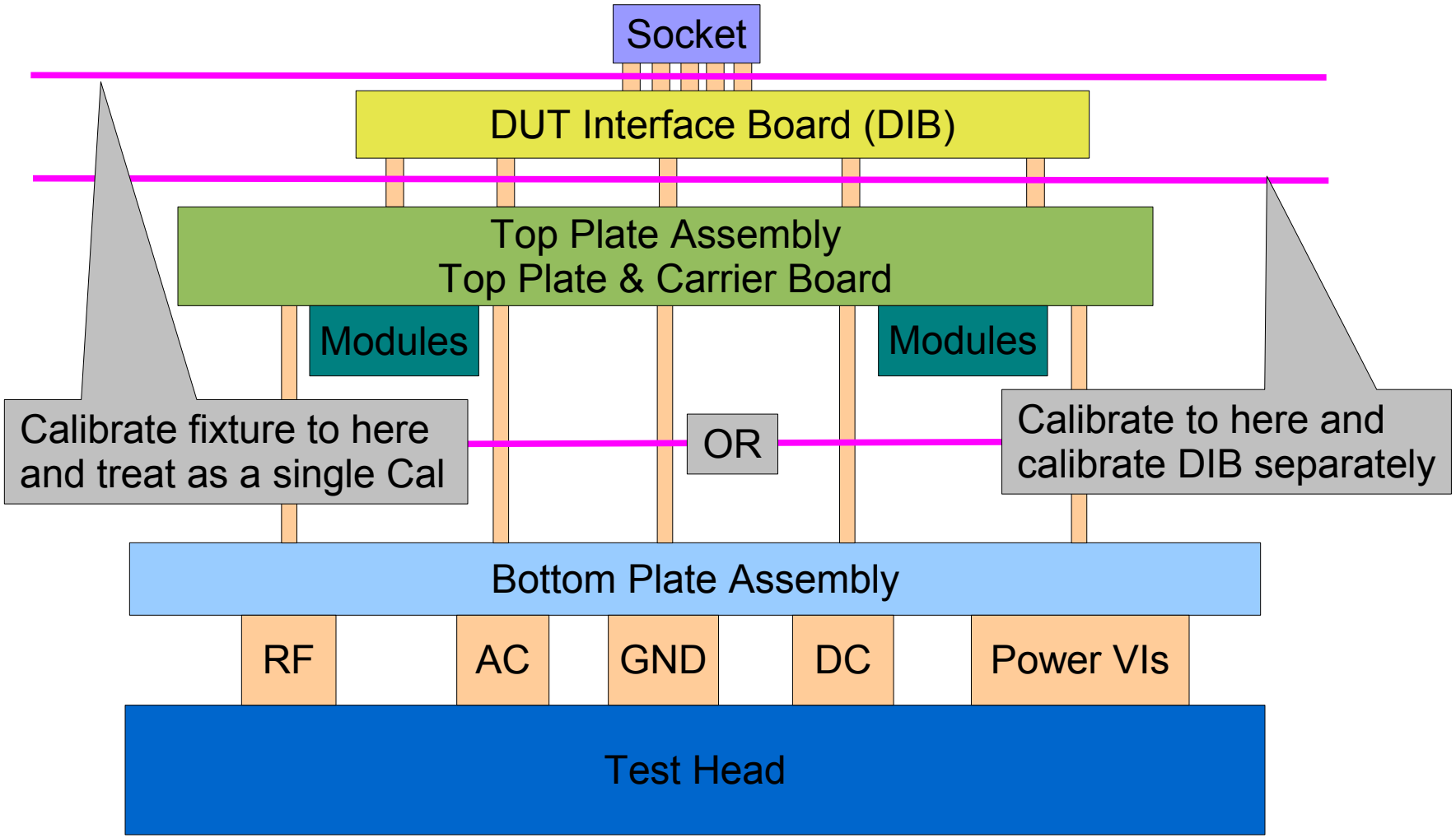
Fixture Calibration

Calibration Types

- Direct
  - Uses a primary NIST traceable standard (OSL, Power Meter, O-scope).
- Implied
  - Uses a secondary standard (one calibrated resource to calibrate another).

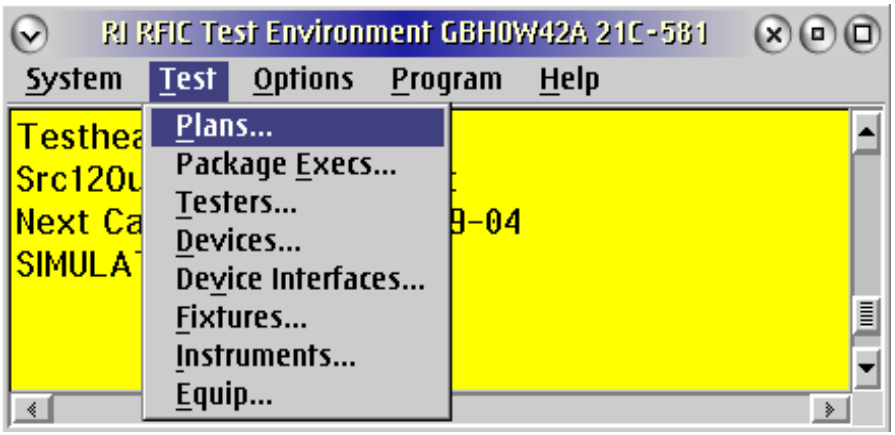
Fixture Calibration



Cal Plan Creation Using Templates

1. Go to main environment window and pull down the “Test” menu.

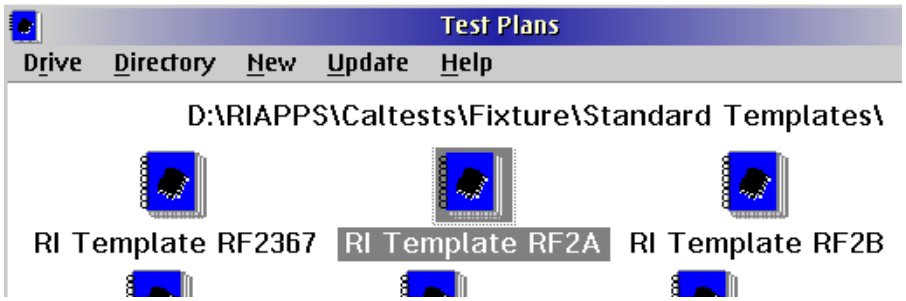
2. Choose “Plans....”.



