

PHILIPS *Service* notes

MT4

CORDLESS RADIO RECEIVER MODEL MT4



SPECIFICATIONS

Tuning range	520 - 1620 kc/s
Intermediate frequency	455 kc/s
Power supply - battery	type 276 P.
Battery consumption	13 - 23 mA

TRANSISTOR EQUIPMENT AND VOLTAGE ANALYSIS

FUNCTION	TRANSISTOR NO.	TRANSISTOR TYPE	COLLECTOR VOLTS	BASE VOLTS	EMITTER VOLTS
Frequency Converter	TR1	OC169	9	1.5	1.35
Reflexed I.F./A.F Amplifier	TR2	OC169	4.5	0.43	0.15
Power Amplifier	TR3	OC74	8.1	0.75	0.62
Demodulator	D1	0A79			

Measured with VTVM, receiver in "no signal" condition.

Removal of Printed Board

The rear portion of the case is held to the front portion by one screw.

Remove the case back, tuning handspan knob and volume knob. Remove the three self-tapping screws which mount the printed board. Unclip the rod aerial assembly from its mount and unsolder the speaker connections. The board may now be lifted clear.

Refitting the board is a reversal of the above procedure. However, the tuning handspan knob should be refitted before the case is fitted and in doing this the tuning capacitor should be supported at the rear to avoid damage to the printed board.

Alignment

The location of the various trimming points used in alignment are shown in an inset drawing on the circuit diagram page.

I.F. Alignment

Fully close tuning capacitor and put volume control to maximum. Apply signal generator at 455 kc/s through two or three turns of wire around the aerial rod. Peak the cores of I.F.T.2 & I.F.T.1 in turn.

R.F. Alignment

Fully close tuning capacitor and rotate handspan tuning knob until the indicator lines are horizontal. Apply signal generator through two or three turns of wire around the aerial rod.

Set indicator lines at 600 kc/s (triangular mark). Peak aerial and oscillator coils.

Set indicator lines at 1500 kc/s (triangular mark). Peak oscillator and aerial trimmers. While adjusting aerial trimmer, rock tuning capacitor. Recheck above adjustments.

November 1962

Published by PHILIPS ELECTRICAL INDUSTRIES PTY. LIMITED
Branches in all States

ELECTRICAL PARTS LISTS

CAPACITORS

<u>C.No.</u>	<u>Description</u>	<u>Tol±%</u>	<u>V.W.</u>	<u>Type or Code No.</u>
1-2)	2 gang tuning			MSP type MX-2T
3-4)) with trimmers			CZ.107.606
5	0.01µF Polyester	10	125	C.296.AA/A10K
6	0.01µF ceramic	+80-20	25	Ducon CDR, style F
7	500pF Styroflex (part of 1st I.F.T.)			
8	0.1µF Polyester	10	125	C.296.AA/A100K
9	0.22µF ceramic	+80-20	25	Ducon CDR, style D
10	500pF Styroflex (part of 2nd I.F.T.)			
11	0.01µF Polyester	10	125	C.296.AA/A10K
12	10µF electrolytic		16	C.426.AM/E10
13	160µF electrolytic		10	C.426.AM/D160
14	0.1µF Polyester	10	125	C.296.AA/A100K

RESISTORS

<u>R.No.</u>	<u>Description</u>	<u>Tol±%</u>	<u>W</u>	<u>Type or Code No.</u>
1	10,000 Ω carbon Potentiometer, taper C.T.S. curve A (Volume) with D.P.S.T. switch	10	10	IRC type CTS Series 200 CZ.032.042
2	6,800 Ω carbon	10	½	I.R.C. B.T.S.
3	33,000 Ω carbon	10	½	I.R.C. B.T.S.
4	2,200 Ω carbon	10	½	I.R.C. B.T.S.
5	120k Ω carbon	10	½	I.R.C. B.T.S.
6	8,200 Ω carbon	10	½	I.R.C. B.T.S.
7	33 Ω carbon	10	½	I.R.C. B.T.S.
8	1,000 Ω carbon	10	½	I.R.C. B.T.S.
9	2,700 Ω carbon	10	½	I.R.C. B.T.S.
10	1,500 Ω carbon	10	½	I.R.C. B.T.S.
11	12,000 Ω carbon	10	½	I.R.C. B.T.S.
12	47 Ω carbon	10	½	I.R.C. B.T.S.
13	180k Ω carbon	10	½	I.R.C. B.T.S.

