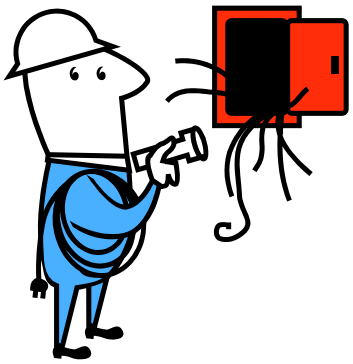
LMANMB100
Revised: 5/14/2015

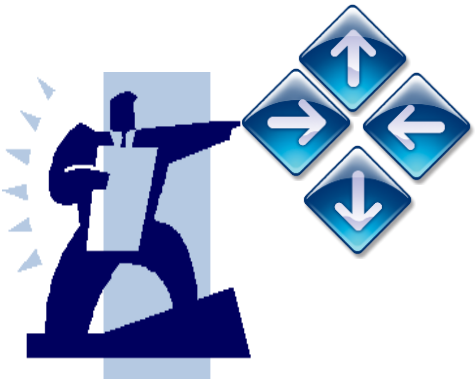
REMOTE FIELD COMMANDER OPERATOR'S MANUAL

OmniPro Restoration
4282 South 590 West
Salt Lake City, UT 84123

Phone: 801-261-1282
Fax: 801-268-3856

Table of Contents

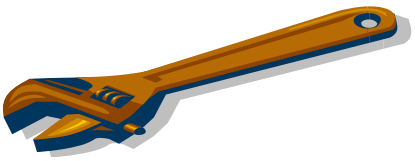




SECTION 1

SECTION 2

SECTION 3



Introduction

Congratulations on your purchase of the OmniPro Restoration Remote Field Commander. This manual is a guide for safe operation and maintenance of this unit.

WARNING **Read and understand this manual completely before operating this unit.**

For proper drying you must have a thorough understanding of how the RFC Base Station, Remote Sensors and Remote Power controllers are set-up to operate drying equipment.

This manual should be maintained in legible condition adjacent to the unit or in a secure location for future reference.
Any questions pertaining to the operating or servicing of this unit should be directed to your nearest OmniPro Restoration distributor.

DANGER **Improper operation, alteration, service or maintenance can cause property damage, personal injury or loss of life.**
Service must be performed by a qualified technician.
OmniPro Restoration is in no way responsible and is excluded from liability in respect to any loss or damage which may arise due to improper operation, maintenance or repair.

This manual is written specifically for the Remote Field Commander units manufactured by:
OmniPro Restoration
4282 S 590 W
Salt Lake City, UT 84123
801-261-1282
remotefieldcommander.com

Information in this manual is subject to change without notice and does not represent a commitment on the part of OmniPro Restoration.

Warranty

Your Remote Field Commander is designed to give you years of reliable service. If a problem should arise use the troubleshooting section in the operation manual to diagnose and correct the problem if possible. If you are unable to determine the cause or solution to the problem contact your distributor or OmniPro Restoration for assistance.

OmniPro Restoration warrants all components of the RFC Base Station, Remote Sensors and Remote Power Controllers to be free of defects in material and workmanship for one year from the date of purchase.

During the warranty period, OmniPro Restoration will, at its option repair or replace components which prove to be defective.

- This warranty does not provide for replacement of complete units due to defective components.
- Service Labor is only covered for the first 90 days after the date of purchase.
- Any costs for transportation are not covered in this warranty.
- Replacement parts are warranted only for the remainder of the original warranty period.

This warranty **shall not** apply to defects resulting from improper operation, lack of maintenance, condensation, chemical corrosion, unauthorized modification, misuse or abuse.
This warranty **does not** cover normal wear to items such power cords, plug adapters or other items which require replacement as a result of ordinary usage.

To obtain warranty service for the Remote Field Commander, contact your distributor or OmniPro Restoration. If the unit must be returned to OmniPro Restoration or an authorized service center, the purchaser shall prepay shipping charges for products returned for warranty service.

- No returned items will be accepted by OmniPro Restoration without prior authorization. All returns must have a return authorization number, issued by OmniPro Restoration, clearly marked on the exterior of the package.

OmniPro Restoration makes no other warranty either expressed or implied with respect to this product. The remedies provided herein are the purchaser's sole and exclusive remedies.

In no event shall OmniPro Restoration be liable for any direct, indirect, special, incidental or consequential damages.

This warranty gives you specific legal rights. You may also have other rights which vary from jurisdiction to jurisdiction.

General Information

Remote Field Commander – Model MB100
Remote Monitor & Control System

Height:	**3.00**"
Height with Antenna upright:	**9.25"**
Length:	**6.38**"
Width:	**7.25**"
Weight:	**1.07** lbs.

Remote Field Commander Standard Equipment

RFC Base Station Unit with Internal Modem & External Antenna
(Requires Paid Remote Monitoring Access Subscription)

NM5903 12v Power Supply
NM5904 Extension Cord for Power Supply - 6 ft.
AT226 USB Direct Connect 6' Cable Type A-A
AT224 Moisture Probe Screw Kit
AT209 Tool Box - Foam padding added for Equipment Storage
RFC Wireless Package: 6 – AT222 Remote Sensors w/Batteries
3 – AT220 Remote Power Controller
1 – AT209 RFC Storage Case
12 – Colored tags for Sensors & RPC's
(2 tags of 6 different colors)

Remote Field Commander Optional Sensors & Controls

RFC Charter Software (Download free at remotefieldcommander.com)

AT222 Remote Sensor w/ Batteries
Measures: Air Temperature,
Surface Temperature
Moisture Content
Relative Humidity
GPP (Grains per Pound)

AT222

AT220 Remote Power Controller

AT220

AT224

AT209

NM5904

NM5903

AT226

RFC REMOTE SENSORS:

The RFC Remote Sensors allow you to take multiple sensor readings up to 200 feet away from the RFC Base Station. Electrical interference or barriers blocking the radio signals may reduce the effective range. Each RFC Base Station can communicate with up to 14 Remote Sensors. Signal hopping, where the signal from a sensor is relayed to the RFC unit through one or more Remote Power Controllers can greatly extend the operating range of sensors. While RPC's are always configured to allow hopping through them, sensors by default will not allow hopping through them, to conserve battery life. Sensor hopping can be activated if needed to increase the sensor range, but it does drain the sensor batteries faster.

Each Remote Sensor can measure **Air Temperature, Surface Temperature, Moisture Content, Humidity** and **GPP**, and transmit its ID number and the data back to the RFC Base Station unit to allow you to control electrical devices, when the devices are connected to Remote Power Controllers. Two screws are placed through the holes in the sensor and screwed into the wet wood to read Moisture Content. Uncoated Pan Head #12 screws with lock washers should be used to make good contact with the moisture content connectors and protect the sensor from damage. When used with a Remote Sensor and a lock washer a 3/4" screw will drive 5/16" deep into the wet material, while the 1" screw will go 9/16" deep. When possible align the screws parallel to the wood grain.

NOTICE **Do not over tighten. Screws may need to be re-tightened as wood dries to maintain contact with sensor and read accurately.**

Screw Kit AT224 contains 16 screws and 16 washers (8 each of 2 different lengths, 3/4" and 1" with 16 – 1/4" Split Lock Washers).

When the RFC unit receives a signal from a Remote Sensor it will display the sensor ID number and sensor readings in the sensor list on its display and the RFC Charter when the RFC unit is connected to a computer via remote or direct connection. While each sensor will always read and record all five drying condition measurements, you can select which measurements will be used to control any Remote Power Controller. With the RFC Charter software you can set the remote sensor list to only display the specific factors you want to see or even hide the entire sensor from the sensor list.

When using multiple Remote Sensors it is a good idea to write down the ID number of each sensor and note the location it has been placed. When using the computer based setup software you can assign aliases to each sensor to make it easier to identify its location. The aliases will not show up on the Base Station display, but will show up in the RFC Charter sensor list and in all reports. Also note the ID number and aliases of any Remote Power Controller you wish to control with each sensor. The RFC unit will automatically list all Remote Sensors from which it receives a signal. (System setup can be set to display Base Station Internal sensors if desired.)

There is no ON/OFF switch on the Remote Sensors. If the batteries are good in the Remote Sensor it will be on, and will be sending a signal. The indicator light on the sensor will blink once every ten to fifteen seconds to let you know it is operating. While the power draw is low and the batteries in the Remote Sensor will generally last a month or more, to assure continual operation during the entire job, two new AAA batteries should be placed in each sensor at the beginning of the job. It is recommended that only alkaline type batteries be used in the Remote Sensors as the Battery life monitoring feature is calibrated ONLY for this type of battery. Other types of batteries may be used, but low battery warnings may not be accurate.

NOTICE **Make sure battery polarity is aligned correctly. Reversing polarity can damage sensor.**

Remove batteries from the sensor at the end of each job.

To remove or replace the batteries simply remove the battery cover and pull the batteries out of the sensor. Be sure the batteries are installed with polarity aligned to match the embossed image of the batteries in the batter holder inside the sensor.

Battery Door Removed

BOTTOM VIEW

TOP VIEW

RFC REMOTE POWER CONTROLLER:

The RFC Remote Power Controller, or RPC, will allow you to remotely turn on a remote exhaust fan or other electrical device or monitor and control a device using the environmental readings of Remote Sensors. The Remote Power Controller will apply power to any electrical device by connecting & disconnecting the 120volt electrical source. Because the Remote Power Controller turns power ON and OFF at the cord, only devices with a mechanical ON/OFF switch or a saved state of the last operating position should be used with the controller. There are many devices that do not automatically restart once power is restored. These devices should not be controlled using the Remote Power Controller. The Remote Power Controller can still be used to monitor the power draw to show if the device is on or alert you if the device is turned off. This will also allow you to turn the equipment off if needed, though you will not be able to restart it remotely.

The Remote Power Controllers can be located up to 200 feet away from the RFC unit and control 120volt AC electrical devices with a total amp load up to 15amps. Electrical interference or barriers blocking the radio signals may reduce the effective range. Remote Power Controllers can be placed to relay the signals from distant Remote Sensors and other RPC's to the RFC unit, to greatly extend the sensor & RPC operating range.

Each Remote Power Controller can be controlled by multiple sensor readings. The RFC Base Station takes each of the readings into account when determining the state of the RPC. If ANY of the readings are telling the attached device to be OFF, the RPC state will be OFF. Only if ALL of the readings are allowing the device to be ON will the RPC state be ON. All sensor readings including the RFC I**nternal Temperature** and **Internal rH** readings can be used as well as the **Air Temperature, Surface Temperature, Moisture Content, RH relative humidity and GPP (grains per pound)** readings from the Remote Sensors, to control the RPC's in the system. It should be noted that although a RPC can be controlled by multiple sensor readings, each individual sensor reading can only control one RPC. Simply stated; each sensor reading can only be assigned to one RPC.

When plugged into a live 120volt outlet the RPC will begin to transmit its signal to the RFC Base Station. When activated and transmitting power through to the attached device, the red light on the RPC will light up and stay on to indicate it is live and transmitting power. (On some early production units the as soon a the RPC is plugged in, the light will flash every 3-4 seconds to indicate the outlet is live, but it does not indicate its power transmission state.)

When the RFC unit receives a signal from a RPC it will display the RPC ID number and status readings in the charter when the RFC unit is connected to a computer via remote or direct connection. The RFC display will list the available RPC's in the RPC ID column. (See the Menu Navigation section of this manual for instructions on how to scroll through the list to select the desired RPC to be controlled or select PLACE or HEAT for each sensor reading.)
When using multiple Remote Power Controllers it is a good idea to write down the ID number and tag color of each remote and note the location and device to be controlled. When using the computer based setup software you can assign aliases to each controller to make it easier to identify its location. The aliases will not show up on the RFC Base Station display, but will show up in the RFC Charter and reports.

At the start of each job, you can **Force ON** all of the Remote Power Controllers to check equipment operation. After testing is complete the **Clear Force** setting can be used to return the RPC's to the system sensor control settings before leaving the job site. (See the Base Station Control Panel Job Menu instructions on Page 14 or RFC Charter Active RPC instructions for Direct Computer connection Page 26.) During the job you can override the system sensor control settings and force the Remote Power Controllers ON & OFF as needed using the RFC Charter Remote Connection (See instructions on Page 40) or using the Website Remote Control (See instructions on page 52).

EXTERNAL ANTENNA:

RFC External Antenna
NM5944A

To allow remote communication an external antenna is connected to the RFC Base Station modem. This antenna is connected to a post on the back of the RFC Base Station.
The antennal swivels so it be moved around, or removed as needed. The antenna can be turned down and tucked into the retaining clip when moving the RFC Base Station, to protect it from damage.

ANTENNA CONNECTION POST – NM5944D
With cable which connects to Modem on circuit board

Antenna tucked into retaining clip

POWER SUPPLY:

To operate the RFC Base Station the 12v power supply must be plugged into the RFC Base Station.
Plug the power supply transformer into a 120V wall outlet.
Connect the 12V power plug to the power jack on the right side of the RFC Base Station.

RFC 12V Power Supply
NM5903

12V Power Supply Connected to Power Jack

6ft. Extension Cord for RFC 12V Power Supply
NM5904

Additional / Optional Equipment

MB120LP	**E-TES SD 120 volt Low Profile Electric Thermal Exchanger**
MB240LP	**E-TES SD 240 volt Low Profile Electric Thermal Exchanger**
AX33	**50' - 12/3 Extension Cord w/ 5-15P & 5-15R**
AC262A	**Lay Flat Ducting 14" Dia. (22.5" flat) x 500'**
AT56	**Duct Ring 14"**
AC25A	**OmniDry 2.9 Centrifugal Air Mover**
AC246	**OmniDry Focal Point Axial Air Mover**
AC514	**Flexi-Dry Wall Drying System**
MI22	**Injectidry HP60FDP Floor Drying Package**
NM5966	**Four Pack AAA Alkaline Batteries (For Remote Sensors)**
NM5965	**3V Lithium Coin Battery**
NM5971	**9V (8.4V) Re-chargeable NiMH Battery**

AX33

AC25A

AC246

AT56

MI22

AC514

MB240LP

RFC BASE STATION CONTROL PANEL SET-UP & MENU NAVIGATION:

Section 1

With the 12V Power Supply connected to the RFC Base Station, the display will start up with the Boot-up screens showing the Boot loader version and the RFC logo before pausing at the Configure New Job Screen.

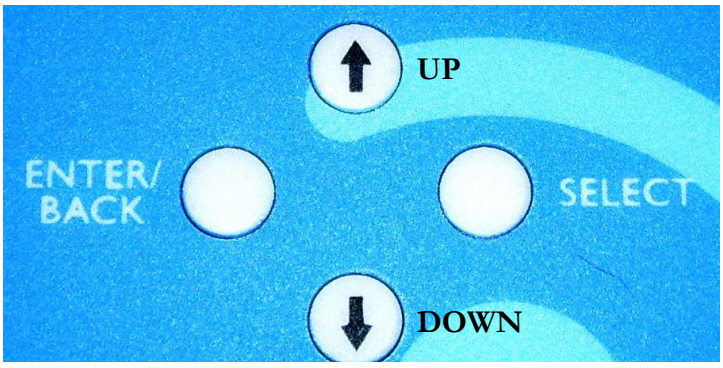
CONFIGURE NEW JOB SCREEN:

At this point the display will indicate that you have a choice to continue saving the data as part of the previous job or to start a new job file.

The default setting is to continue with the previous job and if no choice is made the unit will continue logging data in the previous job file and after a short time will advance to the Status Screen and then onto to the Sensor List Screen. To start logging data in a new job file, Press the **UP** or **DOWN** button to change from the default setting (Continue current job) to the Start new job choice and press the **SELECT** button to enter your choice, start the new job and move to the Status Screen and on to the Sensor List screen. New jobs will always be started regardless of setting if the end of the last job was more than 7 days in the past. If a mistake is made at the job start time, the Job Splitting or Joining features in RFC Charter can fix the error and achieve the desired start and stop times for a job.

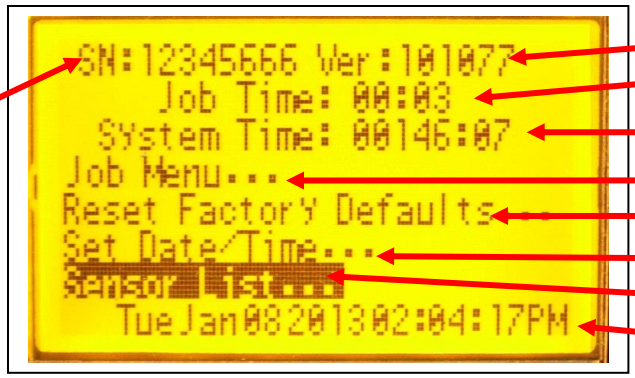
Boot-up screens:

Configure new job screens:



If you want to continue saving data as part of the current job file, Press the **SELECT** button to continue current job and advance to the Status Screen.

To start a new job file, Press the **UP** or **DOWN** button to move from the default setting of "Continue new job" to the "Start new job" setting. Then, Press the **SELECT** button to enter your choice and advance to the Status Screen.

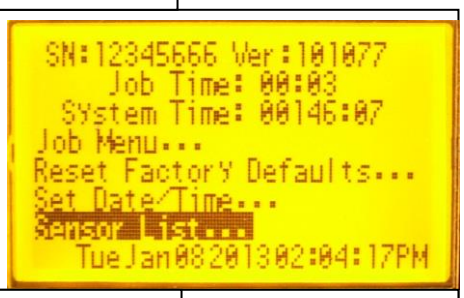


While in the Status Screen you can use the console buttons to move cursor to the different lines and start a new job file, reset the unit to factory default settings, reset the date & time or access the list of the Remote Sensors in contact with the RFC Base Station.

- **UP button:** Moves cursor up or raises selected values.
- **DOWN button:** Moves cursor down or lowers selected values.
- **SELECT button:** Used to select value to adjust and to move to the next setting.
- **ENTER / BACK button:** Used to enter selected value or go back to previous screen

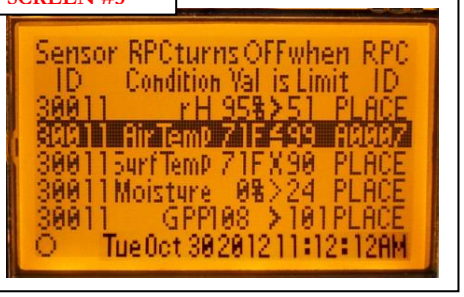
Use the **UP** & **DOWN** buttons to move the cursor to highlight the desired setting and press the **SELECT** button on the right to select and advance to that screen. Press the **ENTER/BACK** button on the left to return to the previous screen.

SCREEN #1



SCREEN #2

SCREEN #3



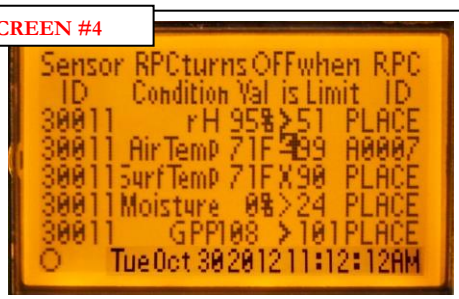
At start-up the display will automatically advance from the Status Screen (Screen #1) to the Sensor List screen or you can move there by moving the cursor to the Sensor List… line and pressing the **SELECT** Button. You can now check and adjust the settings of the RFC Remote Sensors in contact with the RFC Base Station. Until the Remote Sensors are in contact, the screen will display the Waiting for Sensors screen. (Screen #2) When the Remote Sensors are being used, the RFC Base Station will receive the signal from each sensor and display the information for each sensor on the display screen. (Screen #3)
The system setup can be changed to display Base Station internal sensors if desired. See page 19 or page 33.

(If Remote Sensors which are in use are not displayed you will need to connect with USB or remotely to change settings on **Active Sensor List** and make sensors visible. See page 22 or page 36)

The Sensor List displays the sensor ID number, each or the five environmental conditions for each sensor, the current sensor value reading for that condition, the relation of the sensor value to the preset limit, the limit setting and the Remote Power Controller or Heater it is set to control. In the example above (Screen #3) the sensor 30011 is shown with its five different environmental condition readings. Each condition shows the current reading, the relation symbol, the limit setting & the device it is to control. You can move the cursor to highlight the desired condition you want to change. In this example shown as Screen #3 the Air Temp setting for sensor 30011 is highlighted. When the **SELECT** button is pushed to select the highlighted condition, the cursor will first highlight the equality symbol (Screen #4). This symbol determines the relation equation of the sensor reading (Left of symbol) and the limit setting (Right of symbol), to turn the Remote Power Controller OFF. The symbol can be changed by using the **UP** & **DOWN** buttons to scroll through the list of symbols.

There are three equality symbols used:

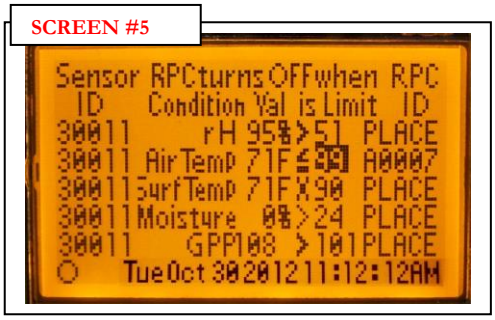
SCREEN #4



> **Greater Than** – When the sensor reading is greater than the limit, the selected device will be turned OFF. If the sensor reading is less than or equal to the limit, the device will turn ON.

≤ **Less than or Equal to** – When the sensor reading is less than or equal to the limit, the selected device will be turned OFF. If the sensor reading is greater than the limit, the device will turn ON.

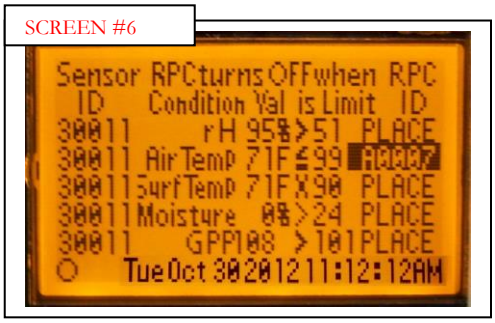
SCREEN #5



X **Off** – This setting turns off the selected action. No action will be initiated by any change in the sensor reading. No devices will be controlled, but the data for that measurement will still be logged.

When you have selected the desired symbol the cursor can moved to set the limit value (Screen #5) by pushing the right button once.
With the limit value highlighted by the cursor you can now use the **UP** & **DOWN** buttons to change the setting. When you have it set, press the **SELECT** button to move the cursor to the next setting (Screen #6).
Once highlighted, the item to be controlled can be selected. Use the **UP** & **DOWN** button to scroll through the different device control options.

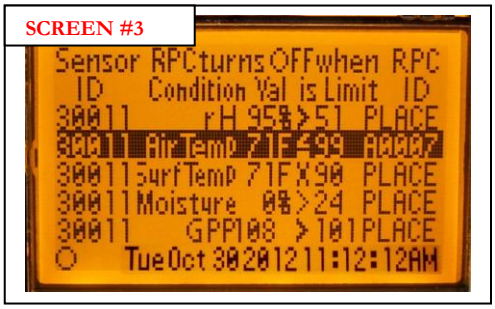
SCREEN #6



PLACE – This is the default setting when a device has been previously selected but is no longer in contact with the RFC Base Station or when no device has been selected. No devices will be controlled using this setting.

RPC ID # – This means the action initiated when the sensor limit equation is true will turn the selected remote power controller and its connected device OFF. When the sensor limit relation equation is no longer true the device will turn ON. The five digit ID numbers of all power controllers sending a signal to the RFC Base Station will be displayed as you scroll through the list.

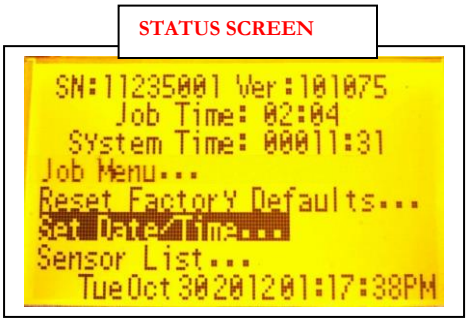
SCREEN #3



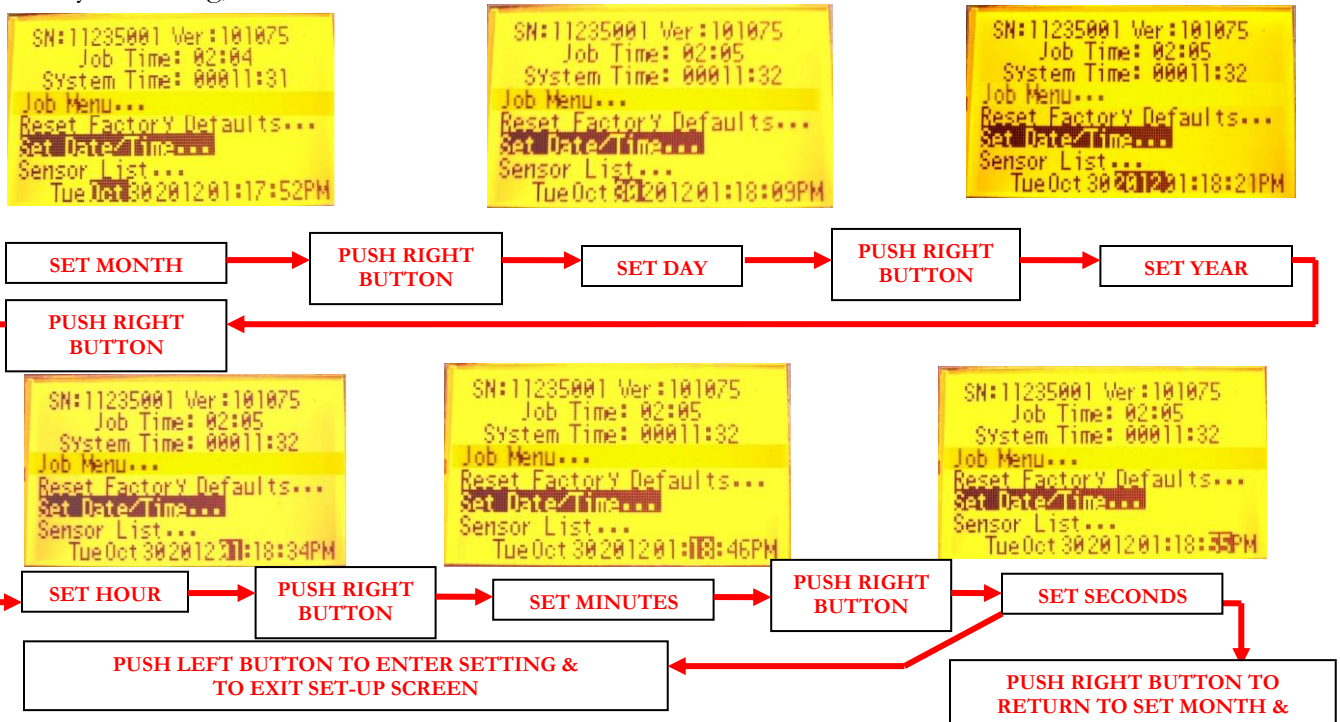
If needed, you can return to the symbol selection by pushing the **SELECT** button, or return to the Limit set screen by pushing the **SELECT** button twice. Whenever any changes to the limit or equality are made, the results are immediate.

Once everything is set as you want it, press the **ENTER/BACK** button to exit the set mode and return to the sensor list (Screen #3). Move the cursor to the next sensor on the list and repeat the setup for the RFC Base Station and all sensors.

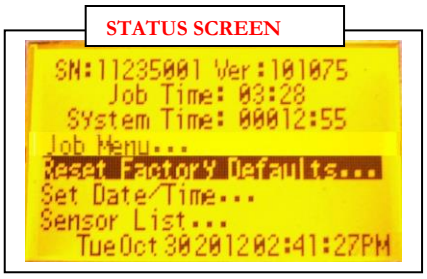
SET DATE & TIME:



This function allows you to set the date and time in the RFC Base Station memory. Use the top & bottom buttons to move the cursor to highlight Set Date/Time and press the **SELECT** button to select and advance to set the date and time. The cursor will first flash on the month. Use the **UP** & **DOWN** buttons to change the month. (The day of the week will automatically change as you change the month, date or year.) When the month is set correctly, push the **SELECT** button to move the cursor to the date. Use the top & bottom button to set the date. When the date is set correctly, push the **SELECT** button to move the cursor to the year. Repeat the process to set the year, hour, minute and seconds as needed. (When setting hour make sure AM or PM is set correctly before setting minutes.)When everything is set correctly press the **ENTER / BACK** button to enter your setting, exit the set mode and return to the status screen.

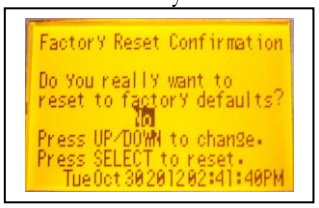


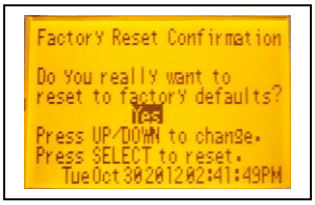
RESET FACTORY DEFAULT SETTINGS:



This function allows you to reset all settings for the RFC Base Station all sensors and power pods to the original factory settings. Use the **UP** & **DOWN** buttons to move the cursor to highlight Reset Factory Defaults and press the right button to select and advance to the reset screen. The screen will ask if you really want to reset to factory defaults.

- If you do not want to reset to the default settings, leave the answer as NO and press the **SELECT** button. The settings will not be changed and display will move back to the Status screen.
- If you do want to reset to the default settings press the top or bottom button to change the highlighted answer to YES and then press the **SELECT** button. The settings will instantly be changed to the factory default settings and the display will return to the Status screen.





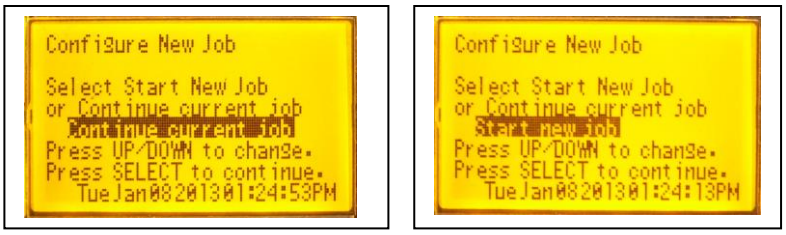
Job Menu:

This function allows you to start a new job file or force on all Remote Power Controllers. From the Status Screen, use the **UP** or **DOWN** buttons to move the cursor to highlight Job File and then press the **SELECT** button. The Job File screen will display your two options:

- **Start New Job Now…**
- **Force all RPC's ON…**

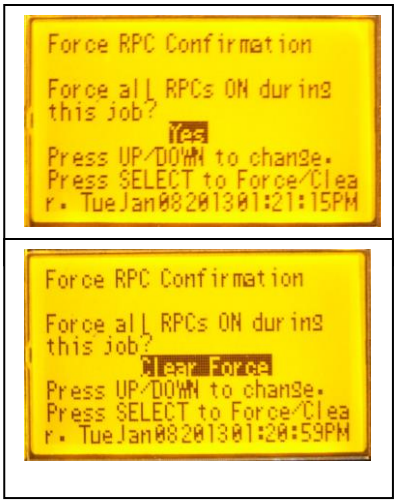
Use the **UP** or **DOWN** buttons to move the cursor to highlight your choice and press the **SELECT** button.

When you click on **Start New Job Now**, you can then use the **UP** or **DOWN** buttons to change the choice to either: **Start new Job** or **Continue current job.** Press the SELECT button to enter your selection.



When you click on **Force all RPC's ON**, you can then use the **UP** or **DOWN** buttons to change the choice to either: **Clear Force** or **YES.** Press the SELECT button to enter your selection.

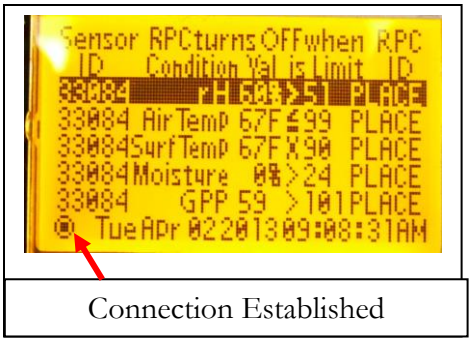
- Choosing **YES** will force all of the Remote Power Controllers in use to turn ON, allowing all connected equipment to operate. This will allow you to check the operation of all equipment before leaving the job site.
- Choosing **Clear Force** will remove any forced ON settings for all of the Remote Power Controllers in use, returning their ON/OFF state to the state determined by system sensor control settings.



Checking Modem Connection:

Once the RFC Base Station is set-up and you are planning to monitor the job site remotely, the modem connection to the RFC server, should be verified before leaving the job site. The RFC Base Station display screen has an icon to indicate if the modem has established a connection with the server.

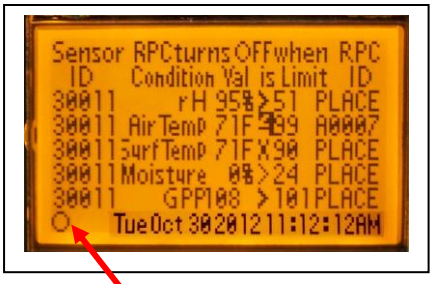
You cannot connect remotely unless the modem is in contact with the RFC server.



Connection Established

At the bottom left corner of the Sensor List screen there is a small circle that indicates the status of the modem and server connection.

- If there is a dot in the center of the circle the modem has established a connection with the server.
- If the circle is empty, no connection has been established and steps must be taken to obtain cellular coverage if available in the area. For example, just as with a cell phone, moving the RFC Base Station or antenna in different orientation may help acquire service.



No Connection Established

Section 2

SYSTEM SET-UP USING RFC CONNECTIONS:

There are three methods through which the RFC Base Station can be configured using the PC based RFC Charter Software:

Direct Connect – Fastest way to configure device and download files. No username or password needed. Some remote settings are unavailable. Cannot set up who can receive alarms. This is the preferred method of downloading files since files are downloaded much faster than when connecting remotely. Files can also be downloaded with a USB Flash Drive or memory stick.

RFC Charter Remote Connect – Best way to remotely configure and monitor. Internet access and a paid RFC access subscription with user name and password required. You can register your RFC Base Station and request a username and password at **remotefieldcommander.com**. Click on the **Register** tab at the top of the page. Can be used to download job data files but large files can take a long time to download. Once you are logged with the RFC Charter you can set up who can receive alarms.

RFC Website Remote Connect - Can be used to remotely configure and monitor, but no file downloading or alarm setup. Internet access and a paid RFC access subscription with user name and password required. You can register your RFC Base Station and request a username and password at **remotefieldcommander.com**. Click on the **Register** tab at the top of the page.

- **RFC Charter Direct Connect – PAGE 16**
- **RFC Charter Remote Connect – PAGE 29**
- **RFC Website Remote Connect – PAGE 45**

Once you have set-up your system and completed the job, the job data files can be downloaded and the RFC Charter software can be used to view data files and create reports.

- **RFC Charter Data Charting – PAGE 54**

RFC BASE STATION DIRECT COMPUTER CONNECT:

To make a direct computer connection the RFC Base Station must be have its 12V power supply plugged in.

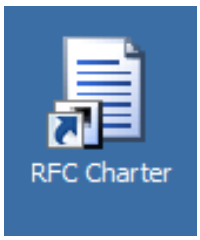
With the RFC Charter Software and a USB Type A-A cord connection between the RFC Base Station and your computer, you can set-up the RFC Base Station, Wireless Remote Sensors and Remote Power Controllers.

Direct Connect via RFC Charter Software

The RFC Charter Software must be used to connect directly with your RFC Base Station.
The RFC Charter software can be downloaded from the **remotefieldcommander.c**om website for installation on your computer.

To Install Charter Software on your Computer:

1. **Go to remotefieldcommander.com and click on the Downloads tab at the top of the screen.**
2. **Click on the Charter Software label.**
3. **You can save the RFCInstaller to your computer to install the software later or to copy onto other computers. Click on Open, to run the installer now.**
4. **Once the RFCInstaller is Open - Follow the pop-up instructions to install the RFC Charter Software.**



A shortcut icon will now be displayed on your computer desktop. . The shortcut to the RFC Charter will also be in the Program Files and can be accessed from the Start menu.
To access the RFC Charter, simply click on the **RFC Charter icon**. This will open the LOG IN screen.

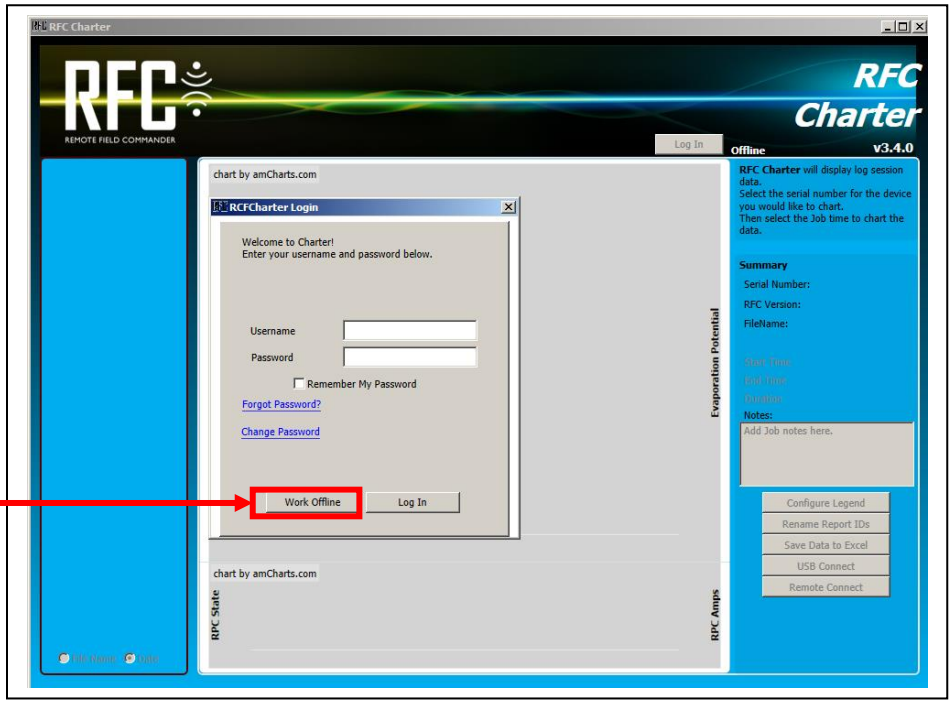
To directly connect to an attached RFC Base Station:

- Plug in the 12V power supply and connect it to the RFC Base Station.
- Connect the USB cable to the USB port on the front panel of the RFC Base Station.
- Connect the other end of the USB cable to a USB port on your computer.
- To access the RFC Charter, simply click on the RFC Charter icon.

