



Improving The Noise Mute Performance In Series II T855 Receivers

14 December 1998

For Internal Use Only: This Technical Note must not be distributed beyond Tait Customer Service Organisations without prior approval from Radio Systems Division Customer Support.

Applicability

This Technical Note (TN) applies to all T855 Series II receivers manufactured with PCB IPN 220-01396-02.

Introduction

T855 Series II receivers manufactured with PCB IPN 220-01396-02 have a potential problem with noise mute hysteresis. This problem may cause the noise mute to open and stay open, particularly when the receiver is operating in high temperatures and/or noisy RF environments.

The modifications described in this TN will prevent this problem from happening and ensure that the specified receiver performance is maintained.

If you have any questions about this TN or the procedures it describes, please contact your nearest Tait Dealer or Customer Service Organisation. If necessary, you can get additional technical help from Customer Support, Radio Systems Division, Tait Electronics Ltd, Christchurch, New Zealand.

Parts Required

1 x 10n 0805 chip capacitor

Tools Required

hot air gun
solder paste

tweezers or narrow-nosed pliers
No. 2 Pozidriv screwdriver

Method



Caution: Observe appropriate static precautions while working on the radio equipment. This procedure should be carried out by a person experienced in SMD soldering techniques.

1. Remove the top and bottom covers.
2. Cut the track between R342 and pin 5 of IC310 as shown in Figure 1.
3. Solder a 10n 0805 chip capacitor between pin 5 of IC310 and the base of Q340 as shown in Figure 1.
4. Check that all the solder joints are of a good standard and that there are no short circuits.

Noise Mute Adjustment

Note: In this section deviation settings are given first for wide bandwidth sets, followed by settings in brackets for mid bandwidth sets () and narrow bandwidth sets [].

1. Set up the test equipment as shown in Section 3.3 of the T850 Series II service manual.
2. Connect pins 1 & 2 of PL250 to enable the noise mute.
3. Set the RF level to -105dBm with ± 3 kHz deviation (± 2.4 kHz) [± 1.5 kHz] at 1kHz.
4. Set RV230 (front panel gating sensitivity) fully anticlockwise.
5. Adjust RV310 (noise mute gain) to close the mute (if necessary turn off the RF signal and then turn it on again).
6. Rotate RV310 anticlockwise until the mute just opens.

Once the mute has been set up as described above, adjust RV230 for the required opening sinad.

Noise Mute Hysteresis Check

1. Reduce the RF level until the mute closes and note this RF level.
2. Check that the difference between this RF level and level at which the mute opens is 1.5 to 6dB.

Reassembly

1. Refit the top and bottom covers and torque down to 1.36Nm/12in.lbf. Tighten the centre screws first, then work your way out evenly to those at the ends.

Issuing Authority

This TN was issued by: Andreas Becker
 RSD Customer Support Manager