

diode probe volt meter, but in practice turning the trimmer the minimum amount needed to give reliable operation of the oscillator is all that is required.

Receive signals and calibrator very weak but sounds lively and transmits OK. This fault usually indicates that Q1 on the RF board has blown. It can be replaced with an RCA 40673 or 3N201 etc. If the replacement blows suspect that the 12BY7A driver valve is flashing over and damaging it.

Receive audio quality slightly below par – a bit 'gritty' FT101B Mk2 – FT101E. If you suspect the receive audio quality, try adding an extra earth wire to the audio IC as shown in Fig. 3. If there is an immediate improvement leave this wire in position.

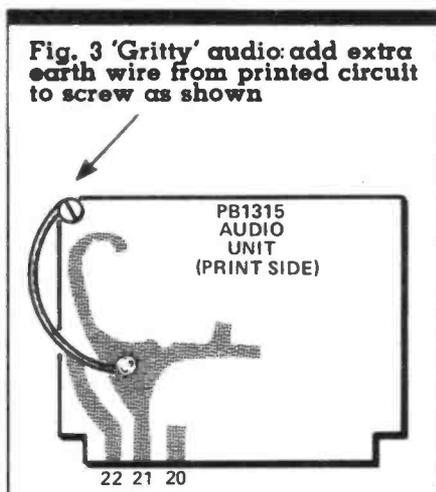


Fig. 3 'Gritty' audio: add extra earth wire from printed circuit to screw as shown

Preselector peaks at different points on receive and transmit. This could be an alignment fault, but it also occurs if the wrong make of 12BY7A driver valve is fitted. Use a Toshiba or an NEC valve in this stage.

Drive slightly low on 10 and 15m even with new valves and after full alignment. This fault sometimes happens when the original Toshiba valves have been replaced by NEC, as these usually give a fraction less gain. Replace R22 in the RF unit (was 56 ohms) with a 22 ohm resistor. This modification is introduced by Yaesu in the last production batch of FT101Es. A little extra drive can also be obtained by turning VR1 on the RF unit the *minimum* amount that is needed to produce maximum output.

Transmit and receive frequencies not coinciding. This is a simple alignment problem. Set VFO in approximately mid-position and connect a general coverage receiver to a short length of aerial wire, and poke its *insulated* end through the centre of the eight pin VFO socket on the rear of the FT101. Tune the general coverage receiver around 9MHz and you will pick up the VFO of the FT101. Adjust the position of the length of pick up wire until the signal is about S9, and in the CW or SSB position of the general coverage receiver tune in a steady beat note. With the heaters of the FT101 switched off wait until things stabilise and any drift stops, and with the clarifier in the off position switch from PTT to MOX and the beat note should not change. If the note does change adjust the zero control on the regulator board until the note is the same on transmit as it is on receive. When this has been achieved switch the FT101 to receive and adjust the preset control mounted at the rear of the clarifier underneath the chassis until the note is the same with the clarifier off as it is in the central position. These adjustments should be repeated until the note does not change with the rig switched to transmit or receive, with the clarifier on or off.

Main tuning very lumpy or loose. The main gear box seldom gives trouble but the 6/1 epicyclic drive does wear or dry out after considerable use. This bit of the FT101 is available quite cheaply, as (believe it or not) it is made for Yaesu in the UK. Whilst no doubt it could be cleaned and regreased it is much less trouble to swap it. Lay the set on its rear with the tuning knob pointed vertically and the bottom cover removed. Once the main tuning knob has been removed, how to remove the drive is self evident, but note the order of the various washers as you remove them. Otherwise, putting it back together again might not be as simple! While you are at it put a little grease or oil on the gears in the main gear box.

VOX operation – all models. The VOX has a tendency to 'hang on', especially if you talk too long without a breath! Much less critical operation will result if D3 and D1 are shunted with resistors of about 2 or 3 Megohms and C21 (in the Mk1

or C23 in the Mk2 or MkB) is shunted with an additional capacitor of about 100 or 200nF and the controls are reset.

Reduction in receive gain when operating mobile with low battery voltage FT101 Mk1. This is caused by the voltage on the low-frequency IF unit varying. To cure this defect, operate the FT101 from a mains supply, tune in to the crystal calibrator, and note the S-meter reading. Disconnect the unit from the mains and connect an 11-volt Zener diode in parallel with C36 (this will be found at the top left-hand corner of the circuit on page 15 of FT101 Mk1 manual. When the Zener diode has been fitted, connect the unit to the mains and note that the S-meter reading will have fallen. The gain can now be brought to normal by adjusting the value of R15 in the base bias circuit of Q2. Usually about 4.3k is correct, but the exact value will depend on the characteristics of the transistors. Once this modification has been carried out, the gain of the receiver will be much less affected by variation of battery voltage.

RF gain only works through one third of rotation. This effect is common and many hams have ordered new RF gain potentiometers only to find that no improvement ensues. The problem is one of compatibility between the RF/FET/Q1 on the RF board and the IC and transistor fitted in the IF amplifier. If the effect worries you try a few different 40673s or 3N201s as replacements for Q1;

No signals on receive but crystal calibrator at normal strength – FT101 Mk2 FT101E. This fault indicates a blown aerial protection lamp. This is mounted under a plastic cover adjacent to the aerial socket. A pilot lamp can be used as an emergency replacement here.

Intermittent non-operation of fan and transmit function on DC supply particularly when cold FT101 Mk2E. This is caused by the chopper/inverter transistors refusing to oscillate due to lack of gain. The cheap cure is to reduce the value of R3 to about 100 ohms.