Calibration Procedure

Category: **Calibrations** Admin
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reference Documentation/Manual : RBEH-4MER8L

SYSTEM SETUP PROCEDURE

The procedure for System Setup is described below.

1. Turn on the Test System and the System Computer Peripherals.
2. Next turn on the System Computer. The System Computer will load the OS/2 Operating System and the RI System Software Application.
3. Connect the Test Fixture to the RI Test Head using the following procedure.
   a. Before connecting the Test Fixture to the Test Head, verify that all of the fixture and Test Head connectors are clean and that all center pins and pogo pins are straight.
   b. Use the 3 (three) guide pins in the RI Test Head to align the Test Fixture with the RI Test Head. (One of the guide pins is larger than the others.)
   c. Press the Test Fixture downward on to the RI Test Head. Pressure should be applied evenly across the top of the Test Fixture.
   d. Rotate the cam (locking) arms to hold the fixture in place.
4. System Setup is complete.

SYSTEM START-UP PROCEDURE

The procedure for System Start-up is described below.

1. Using the System Computer, place the mouse pointer on the RI Icon. Double click mouse button 1 (left mouse button.)
2. The System Computer will open the RI System Software and display the RI Message Window
3. Select the RI Message Window's menu bar choices: System and Logon... (Place the mouse pointer on the menu bar choice System and click mouse button 1. Place the mouse pointer on the pull down menu choice Logon... and again click mouse button 1.)
4. The System Computer will open the Users Container Window.
5. Place the mouse pointer on your User Name icon and double click mouse button 1. Enter your password when prompted. The System will change the color of your User Name icon to red. You are now logged on to the system. Return to the RI Message Window by selecting the RI Message Window's title bar.
6. Select the Menu Bar Choices: System and Startup.
7. The System will perform an internal self-test and preset all of the instrumentation in the Test System to their idle state. The RI Message Window will display the status of each instrument and display "Fiber link connected and/or Hardware Mode" if the start-up was successful.
8. Check the status of each instrument in the test system.
   a. All of the Instrument Displays should be on.
   b. All of the RIFL status Indicators should be Green or Blinking Red.
      Green Light - RIFL is OK
      Blinking Red Light - RIFL is Active
      Constant Red Light - RIFL is Blocked
      Light Off - Instrument is Off
9. If the RI Message Window displays an Error and/or a Warning message, please correct the problem and repeat steps 6 thru 3.
10. System Start-up is complete.

AUTOMATED TESTING PROCEDURE WITH AUTOMATIC PACKAGE PART HANDLER

The RI 7100A System Software provides a custom Test Operator Interface for testing parts. The Test Operator Interface loads and runs Test Executives. The procedure for running test executives with an automatic package part handler is described below.

1. Select the RI Message Window by selecting the RI Message Window's title bar.
2. Select the menu bar choices: Test and Handlers.
3. The System Computer will open the Handlers Container Window.
4. Activate the desired Handler by placing the mouse pointer on the Handler object/icon and double clicking mouse button 1.
5. The System Computer will activate the Handler selected and change the Handler icon color from Blue to Red
6. Return to the RI Message Window by selecting the RI Message Window's title bar.
7. Select the menu bar choices: Test and Package Execs.
8. The System Computer will open the Package Test Window.
9. Open the Test Executive desired by placing the mouse pointer on the test exec object/icon and double clicking mouse button 1.
10. The System Computer will load the test plans, the test limits and the custom Operator Interface saved in the Test Executive.
11. Use the entry fields provided to enter the Lot, Sublot and Part Number for the first part to be tested.
12. To start testing select the green Start button.
13. The Operator Interface will update the test summary data each time a new part is tested.
14. The System will automatically save the test results to the Local SQL Data Base.
15. To stop testing select the red Stop button or the red Pause button.
16. To start testing again select the green Start button again or select the green Resume button to resume testing.
17. Select the red Stop button when you are finished testing.

