



Radon Report Manager

User's Manual v3.7.0

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OVERVIEW

The Radon Report Manager is a custom-designed database software program used to calculate radon measurements and generate reports using Rad Elec E-PERM® equipment. Its flexibility allows for the reporting of both small and large scale surveys, in addition to the customization of commonly-used reporting defaults. It has the capability of producing a worker's exposure in WLMs, RPD reports between co-located detectors, electret history reports, and the capability to track and remind the user when spiking and field blanks are due along with reader calibrations, electret certifications and other required credentials.

This software is designed with the explicit goal of making your job, as a radon professional, as intuitive and feature-rich as possible. If you have any questions, suggestions, or feature requests, please don't hesitate to contact us at Rad Elec.

INSTALLATION

Computer Requirements

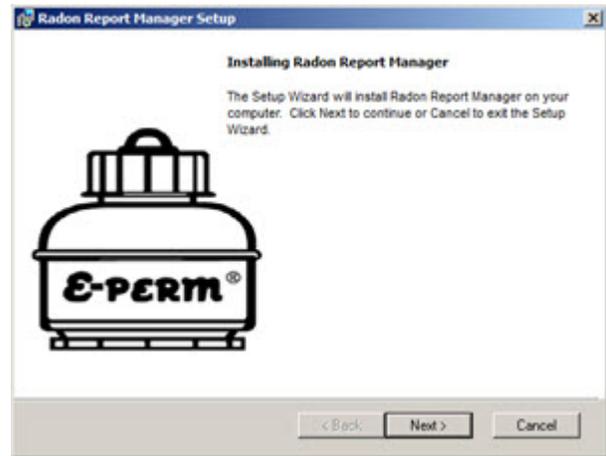
Microsoft Windows® Operating System for XP, Vista, Windows 7, Windows 8/8.1, or Windows 10

Note: These instructions are for first-time installations only! If you have already installed the Radon Report Manager and wish to upgrade it to a newer version, jump ahead to the next section, entitled “Updating the Radon Report Manager”.

1. Close all applications before running the install program.
2. Insert the Radon Report Manager flash drive into your USB port.
3. Open the appropriate USB drive by clicking on My Computer (or Computer, depending on which version of Windows you have installed).
4. Double-click on the USB drive containing the Radon Report Manager flash drive.
5. This is an optional step, but if you wish to view the video tutorial, double-click on the “Extras” folder and locate the “Radon Report Manager Introduction” video file. You can watch the video tutorial with your default media player, although you may need to track down and install the appropriate codec for older operating systems. For more comprehensive video tutorials, head on over to Rad Elec's YouTube channel, or by searching YouTube for “Radon Report Manager”.
6. Double-click on the “Setup” icon. **Note:** If the User Account Control Window appears, asking “Do you want to allow the following program from Rad Elec Inc. to make changes to this computer?”, click “Yes.”

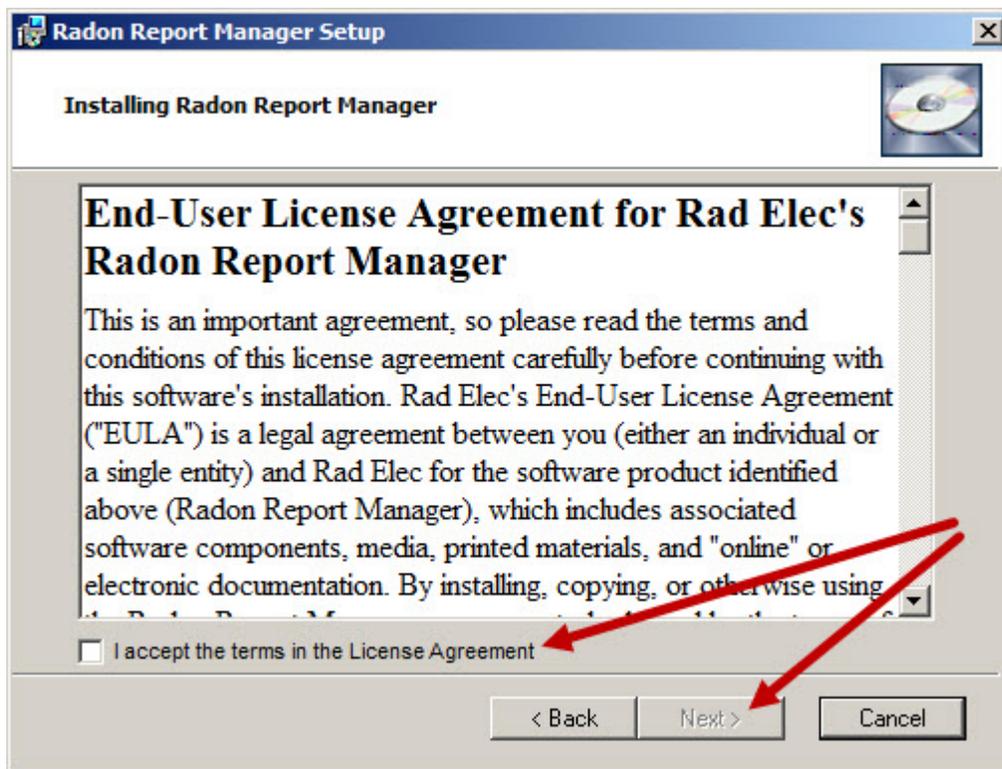


7. It may take some time for the Setup screen to load, so please be patient. Make sure that all other applications running in the background have been closed. Once the following screen appears, click "Next" to begin the process.



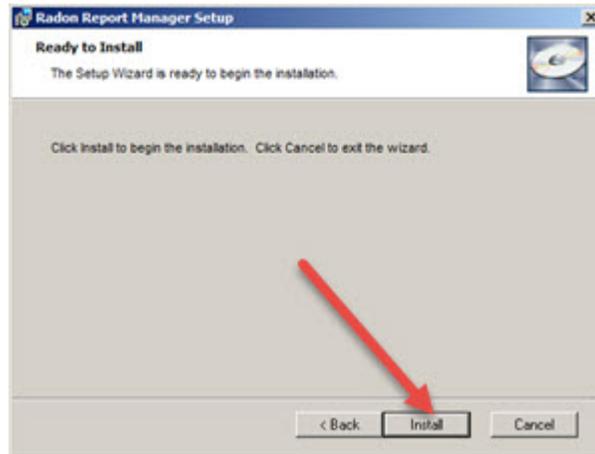
8. An end-user license agreement window will appear. Read the license agreement carefully.

If you agree, click "I accept the terms in the License Agreement" and then click "Next". Failure to accept the terms in the license agreement will terminate the installation.

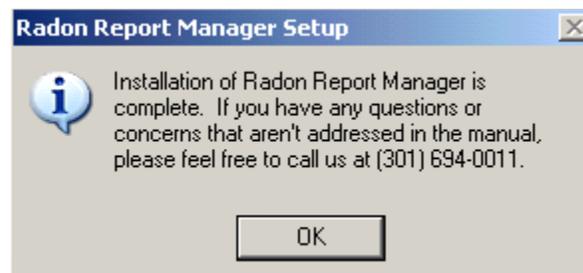


9. The default installation directory of the Radon Report Manager will be displayed. If you are happy with the default location (inside your Program Files directory), then click next. If you wish to change the installation directory, click on "Browse" and navigate to your desired path.

10. The “Ready to Install” window will appear. Click “Install” to begin installation of the Radon Report Manager to your computer. This may take several minutes.



11. Please wait while the program is installed. When the window appears stating that the “Installation of Radon Report Manager is complete”, click “OK”. The Radon Report Manager icon will appear on your desktop, but don't forget that you can also access the software in your “Program Files” from the Start Menu.



12. Your installation is now complete, and you will be prompted to reboot your system. If you do not choose to reboot your system now, please note that the Radon Report Manager may not function properly until you do so.

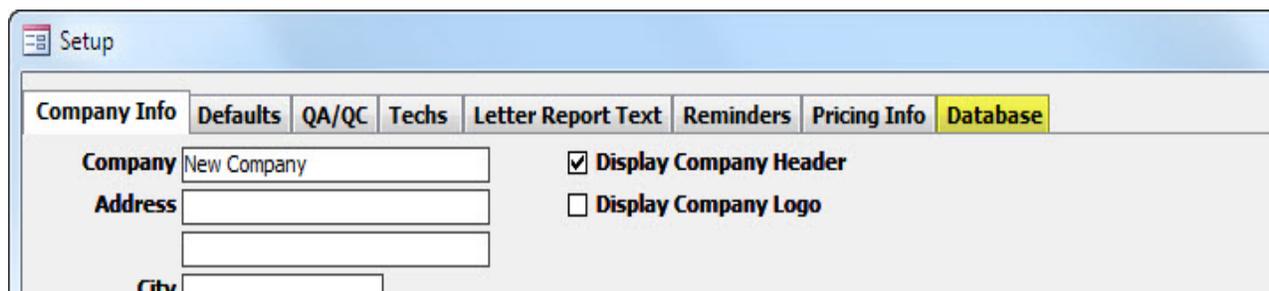
UPDATING THE RADON REPORT MANAGER

If you already have an active installation of the Radon Report Manager software on your computer, you will want to follow a few extra initial steps to ensure that your database is properly backed-up before updating to the new version. This updating procedure assumes that you are already familiar with the Radon Report Manager software; if you are not (and wish to retain your old database), please take the time to read through this manual and become proficient with the concepts described below.

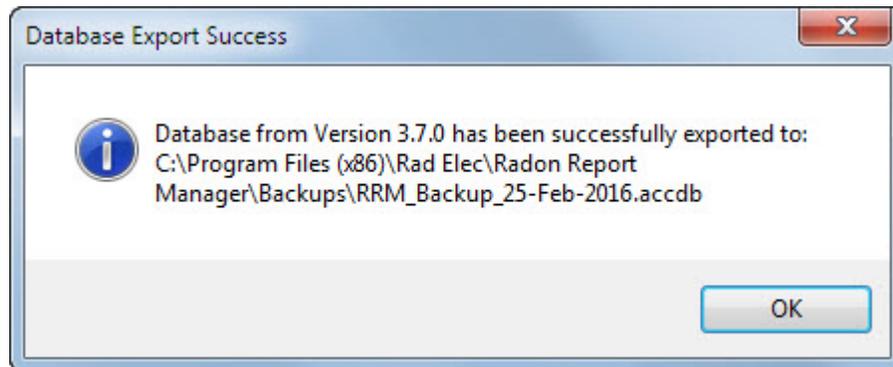
1. Launch the Radon Report Manager.



2. From the Main Menu, click on the *Setup* button.
3. Navigate to the “Database” tab from within the *Setup* window.



4. Click on the **Export Database** button. You should receive a message saying that your database has been successfully exported.



5. Close the Radon Report Manager software.
6. Navigate to your installation directory and find your exported database. By default, this should be:

For 32-bit Systems

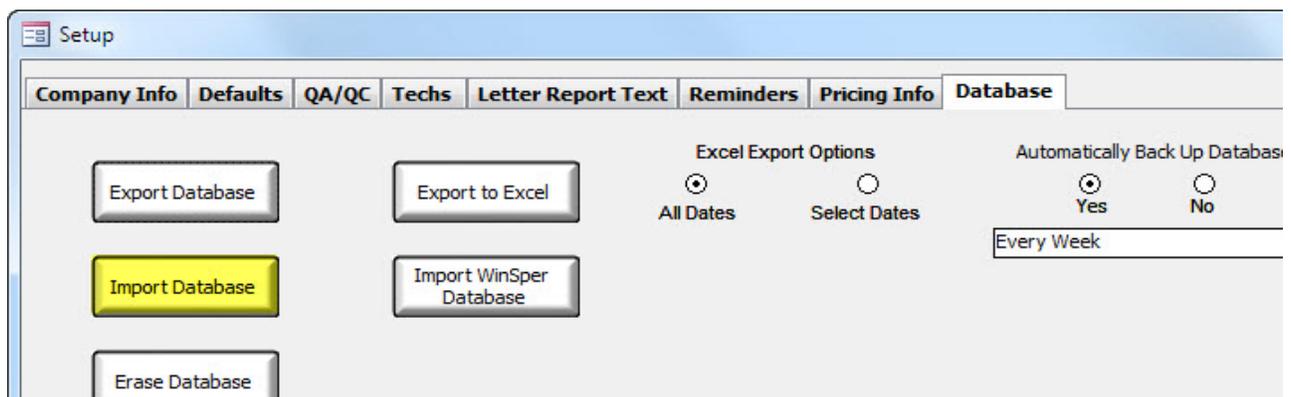
C:\Program Files\Rad Elec\Radon Report Manager\Backups\

For 64-bit Systems

C:\Program Files (x86)\Rad Elec\Radon Report Manager\Backups\

7. The database is automatically named “RRM_Backup_DD-Month-YYYY.accdb”, with “DD-Month-YYYY” being replaced by the date when the database was exported. Right-click on the file and select “Copy”.
8. Navigate to a directory of your choice (Rad Elec recommends the “My Documents” folder or to an external flash drive) and paste your database (right-click and select “Paste”). You have now created a backup of your original backup, which is a good procedure to follow with any important file that you wish to remain safe. Note that it is even more secure when your backup's backup is stored on an external drive, thereby rendering you nearly immune to catastrophic hardware failure.

9. Uninstall the Radon Report Manager software. Rad Elec recommends using the uninstallation program (located from within your operating system's Start Menu) that was installed alongside the Radon Report Manager, to ensure that your backup databases aren't accidentally erased during the procedure.
10. After the uninstallation is complete, re-install the Radon Report Manager. Refer to the previous section, entitled "Installation". After you have re-installed the Radon Report Manager, continue onwards to Step 11. You do not need to reboot your system when updating the software.
11. Now it's time to import your old database, so that you can use it with your new version! Launch the Radon Report Manager, head over to the *Setup* window, and navigate over to the "Database" tab.
12. Click on the **Import Database** button, and navigate to the directory where your exported (i.e. backup) database is located. By default, you shouldn't need to change directories – but if you can't find your exported database, head over to the copy that you created before you uninstalled the Radon Report Manager.



13. After importing the database, the Radon Report Manager will close in order to finalize the import process.

14. Launch the Radon Report Manager.



GETTING STARTED

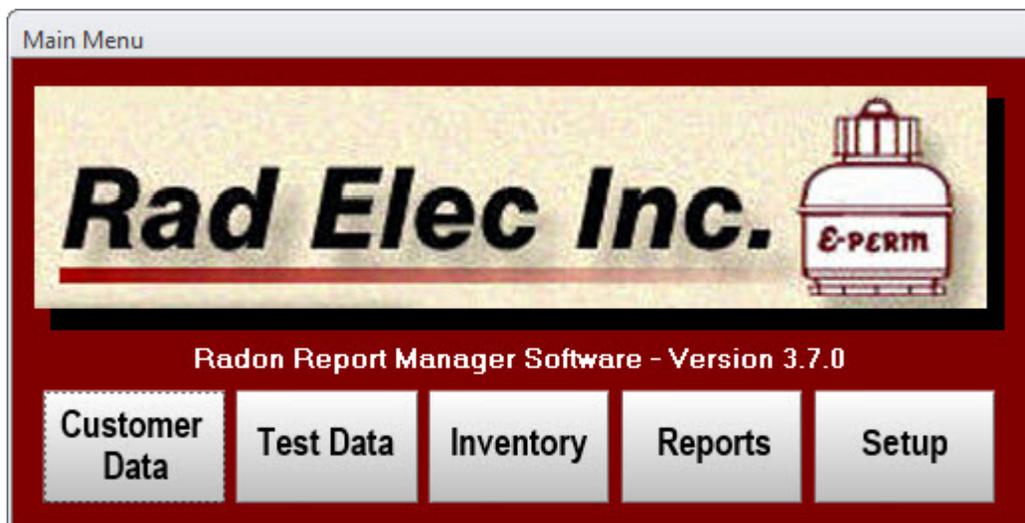
By default, the Radon Report Manager will place a shortcut icon onto your desktop. If you don't like it, feel free to move it or otherwise delete it. While installed, the software will always be accessible from the Program Files in the Start Menu, under the “Rad Elec” folder.

Launching the Program

1. Open the Radon Report Manager by either double-clicking on its shortcut icon or by navigating to it from the Start Menu.
2. The Main Menu will appear after the software has loaded. This menu will serve as the crossroads to all of the major features present in the Radon Report Manager.

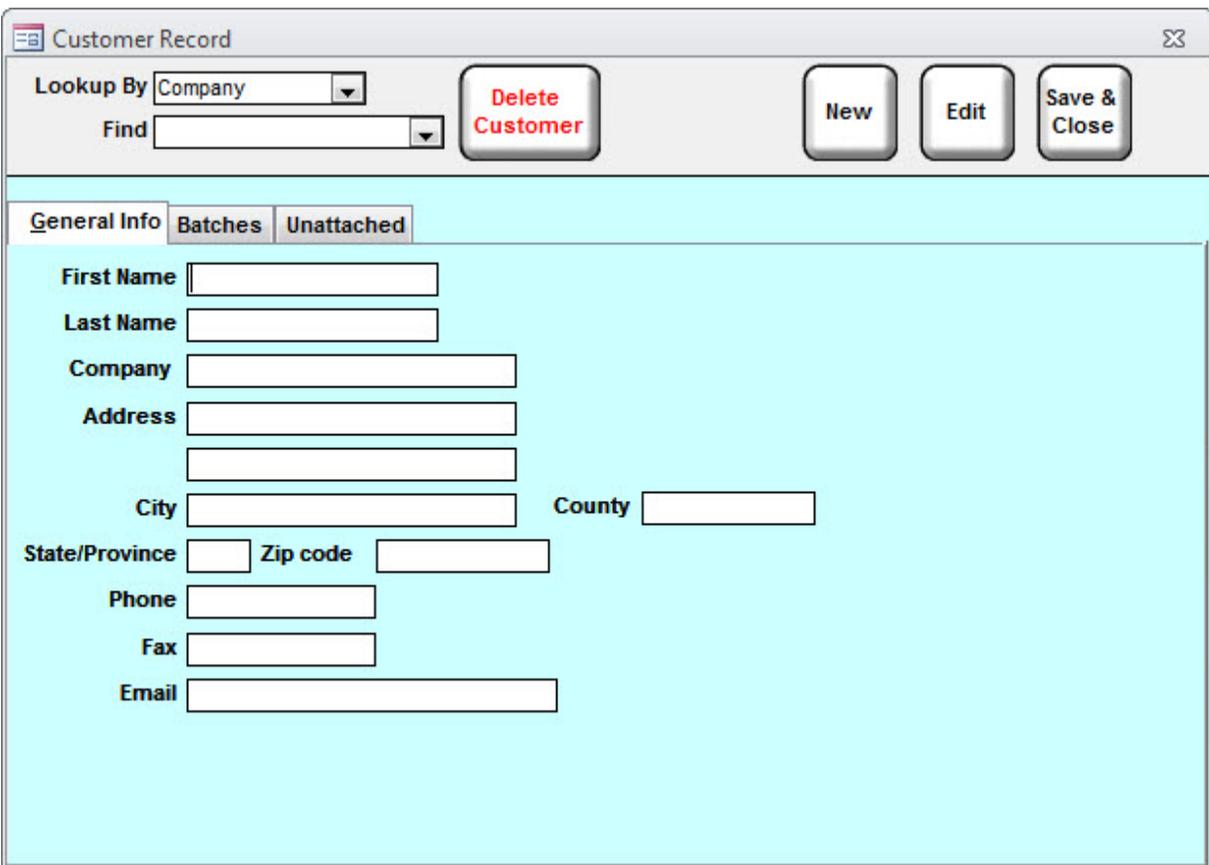
Main Menu Features

The following is a brief description of each menu option. For a more detailed description of a particular option, please refer to the appropriate section in this documentation.



Customer Data

Used to add customers, their contact information, and to access a customer's test data. The customer can then be accessed from a drop-down menu in the *Test Data* window, or from the *Test Assistant* (if it is enabled). Note that new customers can also be created from within the *Test Data* window, and also from within the *Test Assistant*. This window can also be used to locate any records in your database that are “unattached”, or otherwise lacking a customer (and can therefore be difficult to track down).



The screenshot shows a window titled "Customer Record" with a close button in the top right corner. The window contains a form for entering customer information. At the top, there is a "Lookup By" dropdown menu set to "Company" and a "Find" dropdown menu. To the right of these are three buttons: "Delete Customer" (with red text), "New", "Edit", and "Save & Close". Below the search area are three tabs: "General Info" (selected), "Batches", and "Unattached". The "General Info" tab contains the following fields:

- First Name
- Last Name
- Company
- Address (two lines)
- City
- County
- State/Province
- Zip code
- Phone
- Fax
- Email

Test Data

All radon test data and radon calculations are performed from this menu option. The user can choose from a variety of test protocols (ranging from duplicates to spikes, and everything else in-between). The *Test Data* window is where new records are created, and is where users will be spending a majority of their time when using the Radon Report Manager. It is also possible to search for saved records, and to print various reports.

Record Database
✖

Batch # 022516 - 2 ← → New Record 🔒 💾

Lookup By: Batch#(Date) Inv. Date Report Type: Deployment 🖨 📄 PDF ☐ Hide IV, FV, CF ☐ Hide Pricing Info Tamper Monitor Delete Record

Print Date: 02-25-2016 Fax

General Info | **Deployment Info** | **Pricing Info** | **Tamper Monitor**

Customer Information **Test Site Information** **Required Information**

Customer: ▼ Add

Name: _____

Address1: _____

Address2: _____

City St Zip: _____

Phone: _____

Fax: _____

Same Proxy Test

Type: ▼ Real Estate Transaction?

Contact: _____ Bldg: _____

Address: _____

City: _____ St: _____ Zip: _____

County: _____ Phone: _____

Msmnt. Unit: US ▼

Elevation (ft.): <4000 ▼

Protocol: Multi ▼

Gamma (uR/h): MV ▼ 0.0 Y

Device: SST ▼ Reader: ▼

Reader Calibration Date: ▼

Unit Count: 0

Mode: Manual ▼ Update List Order

Device	Serial	Box # (TM S/N)	Location	Start Date (MM/DD/YYYY)	Start Time (HH:MM AM)	End Date (MM/DD/YYYY)	End Time (HH:MM AM)	IV	FV	CF	pCi/L	Av RnC	%RPD	Field Blank
▶	▼	▼	▼	▼	☺	▼	☺	▼	▼	▼	▼	▼	▼	☐

Inventory

The *Inventory* window is used to track all of a user's radon-related devices, including electrets, CRMs, and other miscellaneous detectors (such as activated charcoal). It is recommended that new radon-related instruments be added from this window, as the Radon Report Manager database will greatly assist in keeping track of an end-user's inventory. The *Inventory* window is also used to track elements of a Quality Assurance / Quality Control plan by allowing users to input their weekly reference electret readings and calibration dates.

The screenshot shows the 'Inventory' window with the following components:

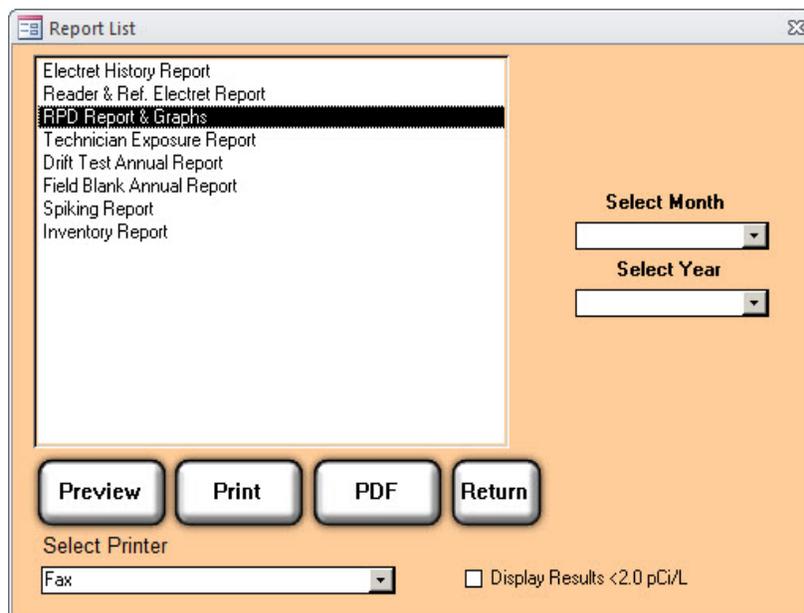
- Tabs:** Reader and Reference Electrets (selected), Electret Inventory, CRM Inventory, Misc Inventory, Tamper Monitor.
- Form Area (Left):**
 - Reader: (dropdown)
 - Buttons: New Reader, Delete Reader
 - Calibration Period: (dropdown)
 - Buttons: New Calibration, Edit Displayed Calibration
 - Reader Serial: Inactive Default
 - Calibration Date: (MM/DD/YYYY)
 - Reference Electrets:
 - Serial Number: Ref. 1 Ref. 2
 - Certified Voltage:
 - Certification Date: (MM/DD/YYYY)
 - Button: Delete Calibration
- Table (Right):**

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
02-29-2016			

Reports

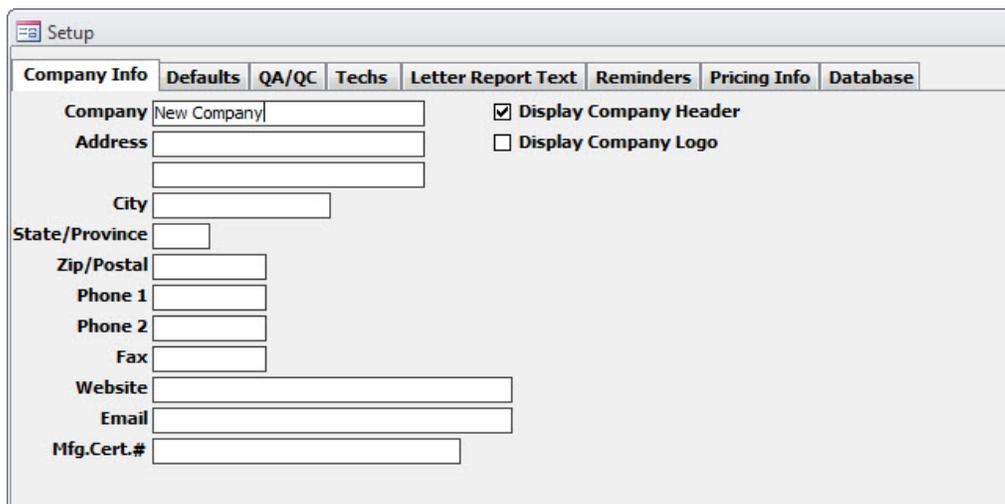
This menu option is used to select a variety of QA/QC-related reports that are not available from within the *Test Data* window. Whereas the reports from the *Test Data* window (such as a Lab Report or

Customer Letter) primarily focus on presenting the data from specific records, the *Reports* window focuses on information that is intended to assist the user in keeping track of quality-control and regulatory issues. Examples of reports include an Electret History Report, RPD Reports (with accompanying graphs), Spiking Reports, Technician Exposure Reports, and others.



Setup

The *Setup* window enables the users to define commonly-used information, such as their company information, a technician roster, and a wide range of options and defaults. This is also where the database can be backed up, imported from an external file, or exported as an Excel-compatible spreadsheet.



SETUP

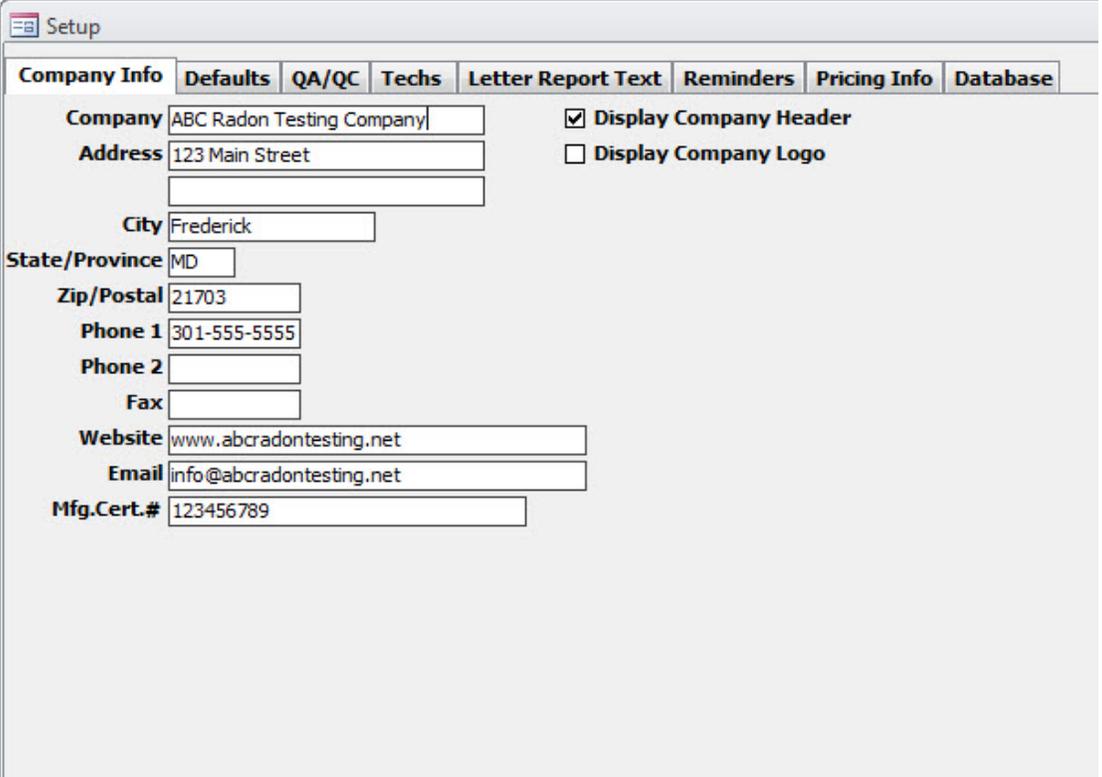


After launching the Radon Report Manager for the first time, it is strongly recommended that the user spend some time becoming familiar with the various elements of the *Setup* window. Within the *Setup* window are seven mini-sections (henceforth called "tabs") that allow a great deal of customization, ranging from company information to helpful reminders. Much of the information within the *Setup* window can be temporarily changed from other windows in the Radon Report Manager, but it's probably for the best to decide on the most commonly-used (or anticipated) defaults and change them from within this window.

Company Info Tab

The *Company Info* tab allows the user to enter details about his or her company, which will appear (if you so choose) on many of the reports when they are either printed or previewed. Start off by entering in your company's name, followed by the remaining fields (Address, City, State/Province, Phone

Numbers and E-mail Addresses). The Manufacturer Certification Number (labeled as Mfg.Cert.#) is the certification number for those users that have become a Manufacturer-Certified E-PERM® User as designated by Rad Elec. To find out how to become a



Company Info	Defaults	QA/QC	Techs	Letter Report Text	Reminders	Pricing Info	Database
Company	ABC Radon Testing Company			<input checked="" type="checkbox"/> Display Company Header			
Address	123 Main Street			<input type="checkbox"/> Display Company Logo			
City	Frederick						
State/Province	MD						
Zip/Postal	21703						
Phone 1	301-555-5555						
Phone 2							
Fax							
Website	www.abcradontesting.net						
Email	info@abcradontesting.net						
Mfg.Cert.#	123456789						

Manufacturer-Certified E-PERM® User, visit our website at www.radelec.com. Print out the application form under the *Forms* tab and follow the instructions.

Company Header and Company Logo

On the right-hand side of the window is an option to “Display Company Header”. If you would like your company information to print as the header on the Radon Test Report, please make sure that this box is checked. If you have a pre-printed letterhead that you would rather use, make sure that this box is unchecked. Note that only the company name, address, primary phone number (Phone #1), and e-mail address will be displayed in the company header.

There is also an option to “Display Company Logo”. Note that this will disable the “Display Company Header”, as both cannot be displayed simultaneously. You will need to have a digital copy of your company's logo (in a bitmap format) before you can import it into the database, but clicking on the “Display Company Logo” checkbox will cause a small preview to appear in this tab which will allow you to import your bitmap image.

