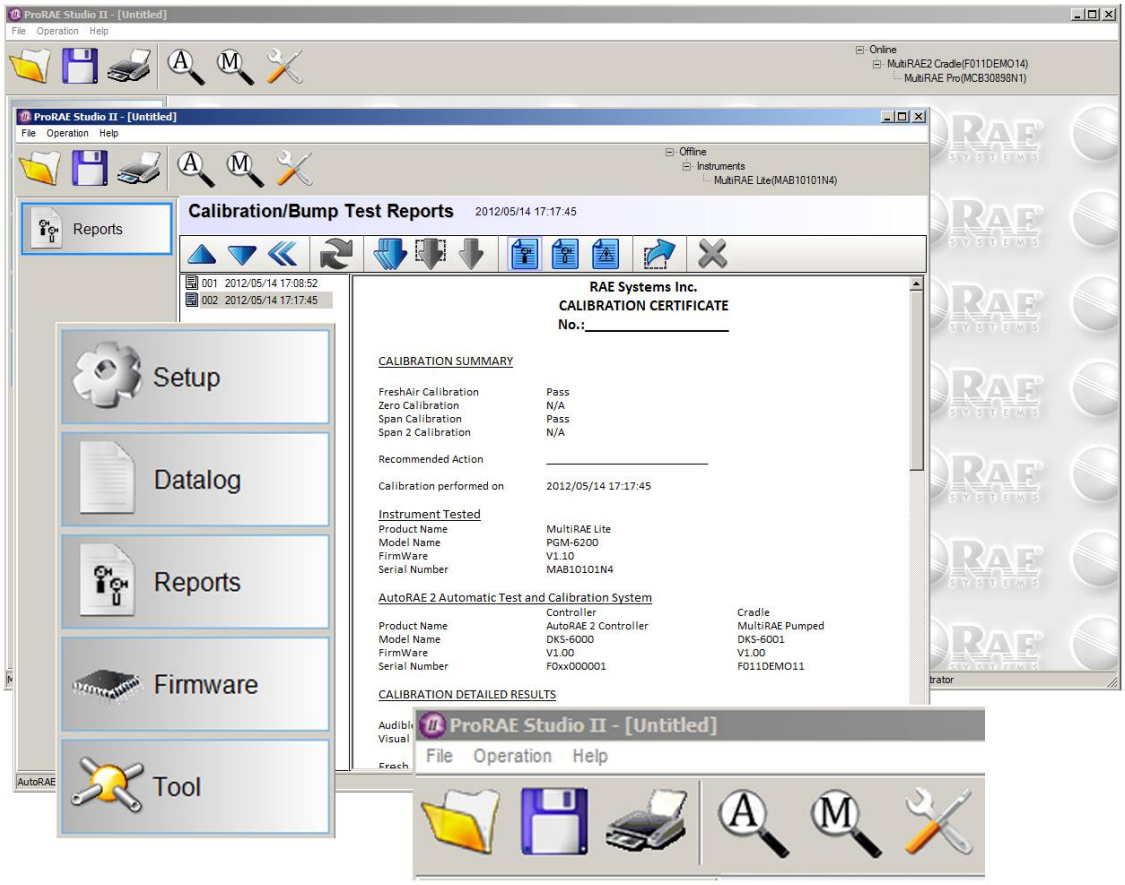
ProRAE Studio II
Version 1.9
User's Guide



RAE SYSTEMS by Honeywell

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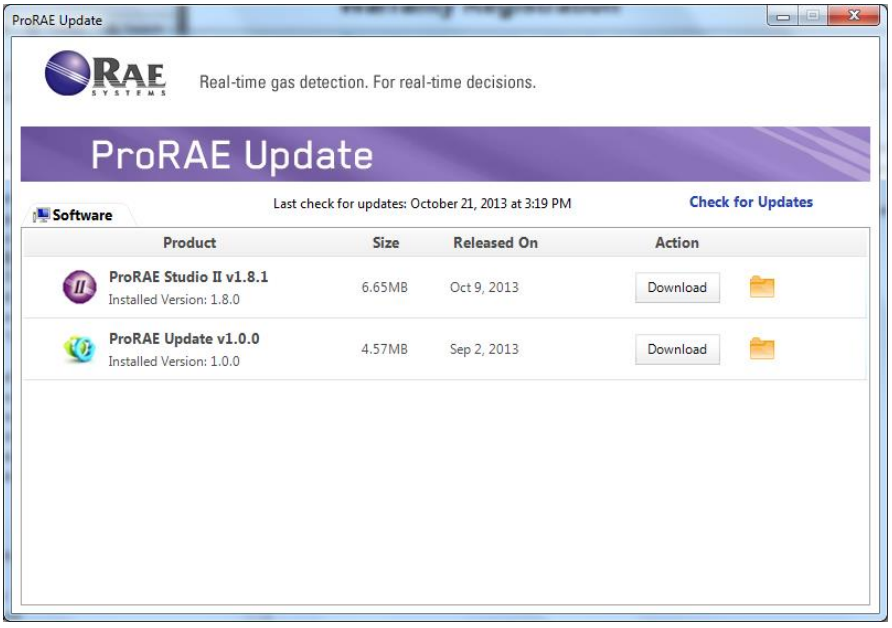
WARNING

Read Before Operating

This manual must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing this product. The product will perform as designed only if it is used, maintained, and serviced in accordance with the manufacturer's instructions.

Automatic Updates via ProRAE Update

When you start ProRAE Studio II and log in, ProRAE Update automatically checks with RAE Systems for updates to ProRAE Studio (this requires an active connection with the Internet). If any updates are available, it shows them, along with new features, version number, and release date. You can then download any updates, or dismiss them and perform updates at a later time.



1. General Information

ProRAE Studio II allows datalogs and configuration settings from RAE Systems instruments to be downloaded to a computer, and configurations to be uploaded from a computer.

ProRAE Studio II supports the following RAE Systems instruments. They must already be loaded with the firmware versions shown below (or a higher version):

Instrument Name	Lowest Firmware Version
ppbRAE 3000	1.03B
MiniRAE 3000	1.05A
MiniRAE Lite	1.1.20
MiniRAE Lite (ATEX)	1.05B
MiniRAE Lite (Fumigation)	1.07
UltraRAE 3000	1.05
QRAE II	3.50
QRAE 3	1.20
ToxiRAE Pro PID	1.66
ToxiRAE Pro LEL	1.66
ToxiRAE Pro	1.66
GammaRAE II R	4.00
GammaRAE II R Rechargeable	4.00
NeutronRAE II (PRM-3020)	2.00
NeutronRAE II (PRM-3021)	3.01
MultiRAE Lite	1.18
MultiRAE	1.18
MultiRAE Pro	1.18
AutoRAE 2 Controller (DKS-6000)	1.24
MultiRAE (Pumped) Cradle (DKS-6001)	1.22
ToxiRAE Pro Cradle (DKS-6002)	1.22
QRAE 3 Cradle (DKS-6003)	1.22

ProRAE Studio II communicate with these instruments via serial port, SD card, and an AutoRAE 2 Controller (depending on which instruments are connected) when configuring them or retrieving their datalog. Refer to your product's manual for details on connecting with a computer, as well as all safety requirements.

This version of the software allows you to:

- Download datalogs
- Download configuration settings
- Change and upload new configurations settings
- Upload firmware
- Download reports

2. Hardware & Software Requirements

2.1. Hardware

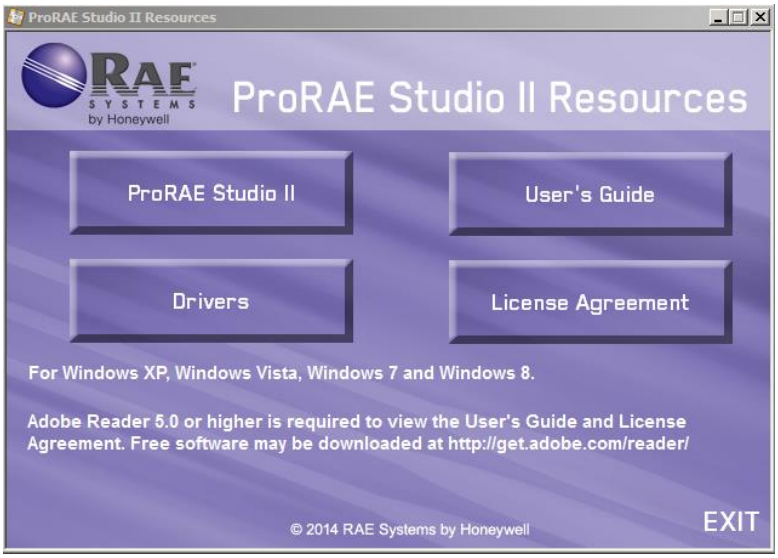
CPU:	Pentium processor, 1GHz
Reader:	CD-ROM drive
Monitor:	VGA monitor with resolution of at least 1024 x 768, 16-bit color
Memory (RAM):	256MB
Disc Space:	10MB of free space

2.2. Software

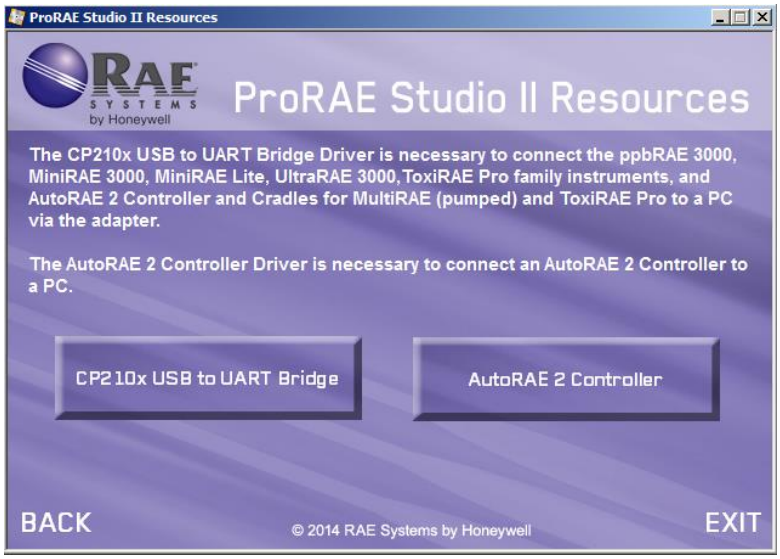
Operating System: Windows XP, Windows Vista, or Windows 7, Windows 8

3. ProRAE Studio II Installation

1. Load ProRAE Studio II software from the CD or double-click the icon if the software was downloaded from the Internet. (If an installation window does not appear automatically, open the folder and double-click "Autorun.exe.")



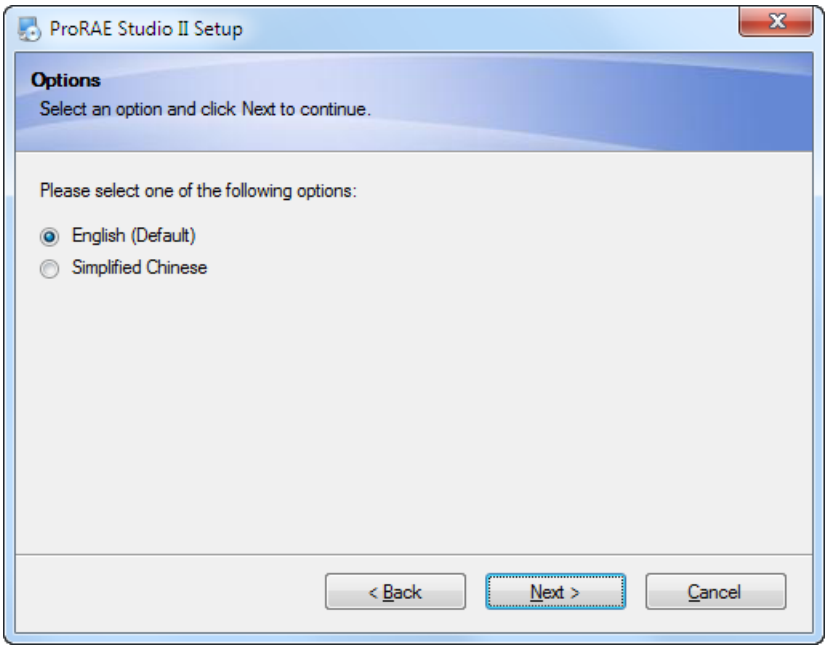
Note: Your computer may require a USB driver for connection with some monitors. Click Adapter Drivers, and follow the instructions for installation.



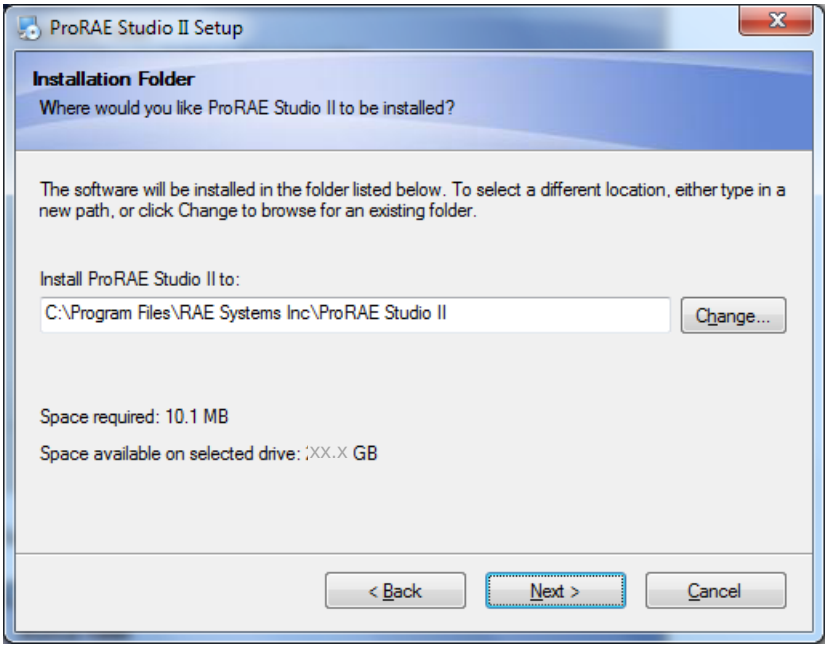
Note: For GammaRAE II R and NeutronRAE II, you need a Bluetooth adapter and to install the proper driver for the adapter. It is recommended that you use an adapter from IOGEAR.

2. Read the recommendation before proceeding. In order to ensure a successful installation, it is suggested that you exit all other running programs. Then click "Next."

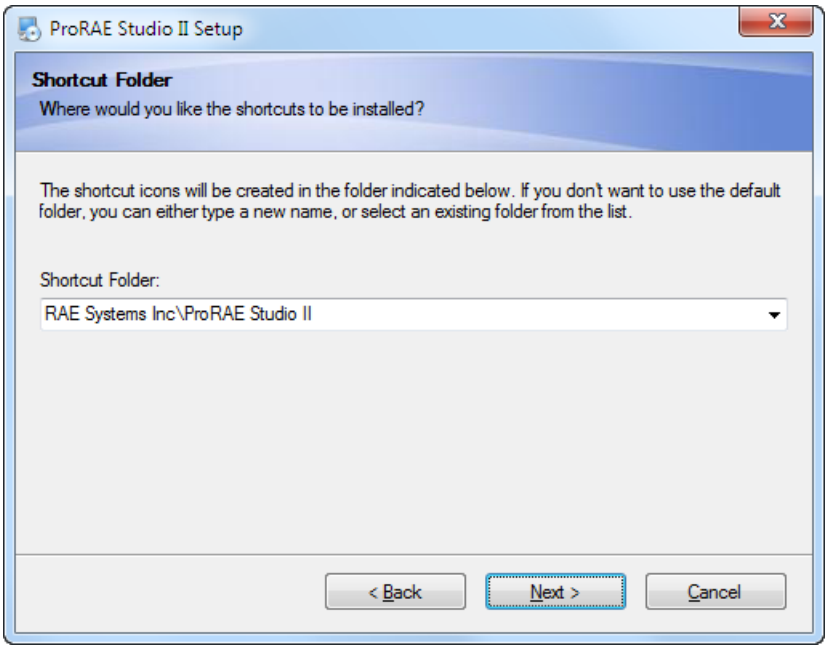
3. Select the language in which you would like the program to run. Then click "Next."



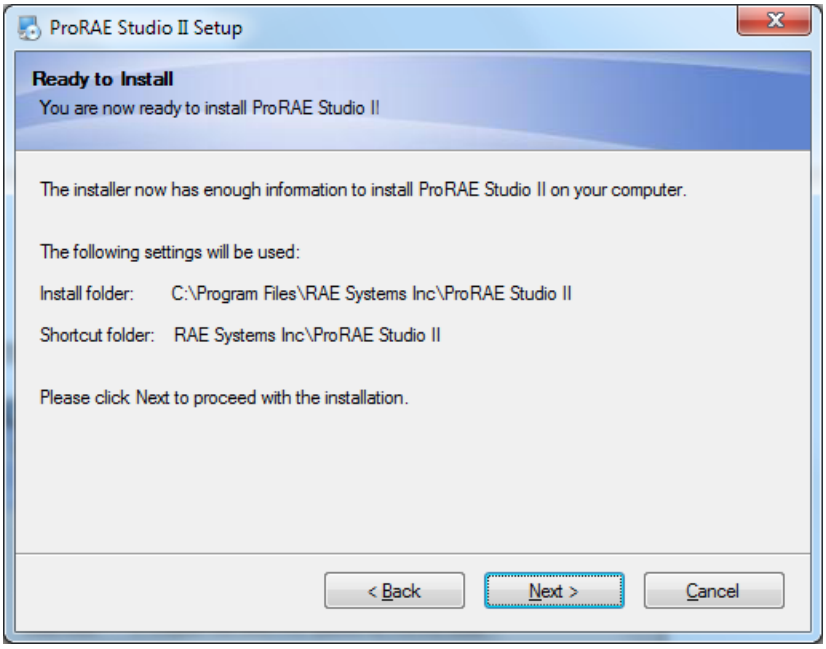
4. Select the folder for the software to be installed into. Accept the default folder by clicking "Next," or choose a new folder by clicking the "Change…" button, which allows you to browse to a new location. When you are done, click the "Next" button.