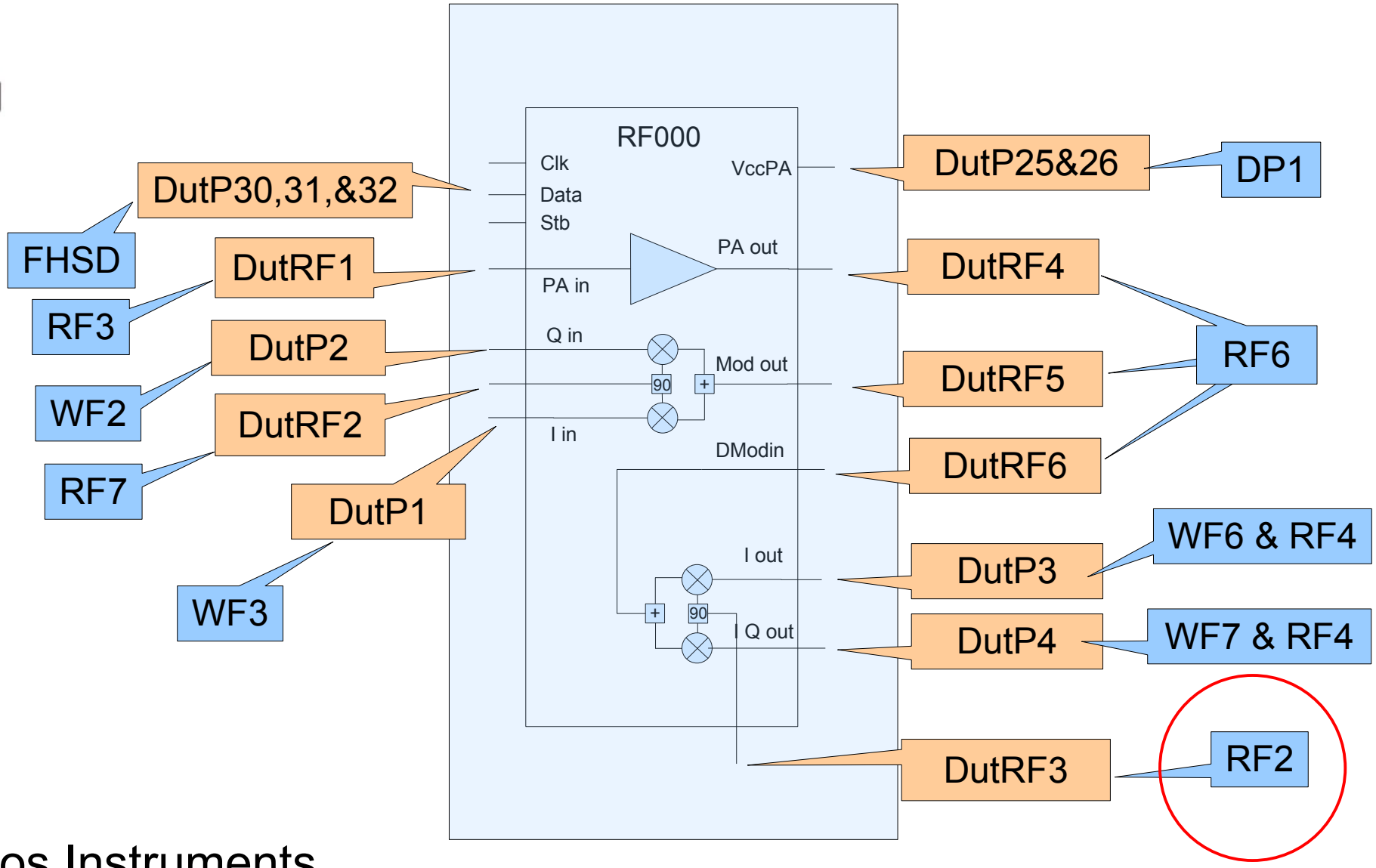
3. When in the Test Plans window change directory to: RIAPPS\testplan\Caltests\Fixture\Standard Templates

