

# ETM Barcode Scanner Operating Guide

November 20, 2012

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## Guidelines for Using Barcode Scanners and the ETM

### Purpose

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Barcode scanners and the associated software were obtained to make the tracking of equipment within the EPA Emergency Response warehouses more efficient, and to provide additional capabilities for tracking equipment in the field during large responses, such as hurricanes and oil spills.

### Operating Principles

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The barcode scanning system is designed to manage only the key information necessary for tracking equipment. This includes the primary fields, Barcode Number, EPA Property number, Status and Location, as well as some additional fields to help describe the equipment. Initially this data is exported from the ETM via the EMBI reporting system, and then imported into the RACO Interactive Data Manager and then synced to the handheld scanner. The RACO software maintains a SQL server database to manage the data and to generate the necessary reports.

The equipment status and the location of any Field Check Outs are the key data that need to be accurate if the ETM and the scanners to work correctly. Being able to locate equipment either in the field or in the warehouse is the key function that the system must be able to perform.

In order to keep the two databases synchronized the Warehouse Managers will need to establish a schedule for updating the ETM with the equipment tracking data collected by the barcode scanners. It is the Warehouse Manager's responsibility to keep the RACO database synchronized with the ETM database. This can be accomplished by periodically generating reports for Field Check Outs and then using the bulk upload functions to transfer the data to the ETM.

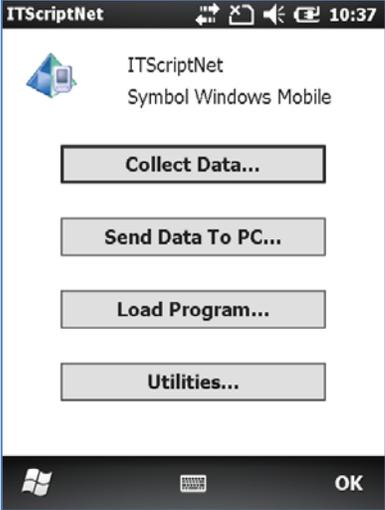
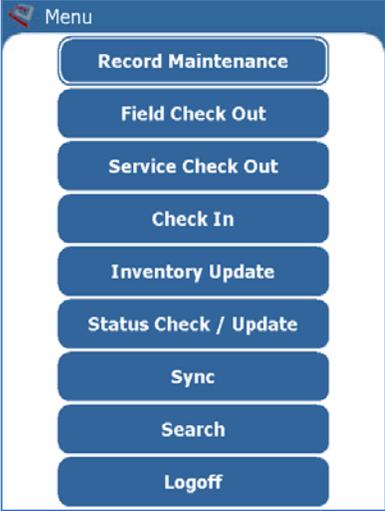
### Limitations

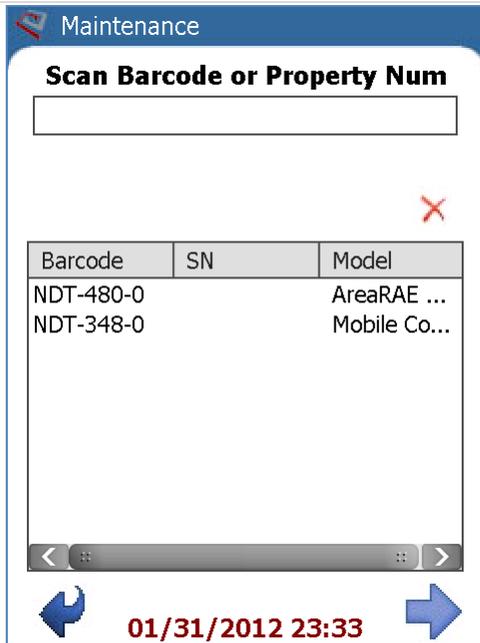
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As with any system there are limitations in their usage, and the barcode scanners are no different. Listed below are some of the main limitations that will need to be kept in mind while using the scanners.

- There is no direct connection between the scanners and the ETM; **therefore the users are responsible for transferring scanner data to the ETM so that the ETM data is accurate and up-to-date.**
- Certain data fields (employees, site names, etc.) need to be entered into the ETM before scanner data can be uploaded to the ETM. This amounts to double entries, but due to security restrictions on the EPA data system it is the only method available.
- Some functions such as Check-in will have to be done on BOTH the scanner and the ETM. Hopefully a bulk upload function for checking in equipment will be developed in the future.

## Getting Started

	<p>This is the scanner’s Home page. From here you can access the scanning program as well as other programs that are installed on the scanner. These include Office Mobile (Word, Excel, etc) Internet Explorer, etc.</p>  <p>Click on the program “ITScriptNet” to start the scanning software.</p> 
	<p>The ITScriptNet program starts with four options. The majority of the time you’ll want to click on “Collect Data” to begin using the scanner.</p> <p>The other functions may be used if the program or dataset need to be reloaded. However, please check with the Help Desk before using those functions.</p> <p><b>NOTE:</b> To update the “Employees” and “Site Activity Locations” tables you will need to use the “<b>Load Program</b>” button to reload the EPA-Equipment program.</p>
	<h3>Scanning Barcodes</h3> <p>This is the MAIN screen for the ETM scanning software. Listed on the screen are all the functions that have been included. Most of them are obvious by their names; however, two of the basic ones are described below. The others will be discussed separately in more detail.</p> <p>The <b>Sync</b> button will be used when you return the scanner to the cradle. It transfers the new data that you have just collected.</p> <p>The <b>Logoff</b> button will return you to the Home screen for the scanner.</p>

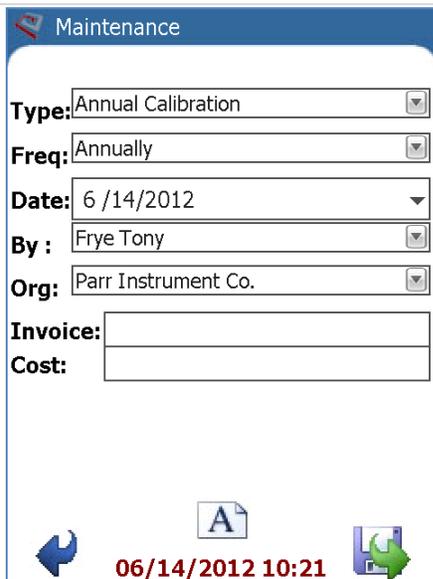


**Record Maintenance**

Recording maintenance is done by scanning the barcode labels of the equipment receiving the maintenance. The numbers will be added to the list in the lower part of the screen.

Once all the barcodes have been scanned, click on the arrow in the lower right corner to add the maintenance details.

**NOTE:** If multiple barcodes are scanned, the person doing the maintenance needs to be the same person and **that person’s name will need to be already entered into the ETM system.**

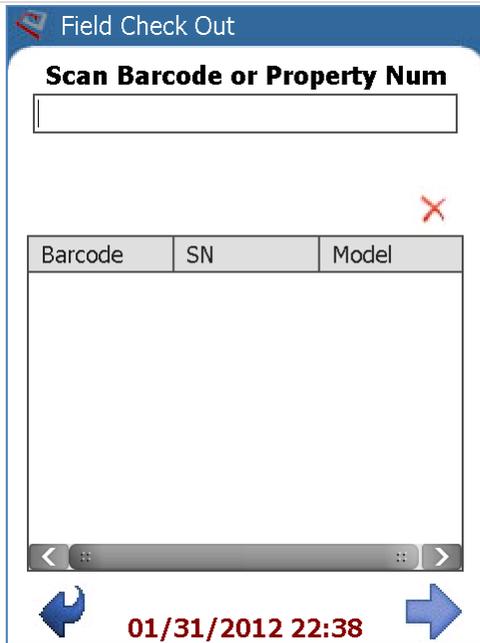


Adding the maintenance data uses the same data fields as the module. After completing the necessary fields, click on the ‘disk’ icon in the lower right corner. This will record the data and take you back to the MAIN screen.