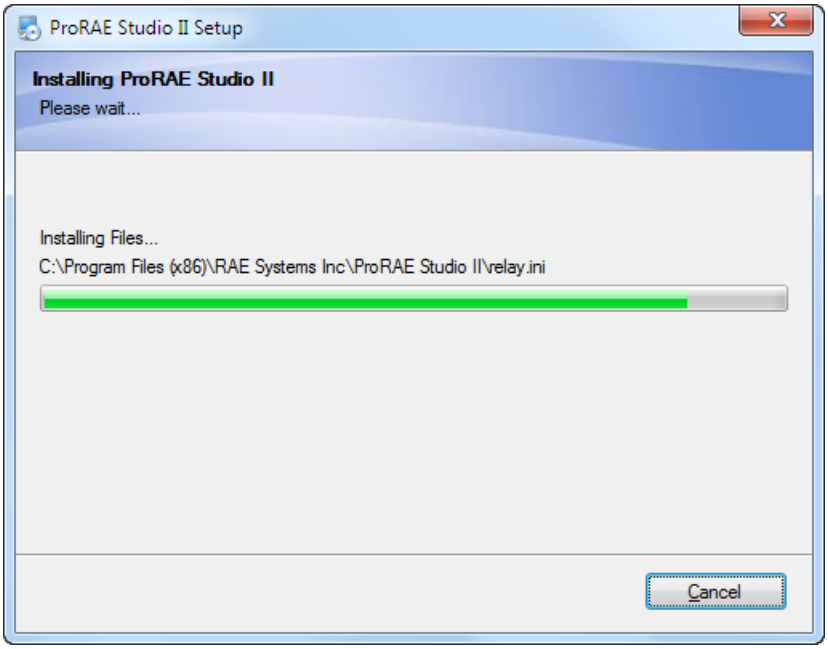
5. Select the folder for a shortcut to be installed into. Then click "Next."



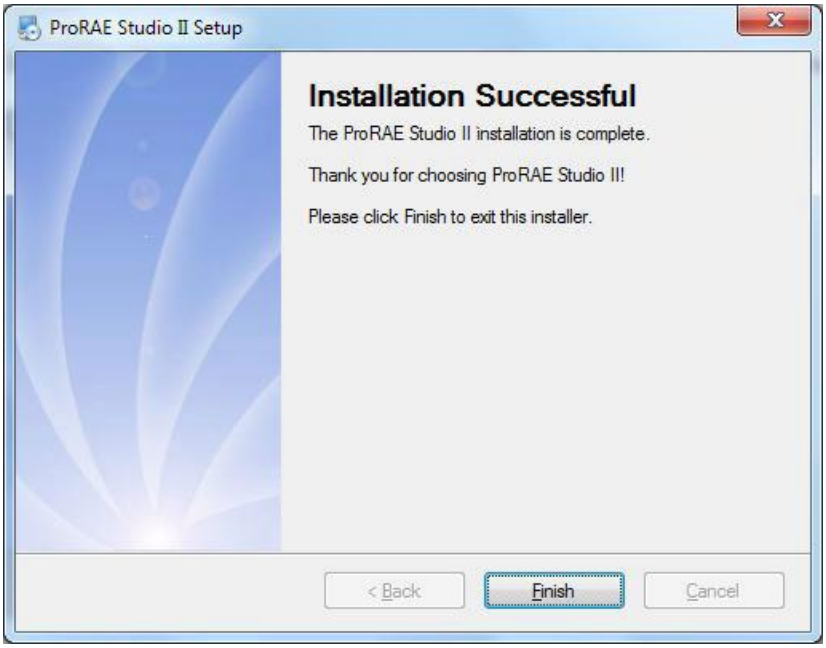
6. The software is now ready to install. Click "Next" to begin.



7. Progress bars indicate that the software is being installed:



8. Once the ProRAE Studio II software is successfully installed, this window appears:



Note: If the correct drivers are not installed or if the drivers on the PC are outdated, a pop-up box will appear, prompting you to install the appropriate driver(s).

9. Click "Finish." The window closes. Your software is now ready to use.

4. Connecting An Instrument To Your Computer

Your instrument must be connected to the computer, turned on, and in communication mode in order to transmit and receive data via ProRAE Studio II.

Note: A QRAE II does not need to be turned on. Make sure it is in its cradle, and the cradle is connected to the computer. In addition, make sure the charger is plugged in.

Different instruments require different connection methods to connect to a PC. Follow the instructions in the user's guide that accompanies the instrument, ensuring that you use the correct cable and communication method. In addition, you should make sure the instrument's battery is charged.

4.1. Connecting RAE Systems Instruments through the USB Adapter

For MiniRAE 3000, ppbRAE 3000, MiniRAE Lite, UltraRAE 3000, ToxiRAE Pro Family or New MultiRAE Family, QRAE 3, AutoRAE 2 Controller, or AutoRAE 2 Cradle

Make sure the CP210x Virtual COM Port driver is installed properly (this driver is available on the installation CD). Put the instrument on the cradle and connect the cradle to the computer's USB port. In the Device Manager, find the corresponding virtual COM port. Turn on your instrument and make it operate under PC Communication Mode. (The user's guide covers this.) If you are using an AutoRAE 2 Controller, this is done automatically.

4.2. Radiation Products (GammaRAE II R And NeutronRAE II)

Make sure the Bluetooth adapter driver is properly installed, and a virtual COM port is created for communication

4.3. AutoRAE 2 Controller

Refer to page 39 for details on establishing connections and transferring data with an AutoRAE 2 Controller via USB.

4.4. SD Card (AutoRAE 2 Controller)

Refer to page 39 for details on establishing connections and transferring data with an AutoRAE 2 Controller via SD card. You must remove the SD card from the AutorRAE 2 Controller and connect it to a PC, and then open it via ProRAE Studio II.

5. Port Configuration

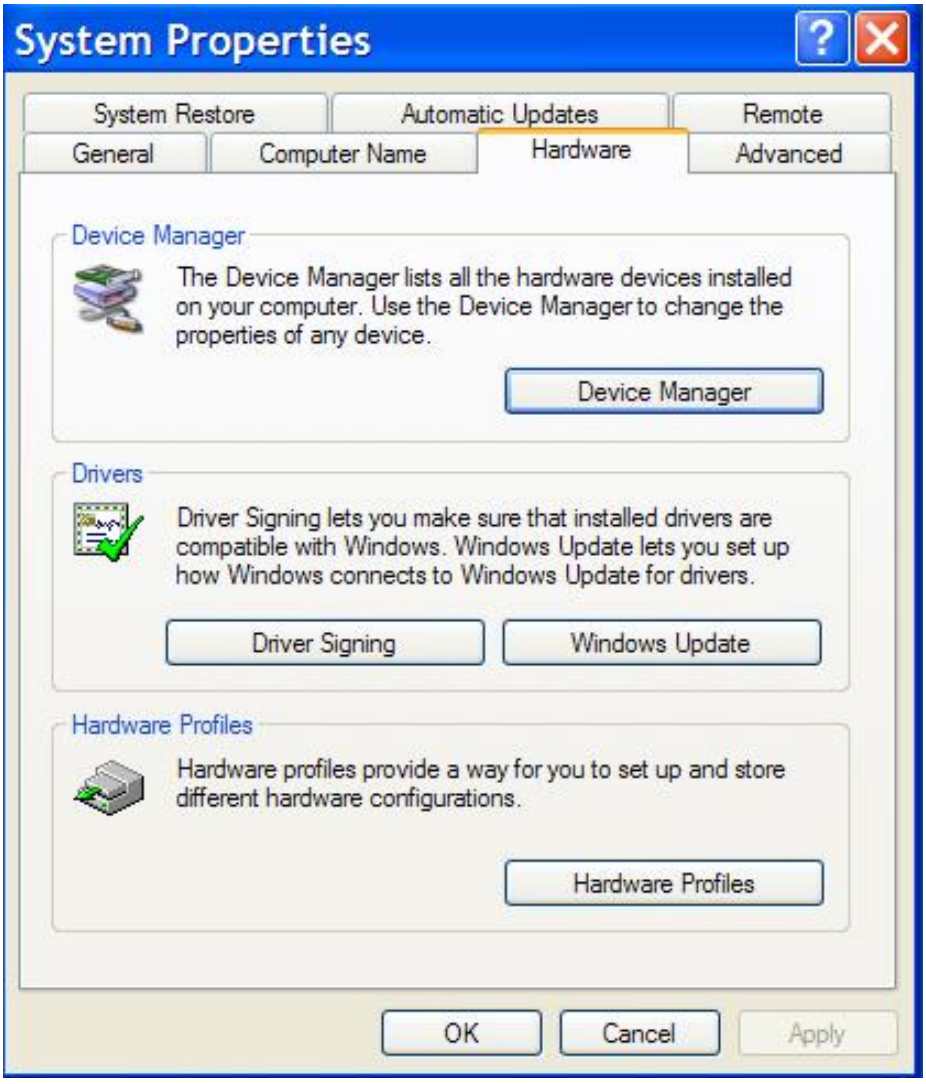
In addition to connecting the instrument and computer, you may need to configure the port. The following steps guide you to getting the correct port number.

1. Connect the instrument to your computer using a USB cable (this may require an adapter).

2. Configure your computer's port. Follow this path:

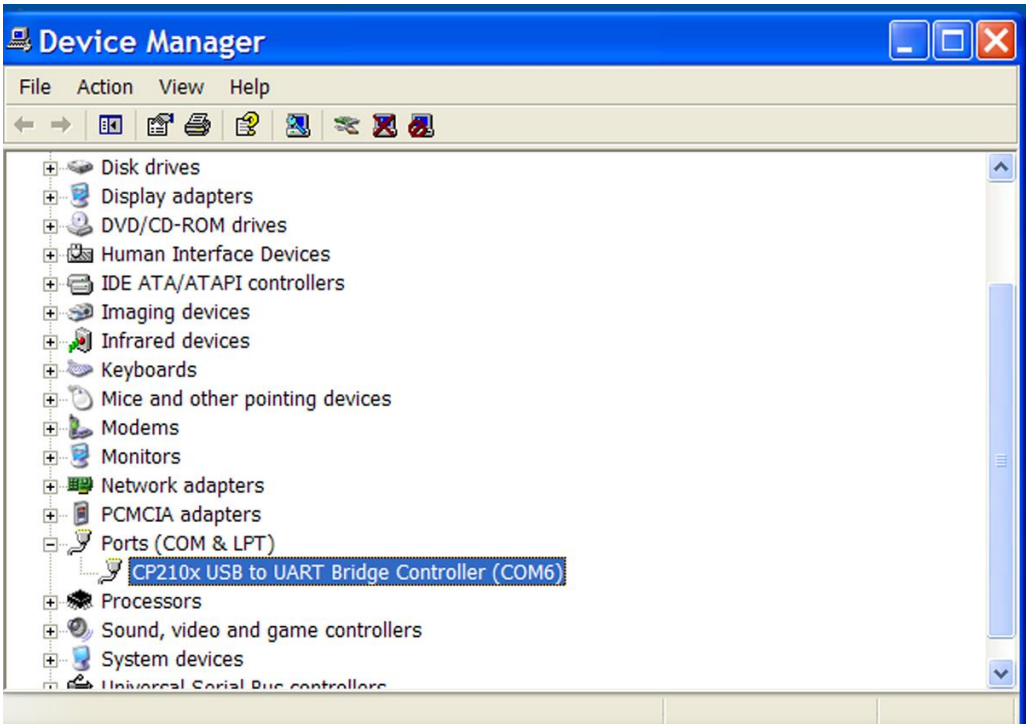
   Start >> Settings >> Control Panel >> System.

3. You now see the "System Properties" dialog box. Click "Hardware."

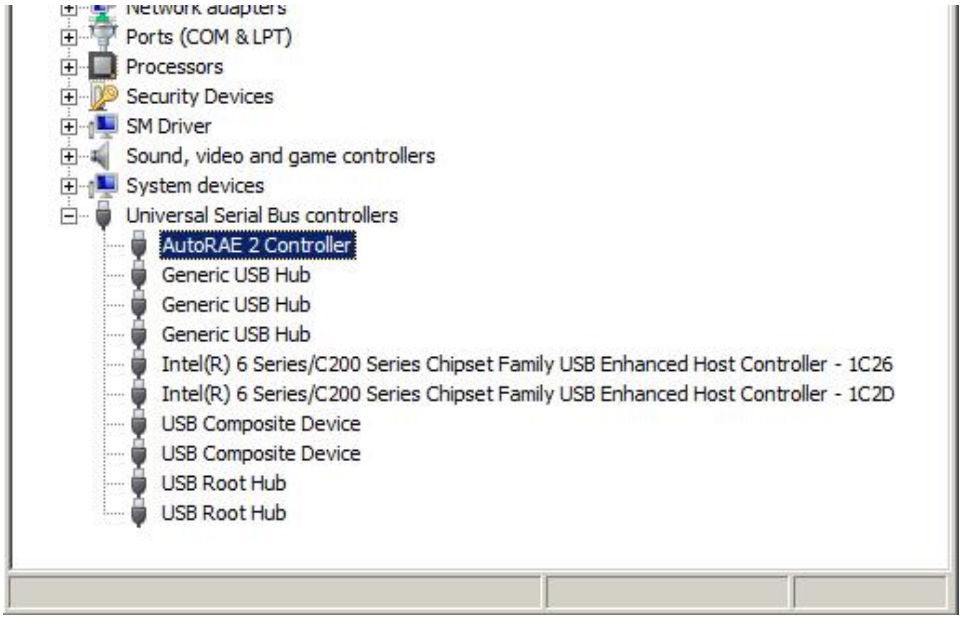


4. Click "Device Manager." You should see a list of devices in and attached to your computer. Scroll down the list until you see "Ports."

5. Open Ports (click on the "+" to the left of it) and you should see the name of the driver, plus its port number (for example, COM6). Write down this port number; you may need it when you start ProRAE Studio II.



Note: The USB port connection is shown under "Universal Serial Bus Controller," which is below "Ports (COM & LPT)" in the list. It should require no configuration, but it does tell if the connection is working properly.



6. Close Device Manager and System Properties.

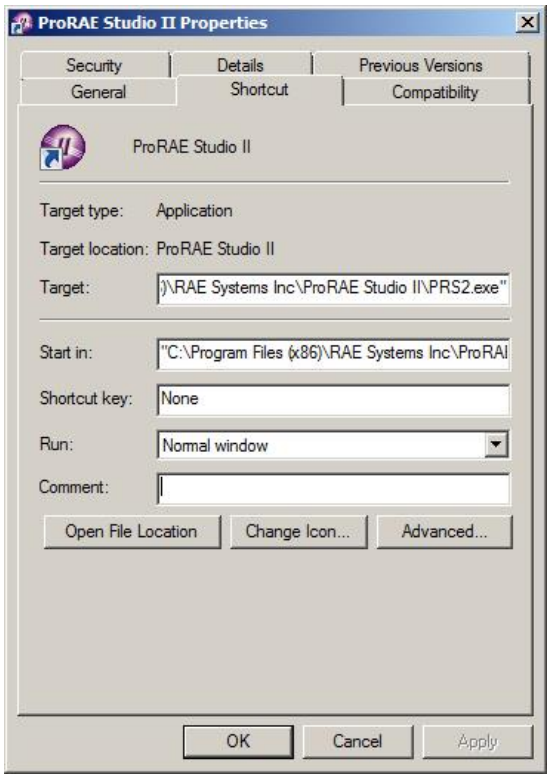
6. Starting ProRAE Studio II

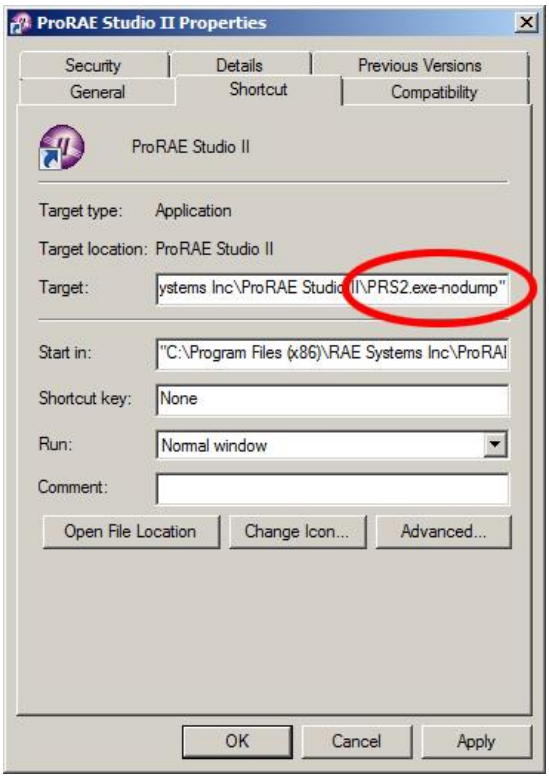
6.1. ProRAE Studio II "Dump" Function

IMPORTANT!

By default, ProRAE Studio II provides a "dump" function that generates a text file named "dump.txt," which it places in the ProRAE Studio II folder in the computer's Program Files folder (for example, C:\Program Files\RAE Systems Inc\ProRAE Studio II). This file is very useful if you ever run into a problem with the program and require technical support. If you wish to send this file, do not start up ProRAE Studio again before you can make a copy of this file, because this file will be truncated when ProRAE Studio II is started.

To access this, use your mouse to right-click on the shortcut to ProRAE Studio II. You will see this window:





If you choose to omit the "dump" function, you can disable it by adding a suffix of "-nodump" to the program shortcut.

Note: The path may be different from that shown in this example, depending on where the installation has been located.

7. Starting ProRAE Studio II From The Desktop

With your computer and monitor connected via cable, you are ready to start communication.

