMPORTING A FILE INTO EXCEL

Data that has been exported to Excel is in a format that is easy for Excel to read. However, a few steps must be performed before accessing the data.

1. Open Excel and select the exported file (25*test.xls* in the example). Figure 23 will appear.

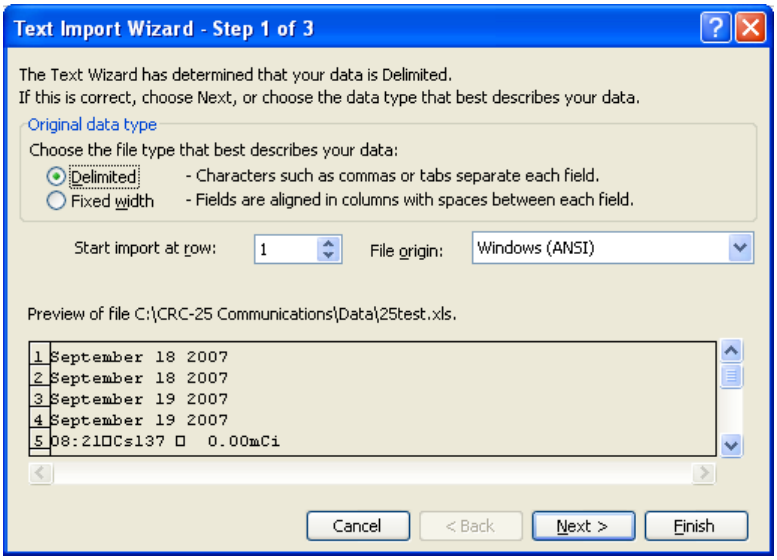



Figure 23

2. Verify that the Delimited radio button is selected and the File origin: drop-down box is set to *Windows (ANSI)*. Click the **Next>** button. Figure 24 will appear.