If you need new maintenance types or frequencies you can add them to the desktop program “RACO Data Manager” and then use the SYNC function to add them to the scanner.

If a service organization is selected you will have the option to add the Invoice number and the Cost.

**NOTE:** any new types or frequencies will also need to be added to the ETM before uploading the maintenance data.



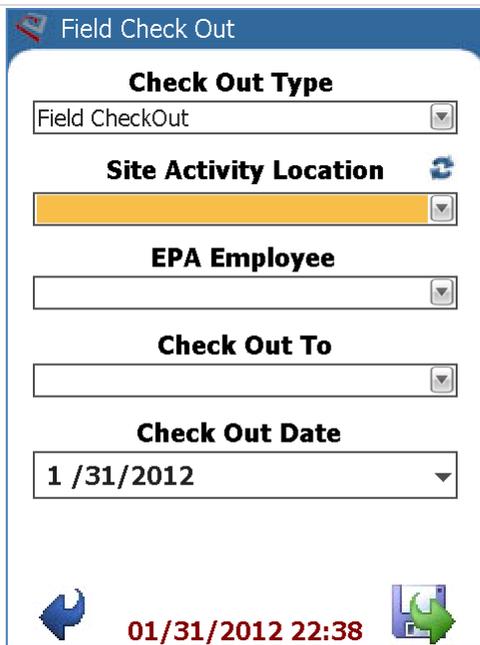
**Field Check Out**

Selecting the Field Check Out button will take you to the screen that allows you to scan the equipment to be checked out.

Either the barcode number or EPA property tag can be scanned to check out the equipment.

As you scan barcodes, the equipment is added to the list in the window below the scan input. NOTE: you can also type a barcode into the box and press the return button and it will enter that number.

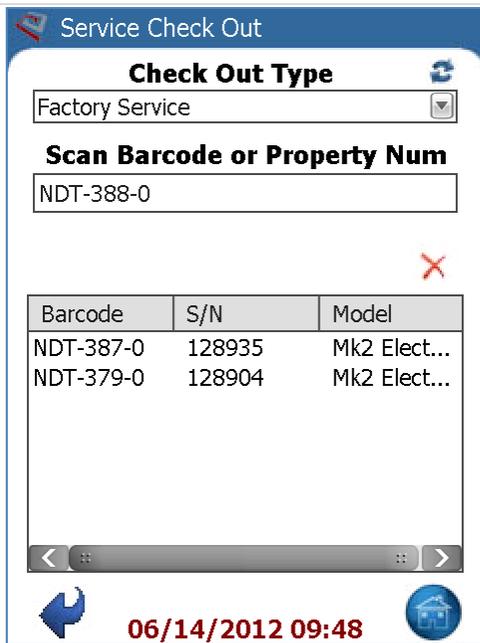
Once you are finished adding equipment, press the “arrow” in the lower right corner to enter the check-out data and complete the process.



Adding the required data for the Field Check Out is the same as in the ETM. After completing the necessary fields Click on the ‘disk’ icon in the lower right corner. This will record the data and take you back to the MAIN screen.

The “Site Activity Location” can be selected from the drop-down list, or entered using the keyboard.

**NOTE: if you enter a new location, you will need to add that site to the ETM prior to uploading the data to the ETM.**

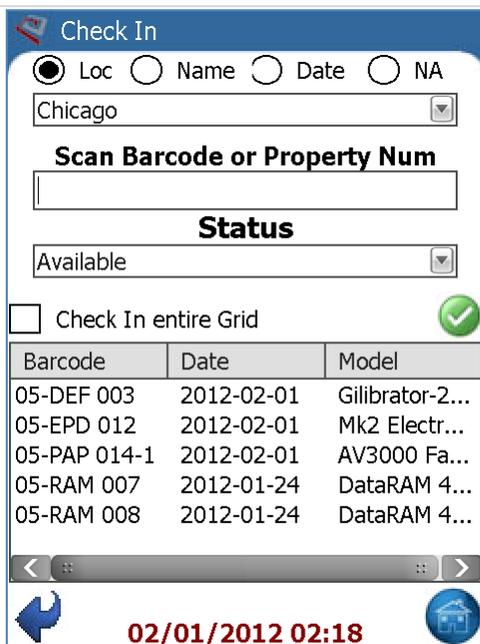


### Service Check-Out

To perform a Service Check-out you select the Check Out Type from the drop down menu, and then scan the barcode or barcodes that are being checked out. These will be listed in the data box.

If a barcode is scanned incorrectly, highlight that entry and press the red X to delete that record from the check out.

When all the barcodes have been scanned, pressing the Home button in the lower right corner will save those changes and returns you to the main screen.



### Check In

There are several ways to check in equipment. In addition to scanning the barcode to add the equipment to your list.

You can also click on one of the radio buttons and select from the dropdown menus. Once you have selected a name, location or date, the list will be filled with checked out equipment that matches. Click on the barcode you want and then click on the green check mark to check-in that piece of equipment.

You can also check-in the entire listing by selecting the checkbox "Check in entire grid" and then pressing the green check mark.

### Inventory Update

To conduct an inventory of your equipment you will need to designate the warehouse and the location within the warehouse and then scan the barcodes or the EPA property numbers of the equipment being inventoried.

When you have scanned all the equipment, you have the option of recording a comment by clicking on the page icon at the bottom of the screen.

Once you are finished clicking on the “Home” button will record the data.

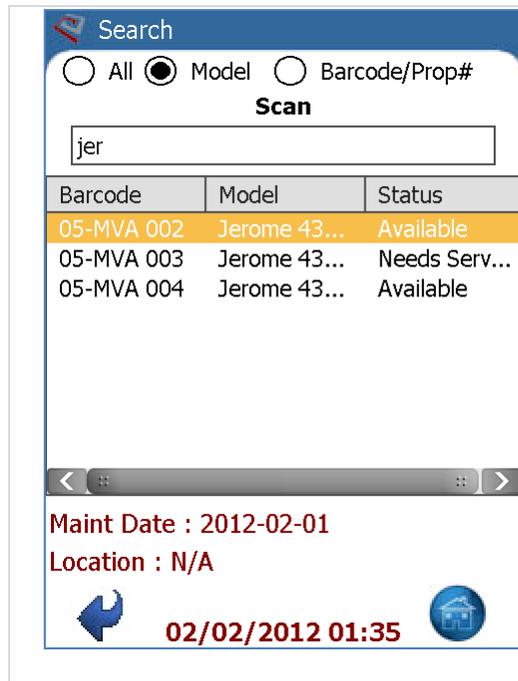
**NOTE:** you will need to run the Inventory report to get the file to cut & paste into the ETM (See the Reports section)

### Status Check/Update

With the scanner you can change the Status of a piece of equipment. You can either scan the barcode or EPA Property Number to bring up the equipment and its current status.