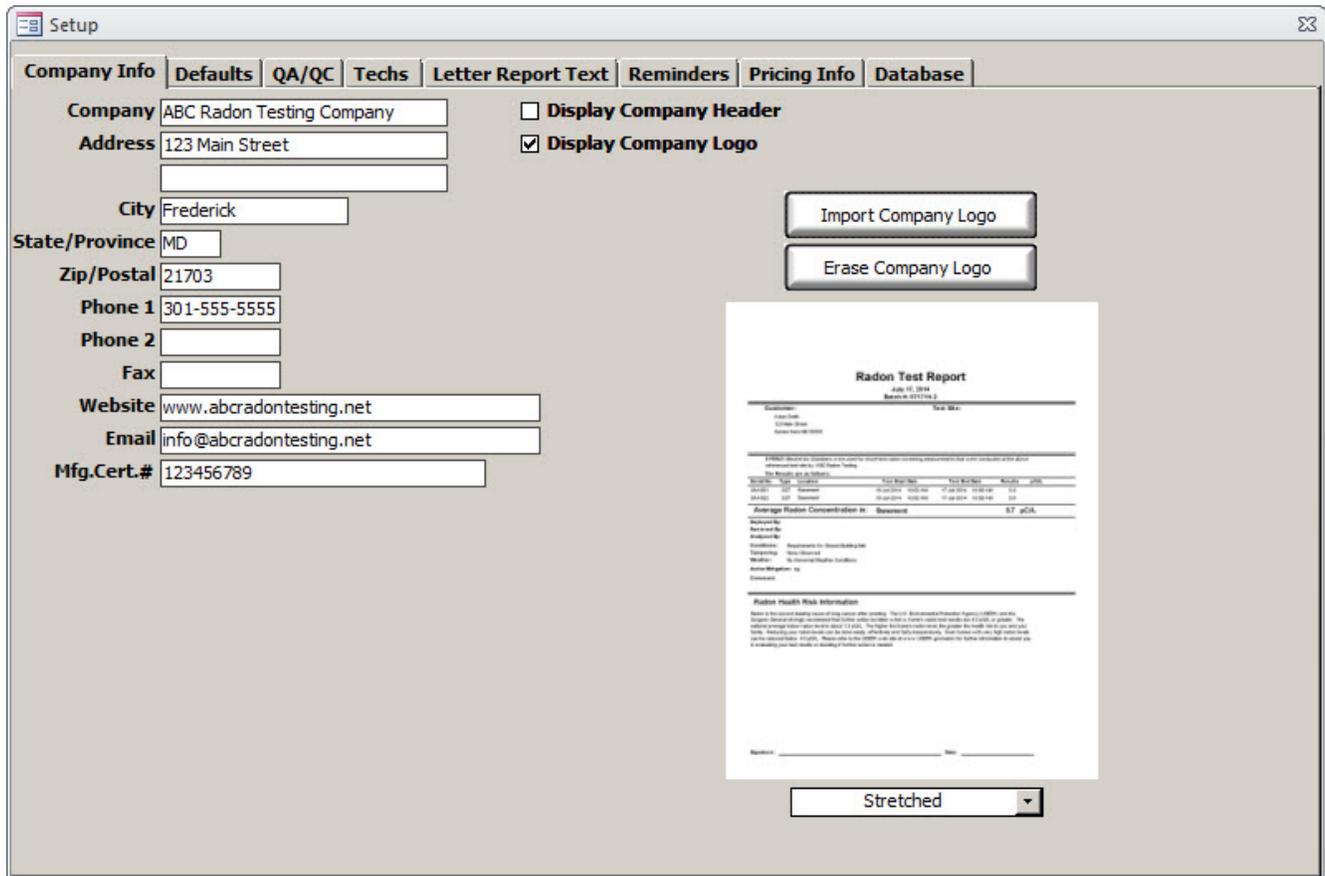
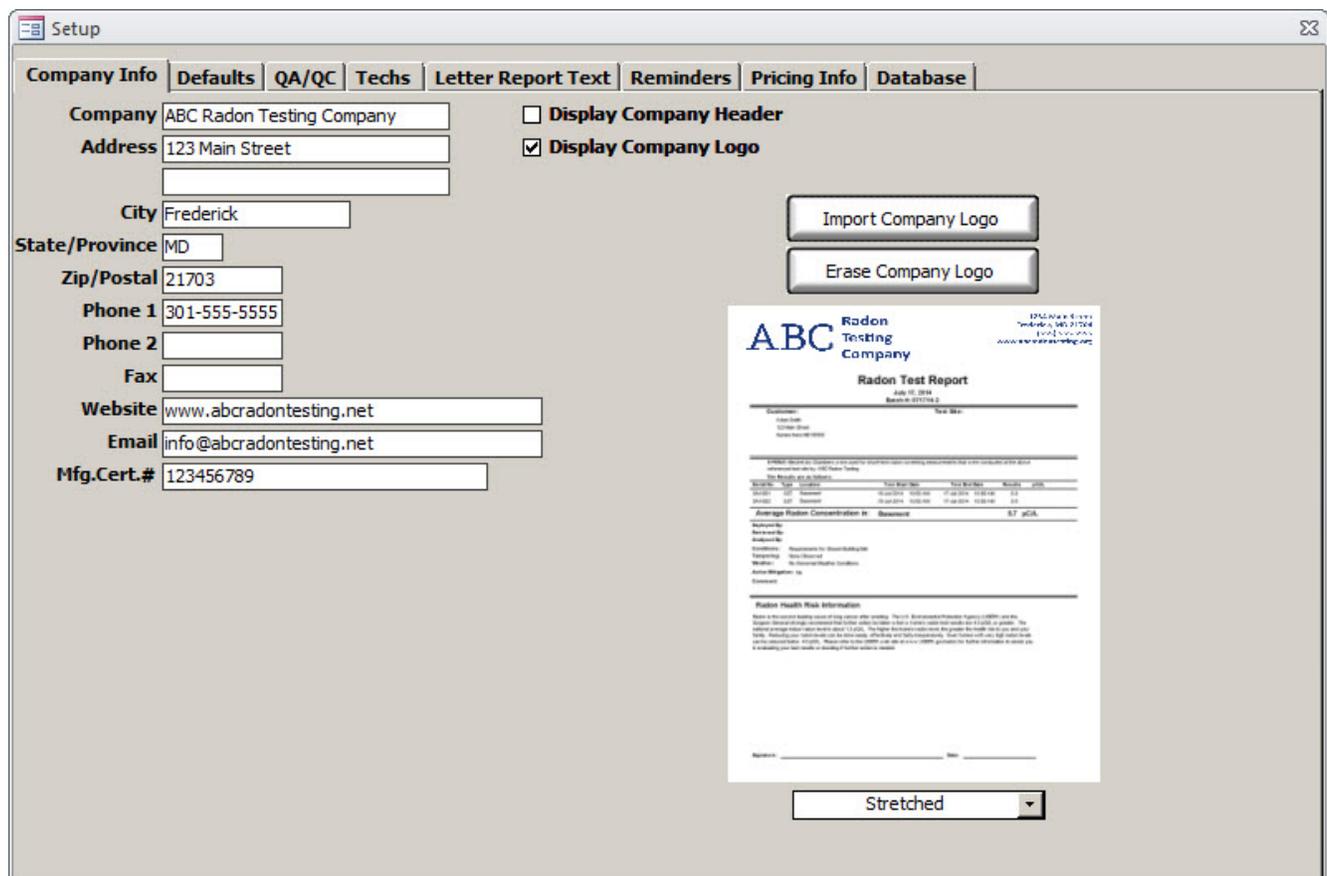


image that you wish to use. Note that at the current time it is only possible to import bitmap images to use as your company logo. If your current logo exists in another format, you should be able to use almost any image processing software to convert your logo to a bitmap (.BMP) format. If you are unsatisfied with your company logo and wish to clear it from your database, you can click on the **Erase Company Logo** to remove it.

After importing your company logo, you can select between one of two alignments, either stretched or proportional. Stretching the logo will distort your image, but will expand (or contract) its dimensions to ensure that it properly fits in the space allotted to the report header. If your company logo is already a proper size, selecting the “Proportional” option will retain your logo at its original size and dimensions. Feel free to play around with both of these options, as you can switch between them whenever you want.



Defaults Tab

The *Defaults* tab permits the customization of a variety of defaults, so that they best fit each user's standard testing protocols. Note that all of these defaults – with the exception of the State-Specific Template – can be changed from within any given report; they merely represent the initial value of a given field. For example, if 99% of your test sites are residential, then it would be best to set your “Test Site Type” to Residential; by doing this, the Test Site Type on each of your records will default to this value. Howsoever, if you happen to do a Commercial radon test at some point, you can easily change the Test Site Type from within the *Test Data* window for that specific test.

In short, the defaults you choose here are meant to make your life easier – and they definitely aren't set in stone!

The screenshot shows the 'Setup' window with the 'Defaults' tab selected. The window has a menu bar with 'Company Info', 'Defaults', 'QA/QC', 'Techs', 'Letter Report Text', 'Reminders', 'Pricing Info', and 'Database'. The main content area is divided into several sections:

- Required Info Defaults** (Yellow background):
 - Msmt. Unit: US
 - Elevation (ft.): <4000
 - Msmt. Protocol: Multi
 - Gamma (uR/h): MV, 0.0
 - Config: SST
 - Equilibrium Ratio: 0.5
 - Reader: No Default
- Laboratory** (Light Green background):
 - Decimal Resolution (US): 1 pCi/L
 - Decimal Resolution (SI): 0 Bq/m³
- QA/QC Calendar Start** (Orange background):
 - Month: January
 - Day: 1
- Test Site Defaults** (Grey background):
 - Test Site Type: No Default
 - Location: No Default
 - Real Estate Transaction?:
- Specialized Templates** (Blue background):
 - Country: United States
 - State-Specific: Basic Template
- Reports** (Cyan background):
 - Default Report Type: Deployment
 - Signature Options: Only Signature Line
 - Display Stamp on Paid Invoices?:
 - Page Setup button

Msmt. Unit

This allows you choose the default units of measurement for your reports. Although the primary purpose of this is to determine whether your radon concentrations will be displayed in pCi/L (US) or Bq/m³ (SI), this will also have a persistent effect on the date format. US dates will be reported in MM/DD/YYYY, while SI dates will be reported in DD/MM/YYYY. Both gamma and units of length will also be affected by this option.

Elevation (feet or meters)

Elevation will be displayed in either feet or meters, based on the Measurement Unit that was selected above. Using the dropdown box, select the approximate elevation of the area most-frequently tested. Note that the user can override this default value at any time when creating or editing records. It is important to use the correct elevation on any given test because the electret chambers are affected by this value.

Msmt. Protocol

Select the default measurement protocol that you'd like to appear on new records. You can choose from **Single** (when deploying one detector per tested area) or **Duplicate** (when deploying two detectors side-by-side, approximately four inches apart from each other). More options are available from within the *Test Record* window (such as **Drift Test**, **Spiking**, and **Field Blank**), but none of these options will be used enough to warrant them as defaults.

Gamma (μ R/h or nGy/h)

This is the default background gamma in the area that is being tested, shown in either μ R/h (if US measurement units are selected) or nGy/h (if SI measurement units are selected). The dropdown arrow will list the average shielded background gamma by U.S. states and Canadian provinces, but you are free to enter your own value by selecting the MV (Measured Value) option at the bottom of the dropdown list. After selecting MV, you can enter the background gamma value that you choose.

Config

This is where you select the default device type that you will use in the *Test Data* window. Although the majority of them are E-PERM[®] configurations, a number of miscellaneous device types are also available. Remember, these are only the default configurations that will appear on a new report – you are free to choose any device or configuration on each report.

SST = S Chamber fitted with an ST electret

SLT = S Chamber fitted with an LT electret

LST-OO = L-OO Chamber fitted with an ST electret
LLT-OO = L-OO Chamber fitted with an LT electret
LST = L Chamber fitted with an ST electret
LLT = L Chamber fitted with an LT electret
HST = H Chamber fitted with an ST electret
CRM = Continuous Radon Monitor
AC = Activated Charcoal
AT = Alpha Track
LS = Liquid Scintillation

Equilibrium Ratio

This is used as a means for estimating the RDP (Radon Decay Product) Levels from a Radon Measurement. If you do not know what the equilibrium factor is, assume a 50% (0.5) in accordance with the USEPA protocols.

Reader

The default voltage reader that will be attached to each new record that you create.

Decimal Resolution (US/SI)

The number of decimal places that will appear in your Lab Report for calculated radon concentrations. By default this is set to 1 decimal place for US units (which would display values such as 3.2 pCi/L) and to 0 decimal places for SI units (which would display values such as 67 Bq/m³).

QA/QC Calendar Start

This is the month and day in which you would like your calendar year to begin for the purposes of QA/QC requirements (spiking, field blanks, and duplicates). By default it is set to January 1.

Test Site Type

Select whether you would prefer “Residential” or “Commercial” as your default Test Site Type here. These defaults can be overridden during data entry in the *Test Data* window if so desired.

Location

You can select the location (in a given site) where you most-commonly deploy your detectors. A specific location can easily be changed from within the *Test Data* window,

regardless of the default chosen.

Real Estate Transaction?

This option can be selected to classify all new test records as real estate transactions.

Specialized Templates

This dropdown box presents a list of several states which will further customize the Radon Report Manager to more aptly comply with state-specific guidelines and fields. For example, selecting “Kansas” will modify the various reports and deployment sheets so that the “Approximate Age of Building” becomes a data field. Each of these state-specific templates has been created with the intention of meeting *every* special guideline required by an individual state. Although this list is still incomplete (with more states in the process of being added), it already features a customized experience for Illinois, Kansas, and Pennsylvania. If you feel that your state has been left out for too long, please give us a call and we'll do our best to move it to the top of the list! As of v3.5.0, you may also select a country from its appropriate dropdown list (although it is currently limited to the United States and Canada).

Default Report Type

By default, the report type is set to “Deployment”. This means that the initial report to preview or print will be the Deployment Sheet, from within the *Test Data* window. Regardless of the default report type selected here, you are free to choose any report to print or preview from within the *Test Data* window – this simply represents the default option that will be selected for you. You can choose one of the four available reports to be set as your default: Deployment Sheet, Lab Report, Customer Letter, or Invoice.

Signature Options

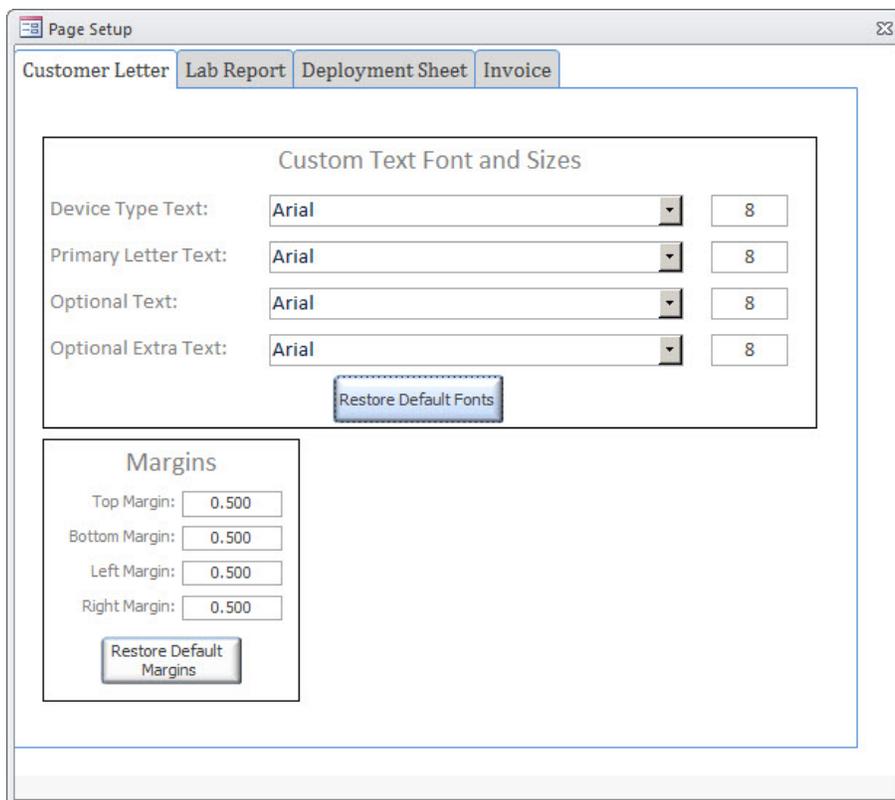
This dropdown box will allow you to choose how the signature line is displayed on your Customer Letters. By default, it is set to only display the signature and date lines. If you so desire, you can select “Display Digital Signature” if you wish to display your analyst's digital signature to any Customer Letters that you print. It's important to remember that you must import your technician's signature before it will appear on your Customer Letters, in a process which will be explained below in the “Techs” tab section. If you don't wish to go through the hassle of importing an image of your digital signature, you may choose to select “Computer-Generated”, which will display an italicized and enlarged print of the analyst's name on a test record. Lastly, you may also select “Display Nothing” if you wish to hide both the signature and date lines.

Display Stamp on Paid Invoices?

If a report is marked as paid in the database, you can choose to have a “Paid” stamp appear on those invoices when you print them.

Page Setup

Clicking on this button will launch a window that will allow you to set margins and fonts for your reports. This is still a work-in-progress, and more options and report-types will be added in future releases.



QA/QC Tab

The “QA/QC” tab displays ongoing statistics of the records that you have performed throughout your QA/QC calendar year. Although you cannot manipulate the statistics directly, you can also change your QA/QC Calendar Start (just as you can in the “Defaults” tab). Note that these numbers will dynamically update with each record that you perform, and will display a running total and percentage of the duplicates, field blanks, and spikes that have been deployed for your QA/QC year. You are also able to track how many detectors you have deployed, and how many distinct sites / radon tests you have performed.

The screenshot shows a software window titled "Setup" with a tabbed interface. The "QA/QC" tab is selected. The main heading is "QA/QC Statistics". On the left, there is a section for "QA/QC Calendar Start" with a dropdown menu set to "March" and a text box set to "7". To the right of this section, the "Calendar Start" is "07-Mar-2015" and the "Calendar End" is "06-Mar-2016". Below this, several statistics are listed, each with a value in a text box and a percentage in parentheses:

Statistic	Value	Percentage
Total Sites	237	
Total Detectors Deployed (this includes duplicates, spikes and blanks)	847	
Total Groups Deployed (a group is defined as a specific location with at least one measurement)	525	
Total Duplicates Deployed	320	(60.95%)
Total Blanks Deployed	23	(4.38%)
Total Spikes Deployed	5	(0.95%)

Techs Tab

The “Techs” tab can be used to record the technicians' names, certifications, and qualified job functions – in addition to their default exposure times at any given test site. It is also the place where a technician's digital signature can be imported into the database. The certification information entered here will be displayed on the Customer Letter (and Lab Reports) to more easily display the appropriate credentials to your customers. Also, a *Technician Exposure Report* is available from within the *Reports* window, which can be utilized to tally the accumulated annual exposure of a technician on any given year. Your qualified technicians should be added to this form if you wish their credentials to be displayed and their accumulated radiation exposure to be tracked.

Technician List

Joe Tech

Name: Joe Tech **Initials:** JT

Deployment
 Retriever
 Analyst

Import Digital Signature
Clear Digital Signature

Certifying Organization: NRPP
Certification Number: 12345678
Certification Expiration: 15-May-2014

Default Exposure Time: 15 Minutes Proportional

Joe Tech

Add New Technician
Delete Selected Technician

Measurement Defaults

	Technician Name	Certificate
Deployed by		
Retrieved by		
Analyzed by		

Adding, Editing, Deleting, and Selecting Technicians

In order to add a technician to your database, simply click the **Add New Technician** button, then fill out the technician's appropriate information in the window. If you have multiple technicians in your database, you can select one of them by left-clicking on his or her name in the "Selection List" window. If you wish to delete one of these technicians from the database, click the **Delete Selected Technician** button – you will be presented with a warning asking if you are absolutely certain that you want to remove the selected technician from your database. This operation cannot be undone, so exercise caution when utilizing it. You may edit a technician's information by selecting his or her name from the left-most box and then changing the appropriate information in the information detail window to the right.

Name

Enter the name of a specific technician in this field who will deploy, retrieve, and/or analyze the data.

Certifying Organization

If the technician is certified by an agency, enter the name of that certifying organization here (e.g. NRPP or NRSB).

Certification Number

Enter the technician's certification number, if he or she is certified.

Certification Due

Enter the date when the certification will expire.

Initials

Enter the initials of the technician. These will be used from within the *Test Data* window to record the technician(s) that deployed, retrieved, and analyzed the test.

Deployment, Retriever, Analyst

Check these boxes for each duty that the technician is certified to perform. For example, if a technician can perform all three duties, check all three boxes. When entering the deployment data for a radon test, the technicians' names that are qualified for that duty will appear in a dropdown box next to the functions that they can perform.

Default Exposure Time

Click the dropdown arrow to select the approximate (default) exposure time that the technician will record when deploying or retrieving the radon test at a given site.

Note that, like most other fields, this simply represents the initial value that is an estimate of the most commonly-used exposure time. Each site's exposure time can quickly be changed from within the *Test Data* window.

Digital Signature

If you wish to have an analyst's signature appear on a Customer Letter, then you will want to import his or her signature into the database. This signature will be attached to the specific technician, and can be deleted or re-imported at any time. In order to add a signature to a technician, click the **Import Digital Signature** button and navigate to the location where your signature image is stored. The digital signature image needs to be in one of two formats: Portable Networks Graphics (.PNG) or Bitmap (.BMP). If you wish to remove a signature from the technician, you can click on the **Clear Digital Signature** button. Similarly to the Company Logo, you may choose to either stretch the dimensions of the digital signature so that it fills the signature area of the Customer Letter, or leave the dimensions unmodified by selecting the "Proportional" option.

After all of the technicians' information has been entered, you can select which technician is most likely to perform the majority of the deployments, retrievals, and analyses. These defaults will then appear automatically on the Data Deployment section in the *Test Data* window. Just like the rest of the default values, each technician's roles (for a specific record) can be changed quickly if the need arises.

Measurement Defaults

Click on the dropdown arrow beside the job function and select the technician who is most likely to perform each function. The selected technician(s) will appear as the default operators on all newly-created test records.

Measurement Defaults		
	Technician Name	Certificate
Deployed by	<input type="text"/>	<input type="text"/>
Retrieved by	<input type="text"/>	<input type="text"/>
Analyzed by	<input type="text"/>	<input type="text"/>

Letter Report Text Tab

This tab presents the default texts that will be displayed on the Customer Letter. All text in each of the fields can be changed, added to, and/or deleted. Furthermore, there is the ability to define up to two completely-customizable presets, which can be loaded from within this window. A fresh installation of the Radon Report Manager always comes with blank presets, so you must fill them out if you desire to use them.

The screenshot shows a software window titled "Setup" with a tabbed interface. The "Letter Report Text" tab is selected. It contains the following fields:

- ST Electret Text:** E-PERM® Electret Ion Chambers were used for short-term radon screening measurements that were conducted at the above referenced test site by:
- LT Electret Text:** E-PERM® Electret Ion Chambers were used for long-term radon screening measurements that were conducted at the above referenced test site by:
- CRM Text:** A Radon Scout Continuous Radon Monitor was used for the short-term radon screening measurement that was conducted at the above referenced test site by:
- Activated Charcoal Text:** Activated charcoal devices were used for radon screening measurements that were conducted at the above referenced test site by:
- Alpha Track Text:** Alpha Track detectors were used for radon screening measurements that were conducted at the above referenced test site by:
- Liquid Scintillation Text:** Liquid Scintillation devices were used for radon screening measurements that were conducted at the above referenced test site by:
- Primary Letter Text:** Radon is the second leading cause of lung cancer after smoking. The U.S. Environmental Protection Agency (EPA) and the Surgeon General strongly recommend that further action be taken when a home's radon test results are 4.0 pCi/L or greater. The national average indoor radon level is about 1.3 pCi/L. The higher the home's radon level, the greater the health risk to you and your family. Reducing your radon levels can be done easily, effectively and fairly inexpensively. Even homes with very high radon levels can be reduced below 4.0 pCi/L. Please refer to the EPA web site at www.epa.gov/radon for further information to assist you in evaluating your test results or deciding if further action is needed.
- Optional Text:** (Empty field)
- Optional Extra Text:** (Empty field)

At the bottom of the window, there are buttons for "Air", "Water", "Restore Default Text", "Load Preset #1", and "Load Preset #2".

ST Electret Text

This text corresponds to radon testing conducted with E-PERM® radon monitors for short-term testing. It will only appear when short-term electrets are used in a radon test.

A sample Radon Test Report at the end of this section will illustrate how and where this text will appear.

LT Electret Text

This text corresponds to radon testing conducted with E-PERM® radon monitors for long-term testing. This text will only appear when long-term electrets are used in a radon test.

CRM Text

This text corresponds to radon testing conducted using continuous radon monitors, and will only appear on the Customer Letter when a CRM has been used.

Activated Charcoal Text

This text corresponds to radon testing conducted with activated charcoal devices, and will only appear on radon tests conducted with activated charcoal.

Alpha Track Text

This text corresponds to radon testing conducted with Alpha Track detectors.

Liquid Scintillation Text

This is the text that will appear on Customer Letters for radon testing conducted with liquid scintillation devices.

Primary Letter Text

This is the Radon Health Risk Information that will be displayed on the Customer Letter. You can see an illustration of this text on the following page (in a sample report).

Optional Text, Optional Extra Text

These text fields are intended to be used in conjunction with the two Preset options in order to further customize your reports. It is not recommended (but possible nevertheless) to use these text fields with the Default Text, as they will be erased if you load either Preset #1 or Preset #2.

The Radon Report Manager allows you to customize and save up to two different “preset” letter configurations for your reports, in addition to the default text that ships with the software. Only the preset that is currently selected (whether “Default Text”, “Preset #1”, or “Preset #2”) will appear on

your reports; in short, the text that is currently displayed in this window is what will be used by the Radon Report Manager when printing your reports.

Default Text

This is the default text configuration that ships with the Radon Report Manager, and should be more than adequate for most purposes. Note that any changes made to this text will be reverted back to their default values if you press the “Default Text” button again. This means that you can make temporary changes to the default text presented here, but it's *highly advised* to use one of the two presets instead (if you desire a more permanent user-customized letter) so that you don't accidentally lose your changes.

Preset #1

This is the first of two user-defined presets, and all text fields are intentionally shipped blank to allow the highest level of control and customization over your reports. In order to use this preset, simply press the “Preset #1” button. If you haven't made any previous changes to this preset, all of your text fields will appear empty. Now you can begin creating your own customized text fields, with Preset #1 automatically saving after each field is modified. In other words, you don't need to worry about saving your changes, as it's done automatically. Pressing “Preset #1” at any point will load your current text fields that have been saved to this preset.

Preset #2

This is the second of two user-defined presets, and functions in the exact same manner as Preset #1. This allows you to save and load a second set of user-customized texts for your various reports.

Air / Water Buttons

The letter report texts are different for radon-in-air and radon-in-water tests. By clicking on either of these tabs, you can switch between the text that will appear on radon-in-air and radon-in-water reports.

Sample Radon Customer Letter

ABC Radon Testing Co.

456 Bismuth Blvd.
Frederick, MD 21703

(301) 555-5555

Radon Test Report

October 27, 2014
Batch #: 102714-1

Customer:

Mary Smith
123 Main Street
Hagerstown MD 21705

Short-Term Electret Text

Test Site:

Mary Smith
123 Main Street
Hagerstown MD 21705

E-PERM® Electret Ion Chambers were used for short-term radon screening measurements that were conducted at the above referenced test site by: ABC Radon Testing Company

The Results are as follows:

Serial No.	Type	Location	Test Start Date		Test End Date		Results (pCi/L)
SAA001	SST	Basement	25-Oct-2014	10:00 AM	27-Oct-2014	11:15 AM	4.1
SAA002	SST	Basement	25-Oct-2014	10:00 AM	27-Oct-2014	11:15 AM	4.3

Average Radon Concentration in: Basement 4.2 pCi/L

Deployed By: Joe Tech 12345678

Retrieved By: Joe Tech 12345678

Analyzed By: Joe Tech 12345678

Reader S/N: E001

Reader Calibration Due: 01-Sep-2015

Conditions: Requirements for Closed-Building Met

Tampering: None Observed

Weather: No Abnormal Weather Conditions

Active Mitigation: No

Comment:

Radon Health Risk Information

Radon is the second leading cause of lung cancer after smoking. The U.S. Environmental Protection Agency (USEPA) and the Surgeon General strongly recommend that further action be taken when a home's radon test results are 4.0 pCi/L or greater. The national average indoor radon level is about 1.3 pCi/L. The higher the home's radon level, the greater the health risk to you and your family. Reducing your radon levels can be done easily, effectively and fairly inexpensively. Even homes with very high radon levels can be reduced below 4.0 pCi/L. Please refer to the USEPA web site at www.USEPA.gov/radon for further information to assist you in evaluating your test results or deciding if further action is needed.

This is an example of the Optional Text field.

This is an example of the Optional Extra Text field.

Primary Letter Text

Optional Text Field

Optional Extra Text Field

Joe Tech

Signature: _____

Date: _____

27-Oct-2014

Sample Radon Customer Letter

ABC Radon Testing Co.

456 Bismuth Blvd.
Frederick, MD 21703

(301) 555-5555

Radon Test Report

October 27, 2014
Batch #: 102714-2

Customer:

Mary Smith
123 Main Street
Hagerstown MD 21705

Test Site:

Mary Smith
123 Main Street
Hagerstown MD 21705

CRM Text



A Radon Scout Continuous Radon Monitor was used for the short-term radon screening measurement that was conducted at the above referenced test site by: ABC Radon Testing Company

The Results are as follows:

Serial No.	Type	Location	Test Start Date		Test End Date		Results (pCi/L)
CRM001	CRM	Basement	25-Oct-2014	8:10 AM	27-Oct-2014	9:30 AM	2.8

Deployed By: Joe Tech 12345678

Retrieved By: Joe Tech 12345678

Analyzed By: Joe Tech 12345678

Conditions: Requirements for Closed-Building Met

Tampering:

Weather: No Abnormal Weather Conditions

Active Mitigation: Yes

Comment:

Radon Health Risk Information

Radon is the second leading cause of lung cancer after smoking. The U.S. Environmental Protection Agency (USEPA) and the Surgeon General strongly recommend that further action be taken when a home's radon test results are 4.0 pCi/L or greater. The national average indoor radon level is about 1.3 pCi/L. The higher the home's radon level, the greater the health risk to you and your family. Reducing your radon levels can be done easily, effectively and fairly inexpensively. Even homes with very high radon levels can be reduced below 4.0 pCi/L. Please refer to the USEPA web site at www USEPA.gov/radon for further information to assist you in evaluating your test results or deciding if further action is needed.

This is an example of the Optional Text field.

This is an example of the Optional Extra Text field.

Optional Text Field



Optional Extra Text Field



Signature: _____

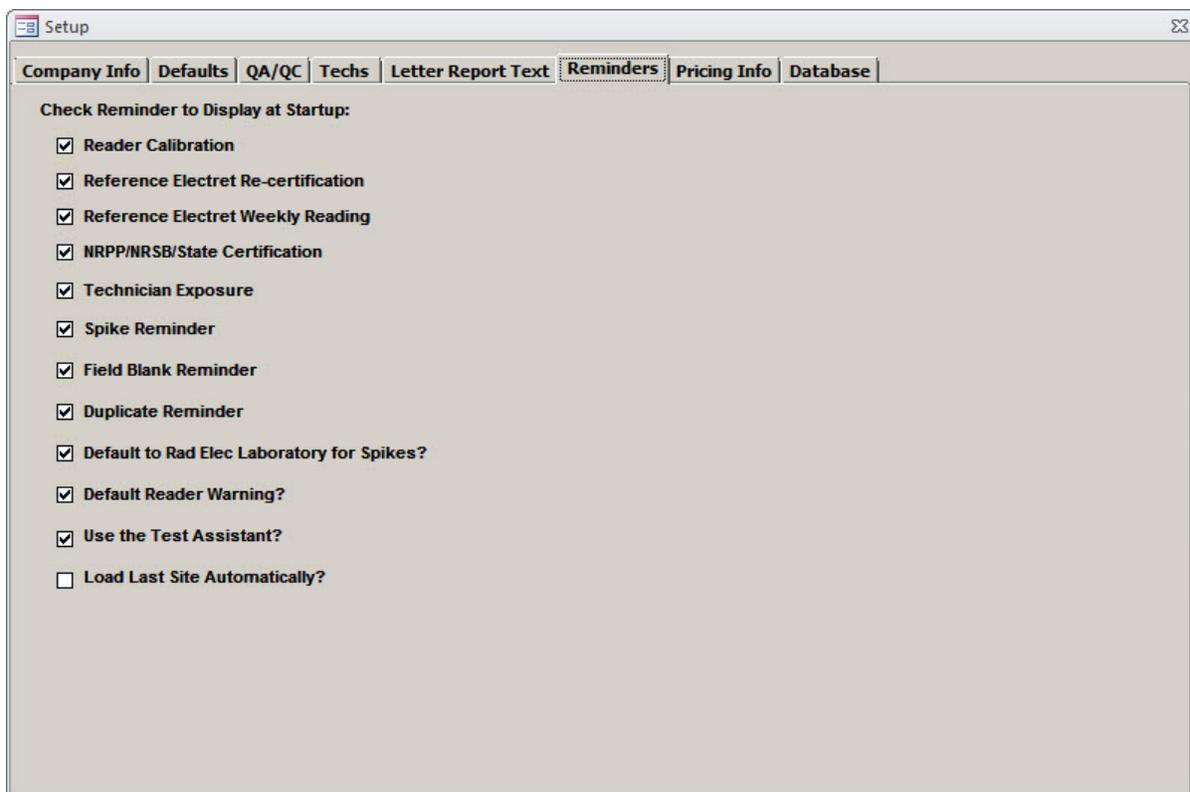
Joe Tech

Date: _____

27-Oct-2014

Reminders Tab

This tab displays the various reminders (and options) that can be activated. These reminders will automatically display a message box when the Radon Report Manager is launched, prompting the user to calibrate his/her reader, take weekly reference electret readings, provide warnings of a technician's encroaching annual exposure limit, and more. As a simple rule-of-thumb, make sure that any reminder you'd like to be active is checked. By default, many of these reminders are automatically enabled on new databases – but if you want to disable them (or re-enable them), this is where you do it.



Reader Calibration

A reminder will appear 30 days prior to the reader calibration due date, if this reminder is selected. It will continue to appear until the user has updated the reader's calibration date (located in the *Inventory* window) or otherwise disables this option.

Reference Electret Re-certification

A reminder will appear 30 days prior to the reference electret re-certification due date. It will continue to appear until the user has updated the reference electrets' calibration date (located in the *Inventory* window, alongside the reader calibration date) or otherwise disables this option.

Reference Electret Weekly Reading

If enabled, this reminder will prompt the user to take weekly reference electret readings. If the message box appears, the user will be prompted with an option to immediately be taken into the *Inventory* window so that the reference electrets can be read.

NRPP/NRSB/State Certification

This reminder, if enabled, will notify the user if any of the technicians' certifications that have already expired, or will expire within the next month. This warning will appear in advance in order to give you (or your technicians) enough time to become recertified.

Technician Exposure

The OSHA standard of occupational radon decay product exposure is 4 Working Level Months (WLM) per year with an assumed Equilibrium Ratio (ER) of 1.0. The USEPA uses a guideline of 2 WLMs per year with an assumed ER of 0.5. A warning reminder will appear if any technician is approaching an annual exposure of 4 WLMs.

Spike Reminder

USEPA protocols require 3 spikes for every 100 tests (3% of total tests), with a minimum of 3 spikes per year. Currently deployed spikes can be tracked in the QA/QC tab of the Setup window. If this reminder is checked, then you will be reminded when your spiking obligations are not being met.

Field Blank Reminder

USEPA protocols require that 1 in every 20 tests (or 5% of total tests) should include a field blank. By enabling this option, you will be reminded when your field blank obligations are not being met.

Duplicate Reminder

USEPA protocols require that 1 in 10 (or 10% of total tests) should be deployed as duplicates. By enabling this option you will be reminded when your duplicate obligations are not being met.

Default to Rad Elec Laboratory for Spikes?

By selecting this option, all newly-created spiking records will automatically fill in Rad Elec's address information into the test site data fields.

Default Reader Warning?

This reminder is enabled by default, and will simply warn you whether or not you have a default reader whenever you attempt to create or load a radon test record.

Use the Test Assistant?

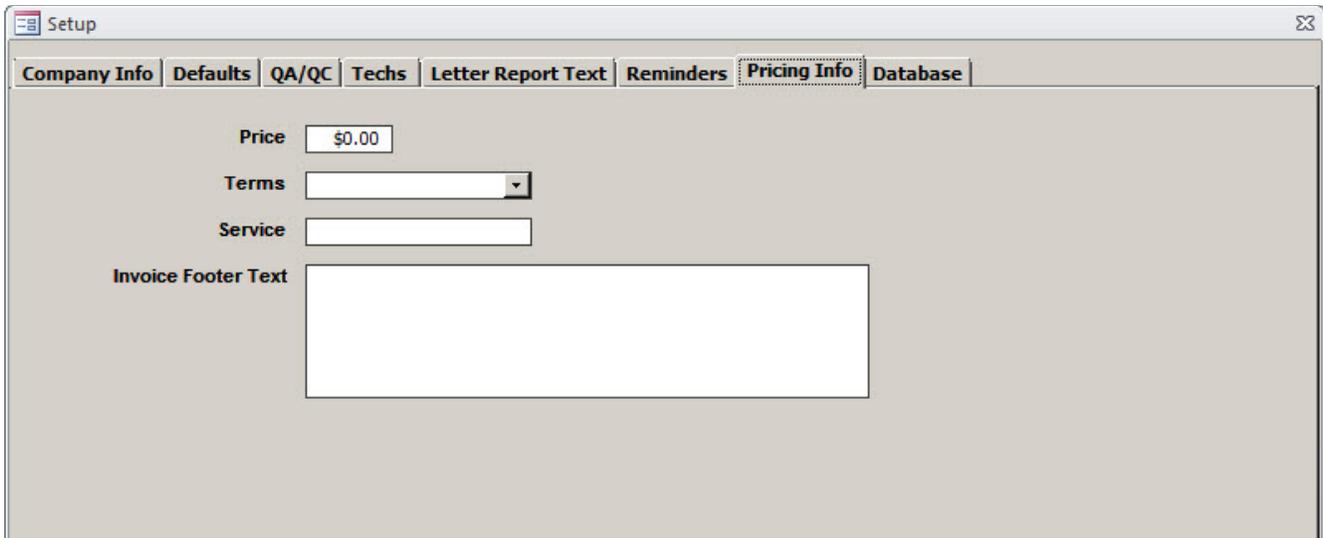
The Test Assistant is an optional search tool that will help users in both creating new records and tracking down old ones. Although it's certainly not essential, its goal is to make searching for old data more intuitive. The Test Assistant will be described in further detail at a later point in this manual. This option is enabled by default on new databases.

