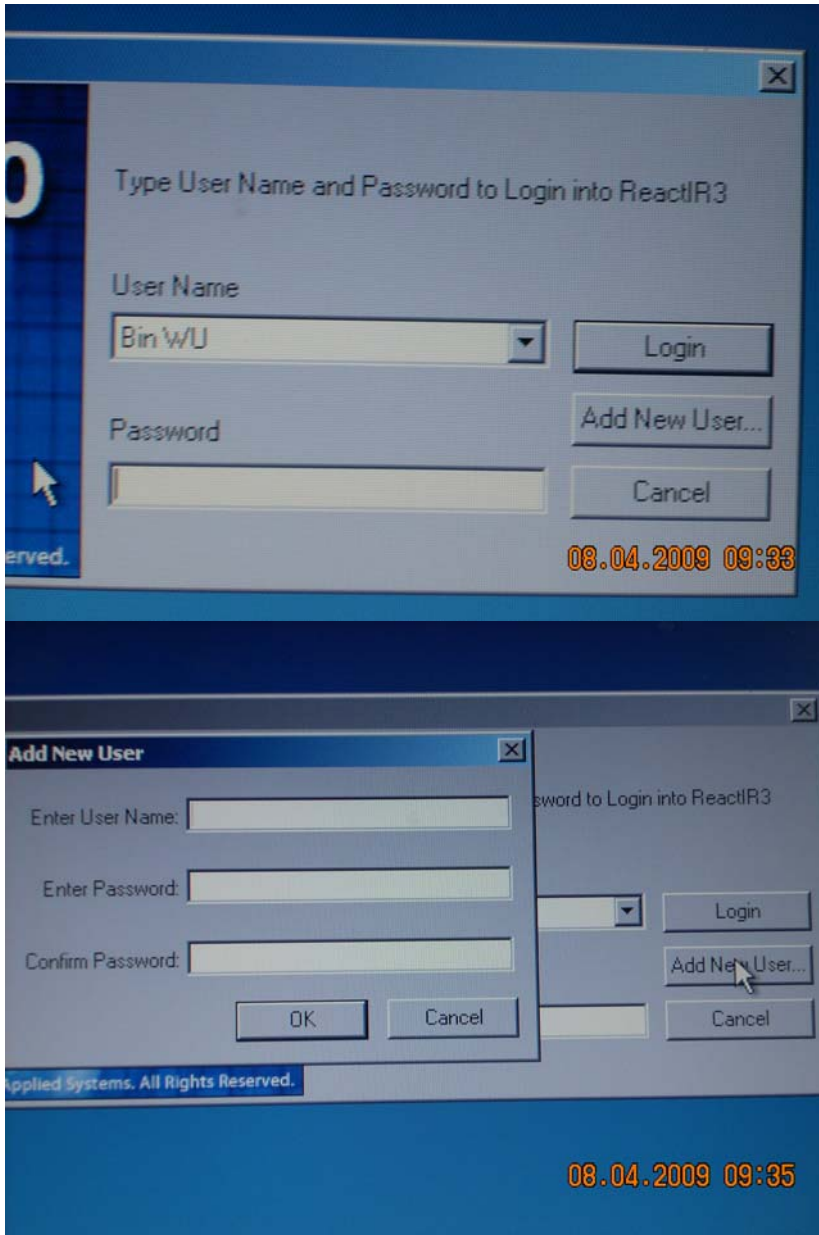


Standard Operating Procedure for ReactIR 3.0:

