



DAIWA CN-801V SWR Meter Calibration Instruction

It is assumed that you the reader of this document is an amateur radio operator with adequate experience to understand the principles herein. It is assumed you have reasonable experience with ham radio equipment operation and adjustment. If you do not, it is suggest you get the assistance of an experienced amateur radio operator or technician who understands the principles herein. Damage can occur to your meter and other equipment if this procedure is done improperly.

Read all instructions and notes first BEFORE proceeding.

In order to calibrate this meter accurately, several piece of test equipment will be needed.

Other equipment can be used as well, but I have chosen what is commonly available to the average amateur radio operator.

- * Calibrated meter capable of measuring forward and reflected RF power.
- * Dummy load large enough to handle the RF power source used to calibrate the meter.
- * VHF/UHF transceiver or other VHF/UHF radio signal generator.
- * VHF/UHF amplifier to be used as RF power source.

1). Remove the 5 screws from the sheet metal cover.

Gently pry the bottom edges of the cover and slide toward the back of the meter to remove.

- 2). Connect equipment together in this order; Transceiver, amplifier, DAIWA CN-801V calibrated meter , Dummy load.
- 3). Using the two recessed screws below the meter scale, adjust forward power needle and reflected power needle so they are both at zero. (See Photo 1)
- 4). Set calibrated meter to read forward power for accurate 20 watt readings.
- 5). Set CN-801V to 20 Watt average setting.
- 6). Set transceiver to 2 meters (145MHz) at a mid point in the band.
- 7). Generate 20watt CW tuning signal (key down) and verify with calibrated meter in average mode. It is not necessary to generate a 20 watt full scale signal, but you should generate a signal that is at least 50% of full scale if possible.
- 8). Using a small adjustment tool (or jeweler's screwdriver) for circuit board potentiometers, adjust 20 watt average forward power potentiometer from back of circuit board so that CN-801V meter matches the calibrated meter reading. (See Photo 2)



DAIWA CN-801V SWR Meter Calibration Instruction

- 9). Put CN-801V in PEP monitor mode and check reading.
- 10). Turn off 20 watt CW signal.
- 11). Turn on the amplifier and tune it up (if necessary) to the 2Meter (145) band. Repeat steps 7 through 11 for both the 20 watt and 200 watt ranges. **CAUTION!** In the high power 200watt mode, it is not necessary to generate any more power than you normally operate at when using your amplifier. Be VERY careful not to overheat the dummy load in the high power mode. It may be necessary to allow adequate cool-down time before completing this process in high power mode.
- 12). Reverse cables on CN-801V so that the antenna connector is toward the transceiver, in effect, backward. This is so that you will now read your forward power as reflected power and can calibrate the reflected power needle
- 13). Make sure the CN-801V is in average mode and set to the 20 watt scale.
- 14). Turn down the transceiver to zero and key down/tune. Turn up the transceiver until the calibrated meter is reading at or slightly under 4 watts.
- 15). Adjust the 20 watt reflected potentiometer until the CN-801V reflected reading matches the calibrated meter's forward reading.
- 16). Repeat the procedure for the 20 and 200 watt scales. You will be adjusting the output of transceiver/amplifier to outputs at or slightly under 4 and 40 watts on the calibrated meter.
- 17). Power down all equipment and disconnect. Reassemble CN-801V meter and put the meter into service.

Other notes:

