

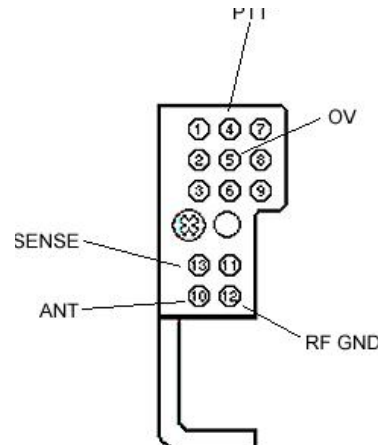
## **BASIC RE-ALIGNMENT OF THE HT600E FOLLOWING RE-PROGRAMMING**

Re-alignment of the HT600E after moving it out-of-band is a fairly simple procedure, requiring the adjustment of two Rx coil cores and one Tx trimmer.

This is best done with the test set connected to the remote connector on the radio. Sacrificing a public safety mic connector to make a test lead, or using the TNC connector on the mic, will allow you to make a good RF connection to the radio.

### Radio Connector Pinout

1 - Ext Mic	7 - Ext spkr sel
2 - Ext spkr	8 - Spkr common
3 - Opt B+	9 - Busy
4 - PTT	10 - Rem antenna
5 - Gnd	11 - CVC sense
6 - Data	12 - RF gnd
	13 - Sense

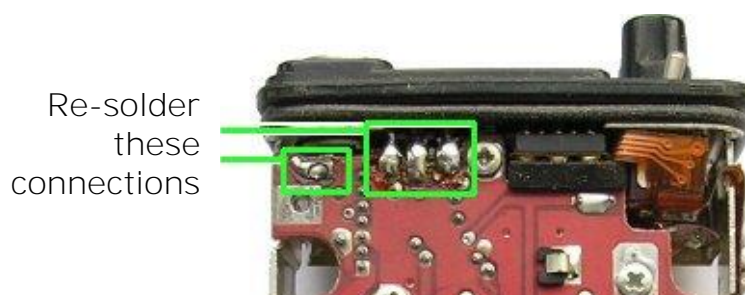


Before aligning the set, ensure that the connections from the main board to the head unit are secure. Although this requires some work on each radio, it is worth it in the long run – particularly if the PSM or RSM is going to be used.

Remove the front panel and radio from the case by removing:

1. Two screws in rear of case.
2. 2 large screws in battery adaptor plate.
3. 2 small screws in battery adaptor plate.
4. Remove the front panel and pull off the speaker connection.
5. Slide radio unit up and out of the case – it does require a bit of a pull to get it completely out...
6. Remove 2 screws from the top of the tin cover on the back of the radio unit.
7. Slacken 2 screws at the bottom of the cover and remove the cover.

At the top left of the track-side of main board under the cover are 4 connections to the head unit. Re-solder these and carefully inspect the joints afterwards.



1. Replace the rear cover.
2. Replace the set into the case. Do not press the side buttons...
3. Replace and fully tighten the two larger screws in the battery adaptor plate.
4. Replace the speaker connector.

To re-align the radio:

1. Attach the RF connector / PSM to the facility connector.
2. Attach a charged battery, switch on and select the centre-frequency or most-used channel.

To align the Rx...

1. Attach a SINAD meter to the L/S or E/P connector on test box / RSM.
2. Hold the mute open by depressing the top button on the side of the case.
3. Apply a signal and adjust the level to just start quieting on the Rx.
4. Adjust the two Rx cores for best sensitivity (anti-clockwise if originally on 450/460 MHz), reducing the input signal as necessary. Stagger-tune accordingly if a wide freq spread is used.
5. Check the mute opens at  $\sim -115\text{dBm}$  and the mute closes on removal of the signal. (Note – the mute opening point is set in software).



To adjust the Tx power:

1. Key the transmitter and adjust the Tx trimmer for 2W RF output. Note that a sharp-ended trimming tool is required for this operation.

### On completion:

1. Remove the battery and test equipment.
2. Slacken the two larger screws in the battery adaptor plate and replace the front cover.
3. Replace and tighten all screws – including the two slackened previously - and check operation.

Re-alignment may be completed by radiating a signal into the Rx and out of the Tx and adjusting the above trimmers for best performance. However this may not be as accurate as re-aligning the set using correctly attached test equipment.

Tx deviation is set in software when re-programming each set.

### Battery plate:

If the two screws securing the battery plate to the radio are not fully tightened, the radio can operate intermittently, or not at all. Check they are both fully tightened after re-assembling the case. **If the fuse is found to be open circuit it can be replaced with 5amp domestic fuse wire.**