1. Follow the instructions in your monitor's User's Guide. This includes turning the monitor on and making sure it is connected either directly via cable, or through a cradle that is connected to the computer via a cable. Some monitors automatically sense the computer and software, and place themselves in communication mode. Others, such as the ppbRAE 3000, for instance, require that you place it in PC Communications mode.
2. Double-click the ProRAE Studio II icon on your desktop to start the program:

3. The program starts and a login dialog box appears:

Note: There are three access levels. The following sections cover the Administrator level, since it has the greatest functionality. "Basic" allows viewing only, whereas "Data Manager" allows reading the datalog and configuration but does not allow changes, and Basic User requires no password.

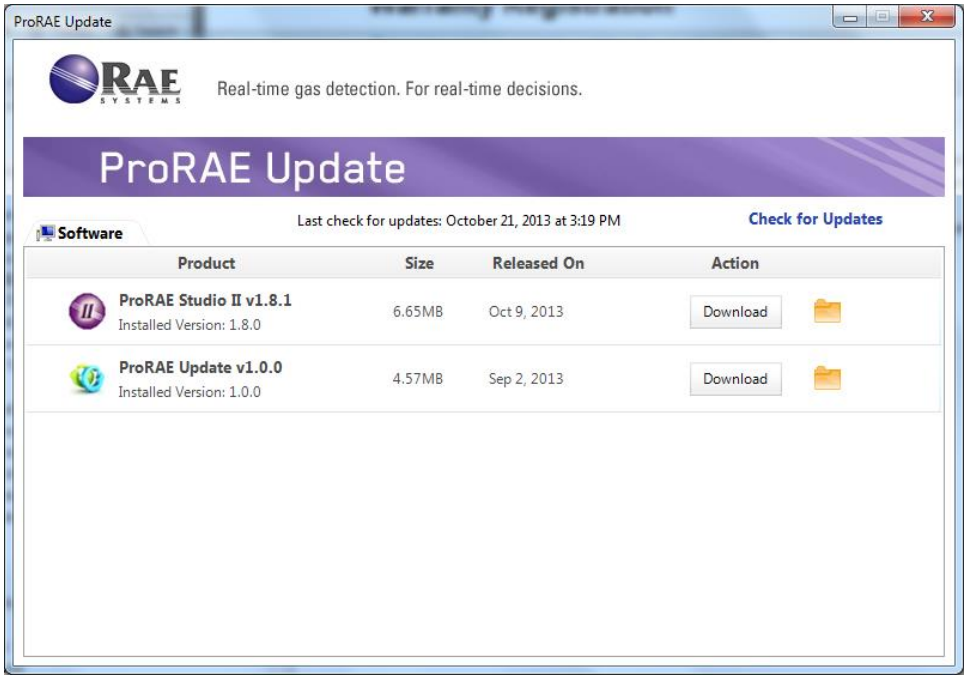
Type the password and click "OK."

Note: The default password is "rae". This password will provide you with full access. You can change it later (refer to page 19).

ProRAE Studio II may display a message window reminding you that one or more of your instruments has not been registered. For more information, see page 17.

7.1. Automatic Updates via ProRAE Update

When you start ProRAE Studio II and log in, ProRAE Update automatically checks with RAE Systems for updates to ProRAE Studio (this requires an active connection with the Internet). If any updates are available, it shows them, along with new features, version number, and release date. You can then download any updates, or dismiss them and perform updates at a later time.



8. Main Toolbar

Along the top of the ProRAE Studio II main window are five buttons:

Button	Function
	Open a ProRAE Studio file
	Save the current data to a file
	Print information shown in bottom pane
	Automatically detect instruments
	Manually detect instruments
	Setup options (configuration)

These buttons are the same as the text options above them in "File" and "Operation," but follow a different organization structure. There are a few differences, however. Under "File," there are two different saving options ("Save," which is simple saving, and "Save As…" for saving the file with a new name and/or location). In addition, there is a "Change Password…" option and an Exit command. Note that there is also a "Help" option.

File

Open…
Close
Save
Save As…
Print
Print Preview
Print Setup
Change Password…
Exit

Operation

Auto Detect
Manual Detect
Setup…
Language

Help

User's Guide
ProRAE Studio II Registration
Batch Instruments Registration
Check for Updates
About…

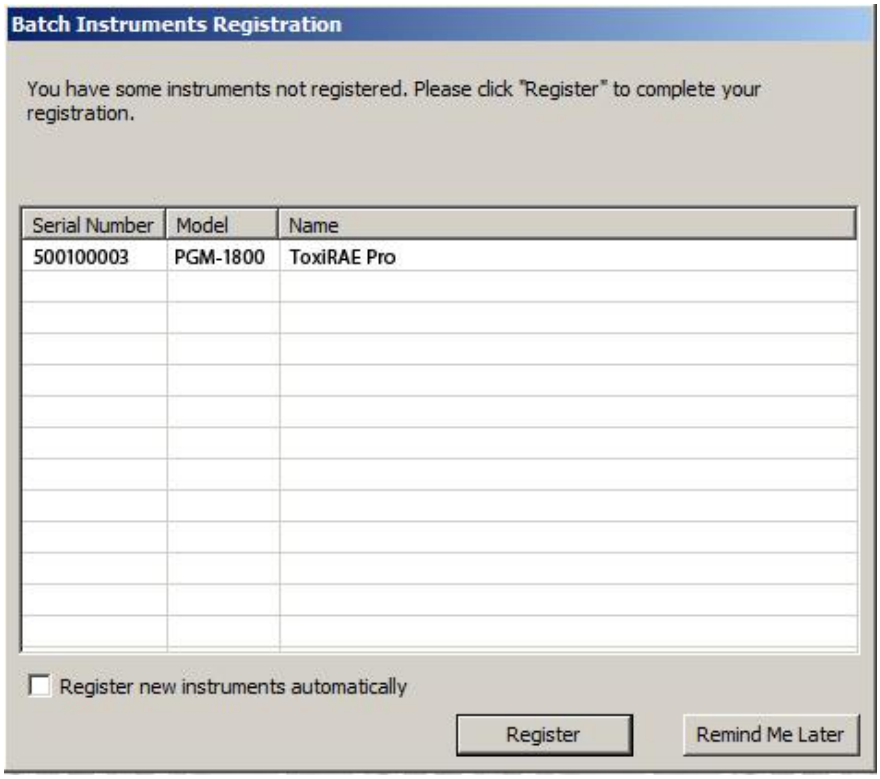
The Help section contains several useful features:

User's Guide. Click the "User's Guide" to view a PDF of the User's Guide on your screen.

ProRAE Studio II Registration. Check your ProRAE Studio Registration, or make and submit changes.

If you make changes, click Update to submit them to RAE Systems (your computer must be connected to the Internet). The data is retained at RAE Systems, as well as in your computer.

Batch Instruments Registration. When you have one or more instruments connected to your computer running ProRAE Studio II, and you select Batch Instruments Registration, it checks whether those instruments are registered with RAE Systems. Any instruments that are connected but are not registered show up in the list. To register them, click Register. Alternatively, you can do it some other time; just click Remind Me Later. If you want to bypass this process and allow ProRAE Studio to automatically register new instruments whenever they are connected to the computer and ProRAE Studio II is running, click the check box labeled "Register new instruments automatically".

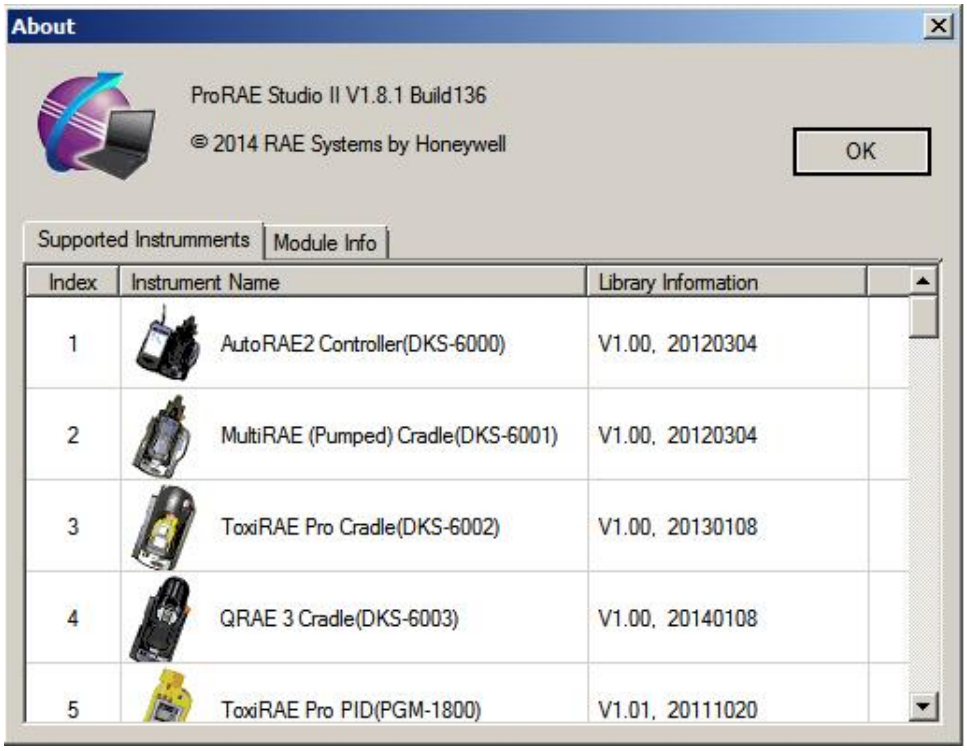


Note: The computer must be connected to the Internet.

Check for Updates. When you click this, ProRAE Studio contacts RAE Systems to see if there are any updates available. If there are, a window displays the product name, available version, size, and release date. It also includes information about new features in the version. Finally, each available update has a "Download" button. Click this to download the update.

Note: The computer must be connected to the Internet.

About. Click this to see which instruments are supported by the version of ProRAE Studio II that you are using. A second tab titled "Module Info" shows the running program's version and a list of support applications running in the background.

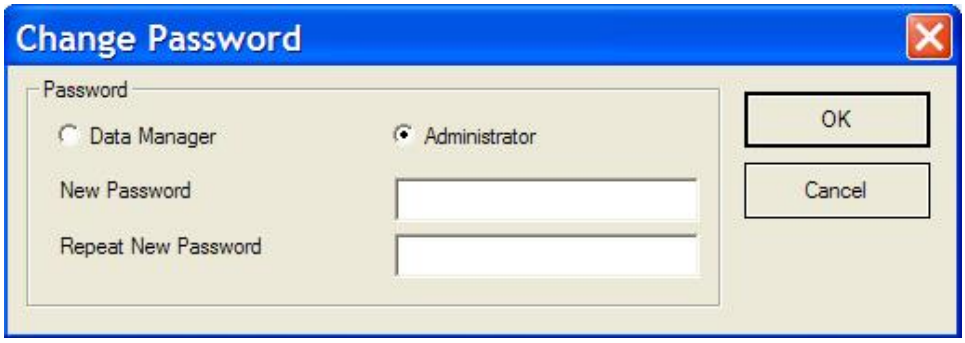


8.1. Changing Your Password

ProRAE Studio II accommodates two different passwords for Data Manager and Administrator. (No password is needed for Basic User.)

1. Select the password you would like to change.
2. Type the new password.
3. Type the new password again.
4. Click "OK."

Note: Passwords are case-sensitive.



The two new passwords you supply must match. If they do, then you see this message:

Click "OK" to return to the main screen.

If you typed two new passwords that do not match, you see this message:

Click "OK" to dismiss this message and then type the passwords again.

Note: If you forget your password, use the resource CD to reinstall the program. The default password will be restored.

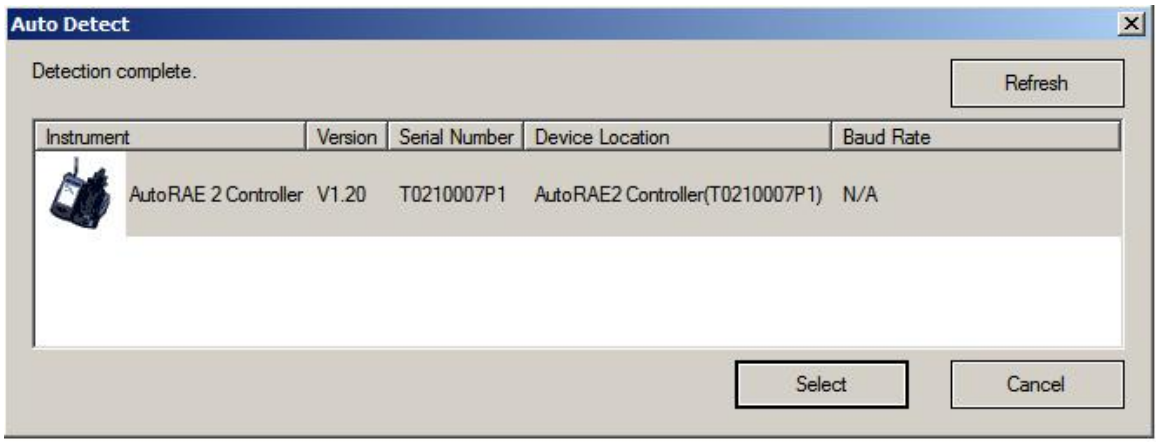
8.2. Automatic Detection

If You Are Using An AutoRAE 2 Cradle: You must put the AutoRAE 2 Cradle in PC Communications Mode before attempting to detect it with ProRAE Studio II. Press and hold the Bump button until "PC" is shown in the display.

Before performing any other operation, you must tell ProRAE Studio II to detect an instrument. The Automatic Detect function is convenient since it requires just clicking one button.

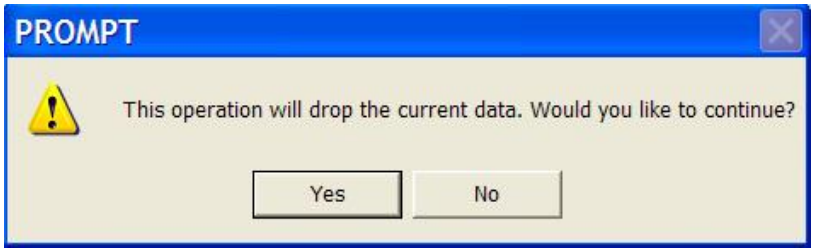
To automatically detect an instrument, click the Automatic Detect button:

The Automatic Detect dialog window appears and the detection process begins. When an instrument is detected, it is shown in the following way:



The instrument shown depends on what is connected to your computer. To continue, select an instrument. If you click "Cancel," no instrument is selected and the dialog box closes.

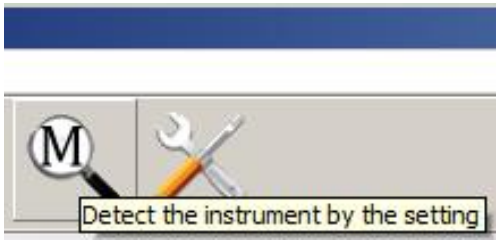
Note: If your computer has difficulty connecting with an instrument, click "Refresh." If an instrument does not show up, check your cables, the instrument, and the port number.If you have already selected an instrument and open Automatic Detection again and click "Select," you will see this dialog box:



If you click "Yes," data is taken from the selected instrument and overwrites the data in ProRAE Studio II. If you click "No," the data is not overwritten, and the dialog box closes.

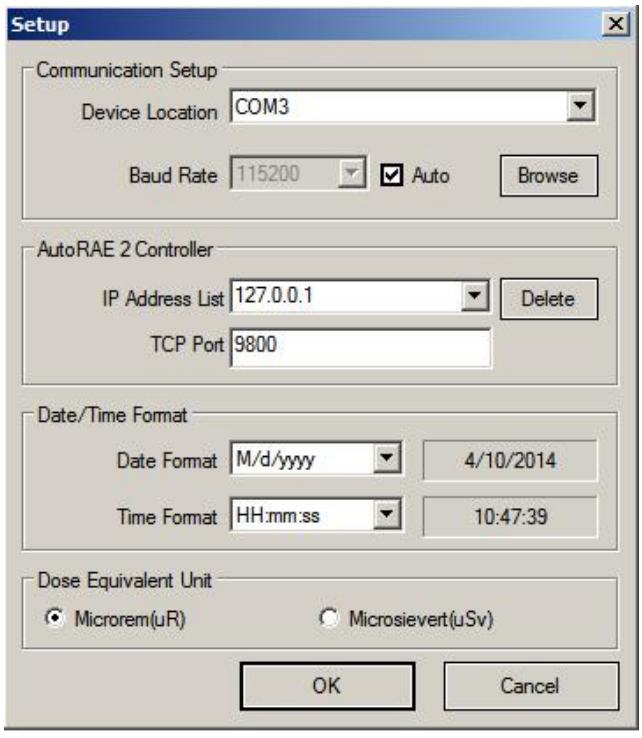
8.3. Manual Detection

You may want to use manual detection for an instrument if it does not show up in the list when you click Automatic Detection. Also, it may be faster than using Automatic Detect, since it does not check all existing COM ports.