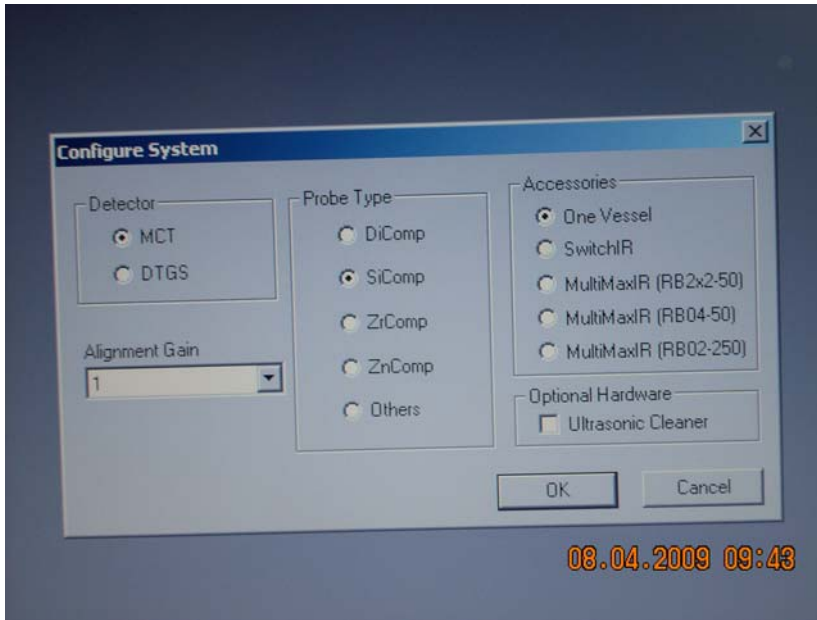
- 1) Check the dry air to go through ReactIR machine. The dry air generator should always be on. The airflow should always be about 14 liters per minute. Check the pressure gauge (top left of Lab Gas Generator) and flow gauge (right on front panel) and compare to the table next to the pressure gauge.
- 2) Check the ReactIR system is on. If not, turn on the ReactIR system.
- 3) Turn on the computer, connect the computer with the ReactIR system through cab.
- 4) Cool down the detector with liquid N₂ (the red small tank) until it is full.



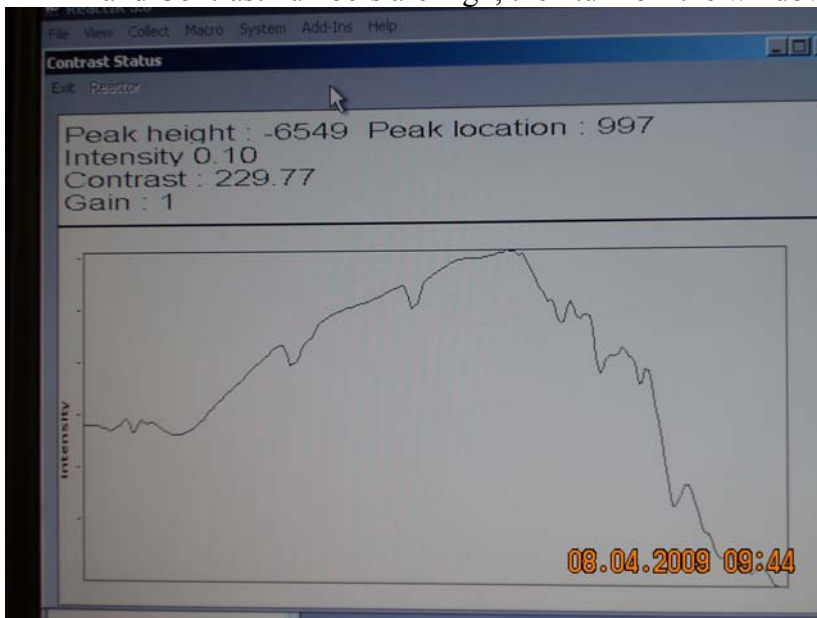
- 5) Click the ReactIR 3.0 icon on the desktop of the computer. Log into your user account. If you are a new user, click the Add New User button to set up your own account and password. Then input them to start the program.



