

WaveNode Wattmeter Sensor Calibration and Connection

Rev.1

BRIEF:

All WaveNode sensors are shipped with factory calibration to NIST standards. However, some users may wish to check, and/or fine adjust sensors to exactly match other laboratory test equipment. This document shows where this adjustment can be found without opening the sensor enclosures. Opening the sensor is never advised and is not necessary.

Operation of the wattmeter should be done with the supplied AC wall supply to avoid stray DC currents from other station equipment. Some wattmeter applications may require the use of a central +12V supply. This document shows how to manage the ground between sensors and wattmeter control box.

CALIBRATION ADJUSTMENT LOCATION:

The calibration for all WaveNode wattmeters is in the sensor(s), not the control box. For UHF-70cm, 33cm and 23cm sensors, observe the photo in figure #1 below:

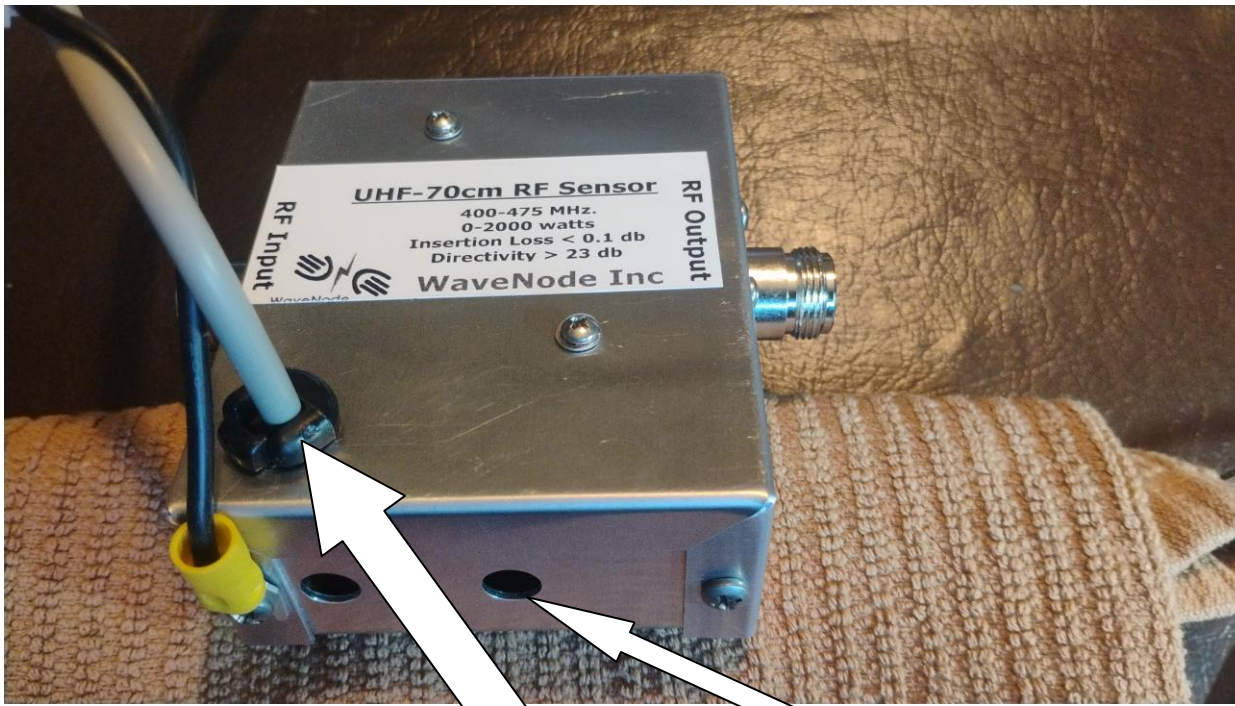


Figure #1

Notice the position of the grey connecting cable!! Adjust the blue potentiometer (through the hole) on this side of the sensor, NOT the other side. This is the forward power adjustment. Do not remove the sensor cover!!

For HF-1, UHF-1, and all other sensors:



Figure #2

The forward power adjustment is found under the serial number sticker on the back of the sensor. It is the small multi-turn potentiometer. See figure #2.

Correct DC current management when not using the WaveNode supplied wall AC supply;

DC power supplies used to operate additional radios and amplifiers can find a return path through the WaveNode grey connecting sensor cable and upset the power and SWR calibration. Operation with the supplied wall supply will greatly reduce this possibility, but if the user needs to use a central +12V supply for the wattmeter operation, an additional ground wire MAY be necessary. See figure #3 below.



Figure #3

Figure 3 shows an additional 16 gauge (or larger) wire added between the sensor case and the wattmeter control box case. This wire ensures there is no DC potential between the case grounds due to DC current from other station equipment finding a return path through the sensor grey cable. A DC voltage between the case grounds will cause power and SWR readings that are displayed too high.