4. From the listed templates choose the one that most represents the port you want to calibrate.

5. Copy it to a name that represents your device. Ex. RF000_RF2



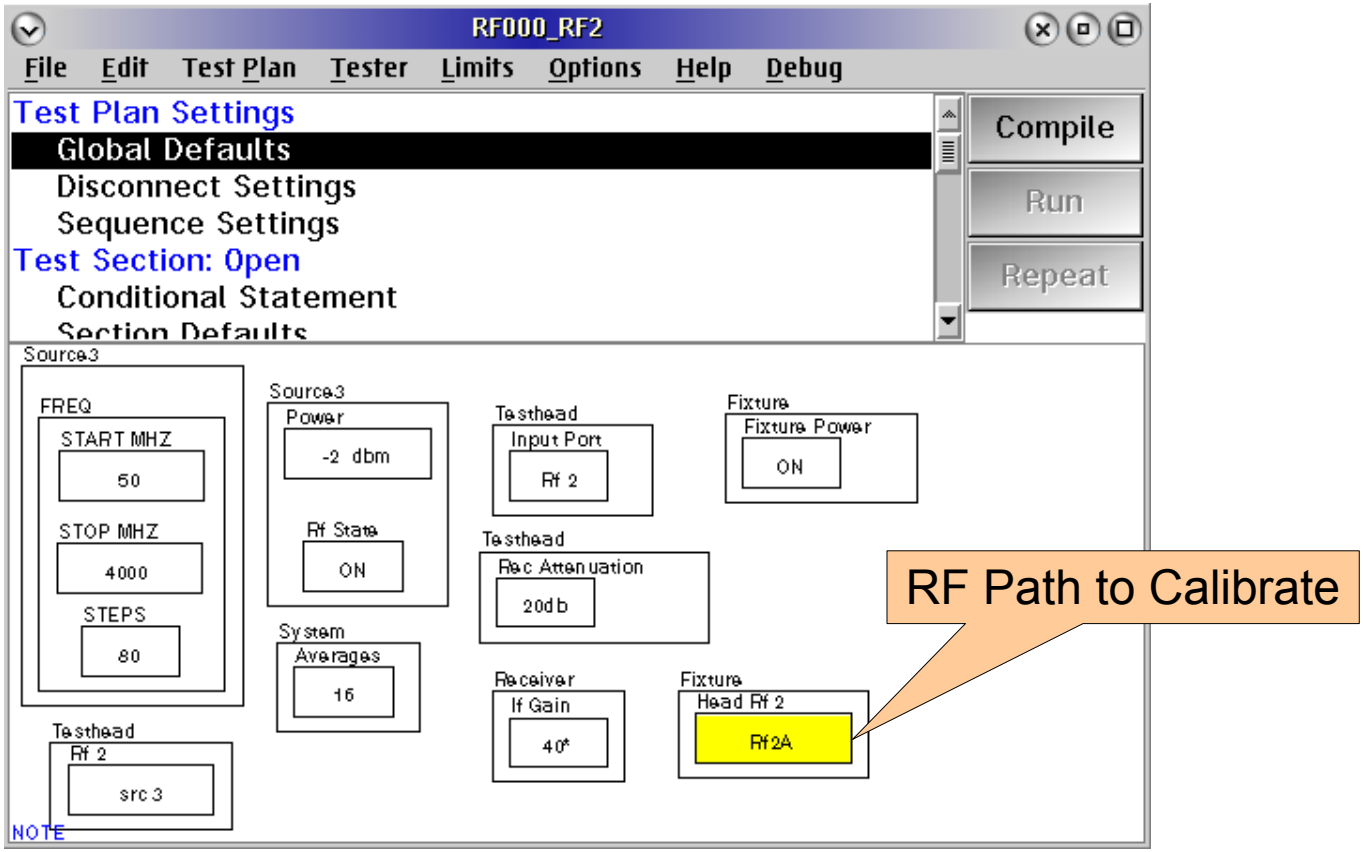
Student Fixture Block Diagram



Editing the Port Template RF000 Fixture

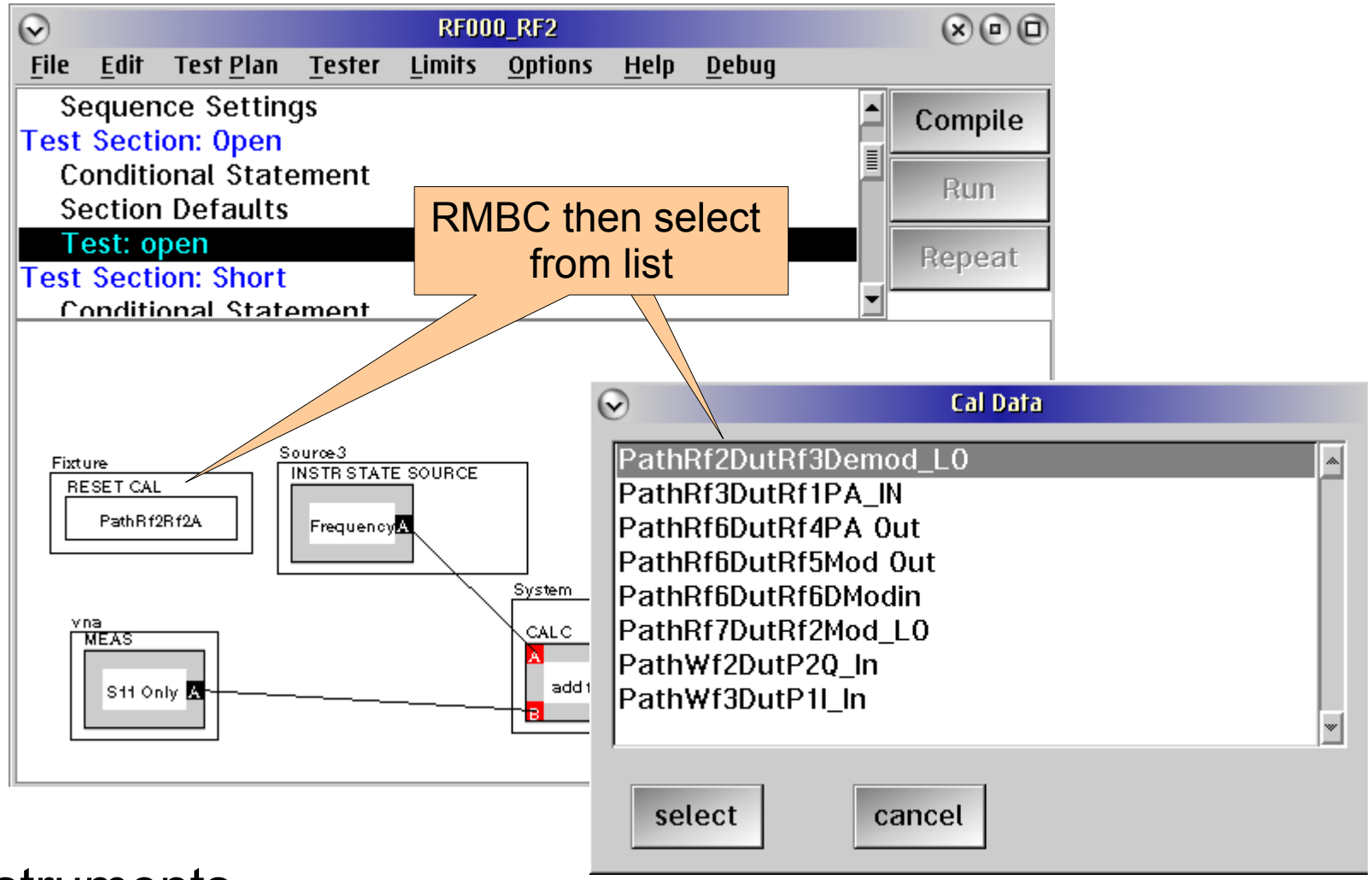
6. Open the new test plan in the edit mode. Also make sure that the fixture file is active.

