

How to Setup and Run Network Diagnostics in Serial Networks

Equipment Requirements:

- Windows laptop with serial port or USB to serial converter
- FreeWave Tool Suite version 2.8.5 or newer
 - For an **FGR3** Network, Tool Suite version 2.11.0 or newer is required.
- Diagnostic cable (This cable connection is REQUIRED to gather diagnostic data)
 - **ASC0409DC** – enclosed radios
 - **ASC2009DC** – board level radios
- Physical access to the master radio

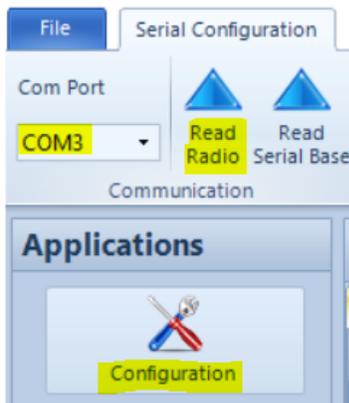
Getting FreeWave Tool Suite Application:

Tool Suite is available free of charge from FreeWave's support website. Have the customer open a support ticket to request this application at the following link:

- <https://support.freewave.com/>

Setting up Master Radio to run Network Diagnostics:

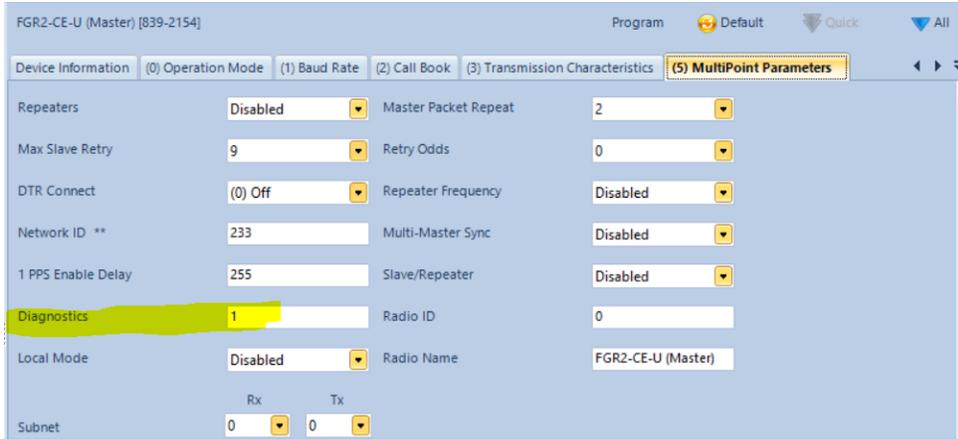
1. Connect you Windows PC to the master radio with the diagnostic cable.
2. Launch FreeWave Tool Suite.
3. Click the **Configuration** application on the left hand panel.
4. Ensure the correct **COM port** is selected from the drop-down list for your serial port or USB to serial converter in the upper left of the Tool Suite widow



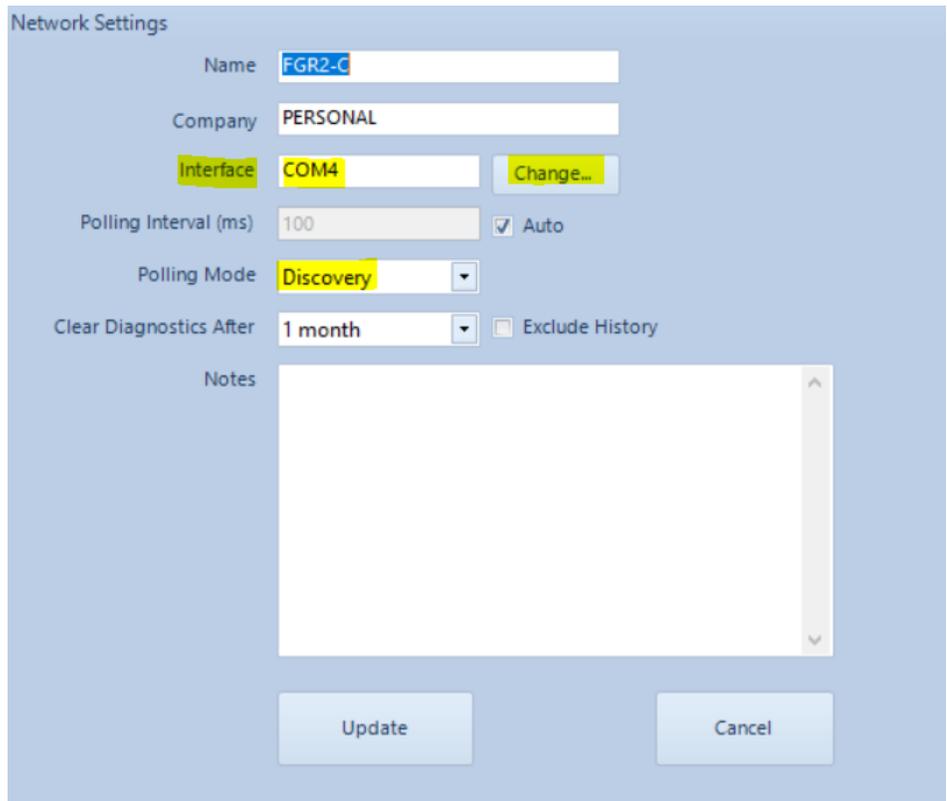
5. Click **Read Radio** on the top bar to the right of the COM port selection.
 - a. If there is more than one COM port option in the drop down, try the next on in the list if the selected one fails.
6. In the right hand pane of the Tool Suite window, click the **(5) MultiPoint Parameters** tab for the master radio.



7. Ensure that **Diagnostics** field is set to 1. If Diagnostics is zero (0) change it to "1" then click **All** in the upper right-hand corner (upside-down blue triangle).



- 8. In the upper right-hand corner, select the **Options** drop-down menu and select **Network Settings...**
- 9. In the **Network settings** dialog that opens, verify the following:
 - a. The COM port on the **Interface** line is the correct COM port to talk to the Radio.
 - i. Click the **Change** button to change the COM port if it is not correct.
 - b. The Polling mode should be **Discovery**



Running Network Diagnostics

1. On the left-hand list of Applications, click the **Network Diagnostics** icon.
2. Click **Add Network** at the top of the screen.
3. Follow through prompts to create a new serial network.
 - a. Give the Network a **name**, like the site location or name of the sensor or tower or location.
 - b. Add the company name in as well. Use the company that owns the network.
 - c. Click the **Next** button.
 - d. Verify the **Network Type** is "serial"
 - e. Click **Finish**.
4. Click **Start** in the upper left hand corner.

At this point you should see the master radio appear under **Path View** within about 2-3 minutes. If you do not see the master, try rebooting the master radio and/or starting/stopping Network Diagnostics and/or stopping/starting the Tool Suite app. As the diagnostics runs it will discover other radios in the network and add them to the Path View. You can select the radios in the Path View to see the RF data coming in for them.

Reference the **Tool Suite User Manual** for further descriptions and use of the Graphs.

1. Let Network Diagnostics run for approximately 2 hours.
2. After 2 hours has passed click Stop.
3. Click **Options** in the upper right hand corner then **Export -> FreeWave Network File (FWN)**
4. Save this file to your computer.
5. E-mail this file as an attachment to the technician you've been working with.

If you need support with Network Diagnostics call the technician you've been working with or FreeWave Technical Support on 866.923.6168