You can then select the new status using the drop down menu.

**NOTE:** If the equipment is listed as Checked Out you cannot change its status. Likewise, you cannot change the status to Checked Out with this function, you will need to use the Field or Service Check Out function.



## Search

The search function allows you to look at your data directly on the handheld scanner. The display will show you the barcode, model name, status, last maintenance and location if checked out.

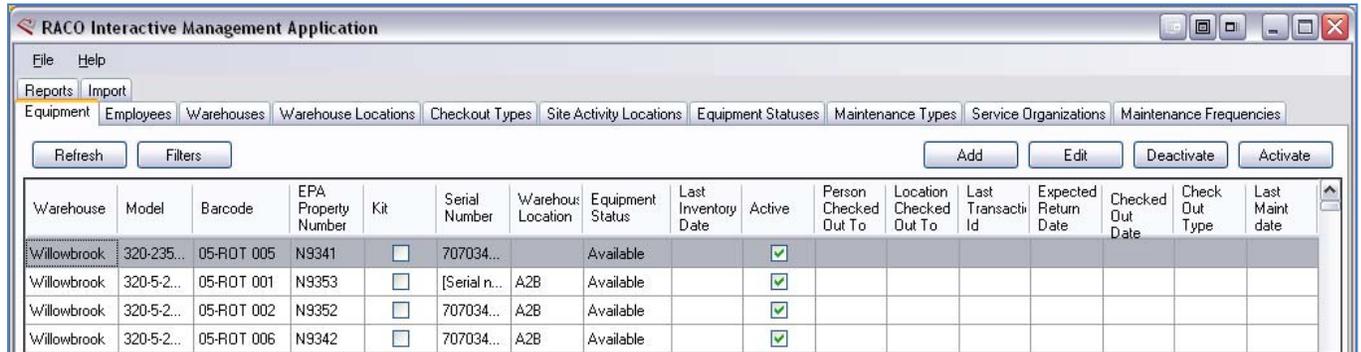
The "All" button will display all the data

The "Model" button will allow you to scan or type in a model name. You can type in partial or full names. The example to the left shows the 3 Jerome 431-X units just by typing "Jer".

Scanning or typing in the full barcode or EPA Property number will call up just that particular piece of equipment.

## RACO Interactive Manager

Once the scanner has been synced with the computer (using the Sync button on the scanner, pg. 3), you can manage your data and generate the reports needed to update the Equipment Tracking Module (ETM) with the RACO Interactive Data Manager program, which is installed on your computer. After opening the program you will see a row of tabs and a listing of the equipment in your warehouse database. The window and the columns can be resized to allow better readability.



### Data Fields

When reviewing the “**Equipment**” table clicking on a column heading will sort by that column, clicking twice will reverse the sort order. The “Refresh” button will refresh the data to reflect any changes from syncing with the handheld or other tasks that change the data. The “Filter” button allows you to filter the data by several of the columns, i.e. status, model name, etc. The “Activate” and “Deactivate” buttons will change the selected records to active or inactive, which will remove them from other edits, etc. It is anticipated that this function will NOT be used very often.

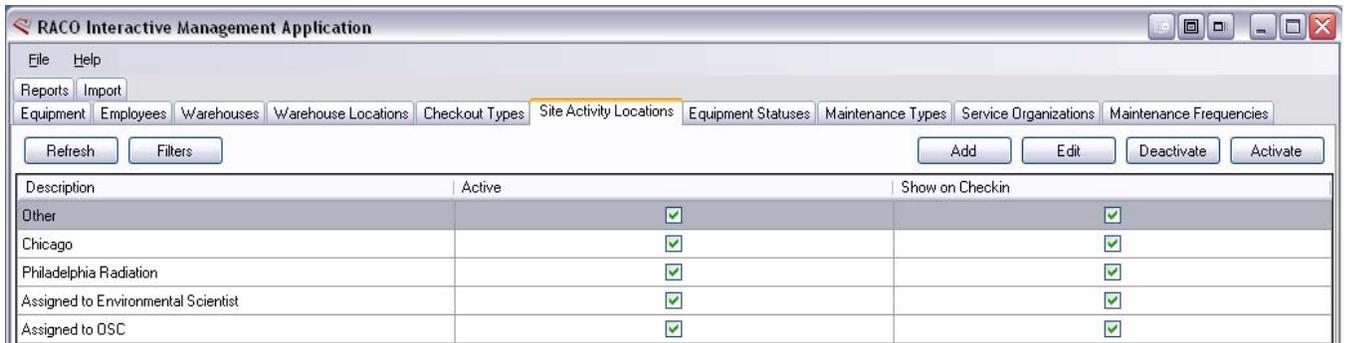
The following tabs are preconfigured to match what is in the ETM and editing those should only be done after the ETM has also been updated; Warehouse, Warehouse Locations, Check Out Types, Equipment Statuses, Maintenance Types, and Maintenance Frequencies.

The **Employees** tab will need to be updated before using the scanner software for the first time.



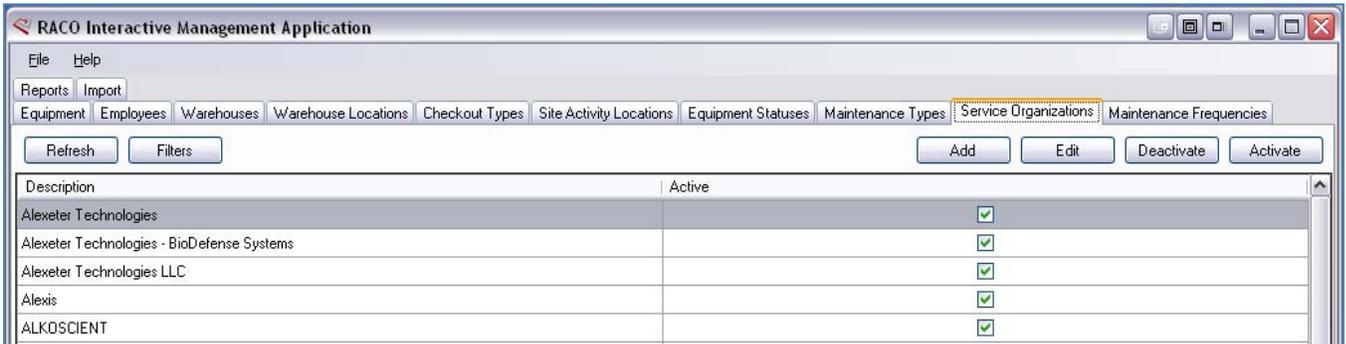
Each person whose name needs to be used within the ETM needs to be added to this table. The designation EPA employee is needed in order to select that person for a Field Check Out. The Service Tech designation is needed in order to select that person as having performed maintenance. The EPA Employee Id is not required, even though it is tracked within the ETM.

The **Site Activity Locations** tab allows you to add or edit locations that will be used for Field Check Outs.



New locations can be added on the computer and then synced to the handheld, or they can be entered into the handheld, and then synced later when the handheld is docked. As with other fields that are required in the ETM, any new records will also need to be added to the ETM in order for the Bulk Check Out upload to work.

**Service Organizations** are similar to the locations tab in that they can be entered on either the handheld or the computer.