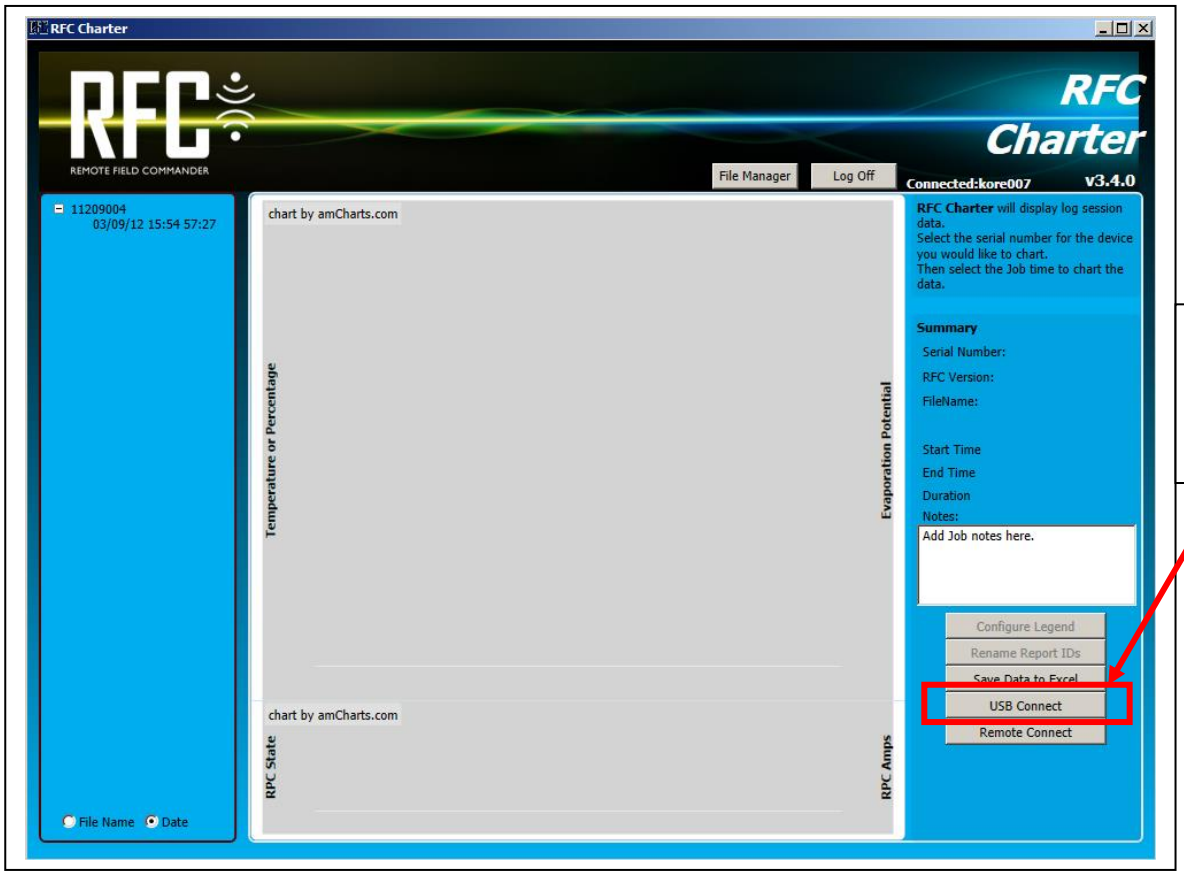
This will open the RFC Charter LOG IN screen.

When connecting directly you do not need a username or password. Just click on the Work Offline button to connect to an attached RFC Base Station or to work with job files already saved on your computer.

WORK OFFLINE BUTTON

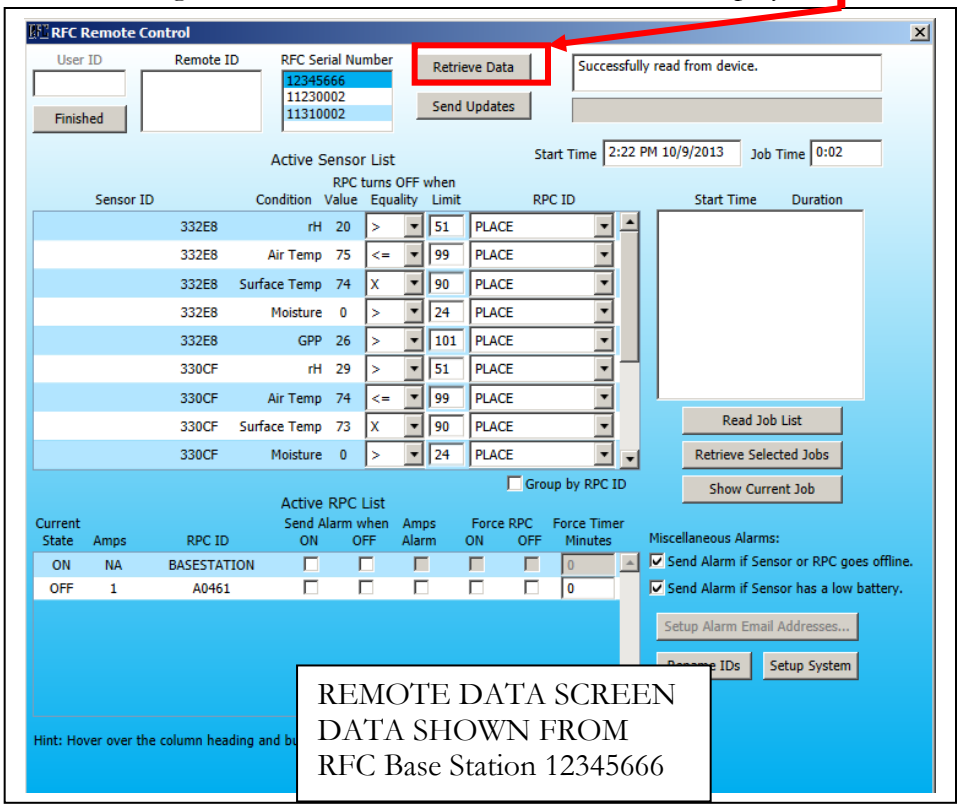


When you click on the **Work Offline** button, the RFC Charter main screen will open. To connect with your attached RFC Base Station, click on the **USB Connect** button on the lower right hand corner of the screen:

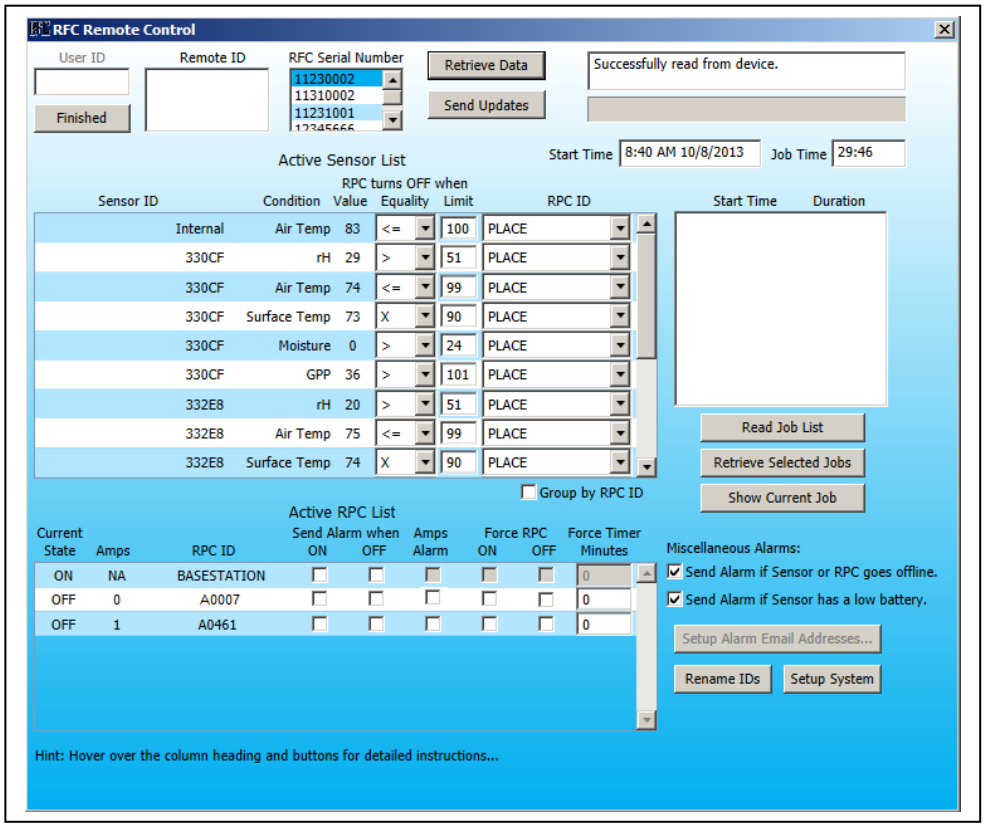


When you first connect the current data readings are retrieved from the Base Station and displayed.

If there are multiple RFC Base Station units on the jobsite, they will communicate with each other and show up on the Serial Number list. You can click on any listed **Serial Number** and then the **Retrieve Data** button to connect with that unit. When the data from the RFC unit is displayed you can see the serial number of the selected RFC unit will be highlighted. The data will display the current status and settings of the RFC unit as well as all Remote Sensors & Remote Power Controllers (RPC) which are in radio contact with the RFC units.

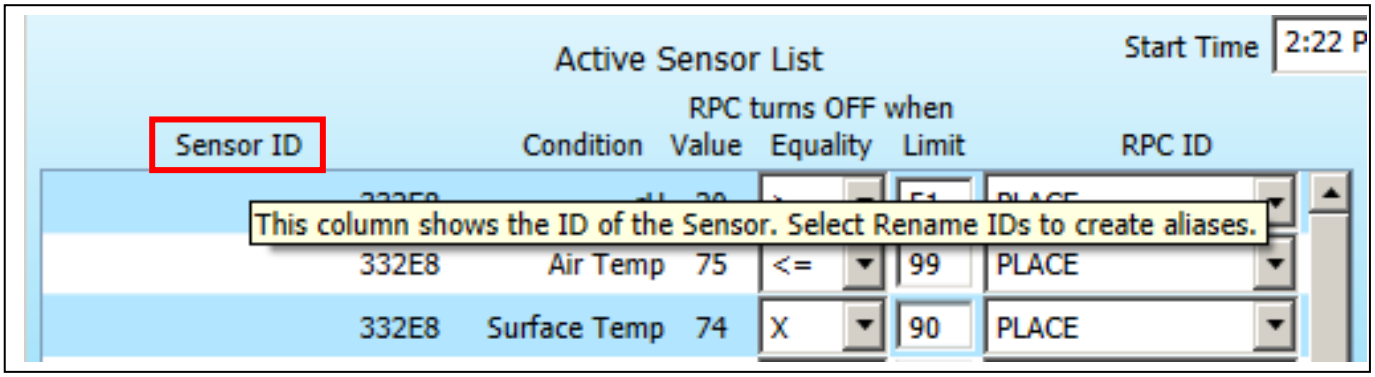


REMOTE DATA SCREEN
DATA SHOWN FROM
RFC Base Station 1123002



When using multiple RFC Base Station units always check sensors settings in the Active Sensor List and Active RPC list on all units to prevent conflicting control settings. Conflicting settings from settings on two different RFC units could adversely affect device operation.

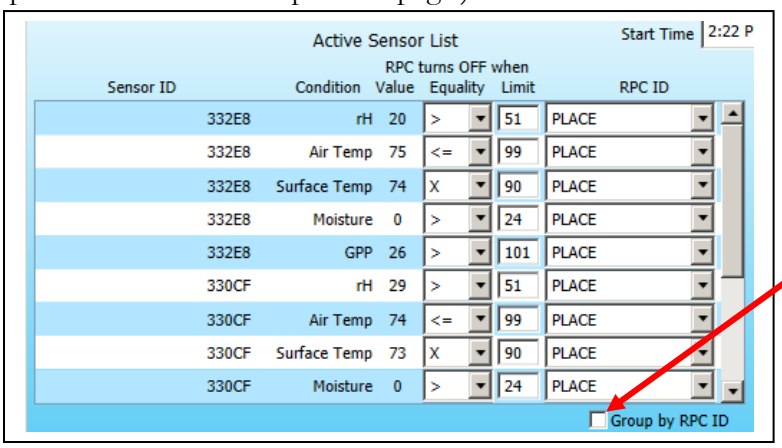
If you hold your cursor over the different column headings and buttons a pop-up will give you detailed information regarding that button or column heading. In the example below the cursor was on the Sensor ID column.



You can try this with the different headings and buttons to learn more of what is displayed on this page.

SENSOR READINGS & SETTINGS:

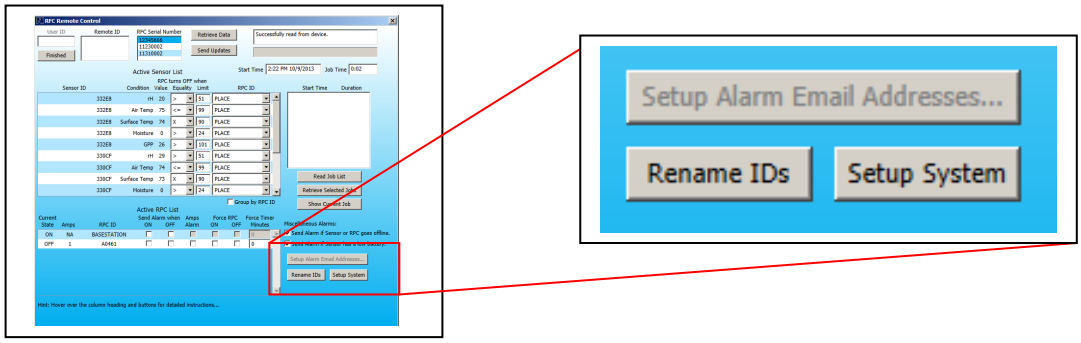
The large box on the left side of the page displays the sensor readings and settings. The Active Sensor list will display the internal sensor readings and settings for temperature and humidity. In the factory default setting, it will also display the ID numbers and readings for all Remote Sensors in contact with the RFC Base Station. In this section we will see how to set-up the sensors and Remote Power Controllers to log conditions and operate equipment. (Any changes made to the system settings will not be activated until you click on the Send Updates button at the top of the page.)



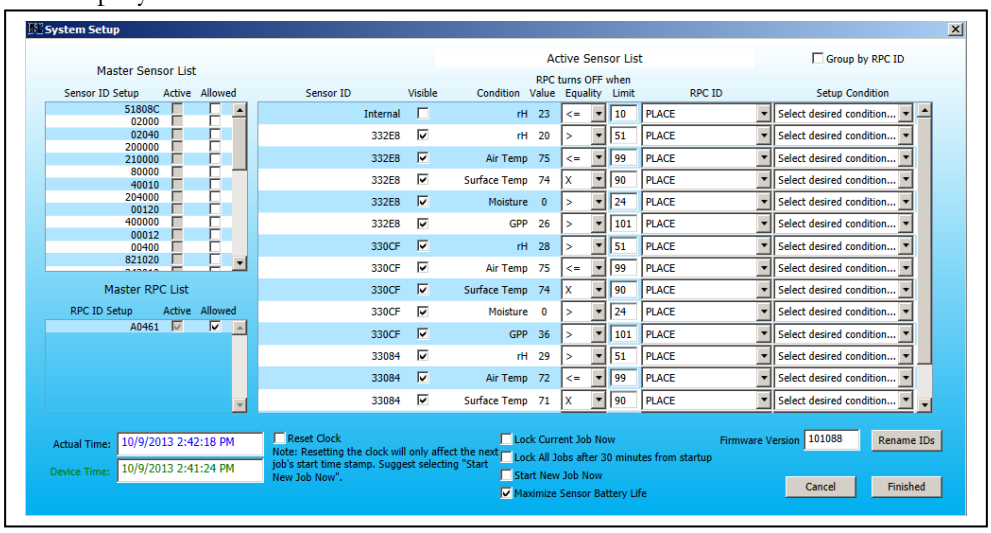
The default method of listing is by sensor ID number. The internal RFC Base Station sensors will be listed first.

You can change the display to sort the Active Sensor List by the RPC ID number by clicking the **Group by RPC ID** under the list. This is helpful when managing which RPCs are controlled by which sensors.

The Active Sensor List is where you can observe sensor readings and RFC system operation. Here you can set up all of your sensors and RPC's. What each column represents and how you can setup your system will be explained in the following sections. To allow you to decide what information is displayed here, the Active Sensor list can be customized to display or hide data to fit your needs. To change the system settings and data display, click on the **Setup System** button on the lower right corner of the screen.

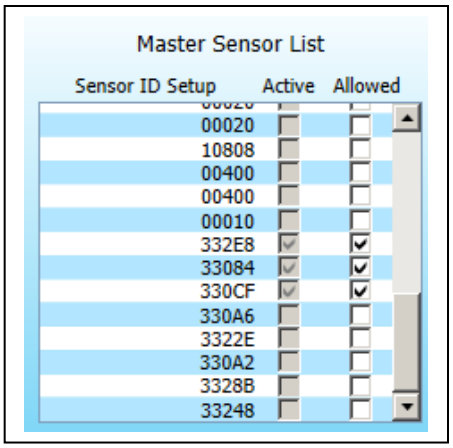


This opens the Setup System screen.



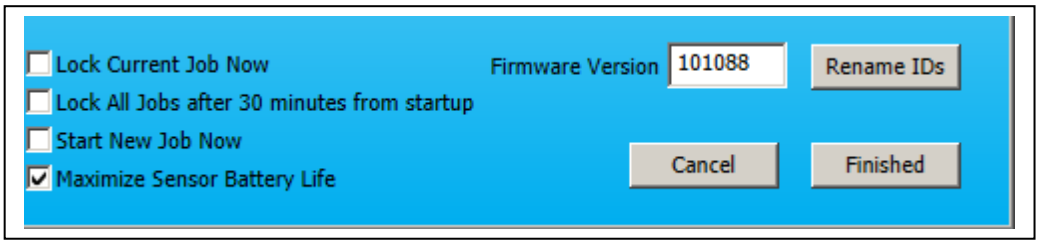
By changing the different settings on this screen you can now customize your settings and readings.

MASTER SENSOR LIST:



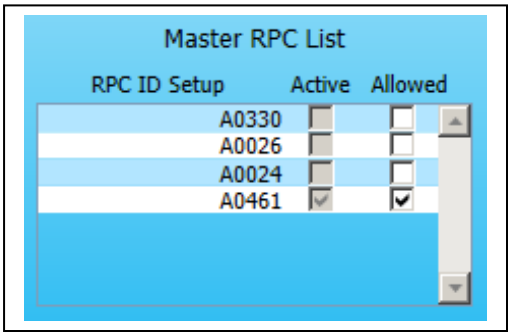
The Master Sensor List is on the left side of the screen. The Sensor ID Setup column will show all sensors that have ever communicated with the RFC Base Station at any time. The sensors with checks in the Active column are currently in range and making contact with the RFC Base Station. Leaving the **Allowed** box checked will keep the sensor active and displayed on the Active Sensor List. You can click on the check mark & remove the check in the Allowed box to make any sensor inactive and remove it from the list of available and active sensors shown in the Active Sensor List.
Clicking on and checking the **Lock Current Job Now** box (At the bottom of the screen) will lock your selected Active Sensors as the only sensors allowed to communicate data to the RFC Base Station prevent any new sensors not currently displayed from becoming active during the job. For example if a truck with more sensors shows up on the job, we don't want those as part of this job. This feature can also be used if different setups are used within range of each other.

Click the **Finished** button at the bottom of the screen to enter your selections and re-enter the Setup System screen as needed to enter more settings. Click the **Cancel** button to cancel your changes and return to the main screen. Click the Send Updates button on the Remote Data page to activate your changes.



If you are planning to place more sensor that have not yet been turned on, or if you are setting up the system before you take the RFC Base Station to the job site, you can delay the job lock out by 30 minutes to give you time to setup your sensors and also prevent additional sensors that may later come into range from interfering you're your setup. Simply click on to check the **Lock All Jobs after 30 minutes from startup** box. (At the bottom of the screen) this will lock in any Sensors the RFC Base Station finds before the lock out time allowing them to communicate data to the RFC Base Station and prevent any new sensors showing up after the lock out from becoming active during the job. This is the default setting.

MASTER RPC LIST:

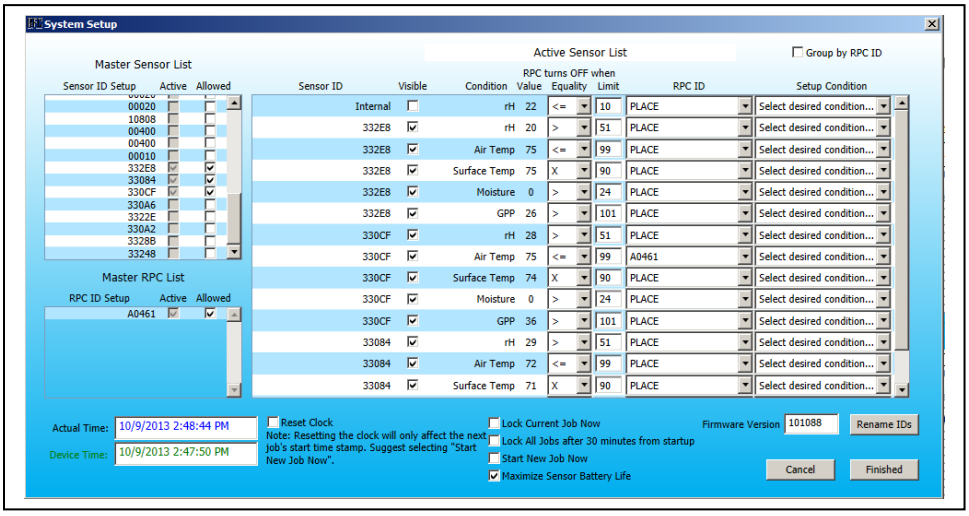


The Master RPC List is also on the left side of the screen. The RPC ID Setup column will show all Remote Power Controllers that have ever communicated with the RFC Base Station at any time. The RPC's with checks in the Active are currently in contact with the RFC Base Station. Leaving the Allowed box checked will keep the RPC Active and displayed on the Active RPC List. You can click on the check mark & remove the check to make any RPC Inactive and remove it from the list.
Clicking on and checking the **Lock Current Job Now** box will lock your selected Active RPC's as the only controllers allowed to be controlled by the RFC Base Station and prevent any new controllers not currently displayed from becoming active during the job.
Click the **Finished** button at the bottom of the screen to enter your selections and re-enter the Setup System screen as needed to enter more settings. Click the **Cancel** button to cancel your changes and return to the main screen.

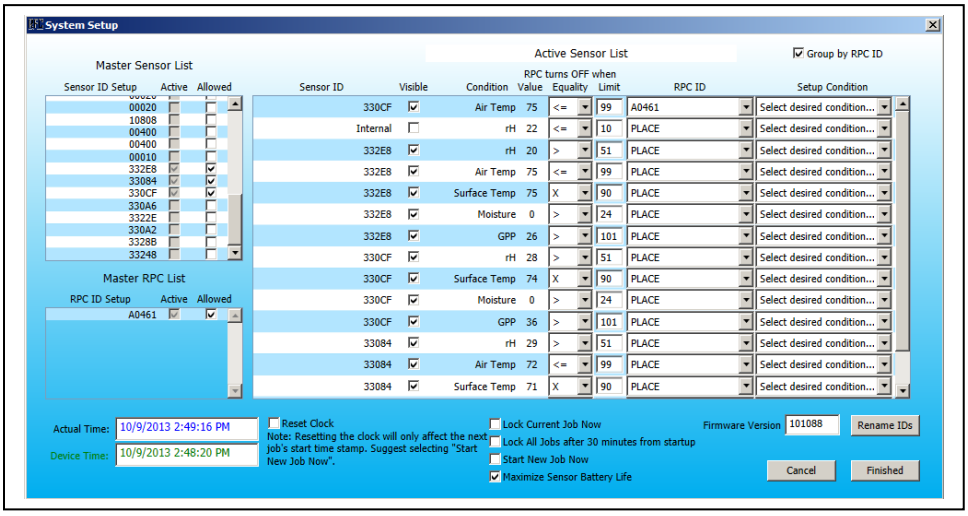
ACTIVE SENSOR LIST:

The default method of listing is by sensor ID number. You can change the display to sort the Active Sensor List by the RPC ID number by clicking the **Group by RPCID** button on the upper right corner of the screen. This will not change the way the sensors are shown on the main screen.

Sorted by sensor ID number

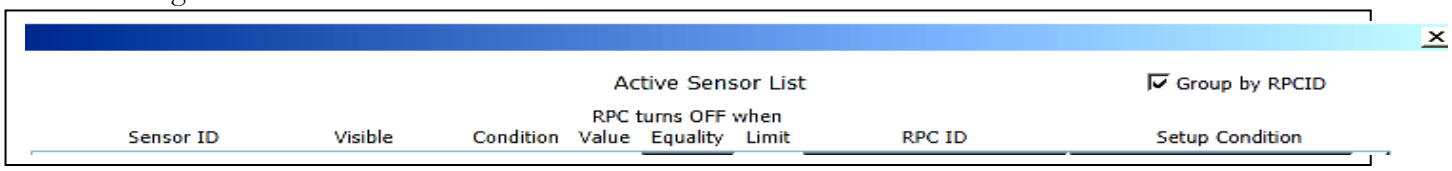


Sorted by RPC ID number

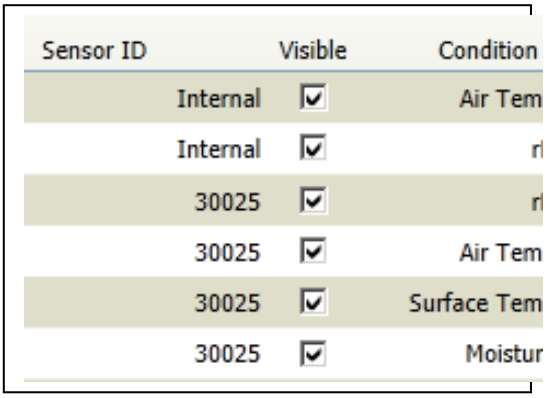


In the Active Sensor List you can change the settings of the active sensors and remote power controllers and the data which will be displayed.

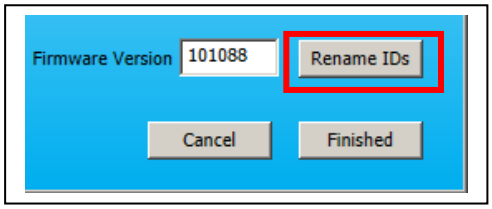
The Active Sensor List has eight different column headings containing information on the readings and set-up conditions of the different sensors in contact with the RFC Base Station. These columns are explained in the following section.



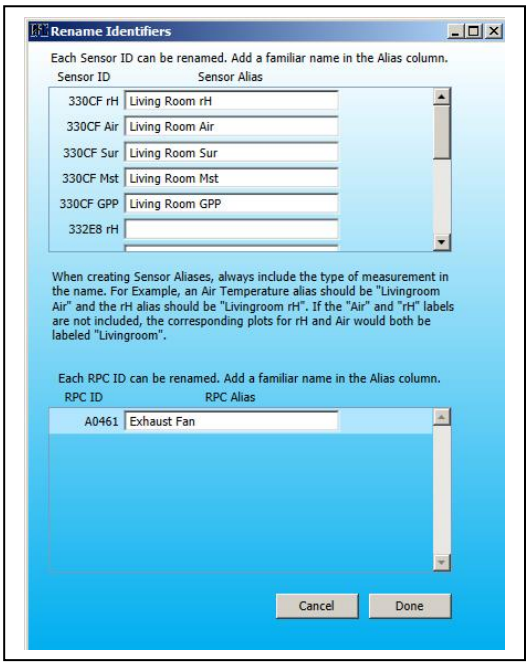
SENSOR ID: Shows the RFC Base Station Internal Sensors and the ID of any active Sensors. The internal RFC Base Station sensors are always listed first when sorted by Sensor ID numbers. You can scroll down to see the data of all of the active sensors.



The sensor ID numbers cannot be changed, but sensor nicknames or aliases can be added by clicking the **Re-name ID** button at the bottom right corner of the screen.
Caution: If you have made other selections or setting changes, click the **Finished** button and then the Rename IDs button on the Main Screen or your changes may be cancelled when you move to the Rename ID screen.



In the Rename ID screen, type the alias into the box next to the sensor or RPC ID number you wish to rename. You do not have to rename all five conditions for the sensor. You can just rename the specific readings important to you, but for each sensor reading you rename, you must enter a unique alias which includes the environmental condition. **The aliases should be kept short, no more than 18 characters each.**



In the example to the right, sensor 330CF has been renamed, LIVING ROOM Air, rH, Sur, Mst & GPP. Even if Surface temperature, Moisture and GPP will not be displayed, they must be renamed to be properly logged for future use if needed.

RPC number A0461 was renamed as EXHAUST FAN.
Click the Done button to save the changes and return to the Active Sensor List.

VISIBLE: By checking or unchecking the boxes in this column you can display (Checked) or hide (Unchecked) the sensor data. You can only hide Sensors set to read only. You cannot hide a Sensor which is set to control an active Remote Power Controller.

CONDITION: Shows the environmental condition measured by each of the sensors.

VALUE: Shows the current sensor reading for each of the sensors

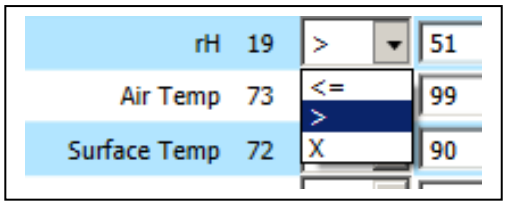
EQUALITY: Shows the selected symbol of equality representing the relation between the sensor reading and the limit which will turn the selected device (Heater or Remote Power Controller) OFF.
There are three symbols used for the sensor reading limit equations:

> **Greater Than** – When the sensor reading is greater than the limit, the selected device will be turned OFF. If the sensor reading is less than or equal to the limit, the device will turn ON.

<= **Less than or Equal to** – When the sensor reading is less than or equal to the limit, the selected device will be turned OFF. If the sensor reading is greater than the limit, the device will turn ON.

X **Off** – This setting turns off the selected action. No action will be initiated by any change in the sensor reading. No devices will be controlled.

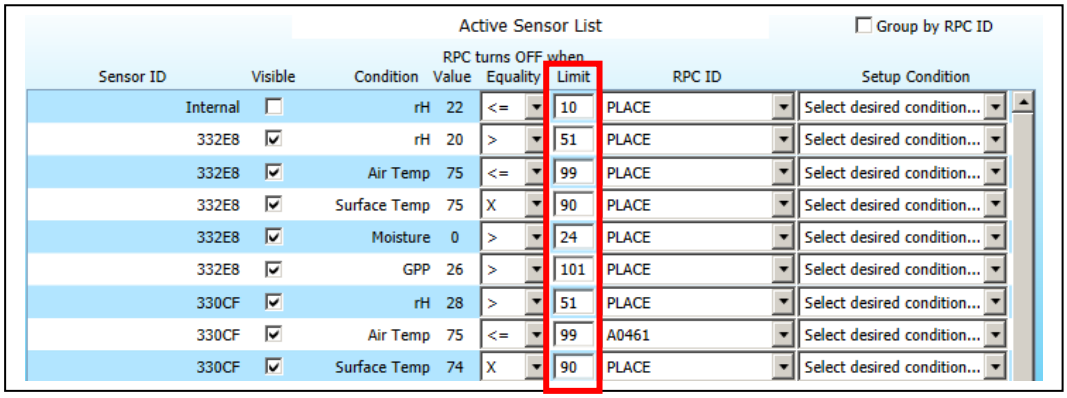
To change the equality symbol, click on the **arrow** to display the drop down list and click on the desired symbol to select it. Select X if you do not want the sensor to control any device. Click the **Finished** button to activate and save the change. Remember if the equation you select for the relationship between the sensor reading and the limit setting is true, the Heater or Remote Power Controller will turn OFF.



This item can also be changed by entering a selection in the Setup Condition column.

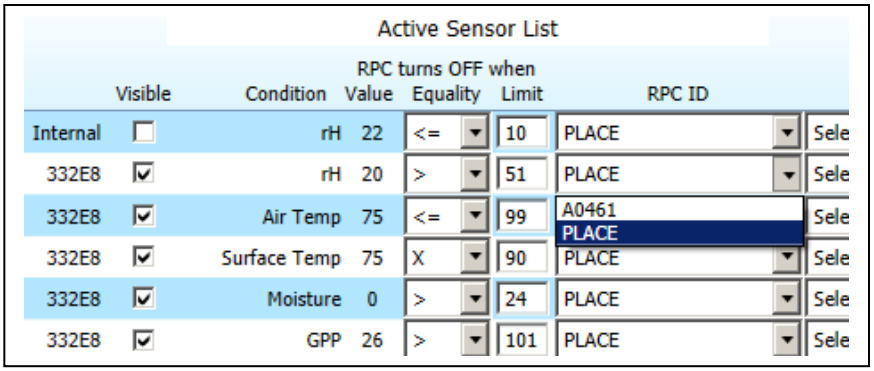
LIMIT: Shows the selected limit setting for each sensor. This is the point at which the selected condition initiates the desired RPC action.

To change the limit, use your cursor to highlight and delete the old number and simply type in your new limit number. Click the **Finished** button to activate and save the change.



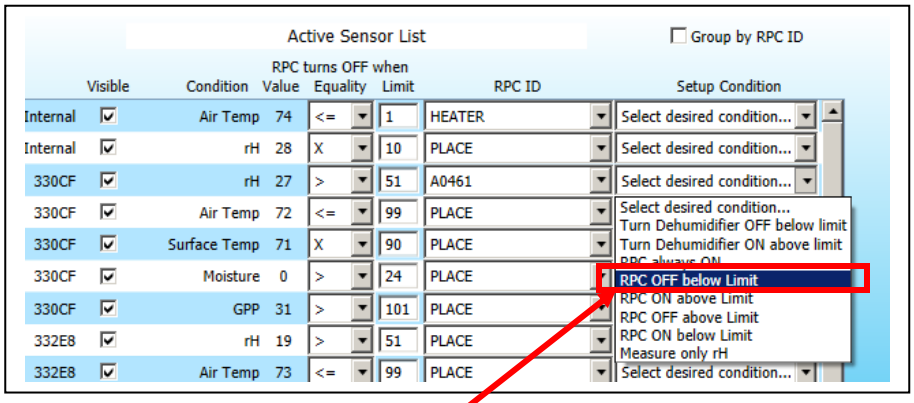
RPC ID: Shows the ID number of the Remote Power Controller being controlled by each sensor. In place of a RPC ID number or alias, this column may list PLACE.
PLACE indicates that no RPC will be controlled by that sensor reading.

To change the RPC to be controlled, click on the **arrow** to display the drop down list and click on the desired ID to select it. Select PLACE if you do not want the sensor to control any device. Click the **Finished** button to activate and save the change.



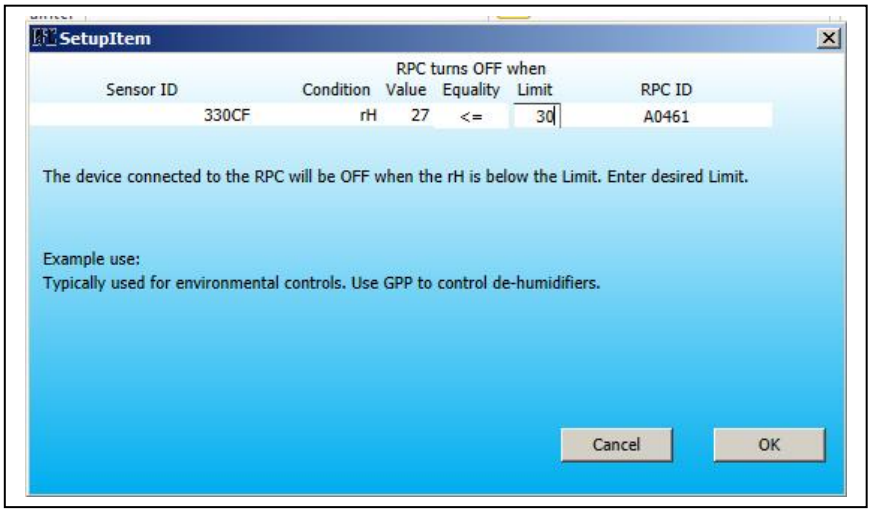
The RPC ID numbers cannot be changed, but RPC nicknames can be added by clicking the Re-name ID button at the bottom of the screen. (Caution: If you have made other selections or setting changes, click the Finish button and then the Rename IDs button on the Main Screen or your changes may be cancelled when you move to the Rename ID screen.)

SETUP CONDITION: Allows you to select the conditions under which sensor reading and the limit which will turn the selected device (Remote Power Controller) OFF. The drop down list describes different conditions which you can select. Once you highlight and select a condition, a popup screen will explain your choice in more detail and ask you if you want to continue with the selection.



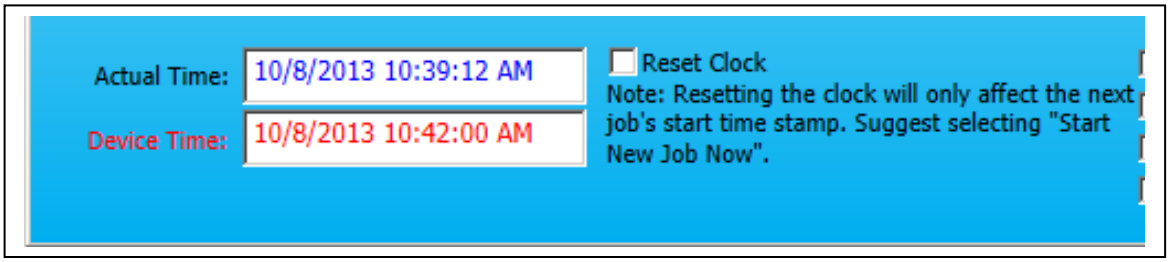
In this example "**RPC OFF below Limit"** was selected

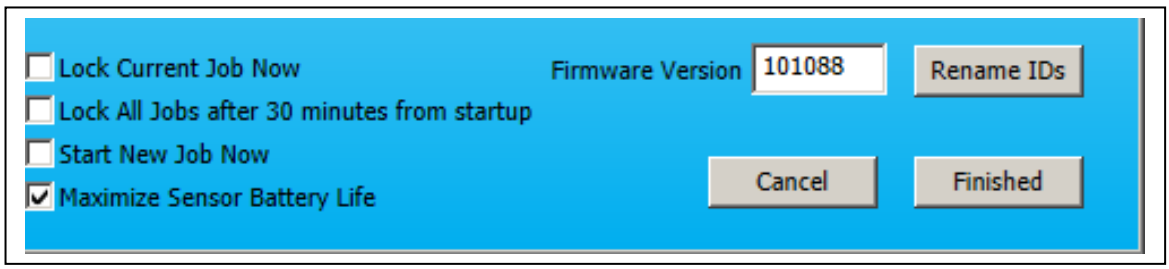
If the description of the selected condition is what you want, click the **OK** button. The equality sign will be changed as needed to display the selected condition. Click the **Finished** button to activate and save the change.



RESET CLOCK:

Allows you to reset the RFC Base Station internal time and date by clicking on and rechecking the Reset Clock box. This will not affect previous job data stored in the RFC Base Station. Resetting the clock will only affect the next job's start time stamp. It is suggested that if you are resetting the clock you also click the **Start New Job Now** box. Resetting the clock without starting a new job can result in a job file with a negative run time.





START NEW JOB FILE:

Clicking the Start New Job Now button, will allow you to end the current job file and start a new job. **Start New Job Now** will send a command to the Base Station to immediately start a new job. This should be done when setting the clock or if starting new job file is desired. New jobs will always be started regardless of setting if the end of the last job was more than 7 days in the past. If a mistake is made at the job start time, the Job Splitting or Joining features in RFC Charter can fix the error and achieve the desired start and stop times for a job. Click the **Finished** button to save the setting.

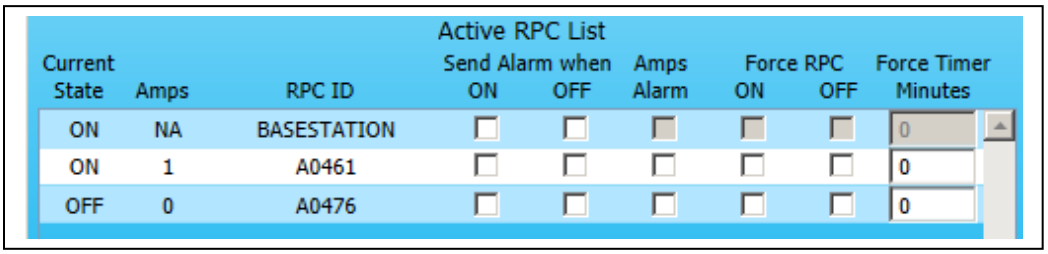
MAXIMIZE SENSOR BATTERY LIFE:

Checking this box will maximizes Remote Sensor battery life by preventing Sensor Signal hopping. Signal hopping, where the signal from a sensor is relayed to the RFC Base Station through one or more Remote Power Controllers or other sensors can greatly extend the operating range of sensors. While RPC's are always configured to allow hopping through them, sensors by default will not allow hopping through them, to conserve battery life.

