

attenuator of slightly greater value than theoretically required is a good idea. The values given on the circuit diagram are for an actual drive level of 2-3 watts.

If you find it necessary to use 10 watts to drive the transverter, then the PCB will not accommodate the high wattage resistors needed to attenuate this to the correct level. In this case, take two lengths of coaxial cable from the input and output of the attenuator on the PCB, and amount the resistors externally in the case. Information on attenuator values and computer program for determining them can be found in Radio Communication, November 1982, page 1046.

### Drive Control

A drive control to vary the output power can be added by changing R11 to a 10k potentiometer mounted on the front panel. Note that this in no way compensates for too much drive reaching the mixer. The connections to the PCB should be made using screened audio cable.

### KITS

A complete kit of parts for this project is obtainable from WPO Communications for £74.00 including three crystals (£61 ex crystals). The kit includes all components for three bands, wire, switch, air-spaced, capacitor, connectors, but

## SEMICONDUCTORS

Q1  
Q2,7  
Q3,4  
Q5  
Q6,10\*,11\*  
Q8,9  
D1,2,3,4,-  
5,7,9\*,10,11  
D6  
D8\*

BC238 or 239  
BFY51  
BC237 or 238  
3SK34 or 3SK51  
BSX20 or 2N2369A  
2N4427  
  
1N4148  
1N4001  
10V 400mW Zener

## MISCELLANEOUS

Crystals:

160m (tuning 144.8 –  
145.0MHz) 71.500MHz  
80m (tuning 144.5 –  
144.8MHz) 70.500 MHz  
40M (tuning 144.0 –  
144.1MHz) 68.500MHz

All HC18/U types, series  
resonance 5th overtone.

RLY1-6  
T1-T5

type 1150-060-1 ex J Birkett  
wound on 10mm square block fer-  
rite toroids (see text)

8 off Amidon T50-2 toroids; SBL1 balanced mixer; Switch 3 pole 4  
way rotary; PCB connection pins; miniature coaxial cable (50 ohm).

no screens or case. Individual  
crystals are £5 each.

The HF version (20/15/10) is still  
available at £72.75 complete with  
three crystals or £61 without. In-  
dividual crystals are £5 each for 20

& 15 metres, and £3.71 for 10M.  
All prices include VAT & p&tp.

## COIL DATA

### L1,2

53 turns of 0.25mm dia en Cu  
wire wound on T50-2 core.

### L1a, L2a

Wound on the main toroid next  
to L1/2. Three turns 0.25mm  
wire.

### L3,4

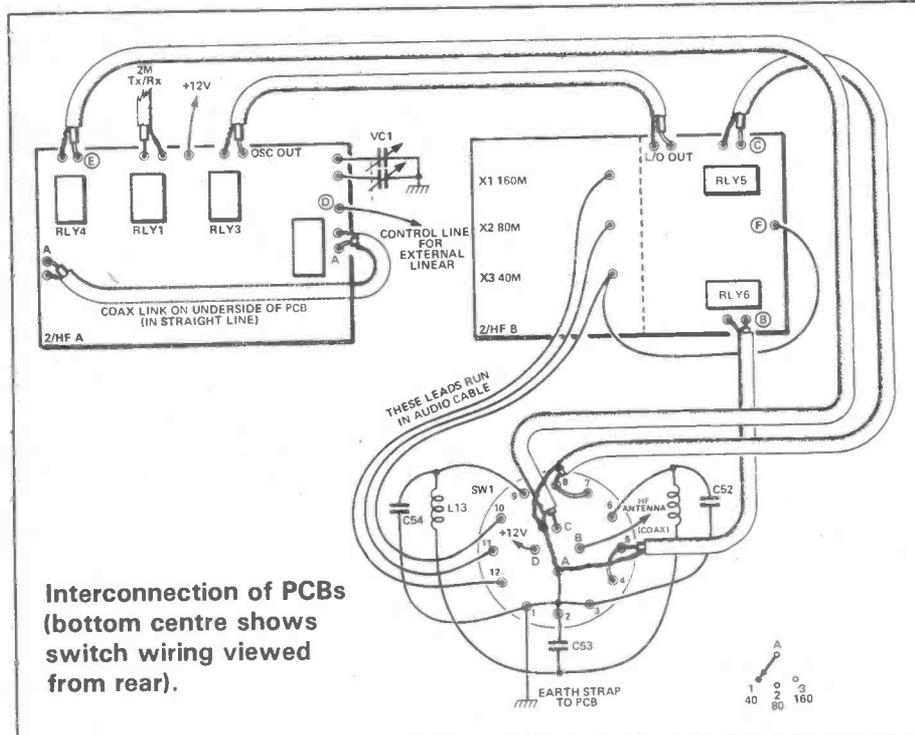
For 160mm L3 & L4 are TOKO  
type 301-KN-0600 (Ambit part  
No 35-10603)  
For 80/40m, L3 & L4 are  
301-KN-0800. (Ambit  
35-10803)

### L5,6 (80 and 40 metres)

Six turns of 18swg (1.25mm)  
en Cu wire wound on a )16"  
drill. Self supporting approx  
1cm long. Diode tap on L6 1.25  
turns from earthy end.

### L5,6 (160M)

Five turns as above.



Interconnection of PCBs  
(bottom centre shows  
switch wiring viewed  
from rear).