As with other fields that are required in the ETM, any new records will also need to be added to the ETM in order for the Service Check Out records to match those on the ETM.

**Import:** Importing data in the RACO program will be done as part of the installation process, but directions are available in Appendix C if additional data needs to be imported.

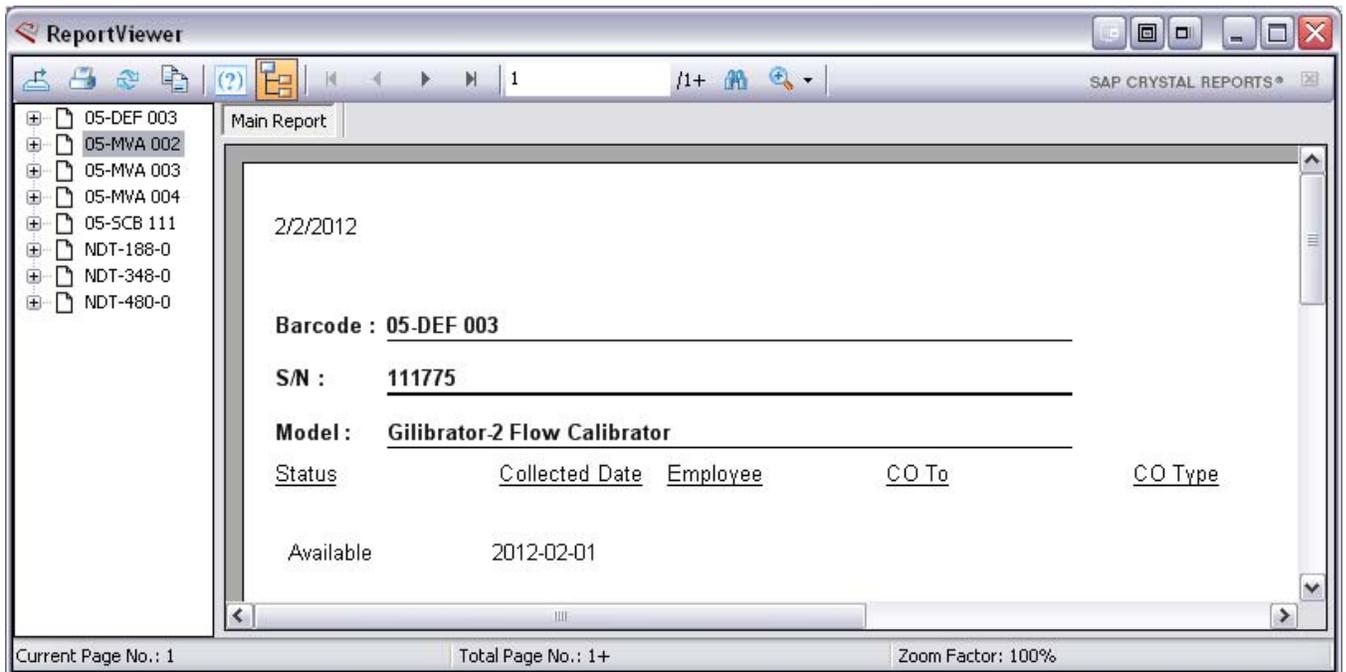
### Reports

The **Reports** tab is where you will generate the spreadsheets and other reports for transferring data to the ETM.



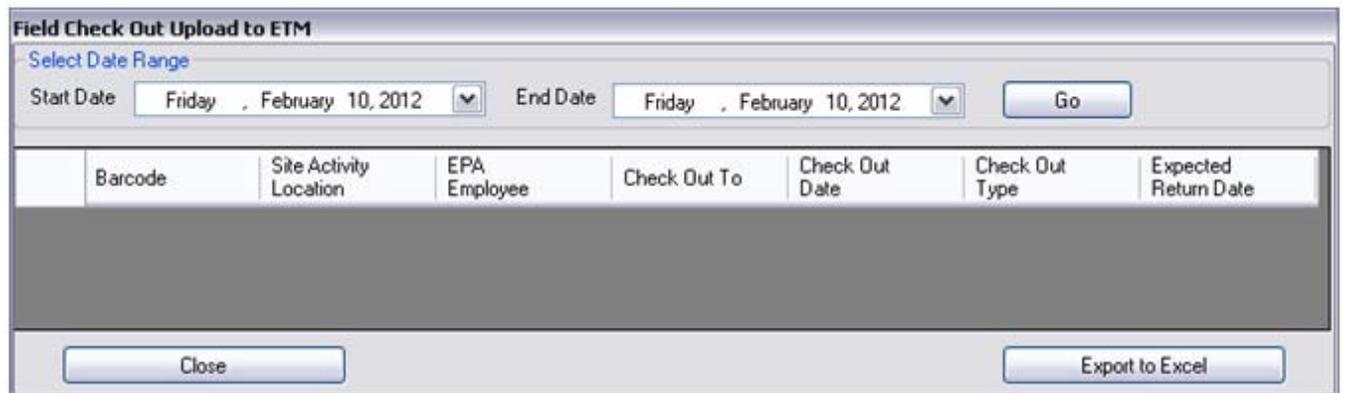
**Barcode History Report**

This will generate a report of all the equipment that has had a change recorded during the date range that is selected for the report. The report can be saved in several formats including Excel, Word, and PDF. Clicking on the icon in the upper left corner of the menu bar will let you chose what report format the data will be exported in.



**Field Checkout Report**

This is used to generate the excel spreadsheet needed to perform a bulk upload to the ETM. After selecting the Checkout report tab a new window opens that allows you to select the date range for the report. The date range defaults to the current date, but a popup calendar is available to select the dates. Once the dates are selected, click on the "Go" button. This will pull the check-out records that fit the date range. If the records look correct, click on the "Export to Excel" button to generate the excel file.



The program will prompt you for a file name and the location where you want to save the file. A warning window may appear telling you that the file does not exist, and asking you if you want to create it – click on Yes. Your check-out report file is now ready to be uploaded to the ETM. As with any of the reports generated by the scanner, you will need to make sure that any new data such as new “Site Activity Location” names, new EPA or “Check Out To” staff, etc. have been added to the ETM prior to uploading the spreadsheet.

**Maintenance Upload Report**

This is configured in the same manner as the Checkout report.

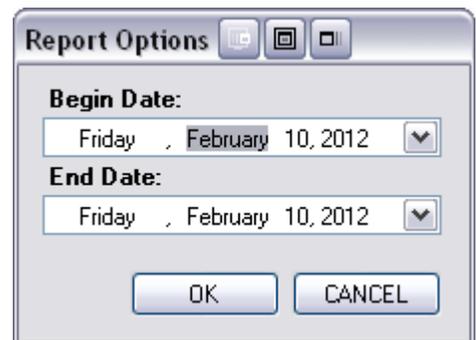


Select the desired date range, and then “Export to Excel”. The maintenance report is now ready to be uploaded to the ETM. As with any of the reports generated by the scanner, you will need to make sure that any new data such as new Maintenance types, new maintenance staff, etc. have been added to the ETM prior to uploading the spreadsheet.

**Additional Reports**

The reports; “**Service Checkout Export to .csv**”, “**Equipment Check In Export to .csv**” and “**Inventory Upload to .csv**” all operate in the same manner. They all will generate a list of barcode numbers separated by commas which you can then copy and paste into the appropriate search box in the ETM.