Before you click the Manual Detection button, you should click the Setup Options button and set the COM Port:

The Configuration dialog box appears:



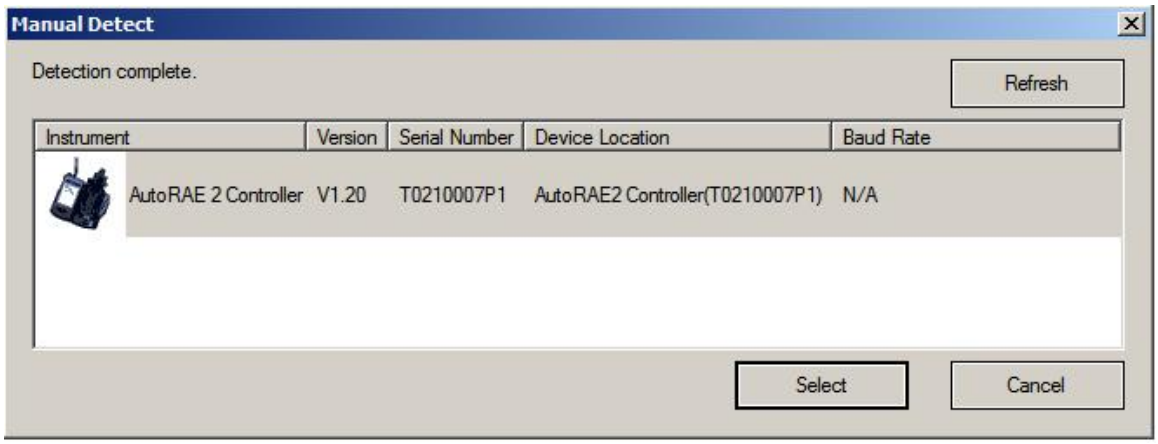
Click "Refresh" to refresh the COM port selections. Then pull down the appropriate COM port that matches the location of your instrument. You can select a communication

baud rate (the rate of data transfer), or simply click "Auto" and let the program determine the optimum transfer rate.

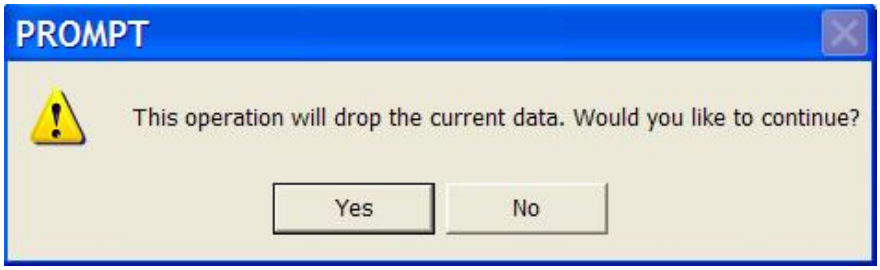
Note: If you are using an Ethernet cable or WiFi to connect the AutoRAE 2 Controller (version 1.22 or higher) to a network, you must set the IP address and TCP port.

Now click "OK." Configuration is complete.

When you click the Manual Detection button, this dialog box appears, showing information about the selected instrument:



Click "OK" to load the instrument's data into ProRAE Studio II. A warning dialog box appears:



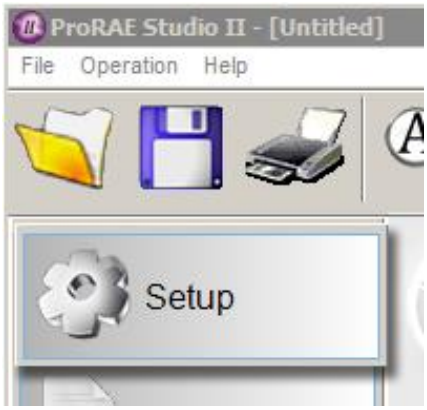
If you click "Yes," data is taken from the selected instrument and overwrites the data in ProRAE Studio II. If you click "No," the data is not overwritten, and the dialog box closes.

9. Setup (Configuration) Module

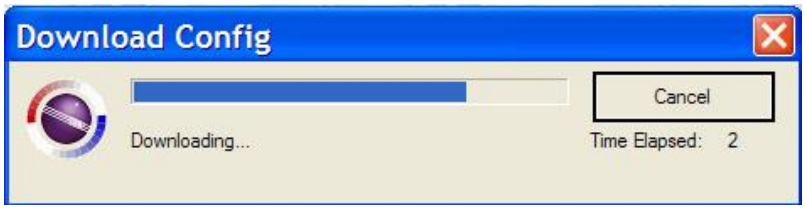
Once you have selected either Manual or Automatic detection, some or all of the following buttons appear along the left side of the screen:

Note: The icons/options available depend on the operation mode and the instrument. In Data Manager mode, only Setup, Datalog, and Gas buttons are shown. In Basic User mode, only Setup and Gas are shown.

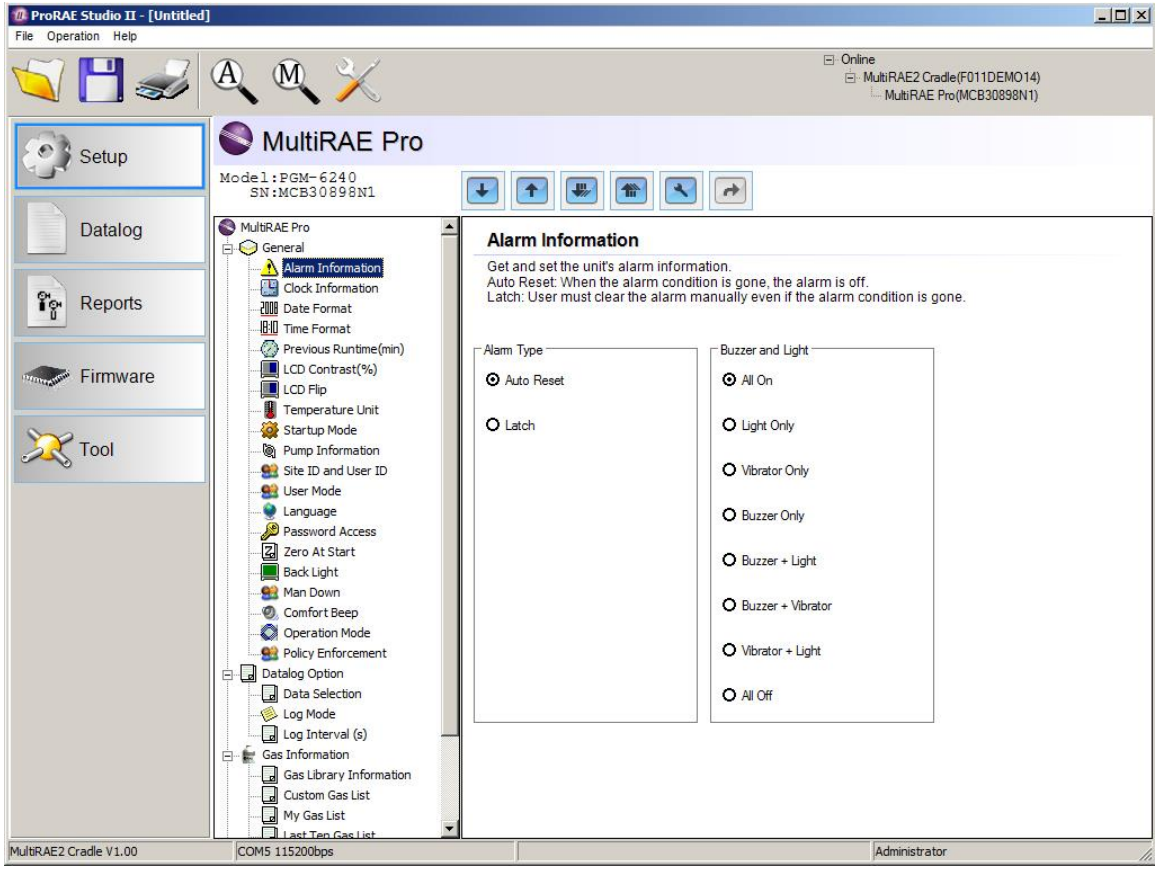
Click "Setup" to configure ProRAE Studio II by downloading data from the instrument:



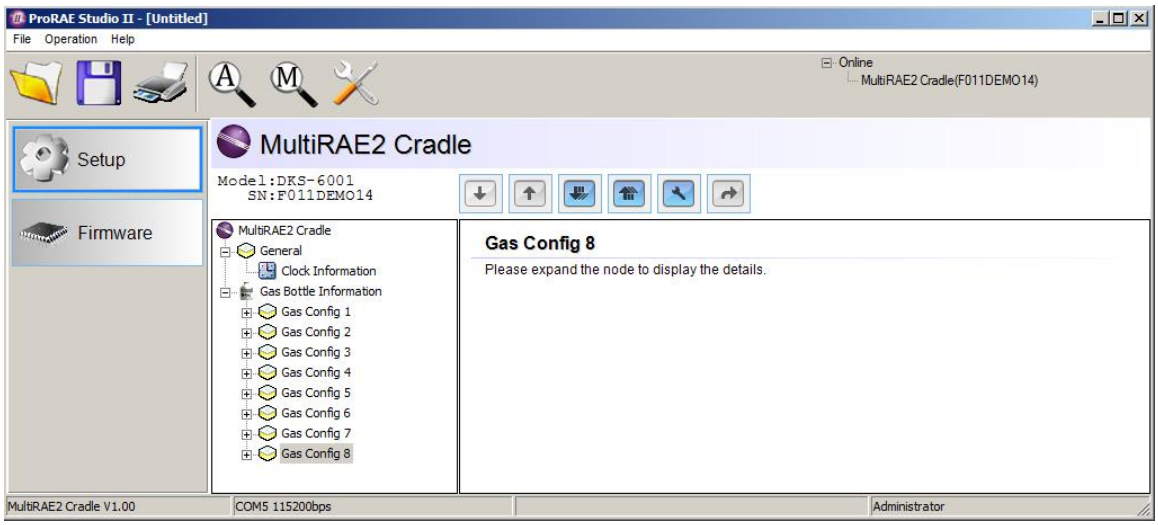
A progress bar shows that the data is being transferred. The process takes a few seconds (elapsed time is indicated).



Once configuration is done, the screen is now filled with data from the instrument:

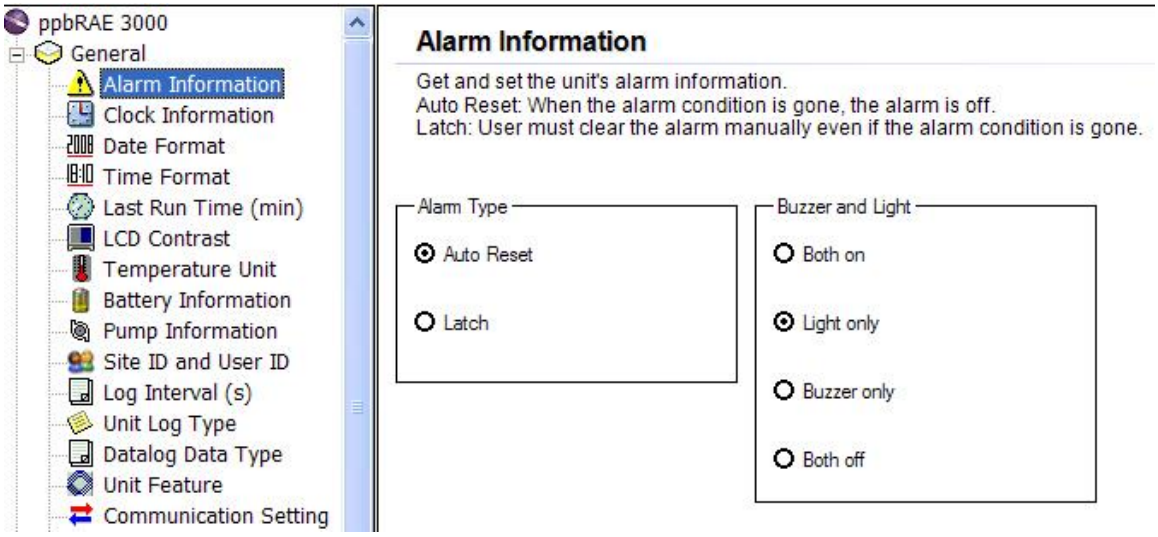


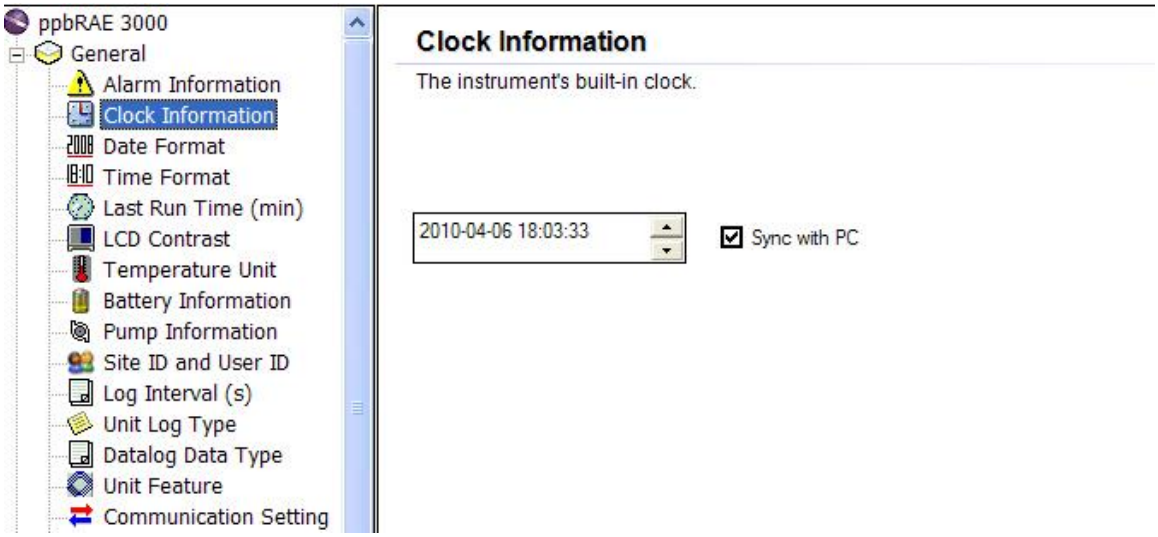
AutoRAE 2 Controller Or Cradle: If you are using an AutoRAE 2 Cradle or AutoRAE 2 Controller, the configuration screen looks like this:



The name of the instrument is shown at the top, as well as the model and serial number. In the pane on the left side of the window is a "tree" of controls, including all of the parameters you can read and adjust. As you click on one of the items in the "tree," a new parameter is selected and its information is shown in the right pane.

Here are two selections. Notice how the data in the right pane changes as a selection is made in the left pane.





Note: Each instrument has different parameters shown in the left pane, depending on parameters available in the instrument itself.

9.1. Configuration Toolbar

There is also a toolbar across the top of the right pane for moving configuration data to and from the instrument.

9.1.1. Configuration Toolbar Button Function Summary

Button	Function
	Update the current item's configuration from the same instrument
	Set the current item's configuration from the same instrument
	Download all items' configurations from the same instrument
	Upload all items' configurations to the same instrument
	Upload all items' configurations to the same instrument, without checking the serial number
	When the root of the tree is selected, this button is blue (instead of gray), and allows you to export the configuration data to a text file.

Note: An antenna icon alongside this toolbar indicates that the instrument has wireless functionality.

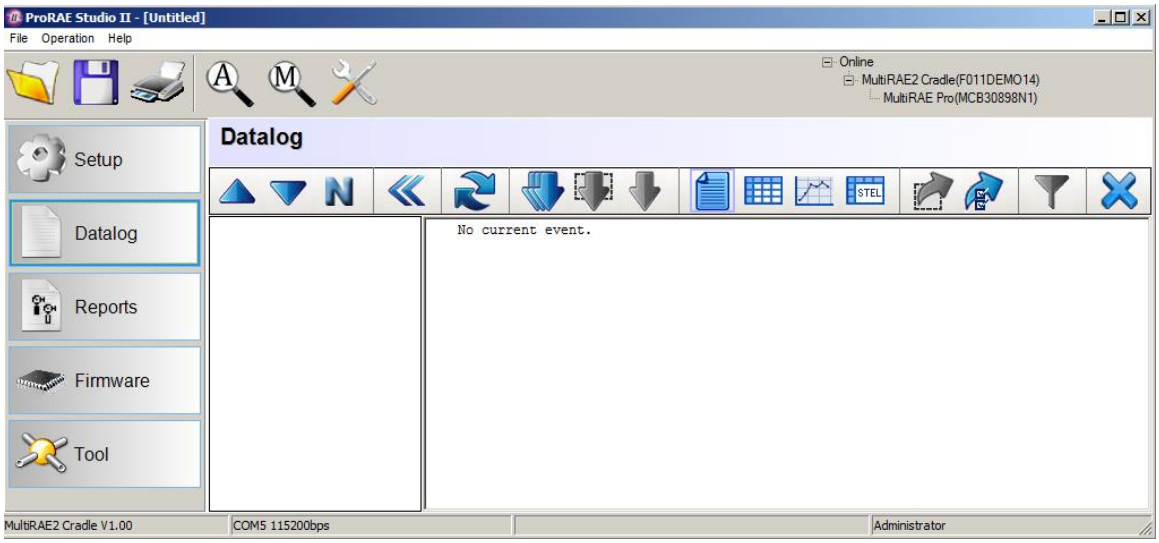
10. Datalog Module

Click the button labeled "Datalog" to access the data in the datalog from your instrument.

IMPORTANT!

AutoRAE 2 Controller: If you are using an AutoRAE 2 Controller with a PC running ProRAE Studio II, refer to page 11, "Transferring AutoRAE 2 Controller Data To A Computer," for details on downloading data.

The Datalog window is now shown in the right pane and the "Datalog" button is highlighted.

