10 METRE BAND TRANSVERTER

Design by Graham Leighton.

This design for a 144MHz to 28MHz band transmit/receive converter is based on last month's 6M Transverter.

MANY OF YOU will have realised that the low power stages of the 6M tranverter design are readily convertible for use on the 10 metre band. The inclusion of extra switching makes it possible to construct a low power 10 and 6 metre band tranverter for use with a 144MHz transceiver.

Figure 1 shows the arrangement of the blocks used to form the 10M transverter. The main differences between the two versions are in the crystal frequency, the bandpass filter and the receive pre-amplifier. The only item for which we haven't yet published details is the 28-30MHz bandpass filter. These are given in *Fig. 2*. As in the 6M model this filter may be built on a preamp PCB. One point to note here is that the coils must be inserted with the lower end of the winding connected to earth. Photographs in the preamplifier article show the correct orientation.

Except for the frequencies involved the test and alignment instructions are the same as those for the 6M transverter. Since the bandpass filter is slightly overcoupled in order to give the full 28-30MHz coverage, care is needed in the adjustment of this filter. It is important to tune the coils for an even output level across the band. Using just the wideband amplifier on the transmit side the output power will be about 100-200mW.

An integrated transverter for the 6 or 10 metre bands is still planned for a future issue but the additional details presented here will give those who already have some of the modules, or who like to experiment, a starting point to work from. It is hoped that a 100 watt PA will be available for use with both this design and the single board transverter.

Unfortunately a few important details were omitted from last month's 6 metre tranverter article. The power transistors used in the PA were the following types:- Q1, A3-12 Q2, A15-12; Q3 A50-12. These are all CTC devices which are difficult to obtain but as mentioned may be replaced with suitable HF SSB parts. The 100 watt power amplifier will use readily available transistors and will be much simpler. The trimmer capacitors used are all ARCO compression trimmers (see table 1).

Additional LF decoupling may be needed on the output of each PA bias network, tantalum capacitors are ideal.

■ R&EW

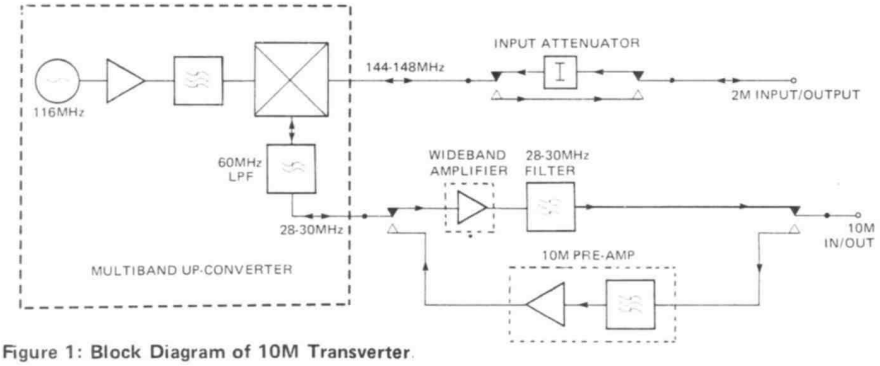

Figure 1: Block Diagram of 10M Transverter.

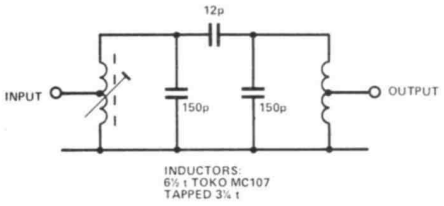

Figure 2: 28MHz Filter Circuit.

C1	70 - 350p
C2	55 - 300p
C5	7 - 100p
C6	55 - 300p
C11	70 - 350p
C12	24 - 400p
C21	70 - 350p

Table 1: Values for the ARCO trimmer capacitors.

Figure 3: Power Amplifier Circuit

YOUR REACTIONS	Circle No.
Good	55
Average	56
Poor	57