

Note 9:

KM3000 and KM4000 Setting the Deviation (Yellow and Green) boards

Disclaimer

This adjustment is carried out at your own risk. The PCB components are very delicate and can be easily damaged. It is recommended that you attempt this adjustment with care if you are not conversant with small radio servicing work.

Background

The KM3000 and KM4000 VHF 2M radios sold by TVRG were originally used in remote locations as data radios. The deviation level of the radios sold by TVRG has been set at 2.2 – 2.5 KHz. This value is considered the preferred level for amateur 12.5 KHz operation to prevent the radio over deviating and causing interference to adjacent channels and users.

The adjustment is not difficult if carried out with care. The attached photographs show the location of the deviation level control potentiometer on the RF board. A small adjustment of this potentiometer is required to change the deviation level.

This adjustment can easily be completed in 20 minutes even if you are not familiar with these radios.

So, clean and clear the working area, prepare a container for the screws and small parts

Tools required

Philips screwdriver

Small ceramic or plastic trimming tool or insulated jewellers screwdriver

Calibrated Deviation meter

50 Ohm dummy load

Patch leads

13.8v power supply (8 Amp)

What to do next

Remove the top cover by releasing the cross headed screw near the front and loosening the rear screw.

Ease the cover up from the back of the radio first.

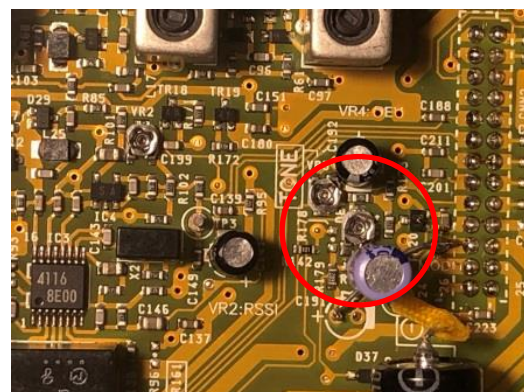
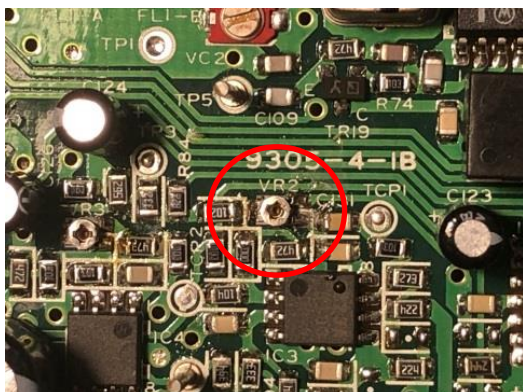
Identify what radio you have by the colour of the PCB (green or yellow) and using the attached photographs below locate the deviation control potentiometer.



Connect the radio to a 50 Ohm dummy load.

Power up the radio and press the PTT button, measure the deviation using a standard 1 KHz audio tone at normal level into the microphone or talk at normal level to modulate the radio. The deviation should be in the region of 2.2 KHz to 2.5 KHz peak.

Locate the deviation control potentiometer. On the green PCB the deviation control RV2 is in the middle of the RF board below the red VCO adjustment trimmer. On the yellow boards the deviation control is RV4 and is located at the back right hand side of the RF board below the 5th RX tuning can between two electrolytic capacitors. There are two pre-sets next to each other RV4 is the lower one of the two. The top one RV3 is the CTCSS deviation control. When adjusting these pre-sets on the green boards the turn clockwise to increase the deviation and on the yellow boards turn anti clockwise to increase the deviation.



Press the PTT and carefully adjust the deviation control pre-set to the desired value.

It is not recommended to exceed 2.5KHz max peak deviation.

Once the radio is set to the desired deviation level turn off and replace the top cover.

Gently tighten the two screws ensuring the cover is well seated.

Recheck the deviation level is what you require.

Job done!

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