

Application Note

Running Standards Compare with a 933 on a RW

In order to run Standards Compare on a RW using a 933 System, the connections must be made properly in order for the results to be correct. That being said, the connections for an RW are different than expected. Because current is being generated into it by the RS-933 system, the cables must go against the visual color code (as I will explain later). I will go over how to properly connect the RW to ensure safety and proper testing in the following document.

What is Needed?

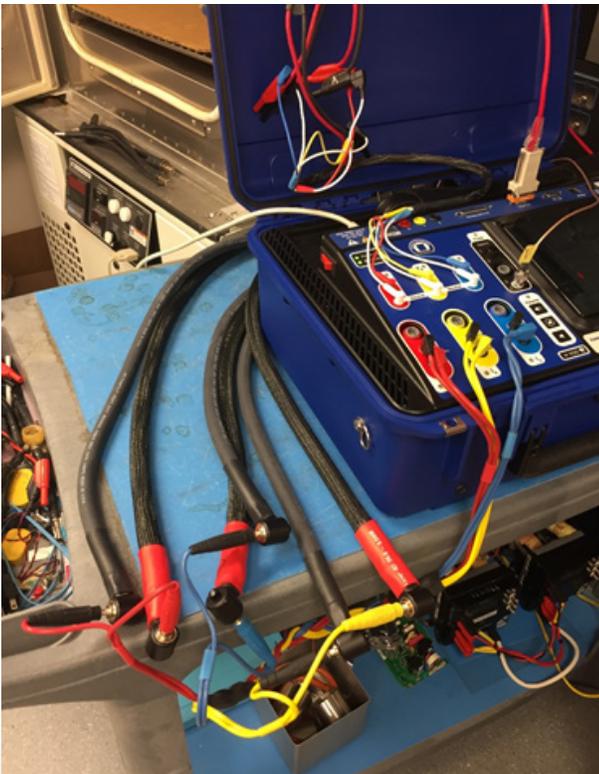
RW

703/933 System

AL0040 - RW-3x Standard Compare Adapter Kit for RS-933

Connecting the Units (Method 1 – Using Refresh & Serial Connection)

Due to a recent software update, we changed how the RW handled current measurement which would lead to the connections shown below:

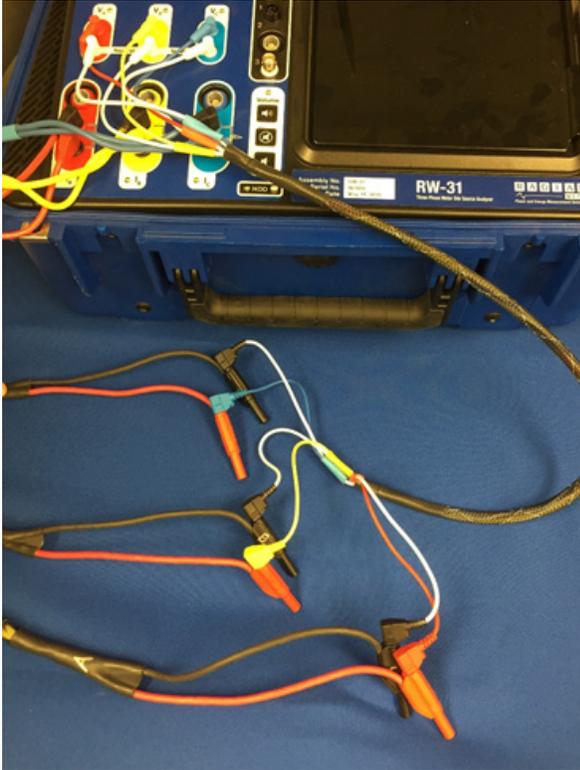


1. Connect the voltage cables to the 703/933 as shown, with the colored cables corresponding to each phase:

Red to Red (Va), White to Black (Va)

Yellow to Red (Vb), White to Black (Vb)

Blue to Red (Vc), White to Black (Vc)



2. Connect the current cables to the 703/933 as shown, with the colored cables corresponding to each phase:

Red to Red (Ia), Black to Black (Ia)