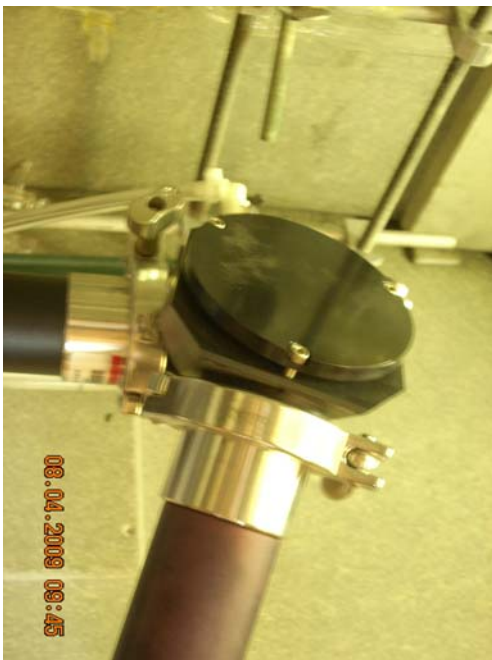
6) Click the System button to open Configure System, choose: click OK button.



- 7) Click the System button to open Contrast Status window: check both Peak Height and Contrast numbers are high, then turn off the window.



- 8) Aligning the system to optimize IR signal:
 → Click the System button to open Contrast window.
 → Adjust the three knobs on the final mirror of the conduit next to the probe (three knobs in a triangle pattern) to maximum both Peak height and Contrast number.



→ Rotate the probe for maximum both Peak height and Contrast value.



→ Adjust X and Y position of the detector mirror to maximum both Peak height and Contrast value.

Once the best condition is set up, no necessary to change it every time unless there is need to change the probe.

9) Creating a Projector folder to store ReactIR data:

→ Select the File menu / New / Project command

→ Type a project name and click ok. The new project folder is local disk C:\Program Files\Mettler Toledo\ReactIR 3.0\User\[your user name]\[your project name].

The data is automatically stored in Temp files unless you store it yourself.

10) Check the status of Probe (clean or not):
background → sample → cleaning → sample → new background

(a) click Collect button to open Background window: click Collect button.