INDUCTORS

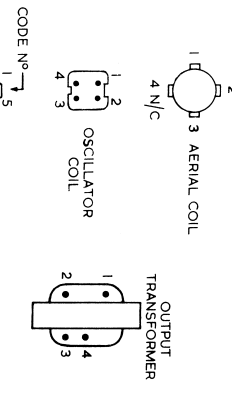
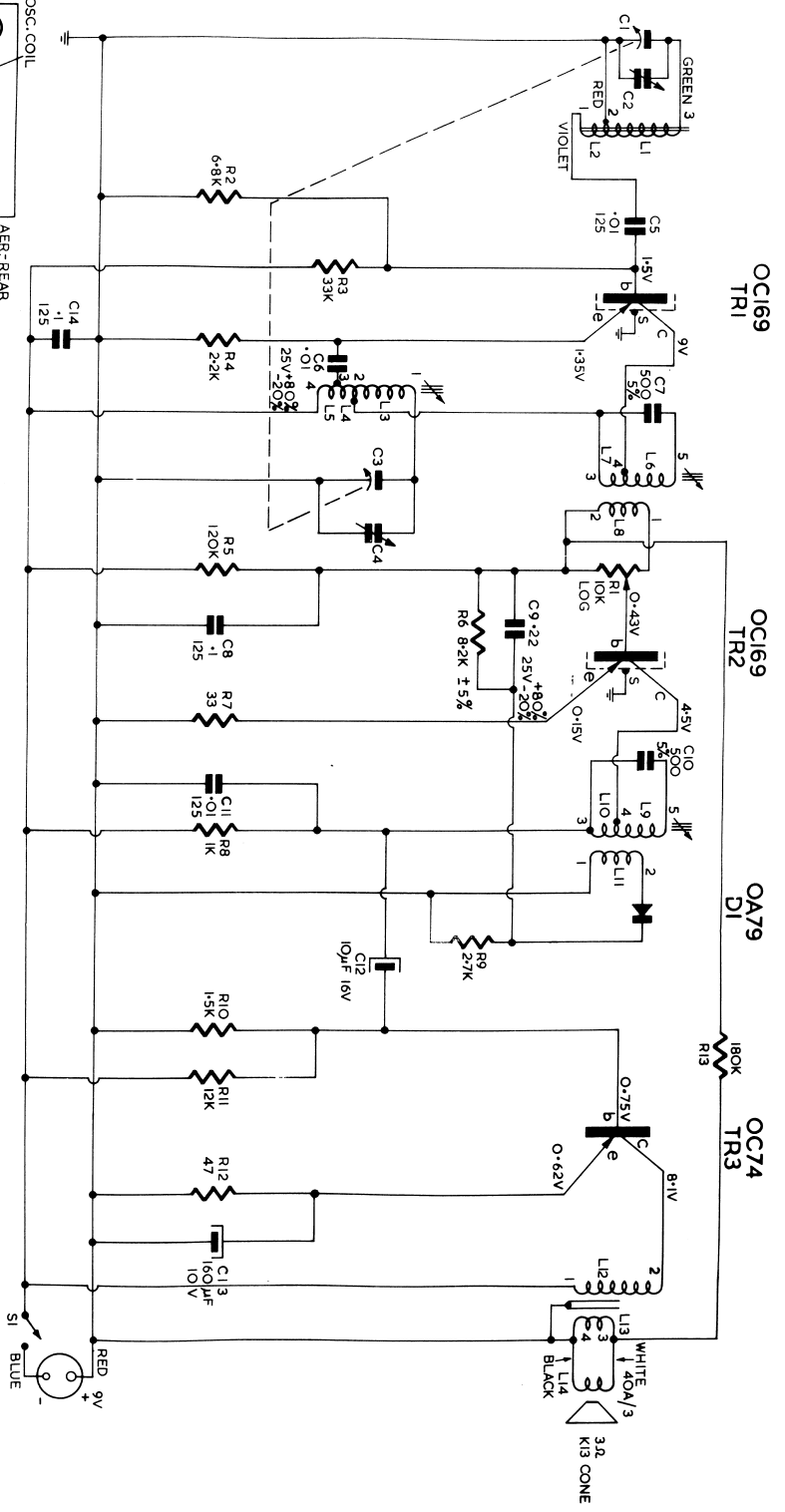
<u>L.No.</u>	<u>Description</u>	<u>Code No.</u>
1-2	Rod aerial assembly	CZ.323.052
3-4-5	Oscillator Coil	CZ.323.423
6-7-8	1st I.F.T.	CZ.320.525
9-10-11	2nd I.F.T.	CZ.320.467
12-13	Output Transformer	CZ.344.819
14	Loudspeaker	MSP type 3LK CZ.161.012 MSP type 4-0A, 3 Ω V/C

MECHANICAL PARTS LIST

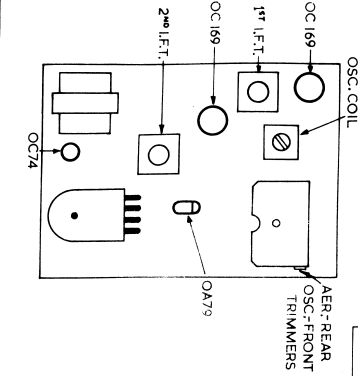
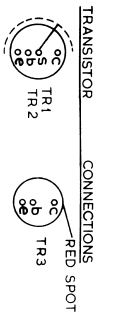
<u>Description</u>	<u>Code No.</u>
Badge - Philips	A3.357.10
Cabinet - red	CS.460.581
- turquoise	CS.460.582
- grey	CS.460.584
- charcoal	CS.460.585
- primrose	CS.460.586
Cabinet mounting bracket	CS.233.111
Dial scale	CS.412.462
Front grille assembly	CR.520.864
Knob - tuning	CR.523.554
Knob - volume	CR.523.798

MT4

L	1,2	3,4,5	6,7,8	9,10,11	12	13	14
C	1	2	3	4	5	6	7
R	1	2	3	4	5	6	7
T	1	2	3	4	5	6	7



CAPACITOR VALUES
 WHOLE NUMBERS - pF
 DECIMALS - μF
 SECOND FIGURE - D.C.V.M.
 OTHERS ± 10% UNLESS
 OTHERWISE SHOWN.
 RESISTORS ARE 1/2 W ± 10%
 UNLESS OTHERWISE SHOWN.
 VOLTAGES MEASURED WITH
 V.T.V.M.
 S1 IS MOUNTED ON VOLUME
 CONTROL, R1.



CODE N° 1
 1 2 3 4 5
 2 3 4 5
 BOTTOM VIEW OF COILS & TRANSFORMERS