By un-checking this box, sensor to sensor hopping can be activated if needed to increase the sensor range, but it does drain the sensor batteries faster.

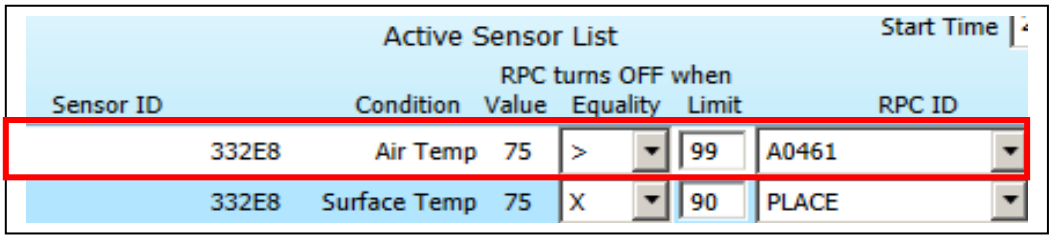
RPC STATE & ALARMS:

The **Active RPC List** box at the bottom of the screen displays the **Current State** of the RFC Base Station and all Remote Power Controllers in radio contact with the RFC Base Station. The **Amps** reading can let you know if the device connected to a Remote Power Controller is operating when the RPC is ON.

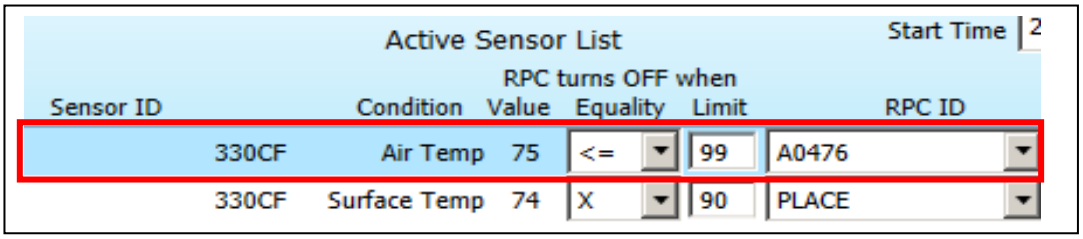


In the example above you can see that the current state of the RFC Base Station which is ON.
As shown above, RPC labeled as A0461 is ON and drawing 1 amp. RPC labeled A0476 is now OFF.

In the first example shown below:
The Air Temp equation for the 332E8 sensor is false (75 **IS NOT** greater than 99), so the status of RPC A0461 is ON.



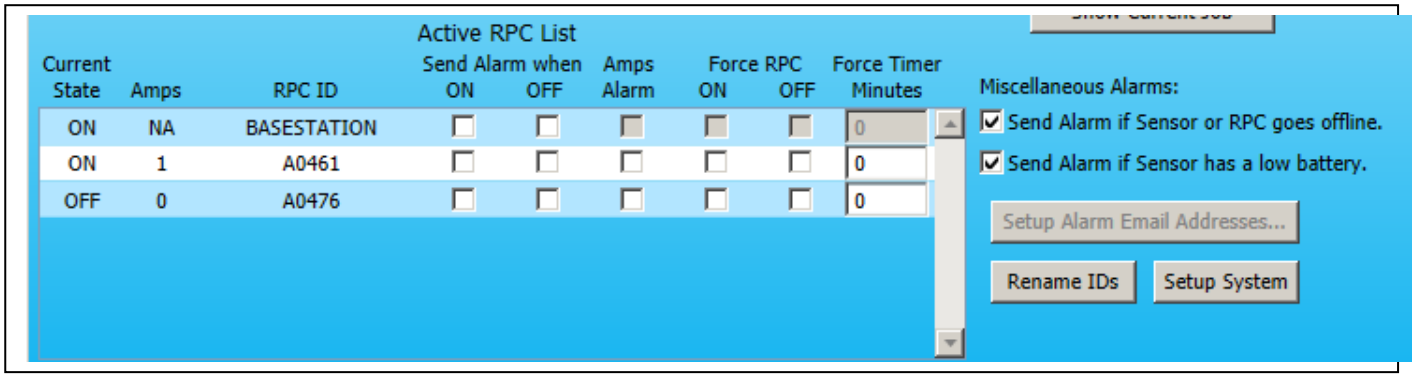
In the next example:
The Air Temp equation for the 330CF sensor is true (75 is less than or equal to 99) so the status of RPC A0476 is OFF.



The listed devices can be remotely turned ON or OFF by checking the Force ON or Force OFF boxes and then clicking the **Send Updates** button at the top of the page.

The RFC Base Station cannot be forced ON or OFF

The Force ON or OFF setting will override the sensor limit equations to allow you to operate equipment as needed to change the environment conditions. Once forced ON or OFF the device will remain ON or OFF until you uncheck the box and click the **Send Updates** button, unless you use the Force Timer to limit the run time.
When you click the **Force RPC ON** or **Force RPC OFF** boxes, also click on the **Force Timer Minutes** box and enter the number of minutes you want the device to remain ON or OFF. When you click the **Send Updates** button the selected device will remain it its forced state (ON or OFF as selected) for the selected time. When you click on the **Retrieve Data** button the screen will update showing the device status and the time remaining in the forced state displayed in the **Force Timer Minutes** box for each device.



You can also check the **Send Alarm When** boxes to alert you when the device status changes. When a selected device turns ON or OFF as selected an alarm will be sent to you via text message or e-mail.

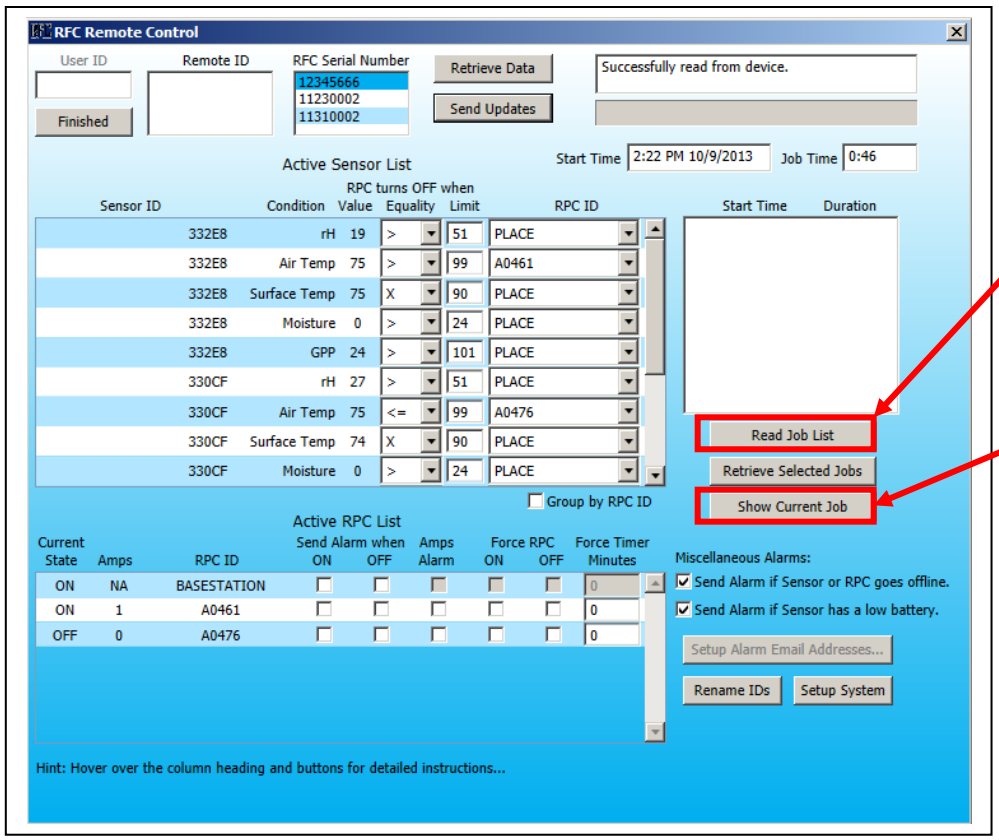
The **Amps Alarm** box when checked will alert you if there is no current flow when a Remote Power Controller is ON. This will let you know if the device connected to the Remote Power Controller has been turned off or is not functioning. The alarm will be sent to your mobile phone as a text message or via e-mail.

The boxes in the **Miscellaneous Alarms** can be checked to send alarms via text message or e-mail any time a Remote Sensor or Remote Power Controller goes offline or if a Remote Sensor has a low battery (NOTE: Use Alkaline batteries to insure proper readings from the Remote Sensor low battery function).

You cannot add alarm addresses from the direct connect screen, you must Log-In and connect remotely to add alarm addresses.

Downloading Job Files:

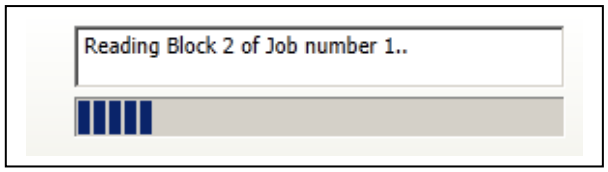
The Job Data Files can be downloaded using the box at the right of the main screen.

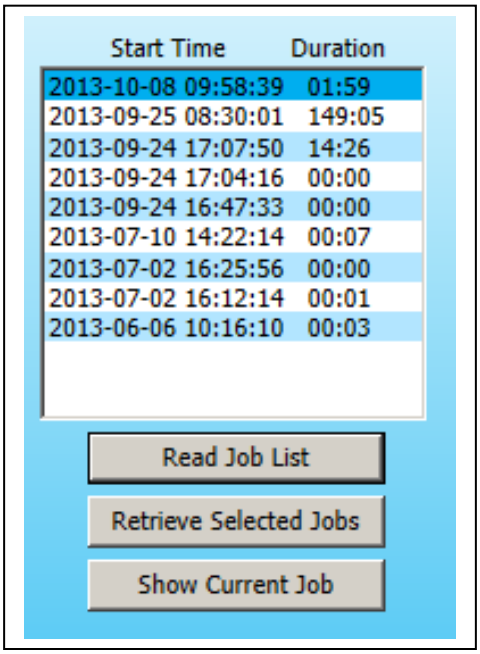


READ JOB LIST BUTTON

SHOW CURRENT JOB BUTTON

Click on the **Show Current Job** button to see only the current job file or click the **Read Job List** button to see all the job files in the RFC Base Station. Then highlight any job you wish to download and save on your computer. Click on the Download Selected Job button to start the download. Click only once and be patient. Large job files may take a while to download. The progress bar at the top of the screen will indicate the state of the download process.

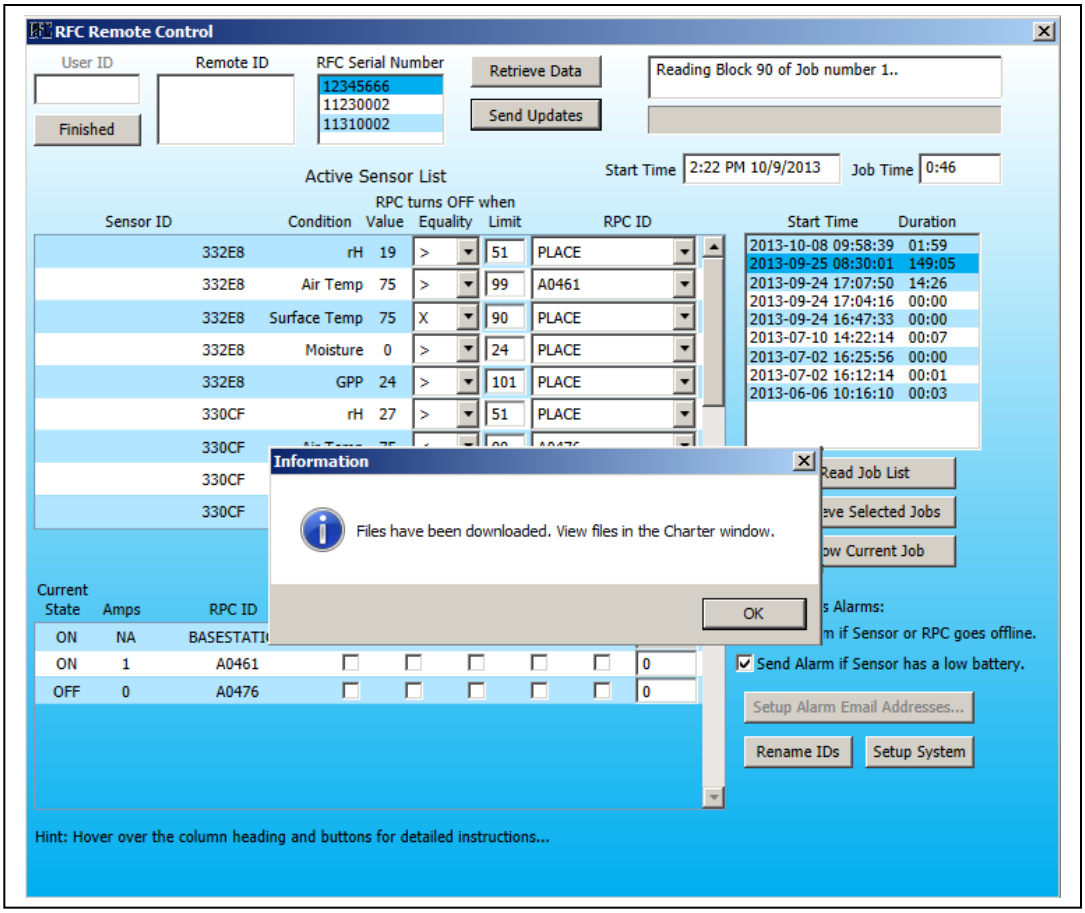


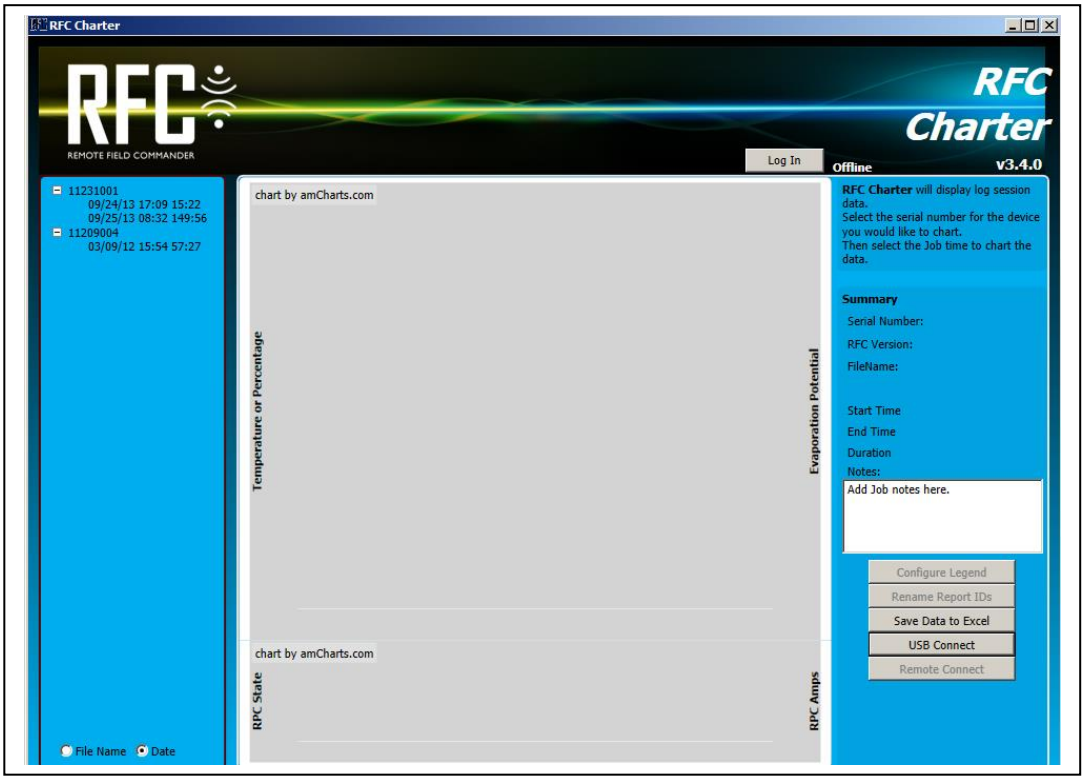


While job files can be downloaded remotely, the best way to download jobs is by connecting directly with the RFC Base Station using the direct connect USB cable.

Job files may also be downloaded using a USB flash drive. Simply insert a flash drive into a USB port on the control panel, then turn the RFC Base Station power switch ON. All of the job files in the RFC Base Station will be downloaded in just a few minutes onto the USB flash drive. Insert the USB flash drive in the USB port on your computer before starting up the RFC Charter, when the RFC Charter is started, it will scan all drives for new files, copy them to the RFC Data folder on the local hard drive and display them in the RFC Charter.

When the download is completed a pop-up message will inform you that you can view the file in the RFC Charter window. You can close the pop-up and the close remote connect screen to return to the RFC Charter window to view the file (Along with any other job files in your RFC data file.).





You can click on the selected job file to open the RFC Charter viewer or exit and view the file later.

RFC REMOTE CONNECT:

Your RFC Base Station is equipped with a modem for a remote connection. Internet access and a paid subscription with user name and password are required to access the RFC server. You can register your RFC Base Station and request a username and password at **remotefieldcommander.com**. Click on the **Register** tab at the top of the page.

To make a remote connection the RFC Base Station must be have its 12V Power Supply plugged in.

With your RFC Base Station, you can remotely set-up, monitor and control the Remote Sensors and Remote Power Controllers using the RFC Charter Software or by accessing the RFC website.

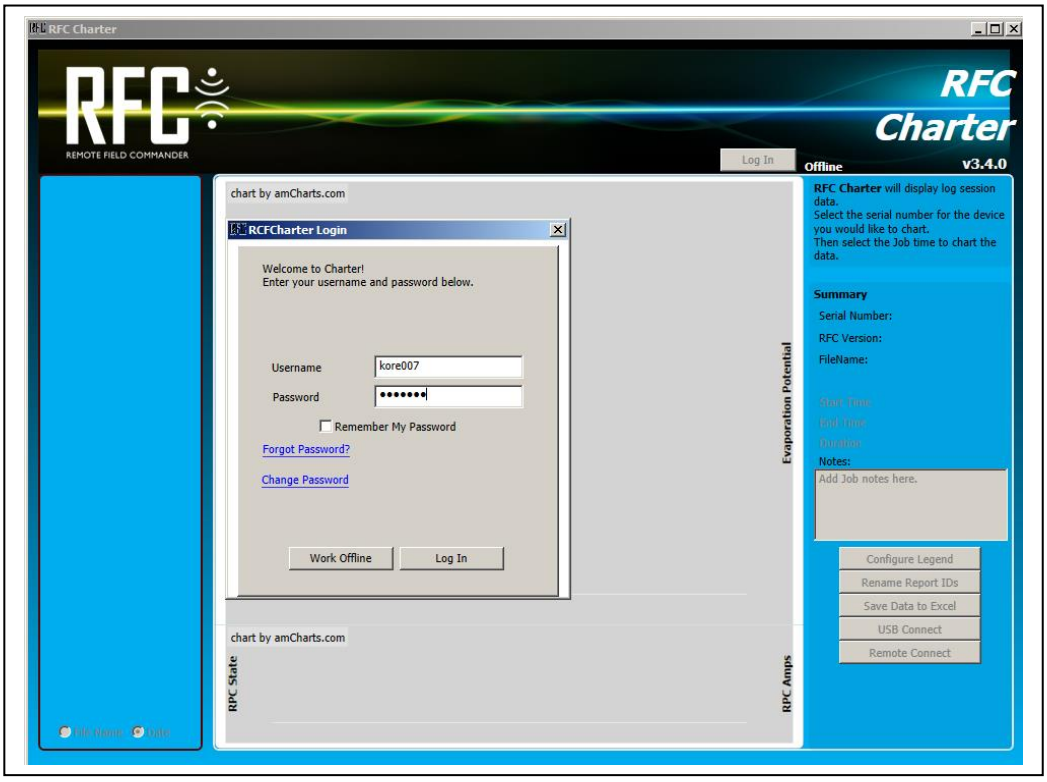
Remote Connect via RFC Charter Software

The RFC Charter Software can be used to connect remotely with your RFC Base Station.
The RFC Charter software can be downloaded from the **remotefieldcommander.com** website for installation on your computer. **To Install Charter Software on your Computer:**

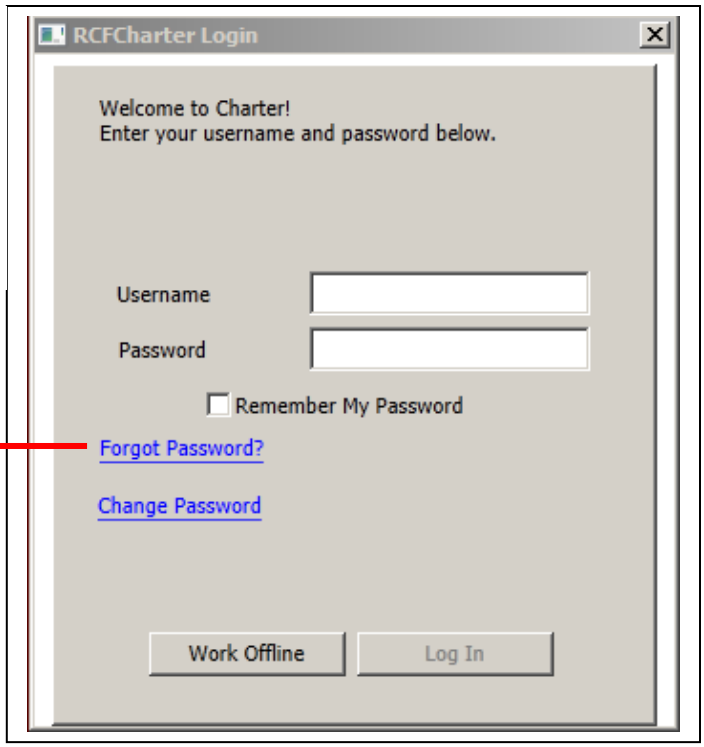
1. **Go to remotefieldcommander.com and click on the Downloads tab at the top of the screen.**
2. **Click on the Charter Software label.**
3. **You can save the RFCInstaller to your computer to install the software later or to copy onto other computers. Click on Open, to run the installer now.**
4. **Once the RFCInstaller is Open - Follow the pop-up instructions to Install the RFC Charter Software**

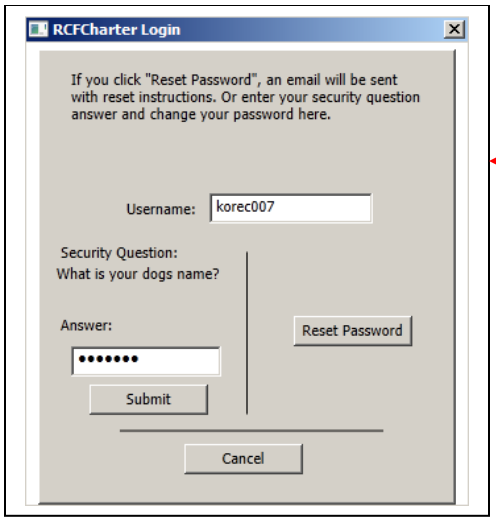
A shortcut icon will now be displayed on your computer desktop as well as in the Program Files accessed from the Start menu. To access the RFC Charter, simply click on the **RFC Charter icon**. This will open the LOG IN screen.

Enter your Username and Password to **Log In** and connect remotely to your RFC Base Station or click on the **Work Offline** button to connect to an attached RFC Base Station or to work with job files already saved on your computer.

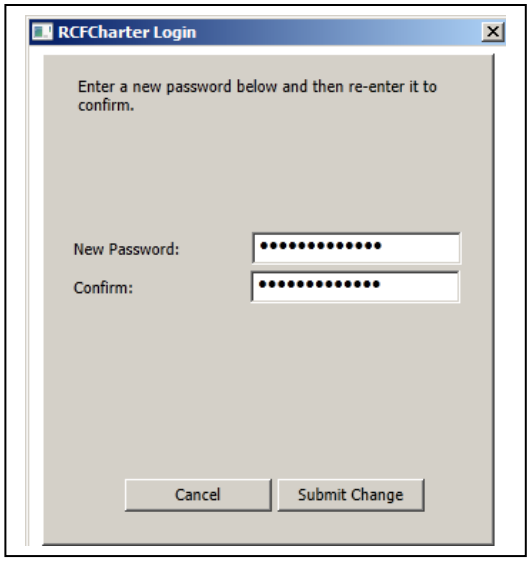


When you set-up your account you will get a pre-assigned password. The first time you sign in to the RFC Website you can change your password and also enter a security question to verify your identity in case you forget your password.
If you have forgotten your password, click on the **"Forgot Password?"** link.





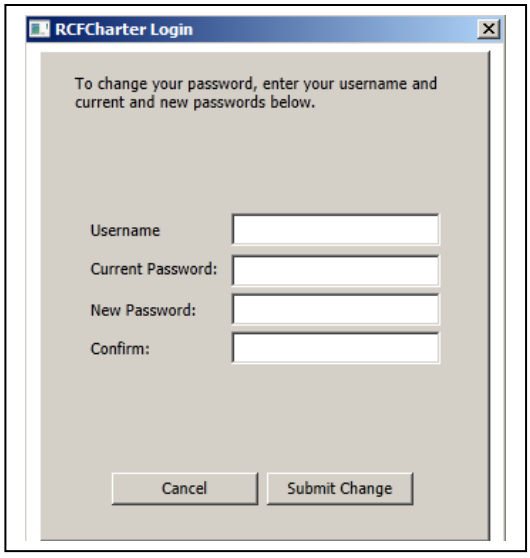
If you have a security question on file, it will come up when you click the **Forgot Password** link.
Type the answer to your security question in the Answer box and click the **Submit** button.
If answered correctly you will open a pop-up window where you can create a new password.



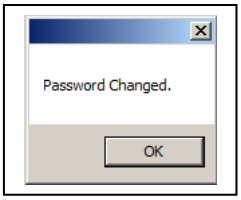
Type your new password in the box, re-enter your new password in the Confirm box and click the **Submit** Change button. You will be immediately logged in to the RFC Charter. If you still cannot log in contact Omni Pro customer service for assistance.

If you know your password but wish to change it, simply click the Change Password link. This will open the pop-up window which will allow you to change your password.

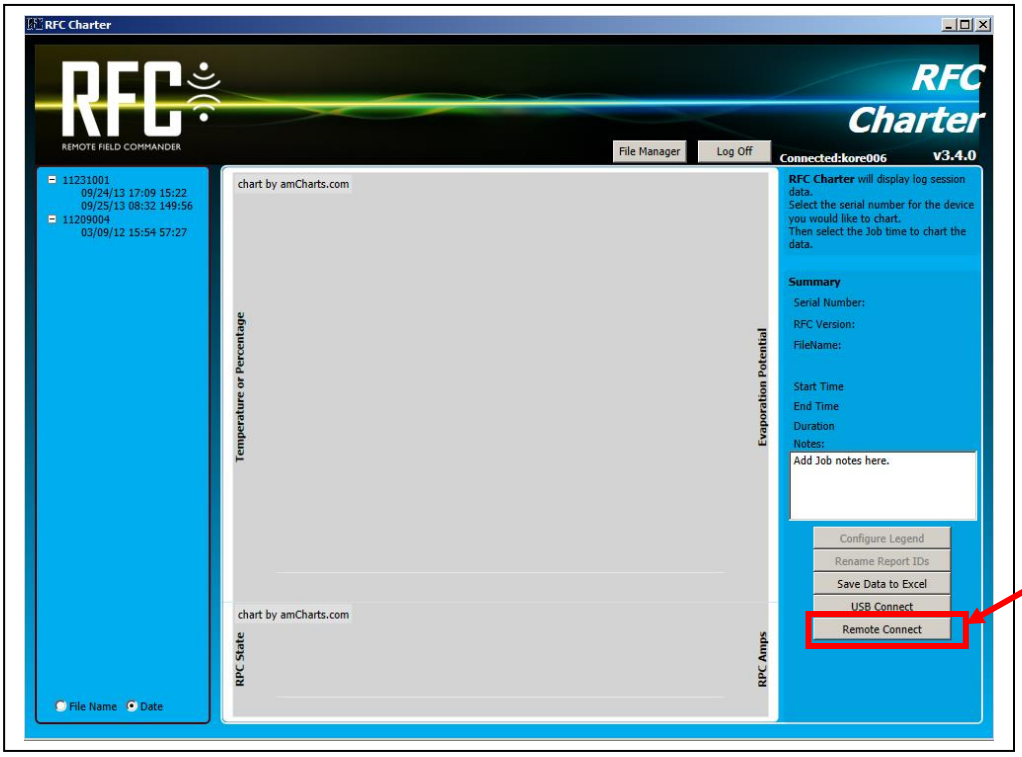
- Enter your Username in the **Username** box
- Enter your Current Password in the **Current Password** box.
- Enter your New Password in the **New Password** box.
- Re-enter your New Password in the **Confirm** box
- Click the **Submit Change** Button



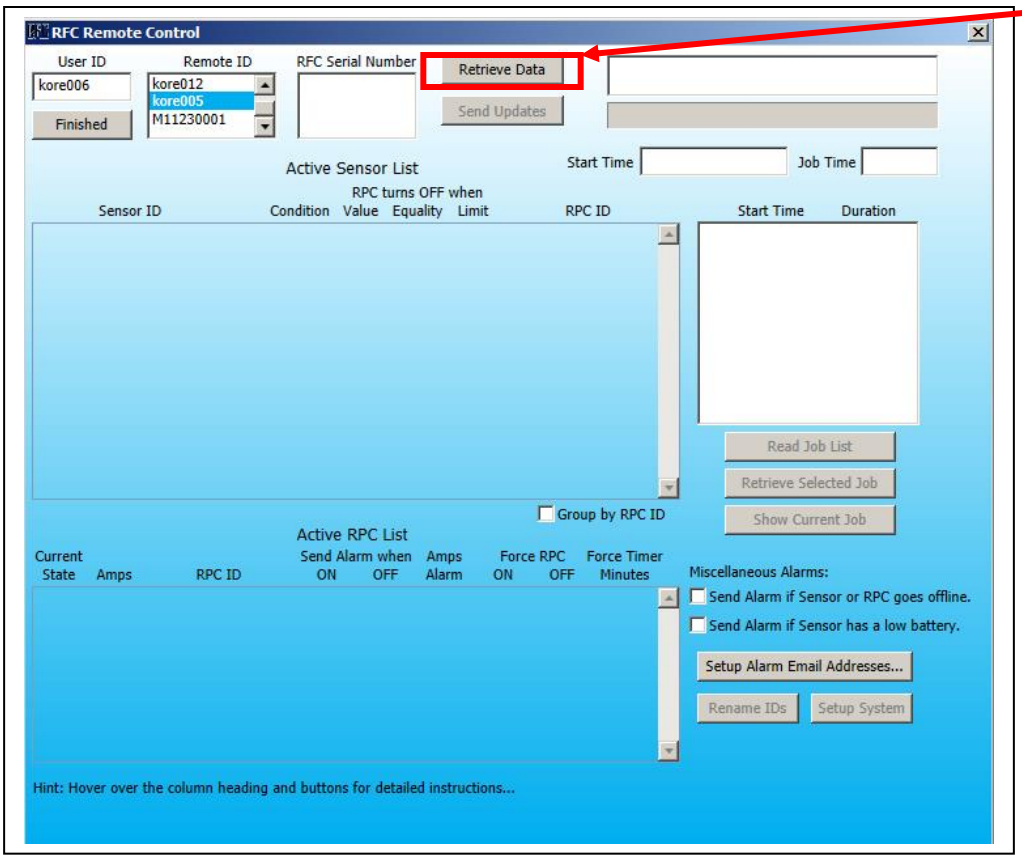
A **Password Changed** pop-up will open. Click the **OK** button to proceed with your Log In and open the RFC Charter



Once you are logged in, you will see the RFC Charter main screen. To connect with your remote RFC Base Station, click on the **Remote Connect** button on the lower right hand corner of the screen:



REMOTE CONNECT BUTTON

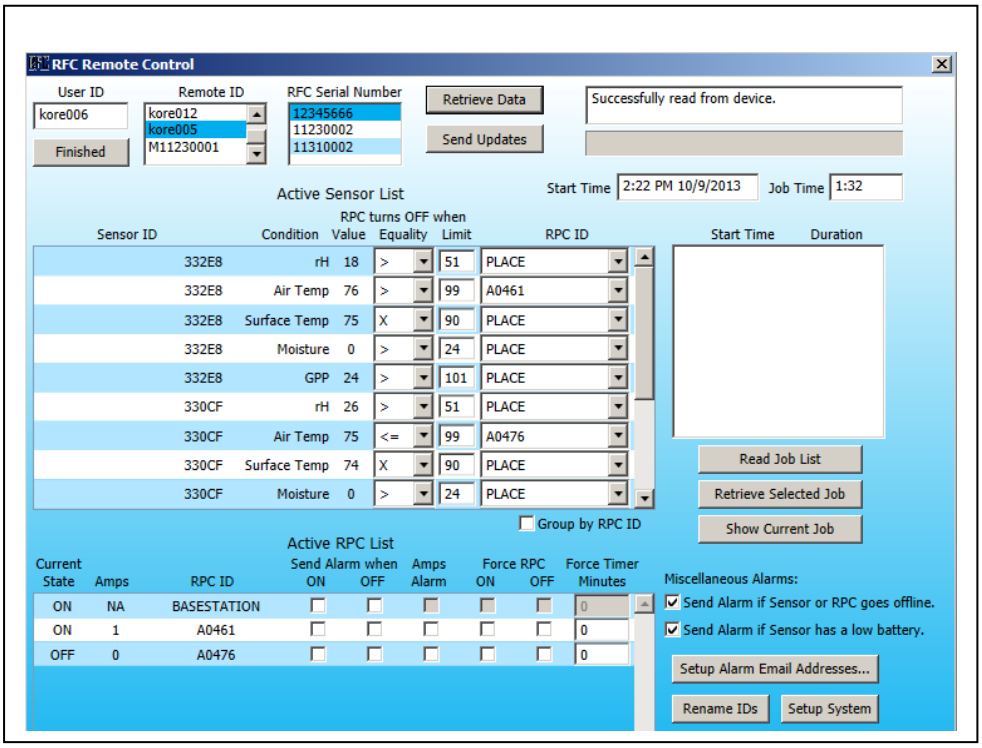


RETRIEVE DATA BUTTON

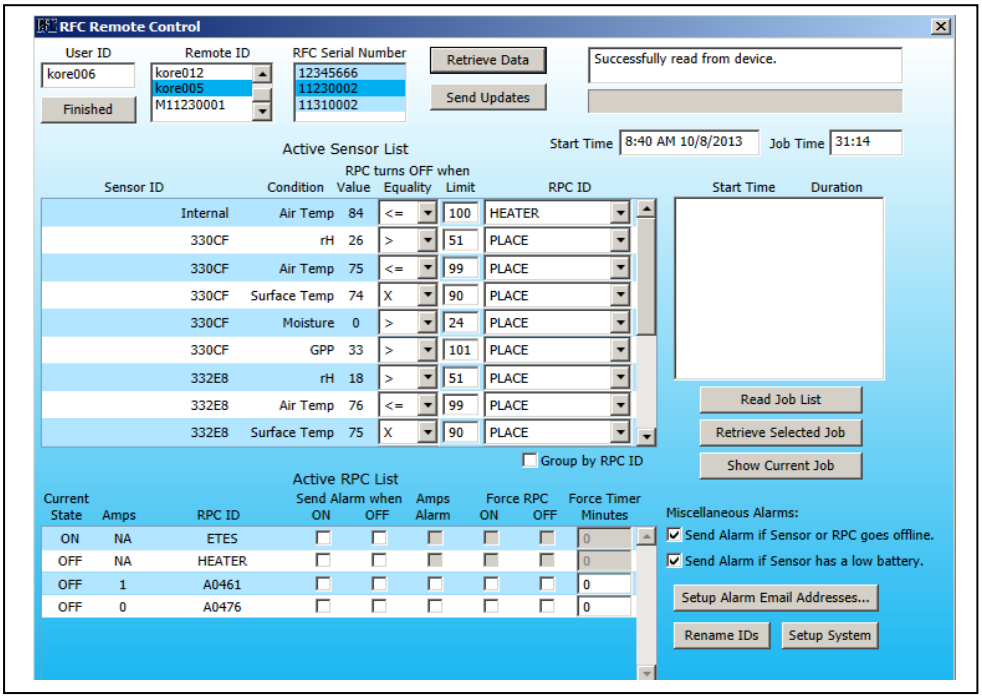
When you first connect and open the Remote Data screen, there will be no data displayed.
If you only have one modem on your account, only the one modem number will be displayed. If you have multiple modems, they will all be displayed. Highlight the modem number you wish to connect with then Click the **Retrieve Data** button at the top of the page to access the RFC Base Station and get the current data readings.

If there are multiple RFC Base Station units on the jobsite, they will communicate with each other and show up on the Serial Number list. You can click on any listed **Serial Number** and then the **Retrieve Data** button to connect with that unit. When the data from the RFC unit is displayed you can see the serial number of the selected RFC unit will be highlighted. The data will display the current status and settings of the RFC unit as well as all Remote Sensors & Remote Power Controllers (RPC) which are in radio contact with the RFC units.

REMOTE DATA SCREEN DATA SHOWN FROM RFC Base Station 12345666

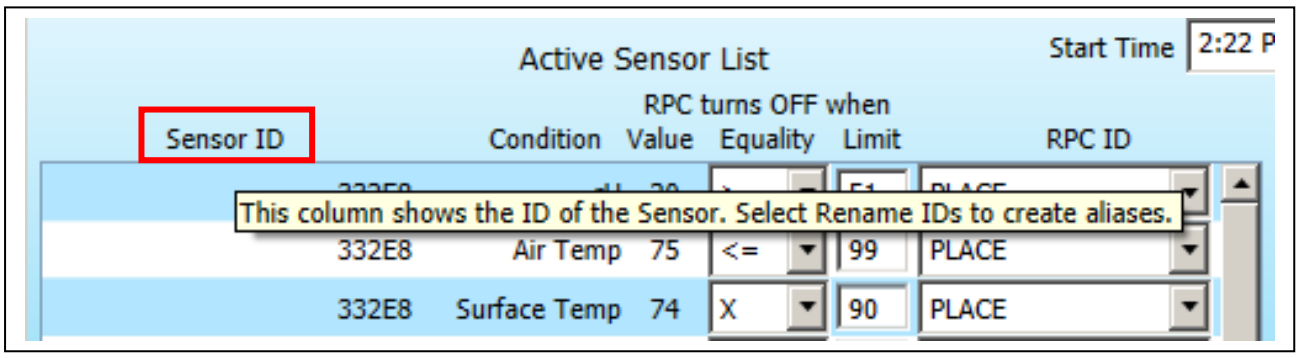


REMOTE DATA SCREEN DATA SHOWN FROM RFC Base Station 11230002



When using multiple RFC Base Station units always check sensors settings in the Active Sensor List and Active RPC list on all units to prevent conflicting control settings. Conflicting settings from settings on two different RFC units could adversely affect device operation.

