# 1340 'ERT' SERVICE CHART PHILIPS L3G03T, L3G04T

SIX transistor portable radios with push button wavechange and using an 18V supply; 303T released June, 1961 at 16½gns, later raised to 17gns; 304T released August, 1961 at 18½gns.

**Batteries.** Two Ever Ready PP9 or Vidor T6009.

**Consumption.** 12mA when switched to MW under no signal conditions.

**Wavebands.** LW, 1215-2000m; MW, 187-555m.

**Transistors.** OC44, OC45(2), OC81D/OC75D, OC81/OC74(2).

**Diode.** OA70.

**IF.** 470kc/s.

**Output.** 800mW.

**Speaker.** 5in., 30ohms (24ohms DC).

**Aerial.** Built-in ferrite rod, with socket for car aerial.

**Manufacturer.** Philips Electrical Ltd.

**Service department.** Amalgamated Electric Services, Ltd., Waddon Factory Estate, Croydon, Surrey.

## DISMANTLING

**Cabinet separation.** Place receiver face downwards on a soft cloth, release two captive retaining screws at back of receiver and lift off back plate or rear moulding. To remove front moulding on 304T, release front fixing screws, one either side at the top and two at the bottom. When replacing rear moulding on model 303T, ensure that locating lugs and sockets interlock correctly.

**IF panel.** If it is necessary to replace components or take measurements on printed side of IF panel, this may be removed by unsoldering wiring as required and taking off end fixing bracket nearest to volume control.

**Chassis removal.** Main chassis, tuning and drive assemblies may be detached from front moulding as one unit. Remove four fixing screws (three in some sets); then, on model 303T, unsolder inter-panel connecting lead and earth return wire to speaker chassis. On 304T unsolder both speaker leads and earth return wires; AF panel is secured by two spring clips.

**Tuning drive.** Three different cord and drum arrangemens have been used on the 303T. These, with that used on the 304T, are illustrated overleaf, the bottom one is for the 304T. In each case the tuning gang is shown at maximum capacity. From top to bottom the drive cord lengths are as follows:

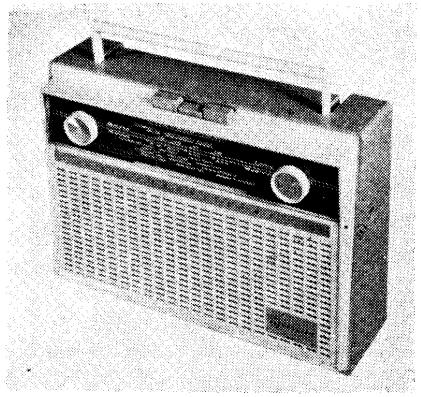
(1) A, 19.6in.; B, 12.65in.
(2) 23.4in.
(3) 24.2in.
(4) 31.5in.

## SERVICE NOTES

**Voltages.** Readings given on circuit are taken with a 20K-per-volt meter with set switched to MW.

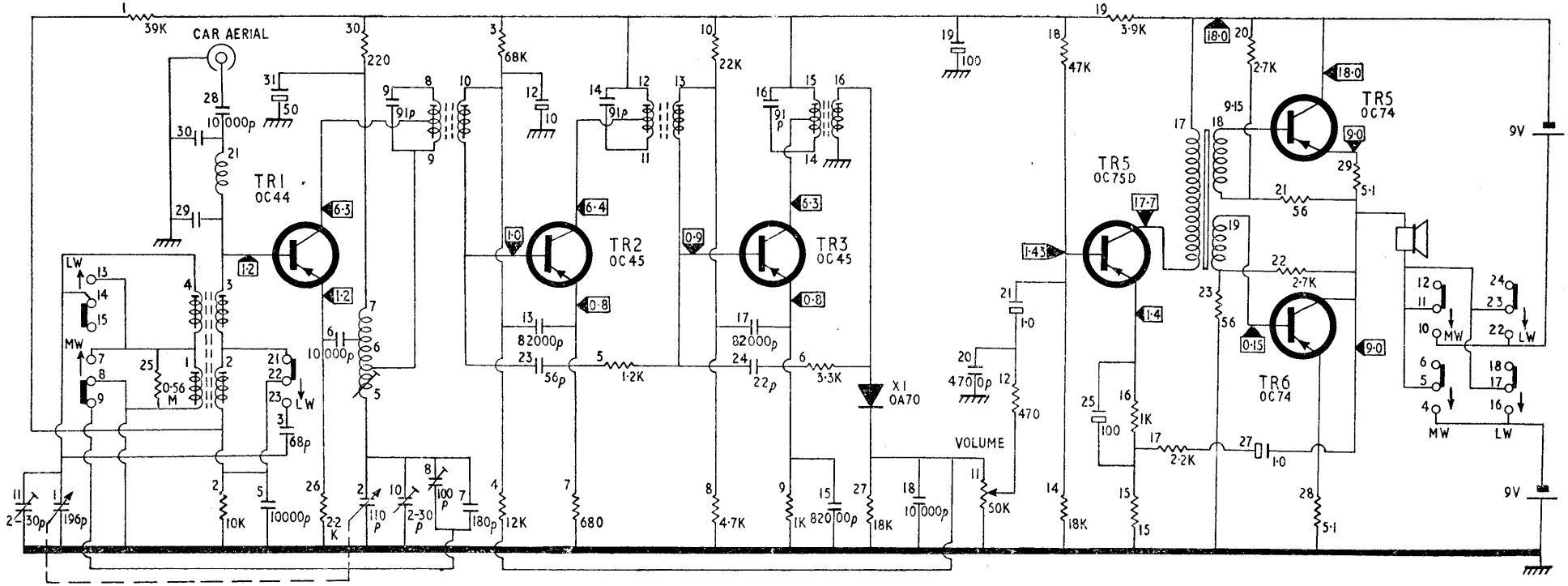
**Circuit differences.** On some models R25 is omitted. In some cases C30 may not be fitted; also, C30 may be 12, 15 or 56pF and C29 may be 12, 15, 18 or 56pF.