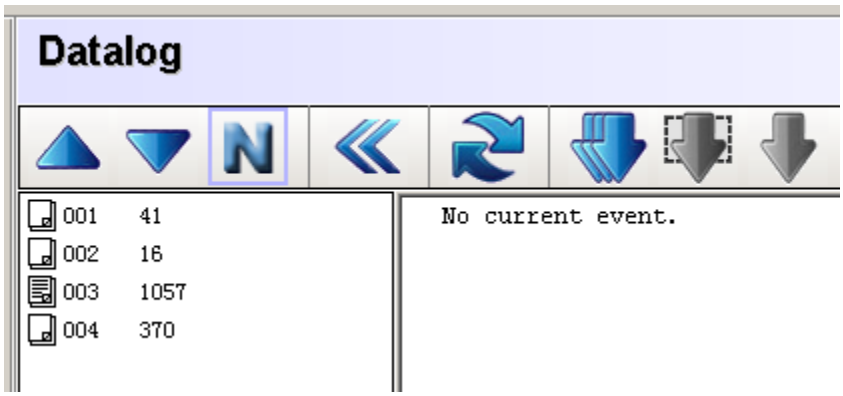


10.1. Datalog Button Functions Summary

Button	Function
	Order
	Reverse order
	Display record number
	Expand or collapse
	Refresh (update) event information
	Download all data
	Download selected events
	Download current event
	Summary (of current events)
	Sheet (sheet views of all current event data)
	Graph (trend line of current event's data)
	TWA/STEL
	Export selected events
	Export/print options
	Filter
	Erase datalog

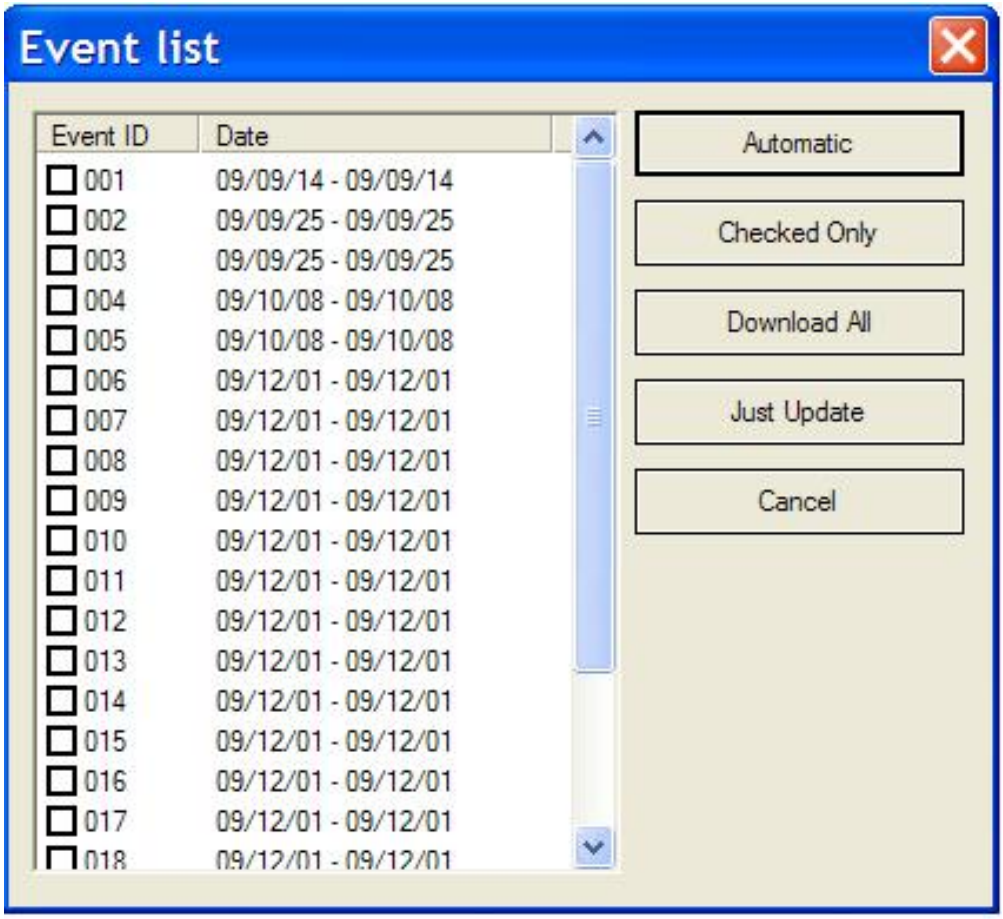
Order and Reverse Order. Use these two buttons to sort the event display in sequential order or in reverse order.

Display Record Number. This button allows you to choose to display whether the event's name or event record number is in the left list.



Expand/Collapse. Expand or collapse the data in the column.

Refresh Event Information. When you click this button, the events are downloaded. **Note**: This does not work for all instruments.

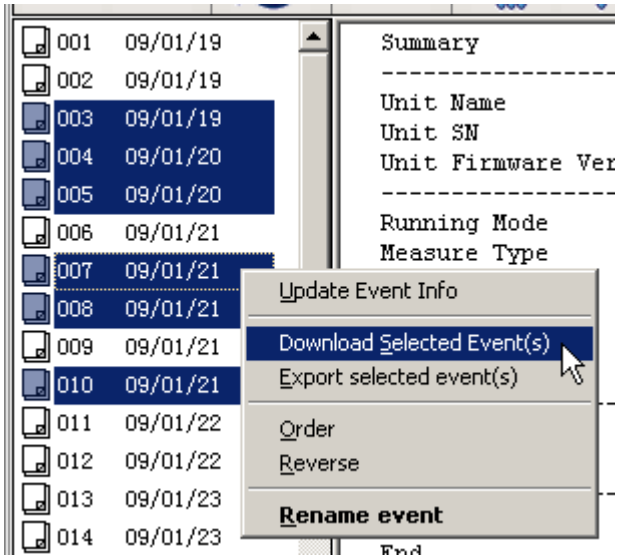


Five buttons stacked along the right side provide the following options:

Button	Function
Automatic	Download the events that have not been downloaded yet.
Checked Only	Download only checked events
Download All	Download all events. It acts like the Download Data ( ) button
Just Update	Just update the item list to the list control
Cancel	Cancel (do nothing and return to the main program window)

Download All Data. Download all data in the datalog.

Download Selected Events. Only download items that you have selected from the list. If you want to download events directly from the datalog display, you can first pick multiple events by pressing the "Shift" key while pressing the left mouse button. (Ctrl-click on each event.) Then press the right mouse button to choose "Download Selected Event(s)" from the pop-up menu, as shown:



Other options allow you to export selected events, change their order, and even rename them.

Download Current Event. Although many events can be selected at one time, there can be only one focused event. The focused event is the current event. Its content is displayed in the datalog window.

Summary. This views the current event's summary information.

```
Summary
------------------------------------------------------------
Unit Name            MiniRAE 3000
Unit SN              592-000833
Unit Firmware Ver    V1.01
------------------------------------------------------------
Running Mode         Hygiene Mode
Measure Type         Avg; Max; Real
Datalog Mode         Continuous
Datalog Type         Auto
Diagnostic Mode      No
Stop Reason          Pause in Communication Mode
------------------------------------------------------------
Site ID              RAE00001
User ID              00000001
------------------------------------------------------------
Begin                2009/02/02 08:20:30
End                  2009/02/02 14:06:27
Sample Period(s)     25
Record Number        830
------------------------------------------------------------
Sensor               VOC(ppb)
Span                 100000
Span H               N/A
Low Alarm            50000
High Alarm           100000
Over Alarm           15000000
STEL Alarm           25000
TWA Alarm            10000
Calibration Time     2008/02/25 20:50
Peak                 110
Valley               0
Average              16
```

Sheet. The sheet views all data of the current event.

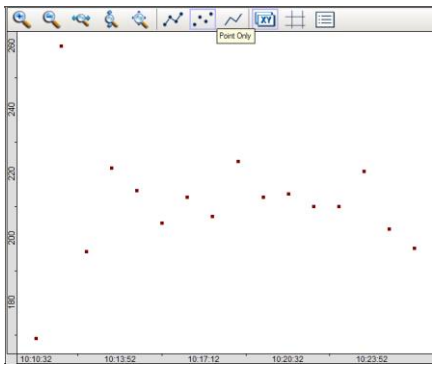
	Date/Time	VOC(ppb)(Avg)	VOC(ppb)(Max)	VOC(ppb)(Real)
001	2009/02/02 08:20:30	11	72	0
002	2009/02/02 08:20:55	0	0	0
003	2009/02/02 08:21:20	0	0	0
004	2009/02/02 08:21:45	0	0	0
005	2009/02/02 08:22:10	0	0	0
006	2009/02/02 08:22:35	0	0	0
007	2009/02/02 08:23:00	0	0	0

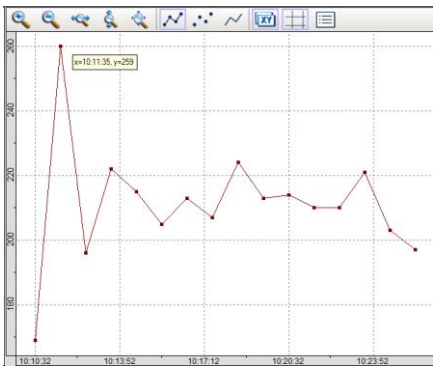
Note: You can copy content from this grid if you want to paste it into a report, etc. Use Shift-left click to select and Control-C to copy. (Most programs let you use Control-V to paste, but check your program's user's guide to be sure.)

Graph. The graph shows the trend line of the current event's data. When you select this graph view, an additional toolbar appears, with options for viewing.

Button	Function
	Zoom in
	Zoom out
	Fit width
	Fit height
	Fit page
	Points-and-lines graph
	Points-only graph
	Lines-only graph
	Show/hide X and Y information
	Show/Hide axis (graph lines)
	Show/hide notes

Here are examples of two different graph views:





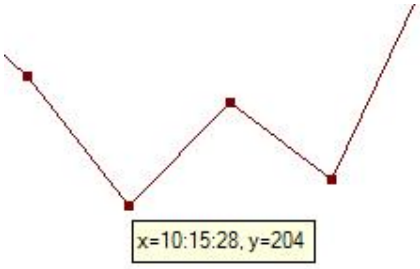
Note: You can move the graph around in the window by clicking and dragging with your mouse.

Zoom In and **Zoom Out** give you different enlargements of the graph, and can be helpful when trying to examine dense data.

Fit Width, Fit Height, and **Fit Page** also provide different views, compressing or expanding the graphic area to fit your needs.

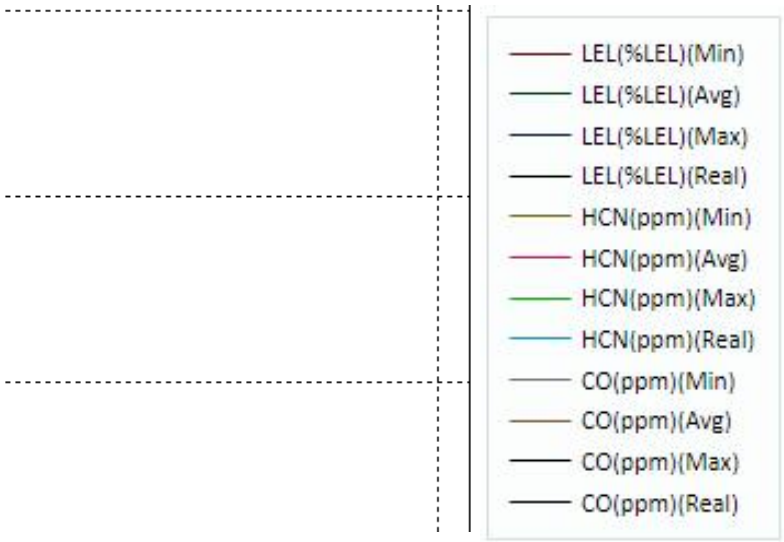
The **Points-and-lines, Points-only,** and **Lines-only** graph styles change the references so that you can see different representations of the data with greater or less reference information. Only one of these can be selected at a time.

Show/Hide X and Y information lets you turn on or off a tool tip that follows your cursor as you move your mouse. The tool tip window shows the cursor's X and Y locations on the grid, which is helpful during discussions of locations and trending.



Show/Hide graph lines, as its name implies, turns on and off the vertical and horizontal grid behind the graph.

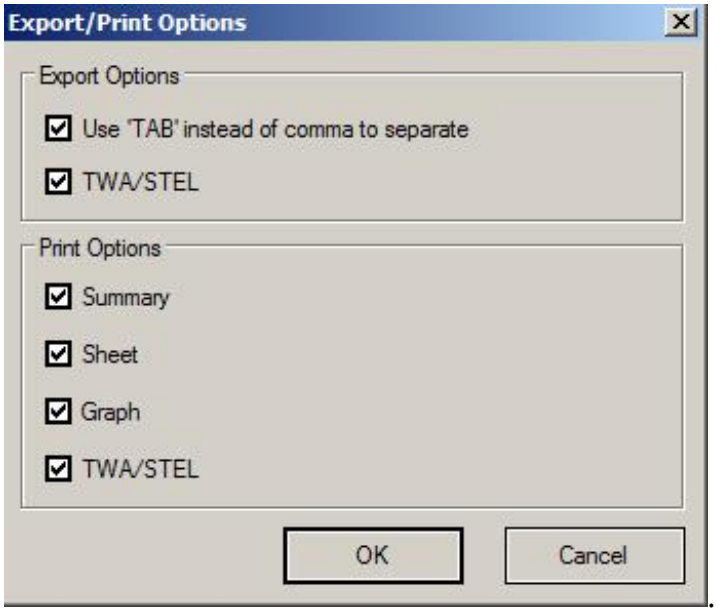
Show/Hide notes allows you to view part of the graph with a label that tells you what the line represents. The small dialog box indicates the line color, allows you to show or hide the line by clicking the check box.



TWA/STEL. This refers to time-weighted average (TWA) and short-term exposure limit (STEL) values. The values shown on the screen are not from the instrument, but are worked out by ProRAE Studio II. Typically, you would set the instrument's measuring type for accurate TWA/STEL values. Refer to RAE Systems Technical Note TN-119 for information on calculating TWA and STEL values.

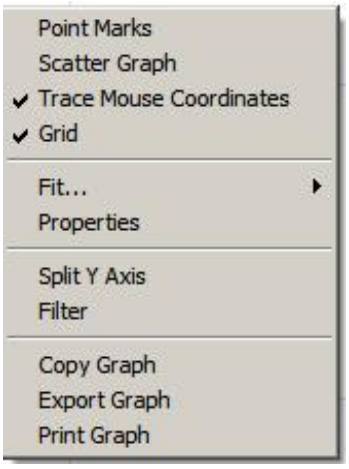
Export Selected Events. Export selected events to text (.txt) format. You can select more than one event and export them simultaneously into a single file. Select from the list of events by Control-clicking on each item to select. When they are highlighted, click the Export Options button. A dialog box appears, which allows you to select where the file will go, plus you can name it (the default name includes "PRS_EXPORT" followed by a date; for example, PRS_EXPORT_20100407.txt)

Export/Print Options. When you click this button, the following dialog box with two options appears:



You can elect to export TWA/STEL data, and to save the data with a tab instead of a comma to separate items in each row (this is useful for files that will be imported into spreadsheets such as Microsoft Excel). In addition, there are print options, which allow you to select Summary, Sheet, Graph, and/or TWA/STEL.

Right-clicking in the graph gives you a menu with the options indicated by the icons, plus additional options.



Point Marks. Shows the sample points on the graph as dots on the line.

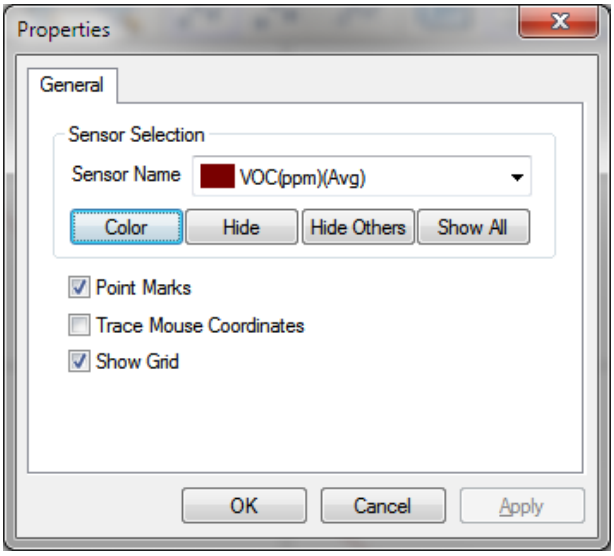
S**catter Graph.** Shows only the sample points as dots (no line).

Trace Mouse Coordinates. When this is on, as you move the mouse along a line on the graph, it shows X and Y coordinates, as well as the name of the sensor/gas when you mouse over a Point Mark.

Grid. Turns the grid on and off (shows or hides it).

Fit… This provides the option of different views, compressing or expanding the graphic area to fit your needs, once the image is zoomed in or out.

Properties. This pop-up window has controls for setting/changing colors for the graph lines, showing and hiding one or more graph lines.



Split Y Axis. Selecting this splits each line into its own graph, with all aligned to the time values.

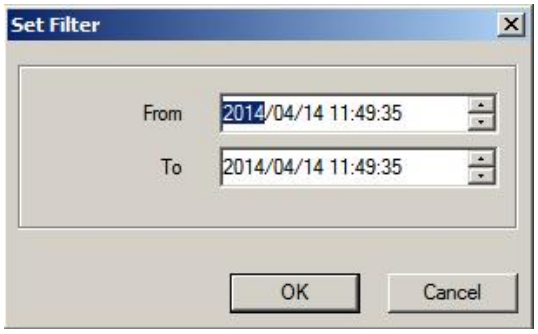
Filter. This lets you independently set the "from" and "to" times in order to focus on one part of the time line for graphic display.

Copy Graph. This copies the graph.

Export Graph. This allows you to export the graph as a .png graphic file.

Print Graph. This lets you send the graph to a printer (if one is connected to your PC).

Filter. Once you select an event, you can filter it for time and value ranges, which is helpful when you want to see only data in a specific date range or in in a specific range of TWA or STEL values. When you click the Filter button, this window appears:



Time Filter. Set time and date values for a date range ("From" and "To") by clicking on the portion you want to change, and then either type over the value or use the up/down arrows to the right of each field to increase/decrease the value.

Erase Datalog. Clicking this erases the instrument's datalog.

