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## Discussion

Testing your installation by checking the output of Icom IC M802 HF SSB radio is a simple process. You first need a wattmeter that will cover the full range of the IC M802 and the 150+ watts output signal.

While it would be nice to have one of the fine Bird watt meters, you can obtain all the information you need to verify your system is working with a low cost watt meter. You can use a low cost meter like those manufactured by MFJ.

<http://www.mfjenterprises.com/Categories.php?sec=244>

Their watt meters range from about \$ 40 to \$100. Make sure the meter will read both forward and reflected power. You will also need a short piece of coaxial cable to connect the meter in line with the IC M802.

Download the SWR calculator spread sheet (SWR Sheet) from my web site on telecommunications page to record your data.

<http://www.made-simplefor-cruisers.com/-%20Communications/SWR-POWER%20Calculations.xlsx>

## Connecting the Watt Meter

1. Disconnect the Coaxial cable on the back of the IC M802 radio.
2. Connect the Coaxial cable to the output of the watt meter. (Output/Antenna connection)
3. Connect your short piece of coaxial cable between the output of the IC M802 and the watt meter input. (Input/Transmitter connection)
4. Setup of the meter
  - a. If the meter has multiple ranges, make sure the range being used is greater than 150 watts.
  - b. Identify the method on the meter to select forward and reflected power. Some meters contain two meters that display both forward and reflected power.
5. The initial reading will be forward power.

## Set up the IC M802 for testing

- 1) The tests will be made on one frequency within each band, e.g. 2, 4, 6, 8, 12, 16, 18, 22, and 25 MHz.
  - a) For ease of testing I usually use the typical ship to ship channels: 2A, 4A, 6A, 8A, 12A, 16A, 18A, 22A, and 25A.

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## Testing the IC M802

- 1) Select the frequency to test.
- 2) Listen for anyone using the channel.
- 3) Press the [THRU/TUNE] button while observing the watt meter.
- 4) Observe the LCD display on the IC M802.
  - a) You will probably need a helping hand here as most transceivers are not installed close enough for one person to push the button and read the meter.
- 5) The watt meter should briefly display approximately 20 watts of power.
- 6) The LCD display should briefly display one bar at the bottom of the display between the "L" and the "H".
- 7) Press the [SET/MODE] switch four (4) times to display the "FSK" mode.
  - a) The FSK mode will cause a 100% modulation of a single frequency very close to the dial frequency.
- 8) Press and hold the microphone push to talk (PTT) button while reading the watt meter.
- 9) Note the LCD display should also have eight (8) bars, e.g. Bars covering the distance between the "L" and the "H" at the bottom of the display.
- 10) Record the forward Power reading in the SWR sheet for the frequency being tested.
  - a) If the meter also reads reflected power simultaneously, read and record the reflected power on the SWR sheet.
  - b) If Not Go to Step 10 below.
  - c) Go Back to Step 1 for the next frequency.
- 11) Change the watt meter to measure reflected power.
- 12) Press the PTT again and measure/read the reflected power.
- 13) Record the reflected power on the SWR sheet.
- 14) Go to Step 1 for the next frequency until all frequencies have been tested.

Repeat test annually if possible to assure degradation of the system from corrosion from the elements has not reduced the capability of your IC M802.

If you have questions, feel free to send me a note at [p-t\\_on\\_sunyside@live.com](mailto:p-t_on_sunyside@live.com)