Load Last Site Automatically?

Sometimes it's easiest to simply load the last record that you were working with (from within the *Test Data* window). If enabled, this option will do just that – by loading the last record automatically. Note that this option cannot be enabled simultaneously alongside the Test Assistant; if you enable this, then the Test Assistant will automatically de-activate (and vice-versa).

Pricing Info Tab

The *Pricing Info* tab is used to define the default pricing information that will appear on the invoice. The options selected here will merely serve as default values, and can easily be modified on any given report if the need arises.



The screenshot shows a software window titled "Setup" with a menu bar containing "Company Info", "Defaults", "QA/QC", "Techs", "Letter Report Text", "Reminders", "Pricing Info", and "Database". The "Pricing Info" tab is selected. The main area contains the following fields:

- Price**: A text box containing "\$0.00".
- Terms**: A dropdown menu.
- Service**: A text box.
- Invoice Footer Text**: A large, empty text area.

Pricing

Enter the standard (default) amount charged for a radon test.

Terms

Use the dropdown arrow to select the standard terms of payment from the list.

Service

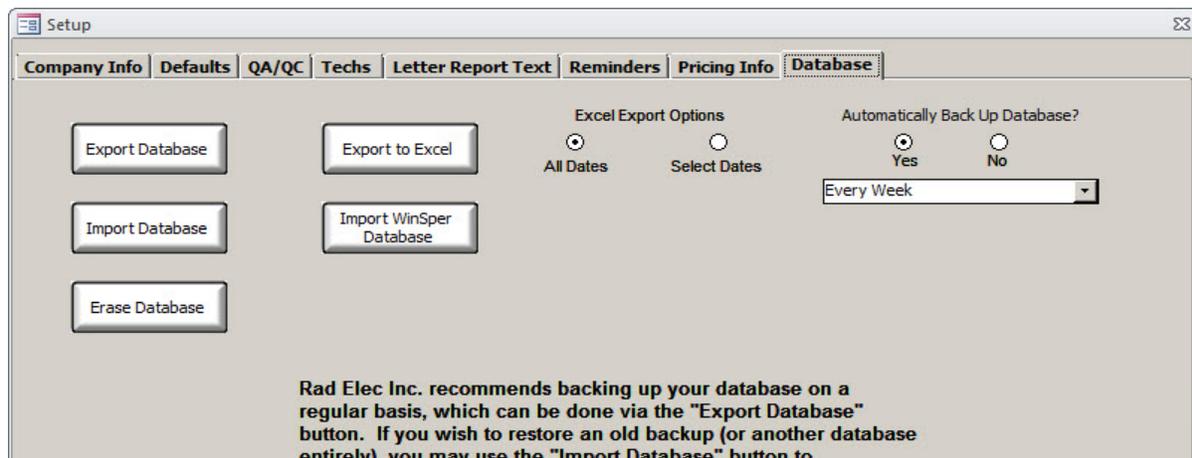
Enter the standard (default) description of the service performed that will be printed on the invoice.

Invoice Footer Text

If you would like custom text to appear on the footer of your invoice, type it here.

Database Tab

This tab can be used to perform four different, but vital, operations that concern the Radon Report Manager's database. From this window, users can export (i.e. back up) their database in order to protect themselves from hardware failure, and to migrate their database to newer versions of the software. The user can also import Radon Report Manager databases (that they have previously exported), and erase their database if they decide to "start over". Lastly, a special feature allows the test records to be exported to an Excel-compatible spreadsheet. These options are discussed in further detail below.



Export Database

This option can be used to back up your database, or to make a copy of it for external usage. By pushing this button, the database is automatically exported to a subdirectory called "Backups" from within the installation directory. Rad Elec recommends that all users make backups of their Radon Report Manager database frequently, and preferably store them on an external drive (such as a flash drive). By doing this, you will ensure that your database is not inadvertently lost due to hardware failure (such as a crashed hard drive) or another form of data corruption. The exported database will be saved as a Microsoft Access Database file (.ACCEDB), and the default filename will include the date on which it was exported.

Import Database

This option can be used to import a Radon Report Manager database (most likely one of your previous backups) back into the software. This is the primary way in which databases are migrated from an older version to a newer version. Note that prior to importing your database, you will need to either (a) erase your existing database or (b) have a fresh installation of the Radon Report Manager. After clicking on the import button, you will be asked to select the database to import – by default, the “Backups” subdirectory is listed, but you can navigate to any directory you choose to find your Radon Report Manager database file (which will have a .ACCDB suffix).

Erase Database

Prior to importing a database into the Radon Report Manager, the existing database must be erased. Make sure that you have exported your current database before erasing it, or else your data will be lost forever! A warning will appear reminding you that the data will be erased if you continue. If you want to continue, click YES. If you want to cancel this procedure, click NO. If you click YES, a second warning will appear. If you are absolutely sure you want to continue (because all of your records will be deleted), press YES again. Once the records are erased, the Radon Report Manager will shut down.

Export to Excel

This option can be used to create a spreadsheet of your data (in .XLS format). There will be several sheets in the spreadsheet after the database is exported, many of them intended for state-specific reporting regulations.

Import WinSper Database

This option can be used to import your data from an existing WinSper database. Note that this option can be used in both new and existing Radon Report Manager databases. After pressing this button, a file dialog window will appear. To import your WinSper database, navigate to its location (which is most likely in your WinSper installation directory) and select the “EpermData.mdb” file.

Excel Export Options

When exporting your database as an Excel spreadsheet, you may now choose to select the start and ending dates for the records that will be exported into a spreadsheet. If you choose “Select Dates”, you will be presented with a date-picker window when you click on the **Export to Excel** button.

Automatically Back Up Database?

It can be difficult to remember to back up your database. Now the Radon Report Manager has an option that will allow you to select a time-period at which the database will automatically export itself after you close the software. This feature can be disabled.

INVENTORY



The *Inventory* window, accessible from the *Main Menu*, keeps track of all the inventory that the user has in-stock. It stores a wide array of devices – including readers, electrets, continuous radon monitors, tamper monitors, and other miscellaneous detectors and gadgets. Proper use of the *Inventory* window will allow you to stay apprised and informed of your current stock of radon-related devices, remove any that are no longer valid, and handle many of your QA/QC-related needs (especially when pertaining to voltage readers).

As such, the *Inventory* window will also serve as your voltage reader's organizational hub – it is from here where you will take your weekly reference electret readings, store your calibration (and certification) dates, and define new calibration periods. What follows below is a description of each tab within this window.

Reader and Reference Electrets Tab

The Reader and Reference Electrets tab is the first of four sections within the *Inventory* window. It is where users can add new readers, mark old readers as inactive, and define calibration and certification dates as well as enter their weekly reference electret readings. In short, it is the “command center” for all functions dealing with the QA/QC (and management) of Rad Elec SPER-1 readers. This section will provide the necessary instructions on how to take advantage of this reader-related functionality.

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
02-29-2016			

Adding a New Reader

In order to add a new reader to your inventory, click on the “New Reader” button located near the top-center of the window. After clicking this button, you will be presented with a message stating that you may now enter a new reader's serial number. Your cursor will automatically be moved to the Reader

Serial field, where you are able to key in the serial number. After this has been done, the reader will be officially added into your inventory. This is illustrated by Step #1 and Step #2 in the diagram below. After the reader's serial number has been added, you may now key in the calibration and certification dates, in addition to the Reference Electrets' serial numbers and certified voltages.

If you so desire, you may check the **Default** box in order to set this reader as your default device

whenever performing radon tests with electrets. Note that you may only have one default reader selected at a time; if you choose a different reader to be your default, the old one's default status will be deactivated. If there comes a time when you wish to render a specific reader inactive, you can check the **Inactive** box to remove this reader from the dropdown menus.

The screenshot shows the 'Inventory' application window with the 'Reader and Reference Electrets' form. The form is divided into several sections:

- Reader and Reference Electrets**: Contains a 'Reader' dropdown menu, a 'New Reader' button (highlighted with a red box labeled 'Step 1'), a 'Delete Reader' button, a 'Calibration Period' dropdown, a 'New Calibration' button, and an 'Edit Displayed Calibration' button.
- Reader Information**: Includes 'Reader Serial' (E0001), 'Inactive' checkbox, and 'Default' checkbox.
- Calibration**: Includes 'Calibration Date (MM/DD/YYYY)' (01/30/2014) and 'Date Read (MM/DD/YYYY)' (01/31/2014).
- Reference Electrets**: Includes 'Ref. 1' and 'Ref. 2' sections, each with 'Serial Number' and 'Certified Voltage' fields.
- Certification**: Includes 'Certification Date (MM/DD/YYYY)' (01/30/2014) and a 'Delete Calibration' button.

A table on the right side of the form shows the following data:

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
01/31/2014			

Selecting a Reader and Calibration Period

The Radon Report Manager will automatically select your default reader (provided you have one) and the most recent calibration period whenever you open the *Inventory* window. It's easy to select another reader, however, by using the "Reader" dropdown arrow. If you wish to browse through your various calibration periods, simply select the appropriate period from the "Calibration Period" dropdown box after you have selected your reader.

The screenshot shows the 'Inventory' window with the following components:

- Reader and Reference Electrets** (selected tab)
- Reader**: E001 (dropdown menu)
- Calibration Period**: 4/15/2009 (dropdown menu)
- Buttons**: New Reader, Delete Reader, New Calibration, Edit Displayed Calibration
- Reader Details**:
 - Reader Serial: E001
 - Inactive:
 - Default:
 - Calibration Date: 04/15/2009 (MM/DD/YYYY)
 - Reference Electrets:
 - Serial Number: RE0001 (Ref. 1), RE0002 (Ref. 2)
 - Certified Voltage: 254 (Ref. 1), 254 (Ref. 2)
 - Certification Date: 04/15/2009 (MM/DD/YYYY)
 - Delete Calibration** button
- Table**:

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
04/22/2009	254	254	0
05/13/2009	254	254	0
06/07/2009	253	254	0
07/01/2009	254	254	0
* 02/03/2014			

Remember, you shouldn't have to follow any of these steps if you only want to look at your default reader's most recent calibration period – it's automatically loaded for you!

1. Left-click on the “Reader” dropdown arrow, and select your reader from the list. If the list is empty, that means that you have not yet added a reader into the inventory.
2. Select your desired calibration period from the “Calibration Period” dropdown box in order to load a specific calibration period.

Note that if the “Reader” dropdown box is empty, it means that you haven't yet added a reader to your inventory yet. To do this, simply click the **New Reader** button; more detailed instructions on this process are in the previous section. As a safety precaution, all of the calibration information is locked (by default). If you need to change some of your calibration information on a reader that you've just selected, skim ahead to the *Editing Calibration Period* section below.

Weekly Reference Electret Readings

It is recommended that all of your reference electrets be read weekly, and to record the voltages in this section. Additionally, a *Reader and Reference Electret History Report* can be printed out for your QA/QC records. If the calibration reminder was checked on the **Reminders** tab (from within the *Setup* window), the most recent calibration period entered for your default reader will be used to remind you when an upcoming calibration is due.

To add a new weekly reading, first make sure that your desired reader is selected (by using the “Reader” dropdown box), then simply click on the lowest Date Read field (with blank voltages for the reference electrets and the zero). By default, the Date Read will be today's date (as determined by your computer's internal clock), but feel free to change it if necessary. There is no need to “save” your weekly reading – the database is saved each and every time you update a field (by hitting the Return key on your keyboard or moving the cursor to another field).

The screenshot shows the 'Inventory' application window with the 'Reader and Reference Electrets' tab selected. The interface is divided into several sections:

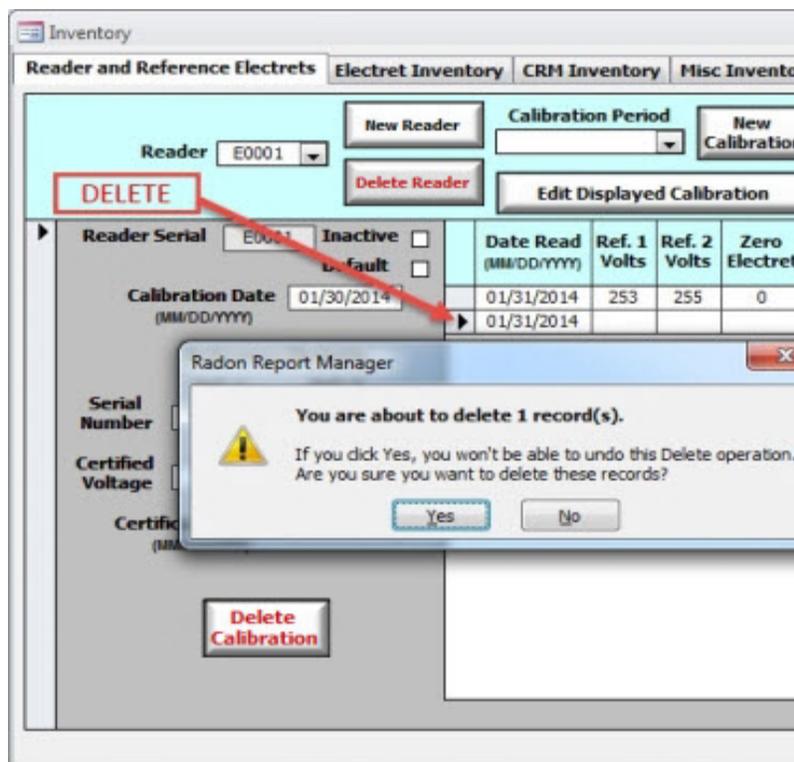
- Reader and Reference Electrets:** Contains a 'Reader' dropdown menu, 'New Reader', 'Delete Reader', 'Calibration Period' dropdown, 'New Calibration', and 'Edit Displayed Calibration' buttons.
- Reader Details:** Shows 'Reader Serial' (E0001), 'Inactive' checkbox, 'Default' checkbox, 'Calibration Date' (01/30/2014), and 'Reference Electrets' section with 'Serial Number', 'Ref. 1', 'Ref. 2', 'Certified Voltage', and 'Certification Date' fields.
- Table:** A table with columns: 'Date Read (MM/DD/YYYY)', 'Ref. 1 Volts', 'Ref. 2 Volts', and 'Zero Electret'. It contains two rows of data: one with values (01/31/2014, 253, 255, 0) and another with asterisks (01/31/2014, , ,).

Red arrows point from a red box labeled 'Weekly Reading' to the bottom row of the table, specifically to the 'Date Read', 'Ref. 1 Volts', 'Ref. 2 Volts', and 'Zero Electret' columns.

Deleting Weekly Reference Electret Readings

There may come a time when, for one reason or another, you will need to delete a weekly reference electret reading. Maybe you mis-keyed an entry, or perhaps you had the wrong reader selected; regardless of the reason, this is quite simple to do. Simply highlight the record by left-clicking on its left-most column (which will normally have an icon represented by ,  or ), then hit the DELETE key on your keyboard. When selected, this icon will change from one of the above symbols to a , which means that the record has been selected. You will be presented with a message box confirming whether or not you wish to delete this weekly reading; if you are sure you wish to delete it, select YES.

Note that you shouldn't need to delete a weekly reference reading except under unusual circumstances (such as making an incorrect reference reading for a different reader). In order to prevent your weekly reference electret reading logs from getting cluttered, it is recommended to create a **New Calibration Period** whenever a specific reader has been re-calibrated.



Adding A New Calibration Period

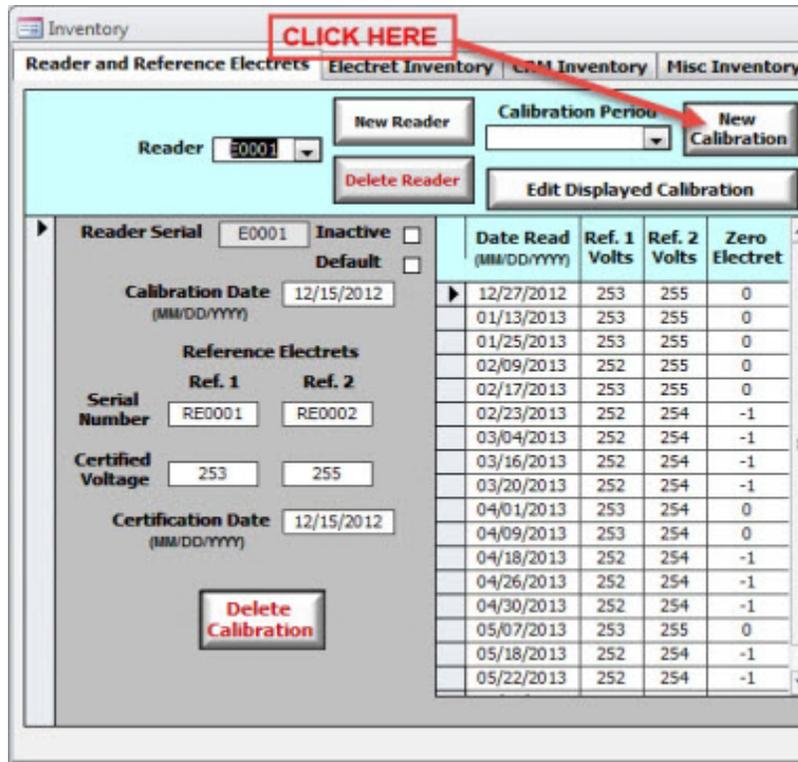
When adding a *new* reader to your inventory, the first calibration period is automatically created. However, all subsequent calibration periods need to be created – and henceforth defined – by the user. This isn't as difficult as it may seem at first, and can be accomplished by following the handful of steps below.

1. After your reader has been calibrated and returned to you, navigate to the **Reader and Reference Electret** tab and select your newly-calibrated reader via the “Reader” dropdown box.

The screenshot shows the 'Inventory' application window with the 'Reader and Reference Electrets' tab selected. A red box labeled 'SELECT READER' highlights the 'Reader' dropdown menu, which is currently set to 'E0001'. A red arrow points to the dropdown. The interface includes buttons for 'New Reader', 'Delete Reader', 'New Calibration', and 'Edit Displayed Calibration'. Below these are input fields for 'Reader Serial', 'Calibration Date', 'Reference Electrets', and 'Certification Date'. A table on the right displays a list of calibration records with columns for 'Date Read', 'Ref. 1 Volts', 'Ref. 2 Volts', and 'Zero Electret'.

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
12/27/2012	253	255	0
01/13/2013	253	255	0
01/25/2013	253	255	0
02/09/2013	252	255	0
02/17/2013	253	255	0
02/23/2013	252	254	-1
03/04/2013	252	254	-1
03/16/2013	252	254	-1
03/20/2013	252	254	-1
04/01/2013	253	254	0
04/09/2013	253	254	0
04/18/2013	252	254	-1
04/26/2013	252	254	-1
04/30/2013	252	254	-1
05/07/2013	253	255	0
05/18/2013	252	254	-1
05/22/2013	252	254	-1

2. Now click on the “New Calibration” button, near the upper right-hand corner of the window.



3. Your old calibration and certification dates will be stored, and your cursor will automatically be focused on the new (blank) calibration date field. Enter your new calibration date now.
4. Enter your new certified voltages for your reference electrets. If you have had your reference electrets replaced, change the appropriate serial numbers.

5. Enter in the new certification date.
6. Voilà! You have created a new calibration period for your reader, which can be selected from the "Calibration Period" dropdown box. Note that the most current calibration period is automatically selected for your readers.

The screenshot shows the 'Inventory' application window with the 'Reader and Reference Electrets' tab selected. The 'Electret Inventory' sub-tab is active. The 'Reader' dropdown is set to 'E0001'. The 'Calibration Period' dropdown is empty. The 'Date Read' field shows '01/31/2014'. The 'Reference Electrets' section shows 'Ref. 1' as 'RE0001' and 'Ref. 2' as 'RE0002'. The 'Certified Voltage' field is empty. The 'Certification Date' field is empty. A red box labeled 'ENTER NEW DATA' has arrows pointing to the 'Calibration Date', 'Certified Voltage', and 'Certification Date' fields.

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
01/31/2014			

Editing Displayed Calibration

If you wish to edit one of your calibrations (because you incorrectly typed one of the reference electret voltages or calibration dates), you must click on this button in order to “unlock” the calibration data. After unlocking the calibration fields, their background colors will change from a light gray color (locked) to white (unlocked).

Note that you shouldn't use this button in order to add a new calibration, but rather use it in those special circumstances where you must edit one of your pre-existing data fields. If you do want to find out how to add a new calibration period, go to the previous section, entitled *Adding a New Calibration Period*.

The screenshot shows the 'Inventory' application window with the 'Reader and Reference Electrets' tab selected. The interface includes several buttons: 'New Reader', 'Delete Reader', 'New Calibration', and 'Edit Displayed Calibration'. A table displays calibration data for reader E001.

Date Read (MM/DD/YYYY)	Ref. 1 Volts	Ref. 2 Volts	Zero Electret
02/03/2014			

The form also contains fields for 'Reader Serial' (E001), 'Calibration Date' (01/10/2014), 'Reference Electrets' (Serial Number, RE0001 and RE0002), and 'Certification Date' (01/10/2014). A 'Delete Calibration' button is located at the bottom of the form.

1. If necessary, select the appropriate reader with the “Reader” dropdown arrow.
2. Select the calibration period that you wish to edit by left-clicking the “Calibration Period” dropdown arrow.
3. Left-click on the **Edit Calibration Period** button. This will unlock your calibration period fields, and the backgrounds will change from light gray to white.
4. You may now edit all of your calibration period fields, such as the Calibration and Certification Dates, Reference Electret serial numbers, and Certified Voltages. You may not, however, edit the Reader's serial number.

To reiterate, you should *only* use the **Edit Calibration Period** function when you have incorrectly typed in information. If your reader has recently been re-calibrated, then you must create a new calibration period by clicking on the **New Calibration** button. This is explained in a step-by-step manner in the previous section of this manual.

Deleting Displayed Calibration

If you wish to delete the displayed calibration – including all of its weekly reference readings – then you must ensure that the desired reader and calibration periods are selected, click on the “Edit Displayed Calibration” button, then click on the “Delete Calibration” button near the bottom of the window. You will be presented with a message box asking you to confirm the deletion of this entire calibration period.

The screenshot shows the 'Inventory' application window with the 'Reader and Reference Electrets' tab selected. The interface includes several sections:

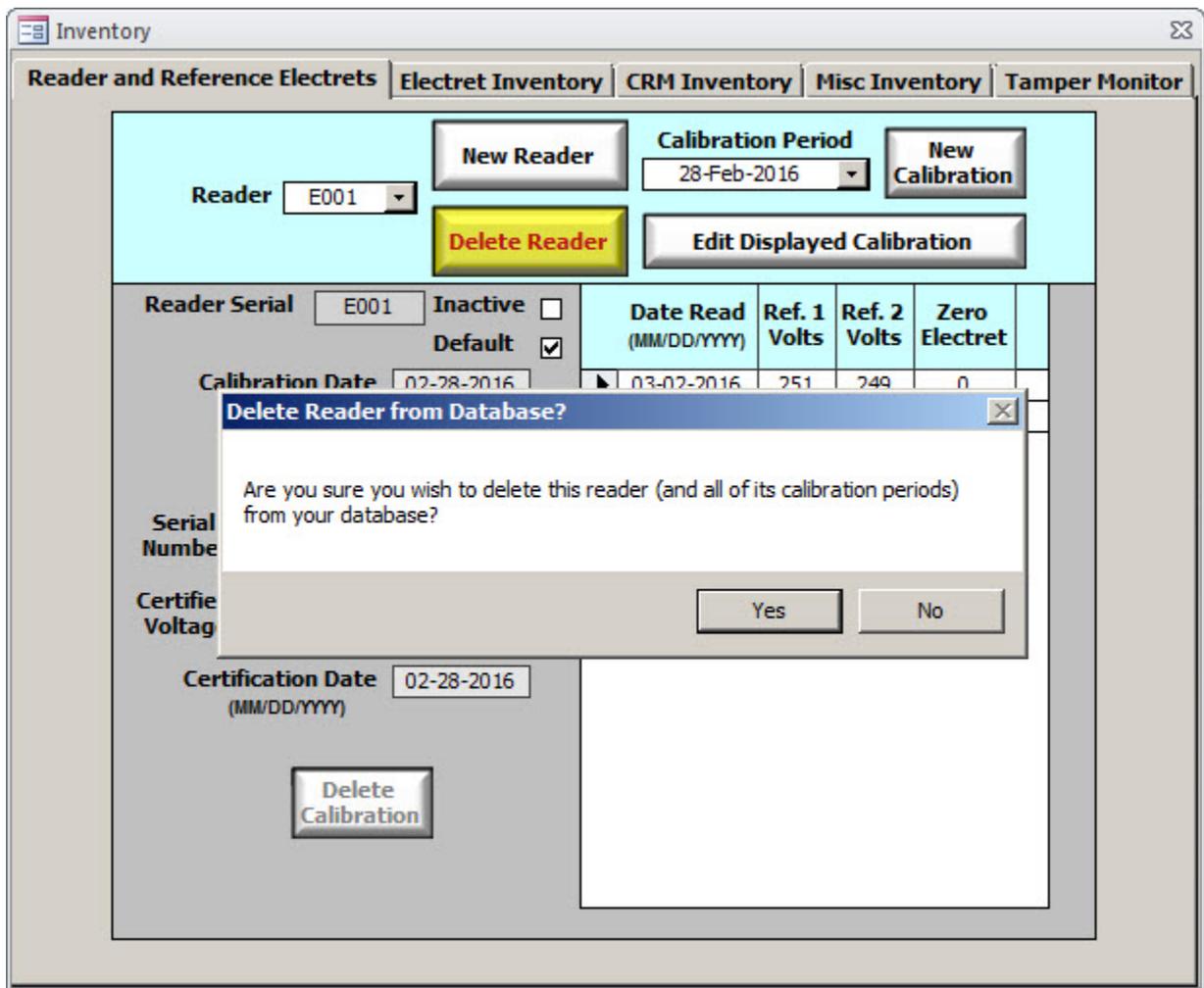
- Reader and Reference Electrets:** Contains a 'Reader' dropdown menu (E001), 'New Reader', 'Delete Reader', 'Calibration Period' (28-Feb-2016), 'New Calibration', and 'Edit Displayed Calibration' buttons.
- Reader Details:** Includes 'Reader Serial' (E001), 'Inactive' checkbox, 'Default' checkbox, 'Calibration Date' (02-28-2016), 'Reference Electrets' (Serial Number, Ref. 1, Ref. 2), 'Certified Voltage' (251, 249), and 'Certification Date' (02-28-2016).
- Table:** A table with columns: Date Read (MM/DD/YYYY), Ref. 1 Volts, Ref. 2 Volts, and Zero Electret. It contains two rows of data.
- Buttons:** 'Delete Calibration' is located at the bottom left of the window.

Four red boxes labeled 'STEP #1' through 'STEP #4' indicate the sequence of actions:

- STEP #1: Points to the 'Reader' dropdown menu.
- STEP #2: Points to the 'Calibration Period' dropdown menu.
- STEP #3: Points to the 'Edit Displayed Calibration' button.
- STEP #4: Points to the 'Delete Calibration' button.

Deleting Voltage Reader

If you wish to delete a voltage reader from your database, please be aware that this will delete *all* of the associated calibration periods and weekly reference electret readings associated with this device. In order to do this, simply ensure that the correct voltage reader that you wish to delete is selected, and then click on the “Delete Reader” button. You will be asked to confirm your decision.



Electret Inventory

Serial #	Electret Type	Inventory Date (MM/DD/YYYY)	Inv. Voltage	Last Voltage	Last Date Read (MM/DD/YYYY)	Retired?
SAA001	ST	03-02-2016	733	733	03-02-2016	<input type="checkbox"/>
SAA002	ST	03-02-2016	749	749	03-02-2016	<input type="checkbox"/>
SAA003	ST	03-02-2016	745	745	03-02-2016	<input type="checkbox"/>
*		03-02-2016	0	0		<input type="checkbox"/>

Voltage Manual Update

The **Electret Inventory** tab is the section of the *Inventory* window where all of your long-term and short-term electrets are stored. The core functionality of the **Electret Inventory** tab is limited to three basic – albeit important – features: adding new electrets to your stock, removing old electrets that have expired, and (hopefully only rarely) editing a data field that you may have mistyped. Of course, this tab also gives you the ability to peruse through all of your electrets.

It is worth noting that, although this is where you should add new electrets to your inventory, any new electret (i.e. one not yet recorded in your database) will automatically be added to the **Electret Inventory** when entered in the *Test Data* window. This means that, in a pinch, you do *not* need to use

the **Electret Inventory** tab to add new electrets to your inventory; you will, however, need to use the features here if you need to delete any electrets or modify their values due to a typographical error.

This section will teach you how to utilize all features of the **Electret Inventory** tab, in addition to defining the various data fields.

Serial #

This is the serial number of the electret. Short-term electrets should always begin with an “S” (followed by two more letters, then three numbers), whereas long-term electrets will always begin with an “L” (again, followed by two more letters, then three numbers).

Electret Type

There are two basic classes of electrets: short-term (ST) and long-term (LT). Short-term electrets are used for radon tests lasting less than 90 days, and are roughly four times more sensitive than their long-term counterparts. Long-term electrets, by comparison, are used for radon tests lasting longer than 90 days and are much less sensitive than their short-term counterparts.

Inventory Date

This is the date when a specific electret was entered into your inventory. This field serves no other purpose than to let you know exactly how long you've held onto a specific electret.

Inv. Voltage

The Inventory Voltage is used to represent the initial voltage of a specific electret when it is first added into the inventory.

Last Voltage

This field represents the most recent recorded voltage of a specific electret, as determined by the last time it was used in an actual test record. By default, this value will match the Inventory Voltage (but only when an electret is first entered into the inventory). This value can be manually altered by clicking on the **Voltage Manual Update** button, then entering in the desired voltage.

Last Read Date

This field represents the last (i.e. most current) date in which a specific electret was used. By default it will be the initial date when the electret was added to the inventory. Similar to the “Last Voltage” field, the user cannot directly modify this field.

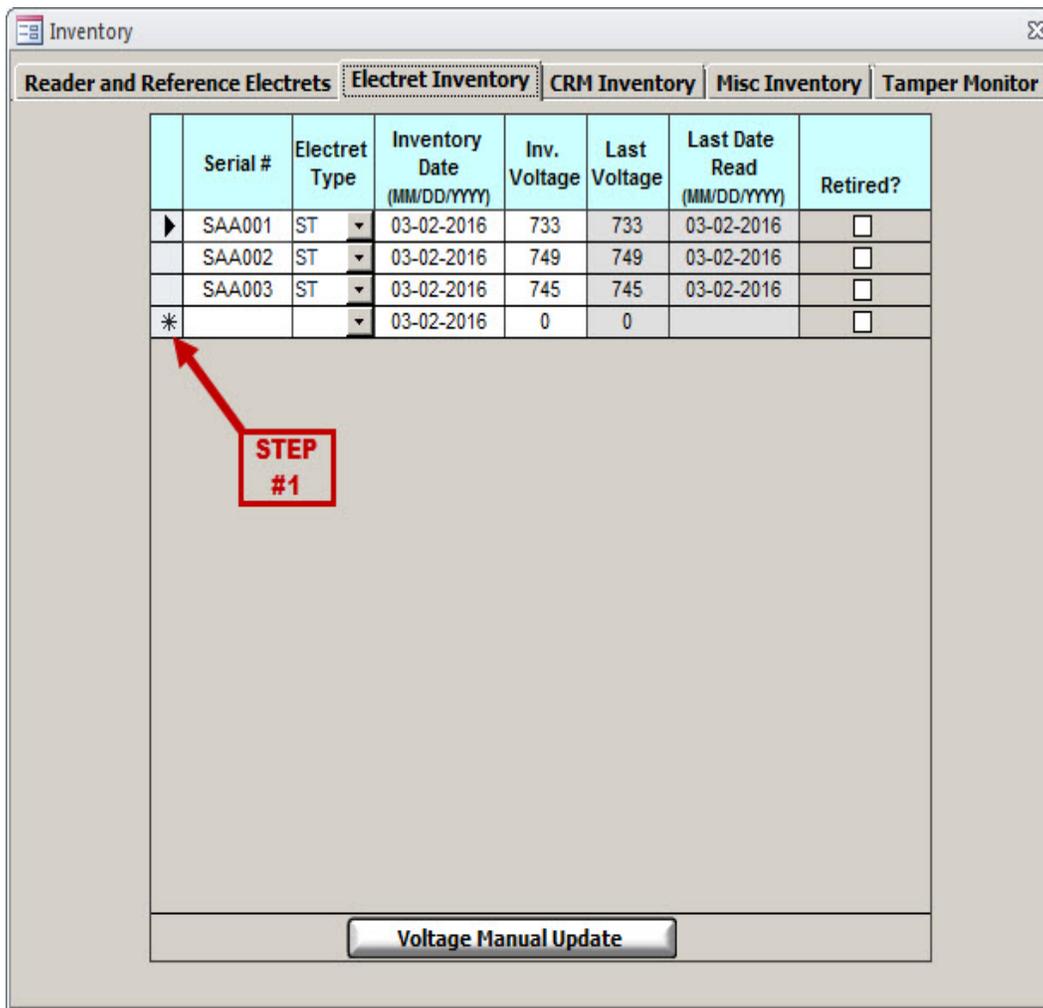
Retired?

Retired electrets will no longer appear in the dropdown boxes for new test records, to prevent digital clutter. You can retire (or re-activate) electrets by clicking on this button.

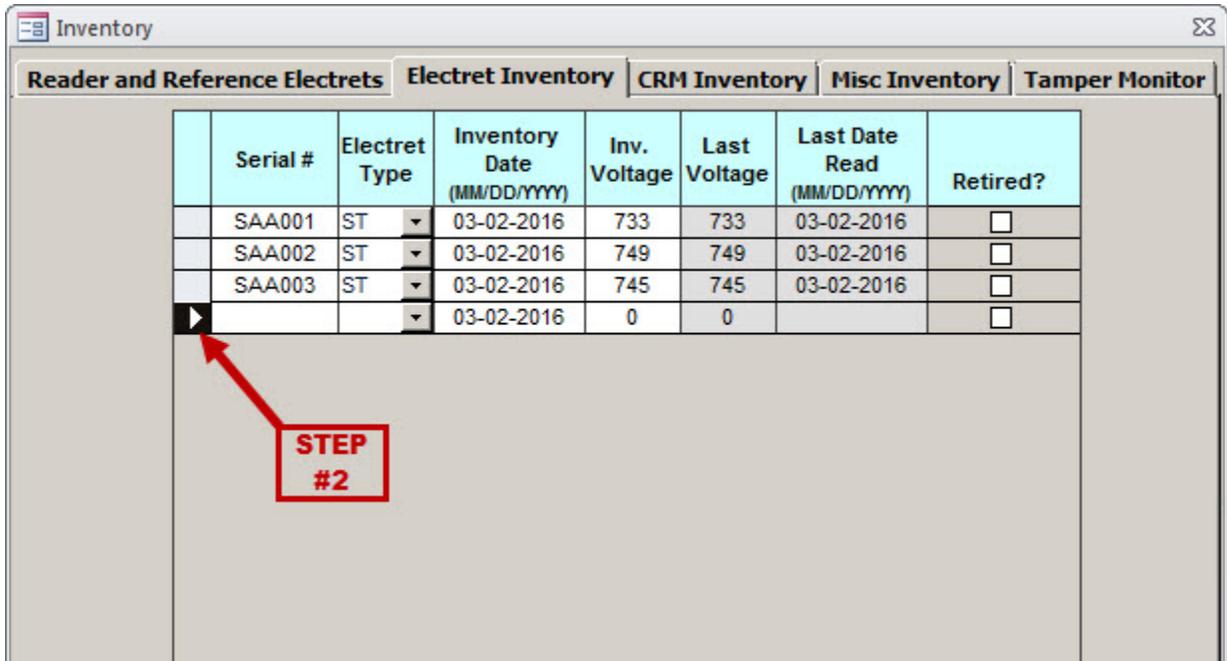
Adding Electrets to Inventory

The following instructions will describe how to add a new electret to the Radon Report Manager's inventory. Rad Elec recommends that you take a little extra time and actually use the *Inventory* window to add all of your detectors – not just electrets – to your inventory, rather than automatically add them via the *Test Data* window. Following this procedure will allow you to more easily correct any typographical errors you may accidentally make on the *Test Data* window, and offers you a greater control over an electret's initial entry into the inventory.