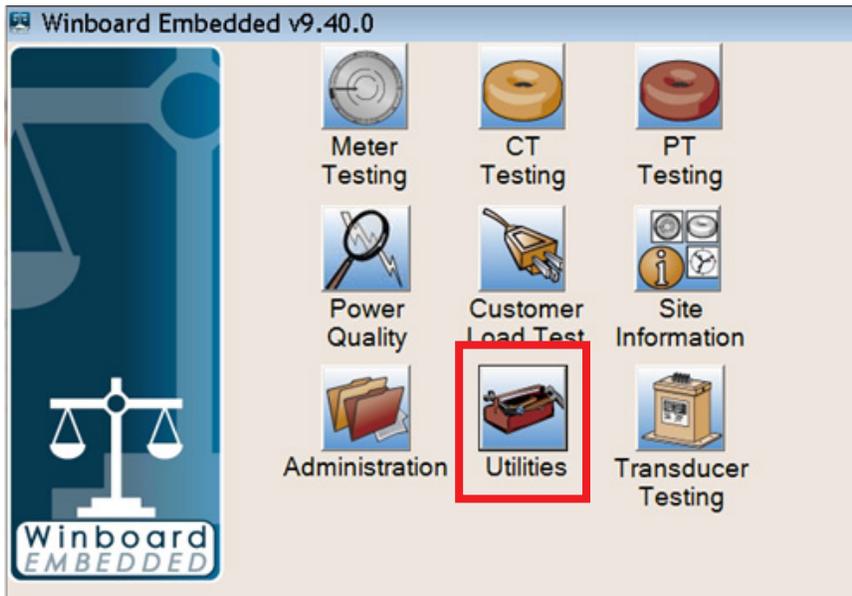
Yellow to Red (Ib), Black to Black (Ib)

Blue to Red (Ic), Black to Black (Ic)

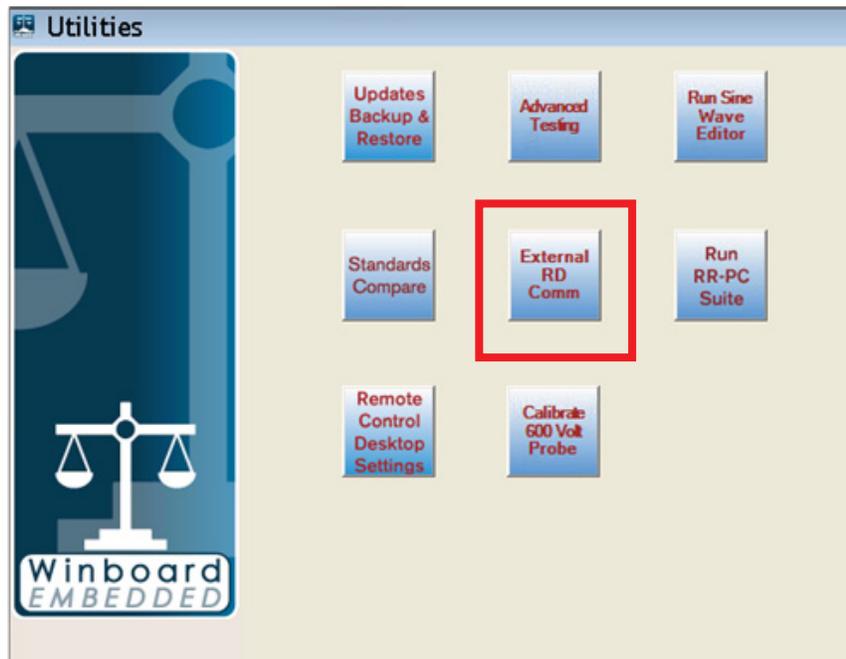


Running Standards Compare (Method 1 – Using Refresh & Serial Connection)