7. Start in the Global Defaults and edit the RF path button.



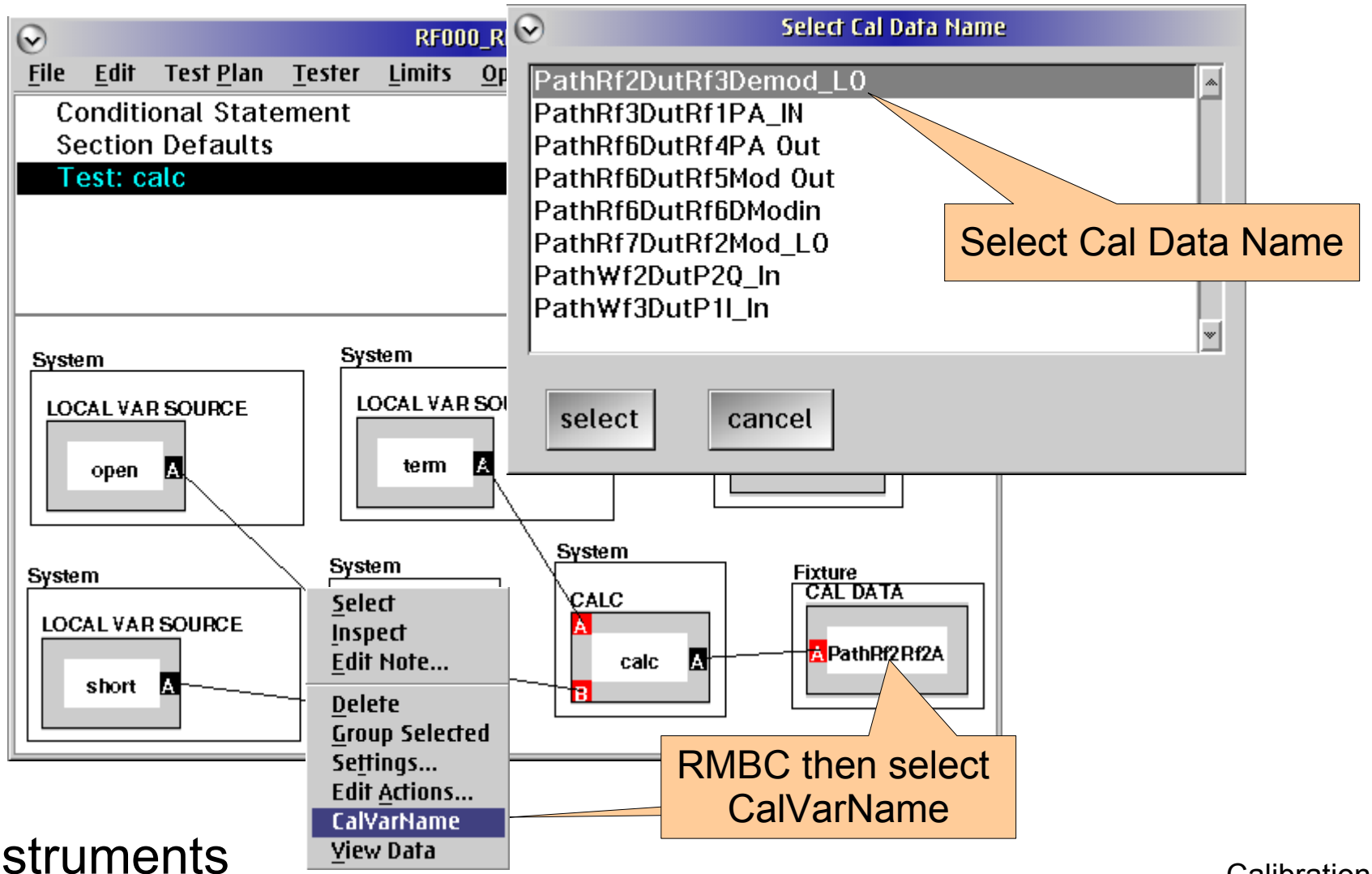
Editing the Port Template RF000 Fixture

8. Go to the “Open” test section and redefine the path to be calibrated.



Editing the Port Cal Plan
RF000 Fixture

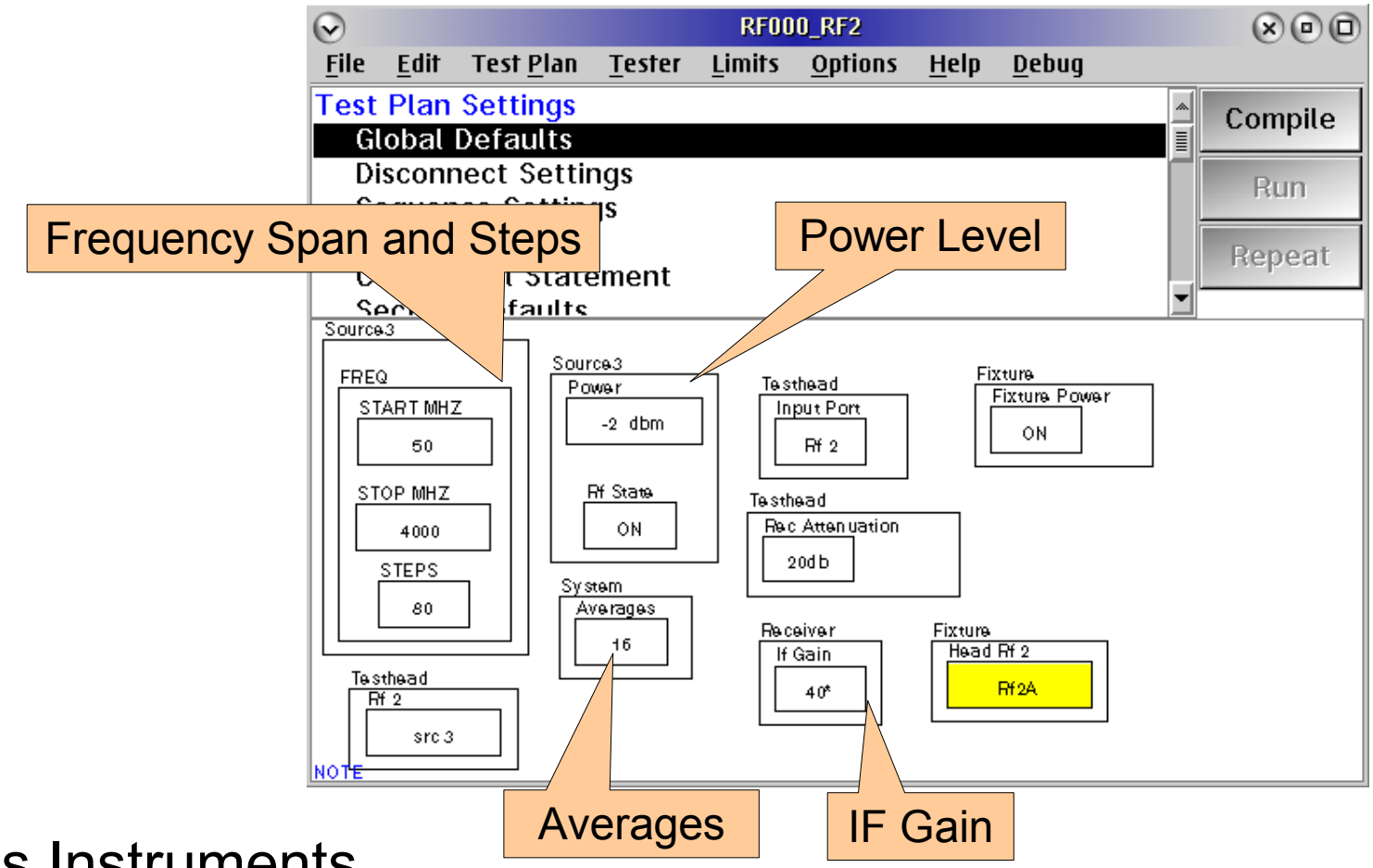
9. Go to the “Calc” test section and redefine the “Cal Data” data save button.