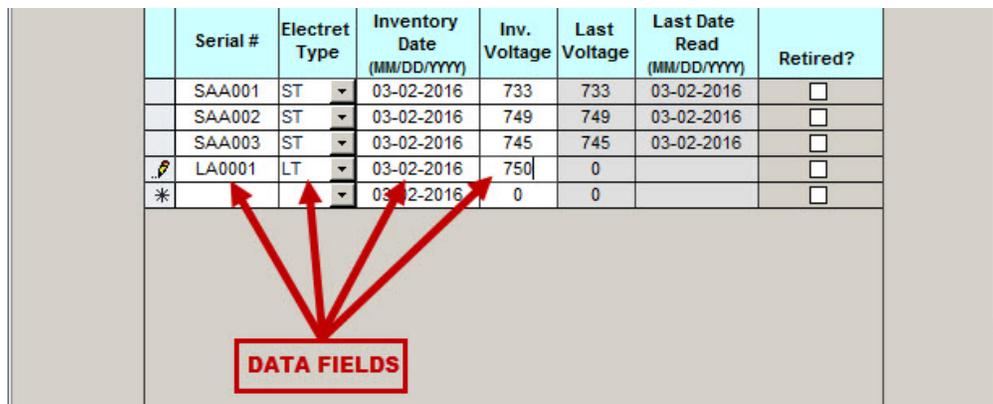
1. Left-click on the lowest blank record, usually indicated by the * icon, in order to select the record.



2. The * icon will change to ▶, to indicate that record has been selected.



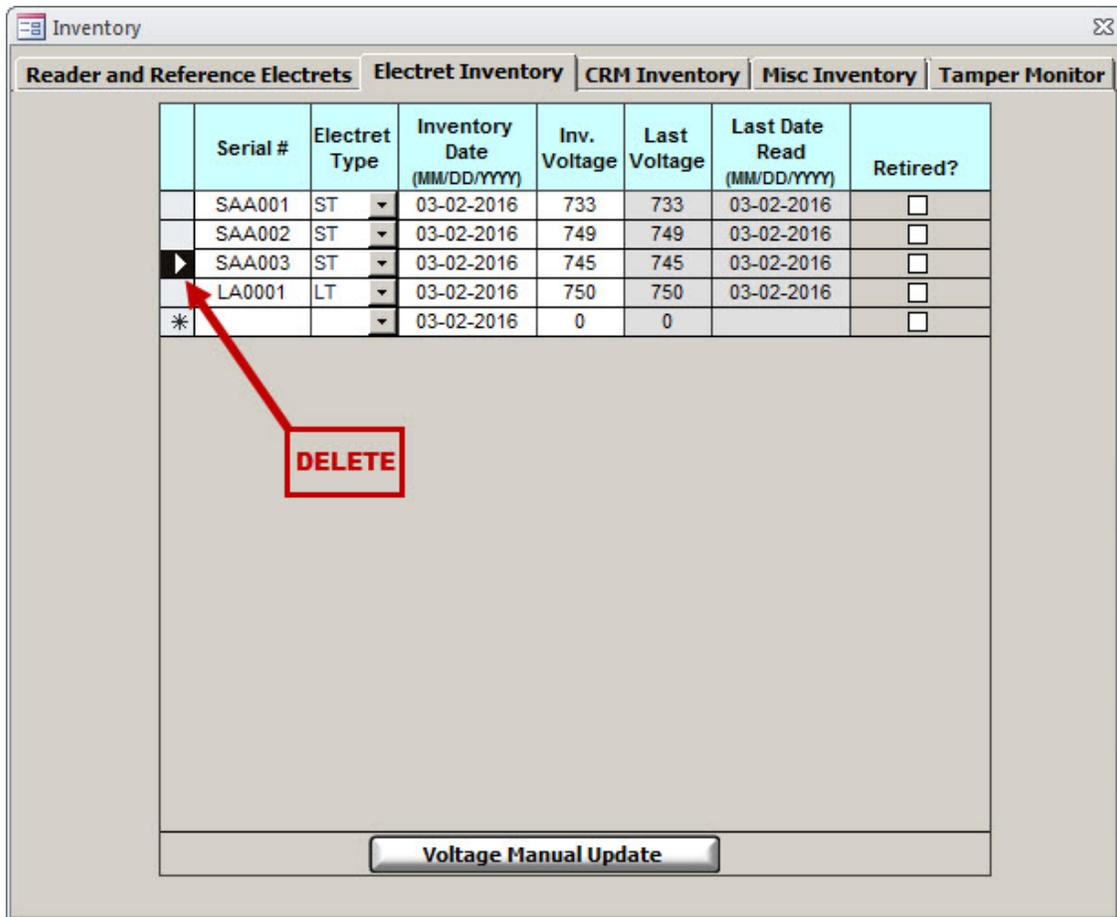
3. Begin entering the data fields at your leisure. When you arrive at the “Electret Type” dropdown box, you may either select ST or LT from the list, or type it in yourself. The database is automatically saved after every field is updated (which basically means every time you either hit the “Enter” key on your keyboard or tab over to another field).



Deleting Electrets from Inventory

At a certain point (most likely if and/or when your inventory becomes cluttered with electrets or activated charcoal canisters that you haven't used for years), it may be time to do some in-house cleaning by surgically deleting your old, outdated stock. The following instructions will show you how to delete an electret from your inventory.

Simply highlight the electret's record that you want to delete by clicking on its left-most column (which will normally have an icon represented by ,  or ). When selected, this icon will change from one of the above symbols to a , which means that the record has been selected. Now strike the DELETE key on your keyboard. You will be presented with a message box confirming whether or not you wish to delete this weekly reading; if you are sure you wish to delete it, select YES.



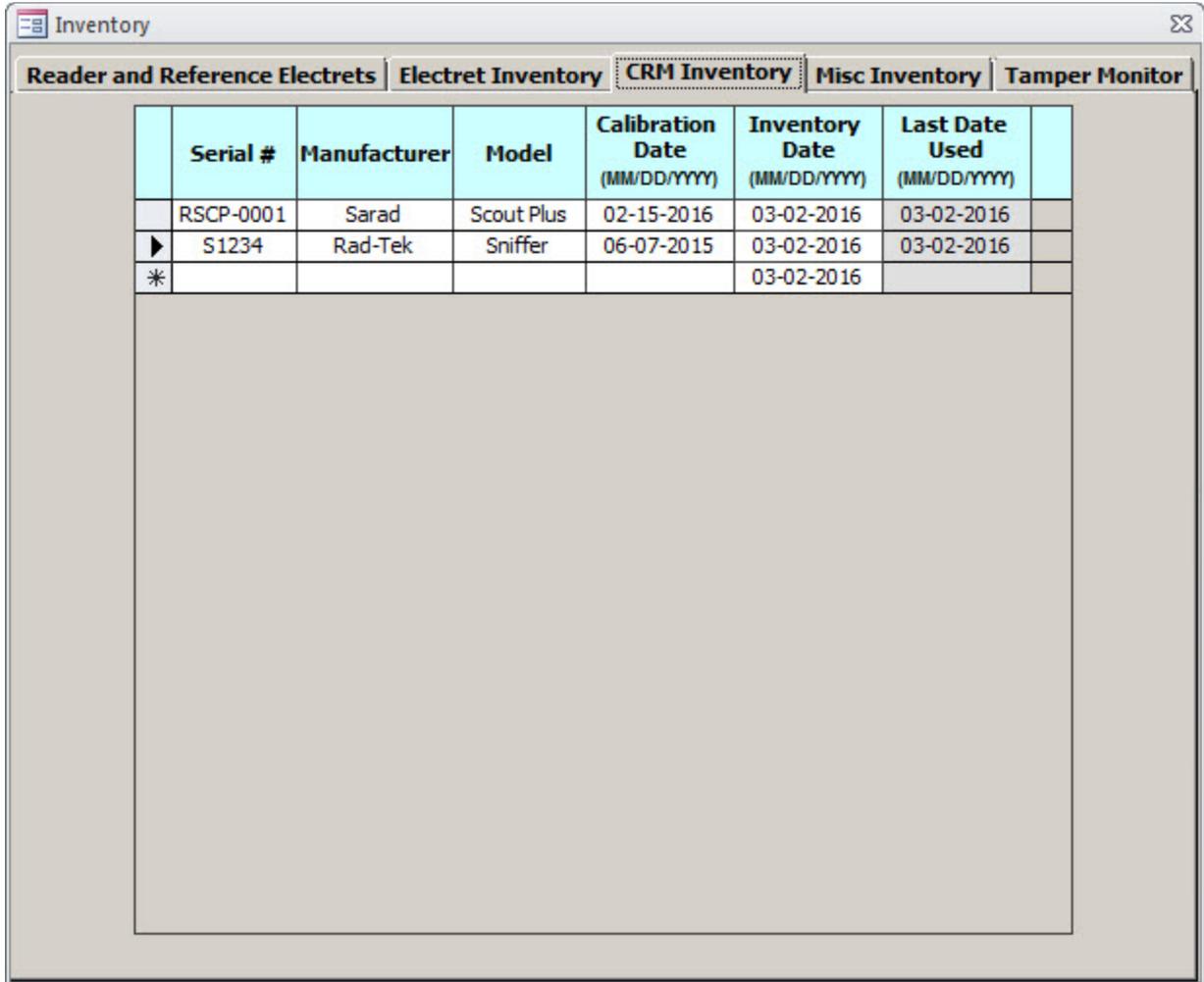
Editing Electrets in Inventory

Unlike many other data windows in the Radon Report Manager, there are no locks preventing you from editing the four left-most fields whenever you want. These four fields – ***Serial #, Electret Type, Inventory Date,*** and ***Inv. Voltage*** – may be freely changed at any point in time. The two remaining fields – ***Last Voltage*** and ***Last Read Date*** – are generated from your records and cannot be directly edited.

Howsoever, you may press the **Voltage Manual Update** button on a selected electret in order to edit its current voltage; note that this manual voltage update will appear on the Electret History Report.

As a bit of an aside, be mindful of the lack of “locks” on the **Electret Inventory** tab (although the same holds true for the **CRM Inventory** and **Miscellaneous Inventory** tabs, too). The ability to freely edit your data allows you to quickly correct any typographical errors, but it can also botch your records if you aren't careful. This freedom may end up being a bit too much like a double-edged sword – if you feel that it is too easy to accidentally edit your records, let us know at Rad Elec, as we are considering the addition of “locks” to the various inventory tabs. Of course, this will mean one extra mouse-click when it comes to editing your records, but should prevent any unintentional edits.

CRM Inventory



The screenshot shows a software window titled "Inventory" with a tabbed interface. The "CRM Inventory" tab is selected. The table below contains the following data:

	Serial #	Manufacturer	Model	Calibration Date (MM/DD/YYYY)	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)	
	RSCP-0001	Sarad	Scout Plus	02-15-2016	03-02-2016	03-02-2016	
▶	S1234	Rad-Tek	Sniffer	06-07-2015	03-02-2016	03-02-2016	
*					03-02-2016		

As you probably guessed, the **CRM Inventory** tab is where you can add, delete, and modify your stock of continuous radon monitors. The procedures for doing such are (for all intents and purposes) identical to that of the **Electret Inventory**, as described in the previous section. If you are already familiar with the features of the **Electret Inventory**, you shouldn't need more than a quick scan in order to familiarize yourself with the slight changes that the **CRM Inventory** brings to the table. What follows below is a brief description of the various fields on this tab.

Serial #

This is the serial number of the continuous radon monitor.

Manufacturer

This is the name of the CRM's manufacturer. It is an optional field, meaning you can leave it blank if you so desire.

Model

This is the model name (or number) of your continuous radon monitor. It is also an optional field.

Calibration Date

This is the date when your CRM was last calibrated.

Inventory Date

This is the date when the CRM was entered into your inventory.

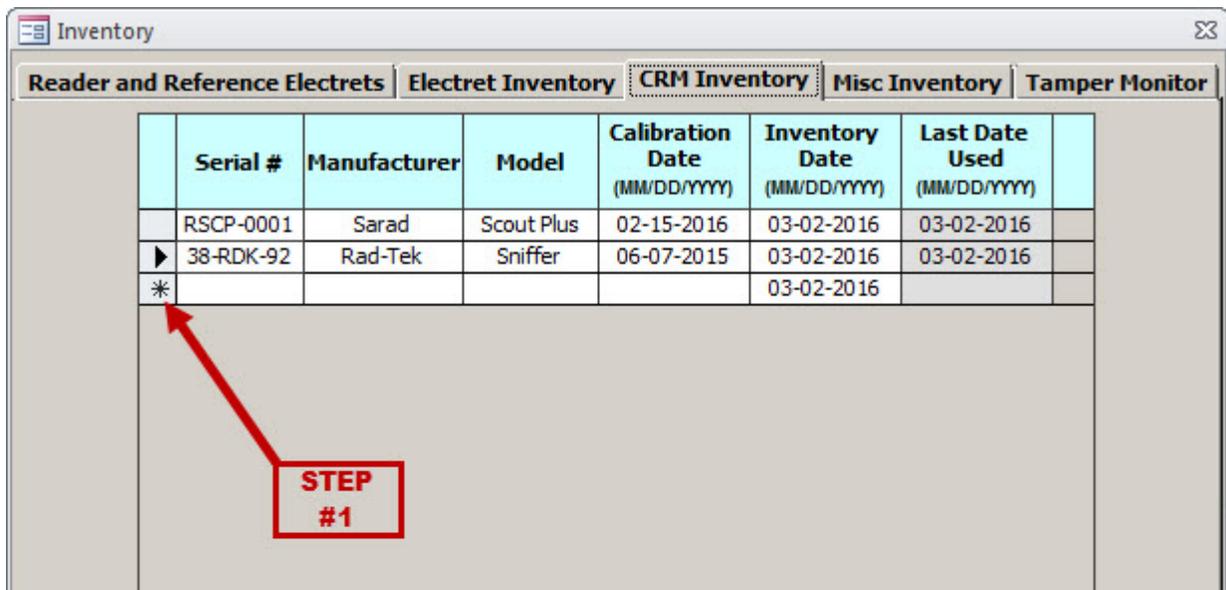
Last Date Used

This is the last date on which a specific CRM was used. By default, this value will be your Inventory Date. However, when you actually deploy your continuous radon monitor in the field, it will automatically update to reflect the most current date that it was used. This is the only field in the **CRM Inventory** that the user is not allowed to edit.

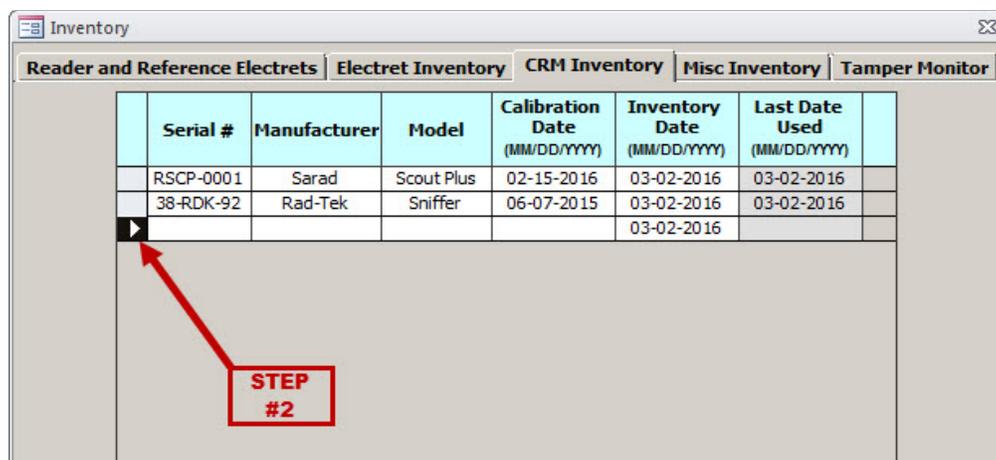
Adding CRM to Inventory

The following instructions will show you how to add a new continuous radon monitor to your inventory. This process is virtually identical to adding a new electret to the **Electret Inventory**, so feel free to briefly skim these steps if you already feel comfortable with the process.

1. Left-click on the lowest blank record, usually indicated by the  icon, in order to select the record.



2. The  icon will change to , to indicate that record has been selected.



3. Begin entering the data fields, recalling that the "Manufacturer" and "Model" fields are entirely optional. Each field will automatically save after it has been updated (which happens whenever you hit the ENTER key or left-click on another field with your mouse), so you shouldn't have to worry about your information being lost.

The screenshot shows a software window titled "Inventory" with several tabs: "Reader and Reference Electrets", "Electret Inventory", "CRM Inventory", "Misc Inventory", and "Tamper Monitor". The "Electret Inventory" tab is active, displaying a table with the following data:

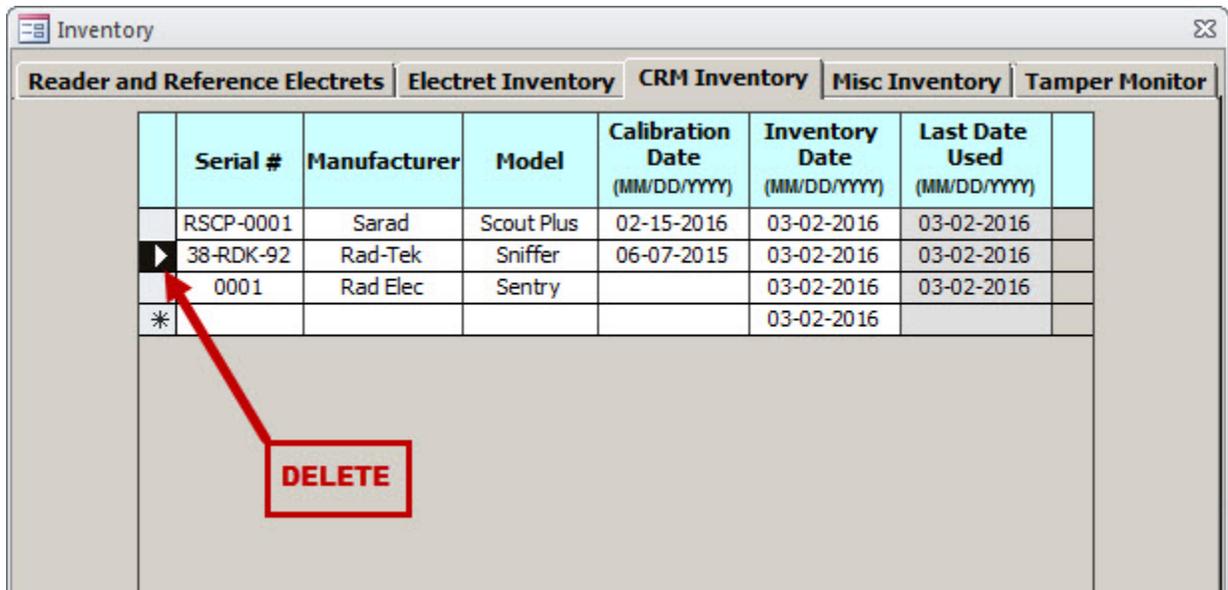
	Serial #	Manufacturer	Model	Calibration Date (MM/DD/YYYY)	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)	
	RSCP-0001	Sarad	Scout Plus	02-15-2016	03-02-2016	03-02-2016	
	38-RDK-92	Rad-Tek	Sniffer	06-07-2015	03-02-2016	03-02-2016	
✎	0001	Rad Elec	Sentry		03-02-2016		
*					03-02-2016		

Four red arrows originate from a red-bordered box labeled "DATA FIELDS" and point to the input fields for "Serial #", "Manufacturer", "Model", and "Calibration Date" in the table.

Deleting CRM From Inventory

There may come a time when, for one reason or another, you will need to delete a continuous radon monitor from your inventory. This is accomplished in the same manner as deleting an electret from your inventory (described in the preceding section of this manual), so if you feel comfortable with that procedure then you shouldn't need to spend any time on this section.

To delete a specific CRM from your inventory, simply highlight the record by clicking on its left-most column (which will normally have an icon represented by ,  or ). When selected, this icon will change from one of the above symbols to a , which means that the record has been selected. Now strike the DELETE key on your keyboard. You will be presented with a message box confirming whether or not you wish to delete this weekly reading; if you are sure you wish to delete it, select YES.

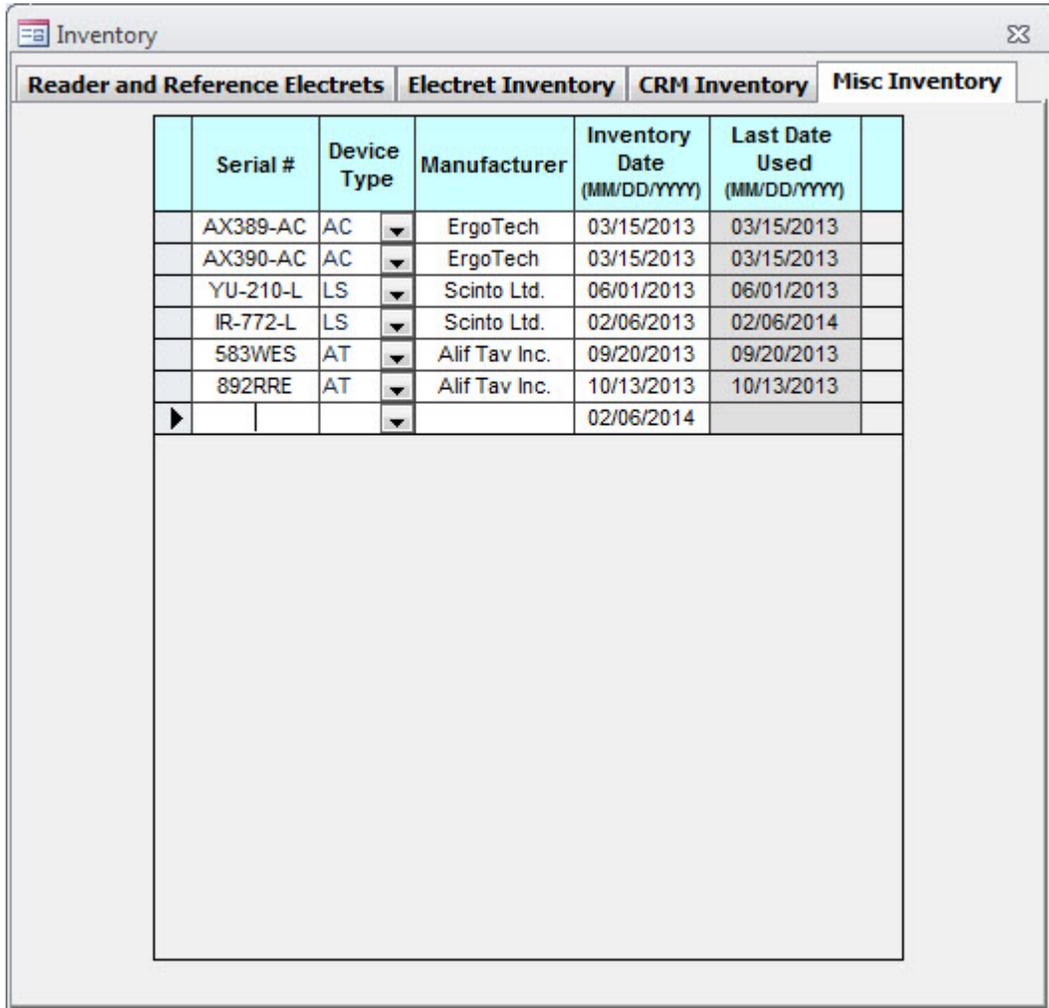


Editing CRM in Inventory

Just like the **Electret Inventory** tab, there are no “locks” that will prevent you from editing your inventory of CRMs at any time. Simply left-click on the field that you wish to add or edit, and enter the desired value. If you have added a CRM to your inventory from within the *Test Data* window, though, you'll notice that certain fields (such as “Manufacturer” and “Model”) are blank – adding these values is both quick and easy.

It's worth repeating to be mindful of the lack of “locks” on the **CRM Inventory** tab (in addition to the other inventory tabs, such as **Electret Inventory** and **Miscellaneous Inventory**). The ability to freely edit your data allows you to quickly correct any typographical errors, but it can also botch your records if you aren't careful.

Miscellaneous Inventory



Serial #	Device Type	Manufacturer	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)
AX389-AC	AC	ErgoTech	03/15/2013	03/15/2013
AX390-AC	AC	ErgoTech	03/15/2013	03/15/2013
YU-210-L	LS	Scinto Ltd.	06/01/2013	06/01/2013
IR-772-L	LS	Scinto Ltd.	02/06/2013	02/06/2014
583WES	AT	Alif Tav Inc.	09/20/2013	09/20/2013
892RRE	AT	Alif Tav Inc.	10/13/2013	10/13/2013
			02/06/2014	

If you have used activated charcoal canisters or liquid scintillation devices (to list a few) for your reports, you will find them within the **Misc Inventory** tab. Although the Radon Report Manager was initially designed exclusively for the Rad Elec E-PERM® system, we realize that radon measurement professionals will often use a wide variety of devices in their jobs. As such, the Radon Report Manager has tried to cater to these needs and has added an inventory that will allow users to keep track of their activated charcoal canisters, liquid scintillation devices, and other detectors.

The three primary functions of the **Misc Inventory** are to add new detectors, remove old detectors, or

edit existing records. An astute reader should notice that these are identical to the functions offered by both the **Electret Inventory** and **CRM Inventory**. This means that, provided you are comfortable with the usage of either of these aforementioned tabs, you should feel quite at home in the **Misc Inventory** tab.

Serial #

This is the serial number of the miscellaneous device.

Manufacturer

This is the name of the device's manufacturer. It is an optional field, meaning you can leave it blank if you so desire.

Inventory Date

This is the date when the device was entered into your inventory.

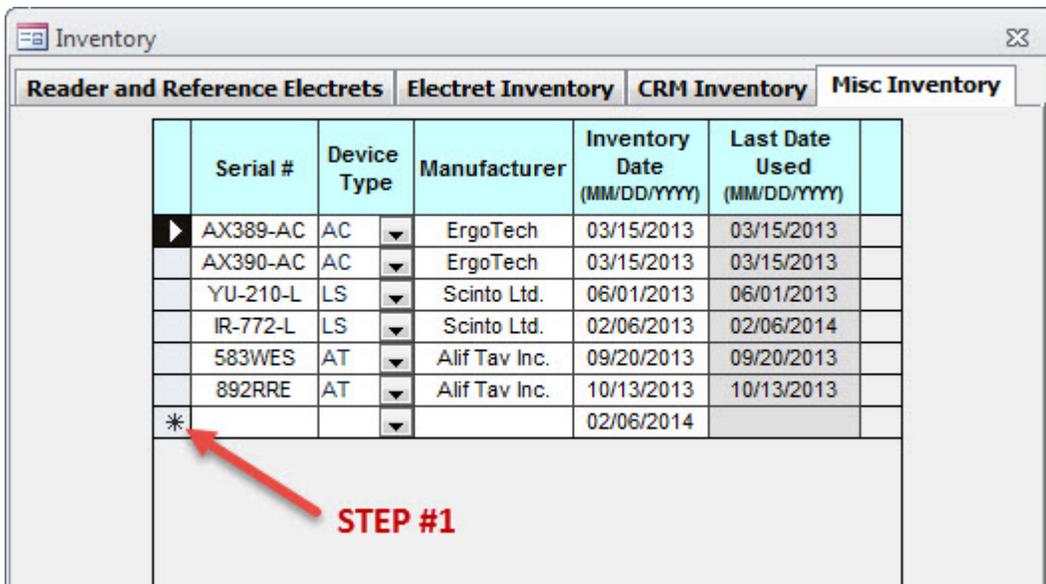
Last Date Used

This is the last date on which a specific device was used. By default, this value will be your Inventory Date. However, when you actually deploy a miscellaneous device in the field, it will automatically update to reflect the most current date that it was used. This is the only field in the **Misc Inventory** that the user is not allowed to edit.

Adding Miscellaneous Device to Inventory

Adding a miscellaneous device to your inventory can be accomplished in nearly the same manner as adding either an electret or CRM to your inventory, so feel free to skip this section if you are already familiar with the Radon Report Manager's methodology of adding any device to your inventory – whether it be an electret, CRM, or miscellaneous device. It is probably for the best to take the little bit of extra time and actually add your miscellaneous radon detectors from here (the **Misc Inventory** tab) rather than having them automatically added in the *Test Data* window; this will allow you to stay better apprised of your inventory.

1. Left-click on the lowest blank record, usually indicated by the  icon, in order to select the record.



	Serial #	Device Type	Manufacturer	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)	
▶	AX389-AC	AC	ErgoTech	03/15/2013	03/15/2013	
	AX390-AC	AC	ErgoTech	03/15/2013	03/15/2013	
	YU-210-L	LS	Scinto Ltd.	06/01/2013	06/01/2013	
	IR-772-L	LS	Scinto Ltd.	02/06/2013	02/06/2014	
	583WES	AT	Alif Tav Inc.	09/20/2013	09/20/2013	
	892RRE	AT	Alif Tav Inc.	10/13/2013	10/13/2013	
*				02/06/2014		

2. The  icon will change to , to indicate that record has been selected.

Inventory

Reader and Reference Electrets | Electret Inventory | CRM Inventory | Misc Inventory

	Serial #	Device Type	Manufacturer	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)
	AX389-AC	AC	ErgoTech	03/15/2013	03/15/2013
	AX390-AC	AC	ErgoTech	03/15/2013	03/15/2013
	YU-210-L	LS	Scinto Ltd.	06/01/2013	06/01/2013
	IR-772-L	LS	Scinto Ltd.	02/06/2013	02/06/2014
	583WES	AT	Alif Tav Inc.	09/20/2013	09/20/2013
	892RRE	AT	Alif Tav Inc.	10/13/2013	10/13/2013
				02/06/2014	

STEP #2

- Begin entering the data fields, recalling that the “Manufacturer” field is entirely optional. Each field will automatically save after it has been updated (which happens whenever you hit the ENTER key or left-click on another field with your mouse), so you shouldn't have to worry about your information being lost.

Inventory

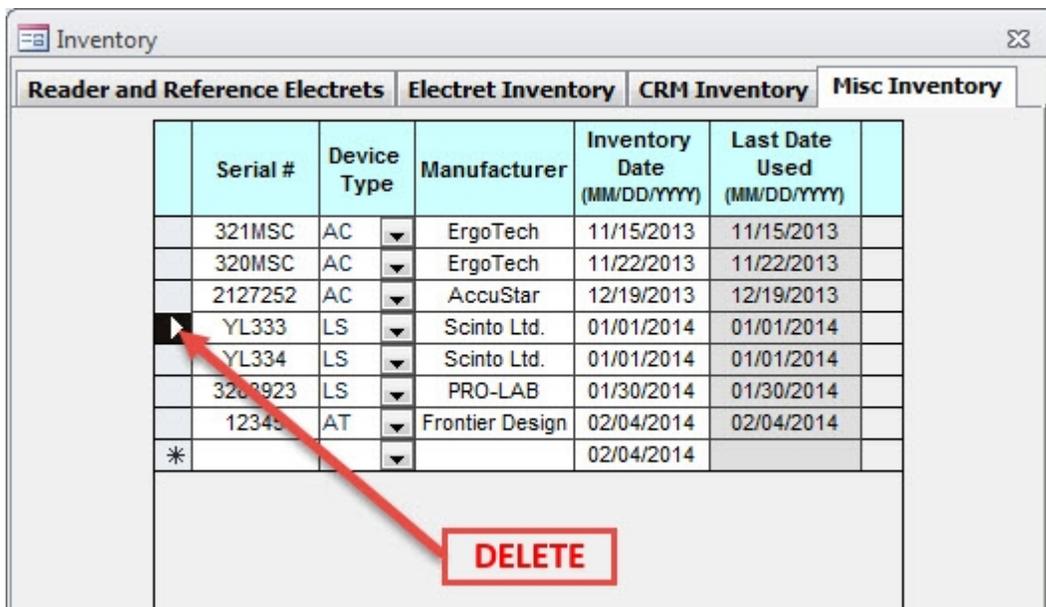
Reader and Reference Electrets | Electret Inventory | CRM Inventory | Misc Inventory

	Serial #	Device Type	Manufacturer	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)
	AX389-AC	AC	ErgoTech	03/15/2013	03/15/2013
	AX390-AC	AC	ErgoTech	03/15/2013	03/15/2013
	YU-210-L	LS	Scinto Ltd.	06/01/2013	06/01/2013
	IR-772-L	LS	Scinto Ltd.	02/06/2013	02/06/2014
	583WES	AT	Alif Tav Inc.	09/20/2013	09/20/2013
	892RRE	AT	Alif Tav Inc.	10/13/2013	10/13/2013
	111			02/06/2014	
*				02/06/2014	

DATA FIELDS

Deleting Miscellaneous Device from Inventory

To delete a specific device from your miscellaneous inventory, simply highlight the record by clicking on its left-most column (which will normally have an icon represented by ,  or *). When selected, this icon will change from one of the above symbols to a , which means that the record has been selected. Now strike the DELETE key on your keyboard. You will be presented with a message box confirming whether or not you wish to delete this weekly reading; if you are sure you wish to delete it, select YES.



The screenshot shows a window titled "Inventory" with four tabs: "Reader and Reference Electrets", "Electret Inventory", "CRM Inventory", and "Misc Inventory". The "Misc Inventory" tab is active, displaying a table with the following columns: "Serial #", "Device Type", "Manufacturer", "Inventory Date (MM/DD/YYYY)", and "Last Date Used (MM/DD/YYYY)". The table contains several rows of data. A red arrow points from a red-bordered button labeled "DELETE" to the left-most column of the row with serial number "YL333".

	Serial #	Device Type	Manufacturer	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)
	321MSC	AC	ErgoTech	11/15/2013	11/15/2013
	320MSC	AC	ErgoTech	11/22/2013	11/22/2013
	2127252	AC	AccuStar	12/19/2013	12/19/2013
<input checked="" type="checkbox"/>	YL333	LS	Scinto Ltd.	01/01/2014	01/01/2014
	YL334	LS	Scinto Ltd.	01/01/2014	01/01/2014
	3208923	LS	PRO-LAB	01/30/2014	01/30/2014
	12345	AT	Frontier Design	02/04/2014	02/04/2014
*				02/04/2014	

Editing Miscellaneous Device in Inventory

Just like the other inventory tabs, there are no “locks” that will prevent you from editing your inventory of miscellaneous devices. Simply left-click on the field that you wish to edit, and enter the desired value. If you have added a miscellaneous radon detector to your inventory from within the *Test Data* window, though, you'll notice that the “Manufacturer” field is blank – feel free to add it at any time.