Reactor 1 Reactor 2 Reactor 3 Reactor 4

Name: air bkg \$Type at \$Time \$Date

Insert Variables: \$Date

Collect Cancel View Parameters

Scans: 256 Resolution: 8

Sensor Material: SiComp Apodization: Happ-Genzel

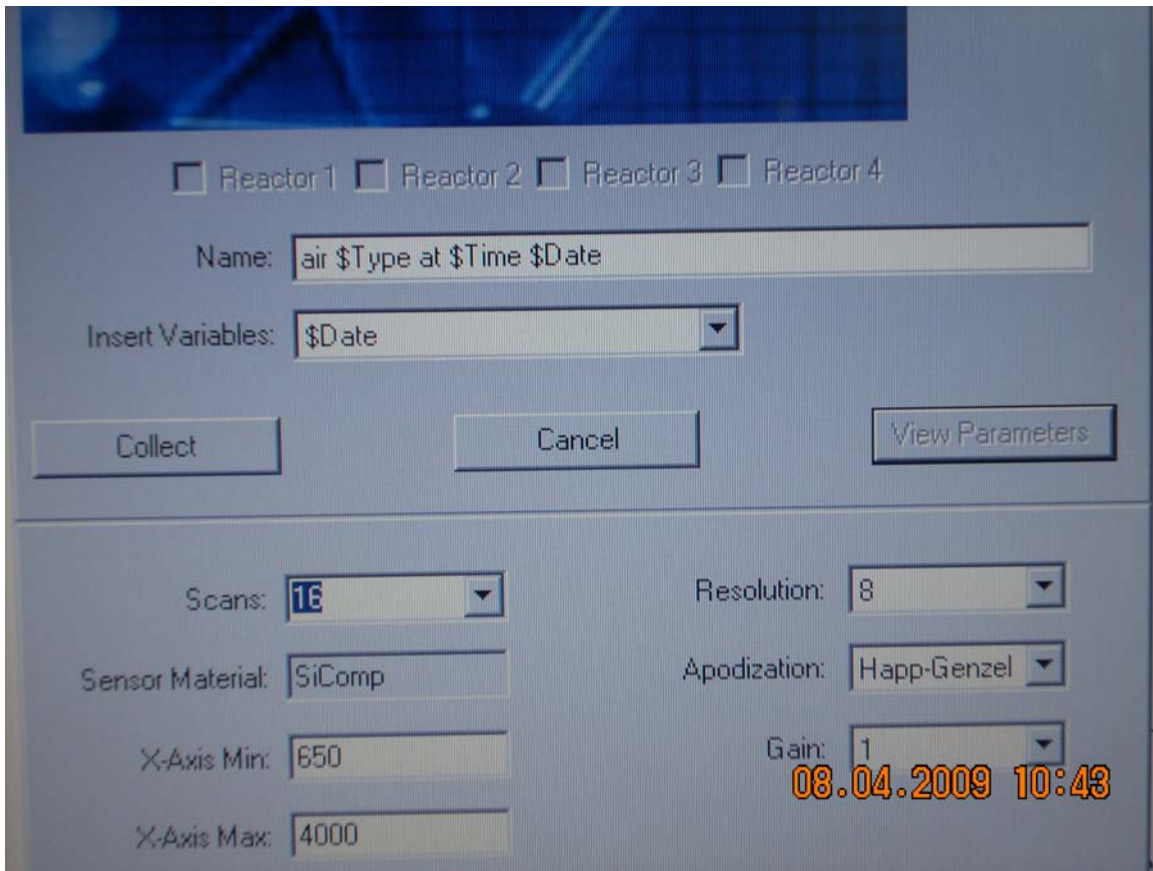
X-Axis Min.: 650 Gain: 1

X-Axis Max.: 4000

08.04.2009 10:40

DownloadBackground... Collapse Parameter...

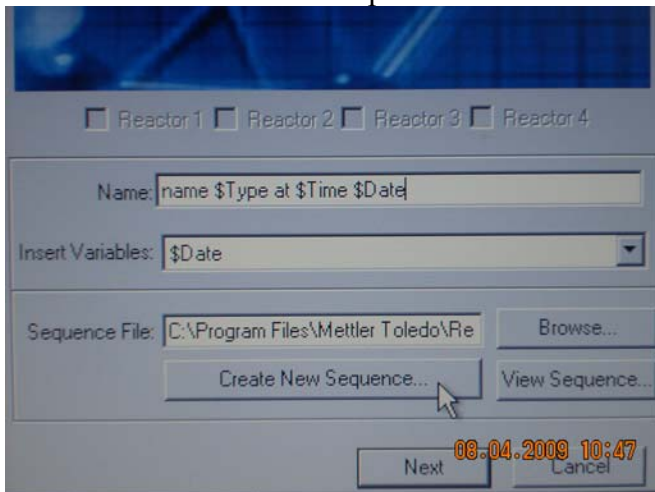
(b) click the Collect button to open Sample window: change scans number to 16.



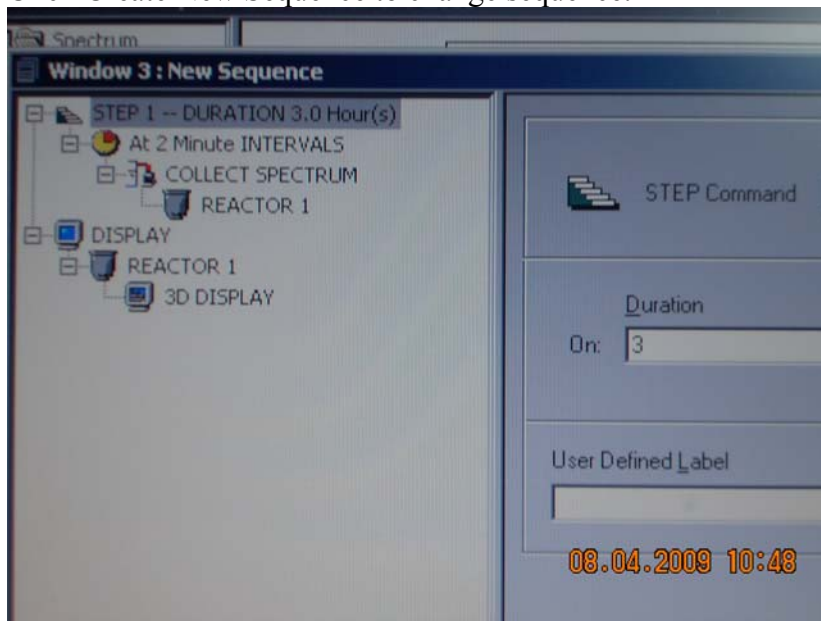
- (c) Cleaning : use swab with acetone to clean the probe.
- (d) Retake the new air sample. Compare the two air sample graphs. If the difference is between 0.005 and -0.005, that means the probe is clean. Otherwise have to clean again until the value is between 0.005 and -0.005.
- (e) Retake new Background: click the Collect to open Background window and change parameter to scan 256.
The computer will automatically store the latest background.

