

# COMMERCIAL KINKS

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VK30M

Modifications to the FT-101 to cure strong signal overload, published in the November 1978 issue of *Amateur Radio*, has proved to be useful to many 101 owners, but at the same time perhaps caused a little confusion where the details do not exactly apply to your particular transceiver.

A recent letter from Les Diener VK5NJ helps to sort some of these problems out. Over to Les.

"Having implemented the modifications on my FT101B I find the results most pleasing and certainly transform what is normally a noisy receiver into a really first class unit which would compare favourably with any good "ham" band receiver. The signal to noise ratio is the most noticeable improvement even though the mod. is essentially intended to reduce front-end overload. It certainly does this also.

Previously I have been most satisfied with the AGC amp designed by Arn VK5XV, using a UA741 IC, and this certainly eliminates front-end overload, but the ZL2BAF mod. of applying AGC to additional stages is better and is a sound theory and good design practice.

Actually some sorting out was necessary with my particular unit, Serial No. 107936, as several minor points did not agree with the article and are described as follows:—

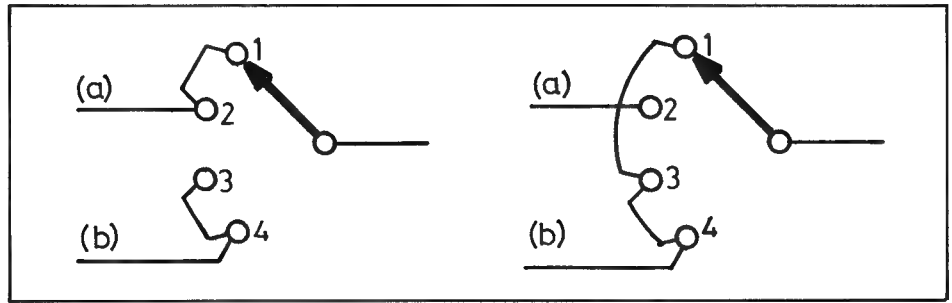
1. The bi-polar transistor preceding the noise gate is Q1 in my unit and not Q2 as stated in the article.
2. The base bias resistors are R1 and R2 (4.7K and 22K respectively) and not R5 and R2.

Once this was sorted out the job was quite simple. Actually, resistors of 1 meg and 2.2 meg were used in lieu of 1.8 meg and 1.2 meg as recommended, the latter values not being on hand.

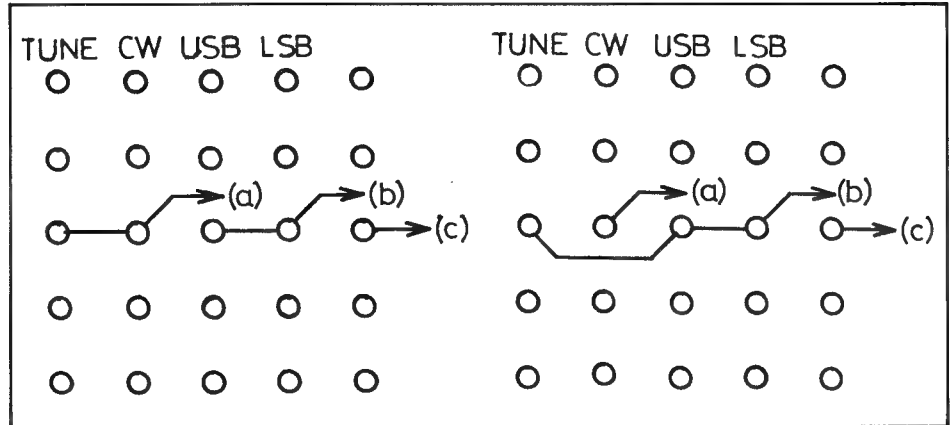
A complete re-align (as described in the handbook) was necessary to make sure all circuits were peaked, but overall the modification is a very worthwhile improvement for any FT101."

Now a simple modification to the popular TS-520 from Alan Bolton VK5TT. This one will interest the CW operators.

"The CW filter of the TS-520 is much sharper than the SSB filter, which is ideal when listening to a CW signal once it is tuned in. When tuning across the band for a CW signal, or listening to a reply to a CQ call, the wider bandwidth of the SSB filter is more convenient. This filter can be selected using the mode switch by turning to the USB or the LSB positions, but this also effects the audio note of the CW signal. This means that once the signal has been identified with the wider filter it is difficult to switch to the CW filter without losing it.



Physical layout of the mode switch contacts viewed from underneath  
(a) — brown (to CW filter)  
(b) — orange (to SSB filter)  
(c) — orange (output of switch)



Circuit diagram of the change to the mode switch  
1 — Tune 2 — CW 3 — USB 4 — LSB  
(a) — brown lead to CW filter  
(b) — orange lead to SSB filter

It is possible to change the TS-520 mode switch so that the tune position is used to give the wider SSB filter with the same audio note as for CW reception. Normally the tune position on the TS-520 uses the CW filter; changing to the SSB filter simply involves changing over one lead on the mode switch.

The mode switch has 5 wafers, and the filter selection is on the centre wafer. Access to the lead is obtained by removing, in sequence, the TS-520 covers, dial, knobs, nut on channel select spindle and then the decorative front panel. Then the JJY/WWV switch can be unscrewed and moved, with the leads still connected. The mode switch can be moved also, giving access to the terminal to be reconnected. The physical layout of the mode switch contacts are as shown.

After this modification the tune position can be used to locate the CW signal with the wider filter. Once the signal has been found the audio frequency can be adjusted so it will fall within the narrower passband of the CW filter while the mode switch is in the tune position. The audio note will now be unchanged when the CW filter is used. It should be noted that on the wider bandwidth some CW signals may be on the

incorrect (upper) side of the demodulating carrier, but this can be realized by tuning across the CW signal. The fact that the note of the CW signal is unchanged when switching between filters makes the search for them far more convenient." ■

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