

G3LLL DBM FOR FT101 MK 1. (i.e. original FT101 with RF Board PB1077B and without '160' marked on range switch.)

Over the years we have handled several FT101 improvement modifications which we have helped, but now we take what we feel to be a real leap forward, by introducing the G3LLL double balanced first mixer module. This utilises a new integrated double balanced mixer recently introduced by Plessey which is designed to handle big signals (current consumption about 20 times that taken by most mixers!). By incorporating the integrated circuit on a small printed circuit, a very simple modification is obtained which results in a quieter and less prone to cross modulation receiver. An output potentiometer is incorporated in the unit so whilst the modification is fully compatible with any previous modifications that have been carried out to the second mixer, these are not essential, as with the potentiometer correctly set the second mixer should not overload.

SETTING INSTRUCTIONS FOR FT101 MK1 (See drawing supplied with MK1 unit).

1. First check FT101 is in good order and note S-meter reading at 14.2MHz cal. point with antenna disconnected.
2. Remove PB1077B from its socket, taking careful note of which way round it fits (no screws, unit just plugs in.)
3. Locate Q3 (372 or 828) & remove it.
4. Insert and solder drain terminal of MPF102 into centre of 3 holes from which Q3 was removed.
5. Connect source terminal of MPF102 to pin 16 of board via series 100R resistor - MPF102 & resistor being suspended in wiring.
6. Mount G3LLL's first DBM unit on top edge of PB1077B by soldering tinned copper wires to earthed (grounded) area of PB1077B which is connected to pin 18 - components on both boards facing same way.
7. Solder red wire to pin 14** (HT PLUS).
8. Solder blue wire to gate of MPF102 (this is output of DBM.) **
9. Solder brown wire to Q3 hole which is connected to 2.7K resistor, (This is input of DBM).**
10. Solder yellow lead to Q3 hole nearest pin 17 - this is connected to a 470R resistor.
11. Check your wiring and be sure there are no shorts; set DBM gain about half way and re-install PB1077B in FT101.
12. Switch on and re-check at 14.2 cal. point. Switch off cal. unit and peak pre-selector on 10, 15 & 20M and note that you only just hear background noise peak up as you tune pre-selector with antenna disconnected DBM gain pot. must be set for the absolute minimum gain at which above noise can just be heard to peak. For best results it is important that gain be kept low.
13. Reset S-meter control so as to obtain reading taken in step 1 at 14.2 cal. point.

NOTE: Users of our RF Clipper can get results comparable with the FT101ZD by keeping DBM gain as low as possible and making up for any loss of gain by turning up the receive gain control in the Clipper. If the gain pot. on the DBM unit has to be set much below half-way, Q1 in RF unit can with advantage be replaced with a lower gain FET such as the 40673 for even better results.

** Make all leads as short as possible, keeping Blue, Brown & Yellow leads apart.

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FOR LATEST (HARRYS) LIST RING 0790 1932763 (FT101 SPARES)

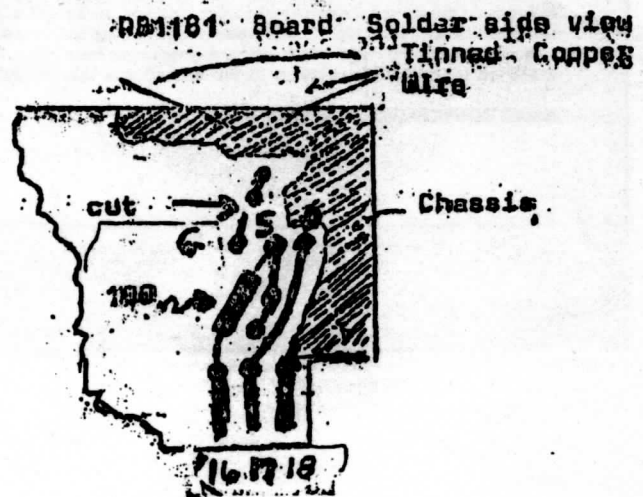
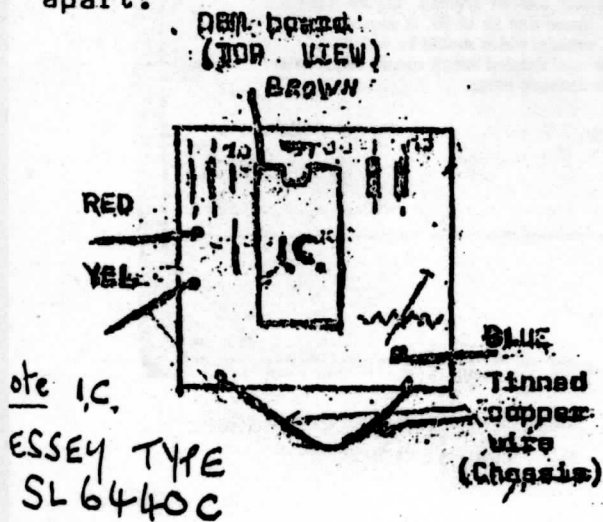
DOUBLE BAL MIXER MOD

FITTING INSTRUCTIONS FOR FT101 MK11, B, E, EE, & F (SEE DRAWING).

1. First check FT101 is in good order and note S-meter reading at 14.2MHz cal. point with antenna disconnected.
2. Remove PB1181 from its socket, taking careful note of which way round it fits. (no screws, unit just plugs in).
3. Locate Q2* (2SK 19QR) on this board and cut with fine knife (see drawing); printed circuit going to terminal furthest from edge of board (gate) - (if you wish to remove mod. you can soon bridge cut with solder).
4. Centre terminal of FET is source (wrongly marked "D" on some early boards). Connect 100 ohm resistor from centre terminal of Q2* to top of connector 16 on board. (100 ohm is in parallel with R13 1 Kohm).
5. Remove C10 connection from source of Q2* (no need to disconnect other end, leave floating!).
6. Mount G3LLL first DBM unit on top edge of PB1181 by soldering tinned copper wires to earthed (grounded) area of PB1181 which is connected to pin 18 - components on both boards facing same way.
7. Solder red wire to pin 14** (HT PLUS).
8. Solder blue wire to gate of Q2 (this is output of DBM).**
9. Solder brown wire to printed circuit which originally went to gate of Q2 before you cut it (see "3" & drawing this is input to DBM).**
10. Wire yellow lead to test point or HOT END R22 (this is oscillator input to DBM).**
11. Check your wiring and be sure there are no shorts, set DBM gain about half way and re-install PB1181 in FT101.
12. Switch on and re-check at 14.2 cal. point. Switch off cal. unit and peak pre-selector on 10, 15 & 20m and note that you only just hear background noise peak up as you tune pre-selector with antenna disconnected. DBM gain pot. must be set for the absolute minimum gain at which above raise can just be heard to peak. For best results it is important that gain be kept low.
13. Reset S-meter control, if necessary, so as to obtain reading taken in step 1 at 14.2 cal. point.

NOTE. Users of our RF Clipper can get results comparable with the FT101Z by keeping DBM gain as low as possible and making up for any loss of gain by turning up the receive gain control in the Clipper. If the gain pot. on the DBM unit has to be set much below half-way, Q1 in the RF unit can with advantage be replaced with a lower gain FET such as the 40673 for even better results.

- * RX mixer-some early boards and manuals wrongly mark it as Q3.
- * Make all leads as short as possible keeping Blue, Brown and Yellow leads apart.



See OVER