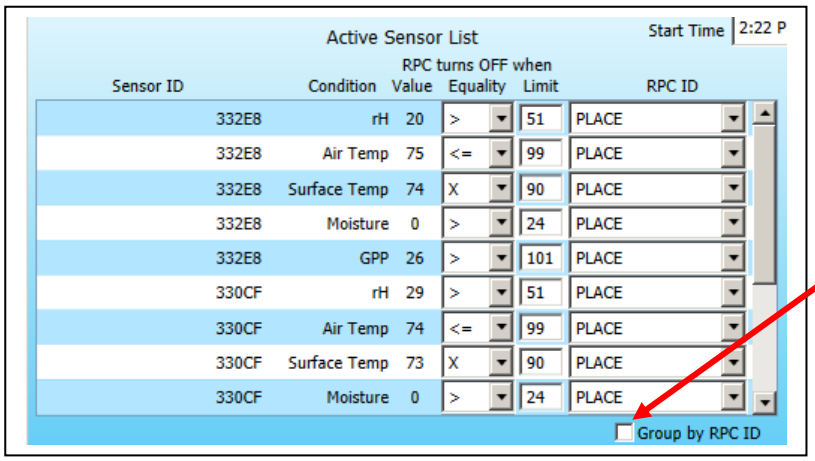
If you hold your cursor over the different column headings and buttons a pop-up will give you detailed information regarding that button or column heading. In the example below the cursor was on the Sensor ID column.



You can try this with the different headings and buttons to learn more of what is displayed on this page.

SENSOR READINGS & SETTINGS:

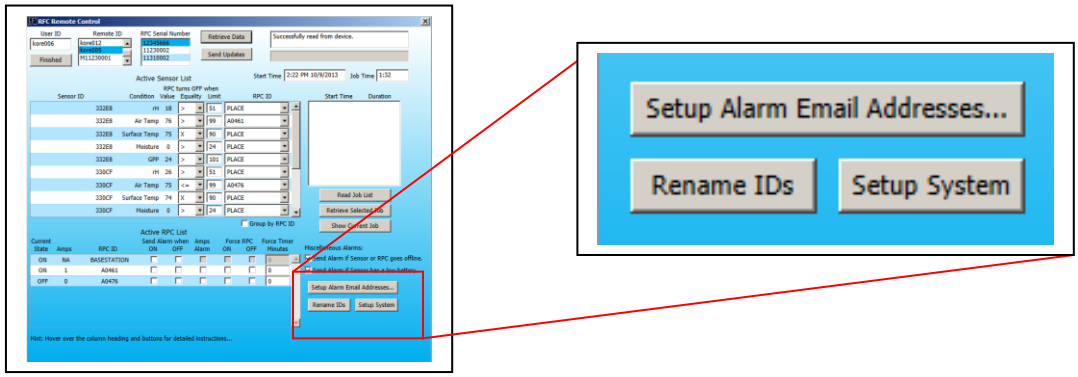
The large box on the left side of the page displays the sensor readings and settings. The Active Sensor list will display the internal sensor readings and settings for temperature and humidity. In the factory default setting, it will also display the ID numbers and readings for all Remote Sensors in contact with the RFC Base Station. In this section we will see how to set-up the sensors and Remote Power Controllers to log conditions and operate equipment. (Any changes made to the system settings will not be activated until you click on the Send Updates button at the top of the page.)



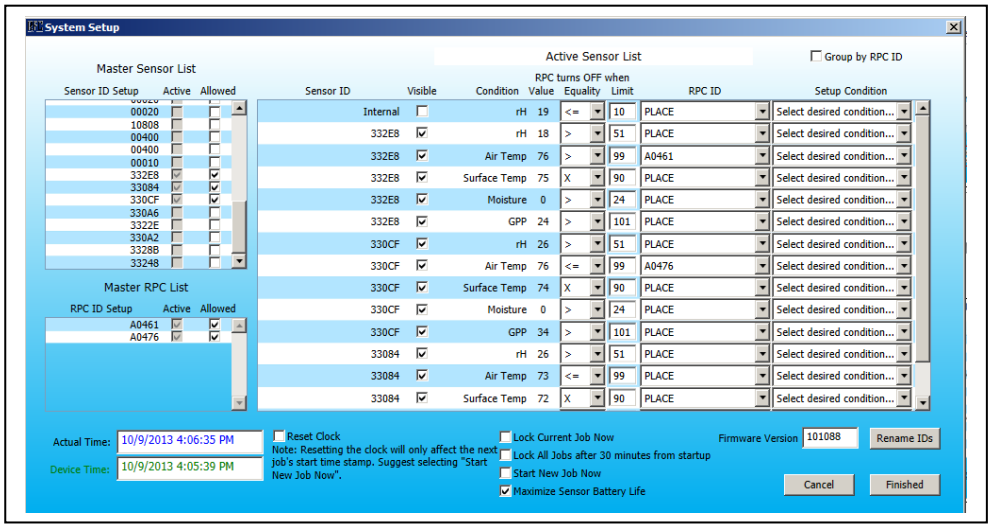
The default method of listing is by sensor ID number. The internal RFC sensors will be listed first.

You can change the display to sort the Active Sensor List by the RPC ID number by clicking the **Group by RPC ID** under the list. This is helpful when managing which RPCs are controlled by which sensors.

The Active Sensor List is where you can observe sensor readings and RFC system operation. Here you can set up all of your sensors and RPC's. What each column represents and how you can setup your system will be explained in the following sections. To allow you to decide what information is displayed here, the Active Sensor list can be customized to display or hide data to fit your needs. To change the system settings and data display, click on the **Setup System** button on the lower right corner of the screen.

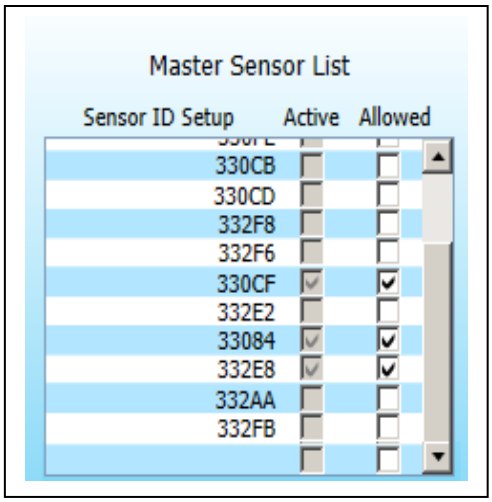


This opens the Setup System screen.



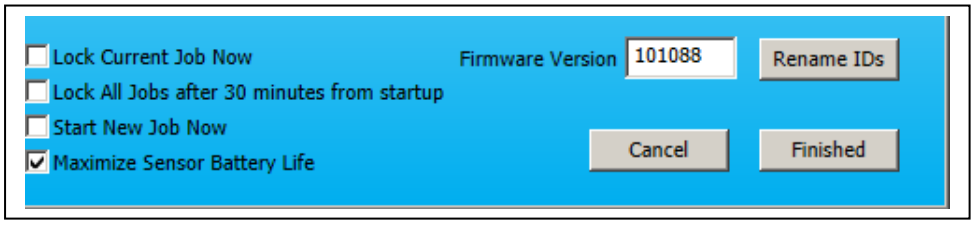
By changing the different settings on this screen you can now customize your settings and readings.

MASTER SENSOR LIST:



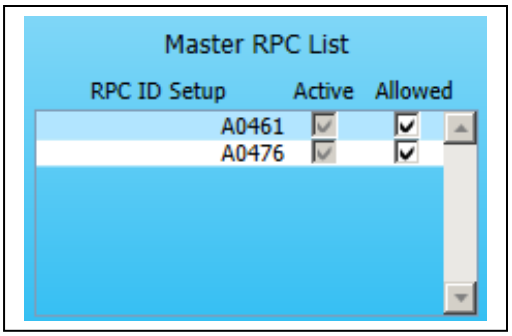
The Master Sensor List is on the left side of the screen. The Sensor ID Setup column will show all sensors that have ever communicated with the RFC Base Station at any time. The sensors with checks in the Active column are currently in range and making contact with the RFC Base Station. Leaving the **Allowed** box checked will keep the sensor active and displayed on the Active Sensor List. You can click on the check mark & remove the check in the Allowed box to make any sensor inactive and remove it from the list of available and active sensors shown in the Active Sensor List.
Clicking on and checking the **Lock Current Job Now** box (At the bottom of the screen) will lock your selected Active Sensors as the only sensors allowed to communicate data to the RFC Base Station prevent any new sensors not currently displayed from becoming active during the job. For example if a truck with more sensors shows up on the job, we don't want those as part of this job. This feature can also be used if different setups are used within range of each other.

Click the **Finished** button at the bottom of the screen to enter your selections and re-enter the Setup System screen as needed to enter more settings. Click the **Cancel** button to cancel your changes and return to the main screen. Click the Send Updates button on the Remote Data page to activate your changes.



If you are planning to place more sensor that have not yet been turned on, or if you are setting up the system before you take the RFC Base Station to the job site, you can delay the job lock out by 30 minutes to give you time to setup your sensors and also prevent additional sensors that may later come into range from interfering you're your setup. Simply click on to check the **Lock All Jobs after 30 minutes from startup** box.
(At the bottom of the screen) this will lock in any Sensors the RFC Base Station finds before the lock out time allowing them to communicate data to the RFC Base Station and prevent any new sensors showing up after the lock out from becoming active during the job. This is the default setting.

MASTER RPC LIST:



The Master RPC List is also on the left side of the screen. The RPC ID Setup column will show all Remote Power Controllers that have ever communicated with the RFC Base Station at any time. The RPC's with checks in the Active are currently in contact with the RFC Base Station. Leaving the Allowed box checked will keep the RPC Active and displayed on the Active RPC List. You can click on the check mark & remove the check to make any RPC Inactive and remove it from the list.

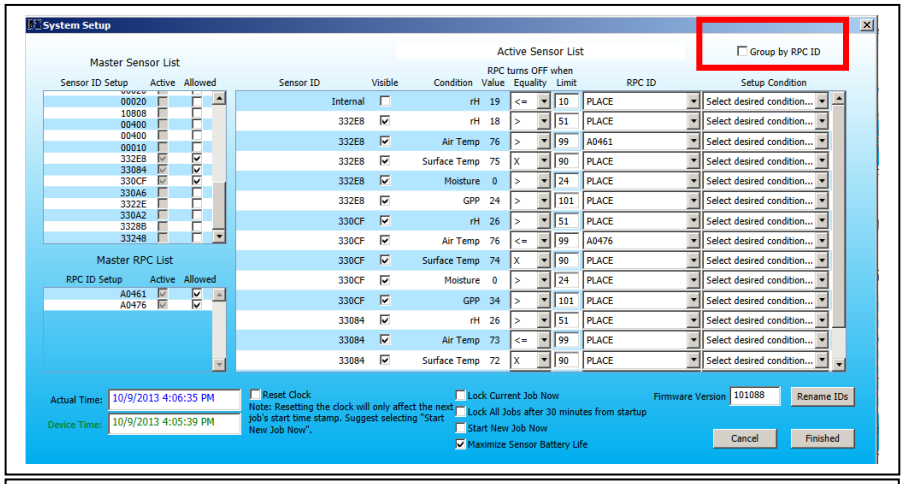
Clicking on and checking the **Lock Current Job Now** box will lock your selected Active RPC's as the only controllers allowed to be controlled by the RFC Base Station and prevent any new controllers not currently displayed from becoming active during the job.

Click the **Finished** button at the bottom of the screen to enter your selections and re-enter the Setup System screen as needed to enter more settings. Click the **Cancel** button to cancel your changes and return to the main screen.

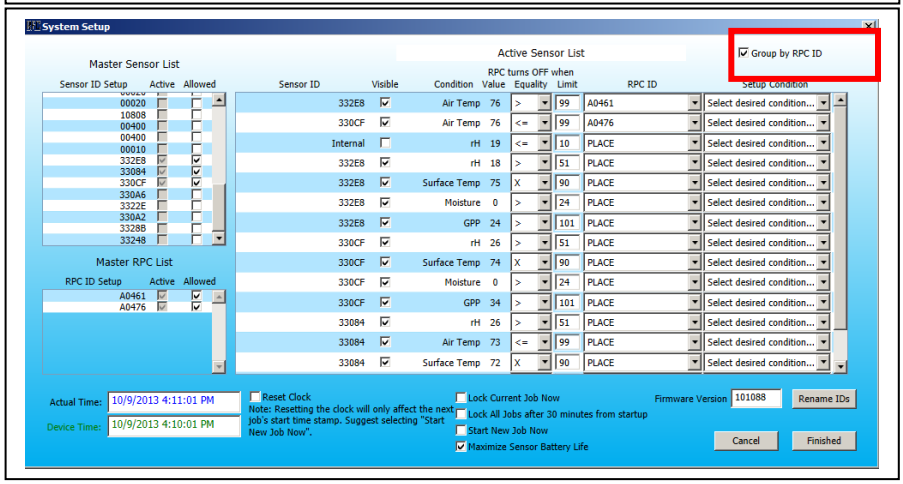
ACTIVE SENSOR LIST:

The default method of listing is by sensor ID number. When listed by the sensor ID number the internal sensors will be listed first. The other sensors will be listed in the order in which they make contact with the RFC Base Station. You can change the display to sort the Active Sensor List by the RPC ID number by clicking the **Group by RPCID** button on the upper right corner of the screen. . This is helpful when managing which RPCs are controlled by which sensors. This will not change the way the sensors are shown on the main Remote Data screen.

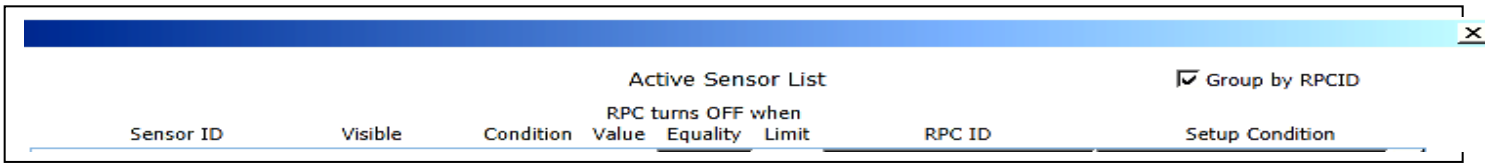
Sorted by sensor ID number



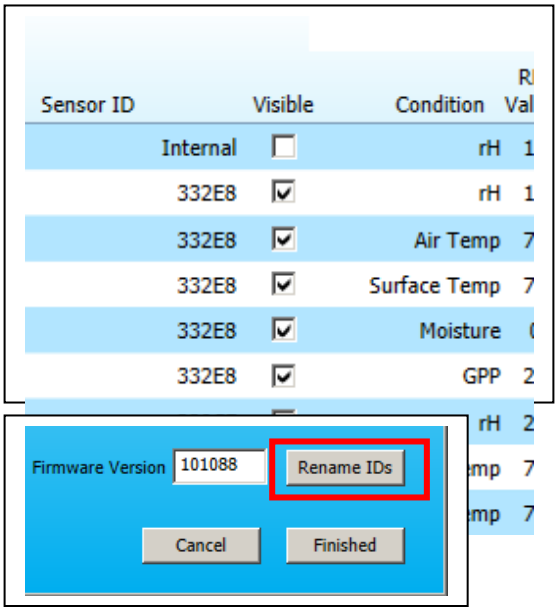
Sorted by RPC ID number



In the Active Sensor List you can change the settings of the active sensors and remote power controllers and the data which will be displayed.



The Active Sensor List has eight different column headings containing information on the readings and set-up conditions of the different sensors in contact with the RFC Base Station. These columns are explained in the following section.

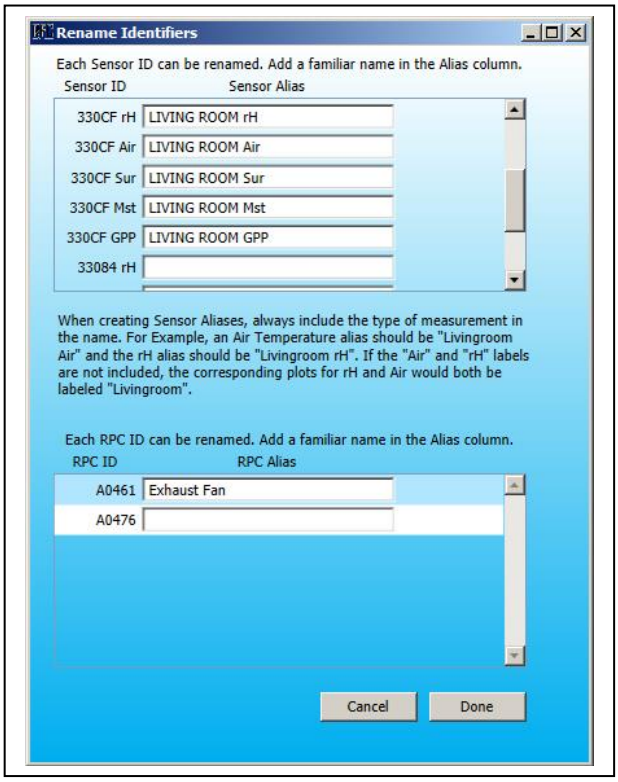


SENSOR ID: Shows the RFC Base Station Internal Sensors and the ID of any active Sensors. The internal RFC Base Station sensors are always listed first. You can scroll down to see the data of all of the active sensors.

The sensor ID numbers cannot be changed, but sensor nicknames or aliases can be added by clicking the **Re-name ID** button at the bottom right corner of the screen.

Caution: If you have made other selections or setting changes, click the **Finished** button and then the Rename IDs button on the Main Screen or your changes may be cancelled when you move to the Rename ID screen.

In the Rename ID screen, type the alias into the box next to the sensor or RPC ID number you wish to rename. You do not have to rename all five conditions for the sensor. You can just rename the specific readings important to you, but for each sensor reading you rename, you must enter a unique alias which includes the environmental condition. **The aliases should be kept short, no more than 18 characters each.**



In the example to the right, sensor 330CF has been renamed, LIVING ROOM Air, rH, Sur, Mst & GPP. Though Surface temperature, Moisture and GPP will not be displayed, they must be renamed to be properly logged for future use if needed.

RPC number A0461 was renamed as EXHAUST FAN. Click the Done button to save the changes and return to the Active Sensor List.

VISIBLE: By checking or unchecking the boxes in this column you can display (Checked) or hide (Unchecked) the sensor data.

CONDITION: Shows the environmental condition measured by each of the sensors.

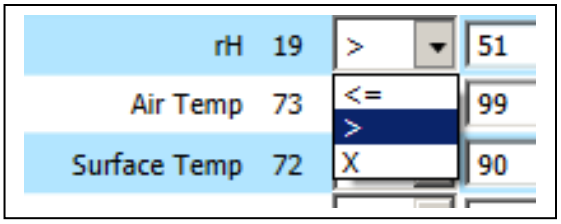
VALUE: Shows the current sensor reading for each of the sensors

EQUALITY: Shows the selected symbol of equality representing the relation between the sensor reading and the limit which will turn the selected device (Remote Power Controller) OFF.
There are three symbols used for the sensor reading limit equations:

> **Greater Than** – When the sensor reading is greater than the limit, the selected device will be turned OFF. If the sensor reading is less than or equal to the limit, the device will turn ON.

<= **Less than or Equal to** – When the sensor reading is less than or equal to the limit, the selected device will be turned OFF. If the sensor reading is greater than the limit, the device will turn ON.

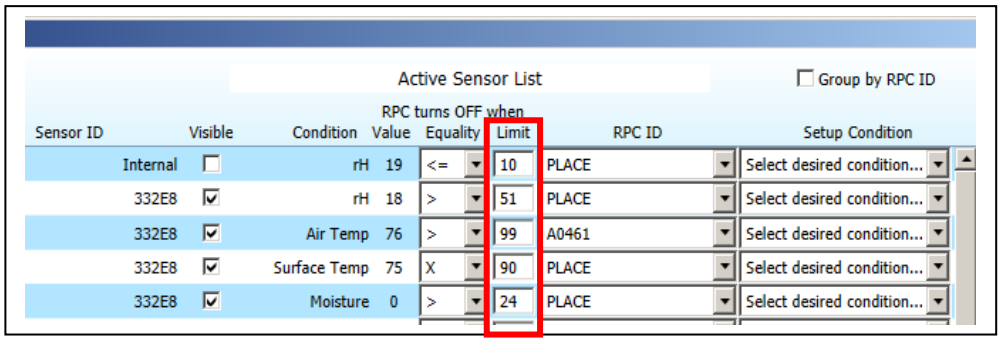
X **Off** – This setting turns off the selected action. No action will be initiated by any change in the sensor reading. No devices will be controlled.



To change the equality symbol, click on the **arrow** to display the drop down list and click on the desired symbol to select it. Select X if you do not want the sensor to control any device. Click the **Finished** button to activate and save the change. Remember if the equation you select for the relationship between the sensor reading and the limit setting is true, the Heater or Remote Power Controller will turn OFF.
This item can also be changed by entering a selection in the Setup Condition column.

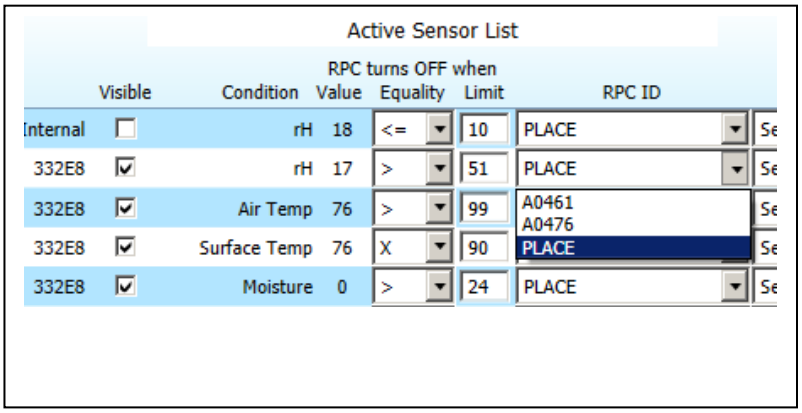
LIMIT: Shows the selected limit setting for each sensor. This is the point at which the selected condition initiates the desired RPC action.

To change the limit, use your cursor to highlight and delete the old number and simply type in your new limit number. Click the **Finished** button to activate and save the change.



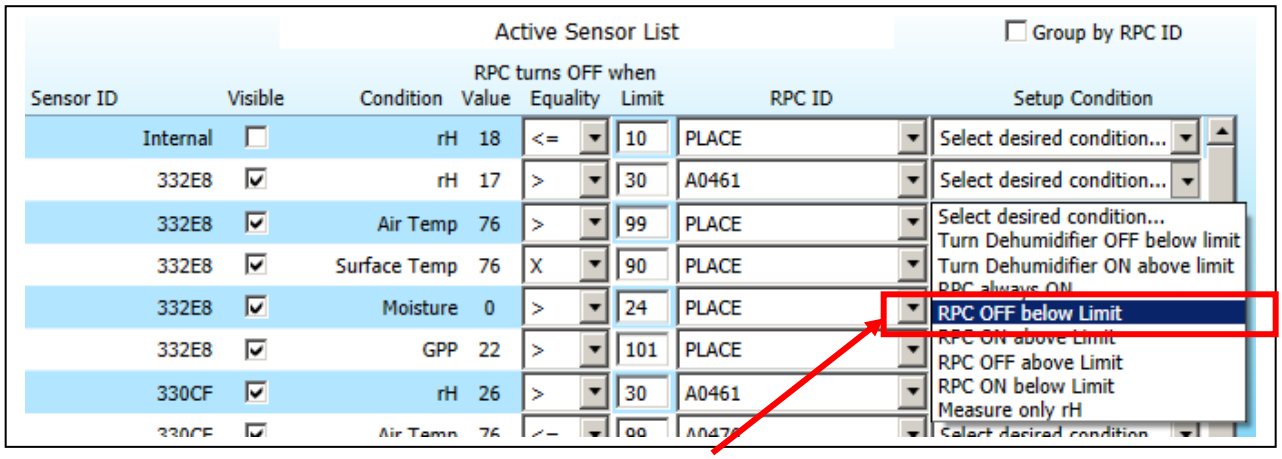
RPC ID: Shows the ID number of the Remote Power Controller being controlled by each sensor. In place of a RPC ID number or alias, this column may list PLACE.
PLACE indicates that no RPC will be controlled by that sensor reading.

To change the RPC to be controlled, click on the **arrow** to display the drop down list and click on the desired ID to select it. Select PLACE if you do not want the sensor to control any device. Click the **Finished** button to activate and save the change.



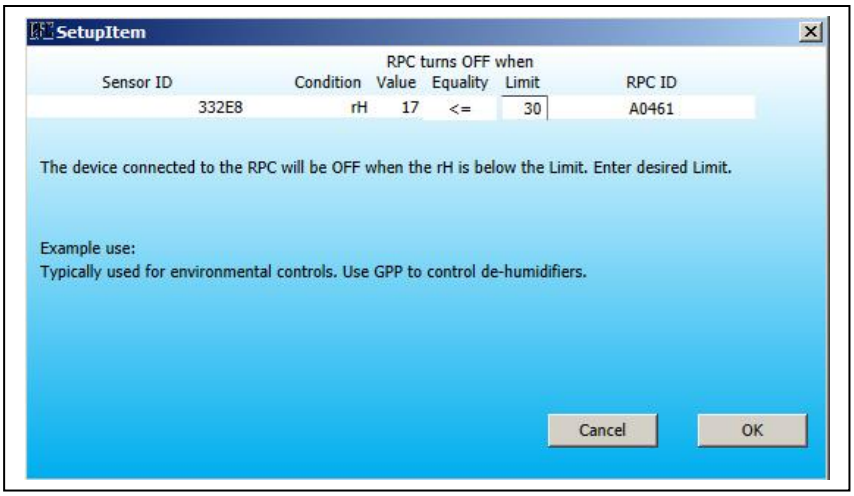
The RPC ID numbers cannot be changed, but RPC nicknames can be added by clicking the Re-name ID button at the bottom of the screen. (Caution: If you have made other selections or setting changes, click the Finish button and then the Rename IDs button on the Main Screen or your changes may be cancelled when you move to the Rename ID screen.)

SETUP CONDITION: Allows you to select the conditions under which sensor reading and the limit which will turn the selected device (Remote Power Controller) OFF. The drop down list describes different conditions which you can select. Once you highlight and select a condition, a popup screen will explain your choice in more detail and ask you if you want to continue with the selection.

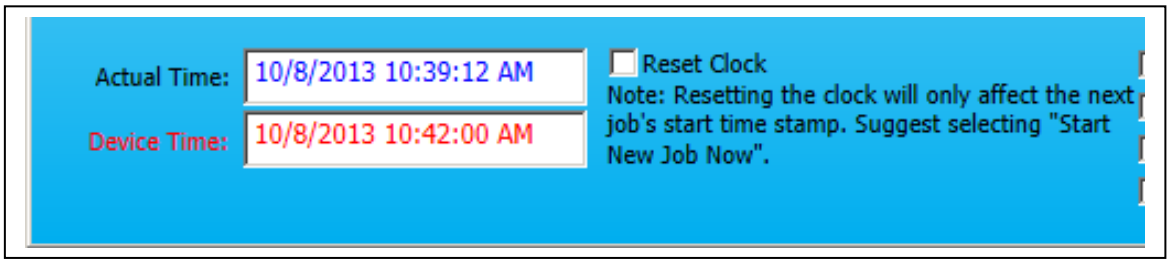


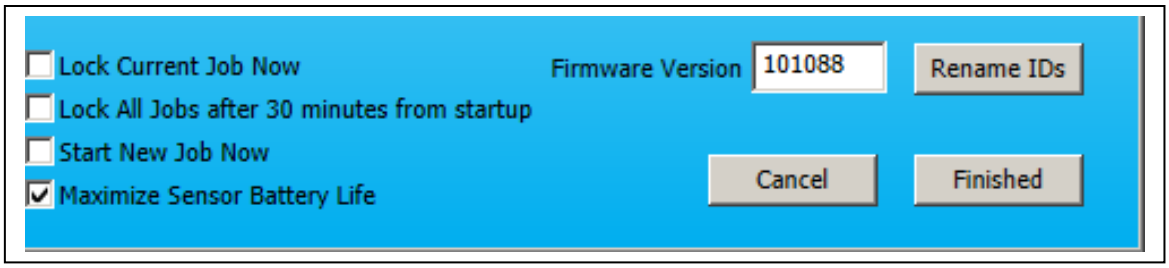
In this example "**RPC OFF below Limit"** was selected

If the description of the selected condition is what you want, click the **OK** button. The equality sign will be changed as needed to display the selected condition. Enter the limit number you want and Click the **Finished** button to activate and save the change.



RESET CLOCK: Allows you to reset the RFC Base Station internal time and date by clicking on and rechecking the Reset Clock box. This will not affect previous job data stored in the RFC Base Station. Resetting the clock will only affect the next job's start time stamp. It is suggested that if you are resetting the clock you also click the **Start New Job Now** box. Resetting the clock without starting a new job can result in a job file with a negative run time.





START NEW JOB FILE: Clicking the Start New Job Now button, will allow you to end the current job file and start a new job. **Start New Job Now** will send a command to the Base Station to immediately start a new job. This should be done when setting the clock or if a new job is desired. New jobs will always be started regardless of setting if the end of the last job was more than 7 days in the past. If a mistake is made at the job start time, the Job Splitting or Joining features in RFC Charter can fix the error and achieve the desired start and stop times for a job. Click the **Finished** button to save the setting.

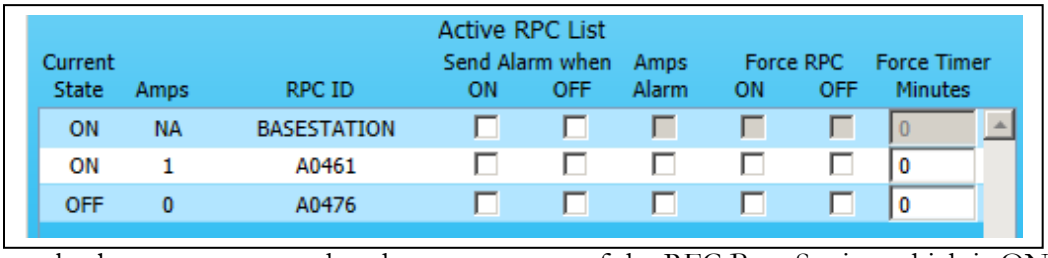
MAXIMIZE SENSOR BATTERY LIFE:

Checking this box will maximizes Remote Sensor battery life by preventing Sensor Signal hopping. Signal hopping, where the signal from a sensor is relayed to the RFC Base Station through one or more Remote Power Controllers can greatly extend the operating range of sensors. While RPC's are always configured to allow hopping through them, sensors by default will not allow hopping through them, to conserve battery life.

By un-checking this box, sensor to sensor hopping can be activated if needed to increase the sensor range, but it does drain the sensor batteries faster.

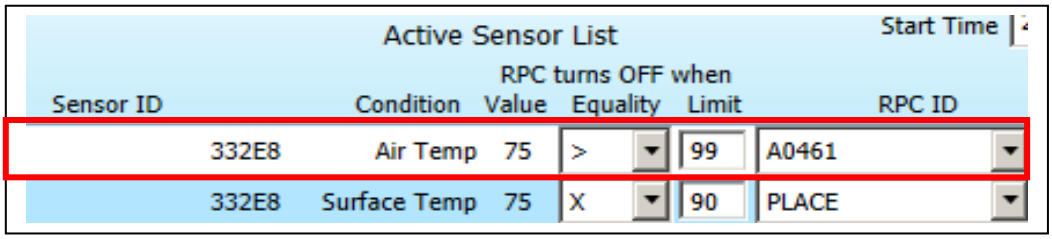
RPC STATE & ALARMS:

The **Active RPC List** box at the bottom of the screen displays the **Current State** of the RFC Base Station and all Remote Power Controllers in radio contact with the RFC Base Station. The **Amps** reading can let you know if the device connected to a Remote Power Controller is operating when the RPC is ON.

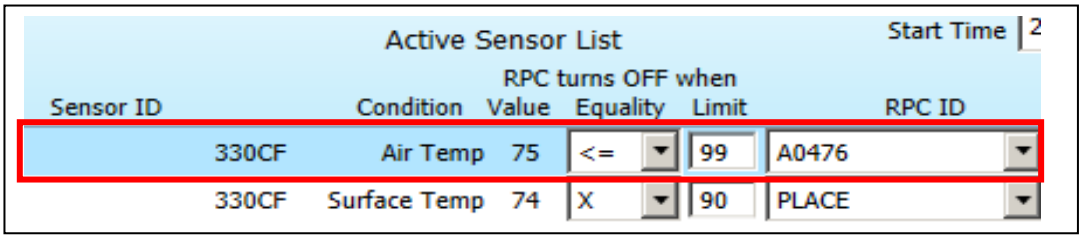


In the example above you can see that the current state of the RFC Base Station which is ON.
As shown above, RPC labeled as A0461 is ON and drawing 1 amp. RPC labeled A0476 is now OFF.

In the first example shown below:
The Air Temp equation for the 332E8 sensor is false (75 **IS NOT** greater than 99), so the status of RPC A0461 is ON.



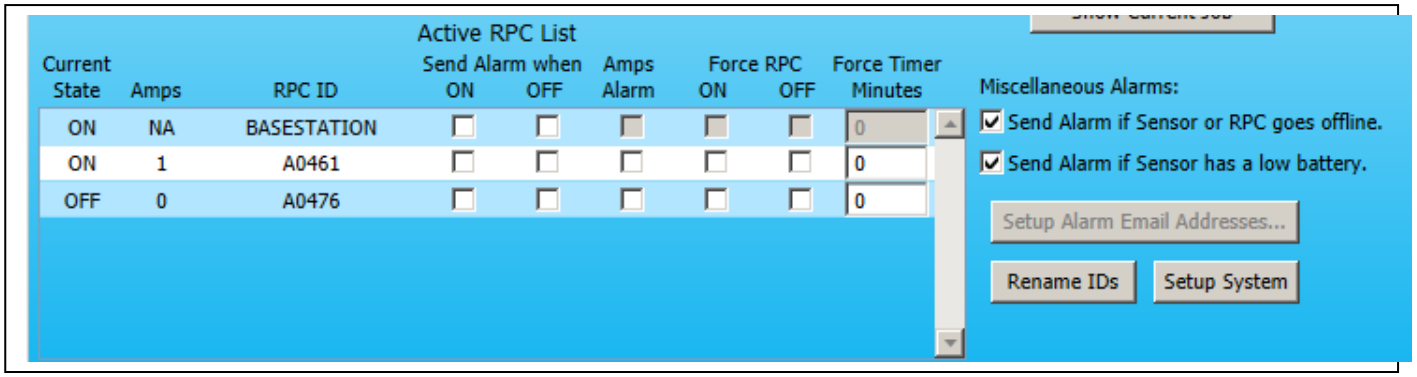
In the next example:
The Air Temp equation for the 330CF sensor is true (75 is less than or equal to 99) so the status of RPC A0476 is OFF.



The listed devices can be remotely turned ON or OFF by checking the Force ON or Force OFF boxes and then clicking the **Send Updates** button at the top of the page.

The RFC Base Station cannot be forced ON or OFF

The Force ON or OFF setting will override the sensor limit equations to allow you to operate equipment as needed to change the environment conditions. Once forced ON or OFF the device will remain ON or OFF until you uncheck the box and click the **Send Updates** button, unless you use the Force Timer to limit the run time.
When you click the **Force RPC ON** or **Force RPC OFF** boxes, also click on the **Force Timer Minutes** box and enter the number of minutes you want the device to remain ON or OFF. When you click the **Send Updates** button the selected device will remain it its forced state (ON or OFF as selected) for the selected time. When you click on the **Retrieve Data** button the screen will update showing the device status and the time remaining in the forced state displayed in the **Force Timer Minutes** box for each device.



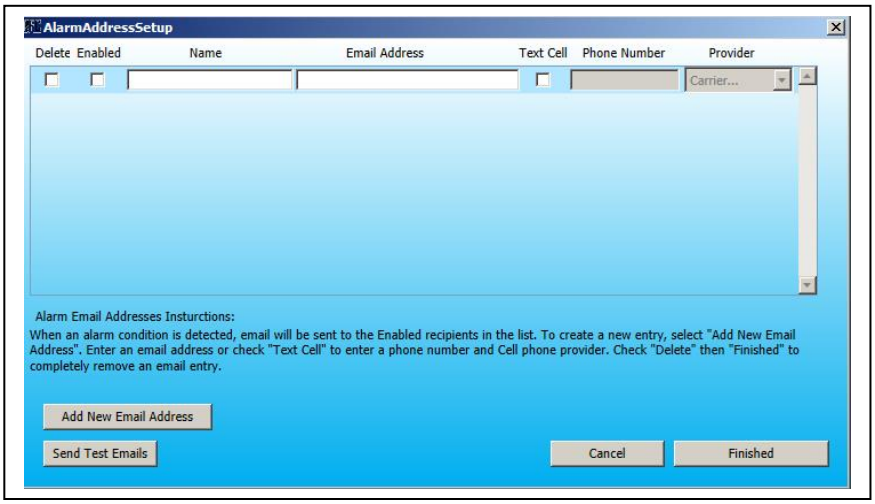
You can also check the **Send Alarm When** boxes to alert you when the device status changes. When a selected device turns ON or OFF as selected an alarm will be sent to you via text message or e-mail.

The **Amps Alarm** box when checked will alert you if there is no current flow when a Remote Power Controller is ON. This will let you know if the device connected to the Remote Power Controller has been turned off or is not functioning. The alarm will be sent to your mobile phone as a text message or via e-mail.

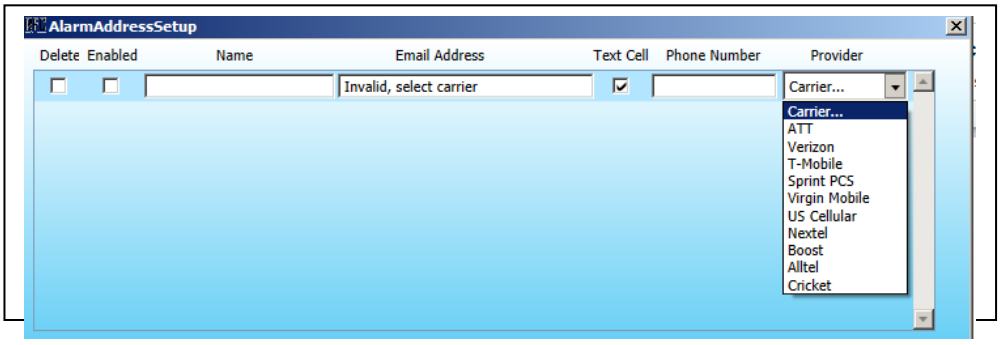
The boxes in the **Miscellaneous Alarms** can be checked to send alarms via text message or e-mail any time a Remote Sensor or Remote Power Controller goes offline or if a Remote Sensor has a low battery.

You cannot add alarm addresses from the direct connect screen, you must Log-In and connect remotely to add alarm addresses.