After the desired date range is selected, and a window opens prompting you to save the .csv file. After the file is saved you can open the file in Notepad, WordPad, MS Word, or any other text editor that you prefer, and copy the list of barcodes. Below is a sample listing.



```
05-AVT 004,05-AVT 005,07-1-0004-0,07-1-0005-0,07-1-0009-0
```

1. To **Update an Inventory Date**, paste the barcodes into the barcode field on the main search page, and then on the Search Results page select all the barcodes and then press the “Mass Update” button. On the next page add the appropriate inventory date and press “Save” to update the Inventory date.

[Equipment Search](#) >

**Region and Warehouse (mandatory) :**

Region :  Warehouse Type :

**Equipment Status :**

Available       Available in Kit       Checked in

▶ **More Statuses (Click on the arrow on left to open/close this section) :**

**Equipment Information :**

Equipment Barcode Number :

- To do a **Service Check-out**, paste the barcodes into the barcode field on the main search page (see #1 above) in the ETM, and then on the Search Results page select all the barcodes and then press the “Add to Service CheckOut Cart” button. On the following page complete the necessary information for the Service Check-out and press Save.
- To **Check-In** equipment, paste the barcodes into the barcode field on the “Check-In (Equipment & Parts)” page. After the equipment has been found, you can complete the necessary Check-In information and press Save to complete the Check-in.

**Search by Equipment Barcode Number :**

Enter Barcode Number :

**Selected Equipment for Check in:**

### *Field Checkout with Model Number Report*

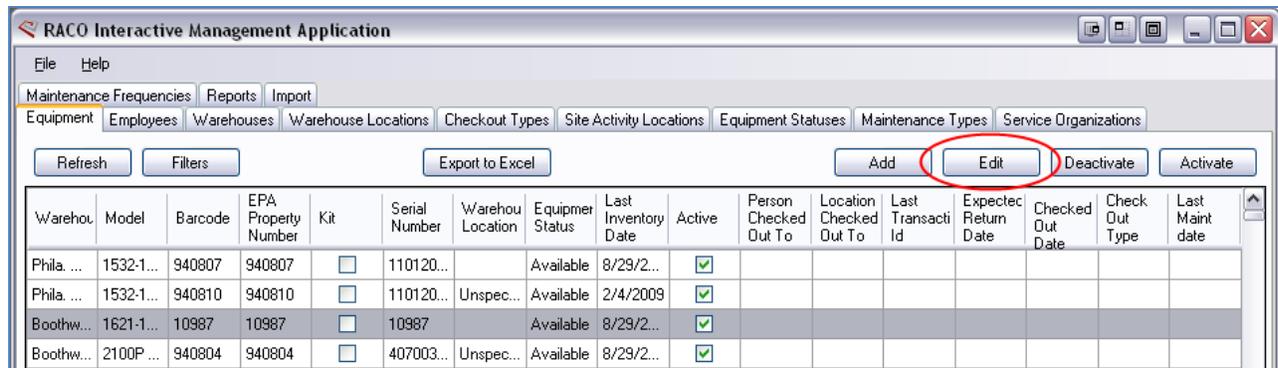
This is used to generate an excel spreadsheet almost identical to the bulk upload to the ETM. In addition to the usual check-out information, the report also contains the model name and number. The purpose of this report is to allow the user to quickly printout a list of checked out equipment that can then be signed by the person(s) taking the equipment thereby providing a hard copy of the check-out transaction. The manager can then use the regular Check-out report for uploading the data to the ETM after the equipment has been deployed.

## Editing the Equipment Data

On occasion it may be necessary to edit the data in the RACO Data Manager in order to keep that data in sync with the ETM. For example the name of a new model may be changed in order to comply with the official nomenclature. Editing the equipment data can be done within the RACO Data Manager using one of two methods; 1) manual editing or 2) re-importing the equipment data.

### Manual Editing

Locate the equipment to be edited within the RACO program, select the data row and then click on the “Edit” button.



In the subsequent dialog box make the necessary changes to the equipment data and press “Save”.

**EquipmentEditor**

Model: 1621-100-01 Indoor Transceiver

Barcode: 10987

Equipment is in warehouse: Boothwyn Warehouse

In this location: Unspecified Sublocation

Serial Number:

Status: All types

EPA Property Number:

Is a kit

SAVE CANCEL

**NOTE:** It is important that the data in the RACO program are the same as the data in the ETM. If they are different uploading data from the scanner to the ETM will generate errors and the data will not be uploaded.

### Re-Importing the Data

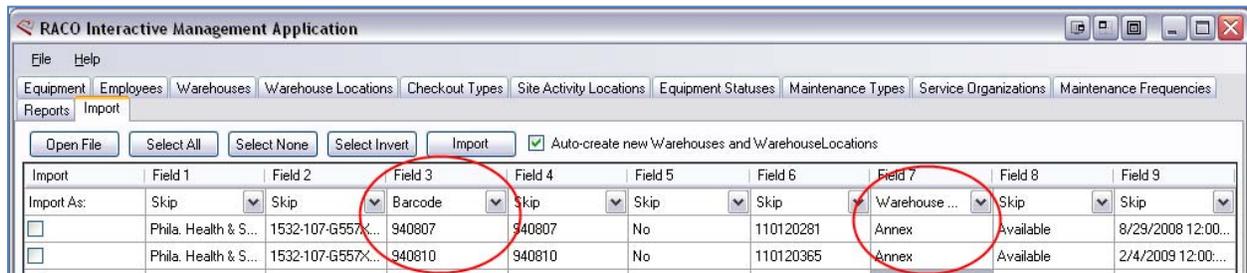
If there are numerous changes that you would like to make to the RACO database then re-importing the data will be the most efficient. This could be the result of relocating a group of equipment to a new warehouse location, or adding the EPA property number to the data.

Appendix B contains the steps for importing data into the RACO program. When using the import function to update or edit existing equipment the key field is the “Barcode”. When importing records the program will look at the barcode number and if it is a new number it will create a new record.

However, if the barcode already exists then the program will update that record with the fields being imported.

The RACO program uses an Excel spreadsheet for the import function. There is not a specific format that is needed for importing the data; it can be as simple as the barcode number and the data field that is to be edited and/or updated. Due to conversion issues formatting the columns to “text” in Excel will provide the best results when importing the data. However, the “Last Inventory Data” field should be formatted as a Date.

After selecting the excel file to import, you designate what fields are to be imported – only select the barcode number and the fields that you are editing.



Then click on “Select All” or select only the rows you wish to import/edit and then press “Import”. If the data rows turn green the import was successful. To verify the import select the “Equipment” tab and then press “Refresh” to view the edited data.