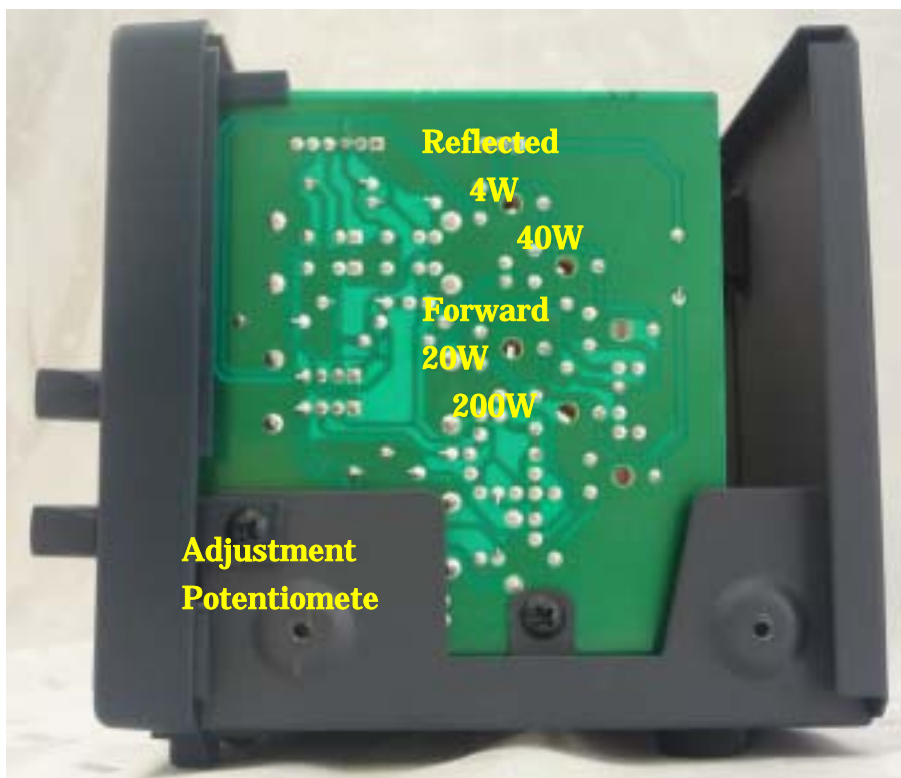
- * Note that the accuracy stated must be taken in PEP monitor mode.
The CN-801V will not measure accurately in average mode for a two-tone test.
- * The accuracy of your calibration will only be as good as the standard calibrated meter that is used as the standard to calibrate against.
- * It is a good idea to confirm your forward and reflected readings on other bands than the one you calibrated with. Go to the low and high end of the VHF and /or UHF bands, if applicable for your installation. Compare readings again. There may be some variance on various bands, but it should be well within the instrument's advertised tolerances.