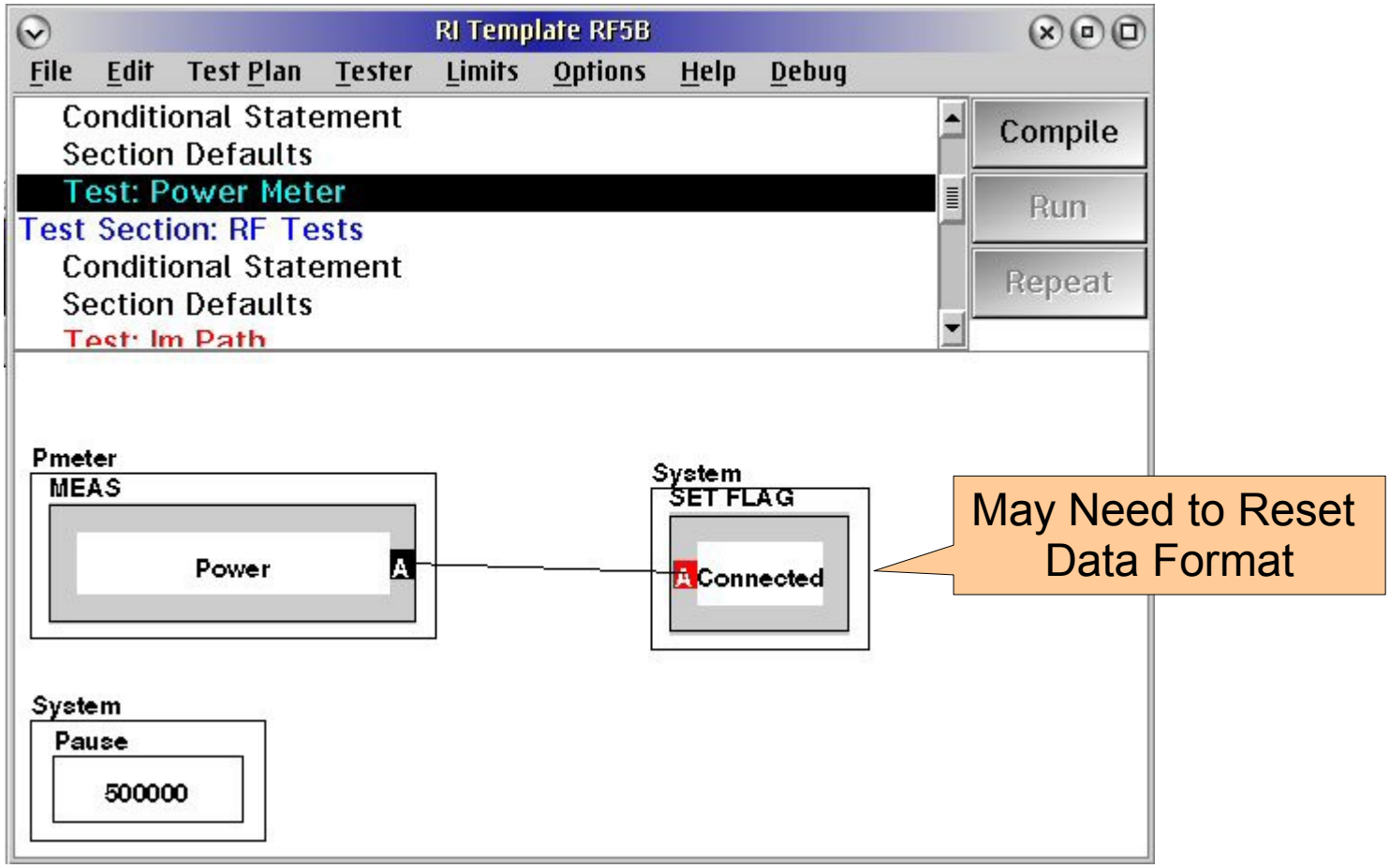
Roos Instruments

Editing the Port Cal Plan
RF000 Fixture

10. Go to the “Global Defaults” section and adjust the frequency span, frequency steps, power, averages, and IF gain to suit the specific application.

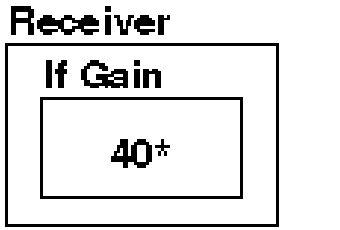


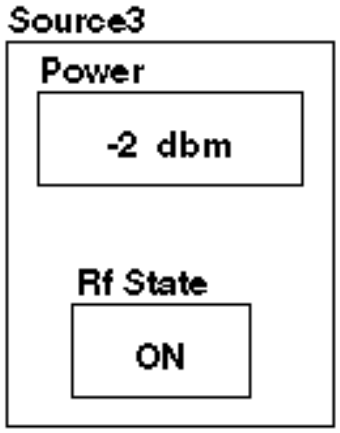
On Power Meter Cals



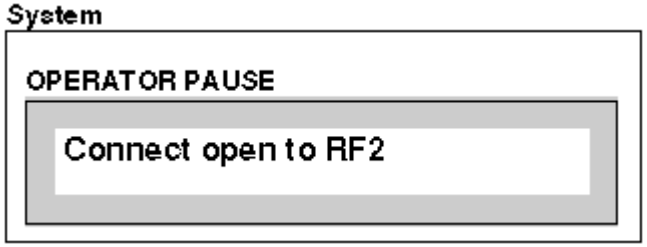
Other Things to Look For

- Look for warnings in the main message window and adjust the IF Gain and RF source power as needed.