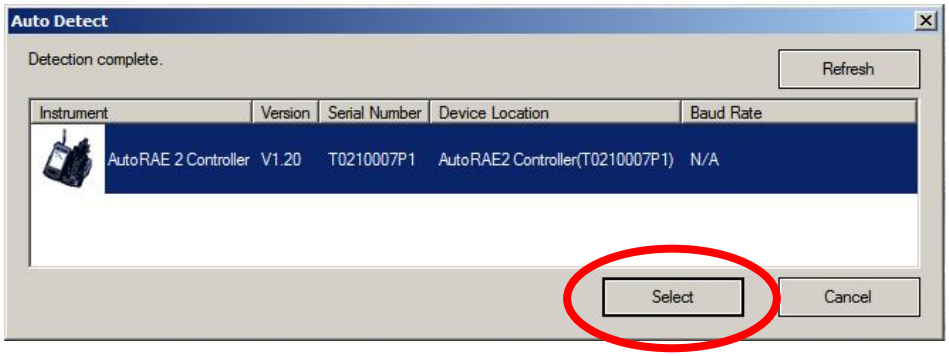
CAUTION! If you erase the datalog, it cannot be recovered—all data is deleted. Therefore, if you must keep the datalog's information, save it first.

11. Transferring AutoRAE 2 Controller Data To A Computer

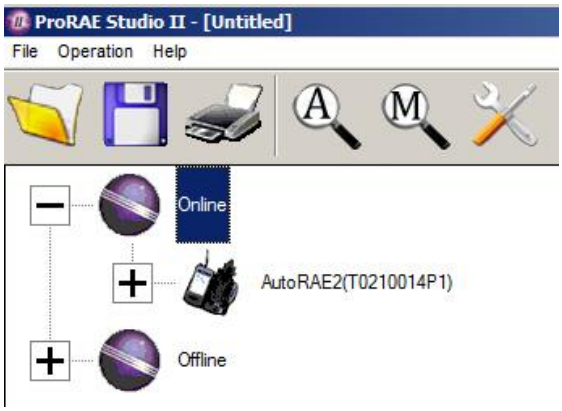
Bump and calibration data is collected each time an instrument is bump tested or calibrated. The AutoRAE 2 Controller collects this data and stores it on an SD Card, providing a convenient means of storage and easy data transfer.

Follow this procedure for reading calibration and bump testing data from an AutoRAE 2 controller:

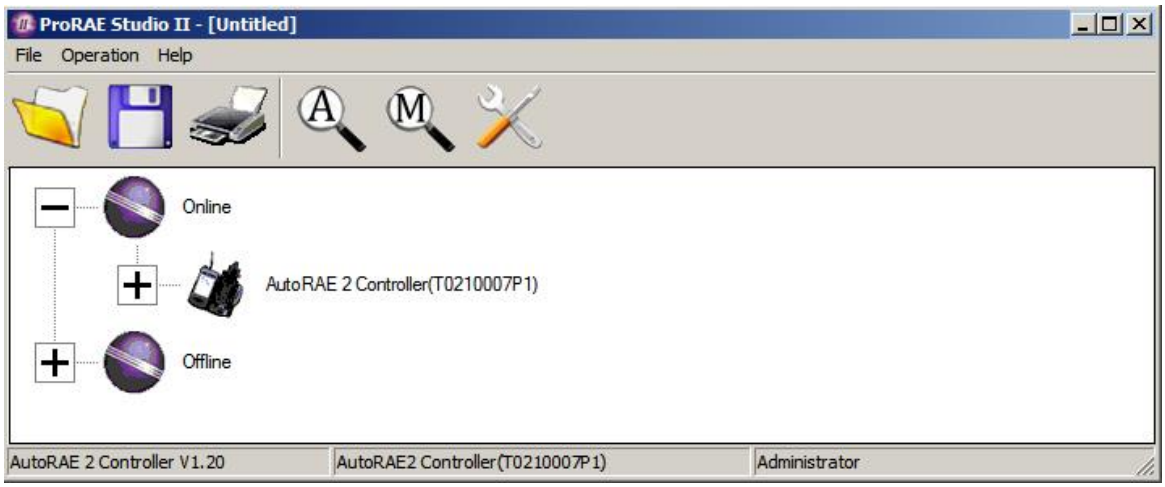
1. Connect a USB cable (or use an Ethernet cable or WiFi; refer to the AutoRAE 2 User's Guide for connection and configuration information) to the AutoRAE 2 Controller and to a PC running ProRAE Studio II software
2. Make sure the AutoRAE 2 Controller has power and is turned on.
3. Start ProRAE Studio II software on the PC.
   Note: You can get reports with any level of access privileges.
4. Click "Detect the instruments automatically" (the magnifying glass icon with the letter "A" in it). After a few seconds, the AutoRAE 2 Controller is found and it is shown, along with its firmware version, serial number, COM port:
5. Click "Select."



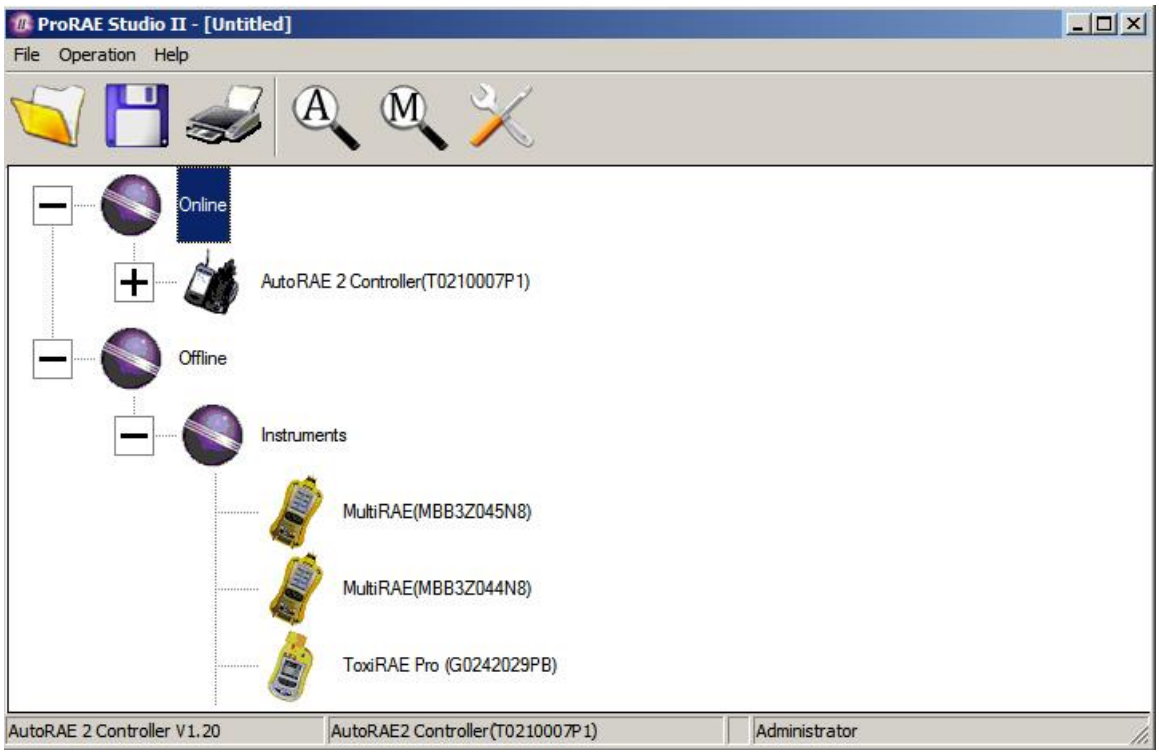
This screen appears:



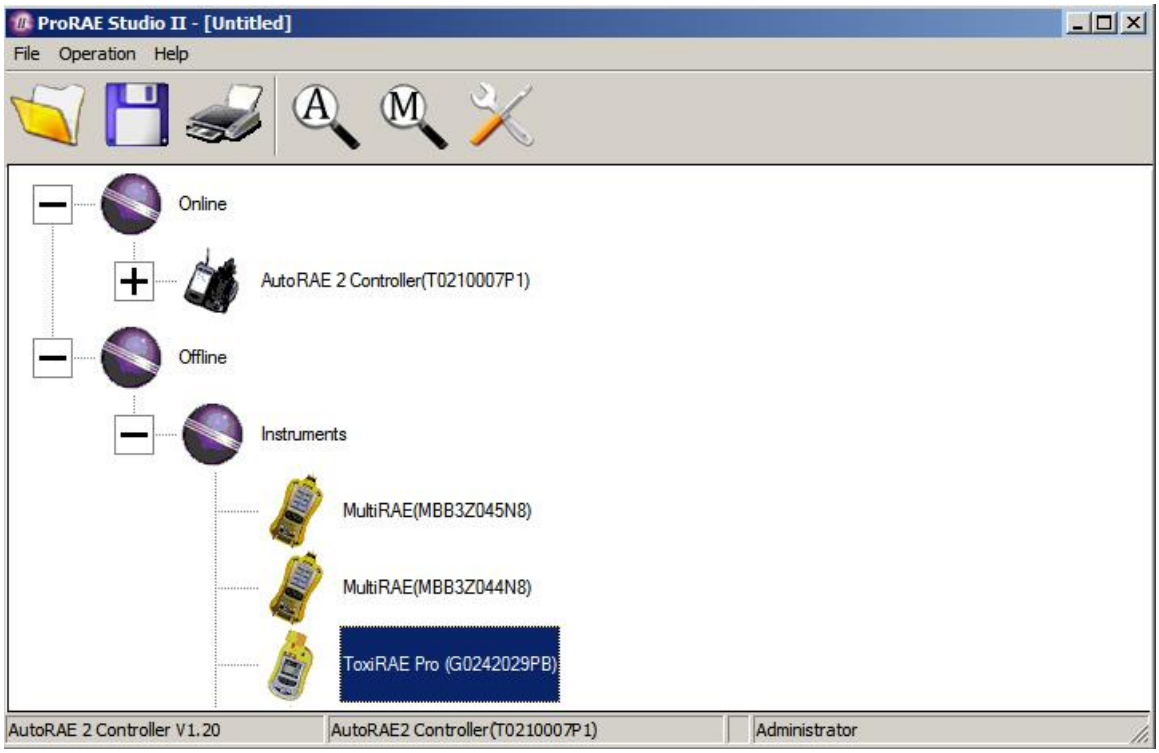
6. Expand either Online or Offline to view Instruments.
7. Click "Instruments."



Instruments that have been bump tested and calilbrated on a system with this AutoRAE 2 Controller are shown:

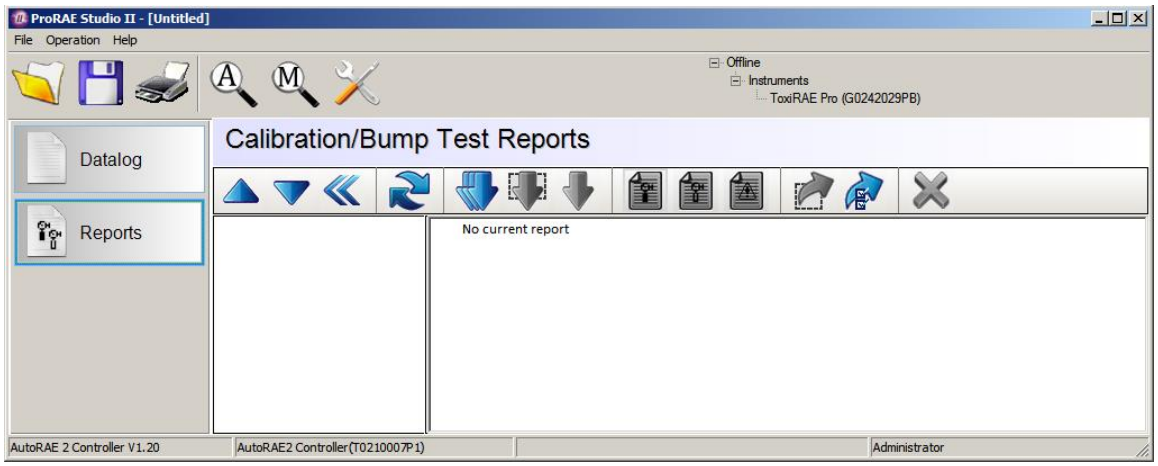


8. Double-click on an instrument to view its reports:



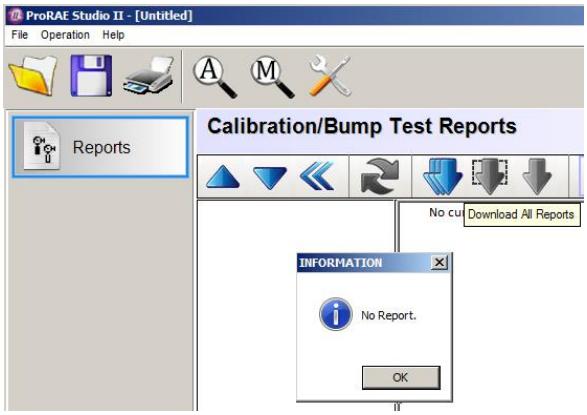
The Reports window opens for this instrument:

9. Click "Reports," and the window changes:

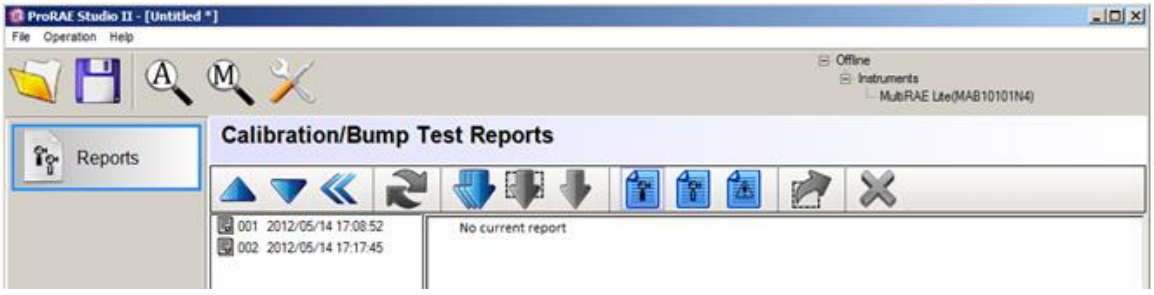


10. Click the "Download All Reports" button:

If there are no reports, an alert appears:

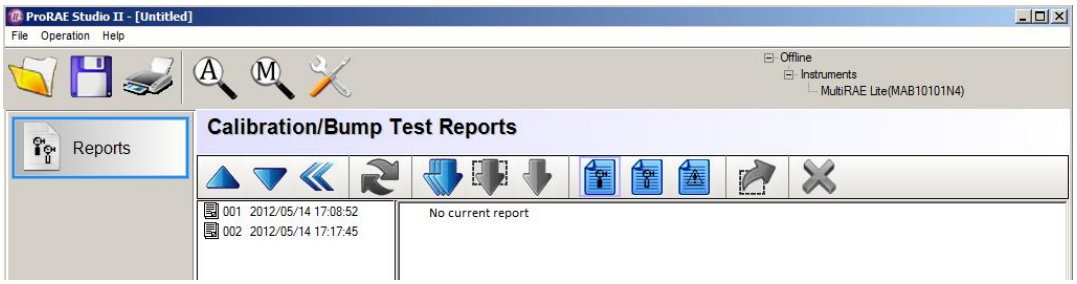


If there are reports, then they are downloaded and put in a list in the left column:



If the list is long, you can change the order so the list order is reversed (from 001, 002, 003, etc., to 003, 002, 001, etc.). Press one of these two buttons to change the sort order:

11. Select a report by clicking on the report's date and number:



Note: You can change the name of a report by double-clicking its name and then changing the name in the dialog box that pops up:

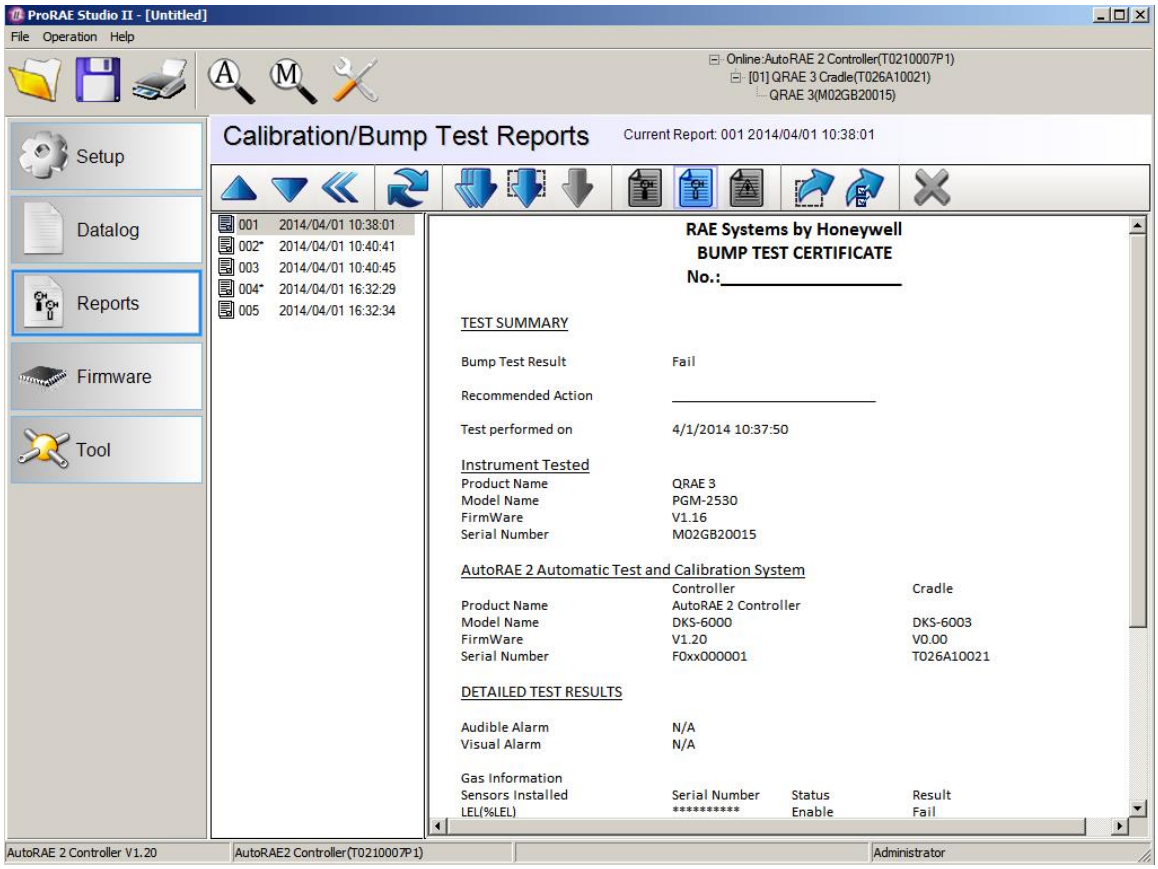
12. When you are done, click "OK."