It's worth repeating (one final time) to be mindful of the lack of “locks” on the **Misc Inventory** tab (in addition to the other inventory tabs, such as **Electret Inventory** and **CRM Inventory**). The ability to freely edit your data allows you to quickly correct any typographical errors, but it can also botch your records if you aren't careful.

Tamper Monitor Inventory

	Serial #	Manufacturer	Model	Inventory Date (MM/DD/YYYY)	Last Date Used (MM/DD/YYYY)	
✎	001	Rad Elec	Tamper Monitor	04-29-2015	04-29-2015	
*		Rad Elec	Tamper Monitor	04-29-2015		

Identical in nearly every way to the previous inventory tabs, the Tamper Monitor Inventory tab is where you can add and delete Rad Elec Tamper Monitors to and from your database. Simply type in the serial number, and the resulting Tamper Monitor will be added to your database – and can be selected from the TM S/N (Box Number) dropdown box from within the Data Entry section of the Test Data window.

CUSTOMER DATA



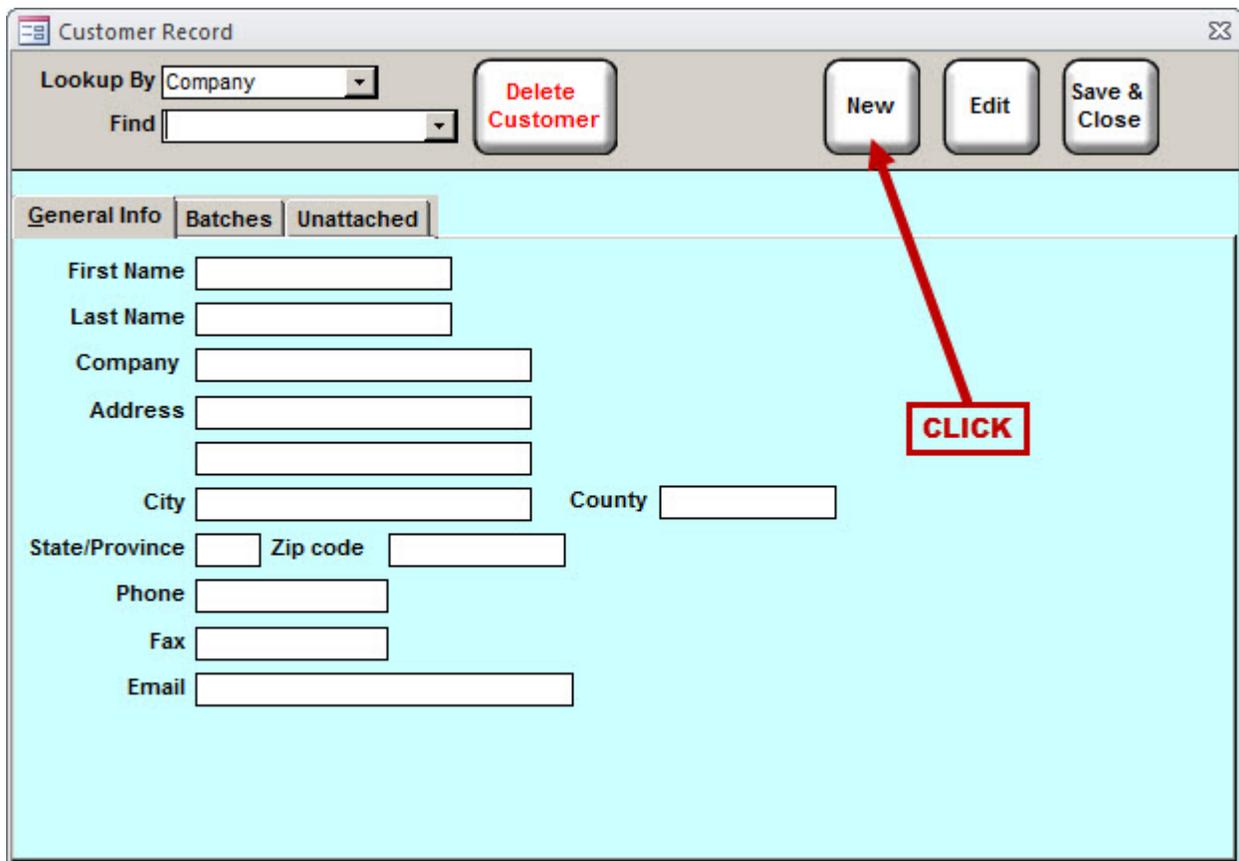
The *Customer Data* window can be used to add new customers into your database, edit existing ones, or track down records that have been performed for a specific person or company. Although new customers can be created in this window, the true practicality of the *Customer Data* window lies in its ability to edit existing customer information and in hunting down specific records.

The three most important fields to note are the **Company**, **Last Name**, and **First Name**. If you leave all three of these fields empty when you save and close the window, your new customer will not be saved. In other words, make sure to enter in either (a) a company name or (b) a first and last name. If you want to be extra diligent, you can go the extra mile and enter in all three fields.

It's important to remember that the *Customer Data* fields are "retroactive". This means that editing a field here (such as **Company**) will apply to all data records pertaining to this customer; let's clarify by using the following example. Let's say that you have a customer named John Doe (for whom you have done several radon tests), and you decide to change his name to Adam Smith. When you search for his records, you must now search for Adam Smith's – and not John Doe's – records. In short, remember that any changes you make here will affect this customer throughout all of his or her records.

Adding a New Customer

The following steps will explain how to add a new customer to your database. After adding a new customer to the Radon Report Manager, you can easily select him or her from the *Test Data* window. Even though this is specifically written for the *Customer Data* window, the actual process is identical in both the *Test Assistant* and *Test Data* windows, as well.



The screenshot shows a software window titled "Customer Record". At the top, there is a "Lookup By" dropdown menu set to "Company" and a "Find" dropdown menu. To the right of these are three buttons: "Delete Customer" (in red text), "New", "Edit", and "Save & Close". A red arrow points from a red-bordered box containing the word "CLICK" to the "New" button. Below the buttons are three tabs: "General Info", "Batches", and "Unattached". The "General Info" tab is active and contains several text input fields: "First Name", "Last Name", "Company", "Address" (with two stacked lines), "City", "County", "State/Province", "Zip code", "Phone", "Fax", and "Email".

1. Left-click the "New" button, as illustrated above.
2. Select the blank fields (such as **Company** or **Address**) and type in the appropriate information, remembering that your record will not be saved if you do not fill out at least *one* of the following fields: **First Name**, **Last Name**, **Company**.

3. After entering in the **First Name**, **Last Name**, or **Company**, this customer's data will be automatically saved after each and every field is updated. This means that if you are entering multiple customers into the database, you just need to click on the “New” button again (rather than “Save & Close”) in order to add a new customer.

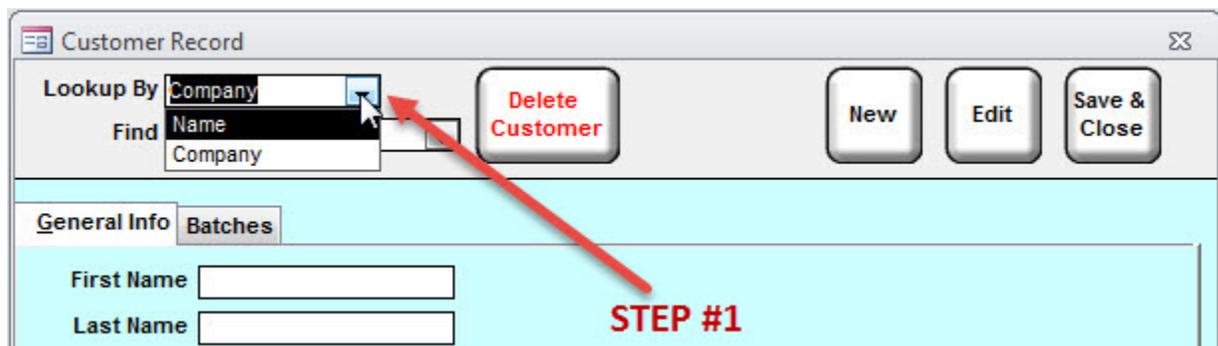
4. When you are finished adding customers, click on the “Save & Close” button in order to return to the *Main Menu*.

Editing a Customer Record

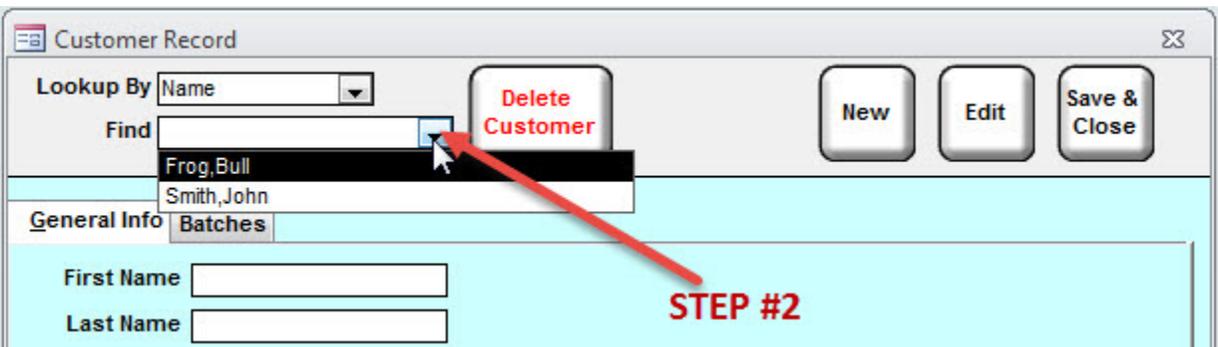
Sometimes it may be necessary to update your customers' information, especially if they change their addresses, phone numbers, e-mail addresses, or (perhaps less commonly) their legal names.

Thankfully, this is easily accomplished in just a few clicks with the Radon Report Manager. Although mentioned above, it is important to reiterate that any customer changes will be applied *retroactively* to all of their pre-existing records. In short, if you change a company's name, you must search for that new company's name henceforth. Any and all old entries in the database will also reflect this updated information immediately.

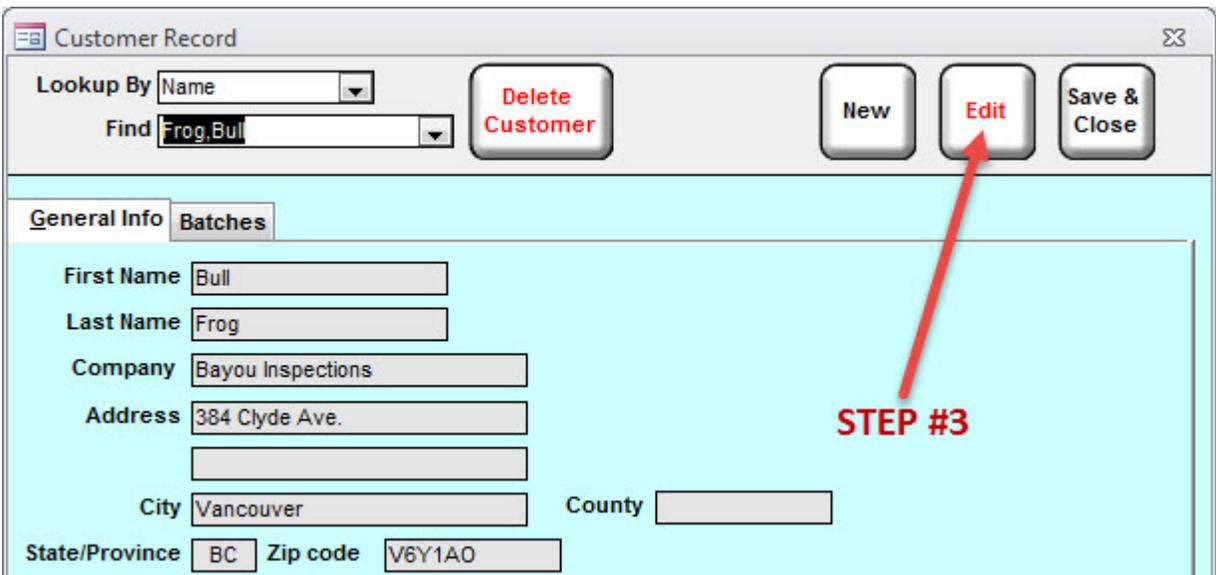
1. First, we need to find the record that we wish to edit. Left-click on the “Lookup By” dropdown arrow to select one of two search filters: Name or Company. If you wish to search for your customers via their first and last names, select “Name”. If you wish to search for your customers via the names of their companies, select “Customer”.



2. Click on the “Find” dropdown arrow to bring up a list of your existing customers' names or companies (depending on the search filter that you chose in the previous step). If you prefer, you can type in the first few letters of your customer's name or company in order to narrow the search results.



3. Once you've located and loaded the customer, you'll notice that his or her information will be locked – this is normal, and is a safety precaution to prevent an accidental edit. If you are sure that you wish to edit this customer's information, click on the "Edit" button as illustrated below. You may now freely edit this customer's information, with the data being automatically saved after each field is updated.

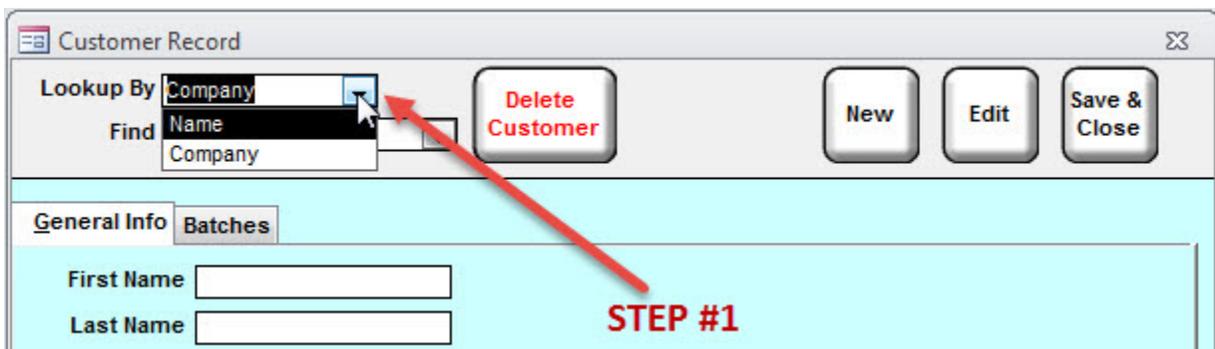


4. Once you are satisfied, click on the "Save & Close" button in order to return to the *Main Menu*. Remember – if you changed a customer's name or company, you will need to find it by the new name!

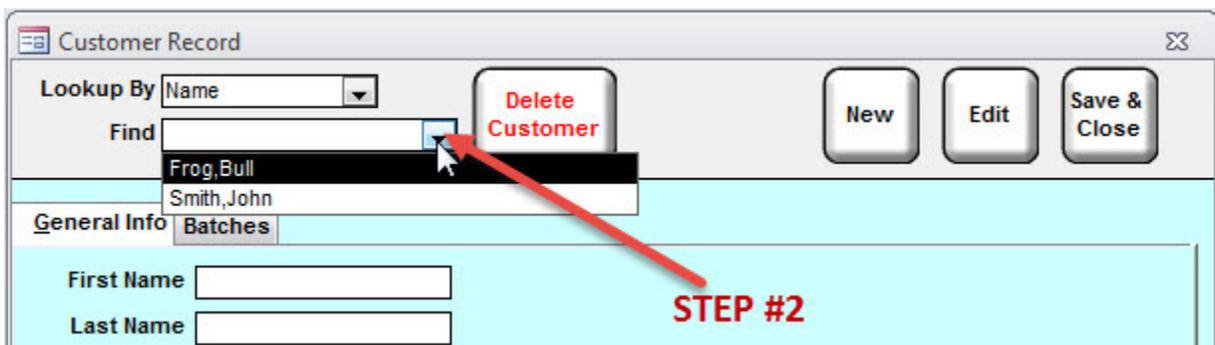
Finding a Customer's Records

One of the most useful features of the *Customer Data* window is to track down any and all past radon tests that have been performed for a specific customer. Once a record is found, a single click will seamlessly transport you to the *Test Data* window so that you can view, print, or edit the record. Although both the *Test Assistant* and *Test Data* windows allow you to search for past records, as well, the *Customer Data* window presents a quick way to access your existing radon tests (provided that you know the customer for whose record you are searching, of course). Follow these steps below.

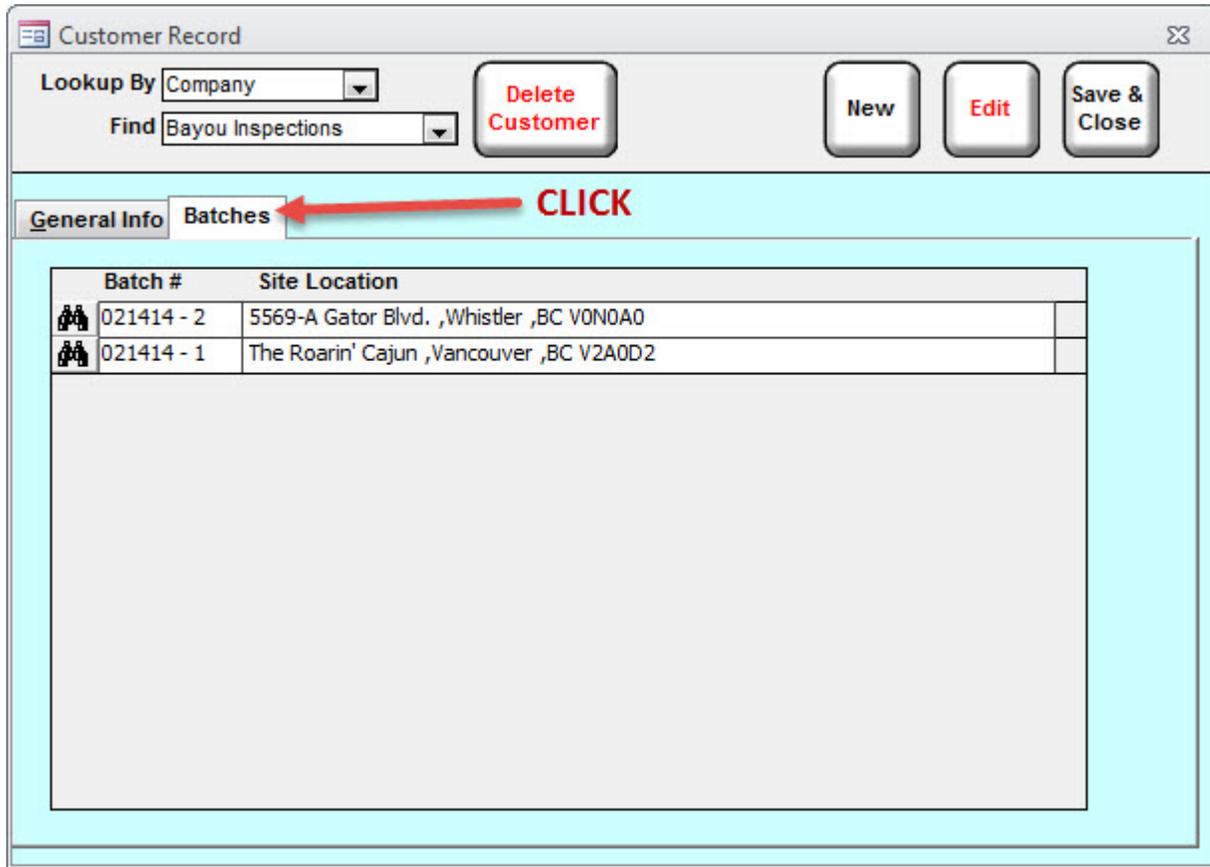
1. Choose the search filter by clicking on the “Lookup By” dropdown arrow. If you select “Name”, you are choosing to search for a customer by his or her first and last names. If you select “Company”, you will be searching for a customer's company name.



2. Click on the “Find” dropdown arrow to view a list of your customers, either by name or company (depending on the search filter that you chose in Step #1). Select the customer whose record you wish to find.



3. Click on the *Batches* tab to view a list of all the records you have performed for this customer. If this list is empty, then it means that you do not have any recorded test data for this customer.



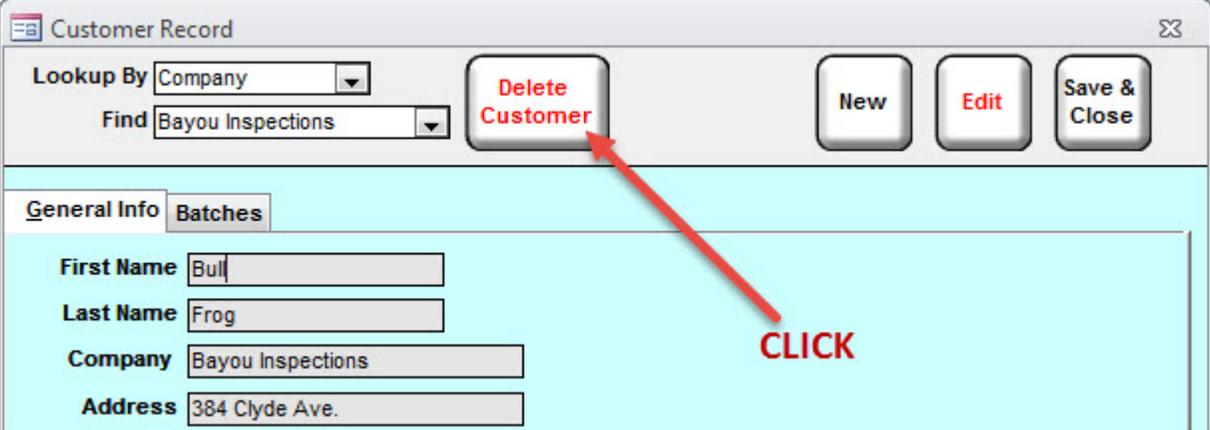
4. Click on the  icon, to the left of the desired record's Batch Number, in order to load it.

Deleting an Existing Customer

There may come a time when you wish to permanently remove a customer from your database, although this feature should be used sparingly. Because any changes to a customer's data will be retroactively applied to all of your existing records, deleting a customer will very likely have repercussions on your radon test records. In other words, if you used this customer for any of your old records, their customer data fields will now be blank. Don't worry too much – you are free to re-select a new customer to fill in the gaps, if you so desire.

Deleting a customer is a simple procedure. Select the customer that you wish to delete, then press the “Delete Customer” button. You will be presented with a warning message, asking you if you're sure that you want to delete this customer. If you are positive that you want to erase this customer permanently from your database, click on the “Yes” button.

You will also be presented with an option to delete all test records associated with this customer. If you decline, then all of these records will be moved into the “Unattached Batches” tab.



The screenshot shows a software window titled "Customer Record". At the top, there are two dropdown menus: "Lookup By" set to "Company" and "Find" set to "Bayou Inspections". To the right of these are three buttons: "Delete Customer" (highlighted with a red arrow and the word "CLICK" below it), "New", "Edit", and "Save & Close". Below the buttons is a tabbed interface with "General Info" selected. The form fields are: "First Name" (Bull), "Last Name" (Frog), "Company" (Bayou Inspections), and "Address" (384 Clyde Ave.).

Unattached Batches

Occasionally a record may be created that does not have a customer attached to it, or perhaps a customer was deleted but the records were not. For instances such as this there is the “Unattached Batches” tab, which serves to track down these tricky records that can't be found in any other way. In short, it's a lost-and-found – if you're having difficulties in finding a specific record, you may be able to find it here.

The screenshot shows a software window titled "Customer Record". At the top, there is a search section with "Lookup By" set to "Company" and a "Find" field. To the right are buttons for "Delete Customer", "New", "Edit", and "Save & Close". Below this is a tabbed interface with three tabs: "General Info", "Batches", and "Unattached". The "Unattached" tab is selected and contains a table with the following data:

Batch #	Site Location
030216 - 1	123 Main Street ,Frederick ,MD 21703

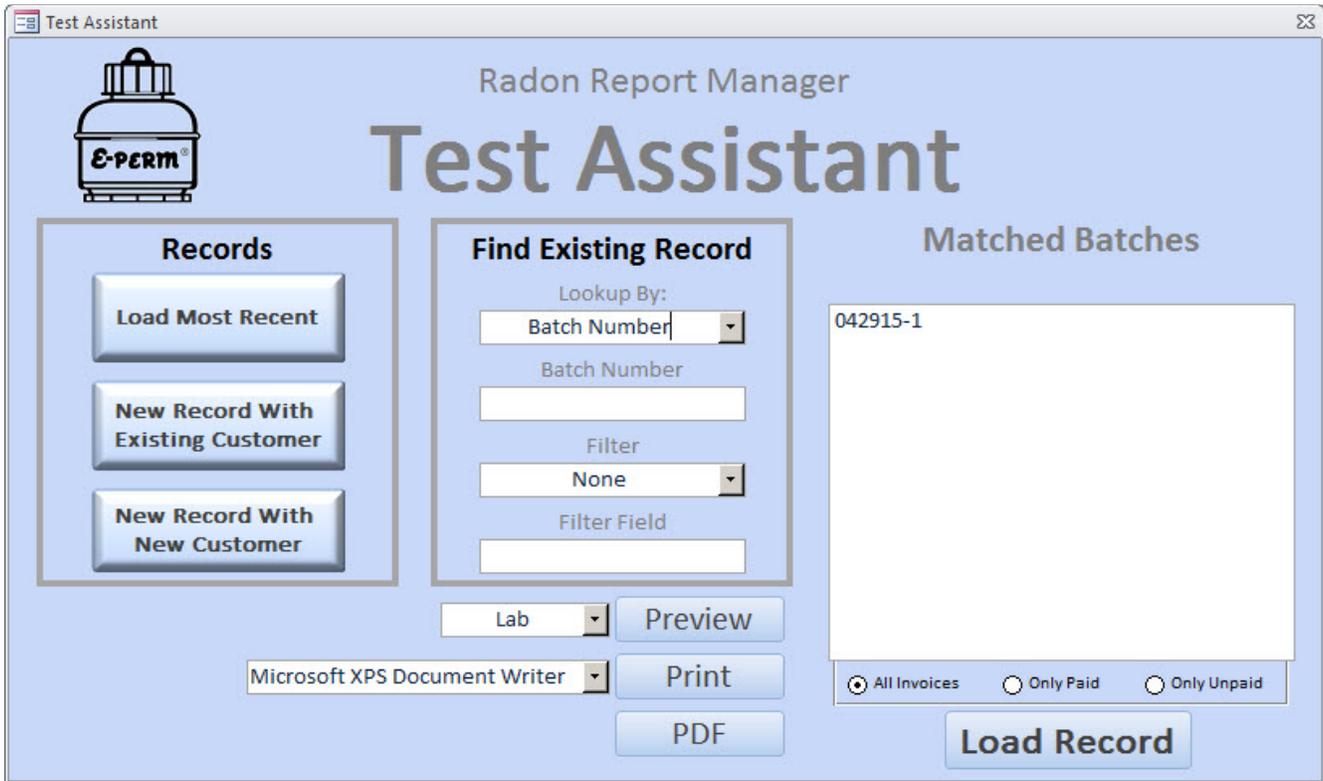
TEST DATA



The *Test Data* window contains the core functionality of the Radon Report Manager, and is the place where you'll be spending the majority of your time when using this software. This is the window where records are created and edited, where lab sheets are previewed, and where the customer letters are printed. In a nutshell, the *Test Data* window is where you will create radon tests, calculate their results, and print them out for your customers. A savvy user, however, can also use it to add new customers to their database, search for existing records, define pricing details, tweak deployment settings, mark invoices as paid, and even add new radon detectors to their inventory. It is chock-full of features – but this inundation of buttons, tabs, and fields can be quite intimidating to a new user.

This section of the manual is intended to provide a detailed description of the numerous components of the *Test Data* window, then gently introduce you to the various features which you can perform. We at Rad Elec have made a concerted effort to make this process both easy-to-understand and as intuitive as possible, but try not to get discouraged if you're confused at first. With this manual (and a bit of trial and error), you'll be zooming through records like a pro in no time.

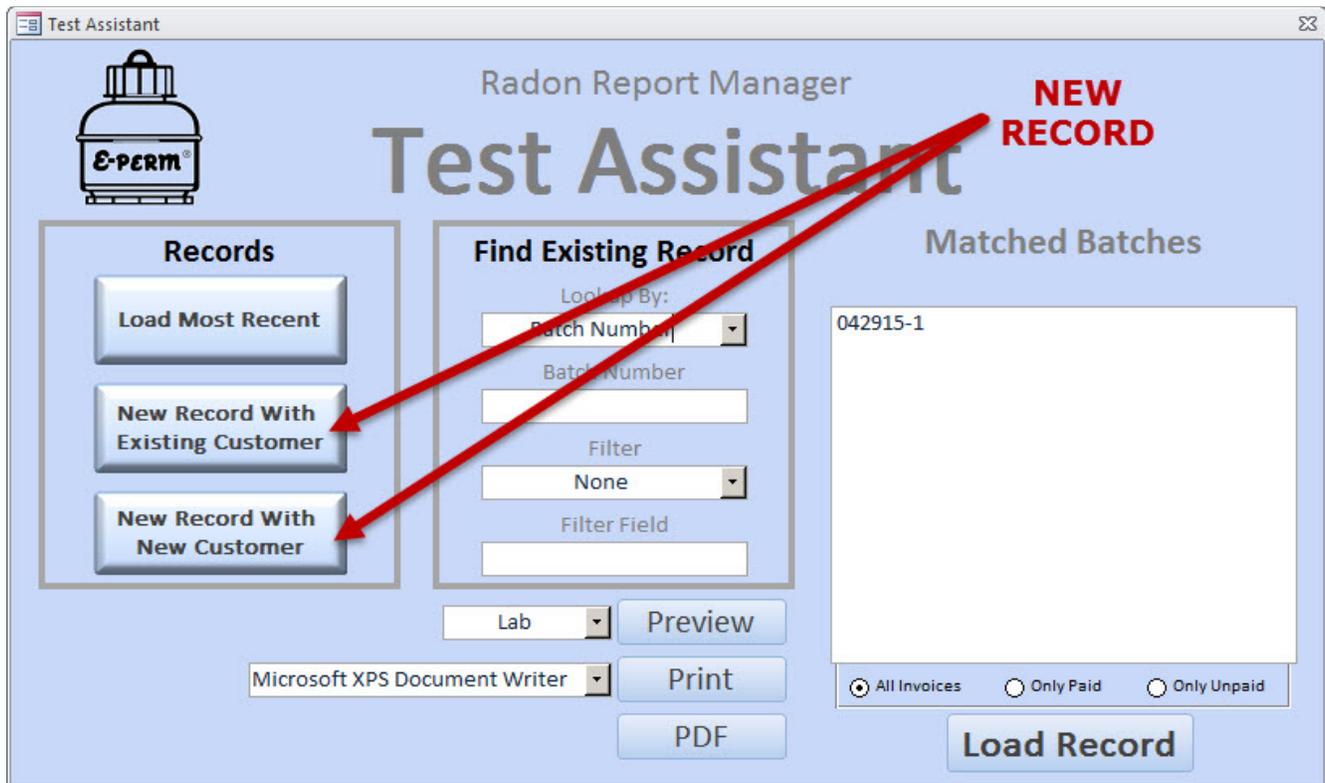
Test Assistant



The *Test Assistant* window, pictured above, is designed to help you in tracking down existing records or creating new ones. You can search for existing records by the batch number, the detector's serial number, the customer's company name (and/or personal name), the test site address, or the date. You can also use the *Test Assistant* to preview, print, or create PDFs of any reports that are in your database. Further, the *Test Assistant* allows you to create new records (and even new customers) with the click of a single button. Lastly, the *Test Assistant* can be used to quickly mark your invoices as paid.

By default, the Radon Report Manager is installed with the *Test Assistant* option enabled. This means that, after clicking the "Test Data" button, this is the window to which you will be presented. If you find that you prefer a more "hands-on" and unrestricted approach to your records (especially after you become more adept at navigating through the *Test Data* window), you can easily disable the *Test Assistant* from the *Setup* window.

Test Assistant: New Record

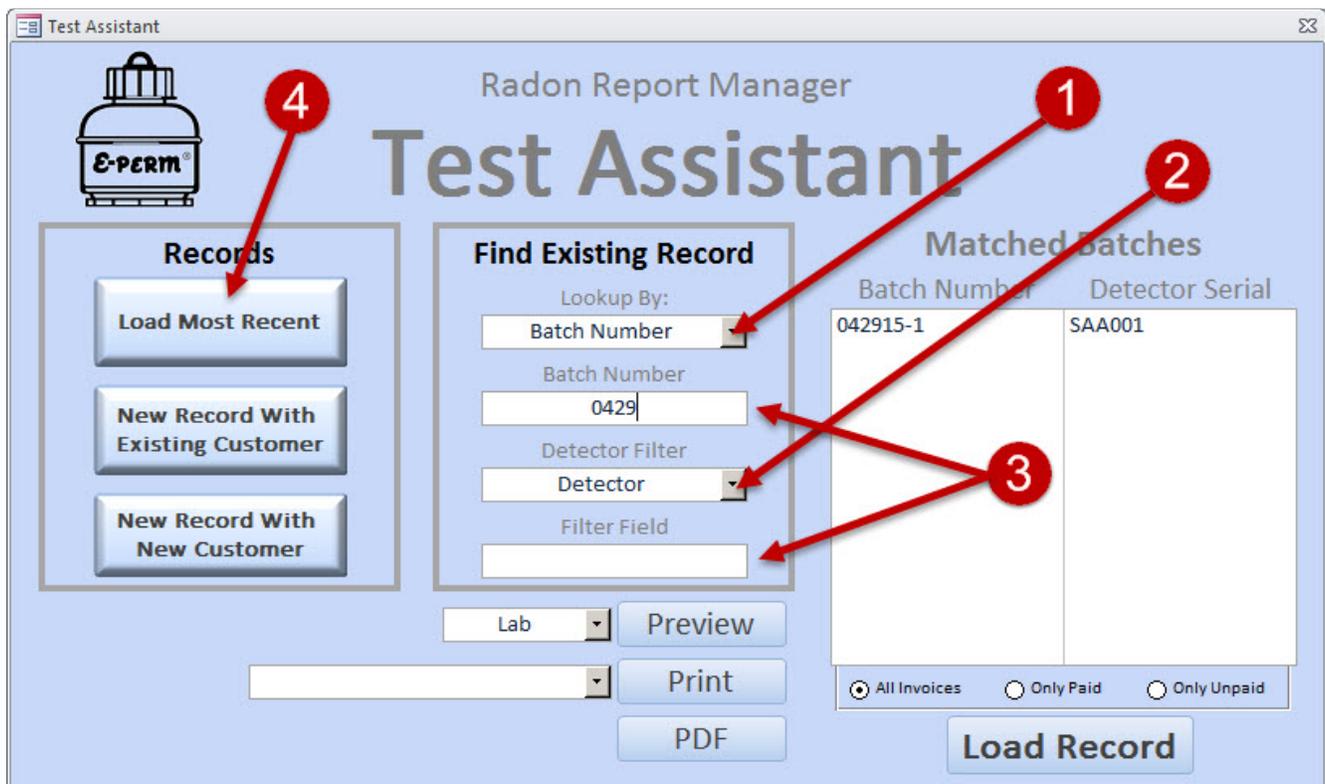


If you want to create a new record, the left-side portion of the *Test Assistant* can help you out with a single click of a button. You are presented with two options when it comes to creating new records: with a new customer, or with an existing customer. Clicking on the **New Record With Existing Customer** button will take you to the *Test Data* window and automatically highlight the “Customer” dropdown box, allowing you to easily select one of your pre-existing customers. Clicking on the **New Record With New Customer** button will also take you to the *Test Data* window, but with a super-imposed *Customer Data* window that will allow you to enter a new customer's information first. After entering the new customer's information, his/her information will be automatically copied to your new *Test Data* record.

