

Powering off and on a VNMRS system

Follow these instructions to power off a VNMRS system fully and turn it back on again. This will need to be done if power to the system will be lost. You may also follow these instructions to power cycle the system if you are getting error messages that a simple reset of the system is not fixing. For this see the note at the end of this document.

NOTE: Cold probes will need to be powered on/off using separate instructions, this is just for the console and host computer.

Powering OFF

- Eject the sample
- Save the shims with the svx command
- Turn off the “console power supply” by pressing the power button located on the front of the right hand cabinet at the bottom.
- On the back of the console turn off the breaker to shut off power to the system. The breaker is located on the back of the console near the bottom on the far left as you face the back of the console.
 - NOTE: For the 800 turn off the two breakers on the front of the 3rd cabinet and then turn off the breaker on the back (in the middle) of the 3rd cabinet.
- Power off the “RF Front End” located near the magnet
- Power off the “Pneumatics Router” located on top of the console.
- Power off the FTS system. Note there are two power switches, one for the top control box and one for the bottom compressor portion.
- Turn off the host computer.
- Power off the UPS for the console. To do so press the by-pass button (button with a vertical line and a circle) on the front panel of the UPS. After the system is in by-pass mode turn off both breakers on the back of the UPS.
 - NOTE: For the 500 and 600 you can turn off the UPS for the host computers by pressing the button with a circle on it after both computers have been powered off. The 400 and 800 computers are powered through the main UPS so nothing further is needed for them.
- At this point everything should be powered off.

- NOTE: The He and N2 monitors may be shut off or still on depending on the system and where I have them plugged in. It does not matter if they stay on or shut off for short periods of time. Of course, the values should be inspected every few days so they should not be powered off for long periods of time.

Powering ON

- Power on the main UPS by turning on both breakers on the back of the UPS. Then press the ON button (the button with a single vertical line). Afterwards wait a while till the UPS turns on (usually less than a minute).
 - If powering on the 500 and/or 600 system make sure the UPS under the desk is powered on by pressing the ON button (the button with a single vertical line).
- Turn on the host computer and wait for the login screen
- Turn on the breaker in back of the NMR console (bottom left as facing the back of the console). After turning the breaker on press the green button just above the breaker. This should cause power to be restored and turn on the fans.
 - NOTE: The shim power supply fan will be off, this is normal.
 - NOTE: For the 800 turn on the breaker on the back of the 3rd console and then the two breakers on the front of the 3rd cabinet.
- Turn on power to the “Pneumatics Router” located on top of the console.
- Turn on power to the “RF Front End” located near the magnet.
- Turn on the power button on the “Console Power Supply” located on the front right cabinet at the bottom. The lights will flash a bit and then reach a point where the lights are moving up and down after the system is ready. This takes less than a minute typically.
- Turn on the FTS. Do this by powering on the top control box first. Wait for it to boot fully, then turn on the bottom compressor portion.
 - NOTE: For the next 10 minutes watch the temperature as it cools. Occasionally the temperature will continue to drop past the set point. If this happens turn off the top control

box, wait a second, then turn it back on. This usually turns on the heater and regulates the temperature properly. If not attempt the procedure again till it works.

- Login as vnmr1
- Type “su acqproc” from a terminal. If the window says “Starting” then everything is fine. If the window says “Stopping” then issue the “su acqproc” command a second time to start the communication software.
- Start vnmrj
- Type “vtttype = 0” from the command line
- Load shims that you saved earlier or the best shims you can find
- Type “su”
 - You should see a “Setup Complete” message appear if everything is working properly.
- Type “vtttype = 2”
- From the Spin and Temp panel hit “Reset Pneumatics” button (wait a few seconds), then hit the “Reset VT Unit” button (wait several seconds for the reset to complete), then type in your desired temperature and hit “Regulate Temperature at this value” button and wait for the temperature to regulate.
- Check the tuning by pressing the channel button to 1 to see if the tuning interface responds.
- Place the lineshape sample in the magnet and lock the sample.
 - NOTE: All the values will be set to zero and the lock phase will likely be off possibly making locking difficult. Play around with the locking values until you get a good lock, maximize the lock level by adjusting the lock phase and then shim. After shimming adjust the lock phase again.

Power-cycling a system to clear an error

The above procedure is used for powering off everything in case power will be lost. Sometimes you may want to power-cycle the system to see if it clears a problem with the instrument. To do this follow the instructions above but skip the steps about turning on/off the UPS units, just reboot the host computer, and don't touch the FTS system.