

Instructions for Using Portable Calibrator with RSS

(a) RSS in operating position on its frame with a **calibrator shelf**. Power supplies of calibrators (Oriel Spectral Lamp or ASRC Portable Calibrator) or Li-Cor calibrators can be placed on the shelf during calibrations.

(b) ASRC portable calibrator (30lb).

(c) Portable calibrator power supply (110VAC,40lb)

(d) Three cables: calibrator **power cable**, calibrator **control cable**, calibrator **interface cable**.

Note: The portable calibrator was developed at ASRC by L. Harrison and J. Berndt for USDA's High Resolution Spectroradiometers Network to provide a stable irradiance standard in 290-410nm. The calibrator can also be used to calibrate RSS in 350-1100nm range. Currently, there are four portable calibrators that travel between ASRC and USDA sites (including SGP).



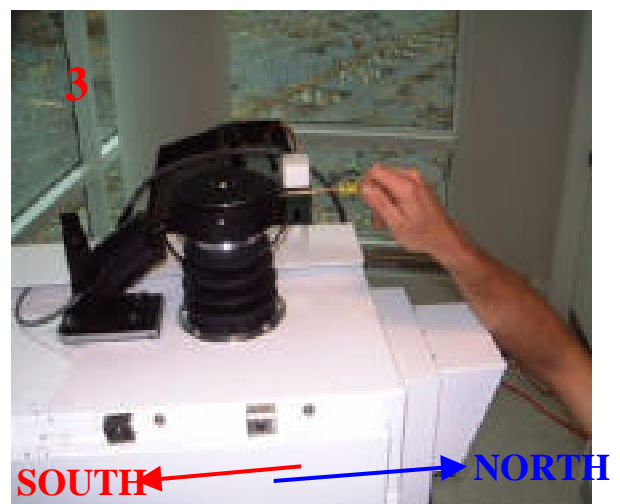
STEP 1: Prepare RSS for calibration

(1.1) Plug the **calibrator control cable** to RSS. This stops the shadowbanding cycle.

(1.2) Verify that the shadowbanding cycle was stopped. Move the **shadowband** to "home" position (East or West side of the snorkel).

(1.3) Place the **calibrator adapter** on the RSS's snorkel. One set screw should face North and the other set screw should face East. Use 3/32 Allen wrench.

Important: the calibrator control cable remains plugged throughout the whole process of calibration. It can be unplugged only as the last step of calibration when snorkel was cleared.



STEP 2: Place calibrator on RSS

(2.1) Place the **calibrator** on the RSS. The **calibrator adapter** makes a tight fit with the calibrator. Orient the calibrator so its **air filter** faces West.

(2.2) Tighten the calibrator to the calibrator adapter with two set bolts.

(2.3) Connect **calibrator power cable** and **calibrator interface cable** to the calibrator.



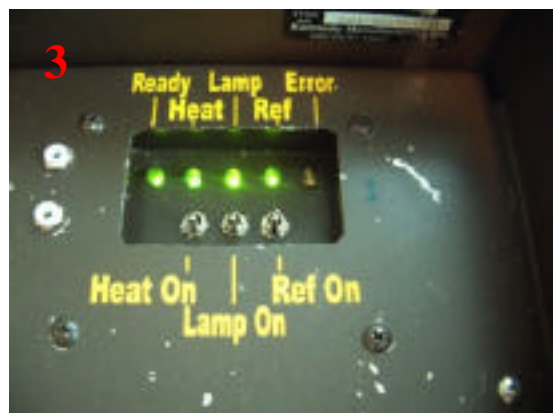
STEP 3: Power on, run calibration cycle

(3.1) Turn the **power switch** on. **AC power indicator** lights up and green "**heater**" LED should be on.

Note: No further actions until the end of the calibration are required.

(3.2) In 2-5 minutes (the actual time depends on the ambient temperature) a green "**ready**" LED turns on.

(3.3) The RSS begins to take a series of exposures when "**lamp**" LED and "**Ref**" LED turn on.



STEP 4: Restore RSS operating cycle

(4.1) Depending on internal RSS settings the duration of calibration may vary. Calibration is finished when all **control LED's** turn off.

(4.2) Disconnect **calibrator power cable** and **calibrator interface cable** from the calibrator.

(4.3) Remove the **calibrator** from the snorkel.

(4.4) Remove **calibrator adapter** from the snorkel.

(4.5) Unplug the **calibrator control cable** from RSS. This makes RSS to resume the shadowbanding cycles.

(4.6) Turn **AC power switch** off in **calibrator power supply**.