If you need help on learning how to enter a new customer's information, please read the *Customer Data* section of this manual.

Test Assistant: Find Existing Record

If you're more interested in tracking down an existing record than creating a new one, the *Test Assistant* window will allow you to comprehensively search your database via multiple search categories and filters: detector serial number, customer's company, customer's name, date, or batch number. You also have the option of typing in a partial-match, in order to narrow your matched results. The following steps will instruct you in finding the record that you want.



1. Left-click on the “Lookup By:” dropdown arrow, and choose one of the three search categories: Batch Number, Company, Customer Name, Date, or Detector. This will be your primary category when searching for records, and will be displayed in the left column of the sort results (provided you choose a search filter in Step #2).
2. You can choose a search filter to further organize your matched results. For example, if you

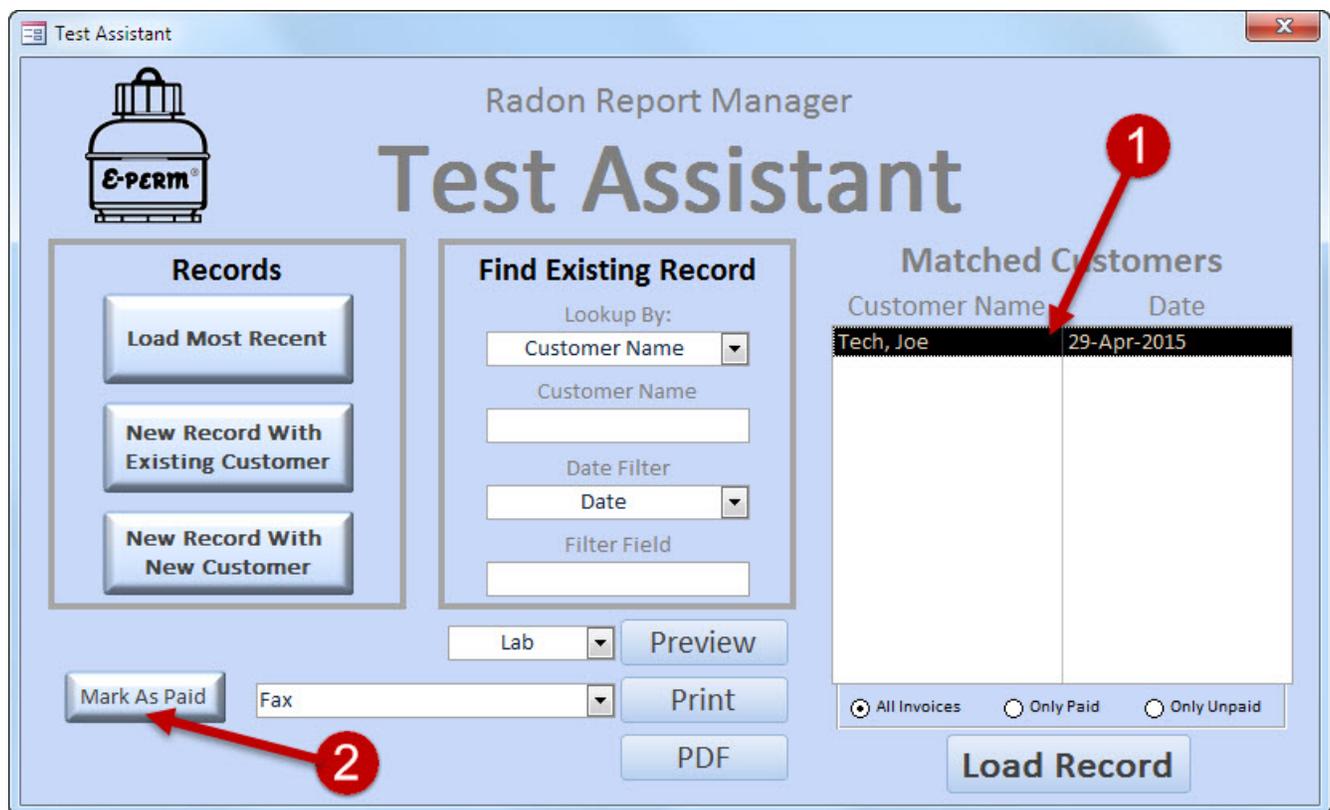
chose “Batch Number” for your search category, you may decide that you want to see which detectors you used on your batches. In that case, you would select “Detector” for your filter, which would divide your search results into two columns: the left column being the primary search category (from Step #1) and the right column being the search filter.

3. Optionally, you may further refine your search by typing in a “partial match” in one of the search boxes. For example, if you're looking for a company (by choosing the “Company” search category in Step #1) named “ABC Testing Inc.”, you could type in “ABC” to ensure that it appears on your matched results list. It would also appear if you typed in “Testing” or “Inc.”, or even just “A”. Any partial match – even if it's just a single letter or number – will help narrow your results. Alternatively, if you had chosen the “Detector” search category in Step #1, you could display a list of all your short-term electrets by typing an “S” into the search box (this is because all short-term electret serial numbers begin with an “S”). If you leave this field blank, all of your records – dependent upon your search filter – will be displayed, albeit sorted chronologically.
4. The final option is also the least complex. If you'd like to load the last record that you were using, simply click this button and it will be loaded for you automatically.

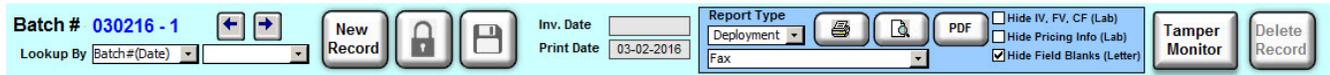
Test Assistant: Paying Invoices Quickly

The *Test Assistant* allows you to quickly mark your invoices as paid, so that you don't need to waste time loading up the record. In order to pay an invoice from within the *Test Assistant*, follow these two steps below.

1. Left-click on the record that you wish to mark as paid.
2. Click on the **Mark As Paid** button.



Test Data Menu Bar



Before diving headlong into the *Test Data* window (and its three tabs), it's worth spending a few minutes to familiarize yourself with the one component of the *Test Data* window that will always stay the same, regardless of what tab or section you're currently in: the Menu Bar. It's located at the top of the *Test Data* window, and can be used to create new records, find (and edit) existing records, save your current record, in addition to printing and previewing your data in one of the various reports. Let's start with a description of the various dropdown boxes and buttons (from left to right), before heading into the various features that are available to you.

Batch

The Batch Number is an automatically-generated unique ID given to each test record. Although it may look like gibberish at first glance, there is logic behind its naming convention. For example, let's say we create our first new record of the day on February 4th, 2014. The unique Batch Number generated for this report would be 020414-1. If we were to create another new record on this same date, the next batch number would be 020414-2. All radon test records have a unique Batch Number.

Lookup By

The "Lookup By" dropdown boxes (there are two of them, side by side) are located at the far left of the Menu Bar. The left dropdown box is called the "Search Filter", and presents the user with three options by which to find a record: Electret, Company, and Batch#(Date).

New Record Button

The "New Record" button can be clicked at any time in order to create a brand new test record. Don't worry about losing whatever data is currently on your screen if you accidentally click this button, as all of your displayed data is automatically saved before creating a new record.

Edit Button

The "Edit" button (portrayed by the lock icon) can be clicked to unlock the data fields on an existing record. After loading an existing record, the data is automatically

“locked”, by default, to prevent you from accidentally editing or deleting crucial data fields. Only by clicking this button will you unlock the radon test record, allowing you to edit its fields.

Save Button

The “Save” button (portrayed by the  icon) can be used to manually save your current record. Note that the Radon Report Manager automatically saves your record after each and every field is updated, but if you're feeling unsure, you can click on this button to manually save your record.

Inv. Date

This is the “Invoice Date”. Whenever you print or preview this record's invoice, this data field will update. It is meant to serve as a quick reminder of when you printed (and presumably mailed) your invoice.

Print Date

Even though the “Print Date” will default to the day that the record was created, but will update whenever you print out one of the various reports.

Report Type Dropdown Box

The “Report Type” dropdown box is used to select the type of report you would like to create from the currently displayed record. Your options are a Deployment Sheet, Customer Letter, Lab Report, and Invoice. Note that this dropdown box is used only to *select* a type of report, not to display or print it.

Printer Select Dropdown Box

Located directly below the “Report Type” dropdown box, the “Printer Dropdown” box is used to select which printer you would like to use when printing your reports. Only printers for which your operating system has drivers installed will be displayed.

Print Button

The “Print Button”, represented by the  icon, is used to print your currently selected report. If you have not yet selected either a report type or printer, this button will do nothing.

Print Preview Button

The “Print Preview” Button, represented by the  icon, is used to preview your selected report before printing it.

PDF Button

The “PDF Button” is used to quickly export your selected report type to a PDF file located in the PDF folder of your installation directory.

Hide IV, FV, CF (Lab)

This checkbox is used to hide the initial voltages, final voltages, and calibration factors on your Lab Report. Note that this checkbox is disabled by default, and will only affect the Lab Report of your currently-selected radon test record.

Hide Pricing Info (Lab)

This checkbox is used to hide the pricing information on your Lab Report. Note that this checkbox is disabled by default, and will only affect the Lab Report.

Hide Field Blanks (Letter)

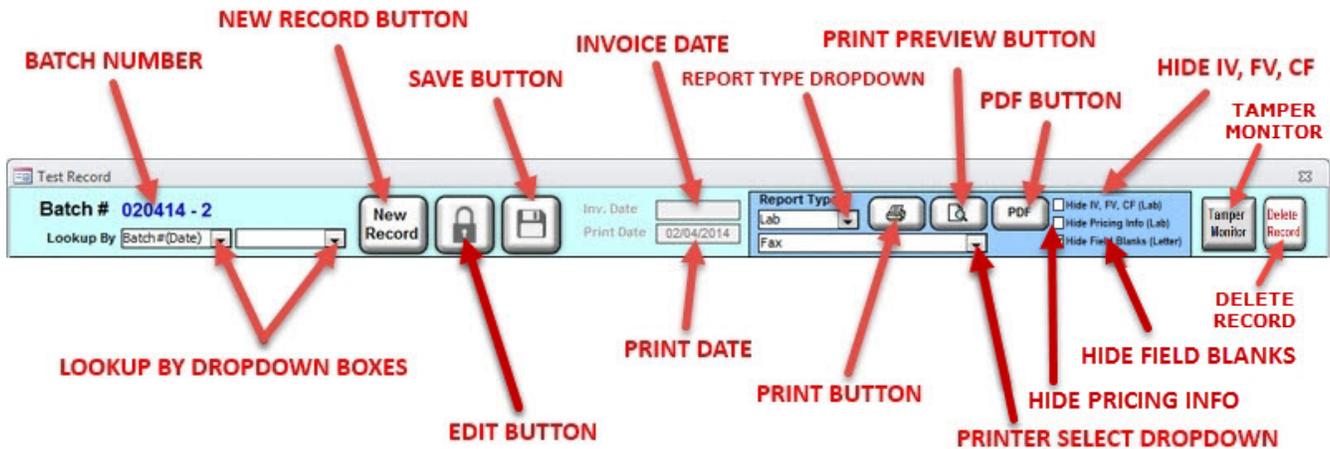
This checkbox is used to hide any field blanks on your Customer Letter. By default, this option is enabled (so that your blanks will not be shown).

Tamper Monitor

This button will launch the Tamper Monitor window, where you can connect and download your Tamper Monitor data for use within the Radon Report Manager.

Delete Record

This button will permanently delete the currently loaded record. You will be asked if you are sure that you want to erase this record.



Find an Existing Record

Similar in function to the *Test Assistant*, the “Lookup By” dropdown boxes can be used to find an existing record by using one of three search filters: the batch number, the customer's company, or the electret serial number. In contrast to the *Test Assistant*, however, there is not a text box to enter partial (or full) search strings. Still, the results displayed by the dropdown box will be sorted in chronologically descending order (i.e. with the most recent dates near the top). To find an existing record from the Menu Bar, follow these two steps.

1. Left-click on the “Lookup By” search filter box, and select one of the three options: Batch#(Date), Name, or Electret. Note that the “Name” refers to your customers' companies rather than their individual names.
2. After selecting a search filter from the previous step, your cursor will automatically move to the results dropdown box, where you can browse through your records. They will be assorted in descending chronological order, with the most recent dates near the top of the list. Select your desired record by left-clicking on it, and it will be loaded.



Create a New Record

To create a new record, simply click on the “New Record” button located within the Menu Bar. Your current record will automatically be saved, so you don't need to worry about losing any of your data. After clicking on this button, your cursor will automatically move to the Customer Selection box located in the **General Info** tab, which will be explained in further detail later.

Edit an Existing Record

After locating and loading a record, it will be “locked” to prevent you from accidentally editing or deleting fields. A record that is locked will be noted by a closed lock icon. After clicking this icon, it will unlock and allow you to edit the data fields. Note that all records are locked by default when they are loaded.



Save the Current Record

By clicking the save button, you will manually save your current record. Note that this is mostly unnecessary, as the Radon Report Manager will save your database after a field is updated (which is usually accomplished by tapping the ENTER key on your keyboard or by moving your mouse cursor from one field to another). Still, if you desire to manually save your record, simply click this button.

General Info Tab

Record Database

Batch # 030216 - 2

Lookup By: Batch#(Date)

Inv. Date: Print Date: 03-02-2016

Report Type: Deployment

Hide IV, FV, CF (Lab) Hide Pricing Info (Lab) Hide Field Blanks (Letter)

Tamper Monitor Delete Record

General Info Deployment Info Pricing Info Tamper Monitor

Customer Information

Device Count: 0

Find Device:

Customer: Add

Name: Address1: Address2: City St Zip: Phone: Fax:

Test Site Information

Same Proxy Test Real Estate Transaction?

Type: Contact: Bldg: Address:

City: St: Zip: County: Phone:

Required Information

Msmnt. Unit: US

Elevation (ft.): <4000

Protocol: Multi

Gamma (uR/h): MV 0.0 Y

Device: SST Reader:

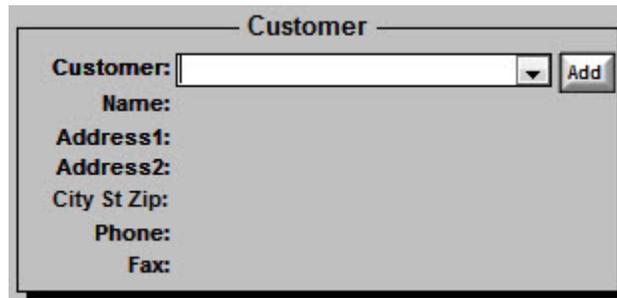
Reader Calibration Date:

Mode: Manual Update List Order

Device	Serial	Box # (TM S/N)	Location	Start Date (MM/DD/YYYY)	Start Time (HH:MM AM)	End Date (MM/DD/YYYY)	End Time (HH:MM AM)	IV	FV	CF	pCi/L	Av RnC	%RPD	Field Blank

The **General Info** tab is where you will enter data for new (or existing) records, select (or add) customers, define the site location, set the required information, and calculate results. This single tab packs more functionality inside it than any other window in the Radon Report Manager, and a solid understanding of it (if nothing else) will provide you with the requisite knowledge to both create a radon test and print the results. And there's no denying that it looks confusing. However, if we dissect the window into four different components, we can start to see that each one is pretty straightforward.

Customer Window

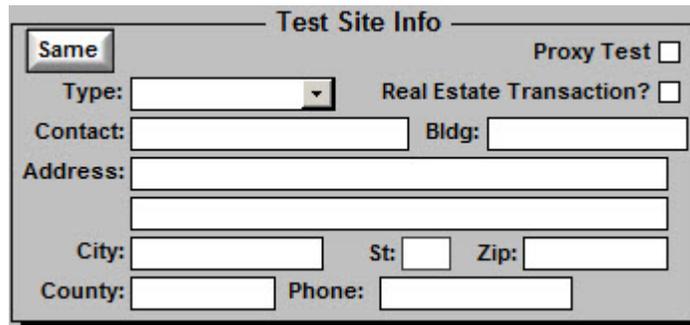
The image shows a software window titled "Customer". Inside the window, there is a label "Customer:" followed by a text input field and a small downward-pointing arrow (dropdown menu). To the right of the input field is a button labeled "Add". Below the "Customer:" field, there are several other labels: "Name:", "Address1:", "Address2:", "City St Zip:", "Phone:", and "Fax:". These labels are stacked vertically and do not have corresponding input fields visible in this screenshot.

The Customer Window component of the **General Info** tab is where you can either select an existing customers or add a customer for your new radon test records. In order to select an existing customer, left-click on the dropdown arrow displayed in the above window, and you will be presented with a list of your customers. The search results will prioritize your customers' company names over their individual names. This means that if you have a customer named John Doe who has a company named ABC Radon Testing, then ABC Radon Testing will be displayed in the results list. However, if John Doe's company were left blank instead, then his name would appear. After you have found your existing customer, highlight their name (by putting the mouse cursor over it) and left-click on them to load their information into the Customer Window.

If you would rather create a new customer instead, then click on the "Add" button. This will open up the *Customer Data* window (which was described in a previous section of this manual), where you can add in a new customer. After entering in their information, click on the "Save & Close" button to transfer their information to your record.

It is important to remember that selecting or adding a customer is considered the first step in creating a new radon test record.

Test Site Info Window



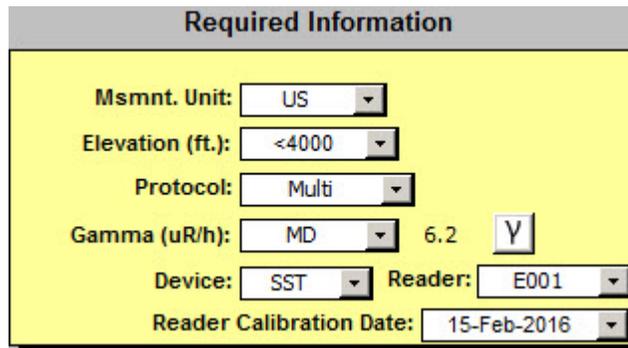
The screenshot shows a window titled "Test Site Info". It contains the following elements:

- A "Same" button in the top left corner.
- A "Proxy Test" checkbox in the top right corner.
- A "Type:" dropdown menu.
- A "Real Estate Transaction?" checkbox.
- A "Contact:" text input field.
- A "Bldg:" text input field.
- An "Address:" label followed by two stacked text input fields.
- A "City:" text input field.
- A "St:" text input field.
- A "Zip:" text input field.
- A "County:" text input field.
- A "Phone:" text input field.

The Test Site Info Window is a component of the **General Info** tab. It is here that you define the type of test (residential or commercial) and record specifics such as the test site's address and contact information. If the test site address is the same as your customer, then you can click on the "Same" button to copy your customer's address and contact information over to the Test Site Info Window. There is no specific order in which these fields need to be entered, so choose (or leave) them at your leisure. If you are a lab doing the analysis for another company or individual, be sure to click the **Proxy Test** checkbox – doing so will print the Customer as the Radon Tester on the Radon Test Report.

It is important to remember that entering the relevant Test Site information is generally considered the second step in creating a new radon test record.

Required Info Window



The screenshot shows a window titled "Required Information" with a yellow background. It contains several dropdown menus and input fields:

- Msmnt. Unit: US
- Elevation (ft.): <4000
- Protocol: Multi
- Gamma (uR/h): MD 6.2 Y
- Device: SST Reader: E001
- Reader Calibration Date: 15-Feb-2016

The Required Info Window is yet another component of the **General Info** tab, and the fields will initially be populated with the defaults that you defined in the *Setup* window (or the base defaults that are created by a new installation of the Radon Report Manager).

If the radon concentration has already been calculated for a specific test, you can no longer edit this information *unless* you delete the final voltages of your electrets or erase the radon concentration for your CRMs / miscellaneous detectors. This will be expanded upon in a later section.

It is important to remember that checking / editing the Required Info is generally considered the third step in creating a new radon test record.

Msmnt. Unit

These are the measurement units in which the test will be reported. If you want your radon concentration to be calculated in pCi/L, then US units should be selected. If reporting in Bq/m³, SI units should be selected. Additionally, your choice will have a subtle effect on some address fields (e.g. "State" will be displayed when US units are selected, whereas "Province" will be displayed when SI units are selected) and units of length (US units will calculate elevation using feet, while SI units will use meters).

Elevation (ft./meters)

Elevation will be displayed in either feet or meters based on the Measurement Unit selected above. Using the dropdown arrow, select the approximate elevation of the test location. **Note: it is always important to use the correct elevation, as this is a variable that affects radon calculations when using electrets.**

Msmnt. Protocol

Use the dropdown arrow to change the measurement protocol, depending on the type of test you want to perform.

Multi

An all-purpose protocol designed to handle multiple device types.

Single

When one radon detector is placed in each location.

Duplicate

When two radon detectors are placed side-by-side in the same location.

Spiking

A test performed for quality-assurance purposes.

Field Blank

A deployed detector that is not exposed.

Drift Test

An electret (in a closed position) whose latent voltage loss is measured over a month or more.

Gamma ($\mu\text{R/h}$ or nGy/h)

This is where you select the background gamma in the test site, shown in either $\mu\text{R/h}$ (US) or nGy/h (SI), depending on which unit of measurement was selected. The dropdown arrow will list the average shielded background gamma by U.S. States and Canadian provinces. If you would rather enter your own gamma values, you can select "MV" (Measured Value) at the bottom of the dropdown list. If you select MV, enter the actual background gamma value in the box to the immediate right of the gamma dropdown box.

Config

This is the E-PERM[®] or miscellaneous detector configuration, with the various options being explained below:

SST

S-chamber fitted with a short-term electret.

SLT

S-chamber fitted with a long-term electret.

LST-OO

L-OO chamber fitted with a short-term electret.

LLT-OO

L-OO chamber fitted with a long-term electret.

LST

L-chamber fitted with a short-term electret.

LLT

L-chamber fitted with a long-term electret.

HST

H-chamber fitted with a short-term electret.

KC-ST

Short-term electret in a keeper cap.

KC-LT

Long-term electret in a keeper cap.

CRM

Continuous Radon Monitor

AC

Activated Charcoal

AT

Alpha Track

LS

Liquid Scintillation

Note that the last four configuration types are not E-PERMs®. The Radon Report Manager can be used to generate a radon report using these devices, but it will not perform any calculations with them.

Reader

Enter the serial number of the voltage reader being used for this test. If you use more than one reader, make sure that you use the same one to read both the initial and final voltages of your electrets! Because each reader's calibration is unique, switching readers in the middle of a radon deployment can reduce the precision of your results.

Note: if you have chosen a default reader, it will automatically be selected in this dropdown list.

Reader Calibration Date

This is the reader calibration period assigned to the current test record. By default, it is the most current recent calibration period, but this may be changed if so desired.

Gamma Dosimeter

The Gamma Dosimeter button (indicated by the  button) can be pressed in order to open a gamma dosimeter window. When used in conjunction with a gamma dosimeter, specific gamma values can be easily calculated and transferred to the current record.

Gamma Dosimeter

By pressing the Gamma Dosimeter button (portrayed by the **Y** icon in the Required Info window), you can launch a window that will allow you to quickly calculate background gamma values. If you type in the initial and final readings of your gamma dosimeter, along with the dates and times, the resulting gamma value will be automatically calculated (in either US or SI units). If you click on the “Save” button, this gamma value will be automatically transferred to your current test record. If you click on the “Discard” button, the resulting gamma value will *not* be transferred to your current test record.

The screenshot shows a software window titled "Gamma Dosimeter" with a close button in the top right corner. The window contains the following elements:

- Initial Reading:** A text box containing "0.00".
- Final Reading:** A text box containing "1.30".
- Start Date:** A date picker showing "March 2016" with a calendar grid below it. The date "01-Mar-2016" is displayed in a text box below the calendar. The number "1" is circled in red on the calendar.
- End Date:** A date picker showing "March 2016" with a calendar grid below it. The date "03-Mar-2016" is displayed in a text box below the calendar. The number "3" is circled in red on the calendar.
- Start Time:** A time picker showing "04:08 PM" with a refresh icon.
- End Time:** A time picker showing "05:33 PM" with a refresh icon.
- Units:** Two buttons labeled "US" and "SI". The "US" button is currently selected.
- Result:** The calculated gamma value "26.3 uR/hr" is displayed in the center.
- Buttons:** Two buttons labeled "Save" and "Discard" are located at the bottom right.

Data Entry Window (Electrets)

Electret S/N	(TM S/N)	Location	Type	Start Date (MM/DD/YYYY)	Start Time (HH:MM AM)	End Date (MM/DD/YYYY)	End Time (HH:MM AM)	IV	FV	CF	pCi/L	Av RnC	RPD	Field Blank
														<input type="checkbox"/>

This component of the **General Info** tab is where you'll be doing the majority of your data entry. Depending on the device configuration that you select, this window will automatically morph to suit your currently-selected device configuration. The illustration displayed above is specifically for electret configurations, and is where you will be entering your deployed serial number(s), start and end dates (and times), and initial/final voltages. After these data fields have been entered, the radon concentration will be automatically calculated.

Note that you can use the TAB key on your keyboard to move from field to field.

It is important to remember that the Data Entry window is generally considered the fourth step in creating a new radon test record.

Mode Dropdown Box

The Mode dropdown box provides you with three options for inputting your data: Manual, Initial, or Final. Selecting "Manual" (which is the default option) will allow you to tab through all of the fields in the Data Entry Window. Selecting "Initial" will allow you to tab through the necessary fields for an initial deployment, whereas selecting "Final" will allow you to tab through the necessary fields after having retrieved your electrets.

Manual:

Allows all information to be entered in each field, starting from left to right, when the TAB key on the keyboard is pressed. This method is most often used when all test data is gathered and entered at the end of the test.

Initial:

The TAB key will move the cursor through the relevant fields associated with an initial

deployment, in this order: Electret S/N, Box ID#, and ending with the Initial Voltage. This method is used if the user wants to record the initial voltage readings prior to the test, or to print out a Deployment Sheet to take along to the test site. After the test is complete, the user should select the “Final” mode to complete the data entry.

Final:

This mode assumes that the initial data was already entered, using the “Initial” option described above. Use the TAB key to navigate through the remaining data fields.

Update List Order

This button is useful when entering a large number of electrets, which will initially be sorted according to the order in which they were entered into the Data Entry window. By pressing the **Update List Order** button, the electrets will be sorted alphabetically according to their serial numbers. For Duplicate measurements, the Box ID# field will be prioritized over alphabetical sorting (so that your electrets will stay “grouped together” according to their box number).

Fill Down

This button is useful when multiple single tests are deployed, such as testing a commercial building or school. To prevent the tediousness of keying in the same Start Date and End Date multiple times, you can use this **Fill Down** button to save some time. You can fill down four values: Start Date, Start Time, End Date, and End Time. If you want to clear (i.e. erase) one of these fields throughout your current record, you must select the **Clear** checkbox.

Electret S/N

This is where you enter the serial number, located on the bottom of the electret. All short-term electrets should start with an “S”, and all long-term electrets should start with an “L”.

Box # (TM S/N)

If entering duplicates (or pairs), type in a unique box (or bag) number to identify each set of E-PERMs[®] deployed together. Once the first E-PERM[®] is entered, the second E-PERM[®] with the same box number will duplicate the information from the first one, saving you the hassle of having to enter the same data a second time. Also, if entering single deployments, you can enter a value in this field if you want specific electrets to be grouped together. For example, if reporting on several apartment buildings, you can enter the same ID number for all E-PERMs[®] deployed in the same building. This will then allow them to be grouped together on the report by the ID that you entered. This is an alphanumeric field (so you are not limited to just

numbers), and will follow basic alphanumerical sorting guidelines, which will be briefly illustrated below.

Box 2	Box 02
Box 10	Box 10

Will be sorted as...

Box <u>1</u> 0	Box <u>0</u> 2
Box <u>2</u>	Box <u>1</u> 0

As of Version 3.6.0, the Box# field can also be used to group your records by a Tamper Monitor serial number, so that you can track a wide range of environmental changes that occur throughout the testing period.

Location

This is the location (at a test site) where a specific electret is deployed. Common examples of locations include basements or first floors. You can select a location from the dropdown list, or type in one yourself-- such as an apartment number or school classroom number.

Type

This field is automatically filled, based on the configuration that you selected in the Required Info window. As it currently stands, multiple detectors are allowed per data record, but they must all be of the same configuration type. For example, you could create a single record with 20 SSTs (for an apartment complex), but you cannot create a single record with 1 SST and 1 LST.

Start Date

Enter the date when the test was started. You do not have to type in the slashes between the month, day, and year. Note that, if you have selected SI measurement units, you will need to enter in the date as DDMMYYYY. If you have selected US measurement units, you will need to enter the date as MMDDYYYY. For example, June 1st, 2013, would be entered as 06012013 (in US format) or as 01062013 (in SI format). If you want, you can also use the calendar (represented by the  icon) to graphically select your start date.

Start Time

Enter the time when the test was started, in HHMM format. Designate AM or PM by entering "A" or "P" and TAB to the next field for the time to properly update. You

can also use the clock (represented by the  icon) to graphically select your start time.

End Date

Enter the date when the test was concluded. You do not have to type in the slashes between the month, day, and year. Note that, if you have selected SI measurement units, you will need to enter in the date as DDMMYYYY. If you have selected US measurement units, you will need to enter the date as MMDDYYYY. For example, May 15th, 2007, would be entered as 05152007 (in US format) or as 15052007 (in SI format). If you want, you can also use the calendar (represented by the  icon) to graphically select your end date.

End Time

Enter the time when the test was ended, in HHMM format. Designate AM or PM by entering "A" or "P" and TAB to the next field for the time to properly update. You can also use the clock (represented by the  icon) to graphically select your end time.

IV

This is the initial voltage of the electret immediately prior to the start of the test.

FV

This is the final voltage of the electret at the conclusion of the test. After entering the final voltage, the radon calculation will be displayed (in pCi/L or Bq/m³) after you update the field by tapping the ENTER or TAB keys.

Field Blank

If you check this box, then the detector will be defined as a blank. By default, field blanks will *not* appear on your Customer Letter (unless you are specifically creating a Field Blank Report), but they will always appear on your Lab Report.

Data Entry Window (Miscellaneous)

The screenshot shows a data entry form with the following fields and icons:

Serial No.	ID # (box)	Location	Type	Start Date (MM/DD/YYYY)	Start Time (HH:MM AM)	End Date (MM/DD/YYYY)	End Time (HH:MM AM)	Radon Concentration (pCi/L)	Average Radon Concentration (Av RnC)	Relative Percent Difference (RPD)	Field Blank
											<input type="checkbox"/>

Red arrows point from the following labels to the corresponding fields or icons in the form:

- Mode Dropdown (points to the Mode field)
- Location (points to the Location field)
- Start Date (points to the Start Date field)
- Start Time (points to the Start Time field)
- End Date (points to the End Date field)
- End Time (points to the End Time field)
- Radon Concentration (points to the Radon Concentration field)
- Relative Percent Difference (points to the RPD field)
- Field Blank (points to the Field Blank checkbox)
- Serial Number (points to the Serial No. field)
- ID#/Box (points to the ID # field)
- Type (points to the Type field)
- Start Date Icon (points to the Start Date icon)
- Start Time Icon (points to the Start Time icon)
- End Date Icon (points to the End Date icon)
- End Time Icon (points to the End Time icon)
- Average Radon Concentration (points to the Av RnC field)

The Miscellaneous Data Entry component of the **General Info** tab is where you'll be doing your data entry if you select a CRM, AC, AT, or LS device configuration. The illustration displayed above is specifically for these miscellaneous configurations, and is where you will be entering your deployed serial number(s), start and end dates (and times), and radon concentration(s).

Note that you can use the TAB key on your keyboard to move from field to field. Because these fields are nearly identical to the electret's Data Entry Window, it's no use repeating the same descriptions twice. Note that the initial and final voltage fields have been dropped, and you must now manually enter the radon concentration on your own and enter it into the Radon Concentration box (that will display either a pCi/L or Bq/m³, depending on your selected units of measurement).

It is important to remember that the Data Entry window-- whether in its generic or miscellaneous form-- is generally considered the fourth step in creating a new radon test record.

Creating a Radon Test Record

The previous four sections have attempted to describe the major components of the **General Info** tab, along with a description of their data fields. The only task left to do-- when creating a new radon test record-- is to put all of this information together, to combine what you've learned about the various components into a harmonized whole. The order in which they should be entered (and their order of appearance in this manual) is as follows:

1. Click the **New Record** button in the Menu Bar.
2. Select or add a customer in the Customer Info Window.
3. Define the Test Type (Residential or Commercial) and fill out the Test Site Info Window.
4. Change the dropdown fields in the Required Info Window, if necessary.
5. Fill out the fields in the Data Entry Window. If using electrets, the radon concentration will be automatically calculated after you enter the final voltage.
6. Voilà! You have created a basic radon test record. If you're worried about losing it, click the **Save** button once for good measure (...even though your record was saved beforehand). Now you need to put the finishing touches to it by filling out the deployment information and/or pricing information, which will be described in the sections that follow.

Creating a Drift Test Record

Drift testing is a specialized measurement protocol intended to ensure that your electrets are not losing an unacceptable amount of voltage (which would result in false positive radon concentrations).

Although Rad Elec performs lengthy drift tests on each and every electret that it sells, some states require that the radon measurement specialist perform his or her own drift test on newly-purchased electrets. In order to conduct a drift test, an initial voltage reading must be taken and then the electret must be stored in its keeper cap for the duration of the test (at least 28 days for short-term electrets, and at least 84 days for long-term electrets). For further instructions on how to properly conduct a drift test, please refer to the E-PERM User's Guide.

Using the Radon Report Manager, you can easily create a record for keeping track of your drift tests.

1. Click on the **New Record** button in the Menu Bar. You can also use the Test Assistant window to create a new record, if you'd prefer.

The screenshot shows the 'Record Database' application window. At the top, there is a menu bar with a 'New Record' button highlighted in yellow. To the right of the menu bar are fields for 'Inv. Date' and 'Print Date' (03-02-2016), and a 'Report Type' dropdown menu set to 'Deployment'. Below the menu bar are several tabs: 'General Info', 'Deployment Info', 'Pricing Info', and 'Tamper Monitor'. The main area is divided into three sections: 'Customer Information', 'Test Site Information', and 'Required Information'. The 'Customer Information' section has a 'Device Count' of 0 and a 'Find Device' dropdown. The 'Test Site Information' section has a 'Same' button and a 'Proxy Test' checkbox. The 'Required Information' section has a yellow background and contains fields for 'Msmnt. Unit' (US), 'Elevation (ft.)' (<4000), 'Protocol' (Multi), 'Gamma (uR/h)' (MV, 0.0, Y), 'Device' (SST), 'Reader', and 'Reader Calibration Date'.

2. Because drift tests are conducted for your own internal QA/QC obligations, either enter in your own company information or type in "QA/QC" as the customer.
3. Unless you are planning to conduct the drift test in a special environment or location, click on the **Same** button in order to copy your company information over to the Test Site Information window.

- Select "Drift Test" as the Measurement Protocol from within the Required Information window.
- Select either "KC-ST" (Short-Term Keeper Cap) or "KC-LT" (Long-Term Keeper Cap) as the device. For short-term drift tests that will last at least 28 days, please select "KC-ST". For long-term drift tests that will last at least 84 days, please select "KC-LT". No other device types are valid for drift tests.