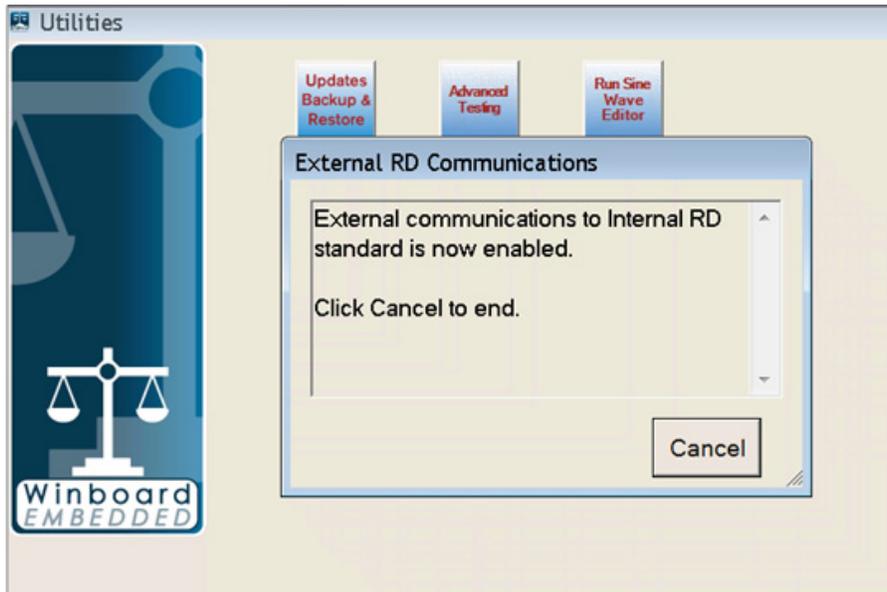
1. On the RW, navigate to Utilities



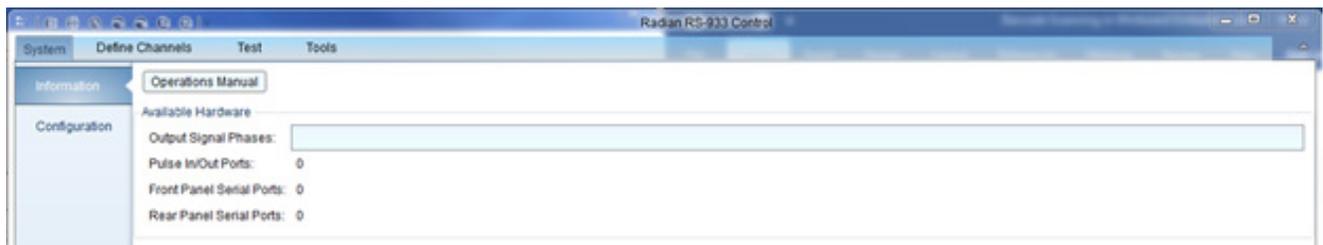
2. In the utilities menu, select "External RD Comm"



3. Once that is selected, an “External RD Communications” window should pop up as shown.



4. Keep this pop up open for the **entirety** of the test.
5. Open up the “RS-933 Control” software on your computer.
6. Select the “System” tab and ensure the “Configuration” settings are correct.