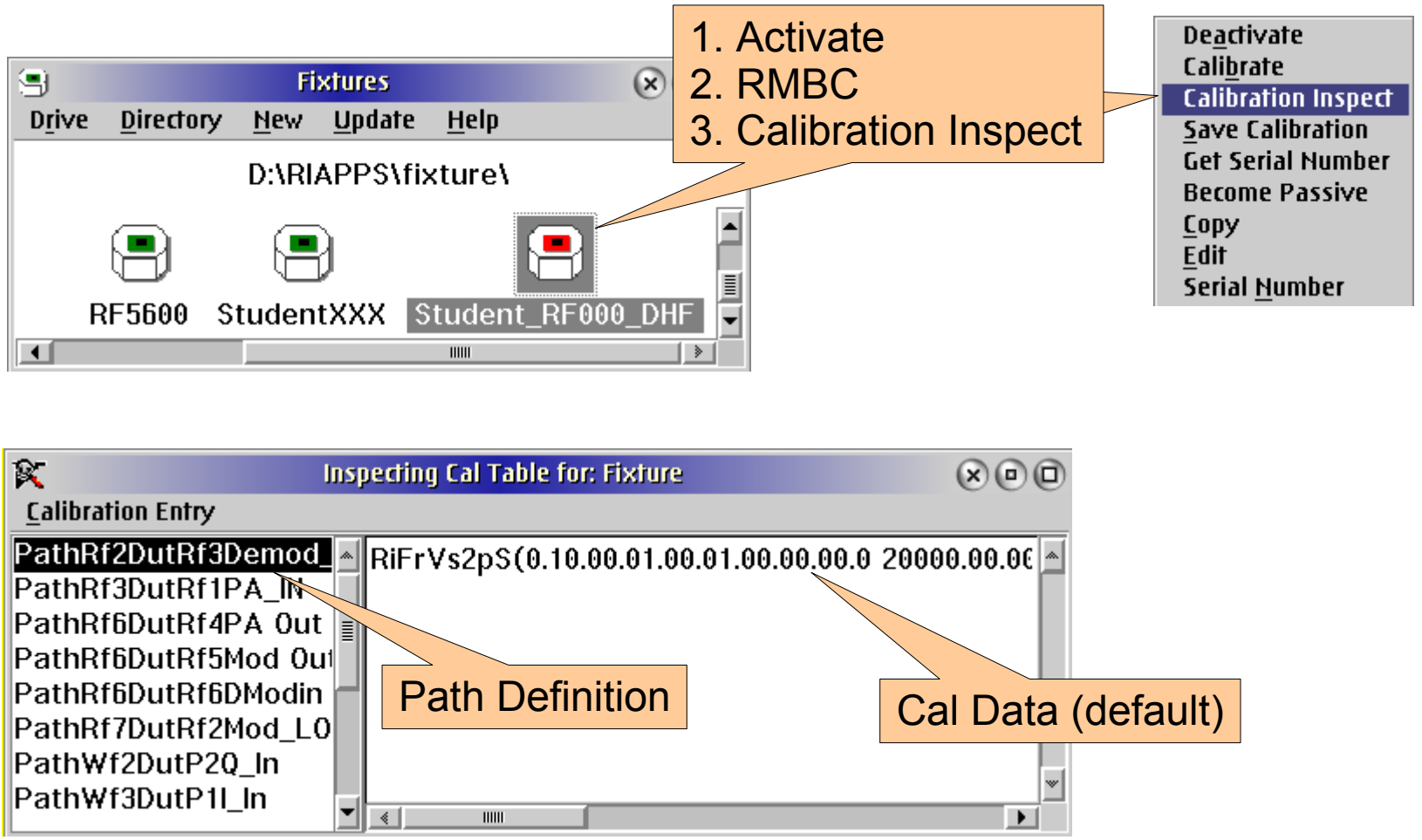


- Edit the Operator Pause as needed.



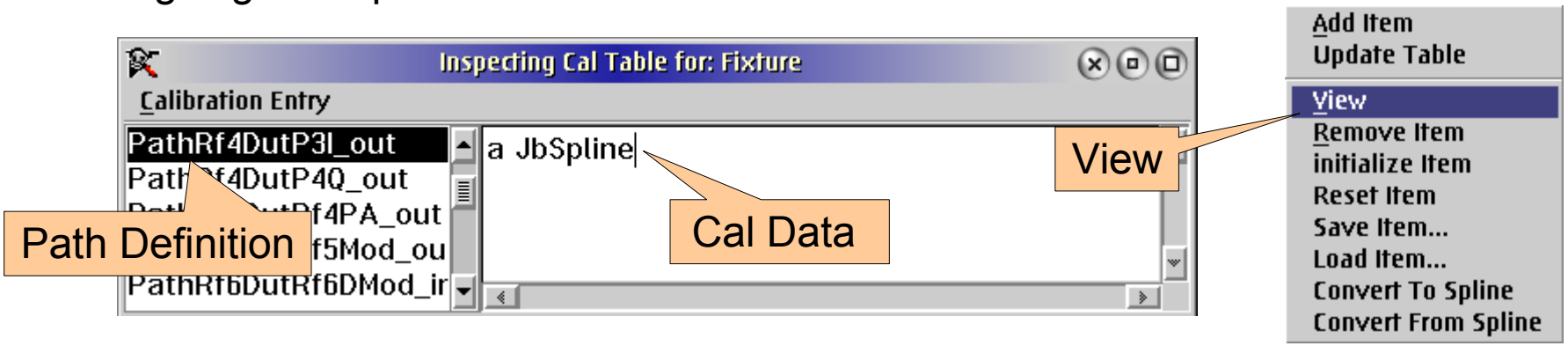
Checking the Port Cal Data RF000 Fixture