11) Collecting Reaction Data

Click the Collect button to open Reaction window.

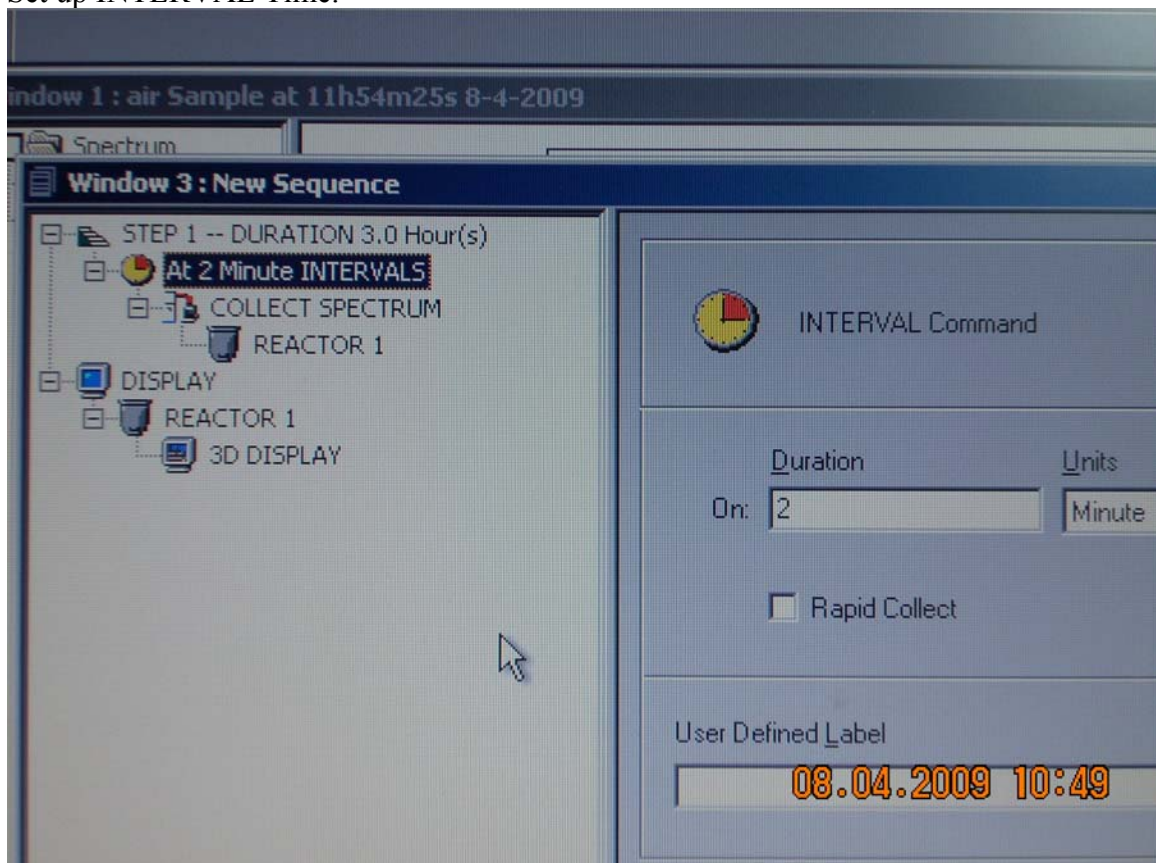


Click Create New Sequence to change sequence.