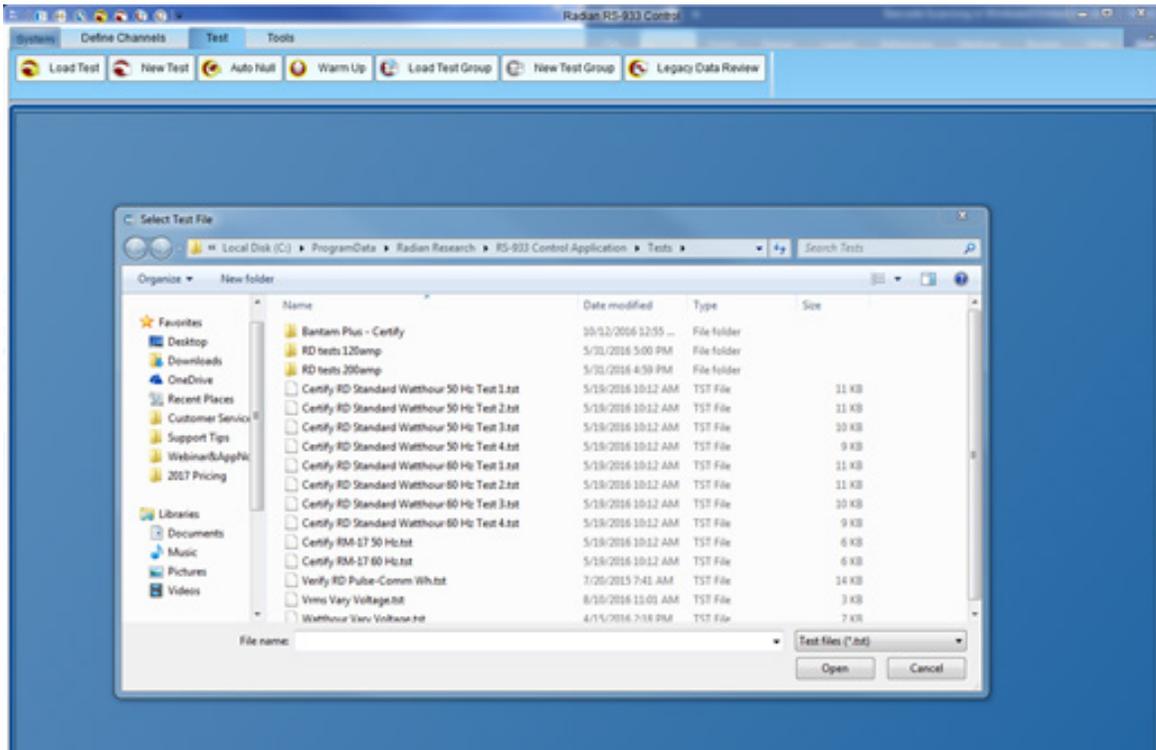


7. Select “Channel Configuration” button.
8. The device files that are loaded into the 933 software are set for “stand alone” RD Standards. You will need to modify the device file (.dev) of the whichever standard is located inside of your RW to **limit to the current to 30 Amps**. This can be done using the “Edit Device” button on your RS-933 Control Software.

WARNING: The RW may have a RX Standard inside. Please make sure that the appropriate RX device file is selected in that case (RS-933 Control Software v2.3.2.0 or greater is required).

- a. The Standard information can be found on the RW under “About” -> “___ Model #:”

9. Click “Refresh” to poll all serial ports on the RS-940 and read back the model and serial number of the standard, automatically populating the fields.
10. Ensure that the device has populated in the “Channel Configuration” screen and that the settings are correct.
11. Select the “Test” tab and “Load Test”



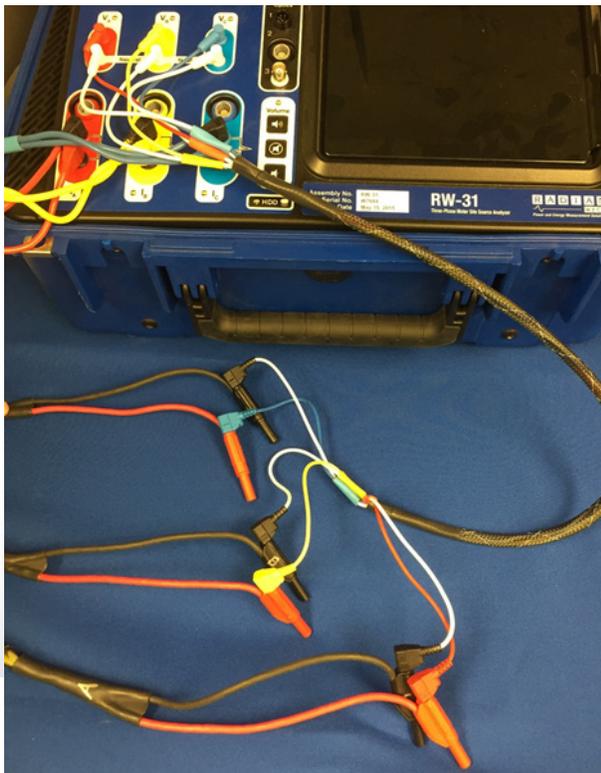
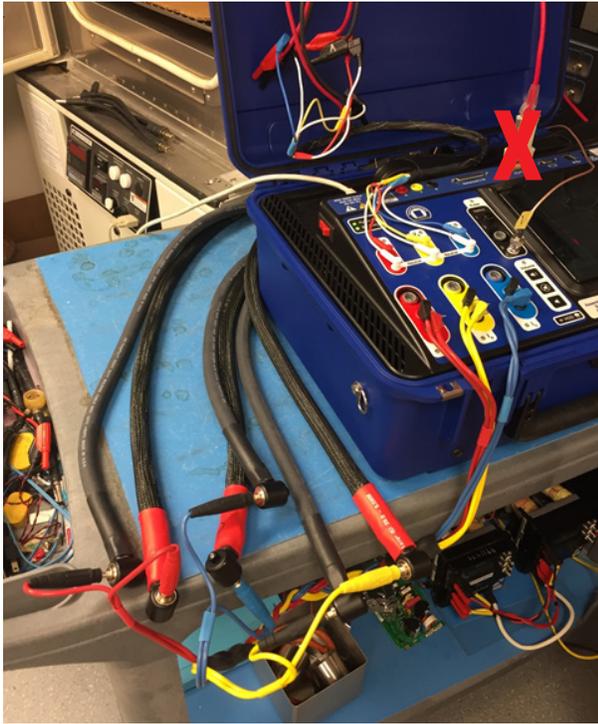
12. Ensure that the correct “.tst” file is selected and the testing screen populates accordingly.
Note: Because the device file is limited to 30 Amps, the test will not run above 30 Amps. However, we still recommend that you use the “New Test” button to create a separate test for the RW that has a maximum of 30 Amps.
13. Run Test