Caution! Once you change the name of the report and click "OK," the change cannot be undone. If you want to change the report's name back to its original, you must do it by typing in the information.

With a record set highlighted, click any of the three report types:

	Calibration report
	Bump Test report
	Policy Violation report

Depending on your selection, a bump test, calibration, or policy violation report is shown in the right window:

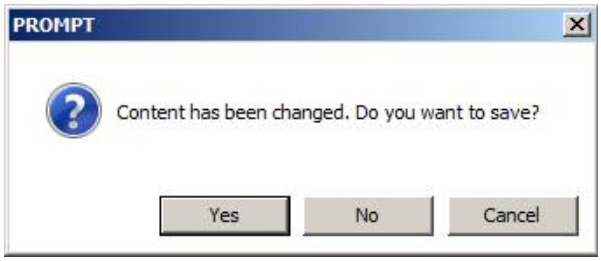


11.1. Exporting Reports

The report can be exported for archiving or sending. It can be saved as a Rich Text Format (.rtf) file, making it easy to import into most word-processing programs such as Microsoft Word, or it can be saved as a text file (.txt). Click the "Export Current Report" button, locate where you want to save the file, select the type of file (RTF or TXT), rename it if you like, and then click "Save."

11.2. Saving A Configuration Upon Exit

When you close ProRAE Studio II after you have downloaded reports or made changes, you will see this prompt:



If you do not want to save changes to the configuration, click "No." If you want to save the changes, click "Yes." Select a name for the file, which will be saved as a ProRAE Studio configuration file with an extension of ".prs," and select where you would like to save it. Then click "Save."

12. Using A Stand-Alone AutoRAE 2 Cradle For Datalog Transfer, Monitor Configuration, and Firmware Upgrades

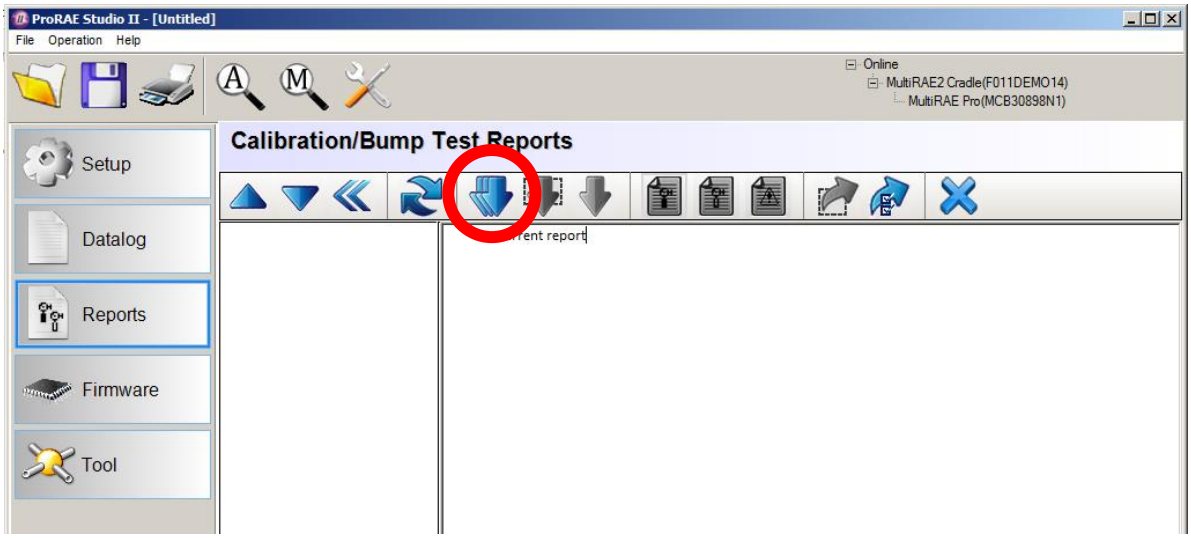
Datalogs can be downloaded from a MultiRAE, ToxiRAE Pro, or QRAE 3 to a computer, and firmware updates and configuration data can be uploaded to a MultiRAE via the USB port on a stand-alone AutoRAE 2 Cradle. Use the included USB cable to connect the AutoRAE 2 Cradle to a computer running ProRAE Studio II (version 1.5 or higher).

Follow the instructions in Section 10 of the MultiRAE User's Guide for more details on accessing datalogs and other procedures on the MultiRAE-family instruments.

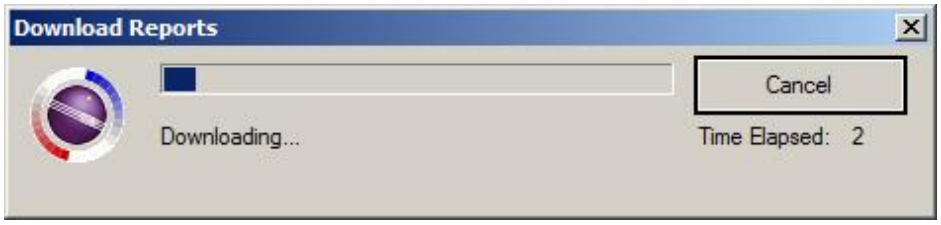
13. Reports Module

The Reports Module is accessed by clicking the button labeled "Reports." This module provides you with access to calibration and bump reports, as well as information about instrument configuration. Reports can be printed.

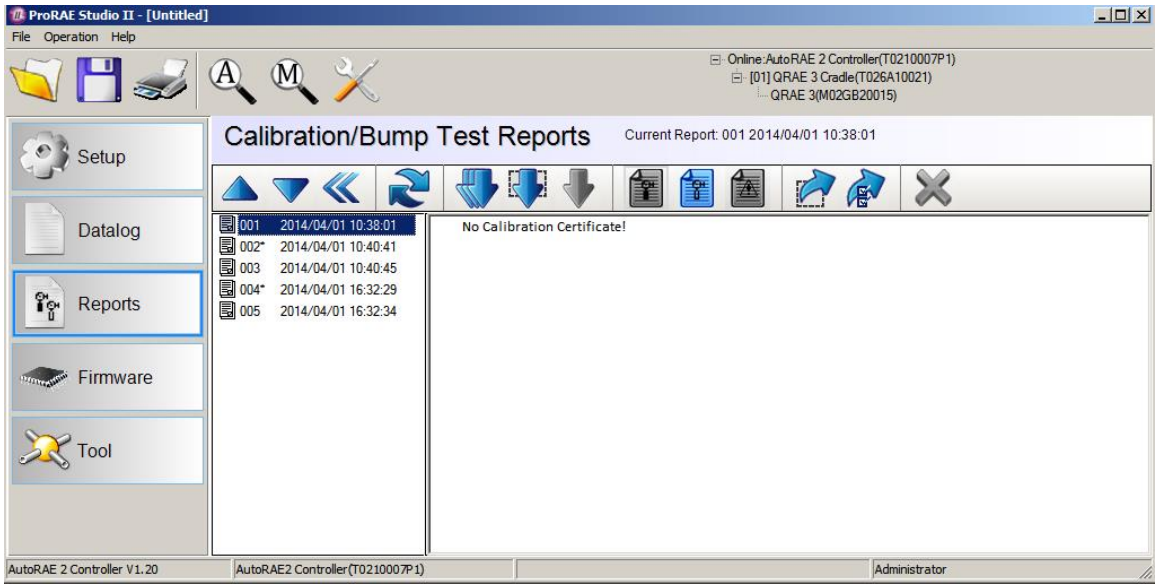
Make sure an instrument or AutoRAE 2 cradle is attached to the computer, and click the "Download All Reports" icon:



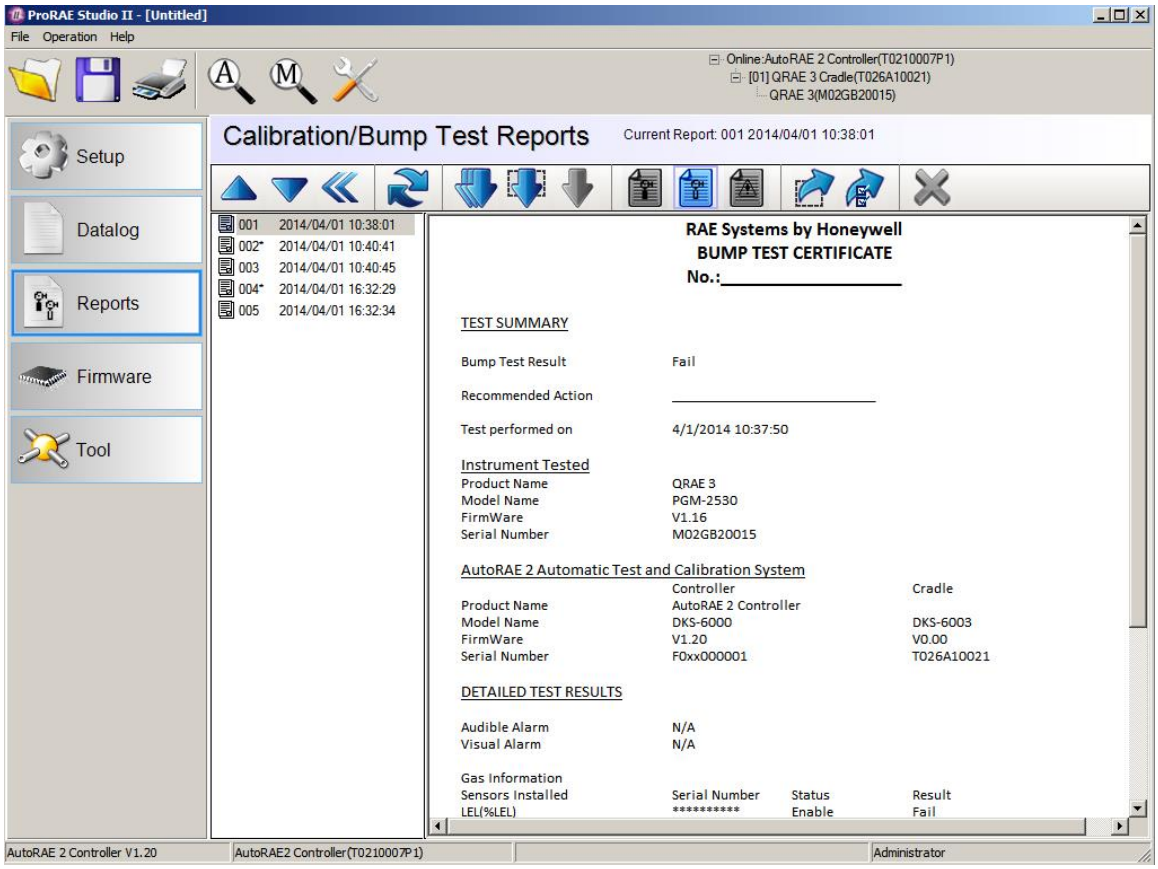
While reports are being transferred from the instrument to the computer, a progress bar is shown:



Once the reports have been downloaded to ProRAE Studio II, a list is shown:



To view a report, click on its name/date/time in the list. The report is now shown in the pane to the right:



If you would like to print the report, click the printer icon:

A standard printing dialog box appears, and you can select the print range, number of copies to print, etc. Alternatively, you can click File > Print to get the same printing dialog.

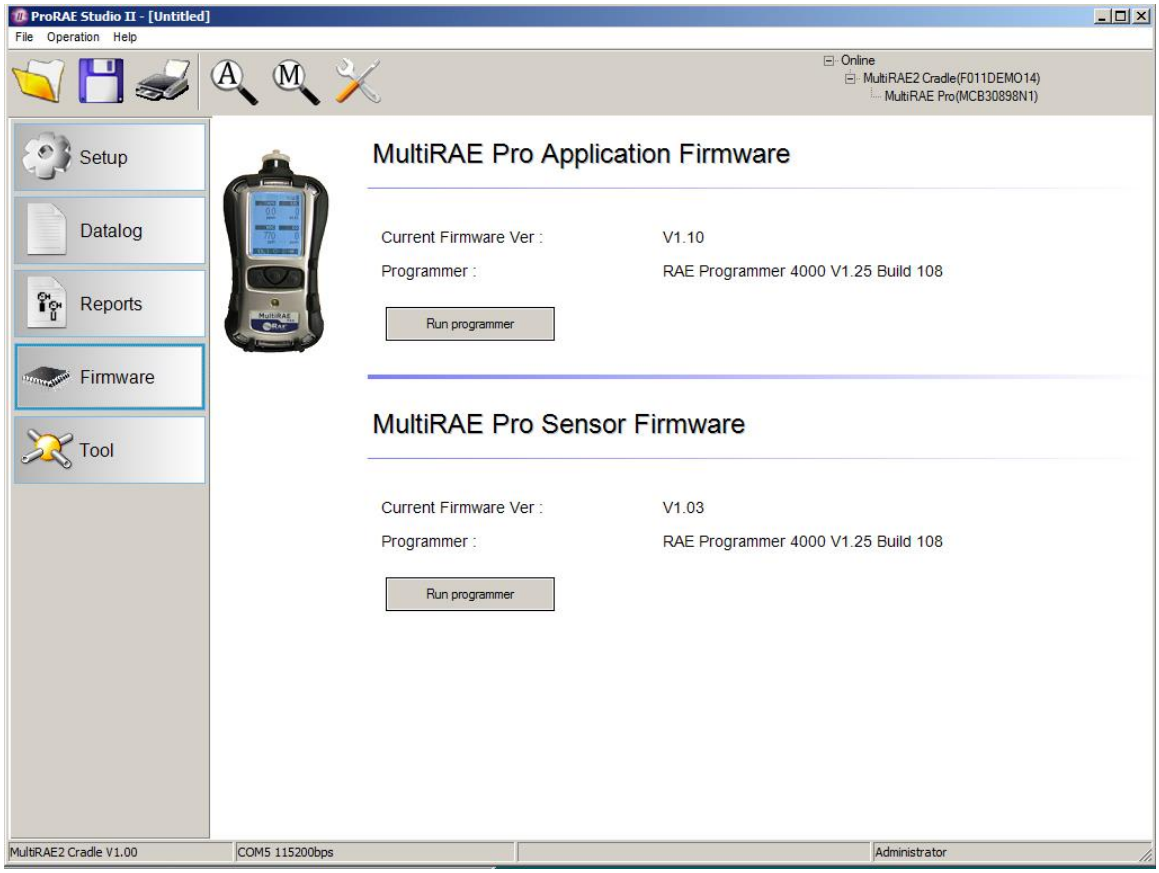
If you follow File > Print, you can also select "Preview," which allows you to see how your printout will appear.

14. Firmware Module

The Firmware Module calls the corresponding programmer for the selected instrument so that you can update the firmware (if new firmware is available).

Information about the instrument is displayed in the right pane, and a button allows you to call up the programmer for the instrument. Information about the selected instrument and its firmware version are shown, and there is a button for calling up the programmer.

Note: The correct programmer must be in the correct folder for it to operate. This is typically set properly during software installation. However, you may have to make sure the correct COM port number is used.

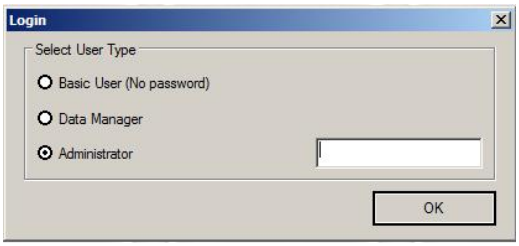


14.1. Updating Firmware On The AutoRAE 2 Cradle

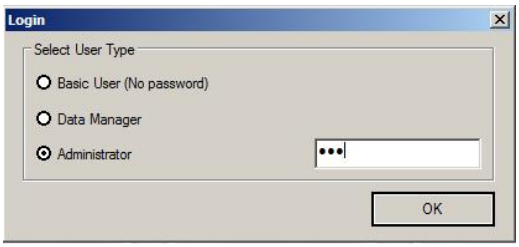
Updates to the AutoRAE 2 Cradle's firmware may be produced, and these can be loaded into the AutoRAE 2 Cradle using ProRAE Studio II software running on a PC.

1. Download firmware from the RAE Systems web site or from a CD-ROM.
2. Connect a PC running ProRAE Studio II to the AutoRAE 2 Cradle via a USB cable.
3. Press and hold the Bump key until "PC" appears in the display.
4. Start ProRAE Studio II.