Required Information

Msmnt. Unit: US

Elevation (ft.): <4000

Protocol: Drift Test

Gamma (uR/h): MD 6.2

Device: KC-ST Reader: E001

Reader Calibration Date: 15-Feb-2016

- In the Data Entry window, type in the electrets which will be undergoing the drift test, making sure to record the initial voltage in addition to the start date and time.

Mode	Box #	Update	Electret S/N	Location	Type	Start Date	Start Time	End Date	End Time	IV	FV	DV	Pass Fail	Total Days	VLPD	Field Blank
Initial		List Order	1SAA001	My Office	KC-ST	02-03-2016	01:05 PM			533						
*																

- Save the record and close it. You will now need to wait the required amount of time, at least 28 days for short-term electrets or 84 days for long-term electrets. If you attempt to calculate your results before this time period, the results will display as "Pending" to let you know that you need to wait longer.
- After the required amount of time has passed, load up your record and type in the final voltage along with the end date and time. The various data columns will be automatically calculated, letting you know whether or not your electret has passed the drift test. The columns are defined

as follows:

DV

Delta Voltage, or the total amount of voltage loss throughout the test duration.

Pass / Fail

Whether or not the electret passed the drift test. If the accumulated time is not sufficient, this will display “Pend” (to let you know that you must allow further time before the drift test results can be calculated).

VLPD

Voltage Loss Per Day, which will calculate the amount of voltage that your electret has lost per day throughout the duration of the drift test.

Mode	Electret S/N	Box # (TM S/N)	Location	Type	Start Date (MM/DD/YYYY)	Start Time (HH:MM AM)	End Date (MM/DD/YYYY)	End Time (HH:MM AM)	IV	FV	DV	Pass Fail	Total Days	VLPD	Field Blank
Initial	1SAA001		My Office	KC-ST	02-03-2016	01:05 PM	03-08-2016	10:56 AM	533	531	2.0	Pass	33.9	0.06	<input type="checkbox"/>

- Print out or create a PDF of your concluded drift test if you would like to keep an external copy for your records. Although the Lab Report will show more detailed information, you are also free to choose the “Letter” style if you prefer.

Drift Test Report

March 02, 2016
Batch #: 030216-2

<p>Customer Information</p> <p>Name: QA/QC Address: 123 Main Street Frederick MD 21703 Phone: (301) 555-5555 Fax: E-Mail: info@abradortesting.net</p>	<p>Test Site Information</p> <p>Contact: Adam Smith Address: 123 Main Street Frederick MD 21703 County: Frederick Phone: (301) 555-5555</p>
--	--

Summary of Deployment Information

Start Date: 03-Feb-2016	End Date: 08-Mar-2016	Total Days: 33.91	Total Records: 1	Type:
Deployed By:	Retrieved By:	Analyzed By:	ProxyTest: <input type="checkbox"/>	Real Estate: <input type="checkbox"/>
E-PERM Config: KC-ST	Gamma Background: 6.2	Msmnt Unit: US Units	Msmnt Protocol: Drift Test	Elev: <4000 t.
Reader: E001	Reader Calibration Date: 15-Feb-2016	Compliance Sheet Signed:		
Vents:	Foundation Type:			
HVAC:	Building Type:			
Conditions:	Test Category:			
Weather:	Mitigation System:			
Tampering:				
Comment:				

Serial No.	ID #	Location	Config.	Start Date	Start Time	End Date	End Time	IV	FV	DV	Pass Fail	Days	VLPD
1	SAA001	My Office	KC-ST	03-Feb-2016	01:05 PM	08-Mar-2016	10:56 AM	533	531	2	Pass	33.91	0.06

Page 1 of 1

Conducting Field Blank Tests

Field blanks are detectors that are deployed during radon measurements, but are left in a “closed” position and are therefore not exposed. As such, they serve as QA/QC controls to ensure accuracy in analysis – after all, the field blank should not be able to measure any discernible radon concentration. The Radon Report Manager will allow you to deploy, analyze, and easily keep track of the number of field blanks that you have performed.

There are two different ways to fulfill your QA/QC field blank requirements from within the Radon Report Manager. The first is to simply click the “Field Blank” check-box at the far right end of the Data Entry window, from within the Record Database. When a detector is defined as a field blank, by default it will no longer appear on the Customer Letter; it will, however, appear on the Lab Report.

Mode Manual		Box #		Update List Order		Start Date		Start Time		End Date		End Time		CLICK					Field Blank
Electret S/N	(TM S/N)	Location	Type	(MM/DD/YYYY)	(HH:MM AM)	(MM/DD/YYYY)	(HH:MM AM)	IV	FV	CF	pCi/L	AV	QnC	RPD					
1	SAA001	1	Basement	SST	10-12-2015	10:00 AM	10-14-2015	01:35 PM	700	677	2.1	4.5	4.6	2.7%			<input type="checkbox"/>		
2	SAA002	1	Basement	SST	10-12-2015	10:00 AM	10-14-2015	01:35 PM	300	279	1.9	4.6	4.6	2.7%			<input type="checkbox"/>		
3	SAA003	1	Basement	SST	10-12-2015	10:00 AM	10-14-2015	01:35 PM	244	243		Blank	Pass			<input checked="" type="checkbox"/>			
*																<input type="checkbox"/>			

The second method for conducting field blank tests is to create a specialized blank record, which is more complicated than the previous method described above. Such a record can only be used for deploying field blanks, but it can be useful for performing office blanks or otherwise catching up on your QA/QC requirements. You can create a specialized blank record by following the steps below:

1. Click on the **New Record** button in the Menu Bar, although you could also use the Test Assistant window to create a new record (if you'd prefer).

The screenshot shows the 'Record Database' application window. At the top, there is a menu bar with a 'New Record' button highlighted in yellow. Below the menu bar, there are several tabs: 'General Info', 'Deployment Info', 'Pricing Info', and 'Tamper Monitor'. The main area is divided into three sections: 'Customer Information', 'Test Site Information', and 'Required Information'. The 'Customer Information' section includes fields for Name, Address1, Address2, City St Zip, Phone, and Fax. The 'Test Site Information' section includes fields for Type, Contact, Address, City, St, Zip, County, and Phone. The 'Required Information' section includes fields for Msmnt. Unit, Elevation (ft.), Protocol, Gamma (uR/h), Device, Reader, and Reader Calibration Date. There are also buttons for 'Tamper Monitor' and 'Delete Record'.

- Because blank tests are conducted for your own internal QA/QC obligations, either enter in your own company information or type in "QA/QC" as the customer.
- Unless you are planning to conduct the blank test in a special environment or location, click on the **Same** button in order to copy your company information over to the Test Site Information window.
- Select "Drift Test" as the Measurement Protocol from within the Required Information window.
- Select the device type that you wish to utilize for your field blank report.

- In the Data Entry window, type in the electrets which will be undergoing the drift test, making sure to record the initial voltage in addition to the start date and time.

Mode Manual		Box # Update List Order		Start Date		Start Time		End Date		End Time		IV	FV	DV	Pass Fail	Total Days	VLPD	Field Blank
Electret S/N	(TM S/N)	Location	Type	(MM/DD/YYYY)	(HH:MM AM)	(MM/DD/YYYY)	(HH:MM AM)											
▶ 1SDE283	1	Office	SST	12-18-2015	10:00 AM							700						<input checked="" type="checkbox"/>
*																		<input type="checkbox"/>

- Save the record and close it.
- After the required amount of time has passed (usually at least 48 hours), load up your record and type in the end date, end time, and final voltage. The various data columns will be automatically calculated, letting you know whether or not your electret has passed the field blank test. The columns are defined as follows:

DV

Delta Voltage, or the total amount of voltage loss throughout the test duration.

Pass / Fail

Whether or not the electret passed the field blank test.

VLPD

Voltage Loss Per Day, which will calculate the amount of voltage that your electret has lost per day throughout the duration of the field blank test.

Mode		Manual	Box #		Update List Order	Start Date	Start Time	End Date	End Time	IV	FV	DV	Pass Fail	Total Days	VLPD	Field Blank
Electret S/N	(TM S/N)	Location	Type	(MM/DD/YYYY)	(HH:MM AM)	(MM/DD/YYYY)	(HH:MM AM)									
▶ 1	SDE283	1	Office	SST	12-18-2015	10:00 AM	12-21-2015	01:35 PM	700	700	0.0	Pass	3.2	0.00	<input checked="" type="checkbox"/>	
*															<input type="checkbox"/>	

- Print out or create a PDF of your concluded field blank test if you would like to keep an external copy for your records. Although the Lab Report will show more detailed information, you are also free to choose the “Letter” style if you prefer.

New Company

Field Blank Report
March 02, 2016
Batch #: 030216-3

Customer: Joe Somebody 555 Harper's Blvd. Waterford VA 20157	Test Site: Joe Somebody 555 Harper's Blvd. Waterford VA 20157
--	---

The Results are as follows:

Serial No.	Type	Location	Test Start Date	Test End Date	Test Results
SDE283	SBT	Office	18-Dec-2015 10:00 AM	21-Dec-2015 10:30 AM	Pass
SRE111	SBT	Office	18-Dec-2015 10:00 AM	21-Dec-2015 10:30 AM	Pass

Deployed By: TST
Retrieved By: TST
Analyzed By: TST

Reader SN: E001 Reader Calibration Due: 15-Feb-2017

Conditions: Closed Building Conditions N/A
Tampering:
Weather: No Abnormal Weather Conditions
Active Mitigation:
Comment:

Radon Health Risk Information

Radon is the second leading cause of lung cancer after smoking. The U.S. Environmental Protection Agency (EPA) and the Surgeon General strongly recommend that further action be taken when a home's radon test results are 4.0 pCi/L or greater. The national average indoor radon level is about 1.5 pCi/L. The higher the home's radon level, the greater the health risk to you and your family. Reducing your radon levels can be done easily, effectively and fairly inexpensively. Even homes with very high radon levels can be reduced below 4.0 pCi/L. Please refer to the EPA Web site at www.epa.gov/radon for further information to assist you in evaluating your test results or deciding if further action is needed.

Signature: _____ Date: _____

Creating a Spiking Test Record

The Radon Report Manager can also assist in spiking, which usually comprises 3% of the total number of detectors you deploy in a given year (with a bare minimum of three spikes). Although similar to the methods described earlier in creating both drift test and field blank records, there are enough differences to warrant a dedicated section in this manual to cover spiking. A spiking test record can be created by following the steps below:

1. Click on the **New Record** button in the Menu Bar, although you could also use the Test Assistant window to create a new record (if you'd prefer).

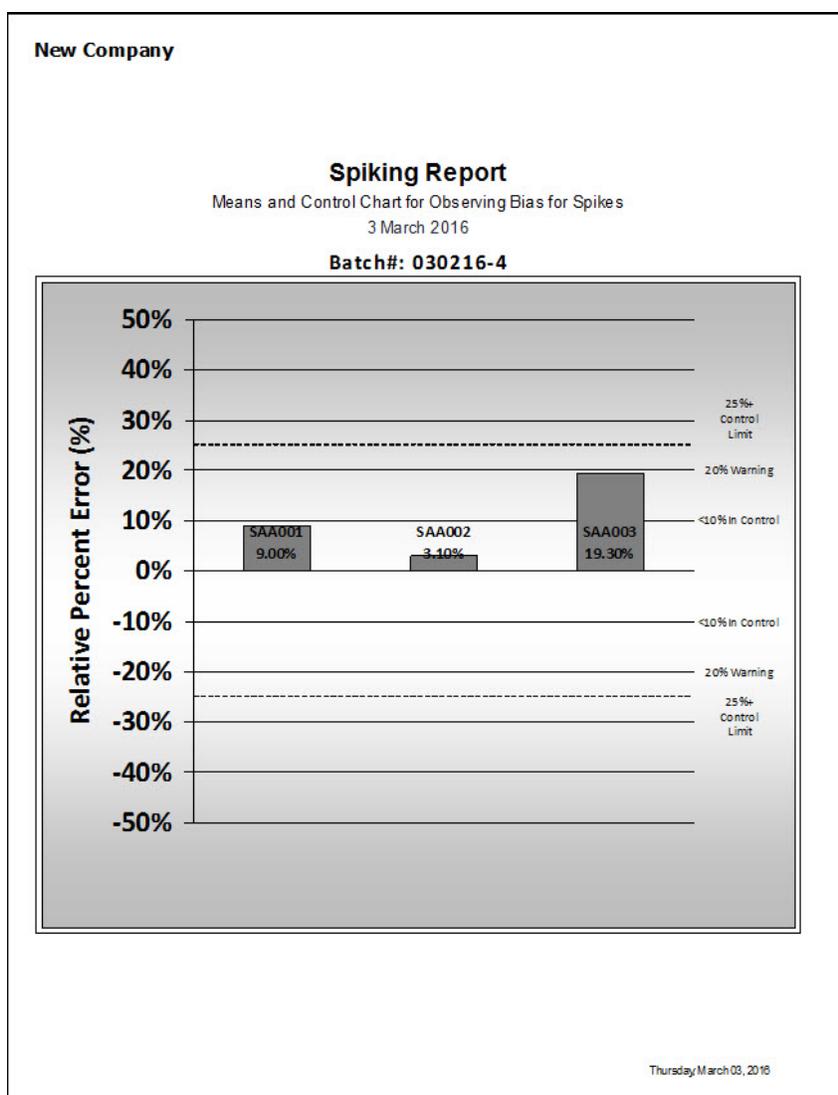
The screenshot shows the 'Record Database' application window. At the top, there is a menu bar with a 'New Record' button. Below the menu bar, there are several tabs: 'General Info', 'Deployment Info', 'Pricing Info', and 'Tamper Monitor'. The 'General Info' tab is selected. The form is divided into three main sections: 'Customer Information', 'Test Site Information', and 'Required Information'. The 'Customer Information' section includes fields for 'Customer:', 'Name:', 'Address1:', 'Address2:', 'City St Zip:', 'Phone:', and 'Fax:'. The 'Test Site Information' section includes fields for 'Type:', 'Contact:', 'Address:', 'City:', 'St:', 'Zip:', 'County:', and 'Phone:'. The 'Required Information' section includes fields for 'Msmnt. Unit:', 'Elevation (ft.):', 'Protocol:', 'Gamma (uR/h):', 'Device:', 'Reader:', and 'Reader Calibration Date:'. The 'Gamma (uR/h):' field is highlighted in yellow and has a value of 0.0. The 'Device:' field is set to 'SST'. The 'Reader:' field is empty. The 'Reader Calibration Date:' field is empty. There are also buttons for 'New Record', 'Tamper Monitor', and 'Delete Record'.

2. Because spiking tests are conducted for your own internal QA/QC obligations, either enter in your own company information or type in "QA/QC" as the customer.
3. Select "Spiking Test" as your measurement protocol. Unless you have specifically disabled the option, you will notice that the Test Site information is automatically filled in with Rad Elec's laboratory information as soon as you select "Spiking Test".
4. Select the device that you wish to use for your spiking test.
5. Double-check the Gamma value. If using Rad Elec as the spiking laboratory, this value should have been automatically set to 8.0 $\mu\text{R}/\text{h}$ (or 69.6 nGy/h).

- Type in the target radon concentration in the "Target RnC" field. As soon as this is completed, your %RPE (relative percent difference) will be calculated for each detector.

Mode		Manual	Box #	Update List Order		Start Date	Start Time	End Date	End Time	IV	FV	CF	pCi/L	Target RnC	%RPE	Field Blank
Electret S/N	(TM S/N)	Location	Type	(MM/DD/YYYY)	(HH:MM AM)	(MM/DD/YYYY)	(HH:MM AM)									
1	SAA001	N/A	Radon Chamber	SST	03-01-2016	03:00 PM	03-03-2016	03:00 PM	707	600	2.1	25.1	23.0	9.0	<input type="checkbox"/>	
2	SAA002	N/A	Radon Chamber	SST	03-01-2016	03:00 PM	03-03-2016	03:00 PM	439	345	1.9	23.7	23.0	3.1	<input type="checkbox"/>	
3	SAA003	N/A	Radon Chamber	SST	03-01-2016	03:00 PM	03-03-2016	03:00 PM	500	390	2.0	27.4	23.0	19.3	<input type="checkbox"/>	
*															<input type="checkbox"/>	

- Either print or create a PDF of your spiking report, for your own records. We recommend creating both a Lab Report and a Customer Letter, as they both compliment one another.



Deployment Info Tab

Record Database

Batch # 030216 - 1

Lookup By Batch#(Date)

New Record

Inv. Date

Print Date 03-02-2016

Report Type Deployment

PDF

Hide IV, FV, CF (Lab)

Hide Pricing Info (Lab)

Hide Field Blanks (Letter)

Tamper Monitor

Delete Record

General Info | Deployment Info | Pricing Info | Tamper Monitor

Protocols

Closed Building Conditions 12 Hours Prior To Testing? Yes No Unknown N/A

Closed Building Conditions During Testing Period? Yes No Unknown N/A

Compliance Sheet Signed? Yes No Unknown N/A

Mitigation System Installed? Yes No Unknown See Comment

General House Information

Test Category? (Initial, Follow-Up, Post-Mitigation) [Dropdown]

Building Type? (Single-Family, Apartment, etc.) [Dropdown]

Foundation Type? (Basement, Slab on Grade, Crawl-Space) [Dropdown]

Vents: Open Closed N/A

Central HVAC System: Yes No Unknown N/A

Vent Fan Settings: On Off Auto N/A

Thermostat Set At: [Text]

Thermostat Fan Settings: On Off Auto N/A

Weather Conditions

Approximate Precipitation During Test Period [Text]

Sustained Wind Velocity Above 30mph? Yes No Unknown N/A

Abnormal Weather Conditions? Yes No Unknown N/A [Text]

Tamper Controls

Tamper Indicating Controls Used? Yes No Unknown N/A

Description of Tamper Controls: [Text]

Were Tamper Controls Intact When Detectors Retrieved? Yes No Unknown N/A

If Not Intact - Describe Condition: [Text]

Comment: [Text]

After you've familiarized yourself with the **General Info** tab, you're ready to learn about the **Deployment Info** tab. Although none of this information is essential for generating a radon concentration, it will provide you (and your customers) with a ton of information, much of which is required by various U.S. States and/or Canadian provinces, as well as the NRSB and NRPP. The **Deployment Info** tab is meant to be intuitive and (mostly) self-explanatory, but this section will describe the various fields and options that it offers. Note that, in order to properly "fill out" your Lab and Customer Reports, you will need to answer the majority of questions that the **Deployment Info** tab requests.

If you'd like to be thorough, you can even print out a Deployment Sheet and take it with you to your test site. After returning back to your computer, you can enter in the deployment information even before you have retrieved your radon test. Order of operations isn't essential here; as you become increasingly proficient with the Radon Report Manager, you will find out that you can more or less do

things your own way, and in your own order. Much of the **Deployment Info** tab presents you with groups of checkboxes (that are known as “option boxes”). Only a single option can be selected from each group, and you can make your selection by left-clicking on the white checkbox to the immediate left of its textual description).

Protocols

Closed Building Conditions 12 Hours Prior to Testing?

The USEPA protocol states that when doing short-term testing lasting less than 91 days, it is important to maintain closed building conditions for at least 12 hours prior to starting the radon test.

Closed Building Conditions During Testing Period?

The USEPA protocol requires not only closed building conditions 12 hours prior to starting a short-term radon test, but also that these closed building conditions be maintained for the entire duration of a short-term test (which, by definition, is any test lasting less than 91 days).

Compliance Sheet Signed?

For real estate transactions, the technician should provide the client or homeowner with a written statement that discusses the importance of proper measurement conditions and of not interfering with the measurement device or building conditions. This should be signed by the current occupant or owner of the home.

Mitigation System Installed?

In buildings where there is a permanent mitigation system, it should be operating throughout the duration of the testing period. Selecting “Yes” will cause a new option to appear, in which you can specify which type of mitigation system you have installed.

Mitigation System Type

If you have selected “Yes” to having a mitigation system installed, you can select the type of mitigation system: ASD (Active Soil Depressurization), PNC (Passive New Construction), or Other. Selecting “Other” will cause a text box to appear, where you can type in the specific type of mitigation system installed.

Mitigation System Installed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	<input type="checkbox"/> See Comment
Mitigation System Type:	<input type="checkbox"/> ASD	<input type="checkbox"/> PNC	<input checked="" type="checkbox"/> Other	<input type="text"/>

General House Information

Test Category? (Initial, Follow-Up, Post-Mitigation)

Many states and agencies may require that a follow-up radon test be performed if the initial test has a radon concentration of greater than 4 pCi/L. Also, it is strongly recommended (and in some cases required) that a post-mitigation test be conducted to ascertain that the mitigation system is operating properly.

Building Type? (Single-Family, Apartment, Etc.)

This is used to describe the type of building that is being tested. You can select from a list of pre-defined building types (by left-clicking on the dropdown arrow), or you can add your own building type by pressing the + button.

Foundation Type? (Basement, Slab on Grade, Crawl-Space)

This is used to describe the foundation type of the building being tested. If the foundation type cannot be found by pressing the dropdown arrow, you can add a custom foundation type by pressing the + button.

Vents

If your test-site has vents, you can report their status in this option-box.

Vent Fan Settings

If your test-site has vent fans, you can report their status in this option box.

Central HVAC System

Normal closed-building conditions require the HVAC system to operate normally. Normal operation of permanently installed air-to-heat exchangers may also continue to operate during closed-building conditions.

Thermostat Set At

Record the thermostat setting if applicable. As this is an alphanumeric field, feel free to put "F" or "C" after your value to define it as Fahrenheit or Celsius.

Thermostat Fan Settings

Record the status of the thermostat fans here. Closed-building conditions require that the thermostat be operating and set to a normal temperature setting.

Weather Conditions

Approximate Precipitation During Test Period

Record the amount of precipitation during the test period, or leave this field blank. You may report the precipitation in whatever unit that you desire. If there was

not any precipitation, then you may leave this field blank.

Sustained Wind Velocity Above 30mph?

If there were extremely powerful (and sustained) winds throughout the duration of your survey, click “Yes”.

Abnormal Weather Conditions?

This field will allow you to document any unusual or abnormal weather conditions.

Tamper Controls

Tamper Indicating Controls Used?

If you used tamper indicating controls throughout your test, click on “Yes”.

Description of Tamper Controls

Describe the type of tamper controls that you used (such as lock-ties, tamper tape, tamper monitor, or tamper box, etc.)

Were Tamper Controls Intact When Detectors Retrieved?

If your tamper controls were altered or changed throughout the duration of your test, note it in this field.

If Not Intact, Describe Condition

Document both the description (and underlying cause, if known) of the tamper controls.

Comment

Note any additional information that you believe should be documented, and enter it here.

Technician Deployment, Retrieval & Analysis

In the upper right-hand portion of the **Deployment Info** tab are three dropdown boxes (named “Deployed By”, “Retrieved By”, and “Analyzed By”). If you have defined default technicians for these tasks (from the *Setup* window), those technicians should already be displayed here-- along with their certification credentials and default exposure time(s). Left-click on the dropdown arrows to change any of these data fields to better suit your specific radon test record. Note that you can temporarily “add” a new technician here, but he or she will not be saved to the database. If you want to permanently add a new technician to your team, follow the instructions as described in the previous *Setup* section.

Pricing Info Tab

The screenshot shows a software window titled "Record Database". At the top, there is a header bar with the following elements: "Batch # 030216 - 1" with left and right navigation arrows; a "New Record" button; a lock icon; a save icon; "Inv. Date" and "Print Date" fields (with "03-02-2016" in the print date field); a "Report Type" dropdown menu set to "Deployment"; a "PDF" button; checkboxes for "Hide IV, FV, CF (Lab)", "Hide Pricing Info (Lab)", and "Hide Field Blanks (Letter)"; a "Tamper Monitor" button; and a "Delete Record" button. Below the header is a tabbed interface with four tabs: "General Info", "Deployment Info", "Pricing Info" (which is selected), and "Tamper Monitor". The "Pricing Info" tab contains the following fields: "Price:" with a text box containing "\$0.00" and an "Invoice Paid?" checkbox; "Terms:" with a dropdown menu; "Service:" with a text box; and "Comment:" with a text box.

The **Pricing Info** tab is the third-- and final-- section of the *Test Data* window. It contains the pricing details, a description of the service performed, and any additional comments that you wish to appear on the Invoice. With only a handful of fields to fill out (most of which can be defined as defaults in the *Setup* window), it's easy to understand and should only take a few moments to complete. So if you've made it this far, congratulations.

Price

This is the amount (in dollars) that you will be charging your customer. Note that this field can be set to a default value defined from within the *Setup* window.

Terms

This dropdown box presents the terms of your service-- your options being "Pay On

Receipt”, “Net 15”, “Net 30”, and “Net 60”. Note that this field can be set to a default value defined from within the *Setup* window.

Service

This is a description of the service that you have provided for this specific record. Note that, like the previous fields, a default value can be defined from within the *Setup* window.

Comment

If you would like to make an additional comment (that will appear on your invoice), this is where you would enter it.

Invoice Paid?

By clicking this checkbox, your invoice (and current test-record) will be marked as paid. Using this feature, in conjunction with the *Test Assistant*, will allow you to easily keep track of the payment status of the records in your database.

The screenshot shows a software window titled "Record Database". At the top, it displays "Batch # 030216 - 1" with navigation arrows. Below this is a "Lookup By" field set to "Batch#(Date)". To the right are buttons for "New Record", a lock icon, and a save icon, along with labels for "Inv. Date" and "Print Date". A tabbed interface below shows "General Info" selected. The form fields include "Price: \$0.00", "Terms:" with a dropdown, "Service:" with a text box, and "Comment:" with a text box. The "Invoice Paid?" checkbox is checked. A large, stylized "PAID" stamp is overlaid on the right side of the form.

Radon-in-Water Measurements

In order to make a radon-in-water measurement with the Radon Report Manager, head into the Test Data window and select either “SST-H2O” (S-Chamber with a short-term electret) or “SLT-H2O” (S-Chamber with a long-term electret) from the Config dropdown box. In all other aspects, this process very nearly mirrors a normal radon-in-air data entry, with the following two caveats: you need to define the sample volume (either 68 mL or 136 mL) in addition to the exact time when the sample was collected.

Mode		Update List Order														Radon in Water		
Electret S/N	Group	Location	Type	Sample Volume	Sample Date	Sample Time	Start Date	Start Time	End Date	End Time	IV	FV	CF	pCi/L	AV RnC	RPD		
1 SAA001	1	Kitchen Spigot	SST-H2O	68 mL	05-11-2015	10:00 AM	05-11-2015	12:00 PM	05-12-2015	12:08 PM	700	653	2.086	1545.3	1527.6	2.3%		
2 SAA002	1	Kitchen Spigot	SST-H2O	68 mL	05-11-2015	10:00 AM	05-11-2015	12:00 PM	05-12-2015	12:08 PM	707	661	2.091	1509.9				

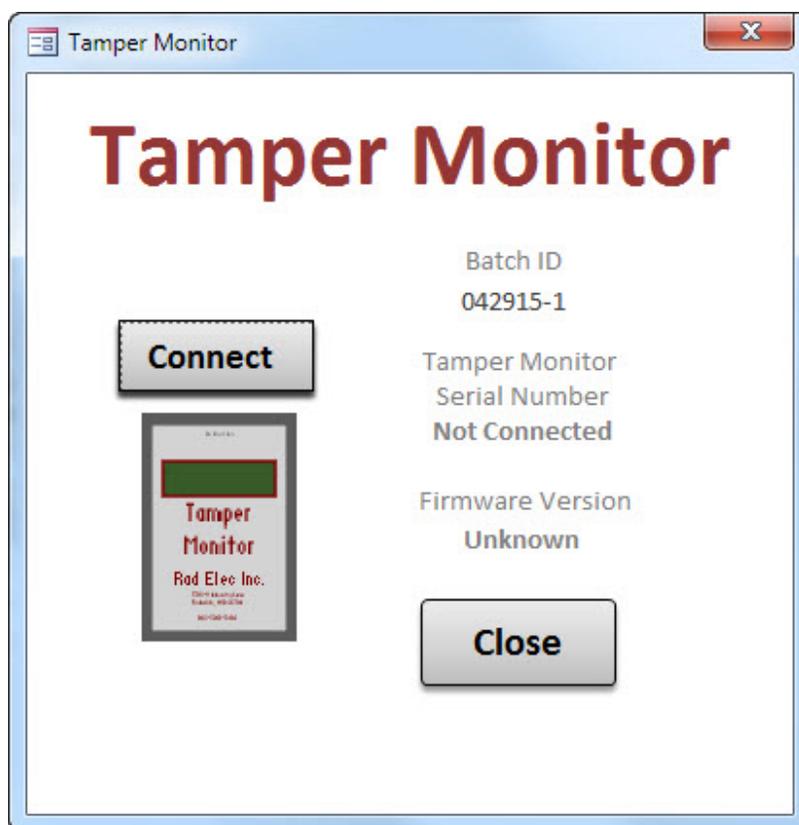
The Letter Report text for a radon-in-water measurement is distinct from the normal radon-in-air text, so you may want to customize it to suit your needs. In order to edit the text for radon-in-water, click on the Setup button from the Main Menu, then head over to the Letter Report Text tab. Click on the “Water” toggle button in the lower left portion of the window, and you will be able to edit the text that appears on radon-in-water letter reports.



Tamper Monitor

The Radon Report Manager can download data collected from the Tamper Monitor, and use that information to create various reports. The Tamper Monitor can be used to collect environmental data throughout a radon test's duration, measuring changes in temperature, humidity, barometric pressure, in addition to detecting any sudden movements. The Radon Report Manager, in addition to creating the classic textual reports produced by the Tamper Monitor, can now interpret this data into a wide range of charts to create a more visual experience.

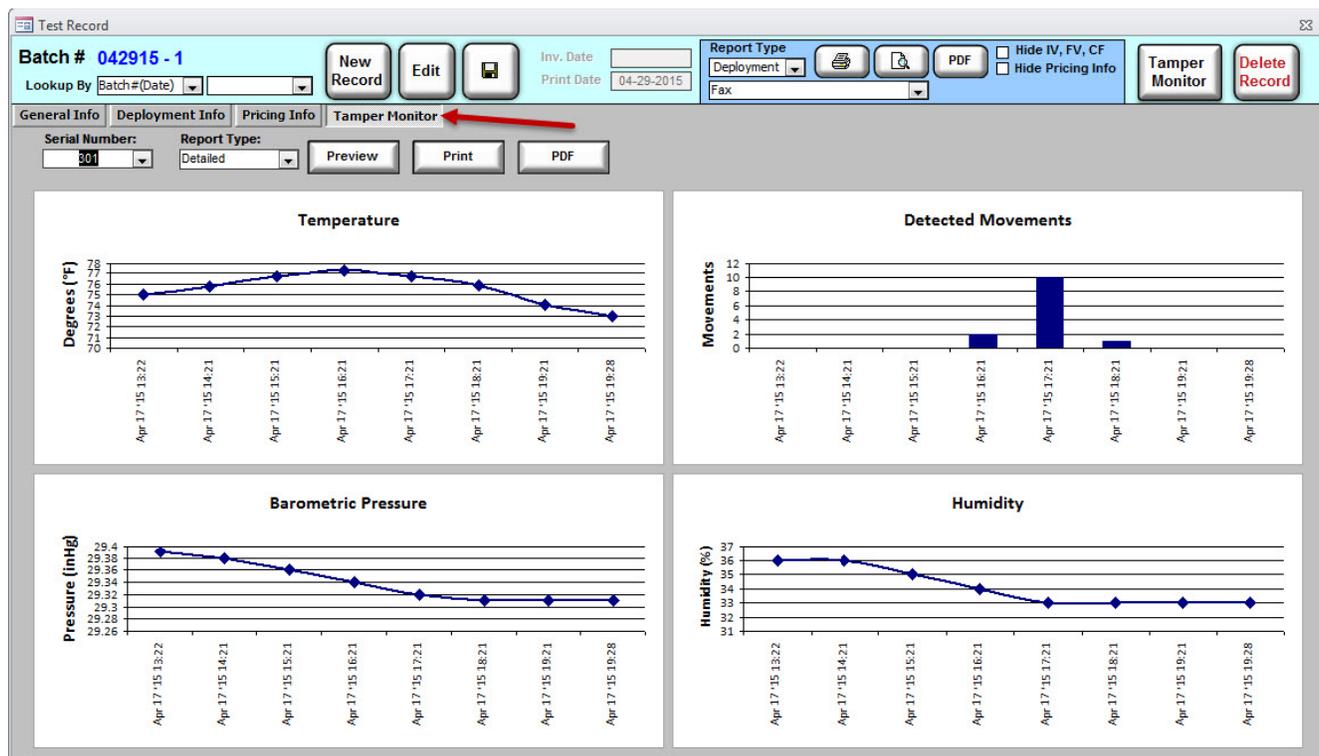
In order to connect a tamper monitor (and attach its data to the currently selected record), click on the **Tamper Monitor** button located in the upper right-hand corner of the Test Data window. This will open a new window, which is used to interface the Tamper Monitor with the Radon Report Manager. There are only two buttons on the Tamper Monitor Window – **Connect** and **Close**. To connect the Tamper Monitor, ensure that it is connected to the computer with its USB cable, is set to READ, and then click the **Connect** button.



It may take quite a few seconds for the Radon Report Manager to detect the Tamper Monitor, but after it has been detected, the reports will automatically be created. After you receive a message stating that the reports have been created, you will be asked whether or not you wish to clear the Tamper Monitor's memory and reset it for another test.

If you do not choose to reset the Tamper Monitor's memory at this time, you will simply need to reconnect it to the Radon Report Manager and click on the **Connect** button again. Note that you *will need* to clear the Tamper Monitor's memory before it can be used for another test, **but it's strongly advised to review your data** and make sure that you're happy with the resulting *before* choosing to clear the memory.

If you wish to check out the data that you just transferred from the Tamper Monitor, head over to the Tamper Monitor tab located in the Test Data Window, as shown below, and select its serial number from the dropdown box.



There are two different reports that you can create with the Tamper Monitor data: a detailed full

report, and a summary report with graphs. As with the other reports in the Radon Report Manager, you can choose to preview, print, and/or create a PDF of these reports.

It is important to remember that the location field displayed in the Tamper Monitor reports is dependent upon selecting the Tamper Monitor (or typing in its serial number) in the Box field located in the Test Data window (in the General Info tab). To clarify, here's an example: if I deployed a Tamper Monitor alongside my detectors, I would need to select (or type in) its serial number in the data entry window – in lieu of a box number. In short, the Tamper Monitor becomes the equivalent of a box number for this record.

Mode		Box #		Update List Order		Fill Down		Start Date	Start Time	End Date	End Time	IV	FV	CF	pCi/L
Electret S/N	TM S/N	Location		Type	(MM/DD/YYYY)	(HH:MM AM)	(MM/DD/YYYY)	(HH:MM AM)							
1SAA001	301	Basement		SST	04-15-2015	10:00 AM	04-17-2015	10:00 AM	700	685	2.1	3.5			
*															

In the above example, the Tamper Monitor will display its location as “Basement” when its data is transferred to the Radon Report Manager. If you forgot to enter your Tamper Monitor's serial number in this field (or made a mistake somewhere in the record), there's no need to worry – just head back into the Tamper Monitor window and press the **Connect** button again in order to re-transfer the data (provided that you haven't cleared the Tamper Monitor's memory yet).

For more detailed instructions on how to use and handle the Rad Elec Tamper Monitor, please refer to its User Manual. The following two pages show examples of the Tamper Monitor Detailed and Summary Reports.