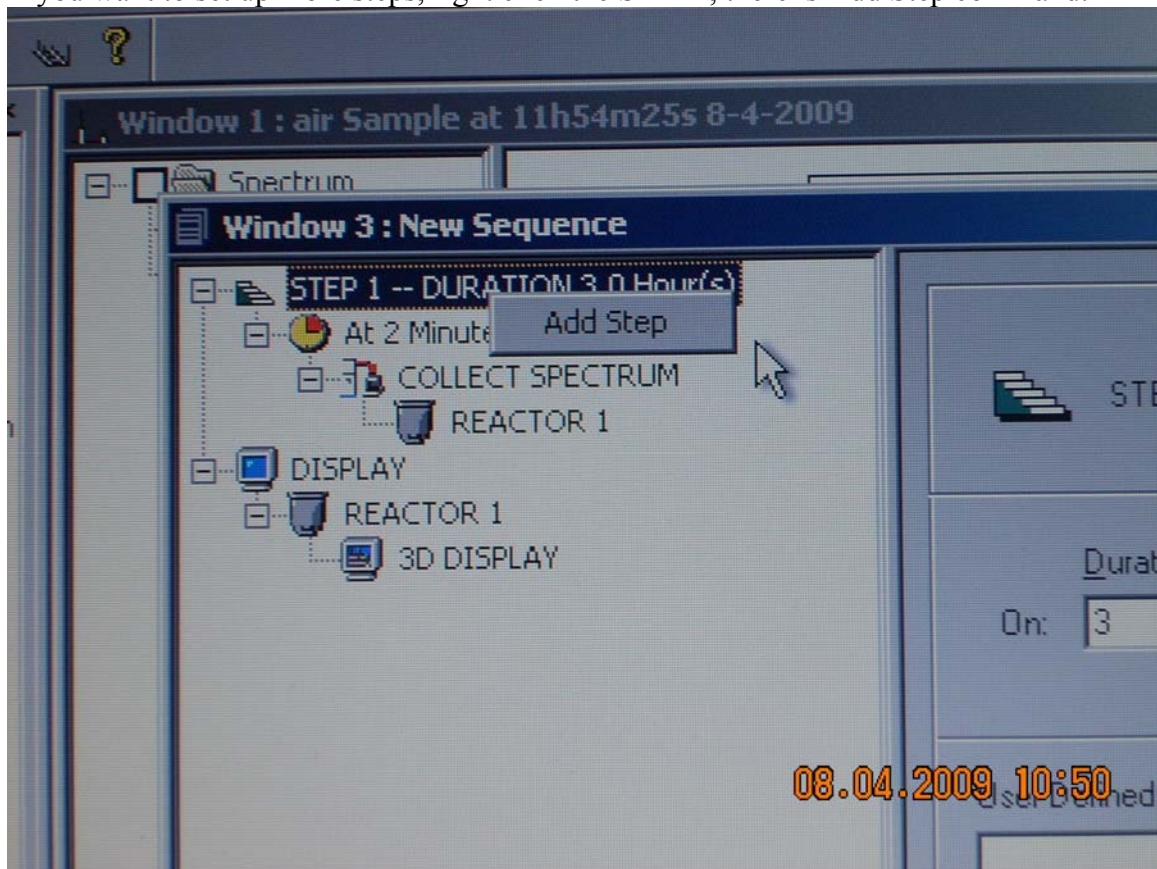
Save it Yes.

Set up INTERVAL Time.



All parameters should be the same as that of background.

If you want to set up more steps, right click the STEP1, there is Add Step command.



- 12) Save your data on your own file.
- 13) Turn off computer and disconnect the cable.
- 14) Clean the probe with CH_2Cl_2 , Hexane and acetone, then put the protecting bag on the probe.
- 15) Finish the registration on the logon book.

Note: No base condition for Sicomp Probe.