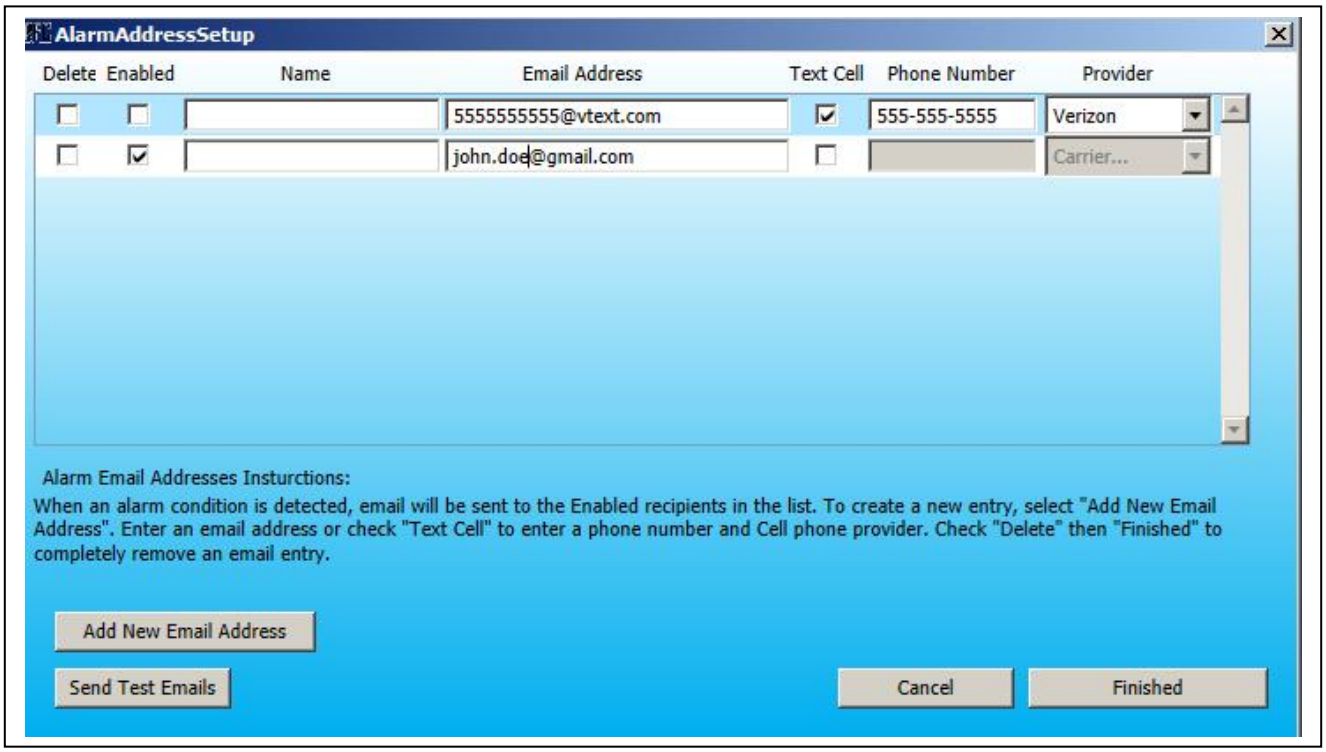
To enter alarm phone numbers and e-mail addresses, click on the **Setup Alarm Email Addresses** box. This opens the alarm address screen. When an alarm condition is detected an e-mail alarm message will be sent to all enabled e-mail addresses and a text message to all cell phone numbers.



To enter text message phone numbers click and check the **Text Cell** box, enter the Phone number and Provider. You can enter a name in the Name Box if desired. Click on the arrow to get the drop down list of carriers. Click you carrier and it will complete the entry.



With your first entry complete you can click on the **Finished** button to enter your number and return to the main screen or click on the **Add New Email Address** button to add another text message phone number or e-mail address.
To enter an e-mail address, click and check the **Enabled** box and then enter the e-mail address in the **Email Address** box and a name in the **Name** box if desired.
When entry is completed you can click on the **Finished** button to enter your e-mail address and return to the main screen or click on the **Add New Email Address** button to add another text message phone number or e-mail address and repeat as needed



Click on the **Send Test Emails** box to send a test message to each cell number and e-mail address if desired.

To deactivate an e-mail address or cell phone number:

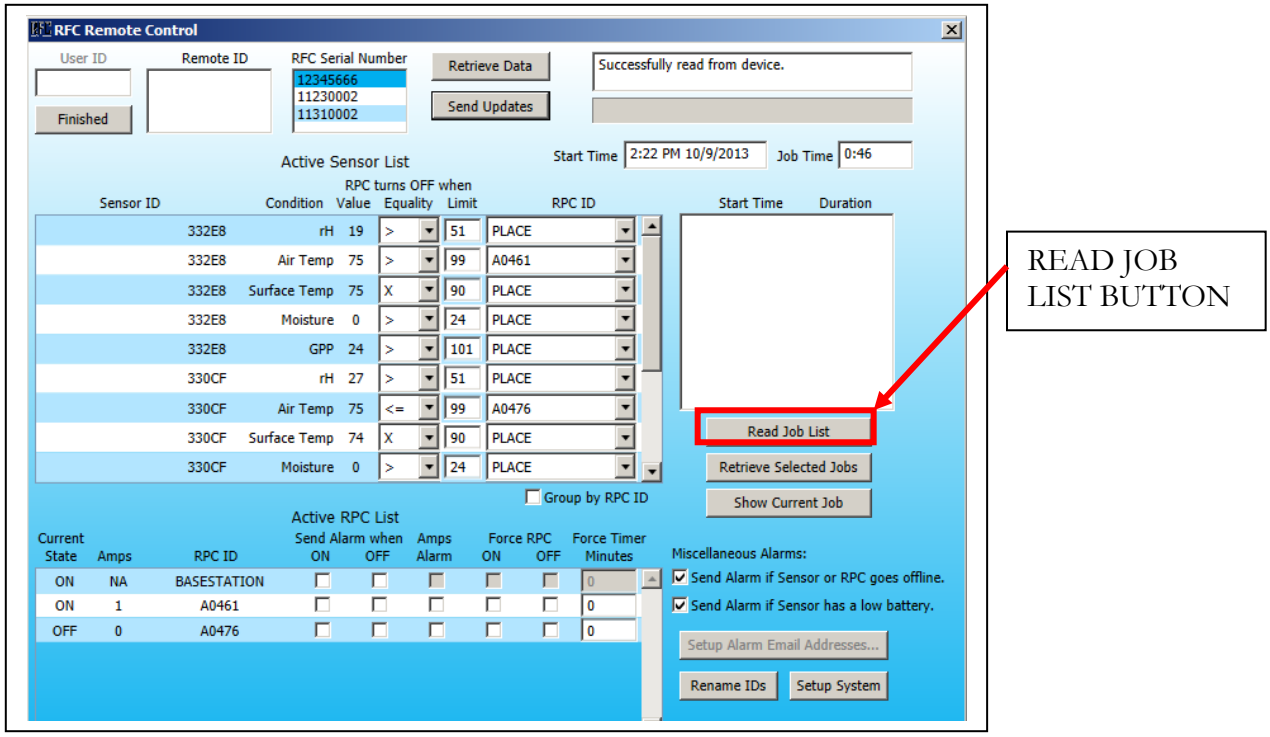
- Click on and un-check the **Enabled** button and then click on the **Finished** button to de-activate an e-mail address.
- Click on and un-check the **Text Cell** button and then click on the **Finished** button to de-activate a cell phone number.

Numbers and e-mail addresses remain in the memory and can be re-activated by clicking on and again checking the **Enabled** box or **Text Cell** box.

To delete an e-mail address or cell phone number:
Click on and check the **Delete** box and then click on the **Finished** button to remove an e-mail address or cell phone numbers.

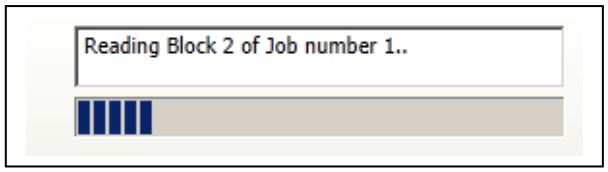
Downloading Job Files:

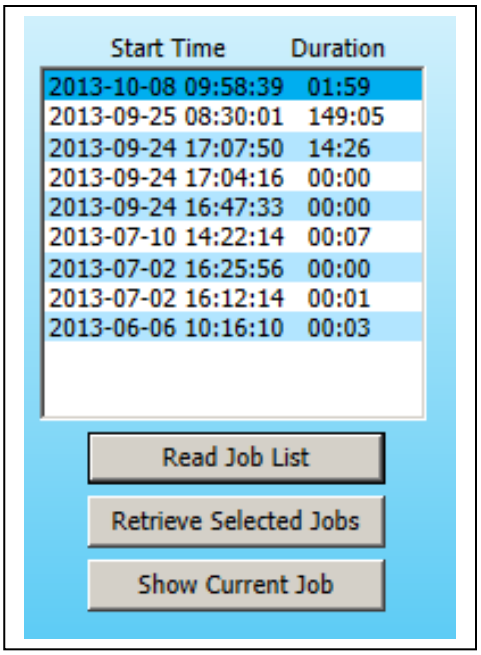
The Job Data Files can be downloaded using the box at the right of the main screen.



READ JOB LIST BUTTON

Click on the **Read Job List** button to see the job files in the RFC Base Station. Then highlight any job you wish to download and save on your computer. Click on the Download Selected Job button to start the download. Click only once and be patient. Large job files may take a while to download. The progress bar at the top of the screen will indicate the state of the download process.

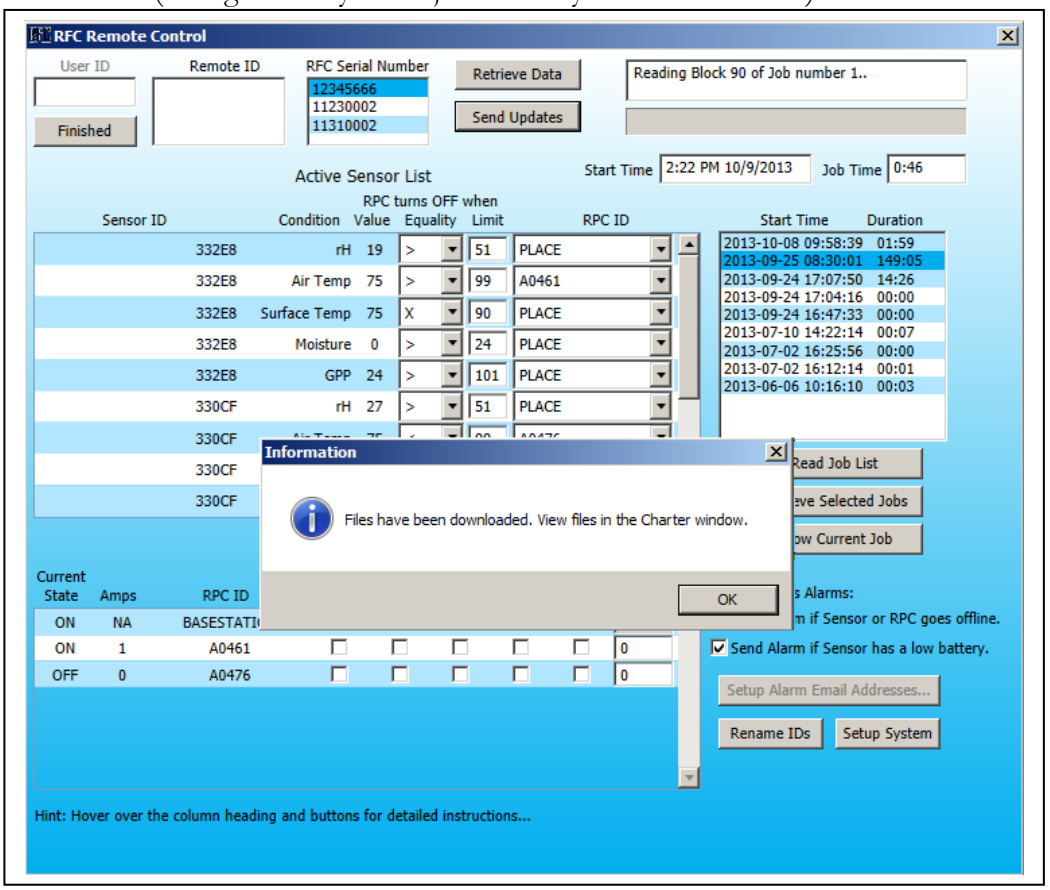


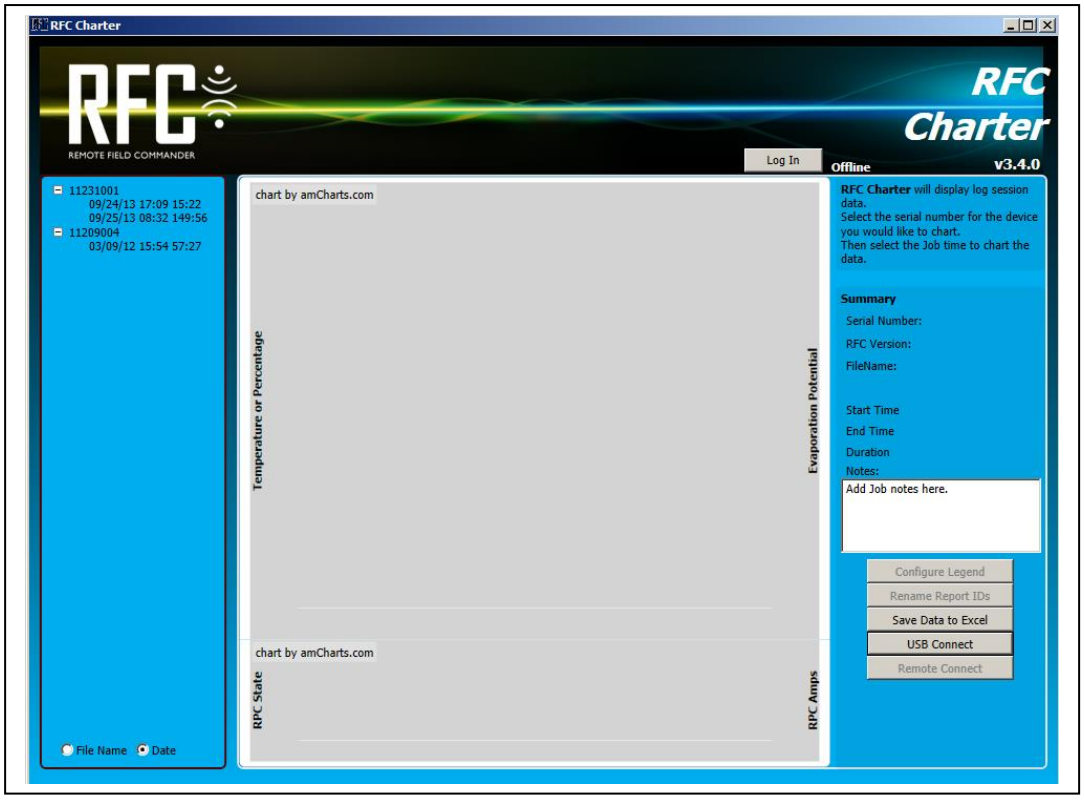


While job files can be downloaded remotely, the best way to download jobs is by connecting directly with the RFC Base Station using the direct connect USB cable.
(See the instructions in the Direct Connect section of this manual.)

Job files may also be downloaded using a USB flash drive. Simply insert a flash drive into a USB port on the control panel, then turn the RFC Base Station power switch ON. All of the job files in the RFC Base Station will be downloaded in just a few minutes onto the USB flash drive. Insert the USB flash drive in the USB port on your computer before starting up the RFC Charter, when the RFC Charter is started, it will scan all drives for new files, copy them to the RFC Data folder on the local hard drive and display them in the RFC Charter.

When the download is completed a pop-up message will inform you that you can view the file in the RFC Charter window. You can close the pop-up and the close remote connect screen to return to the RFC Charter window to view the file (Along with any other job files in your RFC data file.).

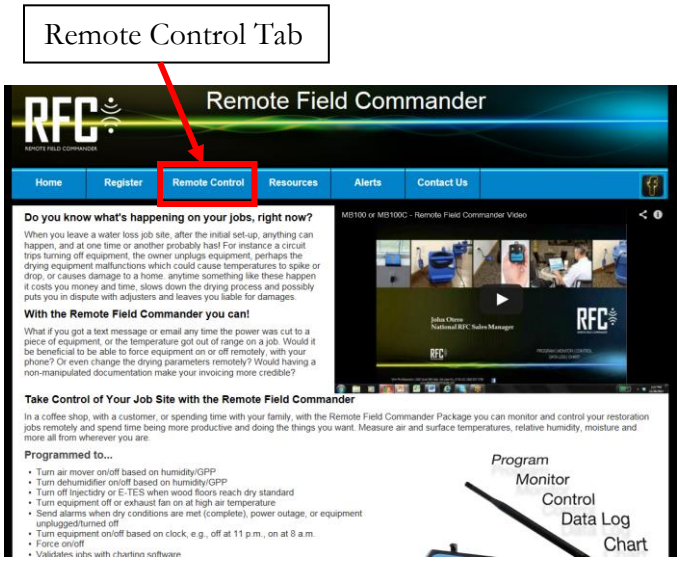


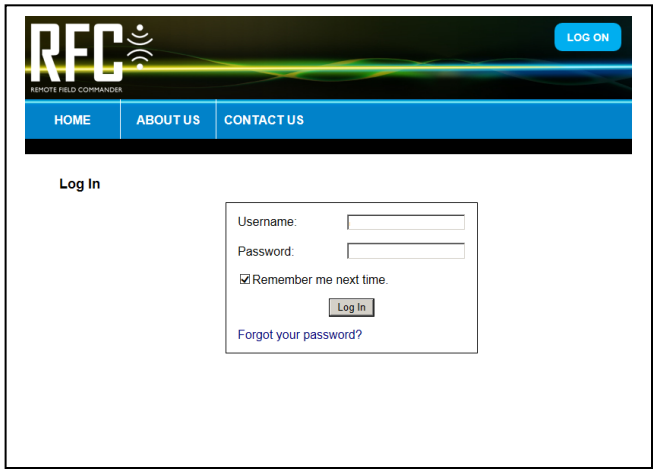


You can click on the selected job file to open the RFC Charter viewer or exit and view the file later.

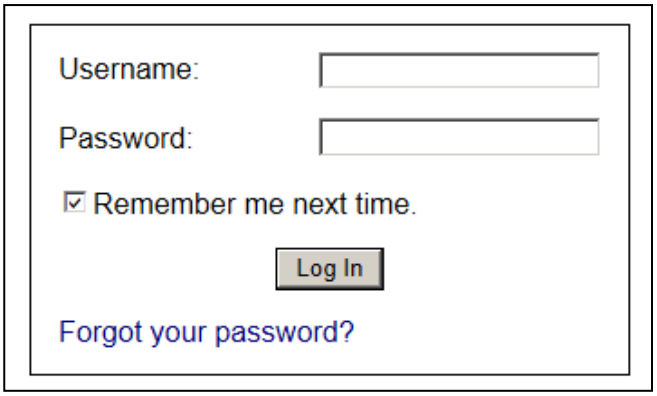
Remote Connect via RFC Website:

With your internet connected computer, access the website **remotefieldcommander.com** to open the RFC Main Screen. Click on the **Remote Control Tab** on the top of the screen to open the RFC Log In screen.



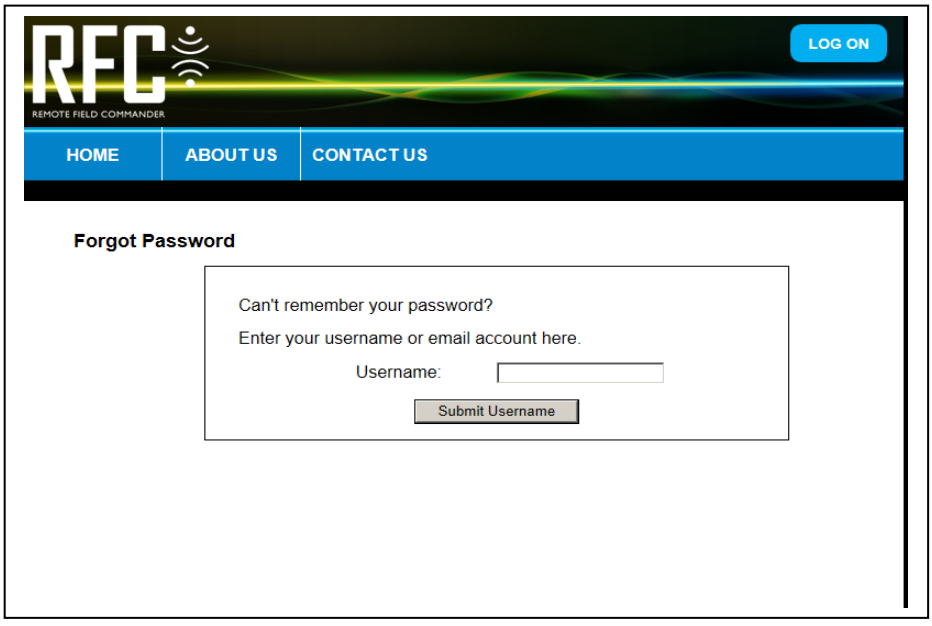


A paid RFC access subscription is required to Log In. Enter your Username and Password and then click the **Log In** button.
Username is not case sensitive
Password is case sensitive

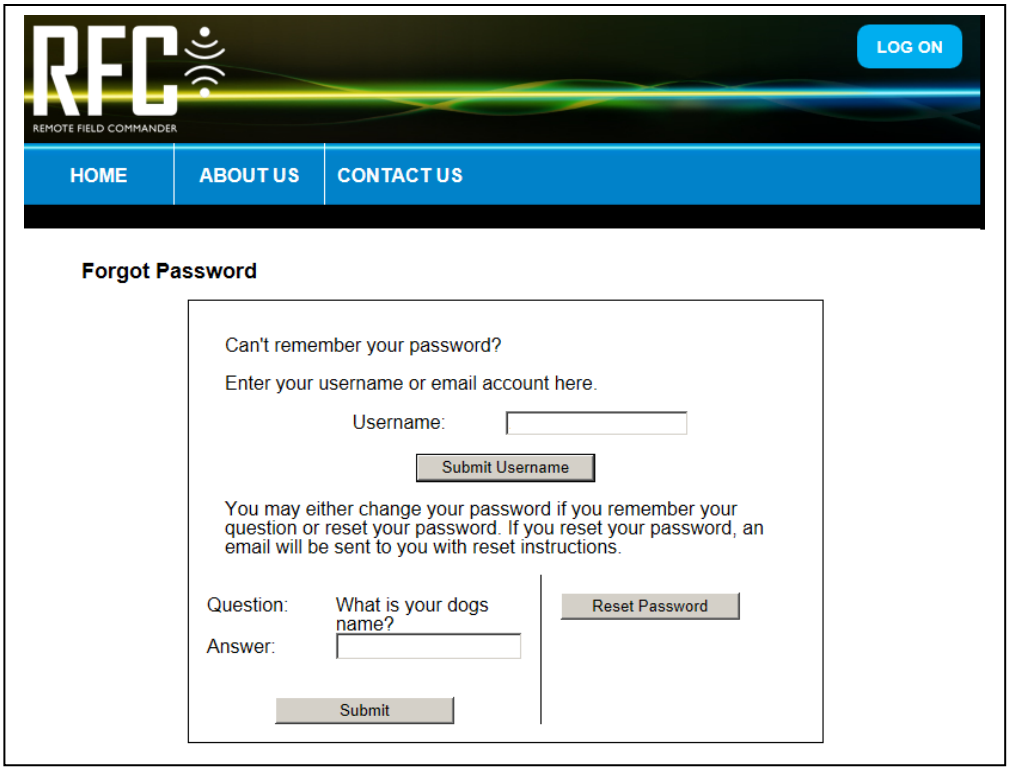


If you have forgotten your password:
Click on the "**Forgot your Password?"** link.
This will open the Forgot Password screen.

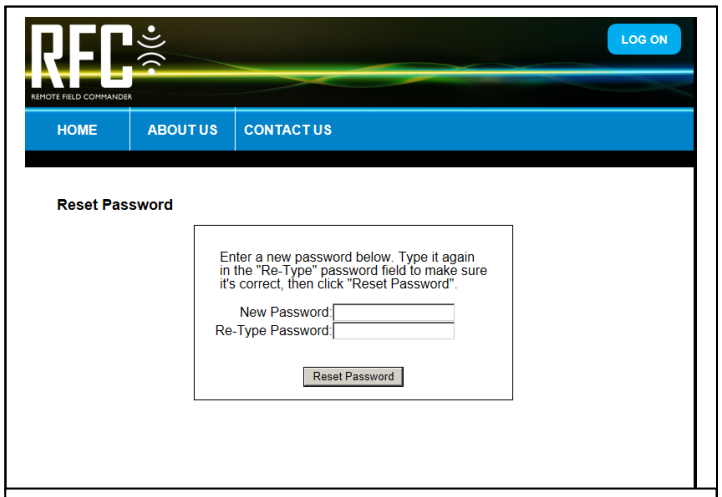
Enter your Username and click the Submit Username button. This will open the Security Question screen.

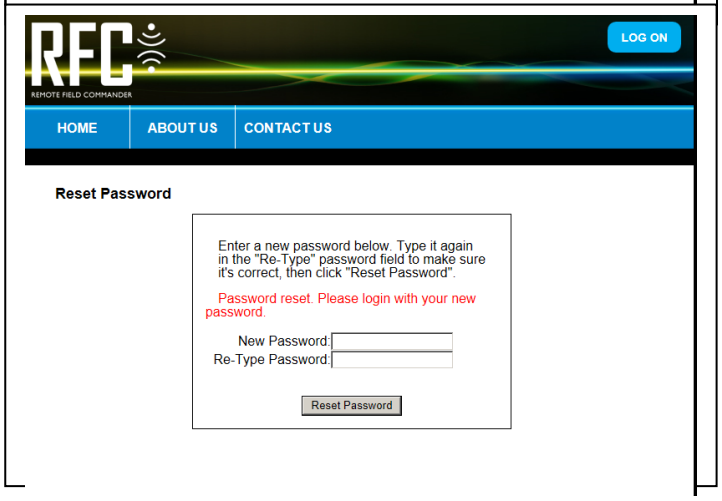


If you have a security question on file, it will be shown on the left side of the screen. Enter your Answer and click the **Submit** button.
If you do not have a security question on file, click on the Reset Password button and an email message will be sent to you with instructions on resetting your password.

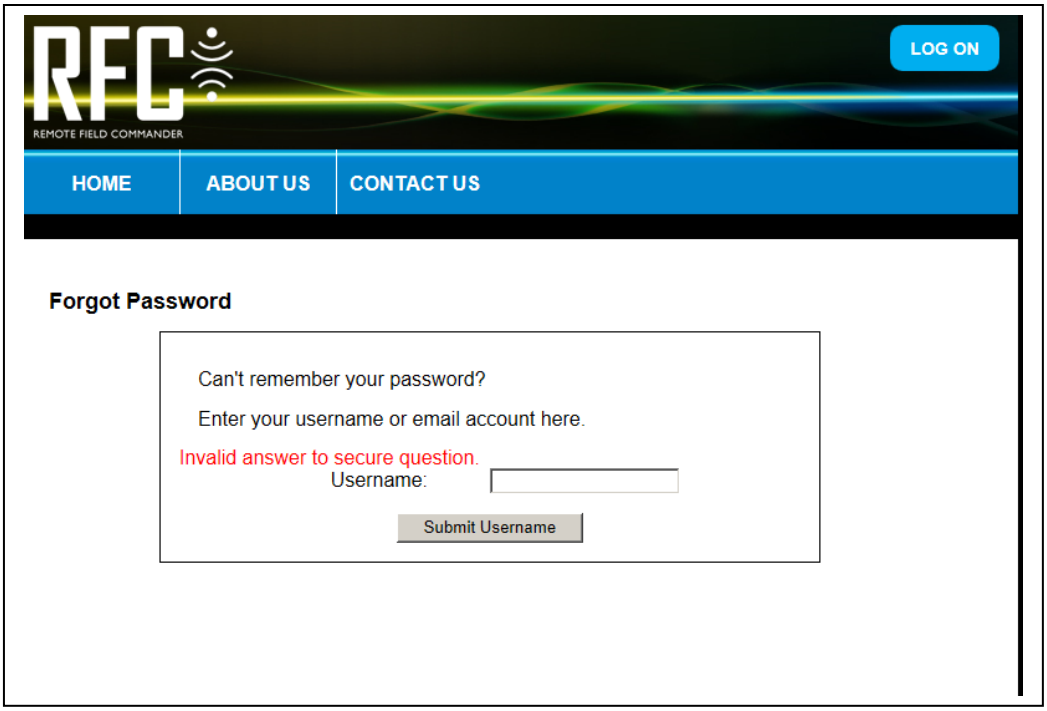


If you entered the correct answer you will now be able to reset your password.
Enter your New Password and re-type it in the appropriate boxes. Then click on the **Reset Password** button.
You will be notified that your password has been reset and that you should Log In with your new Password.
Click the LOG ON button in the upper right corner of the screen.

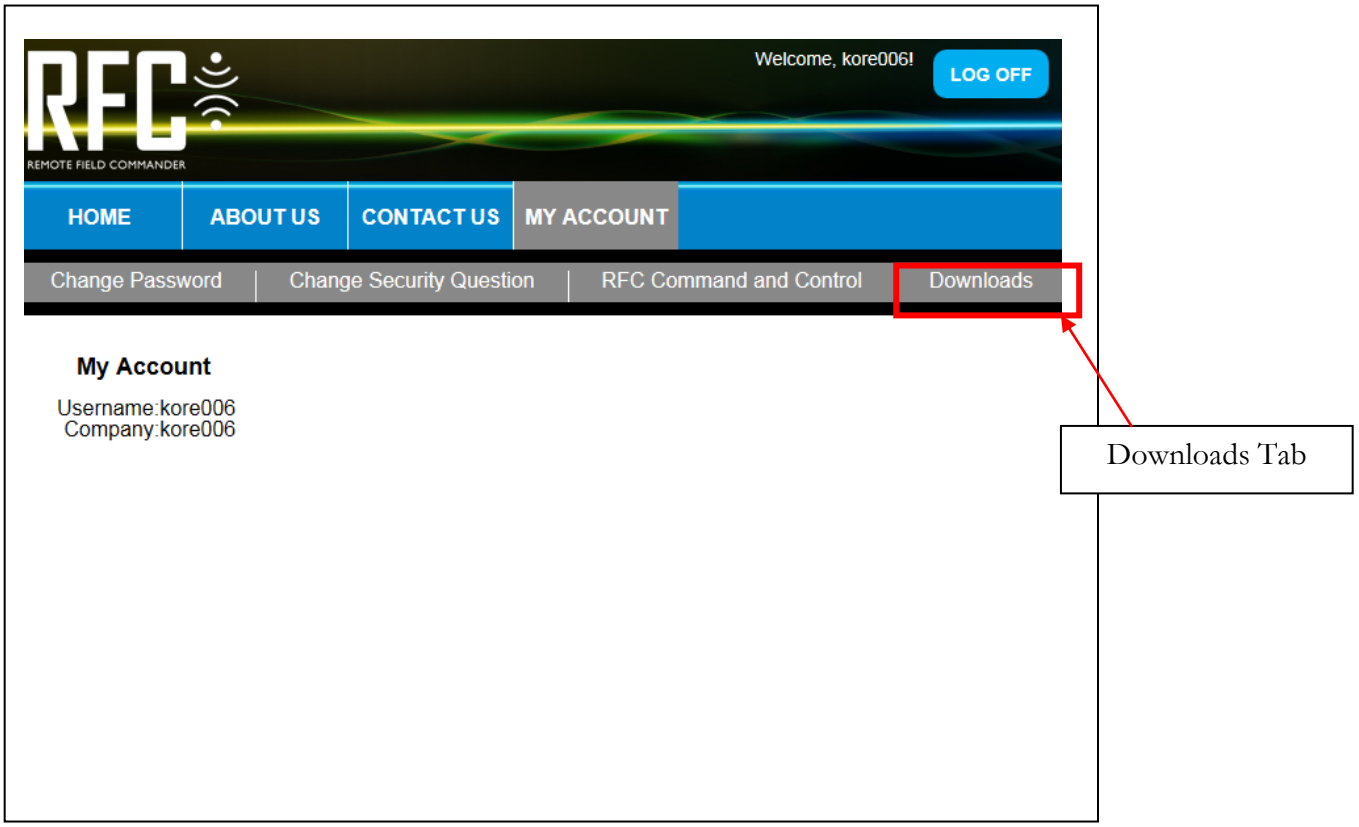




If you enter the wrong answer to the security question on file, re-enter your Username to return to the Security Question screen and try again or click the Reset Password.
Contact Omni Pro customer service for assistance if needed.

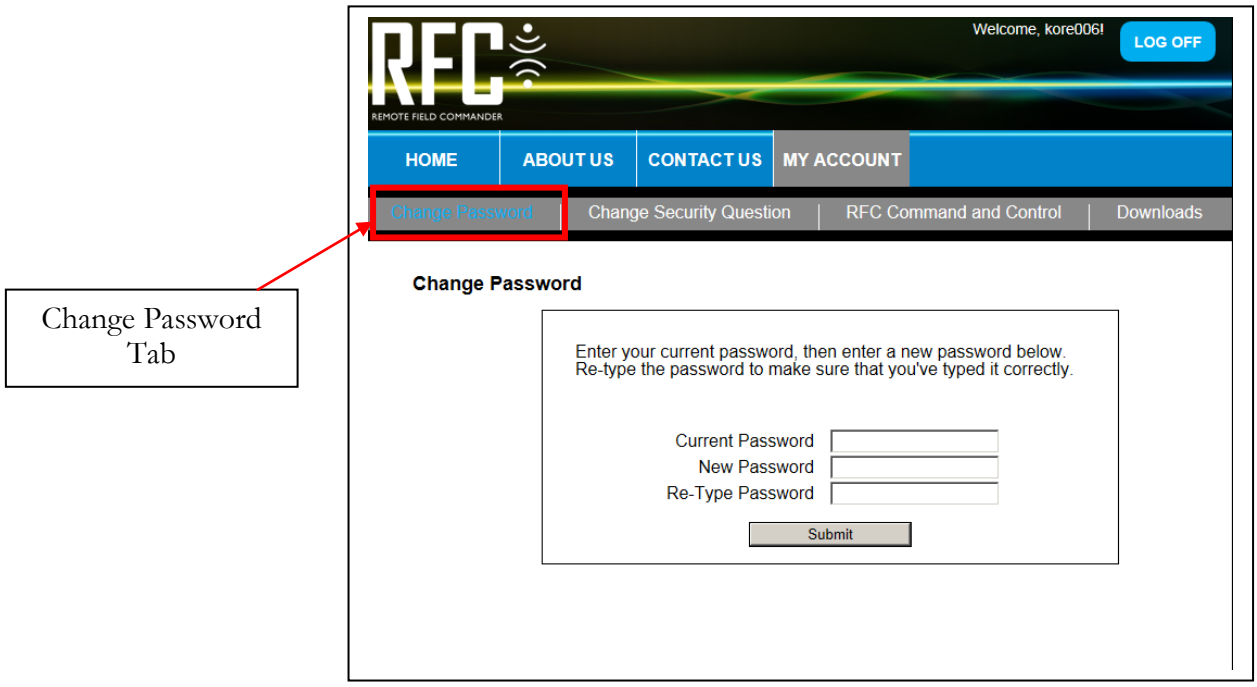


Once you have entered the proper Username & Password and click the **Log In** button, you will open your account screen.



If necessary you can now click on the **Downloads** tab to download the latest copy of the RFC Charter software and to check for any new firmware updates for your RFC Base Station.
Downloads are also available on remotefieldcommander.com website. (See Page 69)

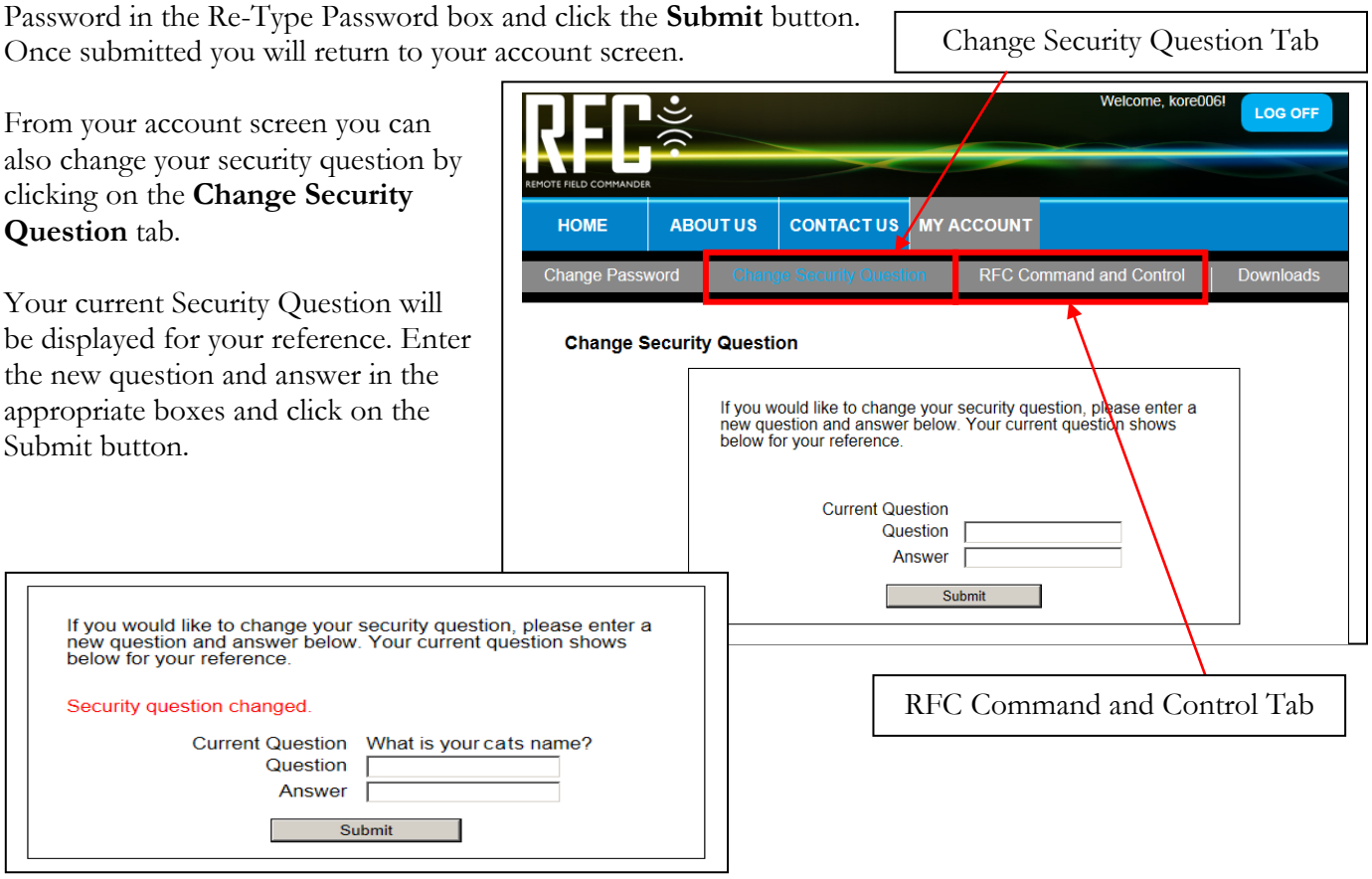
From your account screen you can also change your password by clicking on the **Change Password** tab.



Enter your Current Password and your New Password in the appropriate boxes. Then re-enter the New Password in the Re-Type Password box and click the **Submit** button. Once submitted you will return to your account screen.

