

# ALL MODE TRANSCEIVER Project

## CIFPU

Before commencing description of these units, there are a couple of modifications required to the CIFPU unit published in the July issue. These are a result of component tolerance problems resulting in insufficient drive to the PA on all units. Also, some afterthoughts have occurred to us which are worth incorporating.

## Mod 1

To guarantee the drive level, T6 requires changing to a different type of transformer. This should now be a Toko KALS4520A (as already used in the CIFPU unit). Also, C46 should be changed from 39p to 1n. A consequence of this mod is that the ambient level of RF around the CIFPU PCB is much higher when in TX mode. Therefore you may find that the existing sidetone level adjust circuit has no effect, and that the level is too high. A modification to overcome this will be published, but is included with the kits and PCBs available from WPO communications.

## Mod 2

As noted in the Corrections page of the September issue (p. 50), the source resistors R15 and R19 plus C15 and C17, are not required. Connecting the sources of Q4 and 5 directly to the top foil will result in better AGC performance. On original PCBs, small wire off-cuts can be used to strap the hot ends of the resistors to the foil. Later PCBs will have these components removed.

## Mod 3

Again, as noted on p. 50 September, the noise performance can be improved. An easier way to do this mod is to remove R1 and wind about 12 turns of 0.20mm enamelled copper wire round the body, soldering at both ends, and then replace R1.

## PROJECT



*This month the QRP PA,  
TX/RX switching and logic  
sequencing unit.*

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The next issue of PCBs for kits will have the above mods incorporated.

## The TX/RX antenna switch

At first glance the circuit of the solid state aerial changeover switch (Fig. 1) may seem a bit complex for an apparently simple task but operation is straight forward. At the outset, it should be said that the whole unit could be usefully replaced with a high quality aerial relay except for the fact that full high speed CW break-in (listening between dots at up to 50wpm) requires relay operation of a few milliseconds at most. If you are not concerned with CW break-in then a mechanical option should be considered. This would however require major circuit changes. Either way there is no noticeable performance penalty involved in using the solid state switch. The receive side of the switch will handle signals up to +20dBm (100mW) without apparent intermod problems while the transmit section will stand off up to

The completed TX/RX antenna switch.