SYSTEM SHUT DOWN PROCEDURE

Use the following procedure to close the RI application and shut down the Test System:

1. Close each of the open windows except the RI Message Window placing the mouse pointer on the down arrow in the upper left corner of each window and double clicking mouse button 1. Repeat this process until all of the windows are closed except for the RI Message Window.
2. Now close the RI Message Window by placing the mouse pointer on the down arrow in the upper left corner of RI Message Window and double clicking mouse button 1.
3. The System Computer will display the dialog box: Please Confirm... Select the Yes button.
4. Place the mouse pointer on an open area on the CRT screen and click mouse button 2. Select the pop-up menu choice: Shut down.
5. The System Computer will display multiple dialog boxes asking you if you want to shut down your system. Select the OK button each time.
6. The System Computer will begin the System Shutdown process. Do not turn off the computer until the System Computer displays the dialog box: Shutdown has completed. It is safe to turn off your computer.
7. Turn off the System Computer.
8. Turn off the Test System and the System Computer Peripherals.
9. Shut down is now complete.

SYSTEM CALIBRATION SETUP AND START-UP PROCEDURE

Use the following procedure to prepare the RI 7100A Microwave Test System for system calibration.

1. Turn on the Test System and the System Computer Peripherals.
2. Next turn on the System Computer. The System Computer will load the OS/2 Operating System and the RI System Software Application.
3. Connect the Calibration Test Fixture to the RI Test Head using the following procedure.
   a. Before connecting the Calibration Test Fixture to the Test Head, verify that all of the fixture and Test Head connectors are clean and that all center pins and pogo pins are straight.
   b. Use the 3 (three) guide pins in the RI Test Head to align the calibration Test Fixture with the RI Test Head. (One of the guide pins is larger than the others.)
   c. Press the Calibration Test Fixture downward on to the RI Test Head. Pressure should be applied evenly across the top of the Calibration Test Fixture.
   d. Rotate the cam (locking) arms to hold the fixture in place.
4. Using the System Computer, place the mouse pointer on the RI Icon. Double click mouse button 1 (left mouse button.) The System Computer will open the RI System Software and display the RI Message Window.
5. Select the RI Message Window's menu bar choices: System and Logon... (Place the mouse pointer on the menu bar choice System and click mouse button 1. Place the mouse pointer on the pull down menu choice Logon... and again click mouse button 1.)
6. The System Computer will open the Users Window .
7. Place the mouse pointer on your User Name icon and double click mouse button 1. Enter your password when prompted. The System will change the color of your User Name icon to red. You are now logged on to the system.
   Please Note: To perform System Calibration, you must have Admin or higher privileges.
8. Return to the RI Message Window by selecting the RI Message Window’s title bar.
9. Select the Menu Bar Choices: System and Startup.
10. The System will perform an internal self-test and preset all of the instrumentation in the Test System to their idle state. The RI Message window will display the status of each instrument and display "Fiber link connected and/or Hardware Mode" if the start-up was successful.
11. Check the status of each instrument in the test system.
    a. All of the Instrument Displays should be on.
    b. All of the RIFL status Indicators should be Green or Blinking Red.
       Green Light - RIFL is OK.
       Blinking Red Light - RIFL is Active
       Constant Red Light - RIFL is Blocked.
       Light Off - Instrument is Off.
12. If the RI Message Window displays an Error and/or a Warning message, please correct the problem and repeat steps 9 thru 12.
13. System Start-up is complete.

SAVING THE TEST SYSTEM AND PERFORMING THE SYSTEM CALIBRATION PROCEDURE

The RI 7100A System Software provides a Calibration Test Exec for calibrating the test system. The Calibration Test Exec loads and runs multiple calibration and verification test plans. The Calibration Test Exec automatically saves the calibration data with the tester. The calibration process will take approximately 4 hours for a 4 port RFIC Test System and approximately 8 hours for a 8 port RFIC Test System. We recommend that you make a backup copy of the tester's configuration and calibration data before performing the calibration. The procedure for copying the tester's configuration and calibration data and running the calibration test executive is described below.