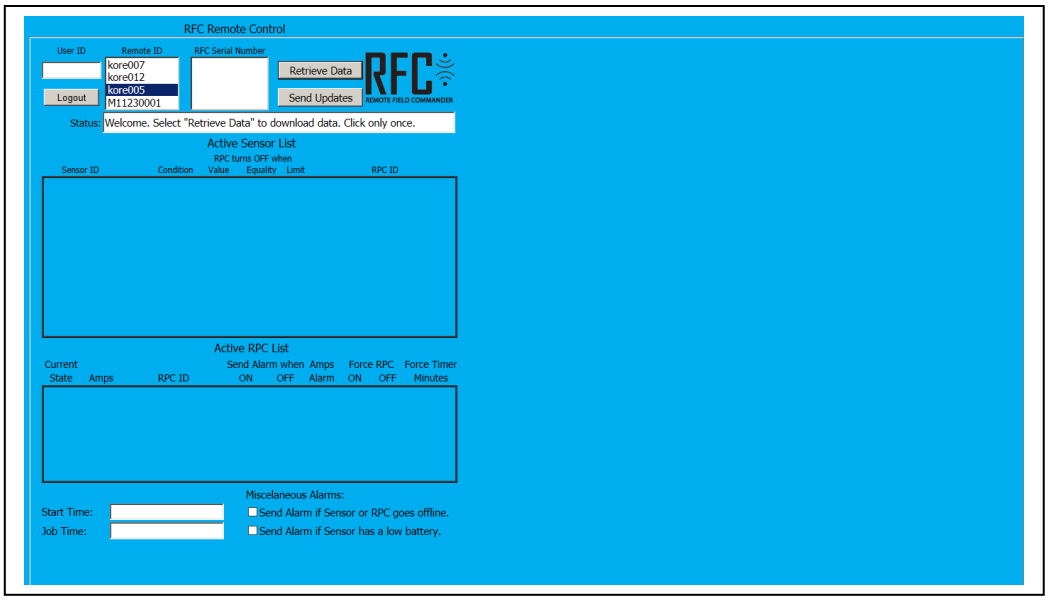
From your account screen you can also change your security question by clicking on the **Change Security Question** tab.

Your current Security Question will be displayed for your reference. Enter the new question and answer in the appropriate boxes and click on the Submit button.



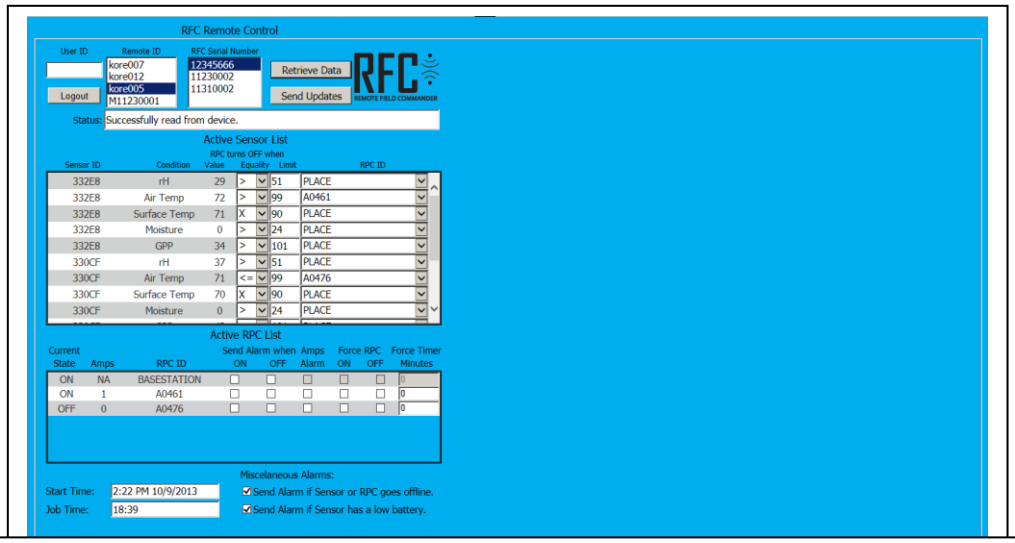
You will be notified that your question has been changed and your new question will be displayed. You can now return to the account screen or click on the **RFC Command and Control** tab to remotely connect with your RFC Base Station.

To connect to your remote RFC Base Station, click on the **RFC Command and Control** tab. This will open the RFC Remote Control Screen.

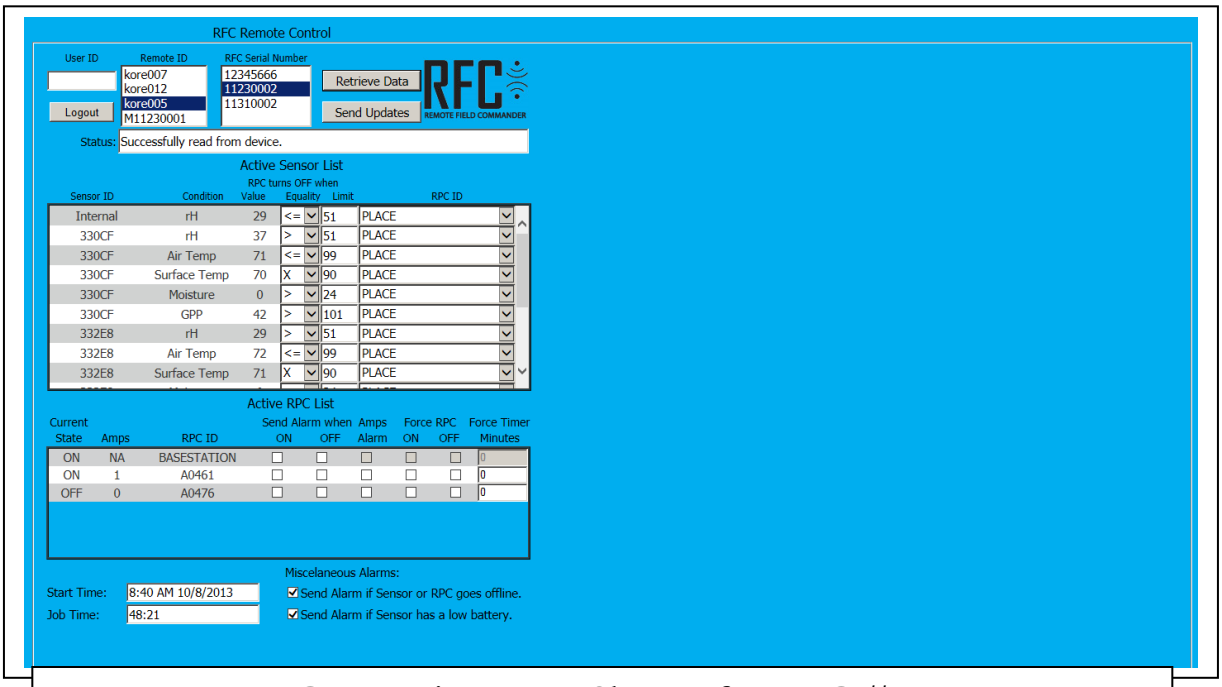


When you first log in, no data will be displayed. If you only have one modem on your account, only the one modem number will be displayed. If you have multiple modems, they will all be displayed. Highlight the modem number you wish to connect with then Click the **Retrieve Data** button at the top of the page to access the RFC Base Station and get the current data readings. Click only once and be patient it may take a while to connect and read the data. The screen will now display the current job data of the RFC Base Station and also the serial number of any other RFC units which may be in contact.

If there are multiple RFC Base Station units on the jobsite, they will communicate with each other and show up on the Serial Number list. You can click on any of the listed **Serial Number** and then the **Retrieve Data** button to read the data from that unit. When the data from the any RFC unit is displayed you can see the serial number of the selected RFC unit will be highlighted. The data will display the current status and settings of the RFC unit as well as all Remote Sensors & Remote Power Controllers (RPC) which are in radio contact with the RFC unit.
As you can see in the examples below, we have connected to RFC Base Station #12345666 and we also are receiving a signal from RFC #1123002 & #11310002. We can connect with the other RFC units by highlighting and clicking on the other serial number and clicking **Retrieve Data** the button.



Remote Connection Data Shown for RFC Base Station #12345666



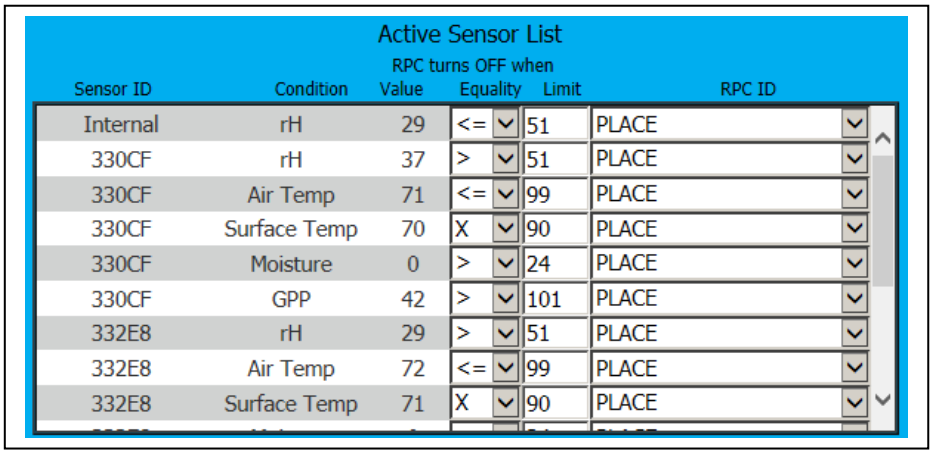
Remote Connection Data Shown for RFC #11230002

In this example, since the Remote Sensors are within range of both RFC units, the external sensor data displayed both RFC units are the same. Only the internal sensors and job file information differ on the data displayed by each RFC.

When using multiple RFC Base Station units always check sensors settings in the Active Sensor List and Active RPC list on all units to prevent conflicting control settings. Conflicting settings from settings on two different RFC units could adversely affect device operation.

SENSOR READINGS & SETTINGS:

The **Active Sensor List** displays the current sensor readings and settings and you can change the settings remotely as the job conditions change. The factory default is for all sensors and conditions to be displayed in the Active Sensor List. The sensors & conditions displayed cannot be changed while connected remotely via the RFC Website. The sensors displayed in the Active Sensor List can only be changed using the RFC Charter software.

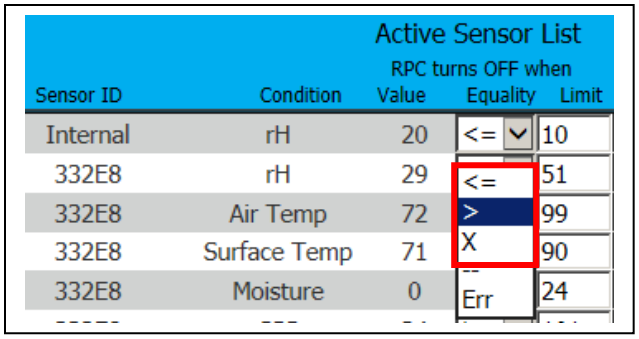


SENSOR ID: Shows the RFC units Internal Sensors and the ID of any active Sensors. The internal RFC Base Station sensors are always listed first. You can scroll down to see the data of all of the active sensors. The sensor ID numbers cannot be changed. Sensor nicknames or aliases cannot be added or changed while connected remotely via the RFC Website. Sensor nicknames or aliases can only be added or changed using the RFC Charter software.

CONDITION: Shows the environmental condition measured by each of the sensors.

VALUE: Shows the current sensor reading for each of the sensors.

EQUALITY: Shows the selected symbol of equality representing the relation between the sensor reading and the limit which will turn the selected device (Heater or Remote Power Pod) OFF.
There are three symbols used for the sensor reading limit equations:



<= Less than or Equal to – When the sensor reading is less than or equal to the limit, the selected device will be turned OFF. If the sensor reading is greater than the limit, the device will turn ON.

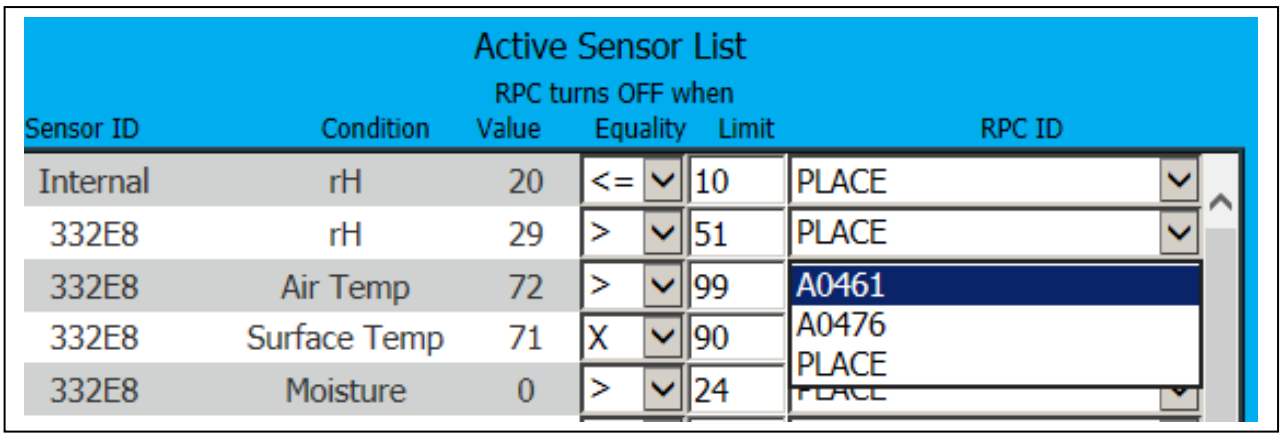
> Greater Than – When the sensor reading is greater than the limit, the selected device will be turned OFF. If the sensor reading is less than or equal to the limit, the device will turn ON.

X Off – This setting turns off the selected action. No action will be initiated by any change in the sensor reading. No devices will be controlled.

To change the equality symbol, click on the **arrow** to display the drop down list and click on the desired symbol to select it. Select X if you do not want the sensor to control any device. Click the **Send Updates** button to activate and save the change. Remember if the equation you select for the relationship between the sensor reading and the limit setting is true, the Remote Power Controller will turn OFF.

LIMIT: Shows the selected limit setting for each sensor. This is the point at which the selected condition initiates the desired RPC action.
To change the limit, use your cursor to highlight and delete the old number and simply type in your new limit number. Click the **Finished** button to activate and save the change.

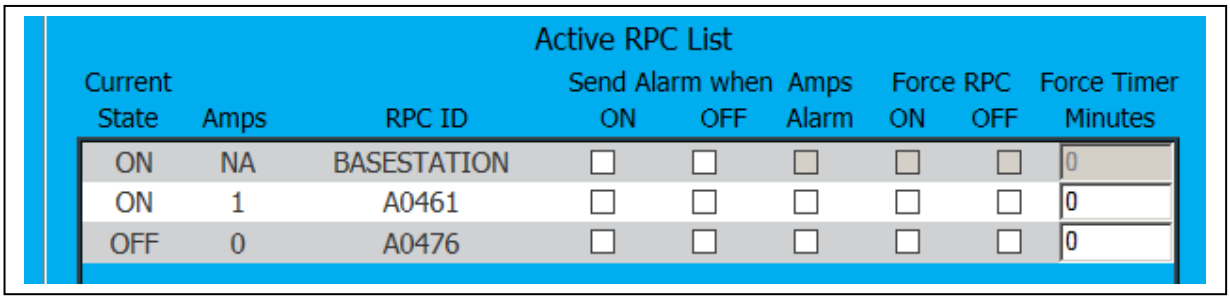
RPC ID: Shows the ID number of the Remote Power Controller being controlled by each sensor. In place of a RPC ID number or alias this column may list PLACE.
PLACE indicates that no RPC or heater will be controlled by that sensor reading.



To change the RPC to be controlled, click on the **arrow** to display the drop down list and click on the desired ID to select it. Select PLACE if you do not want the sensor to control any device. Click the **Finished** button to activate and save the change.
The RPC ID numbers cannot be changed. RPC aliases or nicknames can only be added or changed using the RFC Charter software connection.

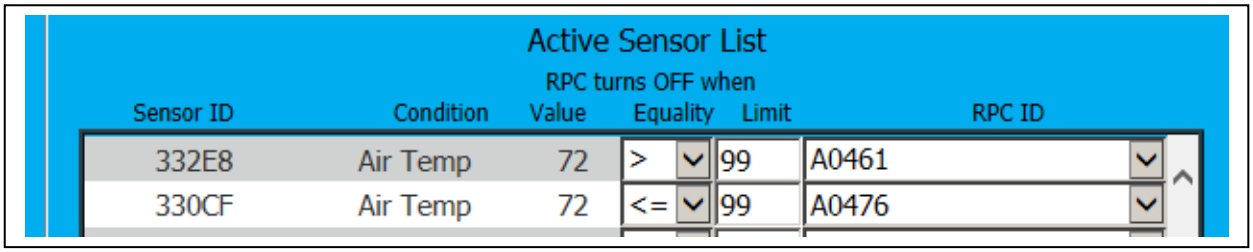
RPC STATE & ALARMS:

The **Active RPC List** box at the bottom of the screen displays the **Current State** of the RFC Base Station and all Remote Power Controllers in radio contact with the RFC Base Station. The **Amps** reading can let you know if the device connected to a Remote Power Controller is operating when the RPC is ON.



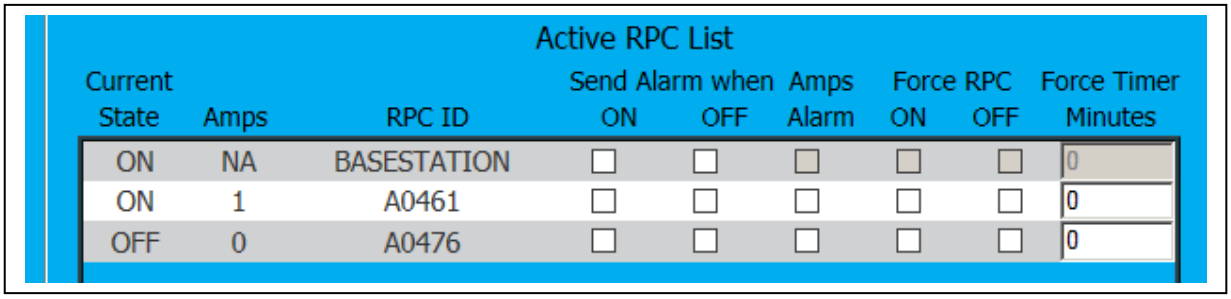
In this example Active RPC List above, you can see that the current state of the RFC Base Station, which is ON. Also shown above, the RPC A0461 is ON and drawing 1 amp and the RPC number A0476 is now OFF. You can see that the equations in the Active Sensor List shown below have turned the RPC's on and off as they should.

- The Air Temp equation for the sensor 332E8 is false so the status of RPC number A0461 is ON. (72 is not greater than 99)
- The Air Temp equation for the sensor 330CF is true so the status of RPC number A0476 is OFF. (72 is less than or equal to 99)



The devices listed in the Active RPC List can be remotely turned ON or OFF by checking the Force ON or Force OFF boxes and then clicking the **Send Updates** button at the top of the page.

The RFC Base Station cannot be forced ON or OFF



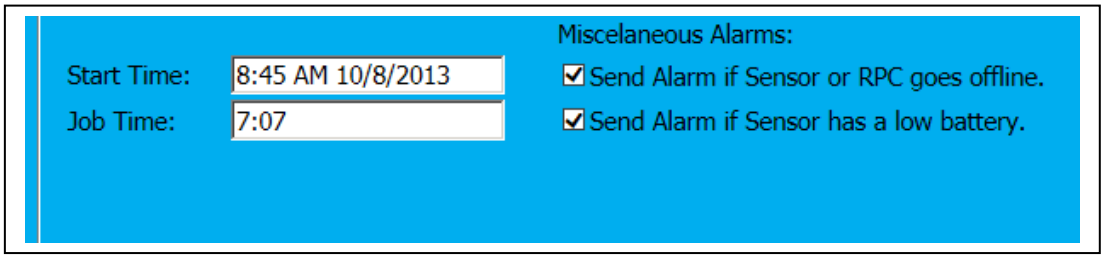
The Force ON or OFF setting will override the sensor limit equations to allow you to operate equipment as needed to change the environment conditions. Once forced ON or OFF the device will remain ON or OFF until you uncheck the box and click the **Send Updates** button, unless you use the Force Timer to limit the run time.

When you click the **Force RPC ON** or **Force RPC OFF** boxes, also click on the **Force Timer Minutes** box and enter the number of minutes you want the device to remain ON or OFF. When you click the **Send Updates** button the selected device will remain it its forced state (ON or OFF as selected) for the selected time. When you click on the **Retrieve Data** button the screen will update showing the device status and the time remaining in the forced state displayed in the **Force Timer Minutes** box for each device.

You can also check the **Send Alarm When** boxes to alert you when the device status changes. When a selected device turns ON or OFF as selected an alarm will be sent to you via text message or e-mail. You cannot add alarm addresses from the RFC Website. You must use the RFC Charter software, Log-In and connect remotely to add alarm addresses.

The **Amps Alarm** box when checked will alert you if there is no current flow when a Remote Power Controller is ON. This will let you know if the device connected to the Remote Power Controller has been turned off or is not functioning. The alarm will be sent to your mobile phone as a text message or via e-mail.

The **Miscellaneous Alarms** boxes can be checked to send alarms via text message or e-mail any time a Remote Sensor or Remote Power Controller goes offline or if a Remote Sensor has a low battery.

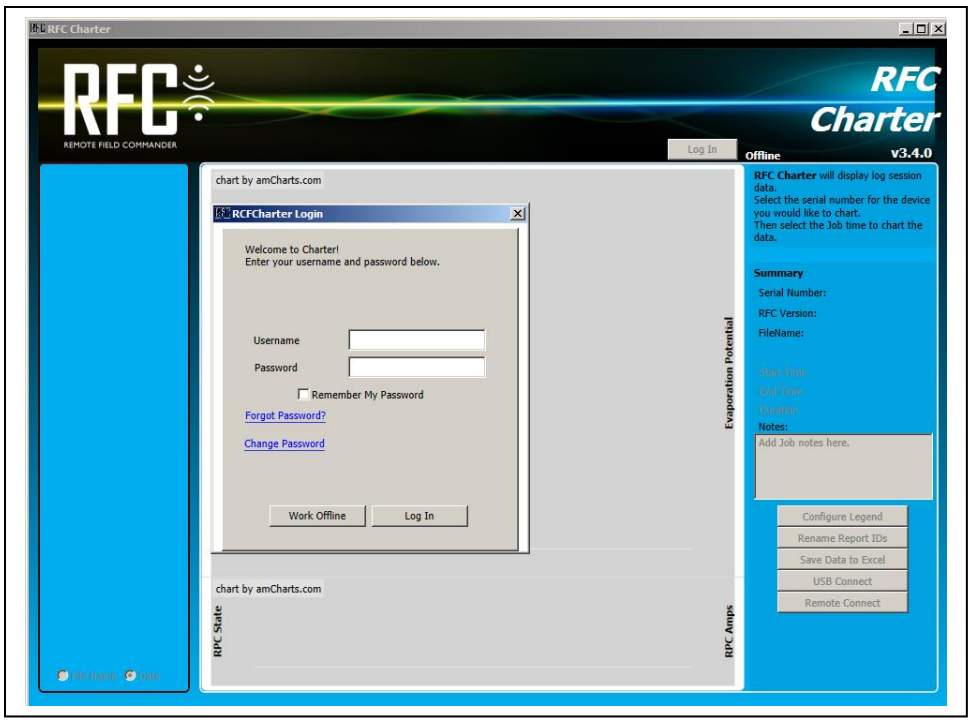


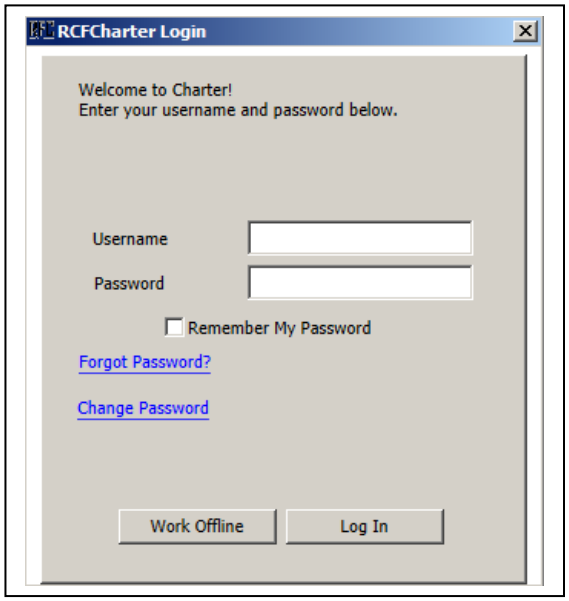
You cannot add alarm addresses from the RFC Website. You must use the RFC Charter software, Log-In and connect remotely to add alarm addresses.

The clock at the bottom of the screen displays the start time and the total elapsed time of the current job. To start a new job or reset the clock you must use the control panel on the RFC Base Station or connect using the RFC Charter software.

RFC CHARTER:

To access the RFC Charter, simply click on the **RFC Charter icon**. This will open the LOG IN screen.
Enter your Username and Password in the appropriate box and click the Log In button.
If you have forgotten your password, click the **"Forgot Password?"** link.
Internet connection required to Log In or to receive assistance with a forgotten password.
(For more complete Forgot Password instructions can be found in the RFC Charter Remote Connect section of this manual.)



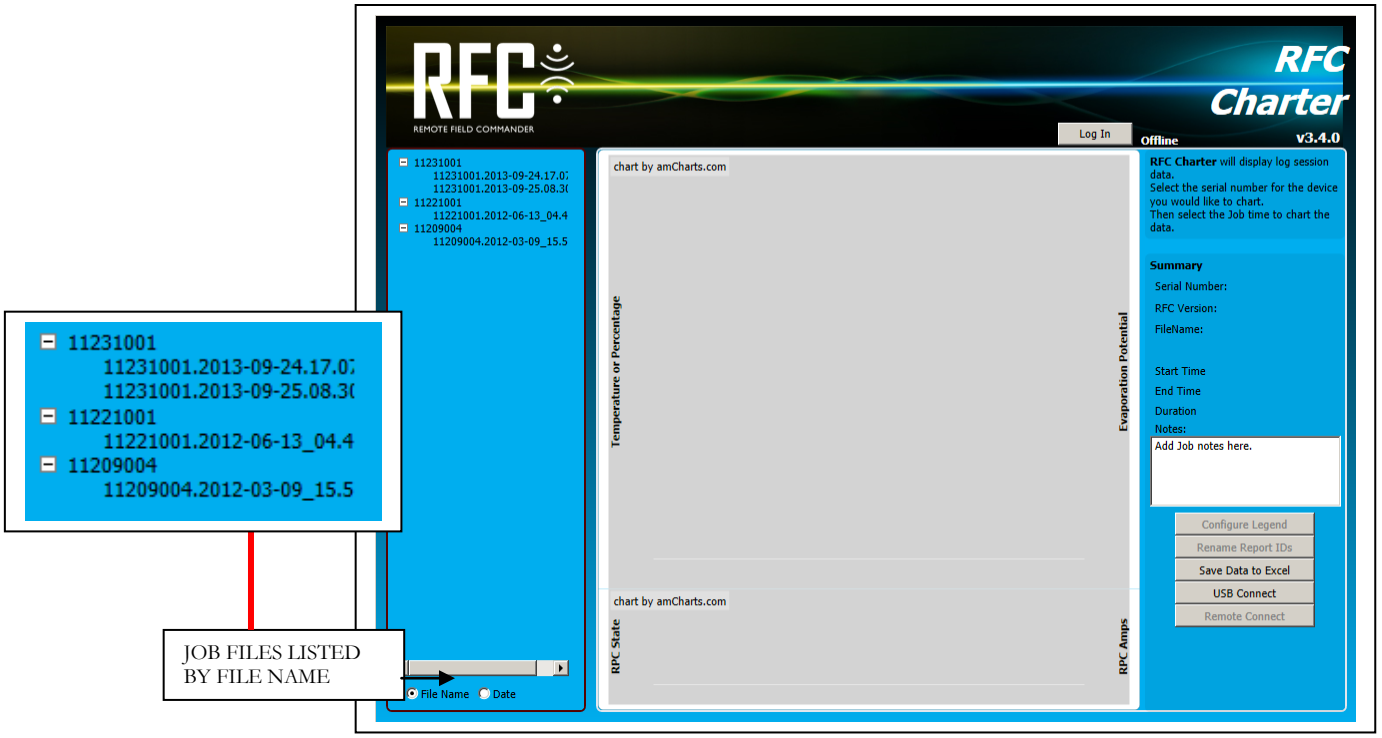


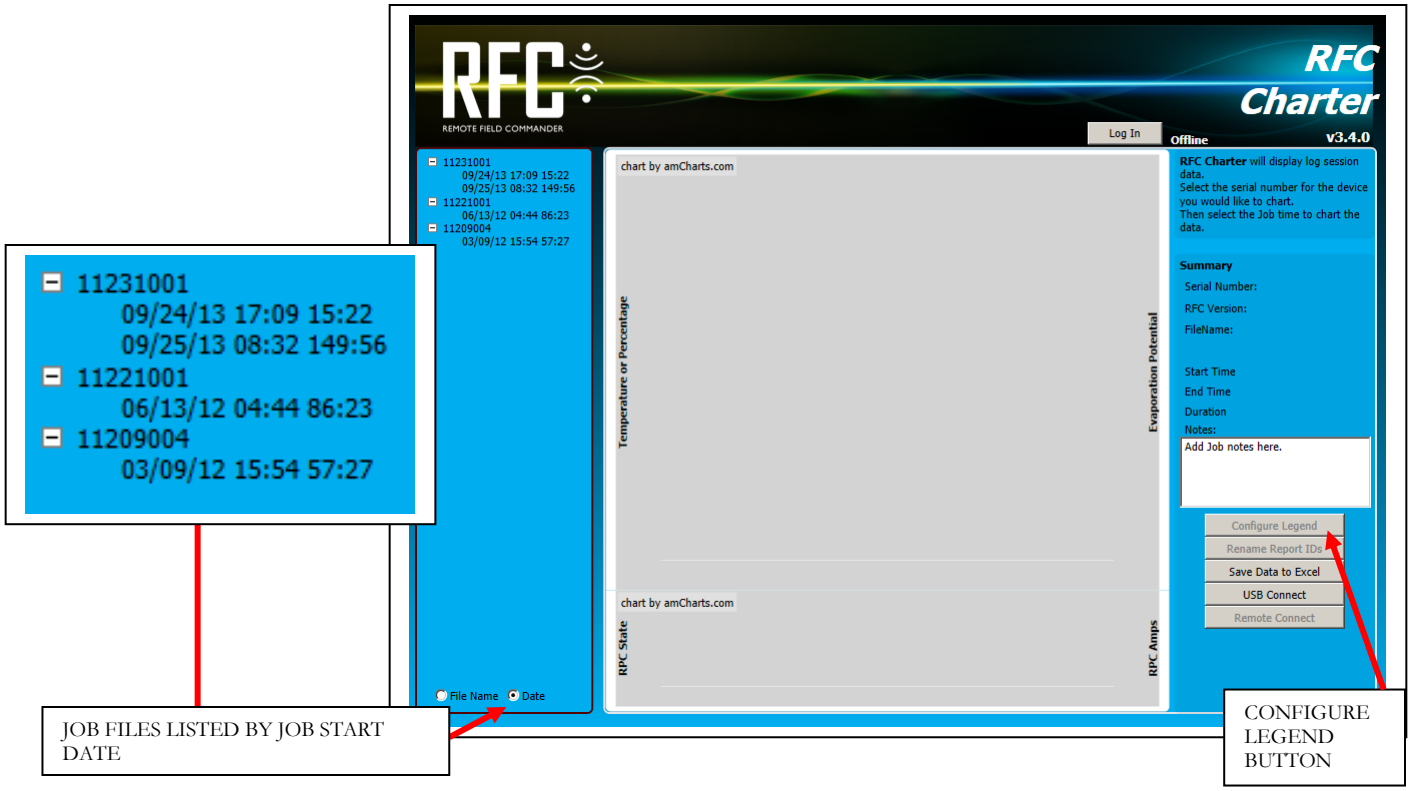
When you Log-In, the Charter View screen is opened the different job files are listed on the left side of the screen. This list includes all job files in the RFC Data folder on your computer and all job files stored on the RFC Server
.
With every log-in the all files on the RFC Server and on your workstation are synchronized. A copy of every file on the server is sent to your computer and all files in the RFC Data folder on your computer are copied to the server. This provides a back-up of all files as well as an auditing trail for disputed claims. File data cannot be altered in any way and there will be back-ups of all unmodified files if needed in any litigation proceedings.

To view job files already saved on your computer, you do not need a Username or password. Just click on the **Work Offline** button to work with job files already saved on your computer. (Internet connection not required.)
If you are working offline, only the job files in the RFC Data folders will be displayed.

If you need to access jobs on an RFC units which are not already downloaded see the Download Job Files Section of the Direct Connect or RFC Charter Remote Connect directions in this manual.

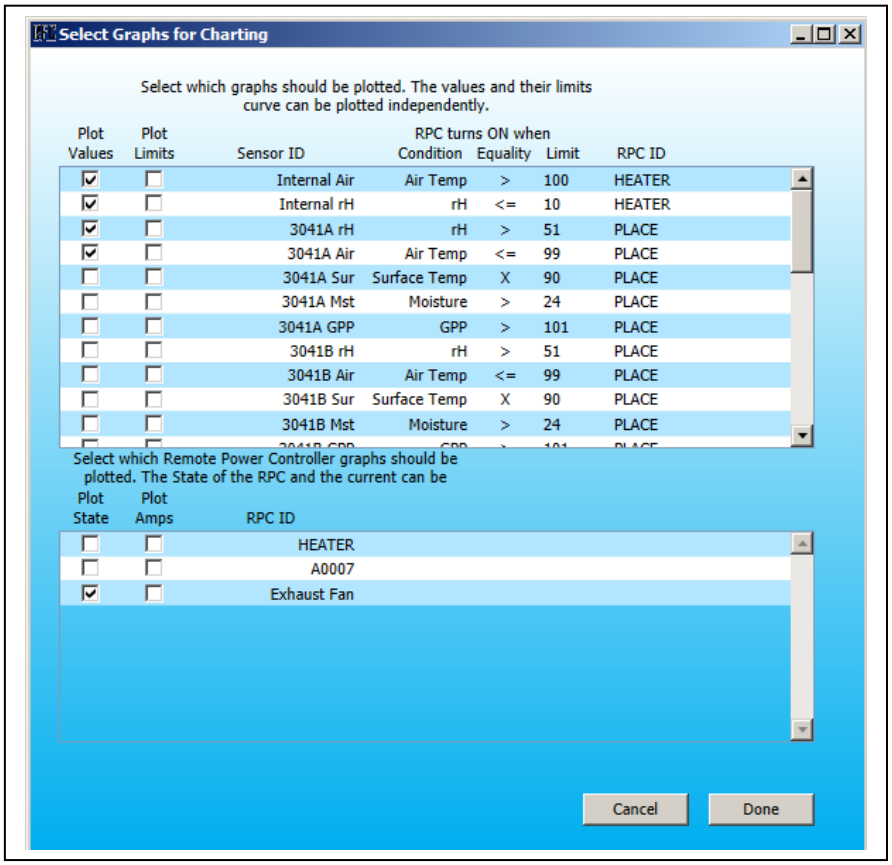
The job files are grouped by RFC unit serial number and listed either by job File Name when the **File Name** box is checked, as shown below, or you can change the listing to Job Start Date by clicking the **Date** box below the job file list.





When you click on a new job file, the first screen to open will be the Configure Legend screen.
If a file has been open before the Configure Legend screen will not open. The Job Preview screen will be the first to open. Once the chart is displayed you can return to the Configure Legend screen by clicking on the **Configure Legend** button.

The RFC will log data for all five conditions on every sensor used. A graph with too much data displayed can be messy and hard to read. In the Configure Legend screen you can select the data you want to display in your job graph.



Click on the boxes to check the **Plot Values** boxes for any sensor data item you want to display.

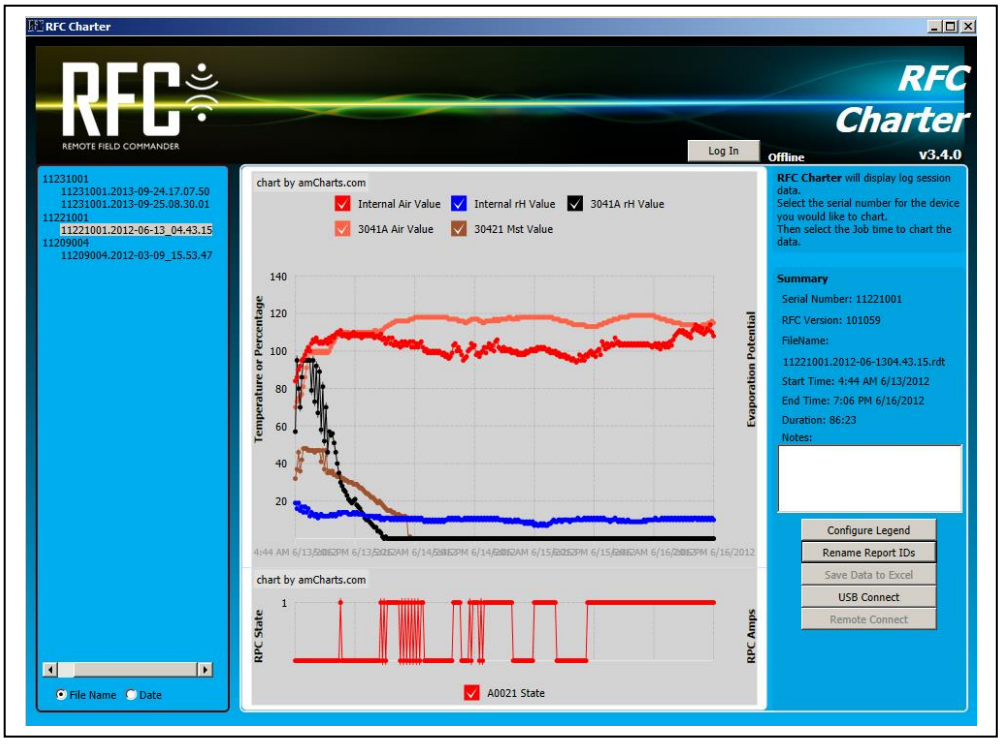
Click on the boxes to check the **Plot Limits** boxes for any sensor limits you set, which you want to display.

The data or limits corresponding to the unchecked boxes will no longer be displayed in the graph. The data is still saved for viewing if you want to change the graph.

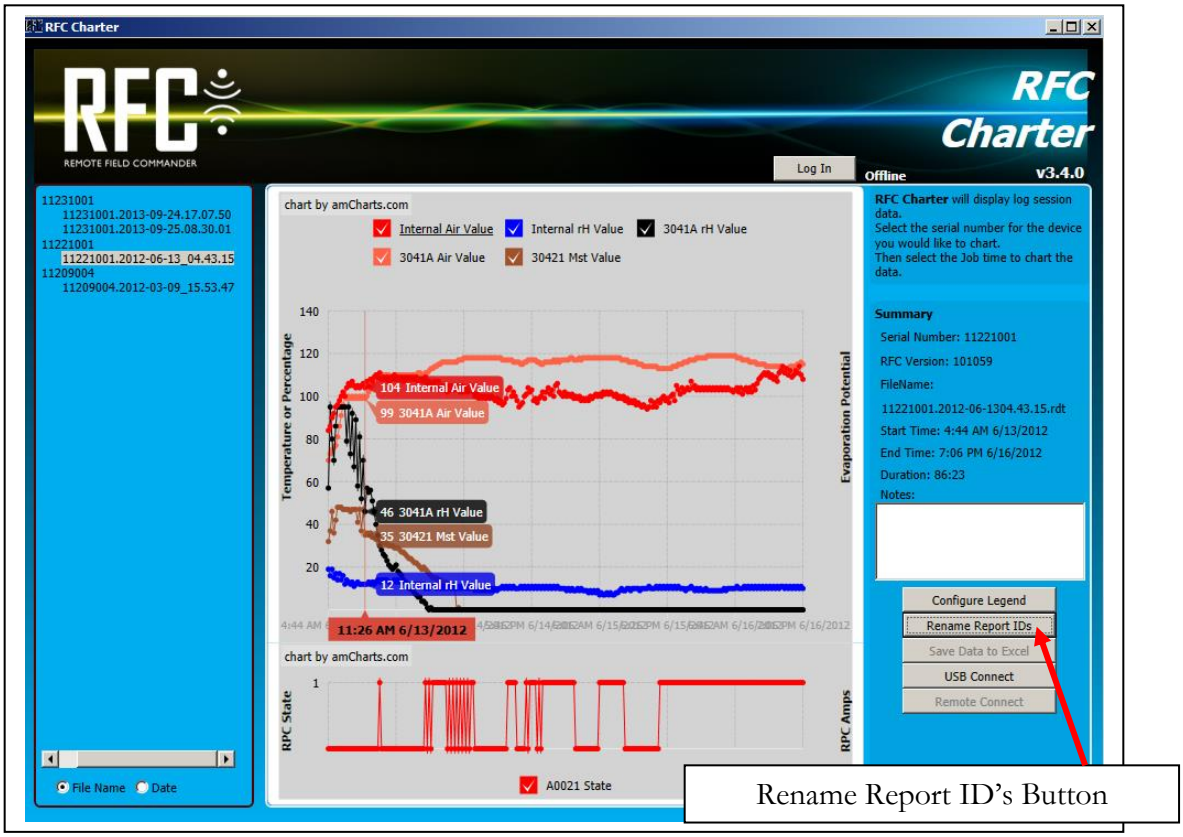
Click on to check the **Plot State** to show if the selected RPC or heater turned on & off during the job.
Click on to check the **Plot Amps** box to show the amp draw of the selected RPC during the job.