Connecting the Units (Method 2 – No Serial Connection)

Due to a recent software update, we changed how the RW measured current which would lead to the connections shown below (with no serial connection):

Connecting the Units (Method 2 – No Serial Connection)

Due to a recent software update, we changed how the RW measured current which would lead to the connections shown below (with no serial connection):



1. Connect the voltage cables to the 703/933 as shown, with the colored cables corresponding to each phase:

Red to Red (Va), White to Black (Va)

Yellow to Red (Vb), White to Black (Vb)

Blue to Red (Vc), White to Black (Vc)



2. Connect the current cables to the 703/933 as shown, with the colored cables corresponding to each phase:

Red to Red (Ia), Black to Black (Ia)
 Yellow to Red (Ib), Black to Black (Ib)
 Blue to Red (Ic), Black to Black (Ic)



3. Connect the voltage cables to the RW as shown, with the colored cables corresponding to each phase:

Red to Red (Va), White to White (Va)
 Yellow to Yellow (Vb), White to White (Vb)
 Blue to Blue (Vc), White to White (Vc)

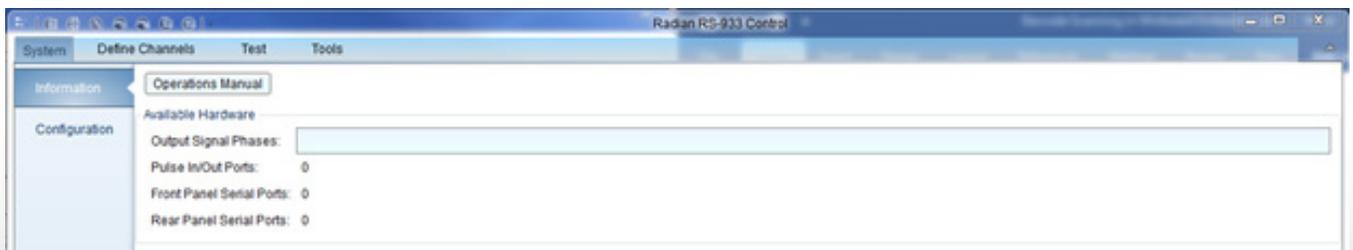
4. Connect the current cables to the RW as shown, with the colored cables corresponding to the following

Red to Black (Ia), Black to Red (Ia)
 Yellow to Black (Ib), Black to Yellow (Ib)
 Blue to Black (Ic), Black to Blue (Ic)

5. Ensure that the optics cable is properly connected into Port 3 (BNC Connection).

Running Standards Compare (Method 2 – No Serial Connection)

1. Open up the “RS-933 Control” software on your computer.
2. Select the “System” tab and ensure the “Configuration” settings are correct.