1. Go to “Fixtures” from the pull down menu in the main window.

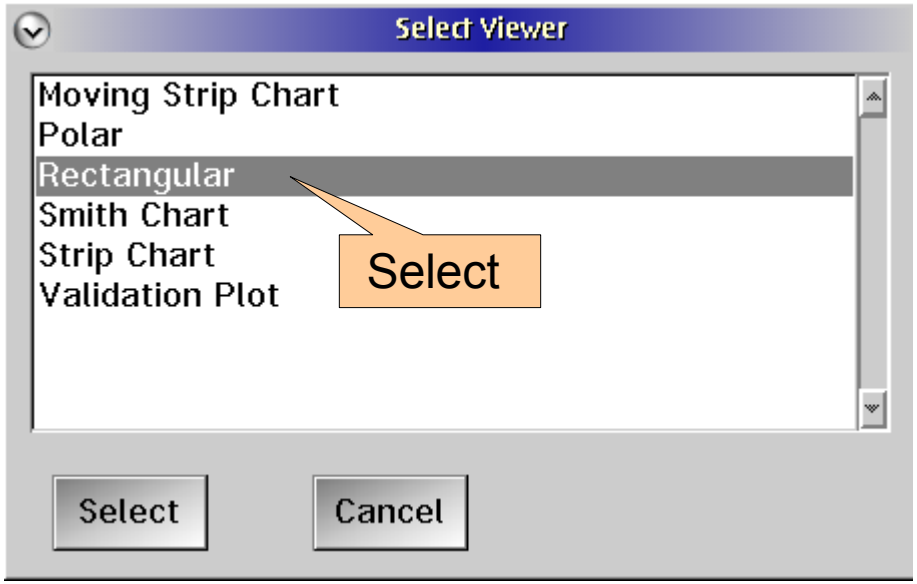


Viewing the Port Cal Data RF000 Fixture

2. High light the path definition and with a RMBC choose “View”.

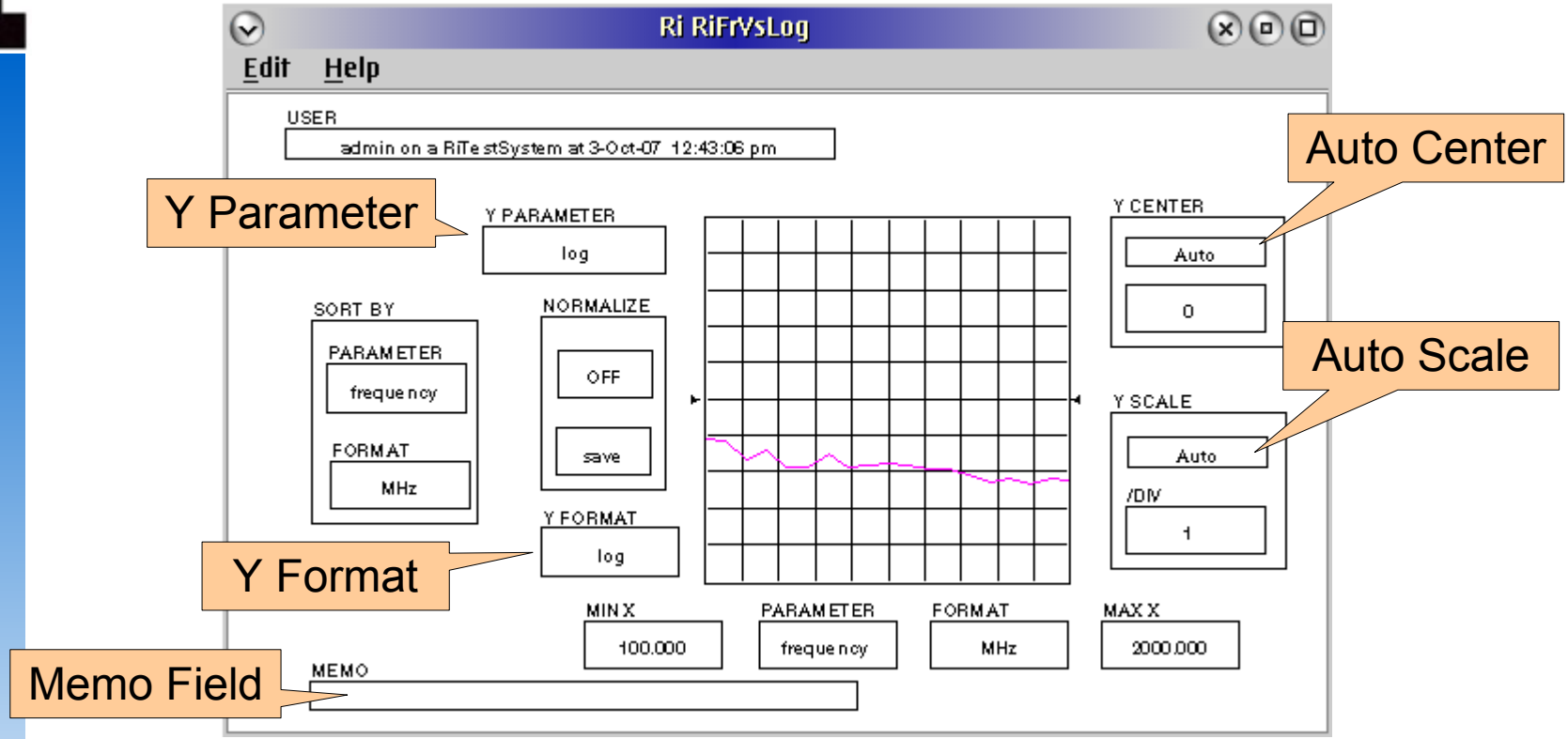


3. Choose “Rectangular from the viewer.



Viewing the Port Cal Data
RF000 Fixture

3. Adjust “Y Parameter” to data type and “Y Format” to data type.

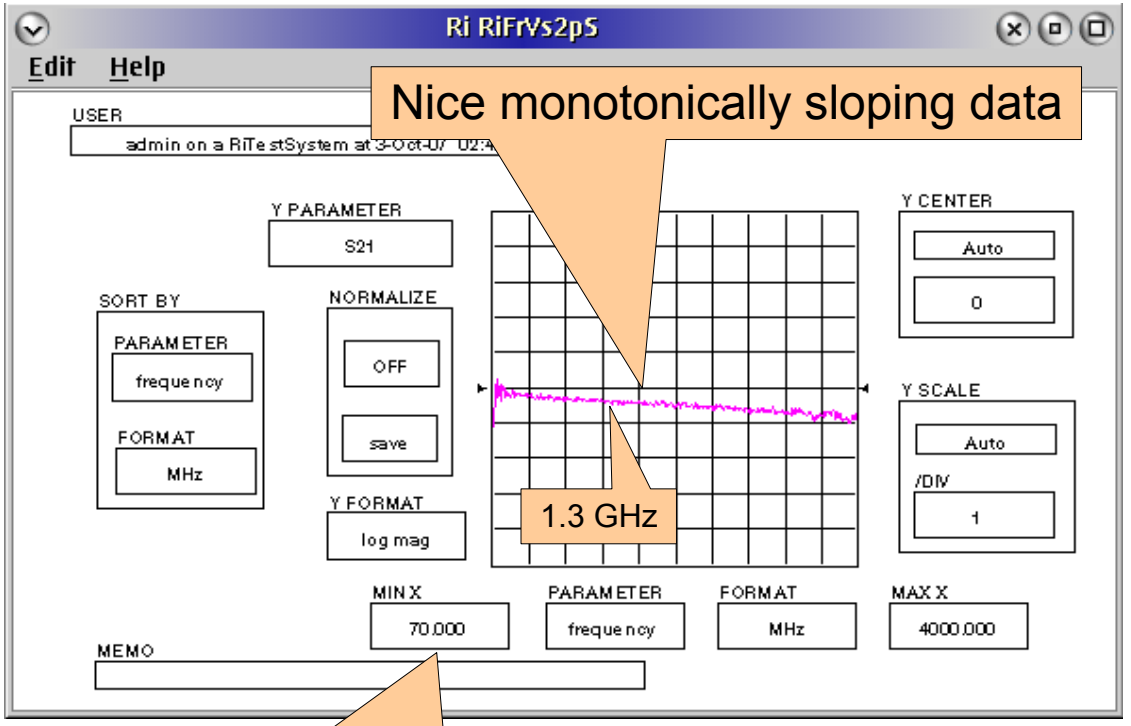


4. Check for proper frequency range, loss level, and/or power level to make sure it represents the application requirements.

Good Data / Bad Data
RF000 Fixture

- RF3 to DUTRF thru path.
- No series devices.
- OSL calibration.