You can remove any item by re-clicking on any box to uncheck the box.

After checking the selected data items, click the **Done** button to proceed to the Charter View screen.
In the Charter View screen you can now see the graph of your selected data items. The legend for the sensor graph is shown above the sensor graph and the legend for the RPC graph below.



When you mover your cursor across the graph the different data points for each graph line will be displayed as shown below.



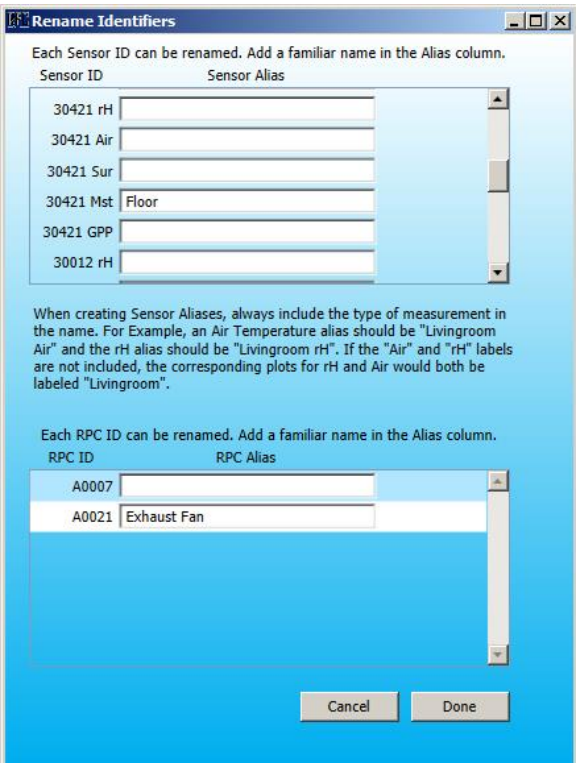
If you want to change the alias of any sensor or RPC, you can click the **Rename Report ID's** button to open the **Rename ID** screen.

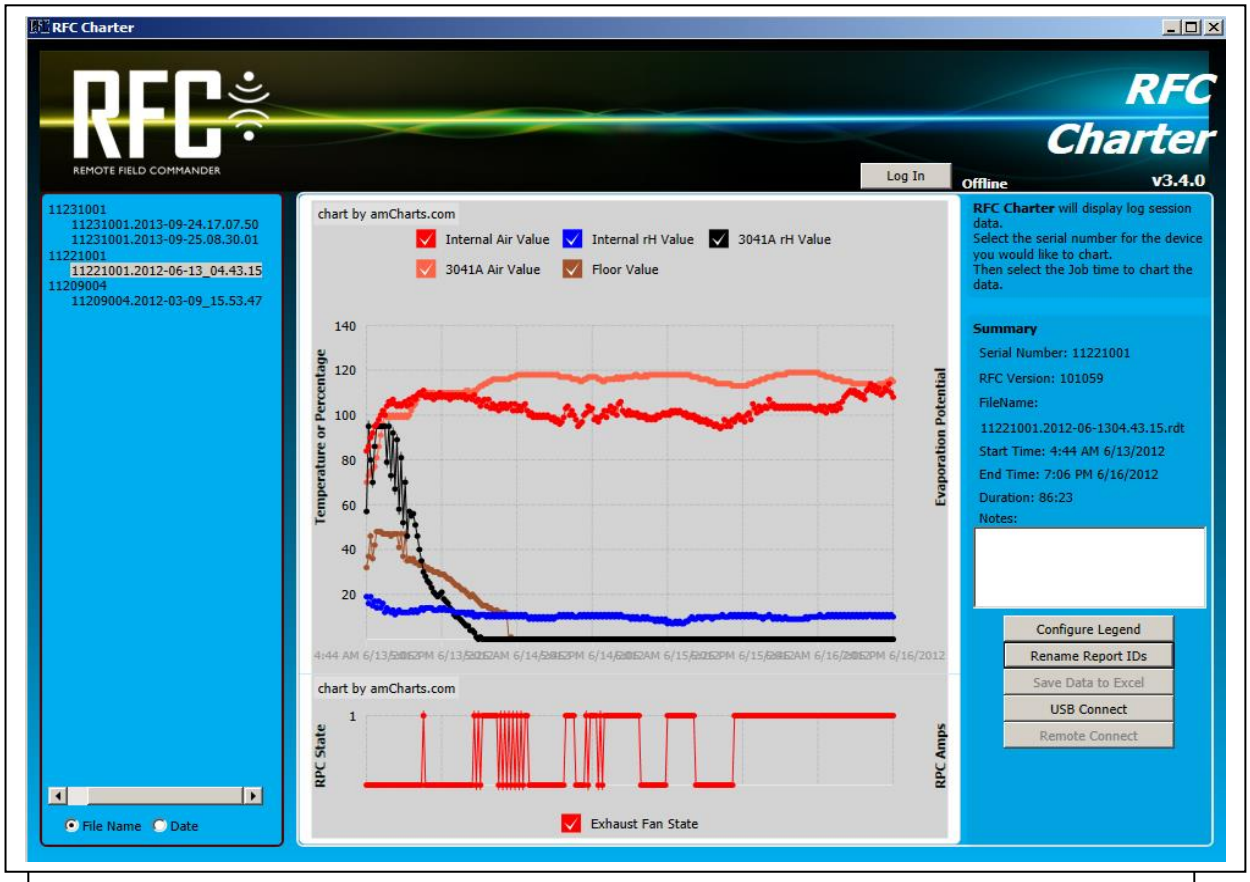
Enter the desired alias into the box next to any sensor condition or RPC. In this case sensor 30421 Moisture value was changed to Floor and sensor RPC number A0021 was changed to EXHAUST FAN.

When re-naming Sensors in the Charting process you do not have to enter unique names for each environmental condition as you do when setting up the system. All data has already been logged and saved. The name change at this time will only affect how the data is displayed.

Click the Done button to enter your changes and return to the Charter View screen.

RENAME ID's Screen

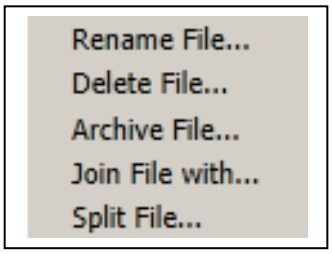


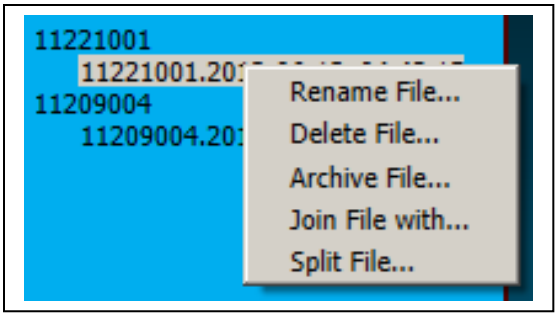


Job File Preview with new Sensor & RPC Names

There are also additional tools available to manage your job files. To access these features, click on a job file to highlight and open the job file you wish to work with and then right click on the highlighted job file. A pop up will appear with the following feature list:

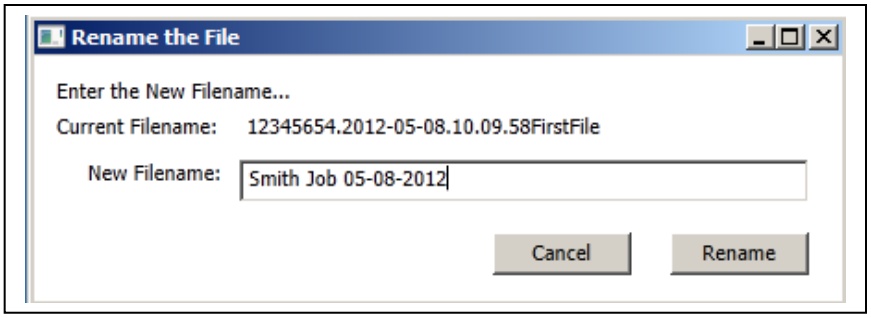
Rename File…
Delete File…
Archive File…
Join File with…
Split File...



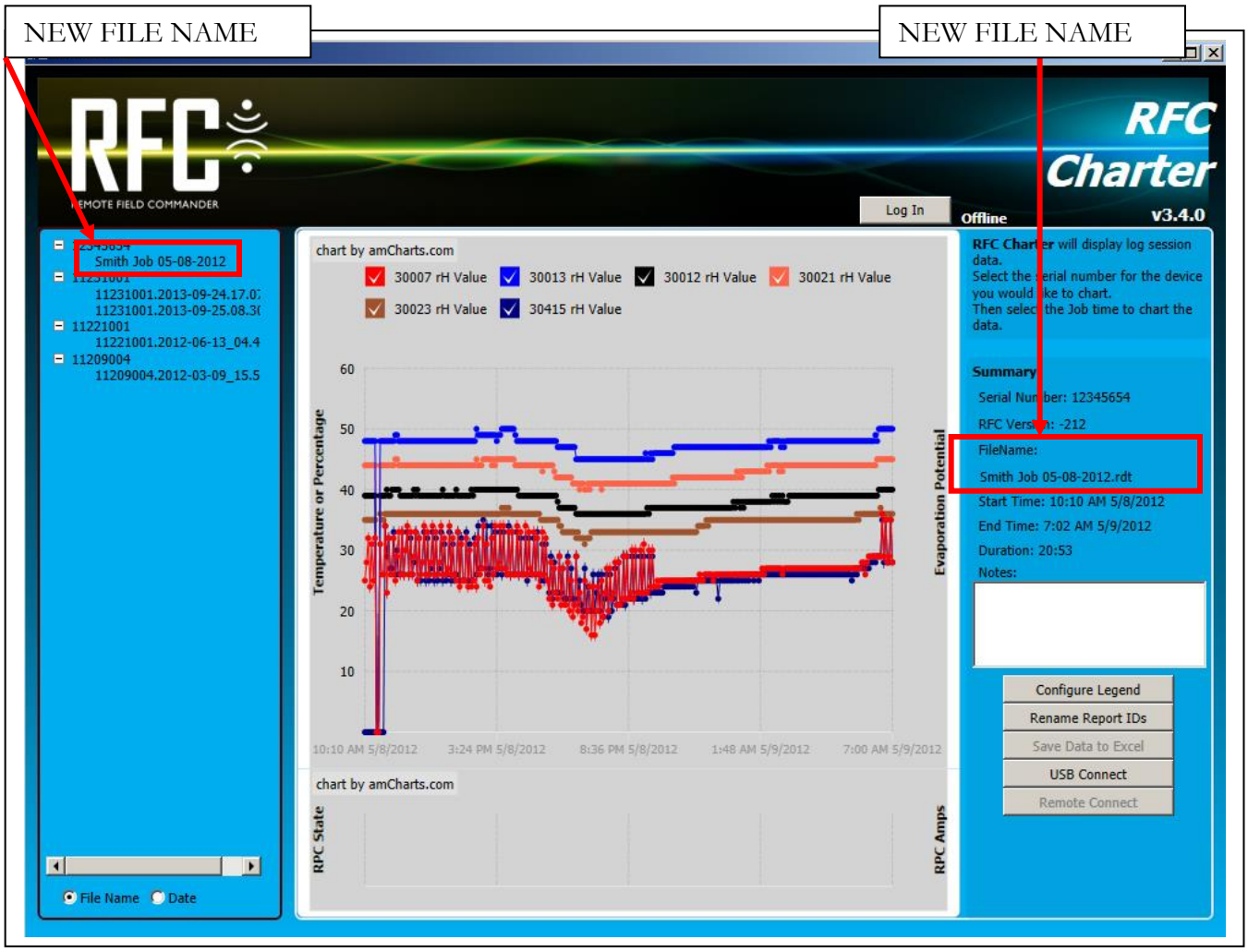


Rename File… This allows you to change the name of a job file. This will change the job file name on both the RFC Server and your computer.

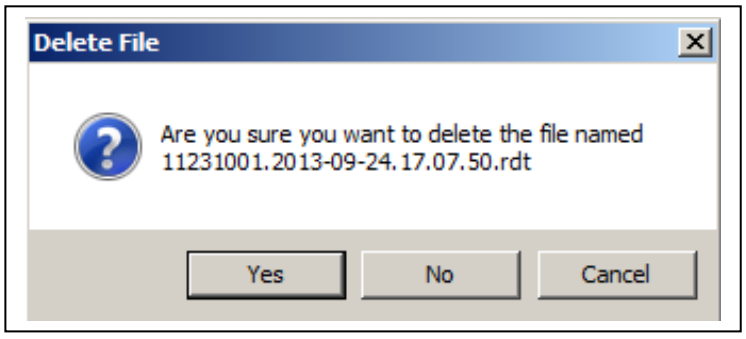
When you highlight and click on Rename File a pop window will open with a box to enter the new file name.
Enter the new file name in the box, and then click the **Rename** button.



This will return you to the Job File Preview screen and the new file name will now be displayed in the job file list.

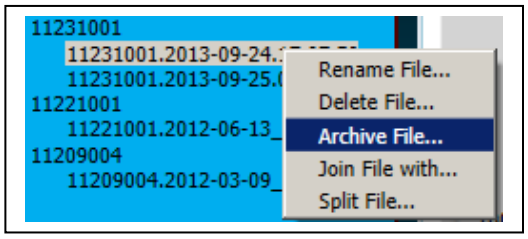


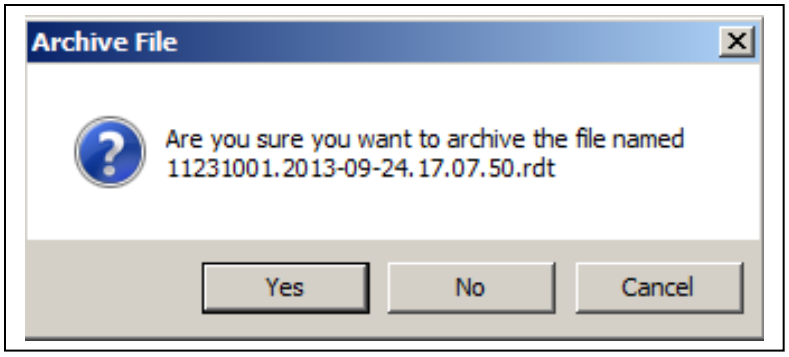
Delete File… This allows you to remove the job file from the Job File List. The file gets marked as deleted on both the RFC Server and your RFC Data File on your computer. (The file is saved in a Deleted Files folder if needed in the future.) When you highlight and click on Delete File a pop window will open with a box asking if you want to delete the file.



Click the yes button and the file will be removed from the file list and saved in the Deleted Files folder. They can be accessed from the RFC Server by logging in and clicking on the File Manager button at the top of the screen.

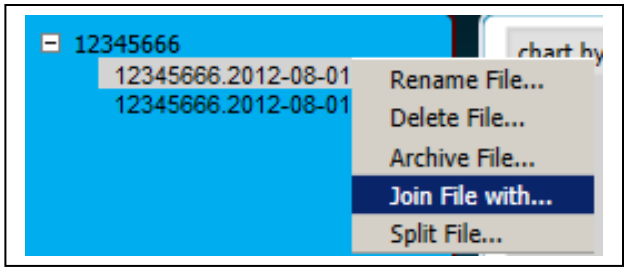
Archive File… This allows you to remove the job file from the Job File List. The file gets marked as archived on both the RFC Server and your RFC Data File on your computer. (The file is saved in an Archived Files folder and can be restored by using the File Manager if needed in the future.)
When you highlight and click on **Archive File** a pop window will open with a box asking if you want to archive the file.





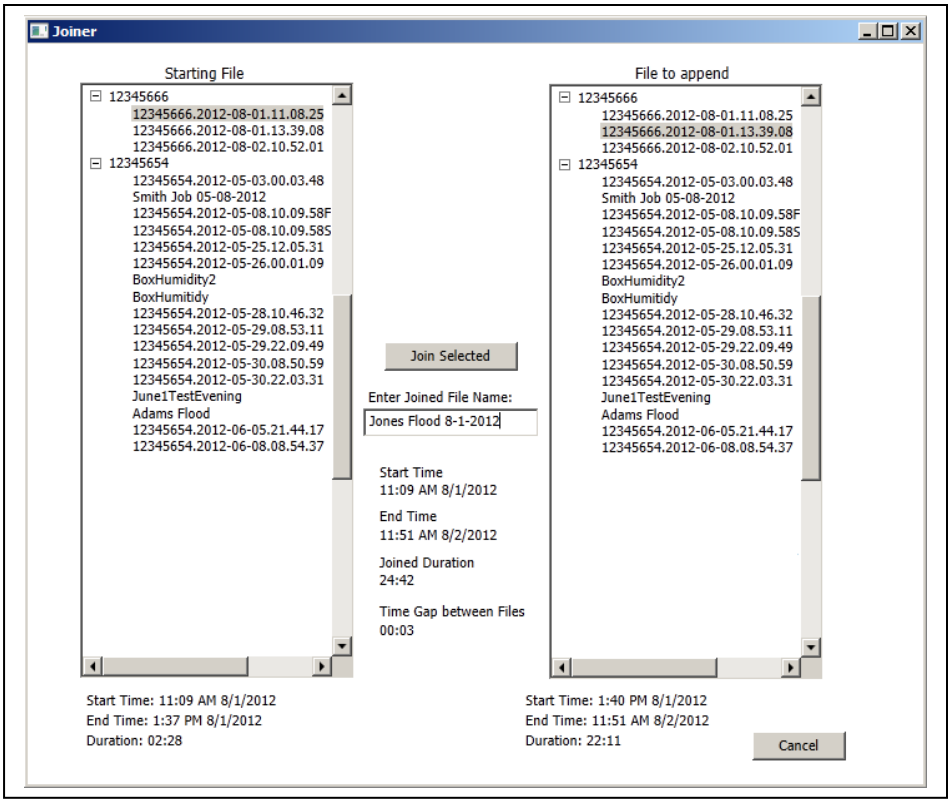
Click the **Yes** button and the file will be removed from the file list and saved in the Archived Files folder. They can be accessed from the RFC Server by logging in and clicking on the **File Manager** button at the top of the screen.

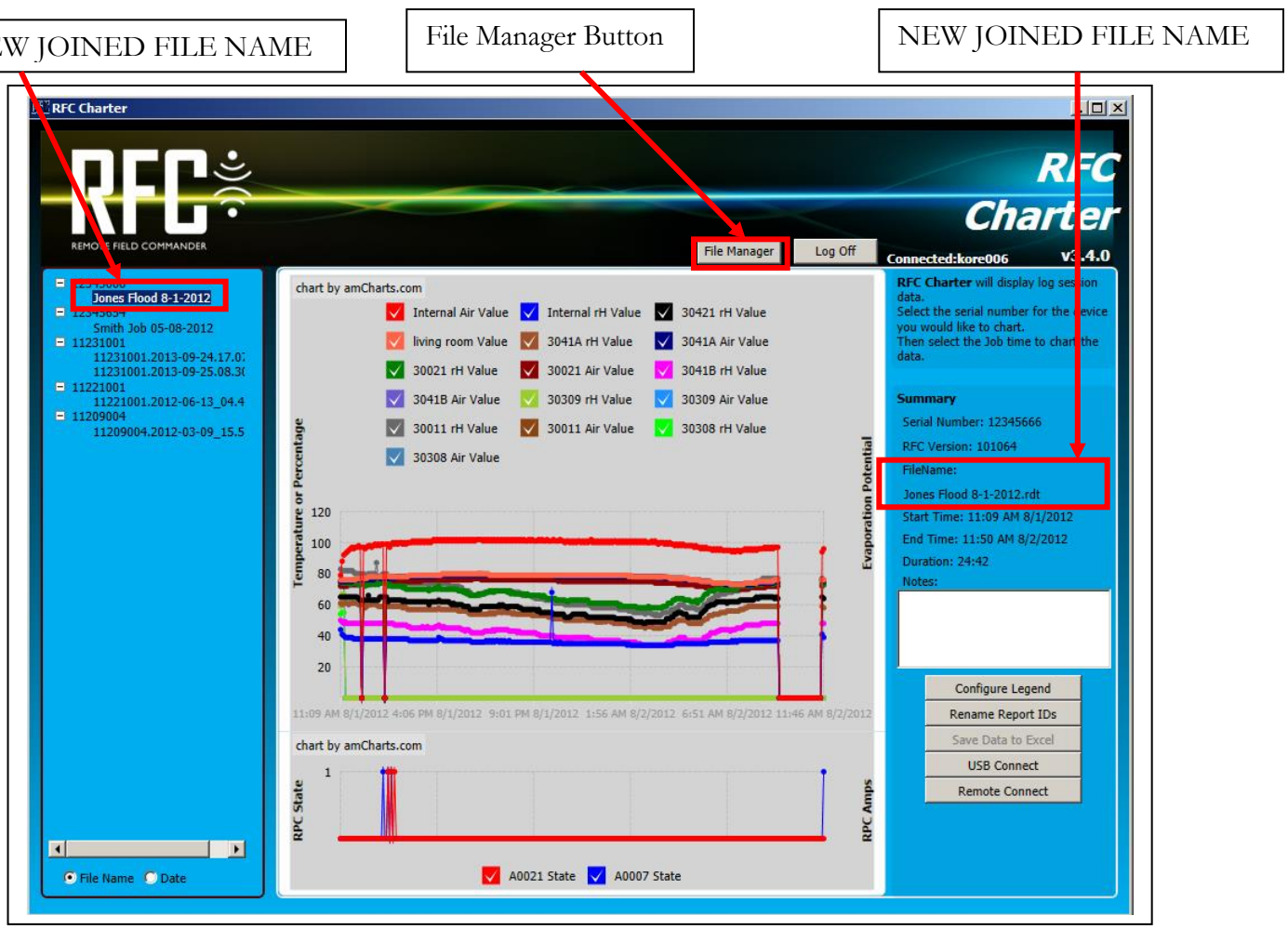
Join File with… This allows you to join two job files together to make a new larger single job file. This may be required if a new job file is inadvertently started in the middle of a job. The new job file can be joined with the previous job file to correct the error. The two original files get archived to the RFC Server and no longer show up on the Job File List.



When you highlight and click on **Join File with** a pop window will open with two lists of files. The job selected from list on the left is the Starting File which is the job file with the earlier start time and the job file selected from the left list File to append column would have the later start time.

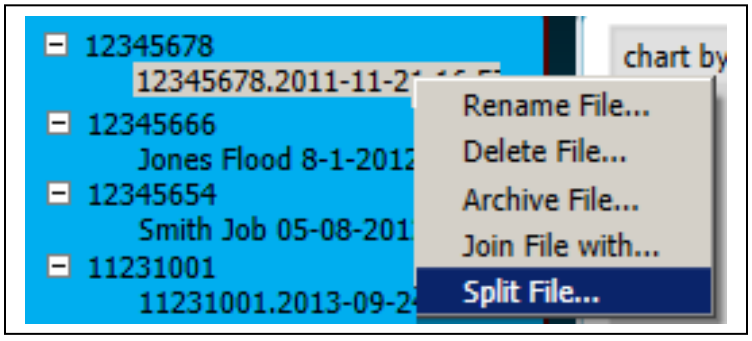
Highlight one job from each column. Look at the start and finish time of each job at the below each column to be sure the end time of the first file is earlier than the start time of the second file.
Enter a new file name for the joined file in the Enter Joined File Name box and click the Join Selected button.





This will return you to the Job File Preview screen and the new file name will now be displayed in the job file list. You can access original files on the RFC Server by logging in and clicking on the **File Manager** button at the top of the screen.

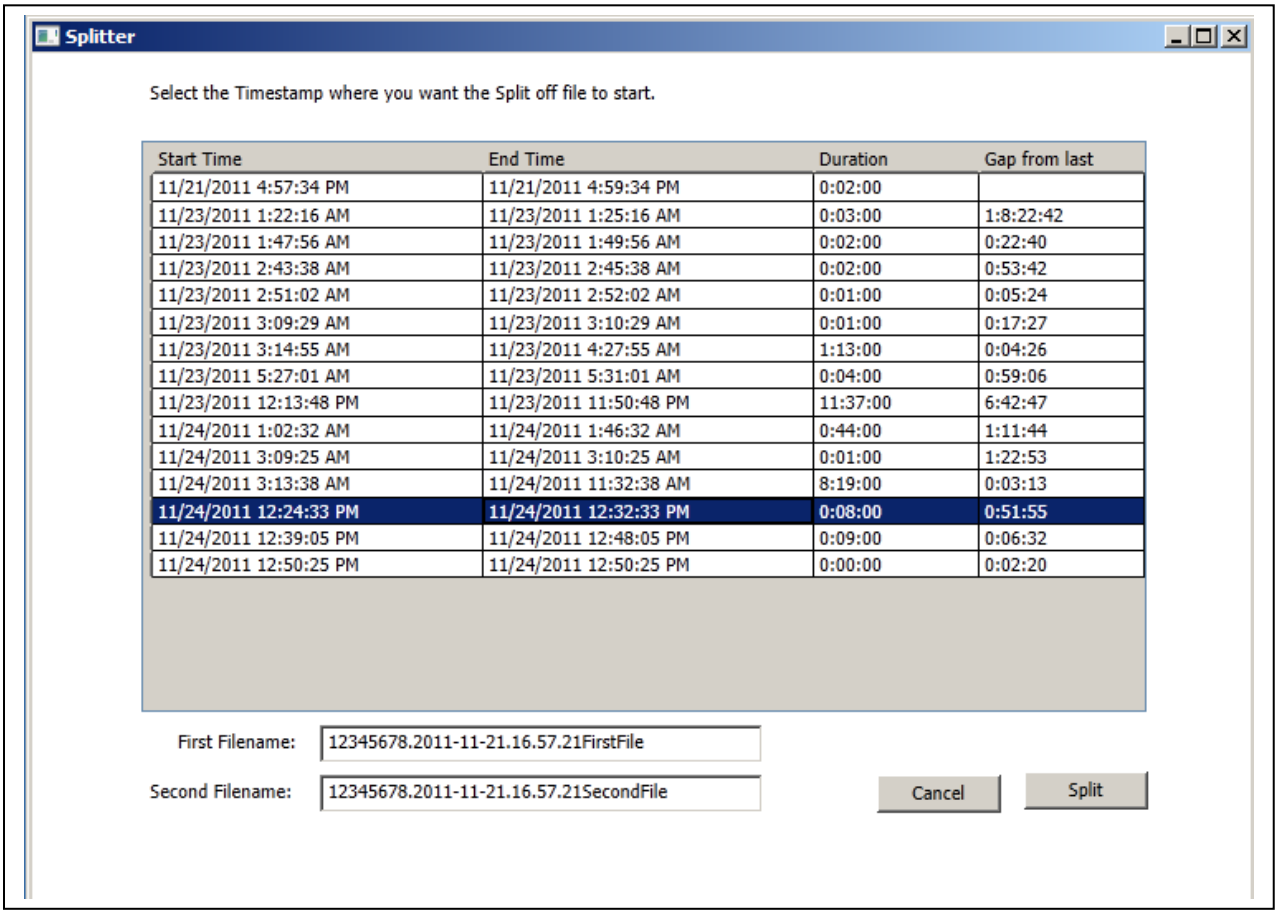
Split File... This allows you to split a single job file into two smaller files. This may be required if a new job is started within seven days of a previous job and the operator forgets to select **Start New Job** when setting up and turning the RFC ON.



(After sitting OFF for seven days the RFC will automatically start a new job when it is turned ON.)

The old job and new job file can be split to correct the error.

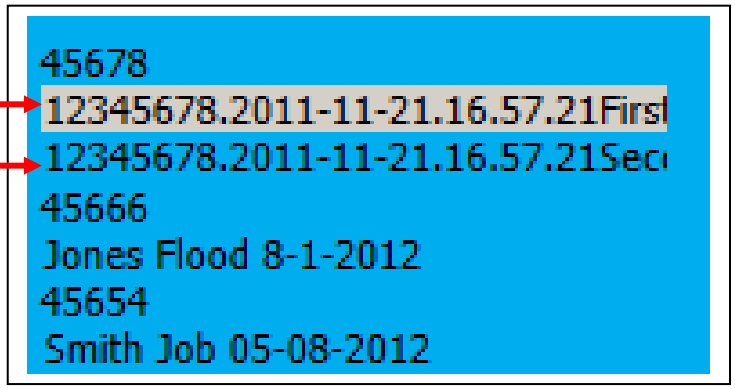
When you highlight and click on **Split File with** a pop window will open with a list of time break points in the job file.



Select the split point from the list and click on the point to highlight it. Once you have selected the split point, click on the **Split** button. You will return to the RFC Job File Preview screen and now the two split files will be displayed in the job file list on the left side of the screen. The files will have the suffix First File & Second File.

12345678.2011-11-21.16.57.21FirstFile

12345678.2011-11-21.16.57.21SecondFile

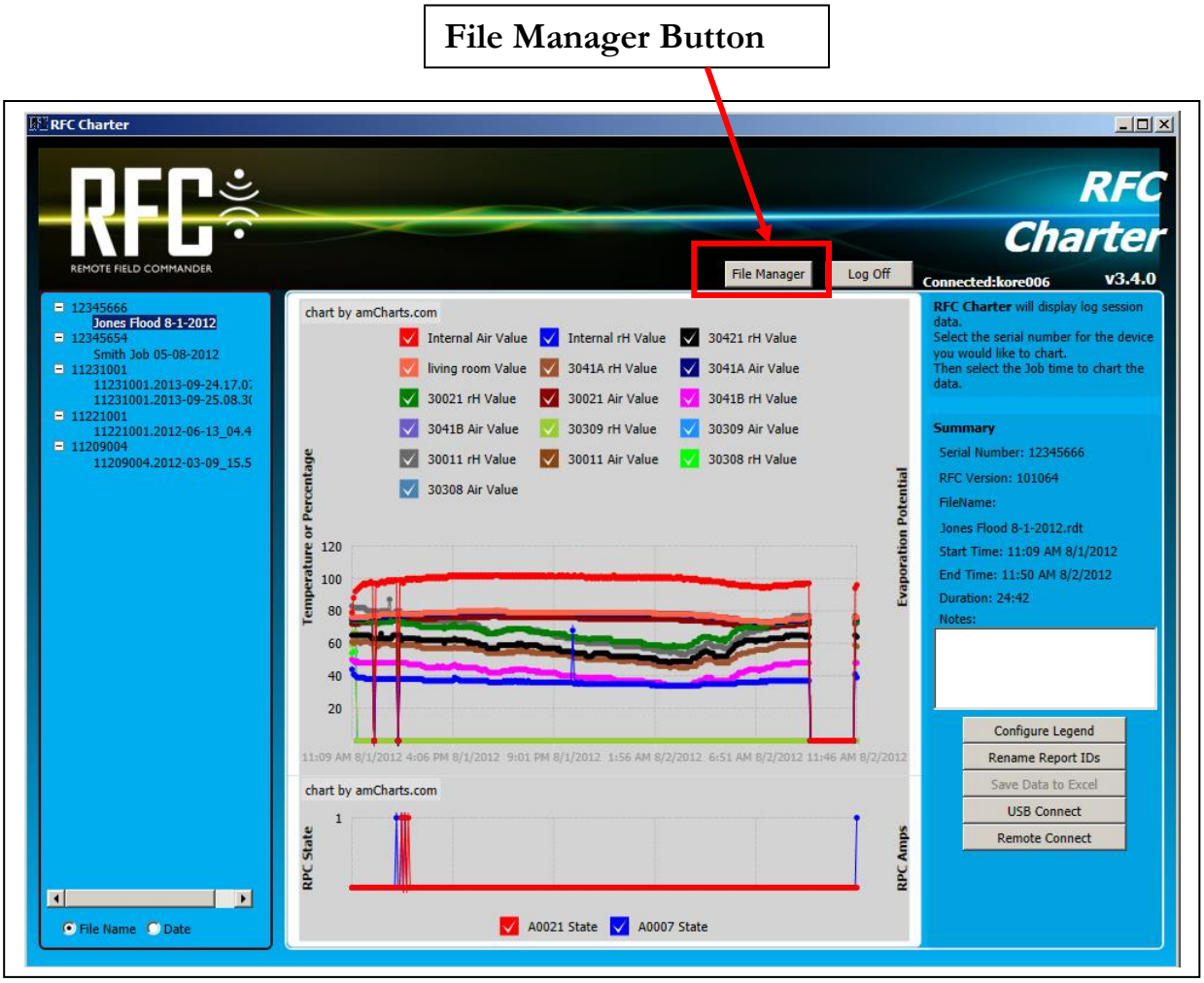


The original un-split file is now archived to the RFC Server and no longer appears on the list. You can access original file on the RFC Server by logging in and clicking on the File Manager button at the top of the screen.

File Manager:

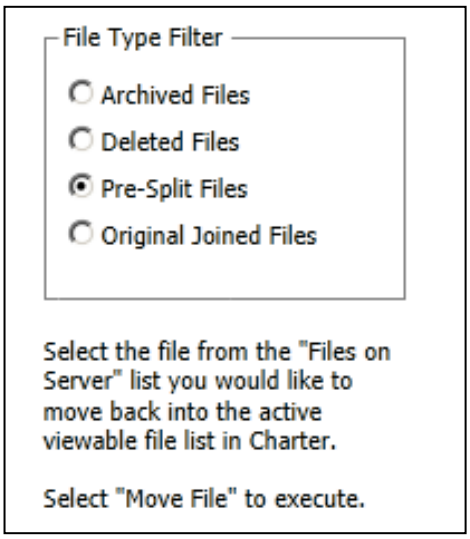
By clicking this button you can access Archived and Deleted job files on the RFC Server as well as copies of the original job files that were split or joined to make new files.

You must Log In with your username and password to access this feature.
An Internet connection and a paid RFC access subscription are required to Log In.

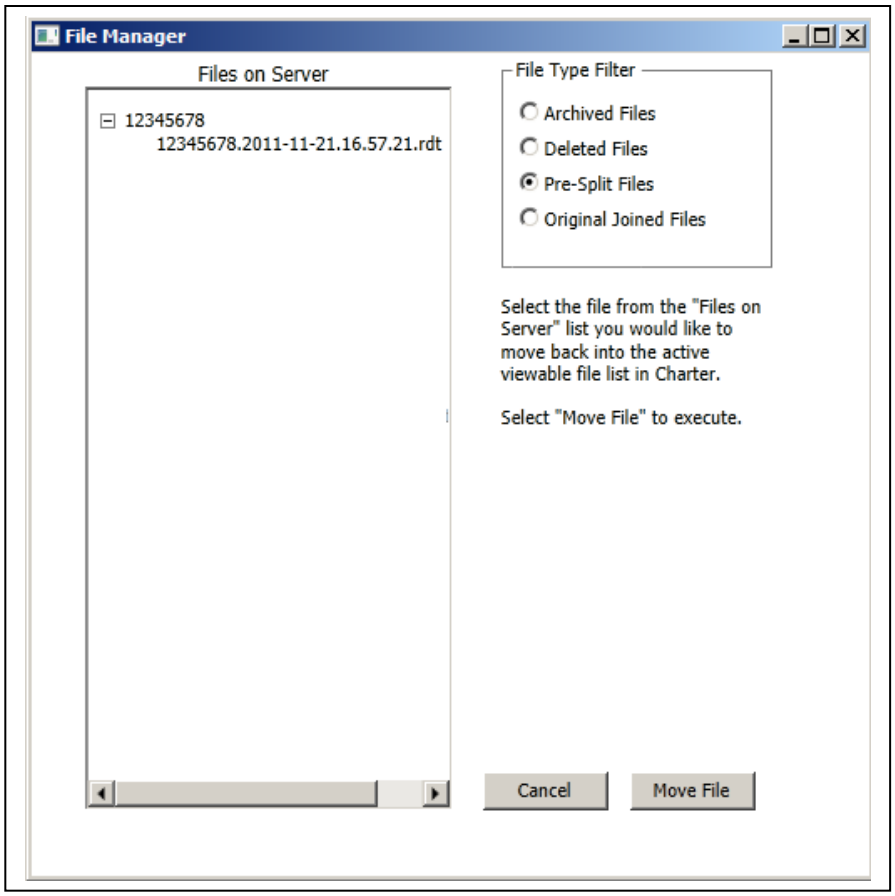


When you click on the File Manager button at the top of the screen, you will open the File Manager screen.
This screen will allow you to see and recover Archived Files, Deleted Files, Pre-Split Files and Original Joined Files.

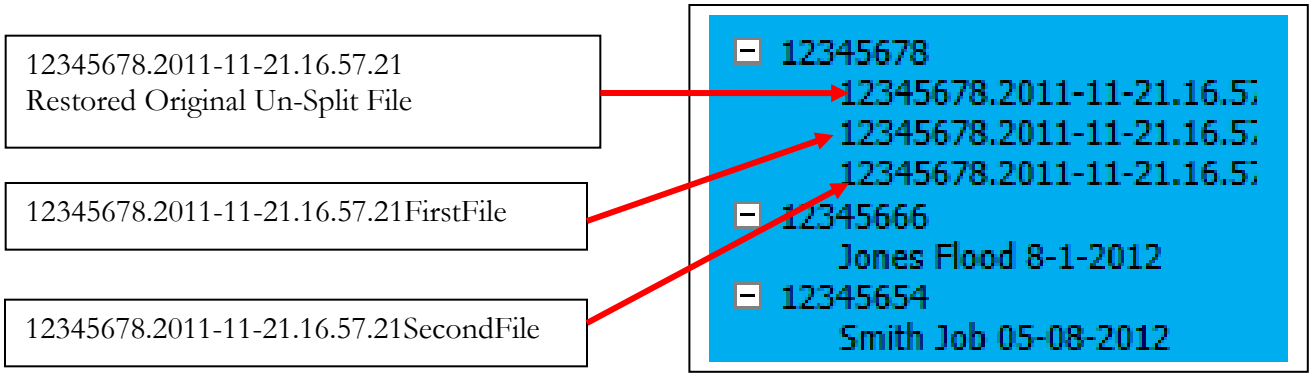
Click on the different buttons in the **File Type Filter** to open the different file lists.



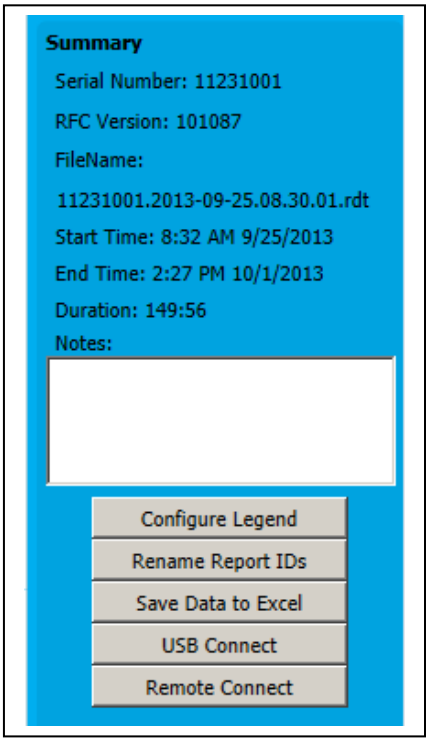
In this example the Pre-Split Files button has been clicked and the Pre-Split File list is displayed.



