



Operational Features of Varian Systems

1) RE-STARTING THE COMMUNICATION BETWEEN THE CONSOLE AND THE WORKSTATION WHEN THE SYSTEM DOES NOT RESPOND:

If the ACQUISITION STATUS window shows “**Inactive**”, go to the <<CONSOLE>> icon and double-clicking on it to open. At the UNIX prompt “>”, type:

```
>su acqproc <enter>
```

A message is displayed “Starting ExpProc”. After a few seconds, the ACQUISITION STATUS changes to “**Idle**” and the NMR system is ready to go.

2) 2H GRADIENT SHIMMING

- 2H gradient shimming uses the **lock channel** as a means to adjust Z1 to Z4 shims. That is why the lock shows “**Not regulated**” in the ACQSTAT window.
- The usual number of iterations is 2 to 3. It may take more iterations, however, because the *cutoff* criterion (r.m.s. error < 1.00) must be met for the shimming procedure to end and quit.

OBS – the default **2H gradient shimming Setup** uses **4 scans** for **ANY SOLVENT**, regardless of the number of deuterons in the solvent molecule. For CDCl₃, this parameter setup might cause a low signal/noise ratio (S/N) in the Z-profile, and, therefore, **no convergence at all!** (The max. number of iterations is 10).

Setting **nt=16** would improve S/N, **but** with a concomitant increase in the total time for ²H auto shimming. When you note that the ²H shimming is “struggling” to converge due to a low S/N in the profile:

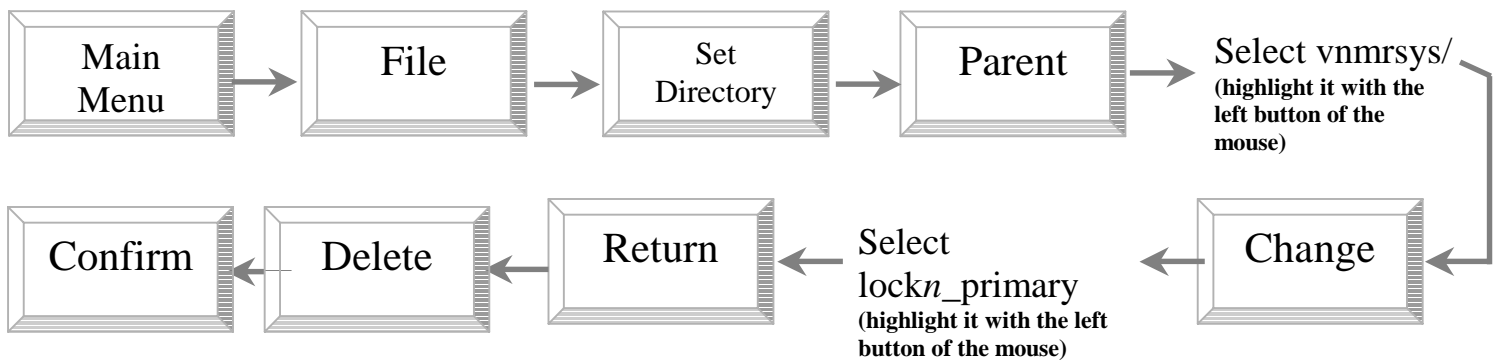
- ✓ Abort the ²H shimming with ‘aa’ <ENTER>
- ✓ Type nt=16 <ENTER>
- ✓ Click on the button “**Gradient Autoshim on Z**” to continue shimming.



3) UNLOCK one experiment

The VNMR software protects each **exp n** in which there is an active experiment running against accidental overwriting. The command `unlock(n)`, where n is the number of the experiment, make it possible to join again the active acquisition *exp*.

If `unlock(n)` does not work, click on the following buttons:



Return to your folder:



4) WHEN YOU DO NOT SEE THE 'Acqi' BUTTON

- Type `acqi <ENTER>` at the command line in Vnmr