5. Click "Administrator."

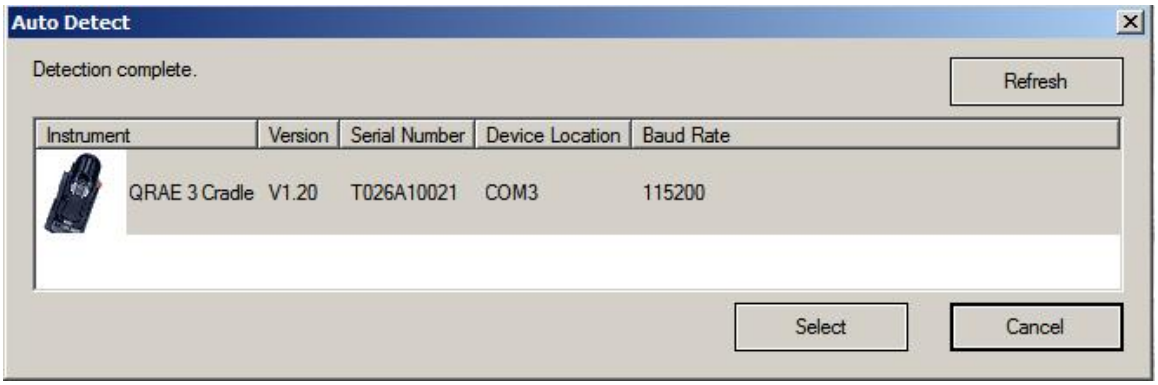


6. Enter the password (the default is "rae").



7. Click "OK."
8. Click "Detect the instruments automatically."

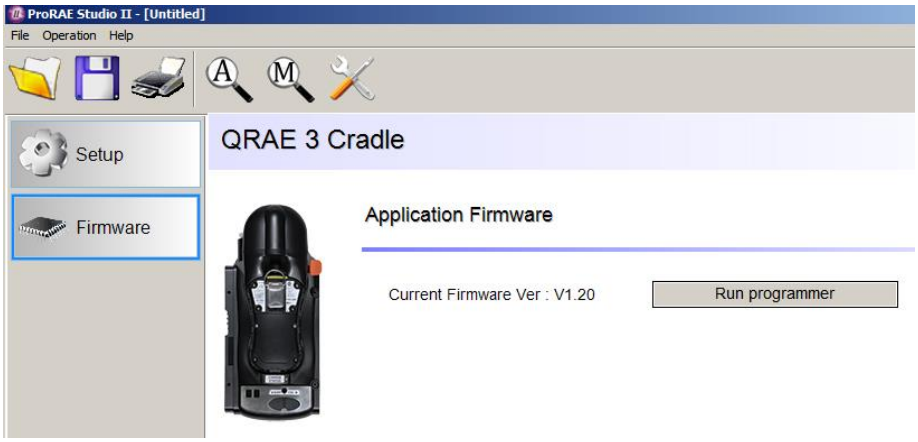
9. Select the AutoRAE 2 Cradle.



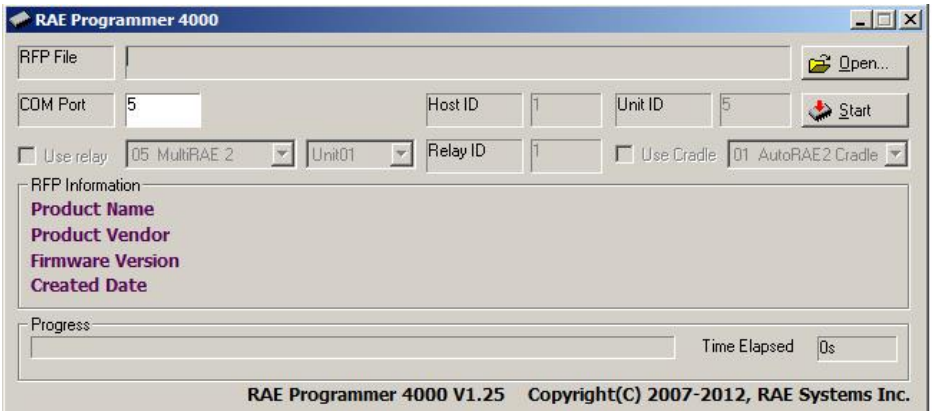
10. Click "Select."

11. The options on the left are "Setup," and "Firmware." Click "Firmware."

12. Click "Run Programmer."



The RAE Programmer 4000 window opens:



13. Click the button that says, "Open…"

14. Find and select the firmware file with a ".rfp" extension.

15. Click "Open."

16. Click "Start."

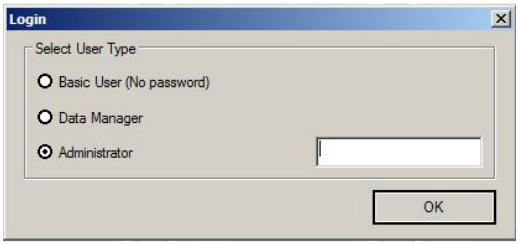
17. The firmware is uploaded to the AutoRAE 2 Cradle.
18. Exit PC Communications mode on the AutoRAE 2 Cradle by pressing and holding "Bump." The display should now show "G8."
19. Exit ProRAE Studio II on the PC.
20. Disconnect the USB cable.

14.2. Updating Firmware On The AutoRAE 2 Controller

Updates to the AutoRAE 2 Controller's firmware may be produced, and these can be loaded into the AutoRAE 2 Controller using ProRAE Studio II software running on a PC.

1. Download firmware from the RAE Systems web site or from a CD-ROM.
2. Connect a PC running ProRAE Studio II to the AutoRAE 2 Controller via a USB cable.
3. Start ProRAE Studio II.

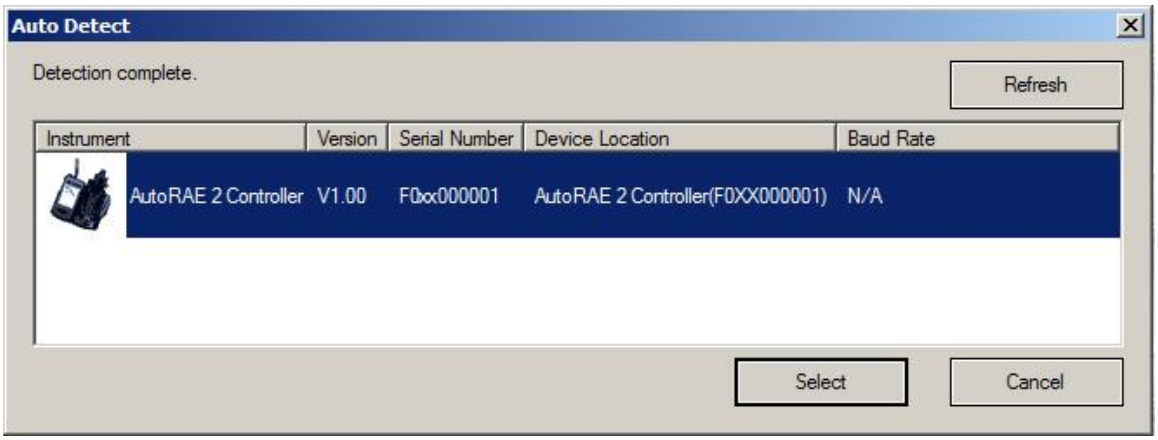
4. Click "Administrator."



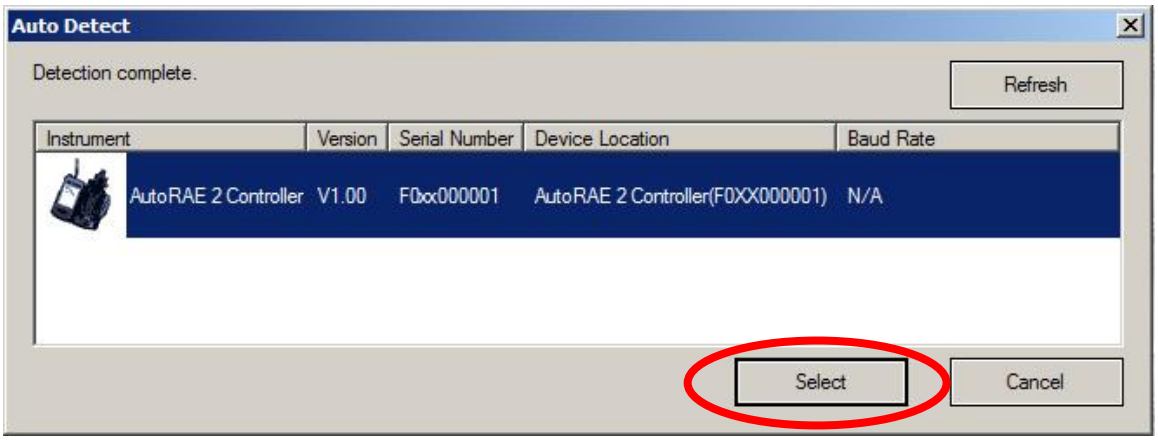
5. Enter the password (the default is "rae").

6. Click "OK."
7. Click "Detect the instruments automatically."

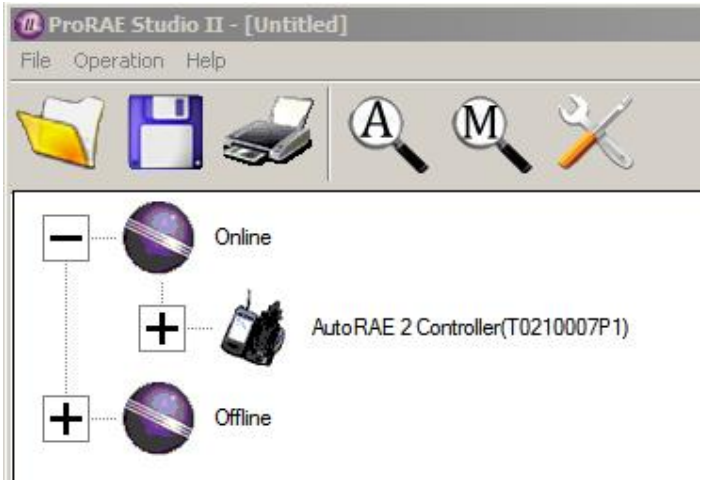
8. Select the AutoRAE 2 Controller.



9. Click "Select."

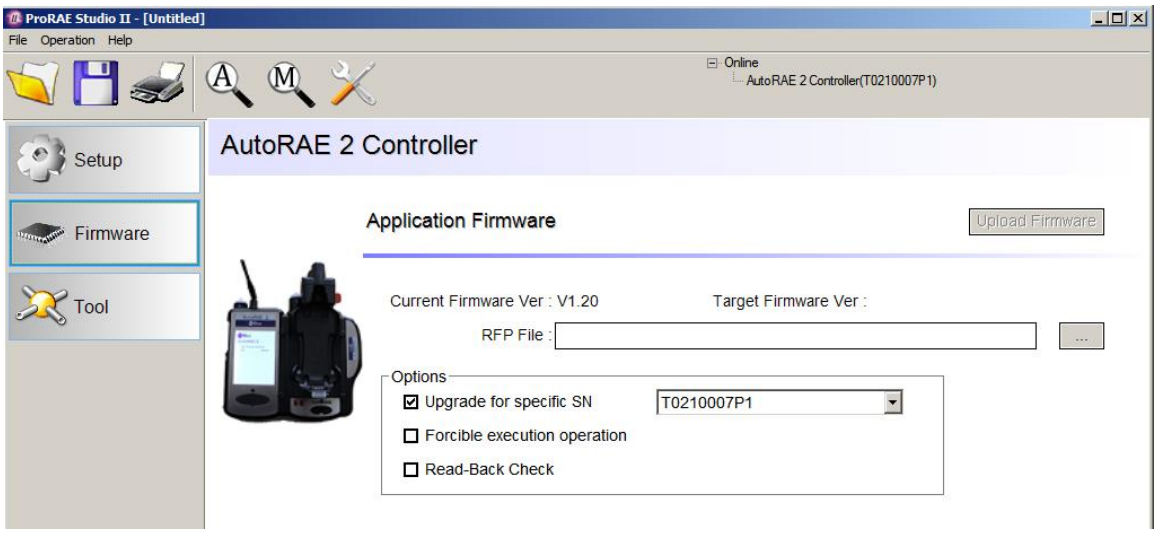


10. The AutoRAE 2 Controller is shown, along with its serial number.



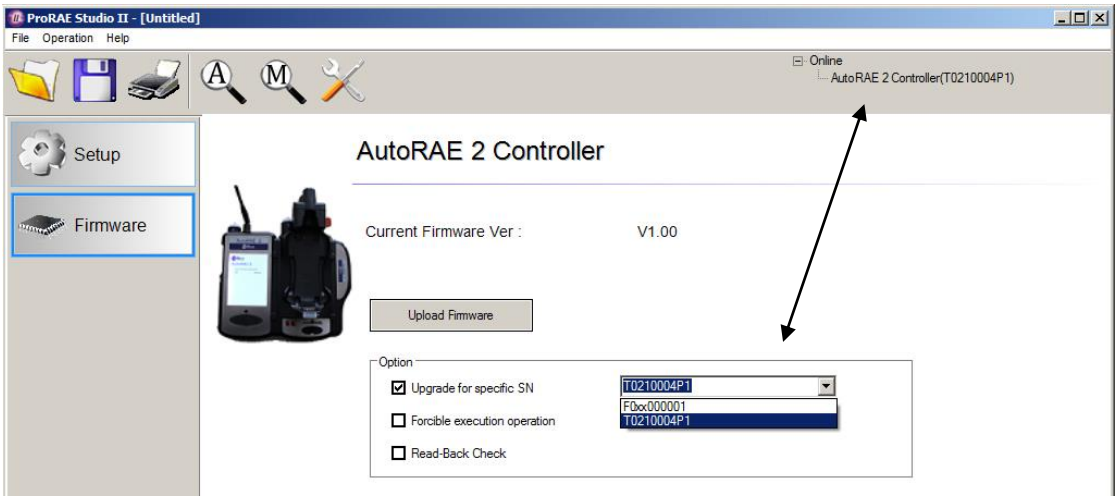
11. Double-click on the AutoRAE 2 Controller's icon, and this screen appears:

The options on the left are "Setup," "Firmware," and "Tool." Click "Firmware." This screen is shown:



12. Where it says "RFP File:" click the button labeled "…" and locate the firmware file with the ".rfp" suffix. Then click "Upload Firmware."

13. Click the box labeled "Upgrade for specific SN, and then pull down the menu and select the serial number that matches the one shown in the upper right side of the window.



14. Click "Upload Firmware."
15. Find and select the firmware file with a ".rfp" extension.

16. Click "Open."

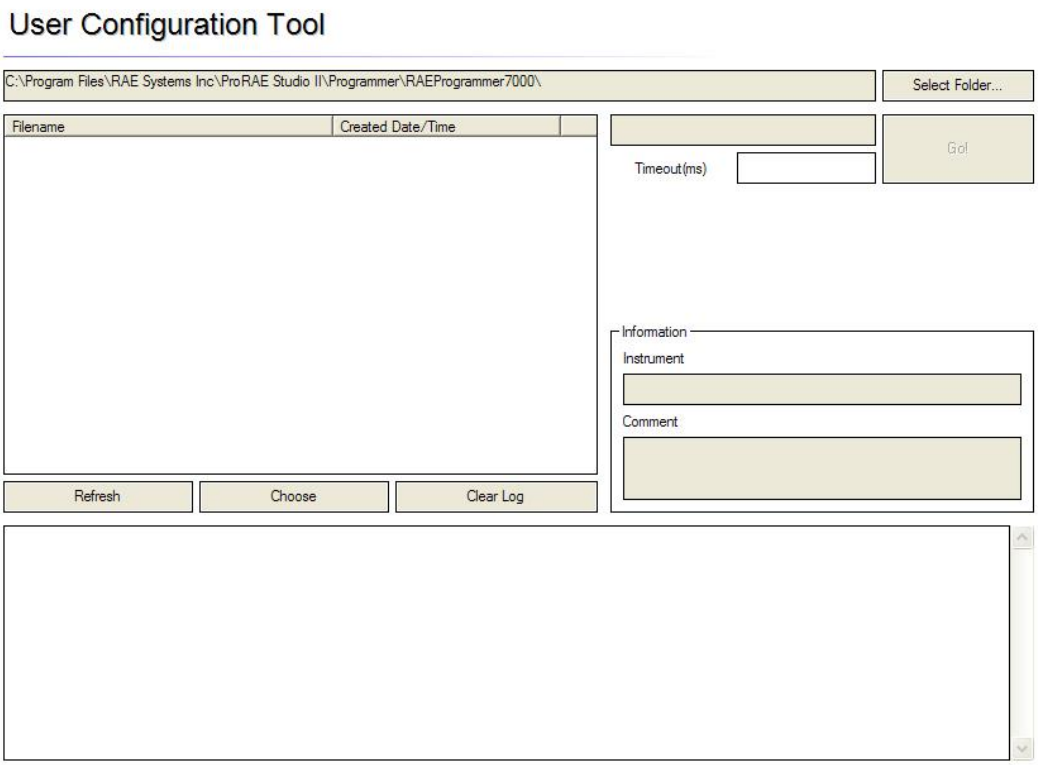
17. The firmware file is uploaded to the AutoRAE 2 Controller' s SD card, and the AutoRAE 2 Controller uploads the firmware to the AutoRAE 2 Controller or MultiRAE (Pumped) Cradle, respectively.
18. Exit ProRAE Studio II on the PC.
19. Disconnect the USB cable.

15. User Configuration Tool

This tool provides another way to configure the instrument. It is simple to use and uses commands stored in an ".ezcfg" file, which is provided by RAE Systems.

Note: This tool is not used with the AutoRAE 2 Controller or AutoRAE 2 Cradle.

Click the button labeled "Tool," and the right pane is filled:



Click the "Select Folder" button. You will now see a "Browse For Folder" dialog box. Find the .ezcfg file you need, and then double-click on it.

When the .ezcfg file is loaded, data fills the screen and the button labeled "Go" can be clicked.

The .ezcfg file contains some commands for the instrument. After clicking "Go," ProRAE Studio II sends these commands to the instrument. The reply from the instrument shows as "****". ProRAE Studio II does not check the command passing to or from the instrument.

With this function, ProRAE Studio II can configure the instrument with new commands predefined in the .ezcfg file, if the new command is supported by the instrument but is not supported by the working ProRAE Studio II.

Note: The .ezcfg file is provided by RAE Systems when an update is needed.

16. Exiting ProRAE Studio II

When you are done using ProRAE Studio II and want to exit the program, make sure you have saved any data that you need to transfer or retain. Once that is done, click "File" and select "Exit" from the menu.

ProRAE Studio II closes. You may now disconnect your instrument and place it back in operation.

IMPORTANT!

Before using the instrument, check its parameters and settings, in order to make sure that no incorrect data was transferred while you were using ProRAE Studio II.

17. Technical Support

To contact RAE Systems Technical Support Team:

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