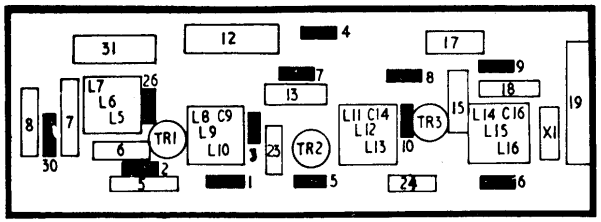
**Circuit notes.** Circuit shows switching in OFF position.

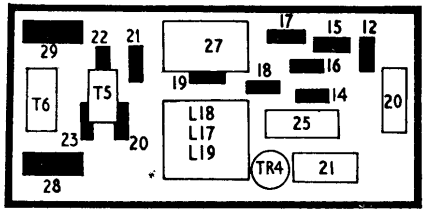


## ALIGNMENT

**Equipment required.** Signal generator covering 180-1,610kc/s with AM modulation. Output meter with 30ohm load impedance. Suit-



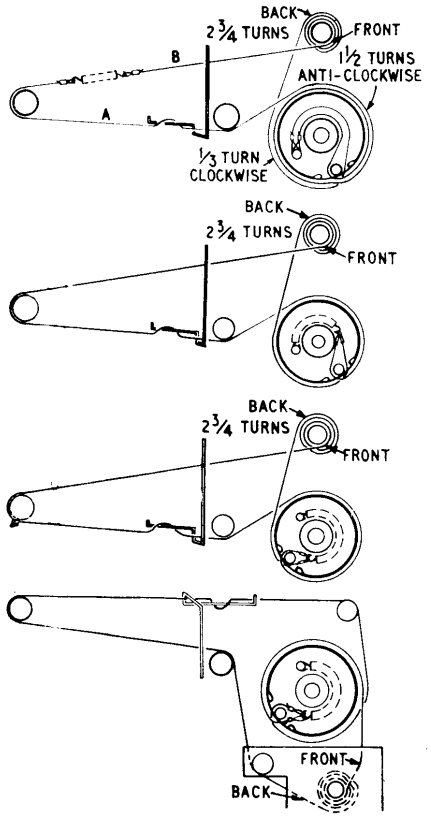



**INDUCTORS**

| | | Ohms |
|---|---|---|
| L1 | ... ... | 14.0 |
| L2 | ... ... | 1.4 |
| L4 | ... ... | 1.4 |
| L5 | ... ... | 3.8 |
| L17 | ... ... | 200.0 |
| L18 | ... ... | 30.0 |
| L19 | ... ... | 47.0 |
| L21 | ... ... | 6.5 |

All others less than 1ohm.




able trimming tool; this may be made up by cutting a slot in the end of a non-metallic size 10 knitting needle.

**Setting up.** Connect output meter in place of speaker and maintain an output level of 50mW (1.2V RMS in 30ohms) during alignment. When trimming the aerial circuits the generator may be coupled to the receiver by winding two or three turns of insulated wire around the centre of the ferrite rod and connecting to the low impedance output. With model 303T, turn tuning gang to maximum capacity and adjust pointer to right-hand trimming mark. On the 304T set gang to minimum and adjust pointer to left-hand trimming mark.

**Procedure, IF.** Switch to MW, turn gang to minimum and volume control to maximum, connect generator output to base of Tr1 via a 0.5mF and apply 470kc/s modulated. Adjust L14/16 for maximum output. Change input to 472kc/s and adjust L11/13 for maximum. Finally, inject 468kc/s and adjust L8/10 for maximum output.

**Procedure, RF.** Switch to MW and turn tuning gang to maximum on the 303T or so that pointer lines up with right-hand scale trimming mark on 304T. Apply a modulated 537kc/s signal to base of Tr1 via a 0.5mF and adjust L5/6 for maximum output.

Set gang so that pointer lines up with left-hand scale trimming mark on 303T or to minimum capacity on 304T. Set generator to 1,610kc/s and adjust C10 for maximum. Repeat as necessary.

Change input to 632kc/s and rotate tuning gang to position of maximum output; without altering gang position, transfer generator output to loose coupling as mentioned in setting up. Adjust L3/4 for maximum output. Change input to 1,450kc/s, tune gang for maximum, then adjust C11 for maximum output.

Switch to LW, reconnect generator to base of Tr1 and apply 180kc/s. Rotate gang to position of maximum output on 303T or line up pointer with 1,667m trimming mark (above 1,700m block) on 304T; Trim C8 for maximum output.

With gang still set for maximum output with 180kc/s input, transfer generator to loose coupling and adjust L1/2 for maximum output. Repeat operations in paragraph before last.



An Odhams Group publication printed in Great Britain by Odhams Press Limited, 93 Long Acre, London, W.C.2, for Longacre Press Limited, 161/166 Fleet Street, London, E.C.4.