## **Appendices**

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Appendix A – Scanning into Word & Excel documents

Appendix B – Importing Data

Appendix C – Reinstalling the RACO Interactive Data Manager

Appendix D - Updating the “.ITB” File

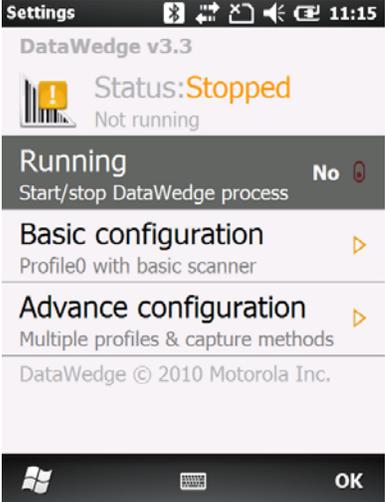
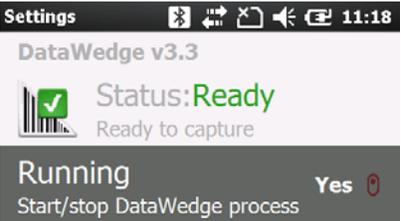
Appendix E - Replacing the Equipment Data on the Scanner

## Appendix A - Scanning into Word & Excel documents

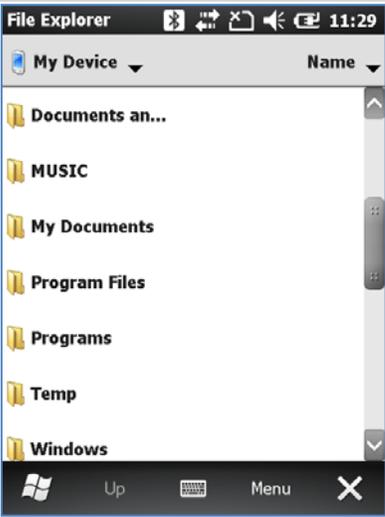
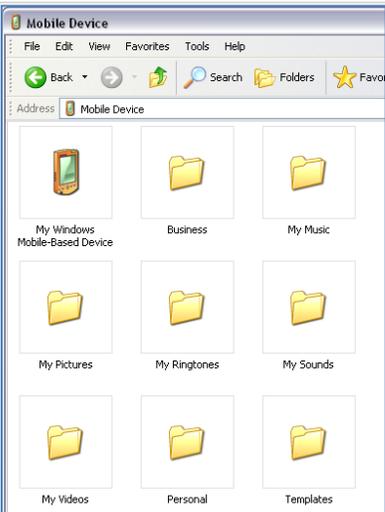
In addition to using the RACO Interactive program it is possible to scan barcodes, and other labels (EPA property numbers, serial numbers, etc.) into either an MS Word or MS Excel document. Some users have found that this technique is useful if you have a large amount of equipment that needs to be processed rapidly. Scanning into a document is very quick and allows the user to go back and edit the entries after the time constraints have relaxed. Listed below are the steps necessary to configure the MC65 to scan into other documents as well as how to transfer documents between the handheld and a computer.

**CAUTION:** Using this technique, it is possible to scan barcodes directly into one of the bulk upload templates (Maintenance or Field Check Out) to expedite this process. However, in order for the handheld scanner to be effective in tracking your equipment you will need to keep the handheld data in sync with the portal and with the actual status of the equipment. **Using ONLY the bulk upload templates will make the handheld data inaccurate.**

### Configuring the Scanner

	<p>This is the scanner’s Home page. From here you can access the scanning program as well as other programs that are installed on the scanner. These include MS Office (Word, Excel, etc) Internet Explorer, etc.</p> <p>Click on the “Settings” icon and on the next screen click on the “System” folder to access the system software that controls the scanner.</p> <p>Next click on the DataWedge icon to modify the scanner software settings.</p>  
	<p>If the Settings indicate that the process is STOPPED, you will need to restart it by clicking on the “Running” section which should start the process and make the scanner available for use.</p> <p>Once the process is running the settings screen should indicate a READY status, and you can exit the program by clicking “OK” at the bottom right of the screen. The scanner should now work with Word or Excel.</p> 

### Transferring Files

	<p>Scrolling down the scanner's Home page will reveal the "File Browser" and "Office Mobile 2010" icons.</p> <p>The File Browser icon will allow you to view what files and documents that you have on the handheld.</p> <p>The Office Mobile 2010 icon allows you to open Word, Excel and other parts of the Office package.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
	<p>After opening the File Browser, you have access to a typical Windows directory, including My Documents. For ease of use it is best to store any files used for scanning in the My Documents directory.</p> <p>The My Documents directory comes preconfigured with several sub-directories that you can use or you can create your own sub-directory based on what warehouse you are working in.</p>
	<p>With the Handheld in the docking cradle, select "My Computer" <u>on your PC</u>, then click on "Mobile Device". The window that opens will be the My Documents on the handheld and you should be able to see the available directories.</p> <p>After finding the document on your PC you can copy and then paste the document into the appropriate directory on the handheld, which will make it available for use on the handheld.</p>

## Appendix B - Importing Data

### Overview

The Import tab is used to load your equipment data into the RACO program when it is first installed, however, it can also be used to update your data, adding EPA Property numbers would be an example. The imported data needs to be in an Excel spreadsheet, the format of which is not critical, and the basic columns are as follows; Warehouse, Model Name/num, Barcode, Status, EPA Property Number, Serial Number, Sub Location, Kit Indicator, and Last Inventory Date.

When importing data into the RACO program there are two ways that the data will be imported into the database, and the **Barcode** number column determines how the data is imported.

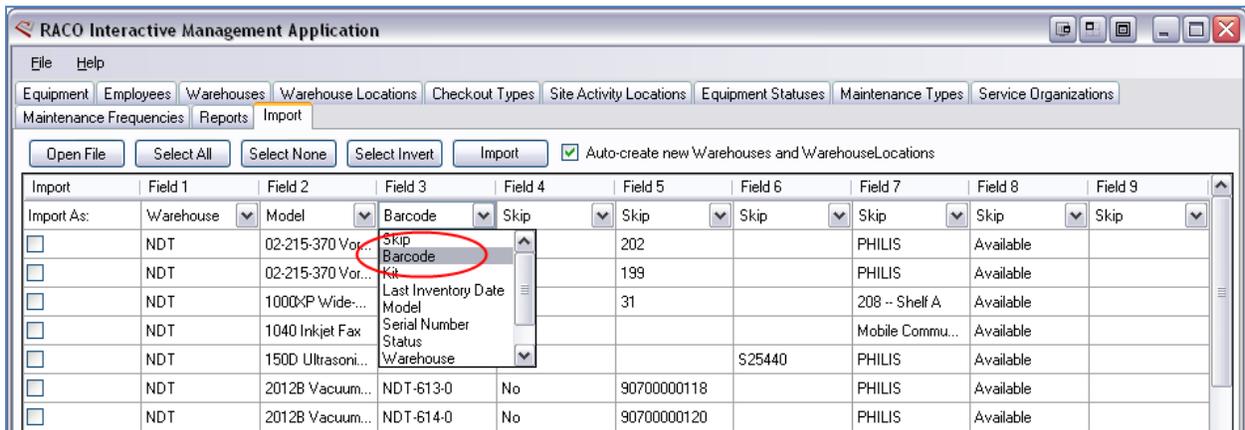
1. If the barcode number is **NOT** already in the database a new record will be created with the data in that row of the spreadsheet.
2. If the barcode number **IS** in the database, then that record of the database will be updated with the information in that row of the spreadsheet.

To import new equipment into the RACO program you would need to add data for all the columns to insure a complete dataset.

To add new data to existing equipment, such as EPA Property Numbers, or perhaps new warehouse locations, then you would only need the barcode number and the new data for that barcode number.