Tamper Monitor Detailed Report

S/N: 309 (Firmware Version: 3.16)

SAMPLE REPORT

Test Lab:
 Name: ABC Radon Testing Company
 Address: 123 Main Street
 City: Frederick
 State: MD
 Zip: 21704
 Phone: (555) 555-5555

Test Site:
 Name: Joe Tech
 Address: 555 Somewhere Blvd.
 City: Leesburg
 State: VA
 Zip: 20175
 Location: Basement

Sample Number	Date / Time	Movement	Temperature		Pressure		Humidity	
			Min	Max	Min	Max	Min	Max
1	Apr-17-2015 13:22	0	75.0	75.0	29.39	29.39	36	36
2	Apr-17-2015 14:21	0	75.0	75.0	29.37	29.39	35	36
3	Apr-17-2015 15:21	0	76.5	76.5	29.35	29.37	34	35
4	Apr-17-2015 16:21	2	76.5	76.5	29.32	29.35	33	35
5	Apr-17-2015 17:21	10	75.9	75.9	29.31	29.32	33	33
6	Apr-17-2015 18:21	1	74.8	74.8	29.31	29.31	32	33
7	Apr-17-2015 19:21	0	72.9	72.9	29.31	29.31	33	33
8	Apr-17-2015 19:28	0	73.0	73.0	29.31	29.31	33	33

Detailed Summary:

Total Time: 0 days, 6 hours, 5 minutes

Total Movements	Temperature		Pressure		Humidity	
	Min	Max	Min	Max	Min	Max
13	72.9°F	77.9°F	29.31 inHg	29.39 inHg	32%	36%

Final Battery Voltage: 2.77V

Tamper Monitor Summary Report

S/N: 309 (Firmware Version: 3.16)

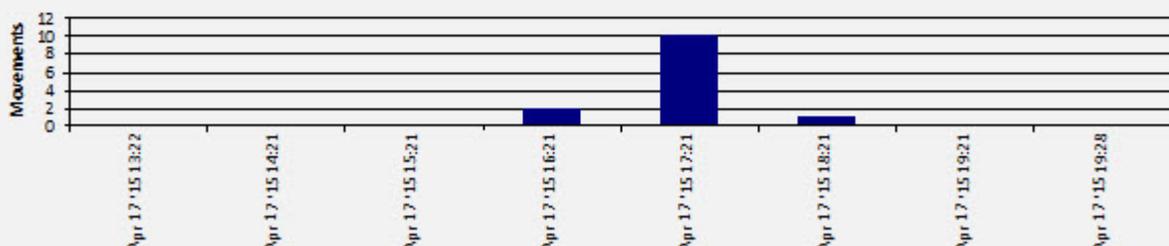
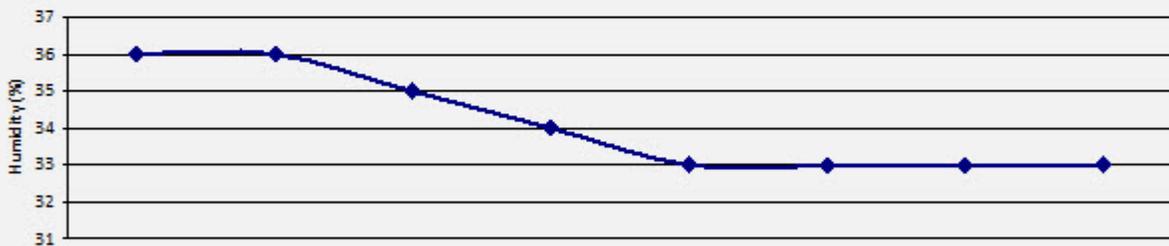
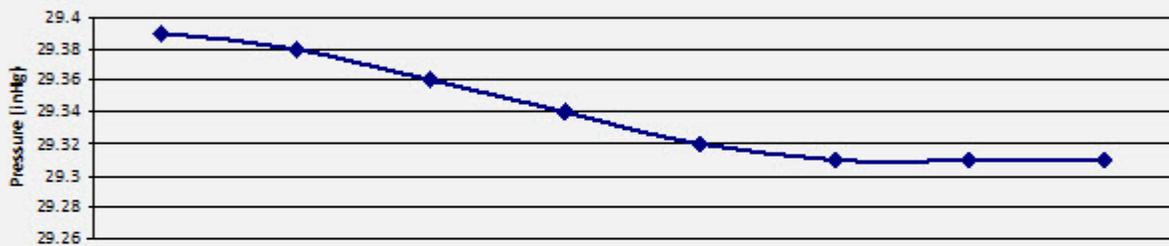
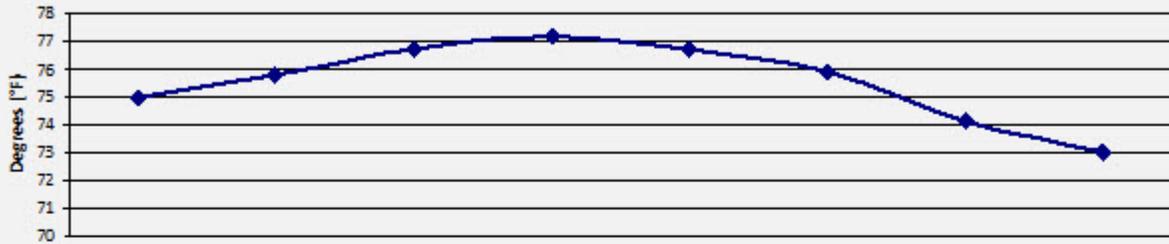
SAMPLE REPORT

Test Lab:

Name: ABC Radon Testing Company
 Address: 123 Main Street
 City: Frederick
 State: MD
 Zip: 21704
 Phone: (555) 555-5555

Test Site:

Name: Joe Tech
 Address: 555 Somewhere Blvd.
 City: Leesburg
 State: VA
 Zip: 20175
 Location: Basement



Summary:

Total Time: 0 days, 6 hours, 5 minutes

Total Movements	Temperature		Pressure		Humidity	
	Min	Max	Min	Max	Min	Max
13	72.9°F	77.9°F	29.31 inHg	29.39 inHg	32%	36%

Final Battery Voltage: 2.77V

Putting It All Together

By now, you should be familiar with all of the various components and fields that are available to you from within the *Test Data* window. By approaching each component of this window in a step-by-step manner, you are now able to create a new radon test record from scratch. This section will walk you through the steps in their entirety; if you have any questions, feel free to refer to the previous sections of this manual for a better description of an individual field or process.

1. Click the **New Record** button in the Menu Bar.
2. Select or add a customer in the Customer Info Window.
3. Define the Test Type (Residential or Commercial) and fill out the Test Site Info Window.
4. Change the dropdown fields in the Required Info Window, if necessary.
5. Fill out the fields in the Data Entry Window. If using electrets, the radon concentration will be automatically calculated after you enter the final voltage.
6. (OPTIONAL) Print out a Deployment Sheet before heading off to your test site. This can be accomplished by selecting the appropriate printer and clicking on the **Print** button, as described in a previous section of this manual.
7. Head over to the **Deployment Info** tab and enter the appropriate information, as described by your Deployment Sheet (whether or not it was printed from the Radon Report Manager).
8. Double-check your pricing details on the **Pricing Info** tab.
9. After retrieving your detectors, load the radon test record and enter in the remaining fields (most likely the Final Voltage).
10. Double-check all of your remaining fields and tabs, then print out a Lab Report (for your own

records), along with a Letter and Invoice for your customer.

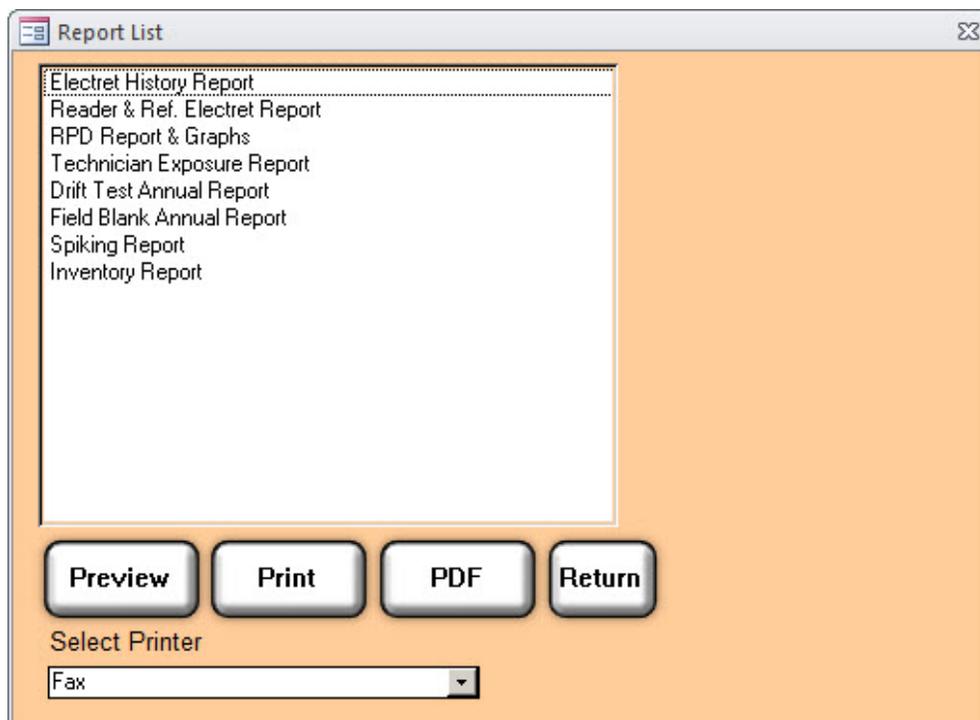
11. (OPTIONAL) Connect a Tamper Monitor, download the data, and review the environmental data.

12. Congratulations! You have completed a radon test using the Radon Report Manager. This record is stored in your database, and will be indirectly used for your QA/QC Reports.

REPORTS



The *Reports* window is where you can select from a wide variety of QA/QC reports, which can be used to meet state regulations (as well as any internal regulations or record-keeping standards that your company may keep). You can both preview and print your QA/QC reports from within the *Reports* window, as well as choose your printer.



Before jumping into the various reports that you can select, it's worthwhile to at least touch upon these three buttons (and single dropdown combo box) that are available to you from within the *Reports* window. They are pretty self-explanatory, for the most part.

Preview Button

This button will allow you to preview a report before you decide to print it.

Print Button

This button will print your currently selected report to the printer that you have selected. Note that it's probably a good idea to preview a specific report before you decide to print it.

PDF

This button will generate a PDF of your currently selected report.

Return Button

This button will return you to the Main Menu.

Printer Dropdown Combo Box

Located at the bottom of the *Reports* window, this dropdown combo box will allow you to select one of your printers. Note that it will not automatically print a report for you-- the **Print** button must still be clicked for that to happen.

Electret History Report

The Electret History Report displays every single date when a specific electret was used (starting with its initial entry into the inventory). If you want to track the lifespan of an electret-- and see every single instance of it being used-- then this is the report for you. After left-clicking on the Electret History Report from the Report List, you must now select the Electret Serial Number from the dropdown box that appears to the right of the Report List.

Electret History Report

06-Feb-2014

Config ST SFW384

Date	IV	FV	Batch#
01-Jul-2013	754		Inventory Read
01-Jul-2013		754	
15-Aug-2013	752		020614-1
17-Aug-2013		733	
19-Sep-2013	732		020614-2
21-Sep-2013		703	
10-Nov-2013	702		020614-3
12-Nov-2013		696	

Reader & Ref. Electret Report

This report will display a reader's weekly reference electret readings throughout a single calibration period. The calibration and certification dates will also be displayed in this report, in addition to your reference electrets' serial numbers and certified voltages. Rad Elec recommends for your readers to be calibrated once a year-- but your specific calibration period may be longer or shorter than this. In other words, the *Reader & Reference Electret Report* is not an annual report in and of itself, but rather a report based upon the (admittedly variable) calibration period.

As such, you will need to select both the reader's serial number *and* the calibration period from the dropdown boxes that appear to the right of the Report List.

SPER-1 Reader and Reference Electret Report

Reader: E0001

Calibration Period: 12/15/2013

Read Date	RE0001 Voltage	RE0002 Voltage	Zero		
12/19/2013	251	254	0		
12/26/2013	251	254	0		
12/31/2013	251	254	0		
1/6/2014	250	254	0		
1/13/2014	251	254	0		
1/20/2014	251	254	0		
1/27/2014	251	254	0		
2/2/2014	251	254	0		
2/6/2014	251	254	0		
2/13/2014	251	254	0		

	Serial	Certified Voltage
Reference Electret #1:	RE0001	251
Reference Electret #2:	RE0002	254

RPD Report & Graphs

The precision of duplicate measurements should be monitored and recorded in the quality assurance records. The *RPD Report & Graph* will print a Relative Percent Difference Detail Report for a particular month, and plot the results on two different range control charts: one chart for those tests with radon concentrations measuring less than 4.0 pCi/L (but greater than or equal to 2.0 pCi/L), and the second chart for those tests with radon concentrations measuring greater than or equal to 4.0 pCi/L. Results less than 2.0 pCi/L will not be plotted on the graph. Each graph has a designated area where the RPD (relative percent difference) is within the control level, within a warning level, or over the control limit.

You must select both the month and the year for which you would like your RPD Report and graphs to display.

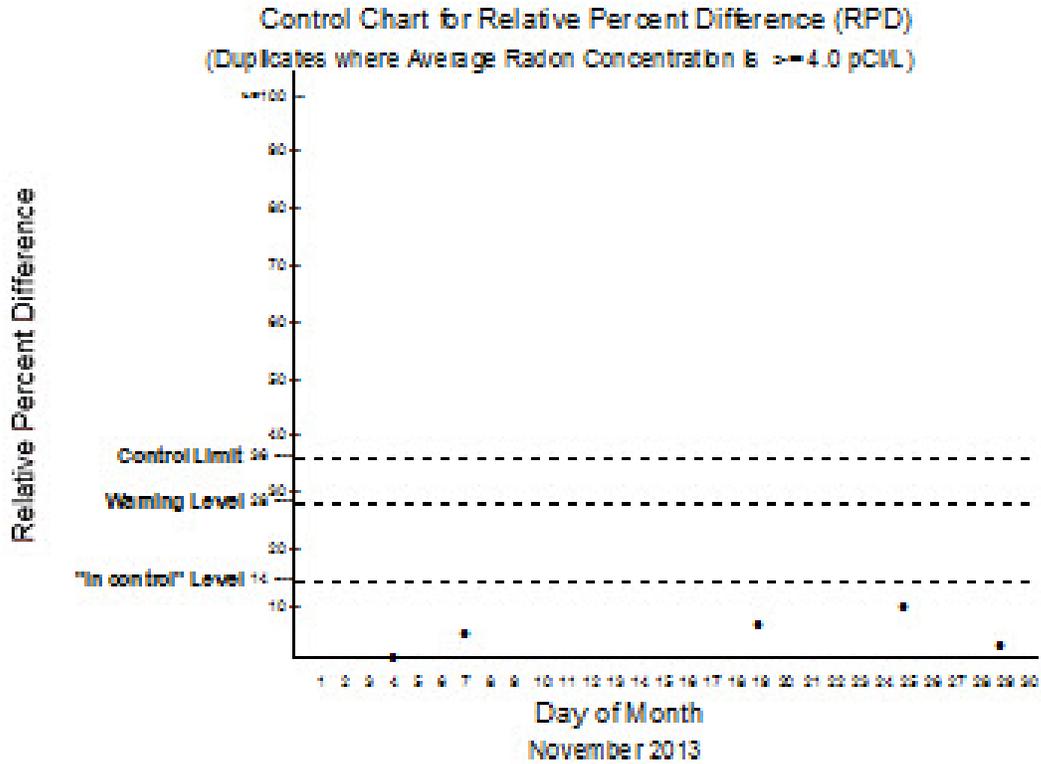
<p>Rad Elec Inc. 5716 - A Industry Lane Frederick MD 21704 301-694-0011/info@radelec.com</p>	<p style="color: red;"><i>Sample RPD Report</i></p>																																																																	
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<p>Average < 4 pCi/L</p>																																																																		
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Rad Elec Inc.

5716 - A Industry Lane
Frederick MD 21704

301-694-0011/info@radelec.com

Sample RPD Report



RPD=Difference between two measurements divided by their average.

If RPD exceeds the "Control Limit", cease measurements until the problem is identified.

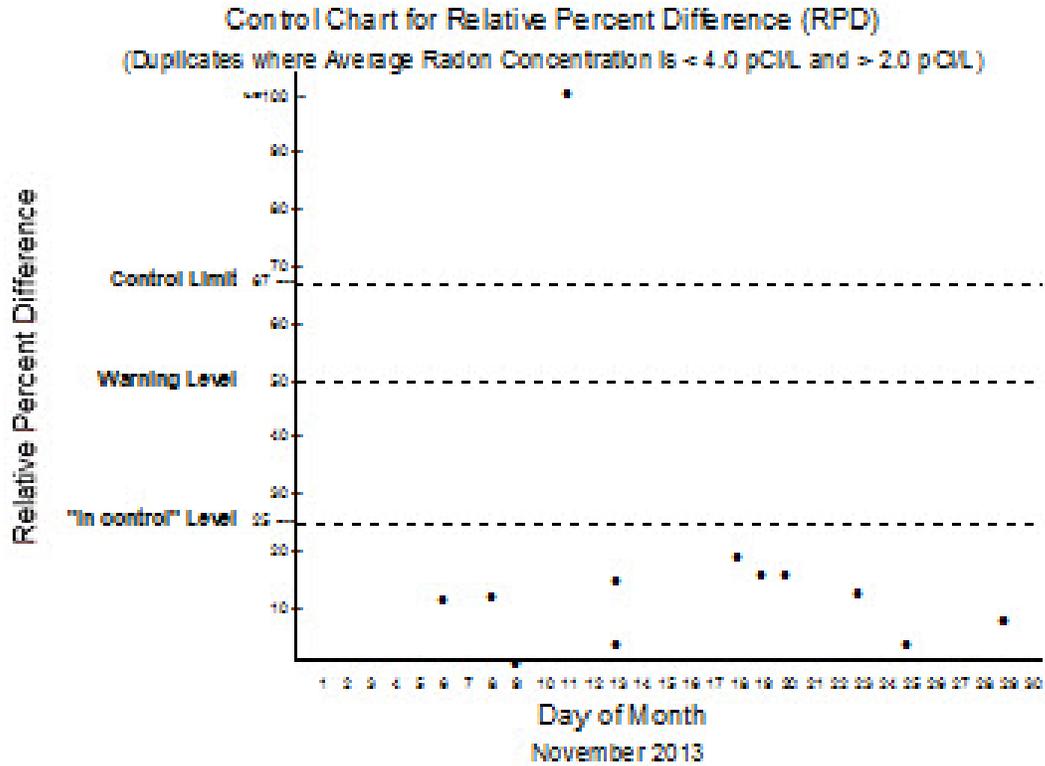
If RPD exceeds the "Warning Level", investigate the cause but you may continue making measurements.

Thursday, February 06, 2014

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Sample RPD Report



RPD=Difference between two measurements divided by their average.

If RPD exceeds the "Control Limit", cease measurements until the problem is identified.

If RPD exceeds the "Warning Level", investigate the cause but you may continue making measurements.

Thursday, February 06, 2014

Technician Exposure Report

The *Technician Exposure Report* will calculate the cumulative Working Level Months (WLMs) of a specific technician throughout an entire year. The assumed Equilibrium Ratio is extremely important in determining the cumulative exposure, and can be changed in the *Setup* window. The dates, batch number, address, and description of the exposure will be displayed in this report. You'll have to select both the desired technician and year from the dropdown combo boxes to the right of the Report List.

ABC Company 111 Second Street Churchville MD 22334 301-694-0011/info@abc.com						
Technician Exposure Report 28-Aug-2013 Technician Name: Mary Jones (CERT #98765)						
TOTAL CUMULATIVE EXPOSURE IN 2013: 0.003 WLMs Assumed Equilibrium Ratio: 0.5 No employee shall receive more than 4 WLM (Working Level Month) exposure per calendar year.						
Date	Batch No.	Address	Action	Exposure Time	RnC (pCi/L)	WLM
22-Apr-2011	061813-2	8007 C Edgewood Church Road, Frederick, MD 21702	Retrieval	30 Minutes	2.5	0.00004
20-May-20	080113-1	789 Elm Street, Downtown, MD 12345	Deployment	30 Minutes	6.6	0.00010
23-May-20	080113-1	789 Elm Street, Downtown, MD 12345	Retrieval	30 Minutes	6.6	0.00010
01-Jun-2011	082313-2	35 Swimming Pool Rd, Johnston, MD 21126	Deployment	30 Minutes	8.2	0.00012
01-Jun-2011	082313-5	246 Kutler Street, Knoxville, MD 21758	Deployment	30 Minutes	10.3	0.00015
02-Jun-2011	082313-4	65 Pine Avenue, Mt. Airy, MD 21771	Deployment	30 Minutes	1.8	0.00003
03-Jun-2011	082313-1	999 Magistry Way, Holle, MD 45645	Deployment	30 Minutes	3.3	0.00005
03-Jun-2011	082313-2	35 Swimming Pool Rd, Johnston, MD 21126	Retrieval	30 Minutes	8.2	0.00012
03-Jun-2011	082313-3	45 Treeline Avenue, Frederick, MD 21701	Deployment	30 Minutes	4.7	0.00007
03-Jun-2011	082313-5	246 Kutler Street, Knoxville, MD 21758	Retrieval	30 Minutes	10.3	0.00015
05-Jun-2011	082313-1	999 Magistry Way, Holle, MD 45645	Retrieval	30 Minutes	3.3	0.00005
06-Jun-2011	082313-7	987 Loser Way, Frederick, MD 21701	Deployment	30 Minutes	11.1	0.00016
06-Jun-2011	082313-4	65 Pine Avenue, Mt. Airy, MD 21771	Retrieval	30 Minutes	1.8	0.00003
07-Jun-2011	082313-8	34 Booker Drive, Frederick, MD 21011	Deployment	30 Minutes	11.2	0.00016
07-Jun-2011	082313-3	45 Treeline Avenue, Frederick, MD 21701	Retrieval	30 Minutes	4.7	0.00007
08-Jun-2011	082313-6	898 Cruiser Avenue, Frederick, MD 21111	Deployment	30 Minutes	6.1	0.00009
08-Jun-2011	082313-7	987 Loser Way, Frederick, MD 21701	Retrieval	30 Minutes	11.1	0.00016
09-Jun-2011	082313-8	34 Booker Drive, Frederick, MD 21011	Retrieval	30 Minutes	11.2	0.00016
10-Jun-2011	082313-6	898 Cruiser Avenue, Frederick, MD 21111	Retrieval	30 Minutes	6.1	0.00009
12-Jun-2011	082313-9	34 W Patrick, Frederick, MD 21701	Deployment	30 Minutes	4.2	0.00006
14-Jun-2011	082313-9	34 W Patrick, Frederick, MD 21701	Retrieval	30 Minutes	4.2	0.00006
15-Jun-2011	082313-10	7312 Brookside Drive, Frederick, MD 21702	Deployment	30 Minutes	2.4	0.00004
16-Jun-2011	082313-11	367 Scott Ave, Frederick, MD 21701	Deployment	30 Minutes	3.1	0.00005
18-Jun-2011	082313-10	7312 Brookside Drive, Frederick, MD 21702	Retrieval	30 Minutes	2.4	0.00004
20-Jun-2011	081513-1	Unknown Address	Deployment	30 Minutes	4.9	0.00007
20-Jun-2011	082313-11	367 Scott Ave, Frederick, MD 21701	Retrieval	30 Minutes	3.1	0.00005
22-Jun-2011	081513-1	Unknown Address	Retrieval	30 Minutes	4.9	0.00007
25-Jun-2011	081513-2	Unknown Address	Deployment	30 Minutes	5.9	0.00009
28-Jun-2011	081513-2	Unknown Address	Retrieval	30 Minutes	5.9	0.00009
05-Jul-2011	081513-3	Unknown Address	Deployment	30 Minutes	8.7	0.00013
07-Jul-2011	081513-3	Unknown Address	Retrieval	30 Minutes	8.7	0.00013
10-Jul-2011	081513-5	Unknown Address	Deployment	30 Minutes	1.1	0.00002
12-Jul-2011	081513-5	Unknown Address	Retrieval	30 Minutes	1.1	0.00002
15-Jul-2011	081513-6	123 Elm Street, Anywhere, MD 22222	Deployment	30 Minutes	1.0	0.00001
17-Jul-2011	081513-6	123 Elm Street, Anywhere, MD 22222	Retrieval	30 Minutes	1.0	0.00001
30-Jul-2011	081513-7	987 Running Creek Way, Ripple City, NH 45678	Deployment	30 Minutes	0.3	0.00000
01-Aug-20	081513-7	987 Running Creek Way, Ripple City, NH 45678	Retrieval	30 Minutes	0.3	0.00000
02-Aug-20	081513-8	123 Elm Street, Anywhere, MD 22222	Deployment	30 Minutes	0.4	0.00001
04-Aug-20	081513-8	123 Elm Street, Anywhere, MD 22222	Retrieval	30 Minutes	0.4	0.00001

Year-To-Date Exposure: 0.003 WLMs

Drift Test Annual Report

The *Drift Test Annual Report* will display all of the drift tests that you performed throughout your selected year. For reports that begin and end in different years, please note that the end date will be used for to determine the year in which the drift test is displayed. The minimum duration for a Drift Test is four weeks for a short-term electret, and twelve weeks for a long-term electrets. If the duration is less than what is required, the results will read as pending until the Drift Test is completed.

In order to pass a Drift Test, a short-term electret must lose *less than* 6 volts per month (or 1.5 volts per week). A long-term electret is permitted to lose 12 volts over a three-month period (which is equivalent to 4 volts per month, or 1 volt per week) in order to pass a Drift Test. If an electret loses more than what is permitted, it will fail the Drift Test.

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Drift Test Annual Report 2013

06-Feb-2014

Batch No.	Config	Serial No.	Start Date	Start Time	End Date	End Time	Results
020614-1	KC-ST	SCZ001	15-Jan-2013	9:30:00 AM	20-Feb-2013	9:30:00 AM	Pass
020614-1	KC-ST	SCZ002	15-Jan-2013	9:30:00 AM	15-Mar-2013	9:30:00 AM	Pass
020614-2	KC-ST	SAA989	04-Mar-2013	12:00:00 PM	06-Apr-2013	12:00:00 PM	Pass
020614-3	KC-ST	SAA744	07-Aug-2013	1:00:00 PM	07-Sep-2013	1:00:00 PM	Fail
020614-4	KC-LT	LSS766	01-Oct-2013	8:00:00 AM	27-Dec-2013	1:00:00 PM	Pass

Field Blank Annual Report

By selecting the appropriate year, you can view or print a report containing all of the Field Blanks that you have performed (throughout that selected year). It is recommended that Field Blanks comprise at least 5% of your total deployed detectors throughout any given year.

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Sample Field Blank Annual Report

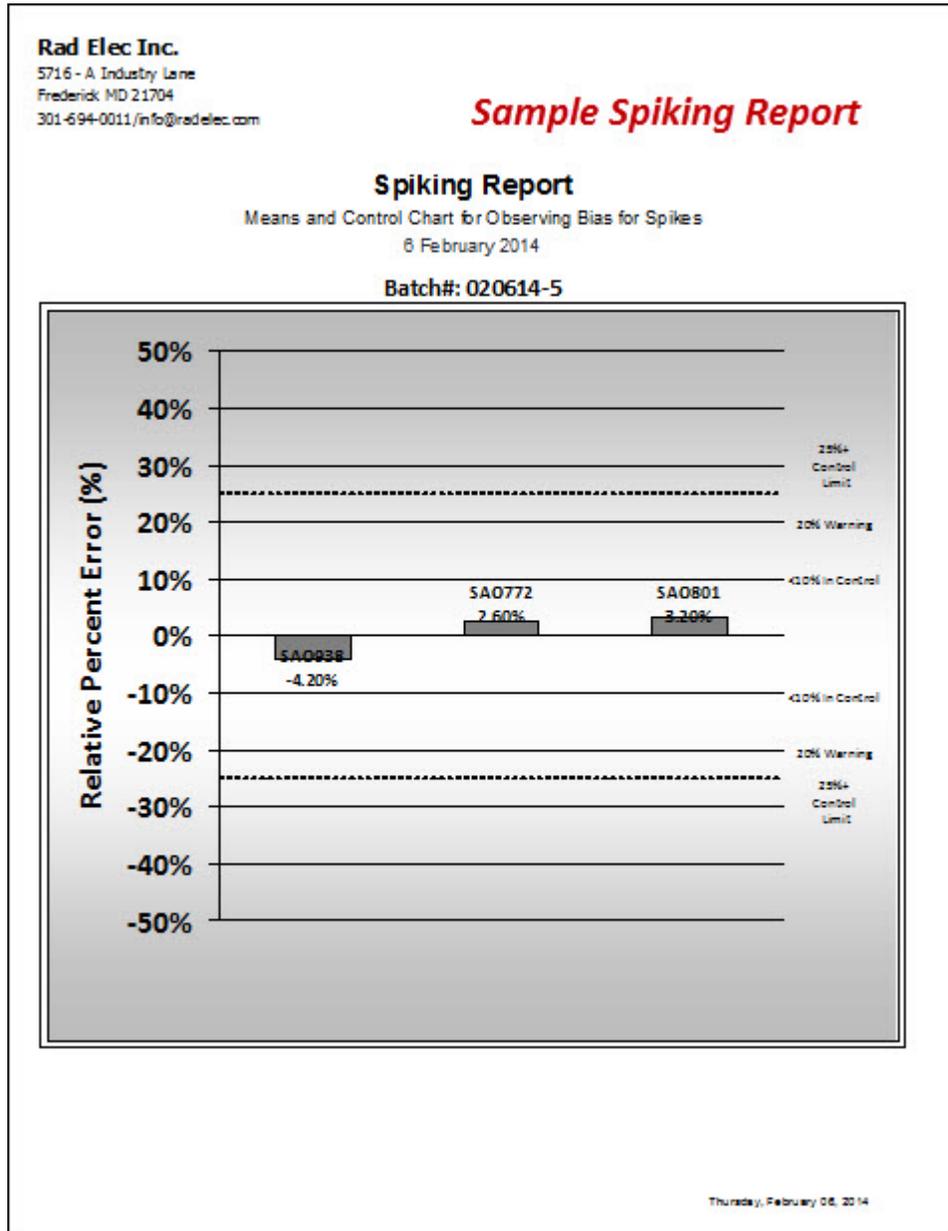
Field Blank Annual Report 2013

06-Feb-2014

Batch No.	Config	Serial No.	Start Date	Start Time	End Date	End Time	IV	FV	pCi/L
100913-1	SST	SEL337	09-Oct-2013	10:23:00 AM	11-Oct-2013	10:23:00 AM	377	376	<LLD*
102413-1	SST	SEL337	24-Oct-2013	9:30:00 AM	29-Oct-2013	2:17:00 PM	376	376	<LLD*
120413-1	SST	SFS952	04-Dec-2013	2:30:00 PM	06-Dec-2013	3:13:00 PM	309	309	<LLD*

Spiking Report

You can view and print a *Spiking Report* similar to the one that you would receive from Rad Elec by selecting your spiking batch number.



Inventory Report

An inventory of all radon measurement devices in the database (which can be a mix of electrets, CRMs, and other devices) can be viewed and/or printed from this report. The dropdown combo box will present you with a list of options to narrow or widen the results displayed in your *Inventory Report*.

Rad Elec Inc. 5716 - A Industry Lane Frederick MD 21704 301-694-0011/info@radelec.com			<h2 style="color: red;">Sample Inventory Report</h2>			
<h3>Inventory Report</h3> <p>6 February 2014</p> <p>Long-Term Electrets</p>						
Serial Number	Manufacturer	Model	Inventory Date	Date Last Used	Initial Voitage	Last Voitage
LG3312	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/18/2014	511	498
LH1478	Rad Elec Inc.	Long-Term Electret	11/5/2013	11/12/2013	534	502
LJ2350	Rad Elec Inc.	Long-Term Electret	11/5/2013	11/12/2013	634	620
LL2502	Rad Elec Inc.	Long-Term Electret	11/5/2013		679	0
LL3917	Rad Elec Inc.	Long-Term Electret	11/5/2013		615	0
LM6937	Rad Elec Inc.	Long-Term Electret	1/5/2014		425	0
LM6964	Rad Elec Inc.	Long-Term Electret	11/5/2013	11/12/2013	568	549
LM9377	Rad Elec Inc.	Long-Term Electret	1/5/2014		405	0
LO1333	Rad Elec Inc.	Long-Term Electret	1/5/2014		471	0
LO1439	Rad Elec Inc.	Long-Term Electret	1/5/2014		497	0
LO1680	Rad Elec Inc.	Long-Term Electret	7/27/2013	11/2/2013	475	382
LO1938	Rad Elec Inc.	Long-Term Electret	11/5/2013	11/12/2013	516	506
LO2132	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/18/2014	436	423
LO2696	Rad Elec Inc.	Long-Term Electret	1/5/2014		487	0
LO2760	Rad Elec Inc.	Long-Term Electret	1/5/2014		534	0
LO2850	Rad Elec Inc.	Long-Term Electret	1/5/2014		462	0
LR8595	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/17/2014	599	572
LR8732	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/17/2014	627	612
LR8752	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/18/2014	446	426
LR9192	Rad Elec Inc.	Long-Term Electret	7/29/2013	11/2/2013	530	502
LR9301	Rad Elec Inc.	Long-Term Electret	7/29/2013	11/2/2013	549	485
LR9500	Rad Elec Inc.	Long-Term Electret	7/27/2013	11/2/2013	572	546
LS1223	Rad Elec Inc.	Long-Term Electret	7/29/2013	11/2/2013	490	458
LS1233	Rad Elec Inc.	Long-Term Electret	7/27/2013	11/2/2013	489	442
LS2633	Rad Elec Inc.	Long-Term Electret	7/27/2013	11/2/2013	503	397
LS2692	Rad Elec Inc.	Long-Term Electret	1/5/2014		441	0
LS4070	Rad Elec Inc.	Long-Term Electret	11/5/2013	11/12/2013	559	549
LS4076	Rad Elec Inc.	Long-Term Electret	1/5/2014		464	0
LS4291	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/17/2014	534	504
LS6091	Rad Elec Inc.	Long-Term Electret	10/25/2013	1/17/2014	440	420
LS9903	Rad Elec Inc.	Long-Term Electret	7/27/2013	11/2/2013	573	541
LS9766	Rad Elec Inc.	Long-Term Electret	10/1/2013	12/27/2013	720	714
LT0514	Rad Elec Inc.	Long-Term Electret	7/29/2013	11/2/2013	460	430

AFTERWORD

If you've made it to the conclusion of this manual (and actually managed to read most of it), then you deserve to pat yourself on your back. This Radon Report Manager Manual is definitely not an experiment in concise writing, nor has it reached its final form. Much like the Radon Report Manager software, it is a lengthy work-in-progress that relies on you – our customers – to provide feedback so that we at Rad Elec can continue to improve it. Although we have strived to make this manual as comprehensive (and as easy-to-understand) as possible, it's very likely that we've overlooked or missed some things.

If you feel that a particular section is missing (or needs improvement), *please* don't hesitate to contact us at (800) 526-5482 and provide us with your suggestions. Your feedback has already improved the Radon Report Manager immeasurably, and will hopefully continue to do so in the future.