1. Make a Backup Copy of the Tester.
   a. Select the RI Message Window by selecting the RI Message Window's title bar.
   b. Select the menu bar choices: Test and Testers.
   c. The System Computer will open the Testers Container Window.
   d. Copy the Tester's configuration and calibration data by placing the mouse pointer on the active (red) tester and clicking mouse button 2. Select the pop-up menu choice: Copy.
   e. Enter a name for the backup copy of the Tester.
2. Load the RF Power Meter's Instrument Drivers with the Tester.
   a. Open the Tester Configuration Manager Window by placing the mouse pointer on the active (red) tester again and clicking mouse button 2. Select the pop-up menu choice: Configure.
   b. Select the menu bar choices: Instrument and Load.
   c. The System Computer will open a dialog box for selecting the instrument to be loaded.
   d. Select [Highlight] the Microwave Power Meter in the instrument list provided and select the Select button. The System Software will temporarily add the Power Meter to the System Configuration.
   e. Select the P-meter in the Configuration Manager Window's instrument list. Verify that you are using the correct RF power sensor with the power meter. Check the serial number on your RF Power Sensor. The serial number should be the same as the serial number shown in the SENSOR 1 button. If the serial numbers are different, place the mouse pointer on the serial number shown in the SENSOR 1 button and click mouse button 1. The System Computer will list all of the power sensor calibration tables which have been entered. Select the correct SENSOR 1 calibration table.
   f. Close the Configuration Manager Window by placing the mouse pointer on the down arrow in the upper left corner of the window and double clicking mouse button 1.
3. Activate the Calibration Fixture.
   a. Return to the RI Message Window by again selecting the RI Message Window's title bar.
   b. Open the Fixture Window by selecting the menu bar choices Test and Fixtures.
   c. Activate the Calibration Fixture by placing the mouse pointer on the Calibration Fixture icon and double clicking mouse button 1. The Fixture icon will turn red,

indicating that it is active.

d. Close the Fixture Container Window by placing the mouse pointer on the down arrow in the upper left corner of the window and double clicking mouse button 1.

4. Open and Run the Calibration Test Executive
   a. Return to the Testers Container Window by again selecting the Testers Container Window's title bar.
   b. Open the Calibration Test Executive by placing the mouse pointer on the active (red) tester and clicking mouse button 2. Select the pop-up menu choice: Calibrate.
   c. The System Computer will open the Tester's Calibration Test Executive.
   d. All of the calibration test plans listed in the Calibration Test Executive can be run by selecting the menu bar choices: Run and All. However, we recommend that you only run a small group of tests at a time, such as selecting all of the calibration and verification tests associated with a specific instrument or RF Test Port. The System Computer will automatically save the calibration data created with the tester after the test plans selected have been successfully run.
      All of the calibration test plans and verification test plans are displayed in the test Plan List at the bottom of the Calibration Test Executive Window. Run the test plans in the order provided. If the tester fails a verification test plan, run the calibration tests for the instrument or RF Test Port which failed. Use the following procedure to select and run calibration and/or verification test plans.
   e. Place the mouse pointer on the test plan desired and double click mouse button 1. The System Computer will highlight the test plan selected. (To de-select the test plan, double click mouse button 1 again.) Repeat the process for the other test plans you wish to perform. Make sure that only the test plans desired are selected (highlighted).
   f. To run the selected tests, select the menu bar choices: Run and Selected.
   g. The System Computer will load and run the selected (highlighted) calibration and verification test plans.
   h. Follow the operator prompts provided by the test system.
   i. Each time the Tester successfully completes the test plans selected, the calibration data is saved.
   j. Repeat steps e through i until all of the test plans have been performed.
   k. Close the Calibration Test Executive. System Calibration is complete.

SYSTEM DIAGNOSTIC PROCEDURE

The RI 7100A System Software provides a Diagnostic Test Exec for diagnosing the test system. The Diagnostic Test Exec loads and runs multiple diagnostic test plans. The procedure for running the Diagnostic test executive is described below.

1. Select the RI Message Window by selecting the RI Message Window's title bar.
2. Select the menu bar choices: Test and Testers.
3. The System Computer will open the Tester Container Window
4. Open the Diagnostic Test Executive placing the mouse pointer on the active (red) tester and clicking mouse button 2. Select the pop-up menu choice: Diagnose.
5. The System Computer will open the Tester's Diagnostic Test Executive.
6. Select the Menu Bar choices: Run and All.
7. The System Computer will load and run each of the diagnostic test plans in the order shown.
8. Follow the operator prompts provided by the test system. The diagnostic process will take approximately 15 minutes to perform.
9. Close the Diagnostic Test Executive after all of the diagnostic test plans have been run.
10. System Diagnostic is complete. Please report any failures to Roos Instruments. (support@roos.com)