### Import Functions

After pressing the Import tab, click on the “Open File” button to select the spreadsheet with the data to be imported. When the file is displayed you will need to select what columns are to be imported.

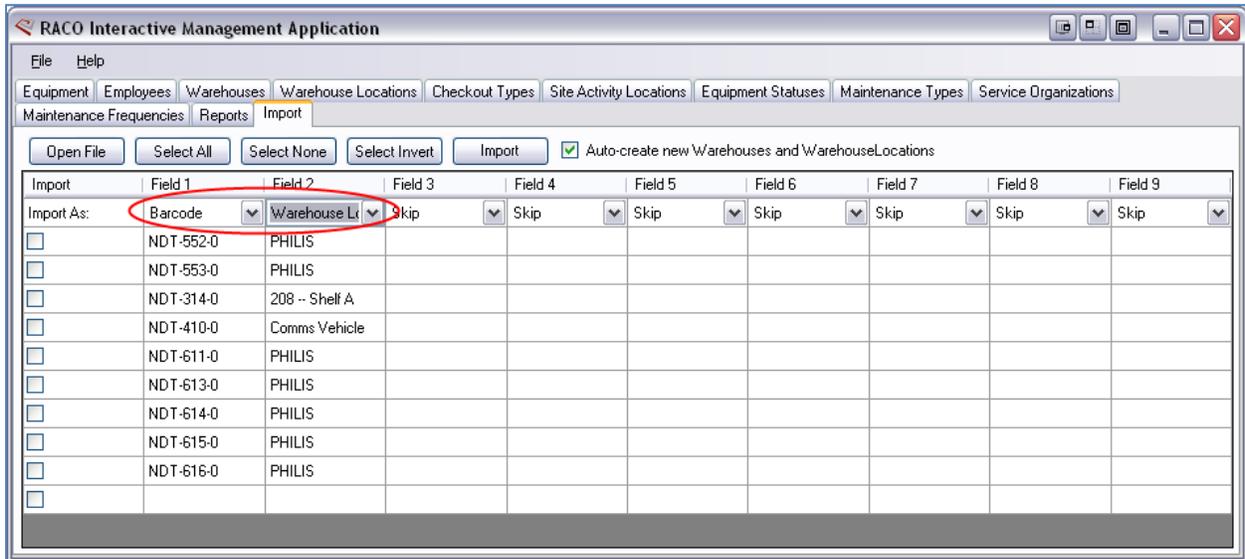


Each column has a dropdown menu that contains the options for designating what data field is in that column.

- a) Select the proper field name for each column you wish to import. Select “Skip” for those columns that you do not want to import.
- b) Next, you can select what rows you wish to import. Click on “Select All” for all the data, or click on the appropriate rows. **NOTE:** if you have a header row you can Select All and then un-select the header.
- c) Once the rows have been selected, click on “Import”. Rows that are successfully imported will turn green; those with errors will turn red.

- d) Click on the “Equipment” tab to review your data. **NOTE:** you will need to press “Refresh” to see the new data.

Below is a screenshot for importing a small group of equipment and changing the warehouse location information.



**NOTE:** As with all Scanner data changes you will need to update the Equipment Tracking Module (ETM) either manually or using one of the Report options within the RACO program.

## Appendix C - Reinstalling the RACO Interactive Data Manager

1. Remove old version of the RACO Interactive Data Manager:
  - a. Open the Control Panel window and select “Add or Remove Programs”

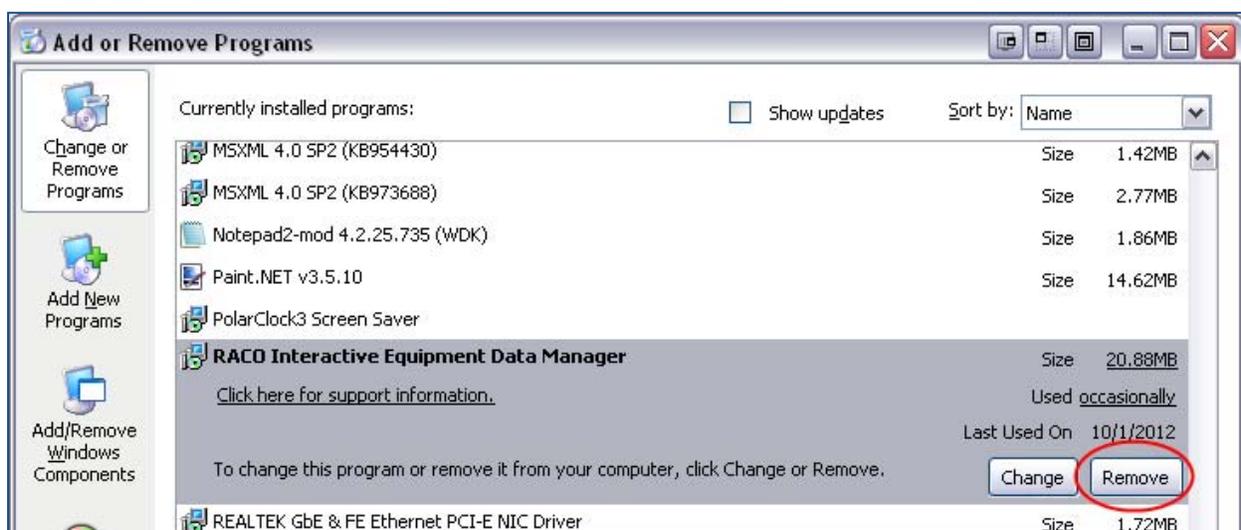


- b. Select “RACO Interactive Data Manager” and press “Remove”
 

**NOTE:** Depending on which version you have installed the program’s name may be “RACO Interactive Data Manager” or “RACO Interactive Equipment Data Manager”

2. Copy the “Server Name”

- a. In order for the RACO program to connect with the database already installed on your computer you will need to copy the ‘Server name’ for the connection. To do this open the program “**SQL Server Management Studio**” from the Start Menu, under “All Programs > Microsoft SQL Server 2008 R2” Once that program opens a dialog box will appear with the server name highlighted. Select and copy the “Server name” (right click and select Copy is the easiest)





- b. Press Connect and then you can quit the program after it finishes starting up.
  - c. Paste the server name into Word or Notepad so you can access it later.
3. Install new version of RACO Interactive Equipment Data Manager.
  - a. Open the folder "Equip-Datamanager Setup 09282012" and run the file "setup.exe"
  - b. Accept the defaults by pressing "Next".
  - c. The last step of the installation prompts you to enter the Server Name and password.



