

Upgrading MultiRAE/QRAE NiCd Battery Pack

Improving MultiRAE & QRAE Performance

In an effort to improve the performance of MultiRAEs and QRAEs using NiCd battery packs, RAE Systems has upgraded these packs by installing a protection circuit. This feature prevents the complete discharge of the Nicad pack, which can lead to battery failure. The MultiRAE and QRAE both require a constant current to maintain clock functions and to keep sensors warmed up to an immediate state of readiness. If removed from their charger, both meters will exhaust the capacity of their internal Nicd batteries in 7-10 days even if they have not been turned on. It is easy to identify when the meter has gone completely dead because it will give a start up message that the clock date needs to be reset. Allowing your MultiRAE or QRAE battery to go completely can lead to premature failure of the Nicads. The new protective circuit senses when the battery has dropped to a very low voltage and automatically cuts itself off from the meter to prevent a complete discharge. This protective circuit feature can be found in all Nicad packs part number 500-0039-000 that are of a blue color (previous versions without the protective circuit are white in color).

Voltage too High Warning

When installing the upgraded blue Nicad battery into older MultiRAEs and QRAEs (firmware version prior to 3.04) one might notice a message during charging of "Voltage Too High." If this happens it means that the battery has not yet received enough power to reset the protective circuit. Remove the charge adapter from the meter and reinsert it to reset the charge. You might have to do this a number of times to get enough current into the battery to reset the protective circuit.

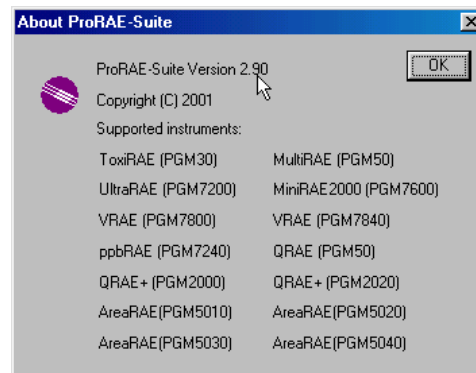
Upgrade Your Firmware for FREE

MultiRAE and QRAE firmware (firmware is the internal meter operating system) of revision 3.04 and higher already have programming to accommodate the blue Nicads with the protective circuit. You can easily tell the firmware revision of your meter by turning it on and watching the screen. One of the first few screens will tell you the firmware revision. If you have a computer interface cable (PN:008-3003-000, supplied with all datalogging meters) you can easily upgrade your meter for free in just a few minutes

Upgrade via the Internet

RAE Systems provides for free upgrades via our Internet web page. Go to www.raesystems.com and then follow the "Technical" button on the left side of the page to "Download." When you have completed filling in the information request on the next page press the "Take me to the Download Page" button at the bottom of the page. All of our programs are "zipped" to make them smaller to facilitate faster downloads. If you do not have WinZip on your computer there is a link to WinZip at the top of the downloads page to allow you to download WinZip.

If you already have ProRAE Suite installed on your computer then you may only need to download the firmware upgrade for your product. To determine your



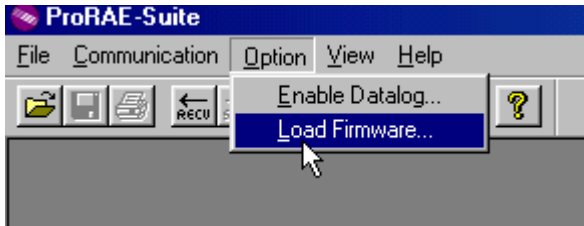
version of ProRAE Suite, start the program and then tap on the "Help" menu at the top of the screen and then select "About ProRAE Suite." A box will appear showing the revision number.

If the your revision number is lower than that for the ProRAE Suite download on the web page you may consider upgrading your ProRAE Suite at the same time following the same procedure as for the product files. Click on the program you wish to download and save it to an area where you save temporary files or to your desktop. Once you have downloaded the file to your computer, you need to unzip it. Tap on the downloaded file and the WinZip program will launch. Extract the files to "C:\Program Files\RAE Systems Inc\ProRAE-Suite."