- 48MHz – 2GHz DUT test band.

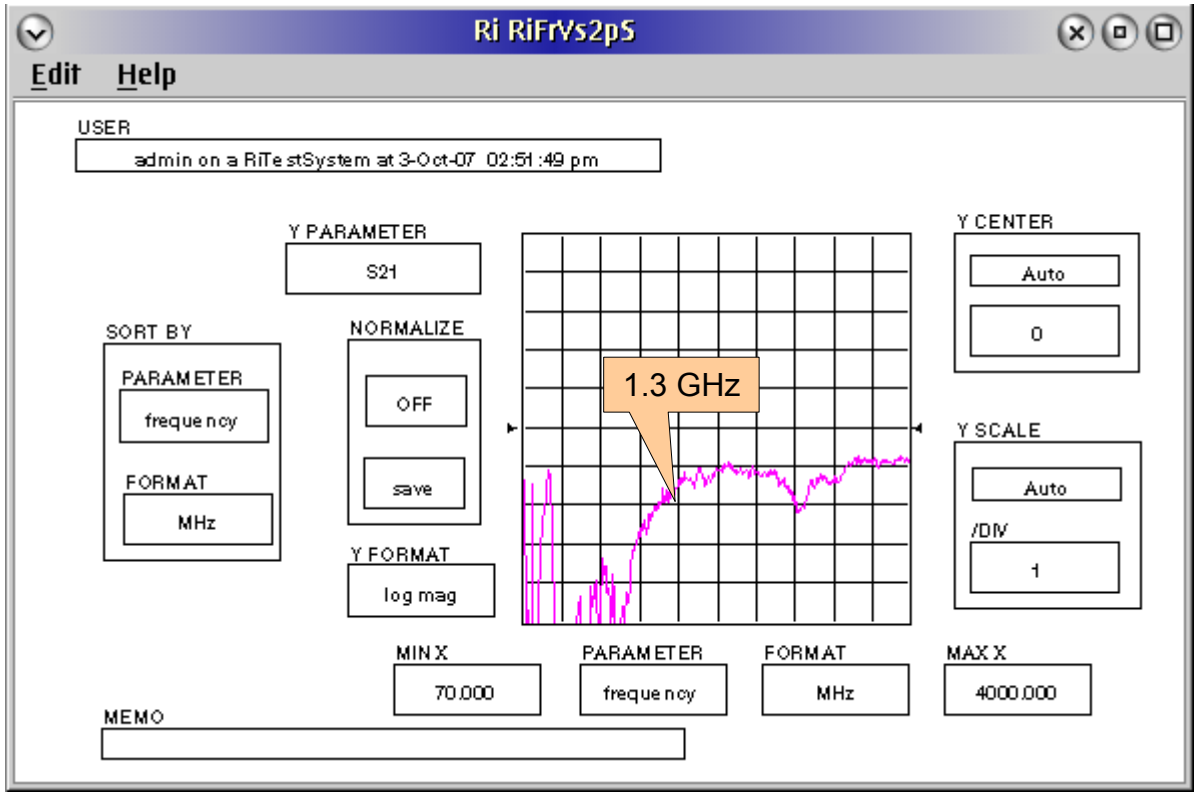
Is this good cal data?



Why Look at Cal Data? RF000 Fixture

- RF3 to DUTRF thru path.
- No series devices.
- OSL calibration.
- 48MHz – 2GHz DUT test band.

Customer complained of 2DB offset at 1.3GHz between pre an post calibration.



Remember

- **Calibration plans are written from templates, copies of other cal plans, or from scratch and as such are prone to error.**
- **Calibration test plans must be verified good and debugged to represent the application specifics (frequency range, power, calibration type, etc...).**
- **It is absolutely necessary to look at the calibration data. NEVER assume it is correct.**