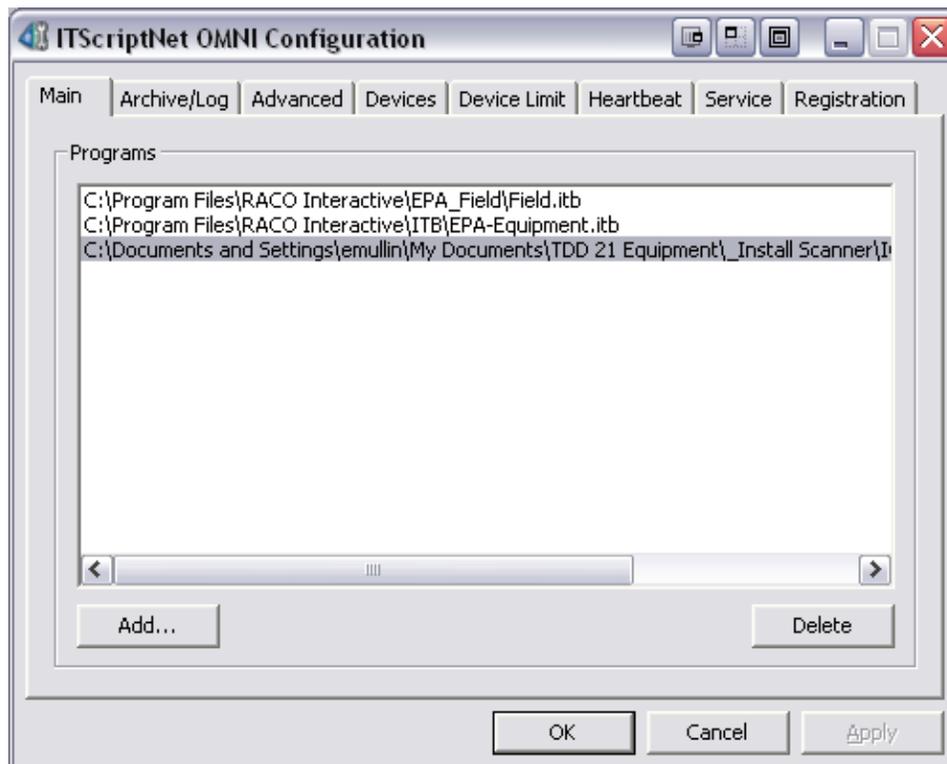
- d. Paste in the Server Name that you copied earlier (re-copy from Word if necessary).
  - e. The "User" and Password should be as shown above.
    - i. NOTE: Windows 7 users the password will be "Interact1ve" – a Capital I and the number 1 instead of the last i.
  - f. **IMPORTANT!!** - After pasting in the Server name Press "SAVE", then "Finish", otherwise the name will not be saved.
  - g. Press Close and you are finished.

## Appendix D - Updating the “.ITB” File

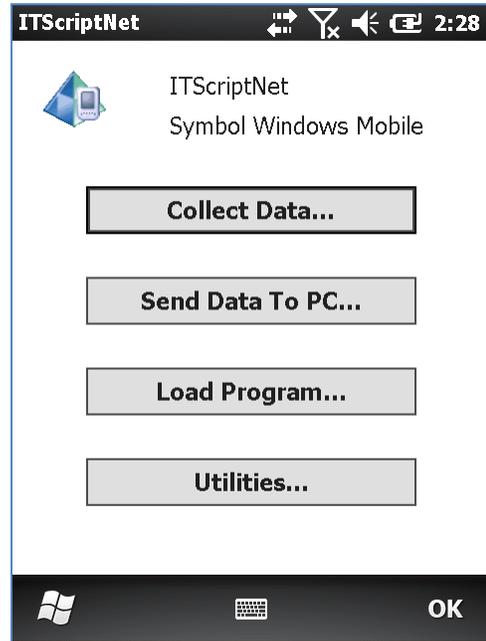
1. Open “ItScriptnet System Console” on the PC and
  - a. select “OMNI Communications”, and
  - b. then “OMNI Server Configuration”



2. In the Configuration window select the ‘old’ “.itb” file and press delete.

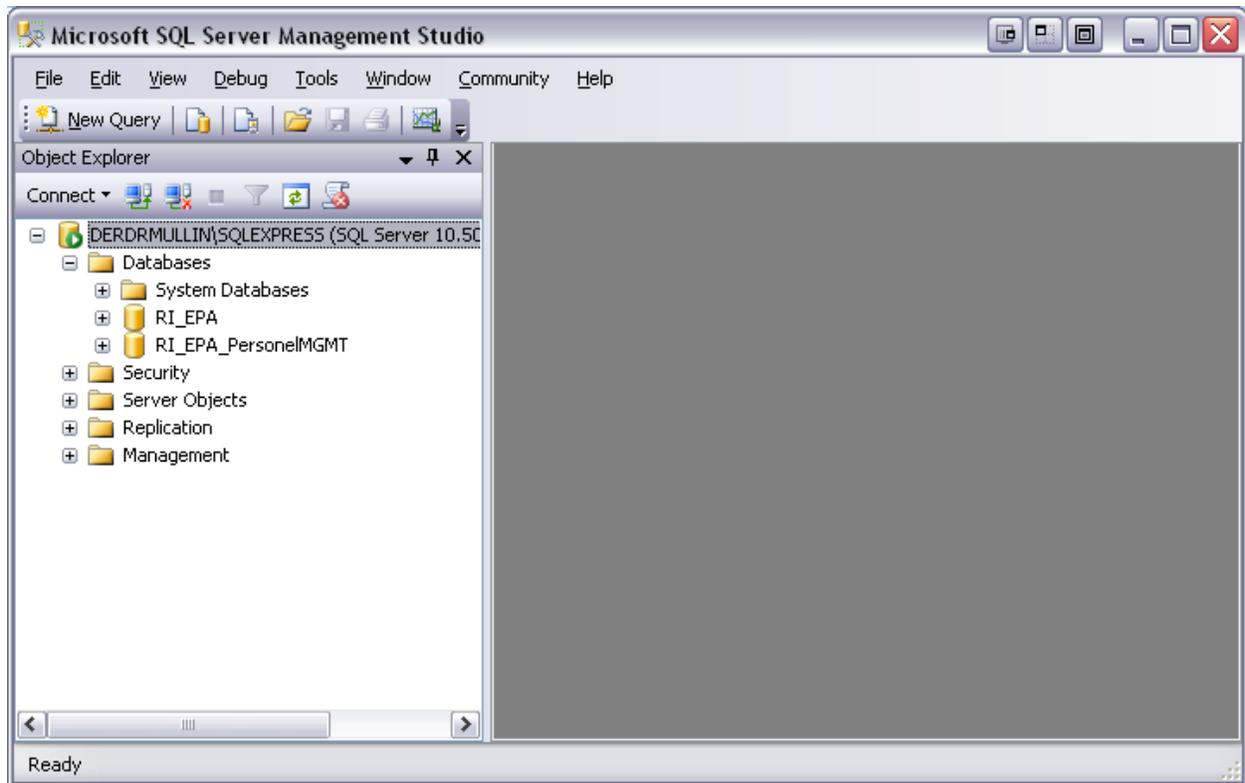


3. Then Press “Add...”, locate the new “itb” file and press “Open”.
4. Press “Apply” and answer ‘Yes’ to update the running server.
5. Press “OK” and answer ‘Yes’ to update the running server.
6. Press “OK” again and quit the “ITScriptNet System Console”
7. On the Handheld, open “ITScriptNet” and on the main screen press “Load Program”
8. Select the program with the updated “itb” file and press “OK” and that will load the new “itb” file onto the handheld.



## Appendix E - Replacing the Equipment Data on the Scanner

1. From within the SQL Server Management Studio - press "New Query"



2. Then paste the SQL Command to remove equipment table so a new data set can be added.

```
TRUNCATE TABLE RI_EPA.dbo.Equipment ;
```

3. If the query doesn't work due to permissions, try logging into the SQL Server Management Studio as the User with Windows authentication.
4. Then import the new data into the RACO Interactive Data Manager.