



## GENERAL DESCRIPTION

The 'Tourist' TP14 is a six transistor printed circuit personal portable receiver, operating on the M.W. band and pre-set to the L.W. Light programme. The 'Tourist' is supplied complete with hide carrying case.

The tuning control which is fitted with an integral slow-motion drive, also operates the switching for the pre-set station when rotated fully anti-clockwise. The combined edge-operated volume control and on/off switch is situated at the left-hand end of the case as viewed from the front.

## TECHNICAL DATA

### Transistors:

VT1 - OC44	Mixer.
VT2 - OC45	1st I.F. Amplifier.
VT3 - OC45	2nd I.F. Amplifier.
VT4 - OC78D	Driver.
VT5 - OC78	Class 'B' push-pull output.
VT6 - OC78	
MR1 - OA70	Diode detector.

**Aerial:** 6" Ferrite rod.

**Frequency Coverage:** M.W. 1590-615 kc/s (190-490 m.)  
L.W. 200 kc/s pre-set (1500 m.)

**Intermediate Frequency:** 470 kc/s.

**Loudspeaker:** 3" round sub-miniature.

**Power Output:** 250 mW.

**Battery:** 9V Ever Ready PP4 or equivalent.

**Consumption:** 45 mA for 200 mW output.

**Case:** Cream and brown plastic case, with frontal slotted grille.

**Dimensions:**  $6\frac{1}{2}'' \times 3\frac{5}{8}'' \times 1\frac{7}{8}''$ .

**Weight:** 1 lb. 6 oz.

DYNATRON RADIO LIMITED  
MAIDENHEAD, BERKS.  
Telephone : Maidenhead 5150 (10 lines)  
General Service Information Ext. 20.  
Component Orders Ext. 21.

## BATTERY REPLACEMENT

To gain access to the battery compartment, the rear cover of the receiver must first be removed by unscrewing the retaining screw; a coin is recommended for this purpose. **NOTE:** Care must be taken to reconnect the battery terminals in the correct polarity; a momentary contact with the wrong polarity may damage the transistors.

## CHASSIS REMOVAL

Remove the rear cover as described above. The centre of the tuning knob may be unscrewed by means of a suitable two-pronged tool, e.g. a pair of tweezers. The three 4BA screws securing the tuning capacitor to the cabinet are thus revealed. Upon removing these screws, the complete chassis may be withdrawn from the rear of the case to the extent of the speaker leads.

## CIRCUIT DESCRIPTION

The circuit is of a conventional design. VT1 functions as a self-oscillating mixer, the output being fed via T5 to VT2 the first I.F. amplifier and thence to the second I.F. amplifier VT3. The signal is then rectified by MR1 and fed via volume control RV1 to VT4 which drives VT5 and VT6, connected in push-pull to provide an output of 250 mW. A.G.C. is incorporated.

## CIRCUIT ALIGNMENT

### Equipment Required:

- (1) Standard signal generator. Modulated 30% at 400 c/s.
- (2) Output meter.

Connect output meter across output transformer secondary and turn the volume control to maximum.

## I.F. CIRCUITS

- (1) Select M.W. on the scale and tune the receiver to a quiet spot in the region of 700 kc/s.
- (2) Feed a 470 kc/s signal across M.W. coupling coil L2 via two 0.1  $\mu$ F isolating capacitors, one in each of the generator leads.
- (3) Adjust the input level to give an output not exceeding 50 mW. Adjust L10, L8 and L6 for maximum output, repeating as necessary until no further improvement is shown.