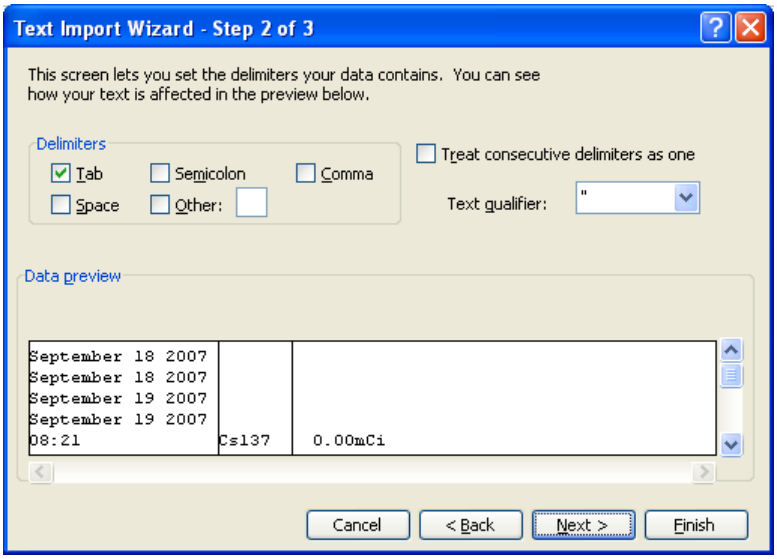



Figure 24

3. Verify that the options are set as above. Click the **Next>** button. Figure 25 will appear.

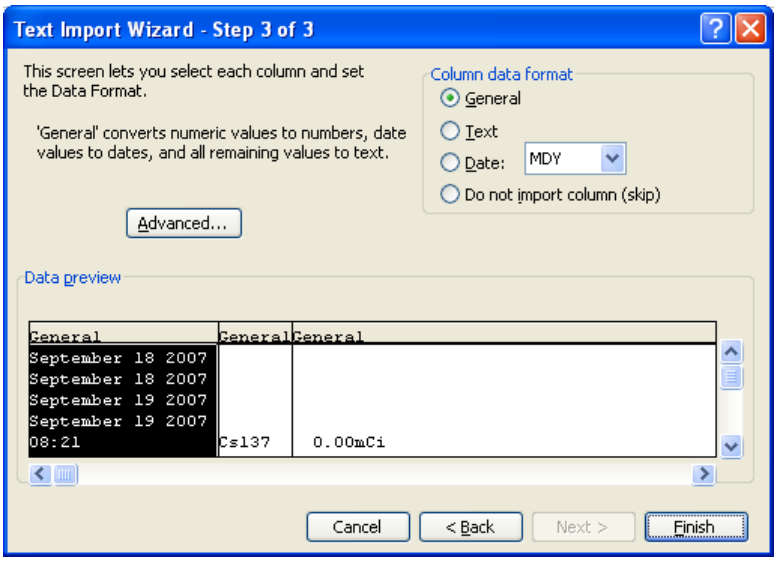
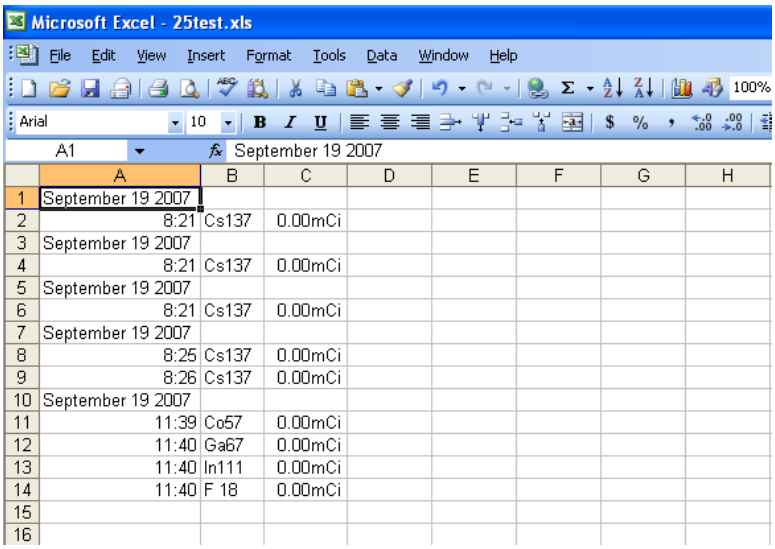



Figure 25

4. Click the **Finish** button. The spreadsheet will appear as shown in Figure 26.




| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | September 19 2007 | | | | | | | |
| 2 | 8:21 | Cs137 | 0.00mCi | | | | | |
| 3 | September 19 2007 | | | | | | | |
| 4 | 8:21 | Cs137 | 0.00mCi | | | | | |
| 5 | September 19 2007 | | | | | | | |
| 6 | 8:21 | Cs137 | 0.00mCi | | | | | |
| 7 | September 19 2007 | | | | | | | |
| 8 | 8:25 | Cs137 | 0.00mCi | | | | | |
| 9 | 8:26 | Cs137 | 0.00mCi | | | | | |
| 10 | September 19 2007 | | | | | | | |
| 11 | 11:39 | Co57 | 0.00mCi | | | | | |
| 12 | 11:40 | Ga67 | 0.00mCi | | | | | |
| 13 | 11:40 | In111 | 0.00mCi | | | | | |
| 14 | 11:40 | F 18 | 0.00mCi | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

Figure 26

5. If you want a heading for the data, highlight the first row and select *Rows* from the Insert Menu. Refer to Figure 27.

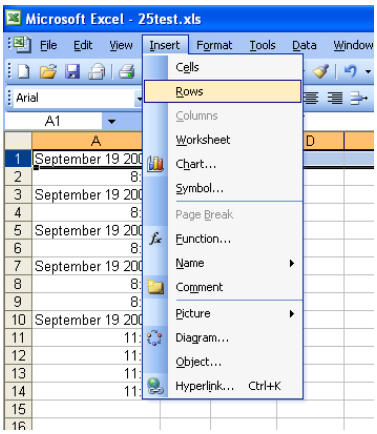



Figure 27

6. Type the heading in the row that is opened in front of the current row 1. Refer to Figure 28

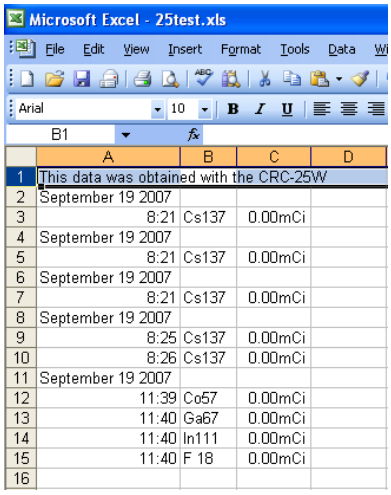



Figure 28

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# NEW PRODUCT WARRANTY

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