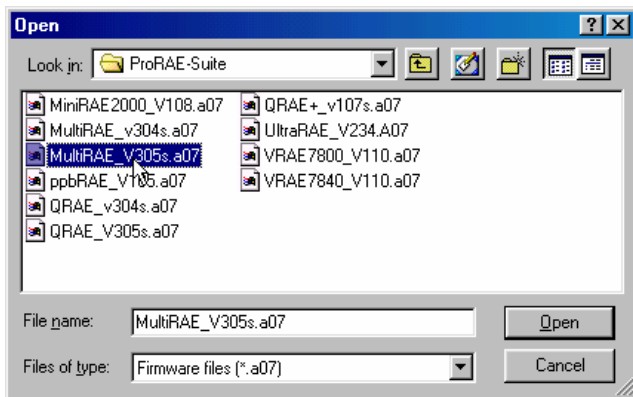
Upgrading Firmware

During the download process it is a good idea to close all other programs, log off your Internet connection and don't touch your computer to assure that the download process progresses smoothly. Start the ProRAE Suite software. Tap on the "Option" menu at the top of the

screen and then select “Load Firmware.” A dialog box will appear, reminding you to attach your meter to the



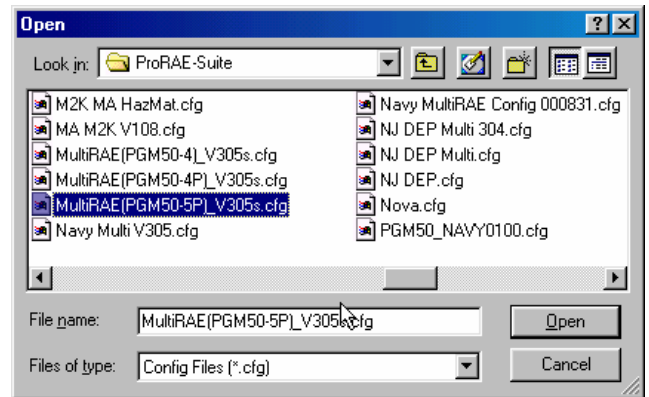
computer. Tap the “OK” button and then you will proceed to a screen where you will have to select the firmware file for your meter. If you are upgrading your MultiRAE from firmware 2.10 to 3.05 then select the file “MultiRAE_V305s.a07.”



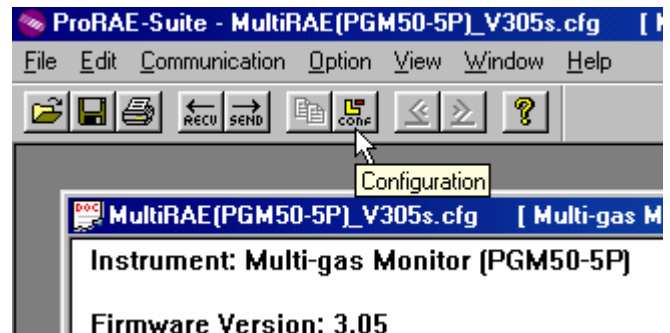
Another dialog box will remind you to attach your meter to the computer via the data cable and to set your meter to the communication ready mode. With your meter on, press the “Mode” key until the screen reads “Communicate with PC?” Press the “Y” key once and the screen will say “Ready...” Then press the “OK” button on the dialog box to start the firmware upgrade process. This procedure will take about 15 minutes. At the end of the download process the meter will automatically turn off. Turn on the meter and verify that the new firmware has been loaded by checking the firmware number on the initial screens. If the meter does not turn on the firmware upgrade may have failed. Call our service department toll free at 888-723-4800 for guidance.

Configure Your Meter

After you have completed the firmware upgrade process you need to reconfigure your meter. Tap on the “File” menu at the top of the screen and then select “Open.” A file dialog box will appear and under “Types of Files” select “Config Files (*.cfg).” Select the appropriate config file for your meter and firmware, for example: “MultiRAE(PGM50-5P)_V305s.cfg.” If you wish to



customize your setup now is the time. Save the default configuration to a name of your choice and then customize it using the “Conf” key at the top of the menu.



Return your meter to the communications “Ready...” screen by turning in on and paging through the screens with the “Mode” key. Then kit the “Send” button at the top of the menu. The configuration process will take about a minute. After configuration is complete it is recommended that you recalibrate your meter.

Voltage too High Screen after firmware upgrade.

It is possible to get a “Voltage Too High Screen” even after a firmware upgrade if the blue Nicad battery has over discharged during storage. If you get this screen, unplug the charge adapter and reinsert it to restart the charging. You may need to repeat this a couple of times to initialize the battery. If you continue to have any problems please contact the RAE Systems service department at 888-723-4800.