DAIWA CN-801V SWR Meter Calibration Instruction

Photo 1

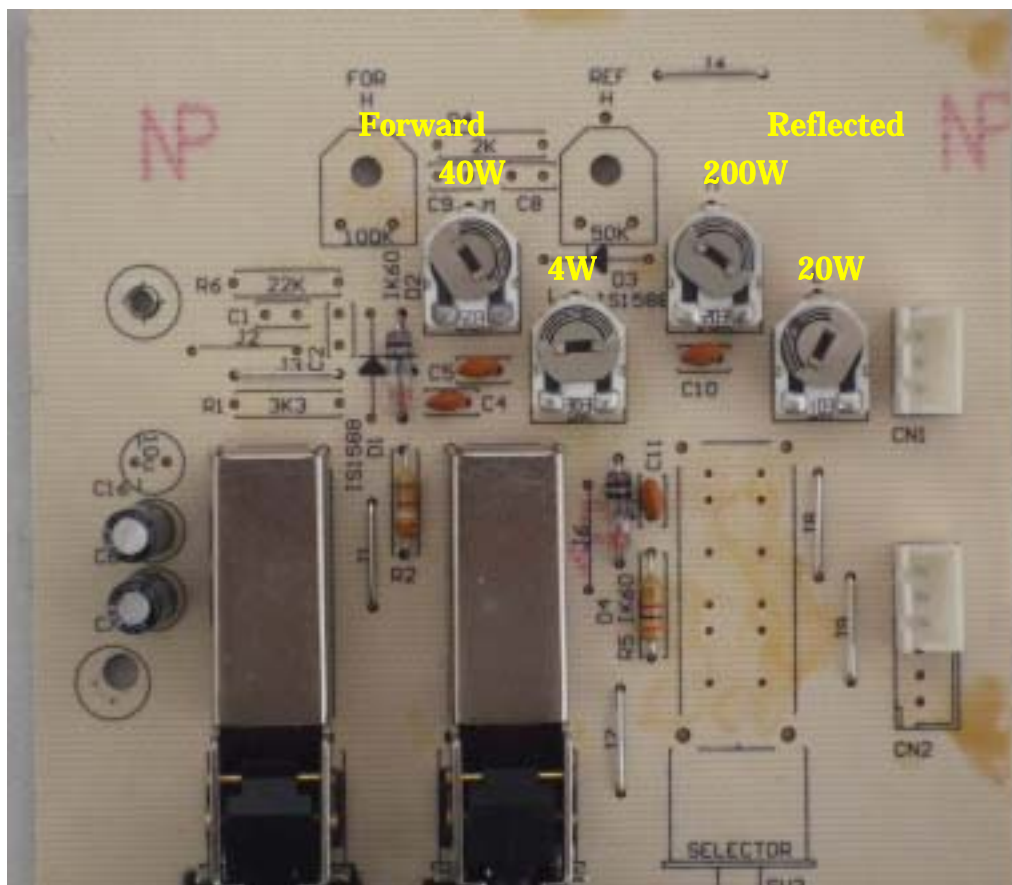


Photo2

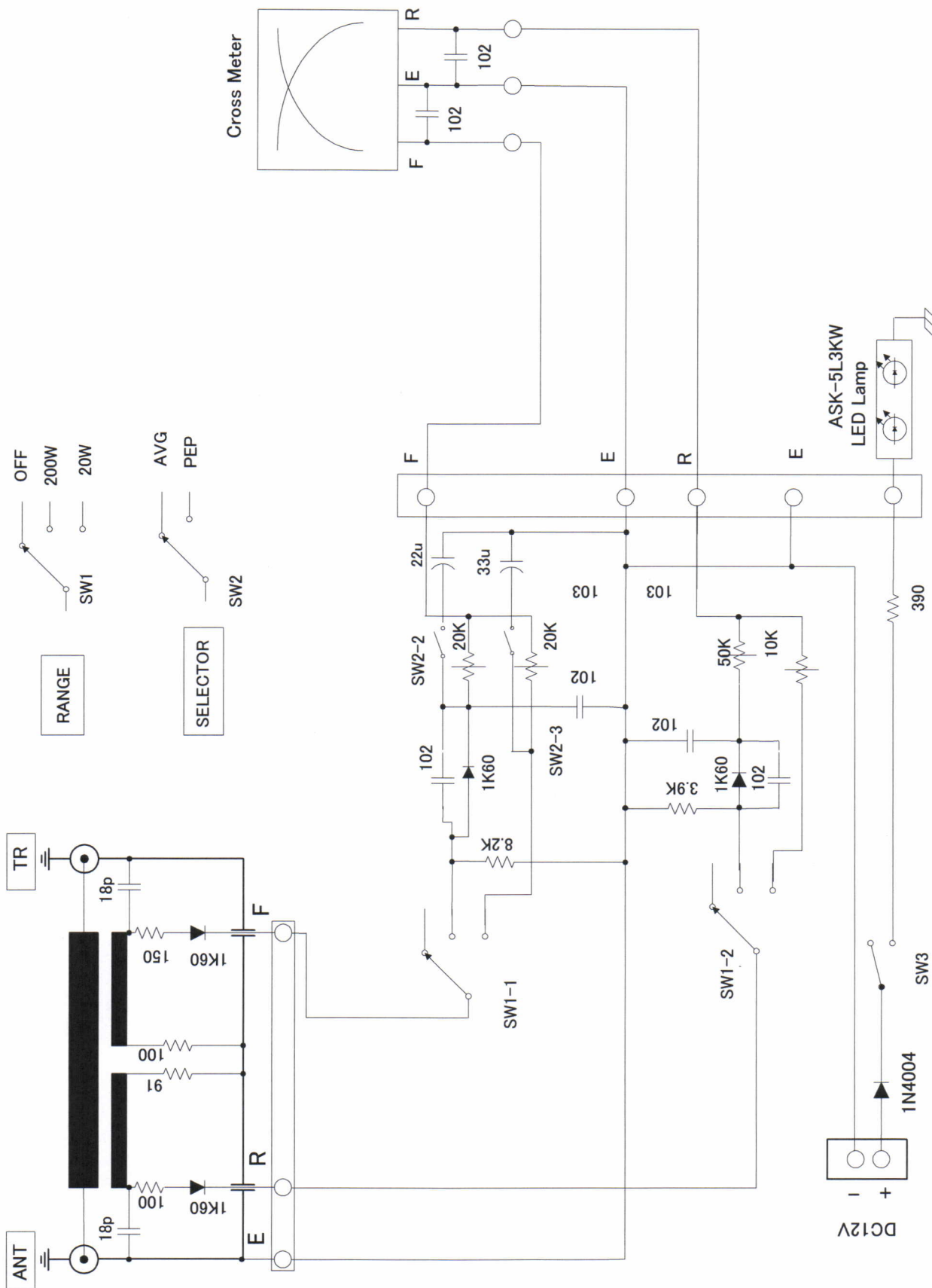


DAIWA CN-801V SWR Meter Calibration Instruction

Photo 3



- This photo is for reference only. This is the circuit board removed from the meter, showing the potentiometers.
- Note that while shown right side up in this photo, it is installed upside down in the meter.



CN-801V

名称

06-10-26

日付

丸山

設計

尺度

図番