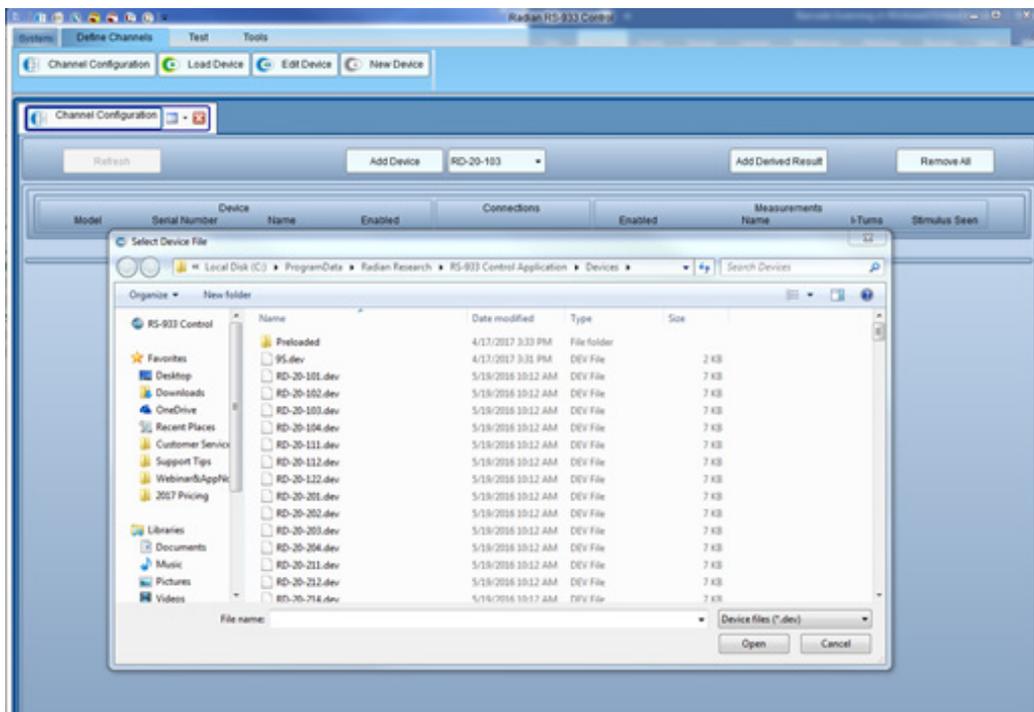
3. Select “Channel Configuration” button.

4. The device files that are loaded into the 933 software are set for “stand alone” RD Standards. **The RW is only rated to 30 amps.** You will need to modify the device file of the standard that is located inside your RW or create a new device file which is specific to the RD standard in the RW and give it a slightly different name. The Standard information can be found on the RW under “About” -> “___ Model #:”

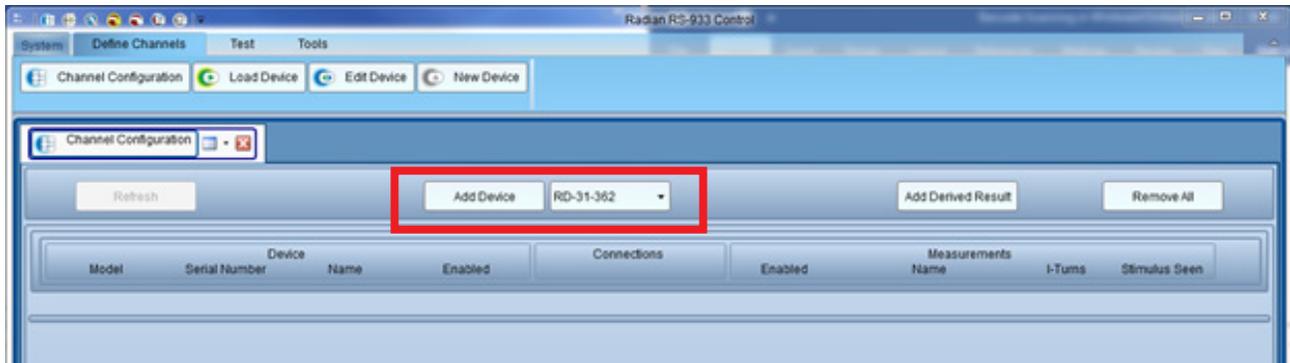
- b. To modify the appropriate device file (.dev) of the standard that is located inside of your RW, use the “Edit Device” button on your RS-933 Control Software and make sure to **limit to the current to 30 Amps.**
- c. To create a new device file (.dev), use the “New Device” button on your RS-933 Control Software and make sure to **limit to the current to 30 Amps.**