Click on the file you wish to move back to the Job File List to highlight that file and then click the **Move File** button. This will send you back to the Job File Preview Screen and the selected job file will now be displayed in the Job File list on the left side of the screen. The same procedure is used to restore files from the other file lists.



Saving Files to Excel:

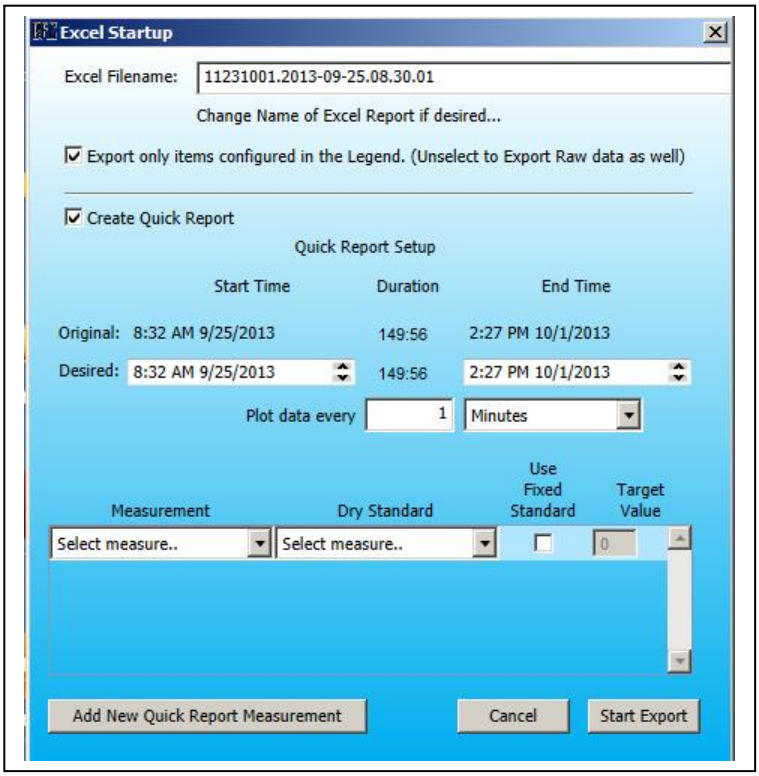


The job file summary, on the right side of the screen, gives you information on the job:

- RFC Serial Number
- RFC Firmware Version installed when the job file was created
- Job File Name
- Job File Start Time and date
- Job File End Time and date
- Job File Duration

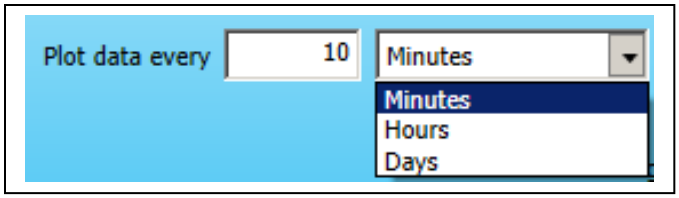
You also have an area to add notes related to the job.

By clicking the **Save Data to Excel** button you will open the Excel Startup window which will give you choices on how to export the job data and how it will be displayed in Excel.

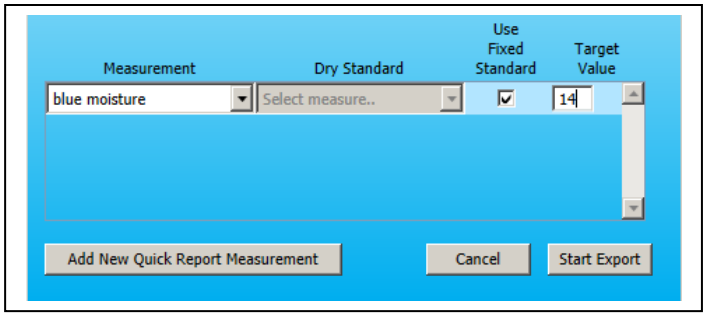


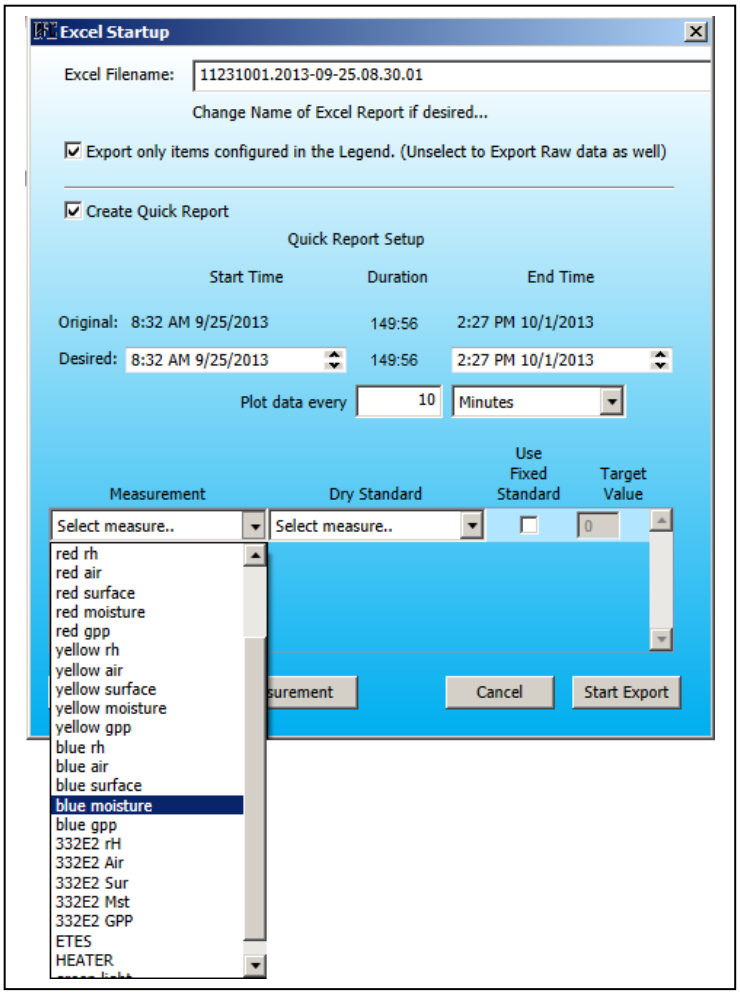
The first check box allows you to export only the items configured in your RFC Charter legend. By checking this box you can reduce the size of the Excel file for faster down loading. The complete raw job data will still be in the RFC Charter job file for future use if needed. (Click on the Cancel button if you need to return to the RFC Charter preview screen and re-configure the Legend before exporting the job file to Excel.)

The second check box allows you to create a Quick Report customized to display only selected measurements at time intervals you select. A drop down menu allows you to select Minutes, Hours or Days as the unit of measurement and there is a box to enter the interval at which the data will be displayed.
In this example 10 minutes has been selected as the plotting interval.

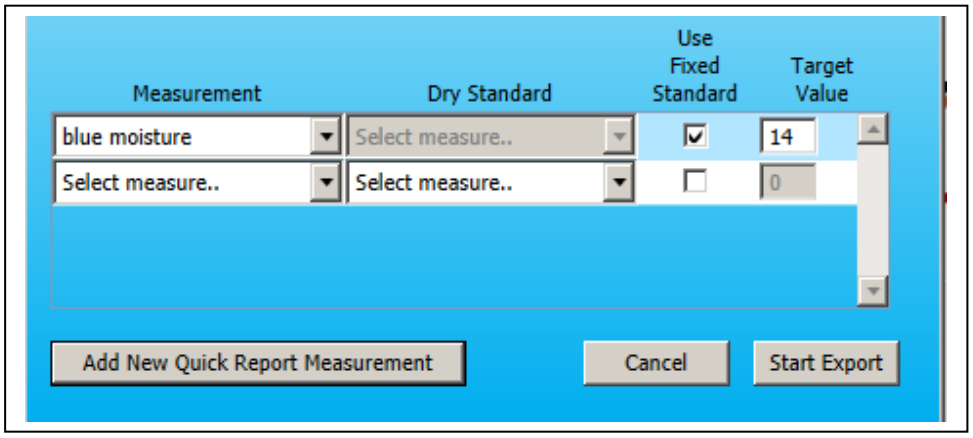


You can now select the different measurements from your job data you want displayed in your Quick Report. No matter what you select for the Quick Report, all of the exported data will still be charted in the Summary Report in the Excel file. Clicking on the **Select measure** tab will display a list of your sensor measurements. Highlight and click on your selection.





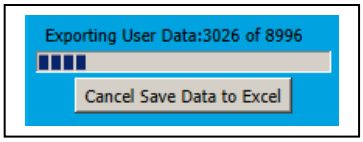
A second sensor reading can be selected as your **Dry Standard**, or a Fixed Dry Standard Value can be used in your Quick Report. Use the drop down menu or check the **Use Fixed Standard** box and enter the **Target Value.**



Click on the **Add New Quick Report Measurement** to select additional sensor readings and dry standards you wish to display in your Quick Report.

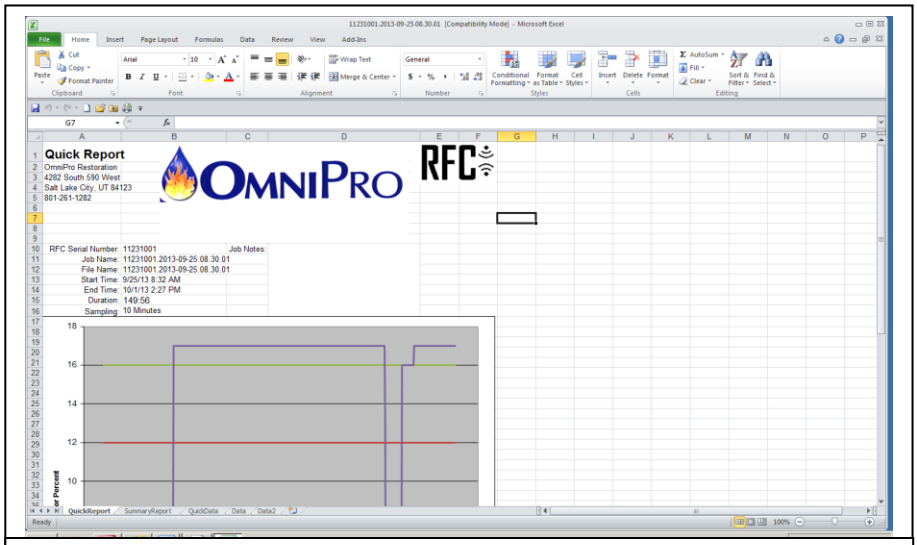
Click the **Start Export** button to save the job file in Excel where you can create and print a job report. Only click the **Start Export** button once and be patient. Large job files take a long time to transfer to Excel.

The progress of the data transfer will be displayed at the bottom of the screen. When completed the Excel file will open on the Summary Report page.



The Excel report will be saved in the Reports subfolder in your RFC Data folder in the Reports subfolder on your computer.

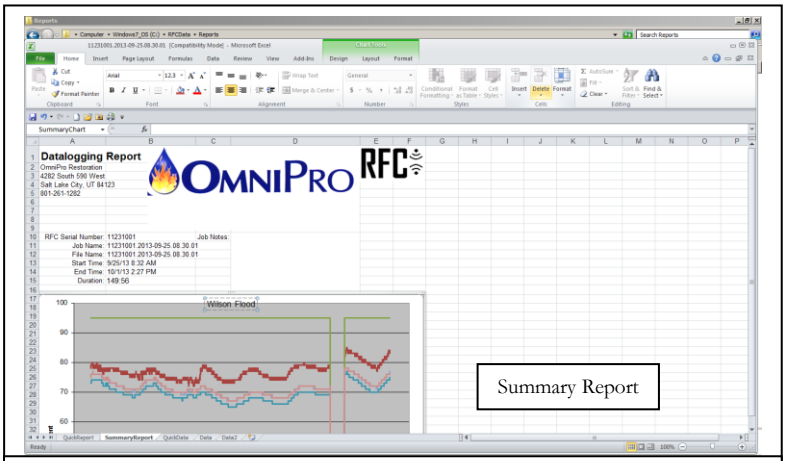
The job data is secured and cannot be edited.



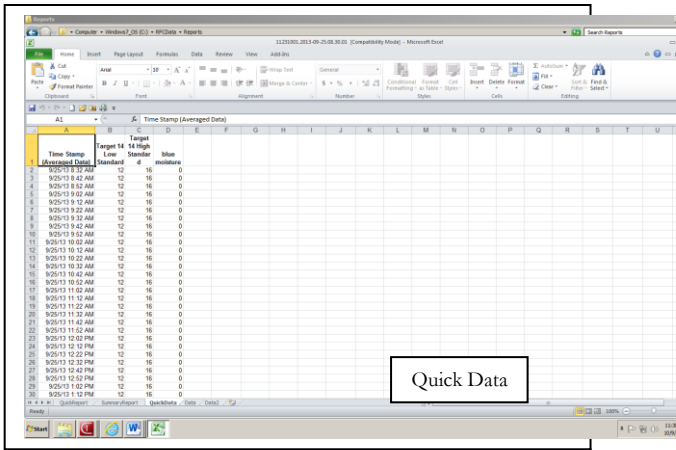
Excel File of RFC Job File

Click on the tabs at the bottom of the screen to move from the Quick Report to see the Summary Report or any of the Data files. (Data cannot be edited)

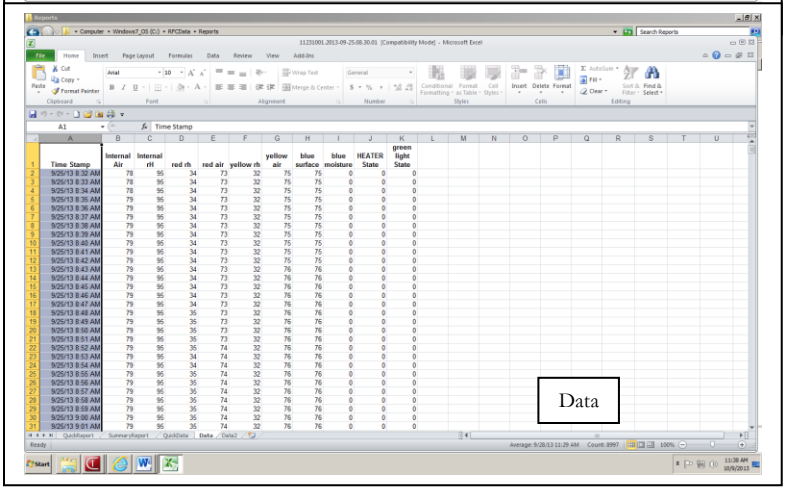
You can now edit the company info on the report or close the Excel file for later use.
The Excel file can be saved under a different name or in a different folder if desired.



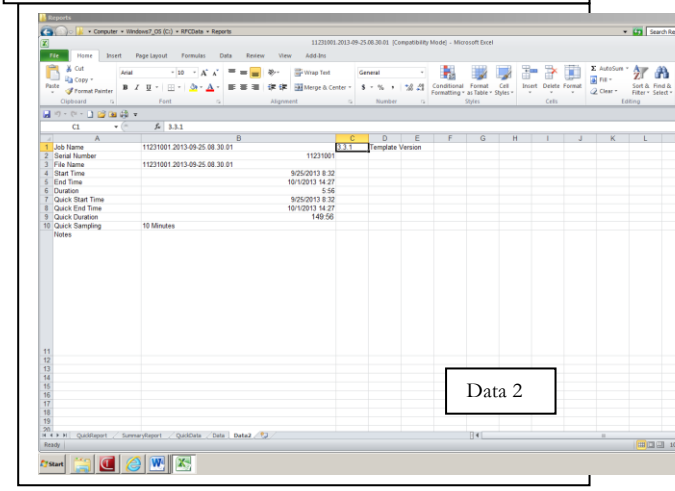
Summary Report



Quick Data



Data

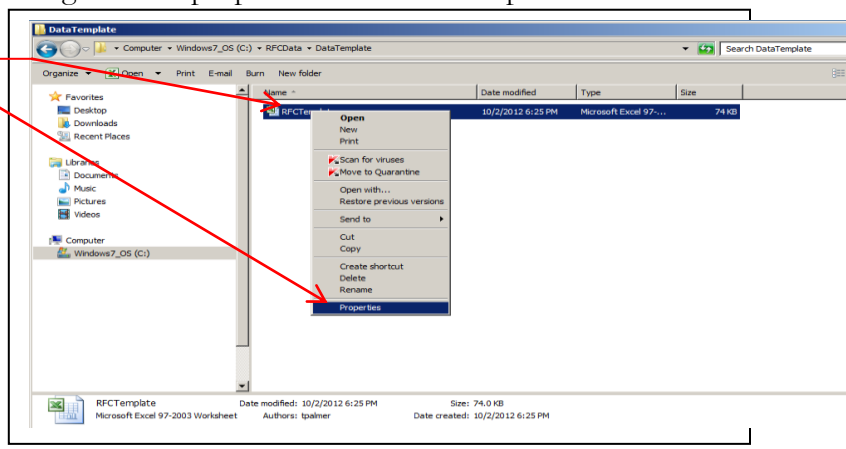


Data 2

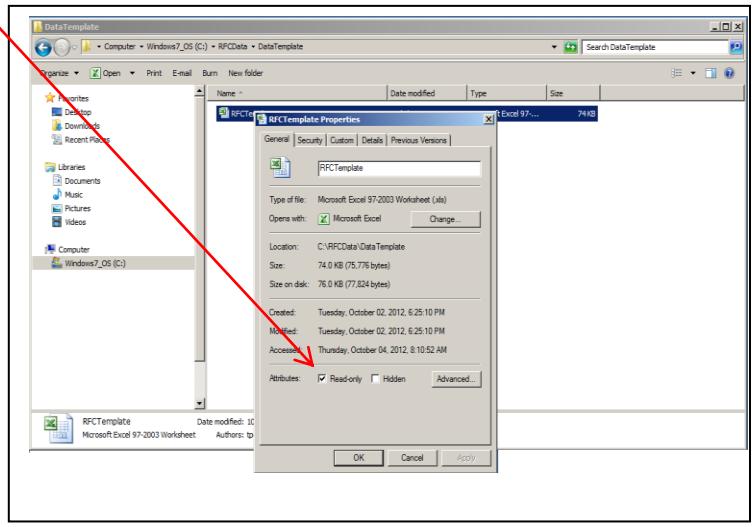
Customizing Excel Data Template:

The Excel Data Template can be customized with your company logo and other information.
When you install the RFC Charter software on your computer, the Excel Data Template is created and stored in the RFC Data folder on your computer and used to create the Excel files when you save your job file data to Excel.
The file location for the Excel Data Template is C:\RFCData\Data Template\Editable.
The file is called RFCTemplate.xls
RFCTemplate.xls is set as read-only, so you must change the file properties to edit the template.

Right click on the file RFCTemplate.xls
Select properties from the drop down menu



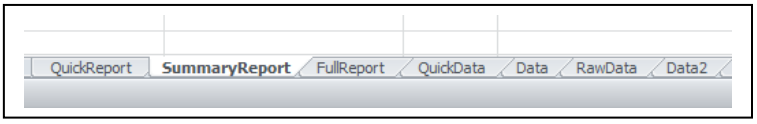
Click on the Read Only box to un-check the box and allow editing.



You can now open the template and change or add any information in rows 1-9 and columns A-F of the Summary Report tab, Quick Report tab, and Full Report tab.

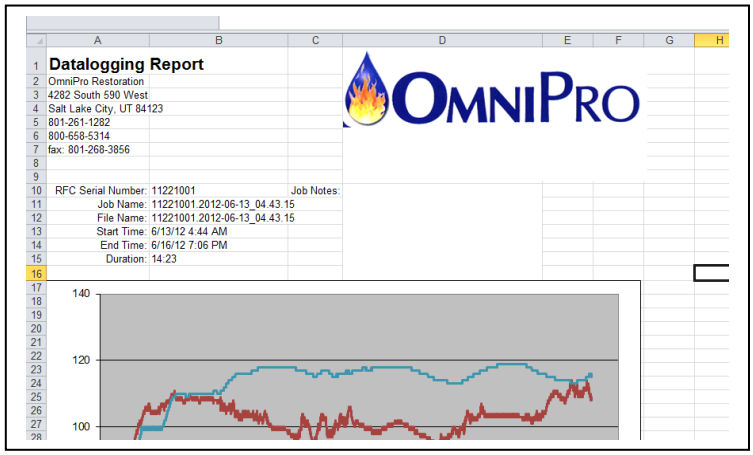
Company Name, Address, Phone etc. should fit in the space provided. Add your company logo (Insert->Picture) if desired.

When done editing the template, remove the new RFCTemplate.xls file from the Editable folder and move it into the Customized folder. This will protect your changes from being deleted if you ever update your RFC Charter software.



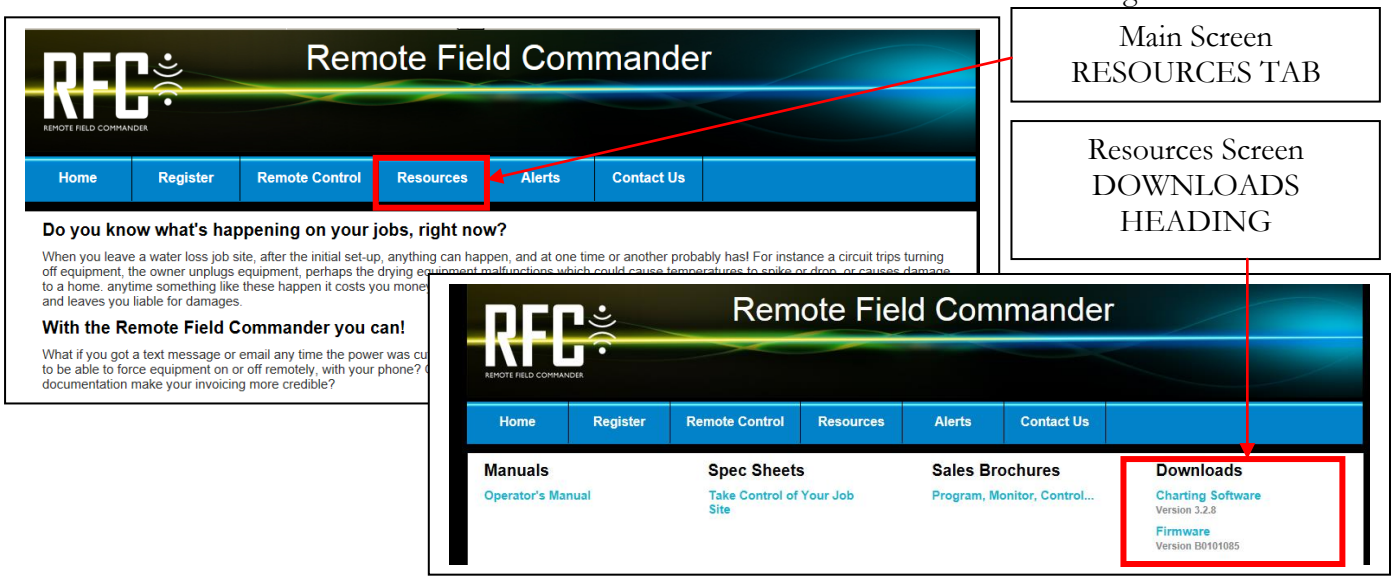
To prevent any inadvertent changes to your template return to the file properties list to re-check the Read Only box.

If you ever update your RFC Charter software to a newer version, you may need to make a new customized template which will then be compatible with the new version.



SOFTWARE UPDATES:

The RFC Base Station software can be updated using a removable data storage device such as an USB Flash Drive or Memory Stick. When software updates are available they will be posted on the remotefieldcommander.com website. Click on the **Resources** tab to see the available software under the Downloads heading.



Click on the link to copy to your computer or install the RFC **Charting Software version** or to copy the RFC Base Station **Firmware version** to your computer.

(Downloads are also available after logging in to Remote Control website. (See Page 47)

To update the RFC Base Station software, copy the new firmware version to a USB memory device or flash drive and simply plug the memory devise into USB port on front panel and then connect the power supply to the RFC Base Station. The firmware will automatically be updated. The display will read **Updating Flash** along with the old version and new version numbers. The screen will not change until the update is complete. Then remove the memory device and disconnect the power supply.

Shows the old software version number and the version number of the new software which is replacing the old version

REMOVABLE USB MEMORY DEVICE

If your USB Flash Drive is protected by a password, you will need to temporarily disable the password to connect it to the RFC Base Station. This goes for installing updates and downloading the job data.

From our tests it was not necessary to disable the Flash Drive's auto-run programs, such as the SanDisk U3 Launchpad to work with the RFC Base Station.

RFC Base Station Operation Procedure

Knowledge of the proper operation of the heater and heat exchange system is required for safe operation and to keep heater and components operating properly.

1) Read and understand the System Set-up procedures and Menu Navigation in **SECTION #1** and **SECTION #2** before proceeding with set-up and operation.

2) Place the drying equipment as required for your drying situation.

3) Place Remote Sensors in desired locations. Connect Remote Power Controllers to desired equipment. Be sure to note ID numbers of Remote Sensors and RPC units and where each is being used.

4) Connect the 12volt Power Supply to the RFC Base Station and plug the Power Supply into a 120volt AC wall outlet.

5) Use Lap Top Computer and a direct connection to the RFC Base Station or use the control panel display to check the Remote Sensor & RPC signals. Check for signals from other RFC units if needed.

6) Set up sensor controls for RPC's and equipment as needed. If multiple RFC units are being used make sure there are no conflicting settings.

7) Check Date and Time setting and adjust as needed.

8) Lock out Sensors and RPC's as needed.

9) Set alarms as needed.

   (Remote Connection with RFC Charter required to add, or change, alarm numbers and e-mail addresses.)

10) Check Modem Connection if remote monitoring & control to be used during job.

11) Force RPC's ON to make sure all connected equipment is operational.

12) Clear RPC Force ON setting to return RPC's to controlled conditions.

13) Start new job file.

14) Disconnect computer connection if used.

15) During job, monitor environmental conditions and equipment. Change settings as needed.

RFC BASE STATION SHUTDOWN

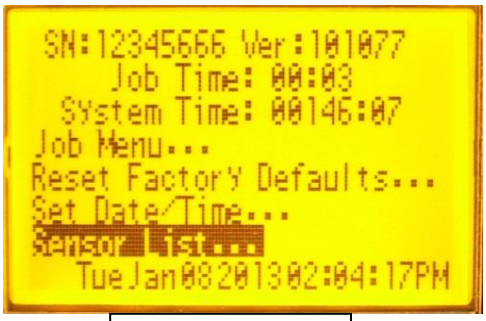
1) After job is complete shutdown equipment with shutdown procedures required for each type of equipment.

2) Job file data can be downloaded from the RFC Base Station now or later as desired. If you wish to download job data, you can use a Direct Computer connection as described in Section 2 – Page 27 of this manual or download job data using an USB Flash Drive.

   Insert USB Flash Drive into the USB port on the RFC Base Station front panel and then connect the power supply to log data from job. When the RFC display advances to the "**Configure New Job"** screen, use the **UP** or **DOWN** button move the cursor to "**Start new job"**. Press **SELECT** and before the RFC display advances to the Status screen, the display will freeze on "**Writing jobs to USB… Do not remove USB Stick!** "screen while data is downloading. When the display advances to the Status Screen, the downloading is complete and the USB Flash Drive can be removed.

Configure New Job Screen

Download Screen



Status Screen

Flash Drive inserted into USB port to download job data.

(Job data files can also be downloaded remotely, but it is a slower process than using a direct connection or USB Flash Drive.

RFC Charter software is required to view and chart job data log information downloaded from the RFC Base Station.

3) Remove drying equipment, Remote Power Controllers, Remote Sensors & RFC Base Station from job site.

Section 4

RFC BASE STATION

Troubleshooting

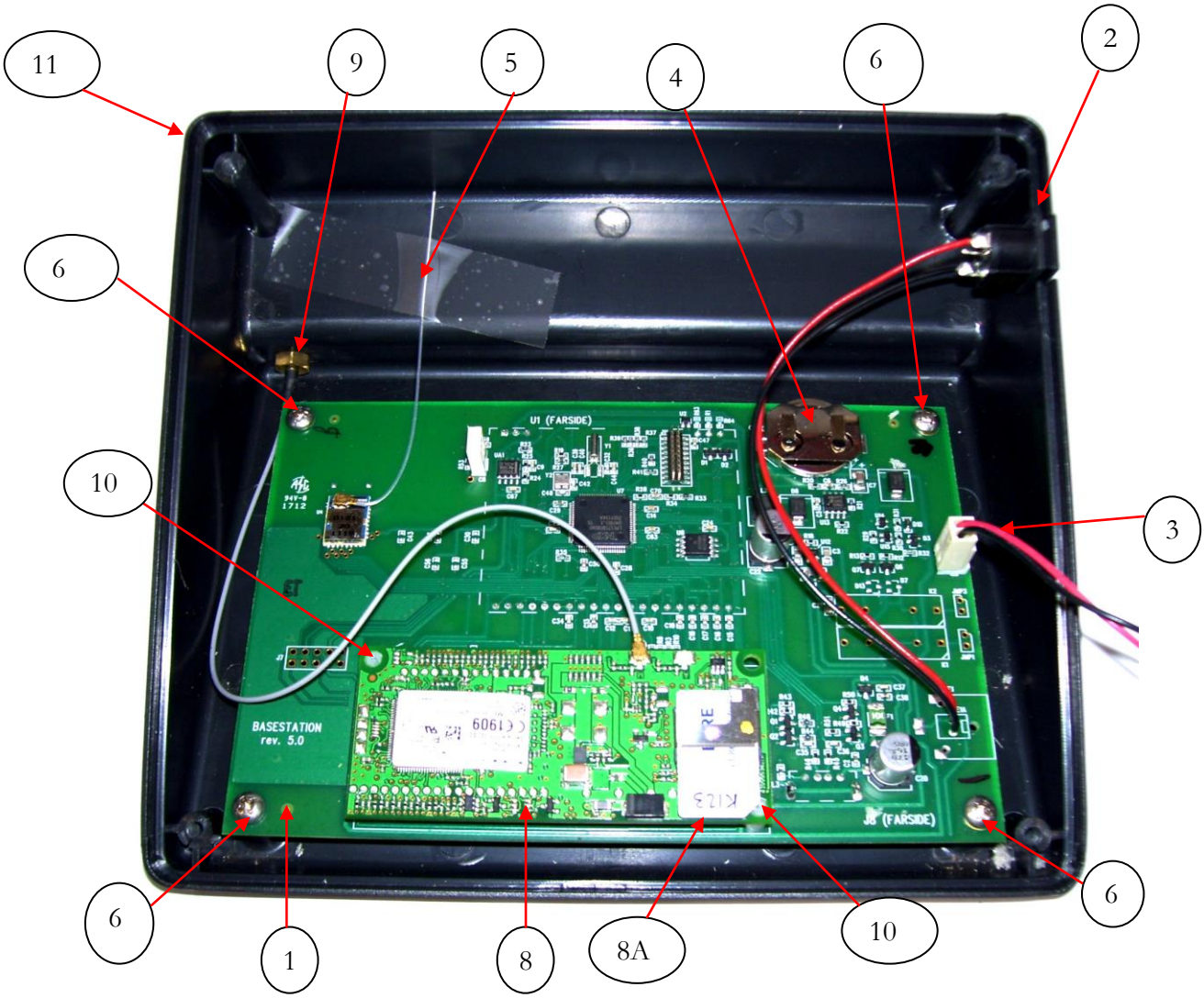
Problem	Cause	Solution
Circuit Breaker Blowing	Defective 12V Power Supply	Replace Power Supply (NM5903)
	Faulty Power Jack or internal wiring	Check wiring - Repair as needed *
	Circuit Board Defective	Replace Circuit Board
	Circuit breaker faulty	Move plug to another outlet & circuit or have electrician replace circuit breaker
Display Blank	No Power from outlet	Move Power Supply to different outlet
	Defective 12V Power Supply	Replace Power Supply (NM5903)
	Faulty Power Jack or internal wiring	Check wiring - Repair as needed *
	Faulty indicator Display	Replace Circuit Board
	Software Corrupted	Reprogram processor
No Modem Connection	Local Interference	Move Base Station to different location
	Modem disconnected	Make sure modem is secured to circuit board
	Antenna Disconnected	Make sure Antenna is secured to modem
	RFC Server Down	Contact Omni Pro Customer Service
	Modem Obsolete	Replace 2G modem with CDMA (3G) Modem
	Defective Modem	Replace Modem
	Circuit Board Defective	Replace Circuit Board
Can't Remote Connect	No RFC modem connection	(See Above)
	Wrong Username or Password	Contact Omni Pro Customer Service
	Forgot Password	Follow Forgot Password & Reset Instructions
	Problem with Account	Contact Omni Pro Customer Service
	RFC Charter Software Corrupted	Re-install RFC Charter Software on computer
	RFC Website Down	Contact Omni Pro Customer Service
Can't Direct Connect	Bad cable	Replace USB Cable
	Bad USB Port on RFC Base Station	Replace Circuit Board
	Circuit Board Defective	Replace Circuit Board
	RFC Charter Software Corrupted	Re-install RFC Charter Software on computer
	Computer not setup properly	Contact Omni Pro Customer Service
	Bad USB Port on computer	Try another computer – Repair or replace

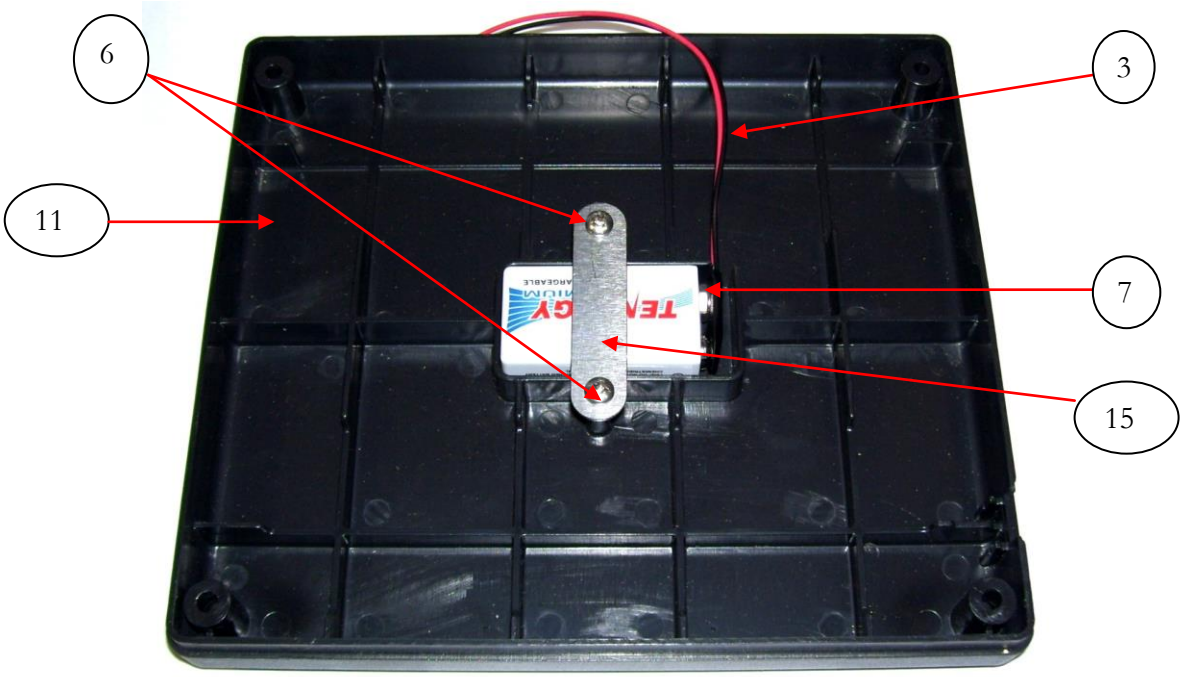
* To reduce the risk of injury, repairs to electrical systems should only be performed by experienced technicians. Contact your nearest service center for assistance.

RFC BASE STATION Troubleshooting Continued

Problem	Cause	Solution
Wireless Sensor Not Reading	Faulty sensor	Replace sensor
	Bad Signal	Move Sensor or RFC Base Station for better reception
	Sensor Too far away	Use RFC to hop signal or activate sensor hopping
	Weak Batteries in Sensor	Replace Batteries (NOTE: Alkaline type batteries are recommended for proper monitoring of the low battery feature.)
	Internal Antenna Disconnected	Reconnect internal antenna to Base Station Circuit Board
	Software Corrupted	Reprogram processor – Update Software
RPC Not reading	No power at outlet	Reset Breaker or use another outlet
	Faulty RPC	Replace sensor
	Bad Signal	Move RPC or RFC Base Station for better reception
	RPC Too far away	Use another RFC to hop signal
	Internal Antenna Disconnected	Reconnect internal antenna to Base Station Circuit Board
	Software Corrupted	Reprogram processor
Clock, Date or Time Wrong	Temporary Glitch	Reset Date & Time
	Software Corrupted	Reprogram processor
	Battery Dead	Replace 3V Coin Battery on Circuit Board
	Circuit Board Faulty	Replace Circuit Board
Cannot move through menu	Wrong key being pushed	Check instructions for available key options for each screen
	Processor locked up	Disconnect Power Supply & Reconnect to reset
	Faulty push buttons	Replace circuit board
	Faulty circuit board	Replace circuit board
	Software corrupted	Reprogram processor
Equipment not Turning ON & OFF Properly	System not set properly	Reset condition, limit & equations as needed
	Conflicting signals from other RFC units	Check signals & settings of other RFC units
	Sensor set to control wrong RPC	Check RPC ID of sensors reset as needed
	Defective Remote Sensors	Replace Remote Sensors
	Defective RPC	Replace RPC
	Faulty circuit board	Replace circuit board
	Software corrupted	Reprogram processor
	Equipment Connected to RPC Faulty	Repair or Replace equipment
	Outlet Power turning OFF	Check to be sure circuits are not overloaded
	Sensors or RPC's going offline	Change Locations – check possible interference
No Alarm Sent for RFC loss of AC power	No Alarm Set	Enable Alarm (See Misc Alarms in section "RPC STATE & ALARMS")
	No Modem Connection	See "No Modem Connection" in section "RFC BASE STATION Troubleshooting" above.
	Dead Battery	Replace 9V Re-chargeable NiMH battery (!WARNING - Use only part number NM5971 or equivalent NiMH type battery)

RFC BASE STATION WIRING & PARTS





RFC BASE STATION WIRING & PARTS

KEY	DESCRIPTION	PART #
1	RFC Base Station Circuit Board	NM5912
	Circuit Board Includes #2, 3, 4, 5 & 10	
2	12Volt Power Jack	NM5903A
3	9 Volt Battery Connector	NM5968
4	3Volt Lithium Coin Battery	NM5965
5	Internal Antenna	NM5944C
6	Screw #6 x 1/2" Sheet Metal PHP SS (Qty 4)	NM5142
7	9Volt Re-chargeable NiMH Battery	NM5971
8	Modem 3G	NM5948
8A	SIM Card	NM5945
9	External Antenna Connector	NM5944D
10	Standoff Modem Mount (Qty 2)	NM5944B
11	RFC Base Station Case (Top & Bottom)	NM5902
12	External Antenna	NM5944A
13	Overlay RFC Base Station	NM5905
14	Screw #6 x 3/4" Sheet Metal PHP SS (Qty 4)	NM5958
15	Battery Bracket	NM5969