## R.F. CIRCUITS

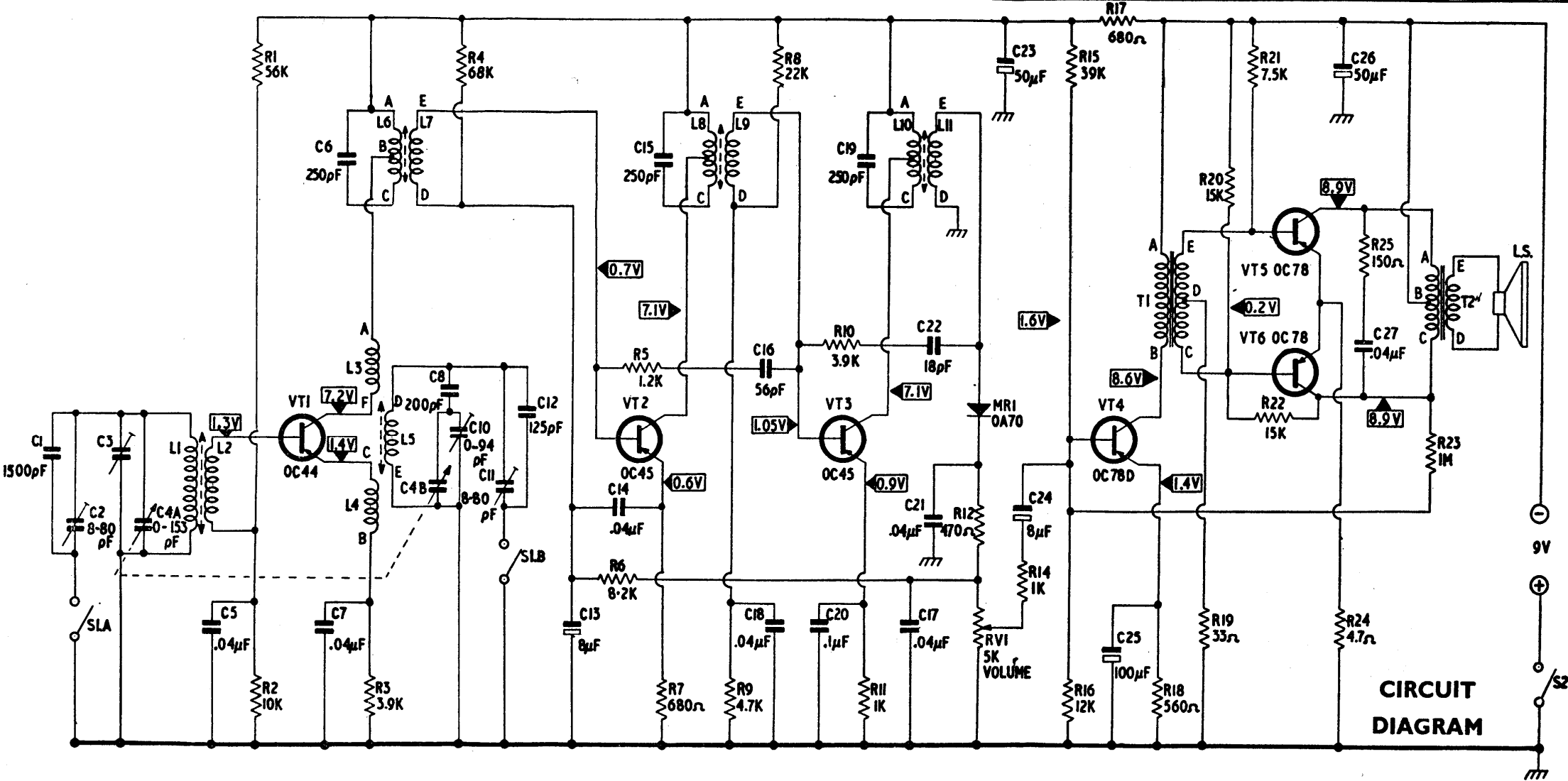
A radiating loop is necessary to align the R.F. circuits and may be constructed by winding 20 turns of 20 s.w.g. enamelled copper wire evenly spaced, on an air-cored former 4" in diameter, to occupy a length of  $2\frac{3}{8}$ ". The inductance should be approximately 40  $\mu$ H.

Connect the coil to the signal generator through a low capacity screened cable and place it about 12" from, and co-axial with, the aerial coil.

**NOTE:** The aerial coil is sealed on the Ferrite rod in its optimum position and should not be disturbed unnecessarily.

- (1) M.W. Adjust L5 and L1 at 700 kc/s (428 metres) and C10, C3 at 1200 kc/s (250 metres). Repeat as necessary rocking the tuning capacitor to eliminate 'pulling'.
- (2) L.W. With the scale rotated fully anti-clockwise, adjust the oscillator trimmer C11 and aerial trimmer C2 at 200 kc/s (1500 metres).

C	1.	2.	3.	4A.	5.	6.	7.	8.	10.	12.	13.	14.	15.	16.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	C	
R	1.					4.			5.					8.	10.		12.	15.	17.	20.	21.		24.	25.	23.	R
	2.				3.				6.	7.			9.		11.		14.	16.		18.	19.		22.			



CIRCUIT DIAGRAM

SER. NO.

C4A, C4B GANGED.

C4B, C49 NEAREST PANEL.

# PRINTED PANEL LAYOUT

VIEWED FROM PRINT SIDE