WARNING: The RW may have a RX Standard inside. Please make sure that the appropriate RX device file is selected in that case (RS-933 Control Software v2.3.2.0 or greater is required).

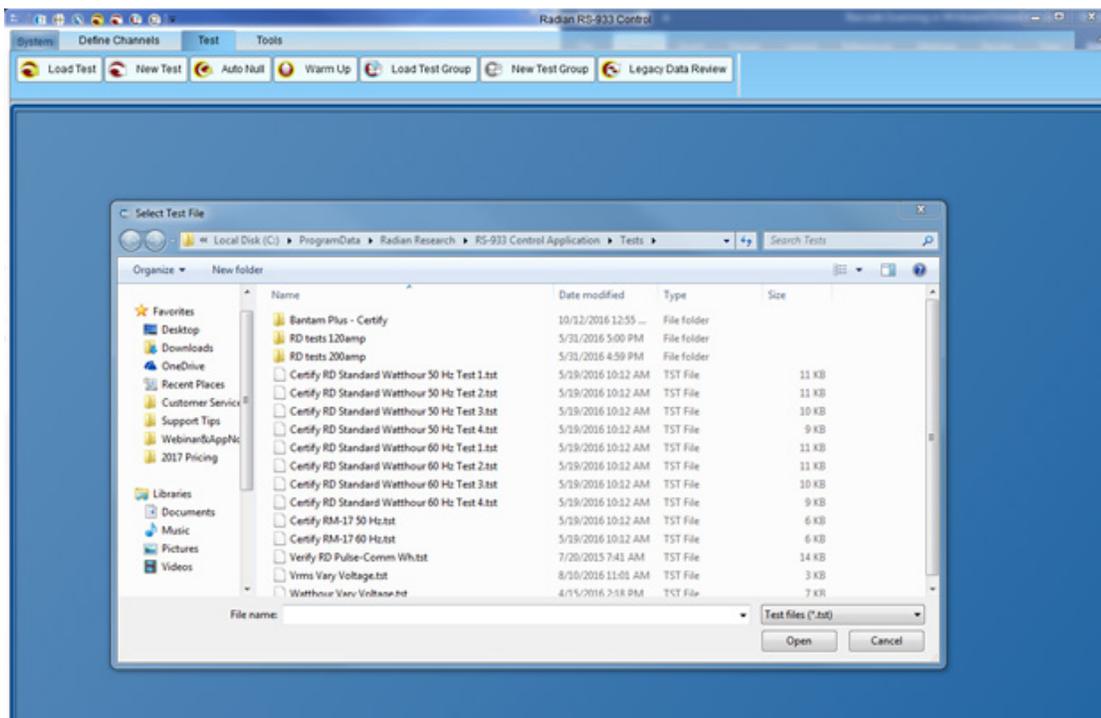
5. Click “Load Device” and ensure that the proper “.dev” file is selected based on the standard that is located within the RW.



6. Once the device is loaded, select the device from the drop-down menu as shown and select “Add Device”



7. Ensure that the device has populated in the “Channel Configuration” screen and configure those settings accordingly.
8. Select the “Test” tab and “Load Test”



9. Ensure that the correct “.tst” file is selected and the testing screen populates accordingly.
Note: Because the device file is limited to 30 Amps, the test will not run above 30 Amps. However, we still recommend that you use the “New Test” button to create a separate test for the RW that has a maximum of 30 Amps.
10. Run Test

Limited resources or need a solution quickly?

If you need additional information about your project just contact us, we are here to help. We can support you at any level from telephone support, or on-site solutions for a reasonable price. Contact us at radian@radianresearch.com or call 765-449-5500. Be assured that we want to be your partner in success!