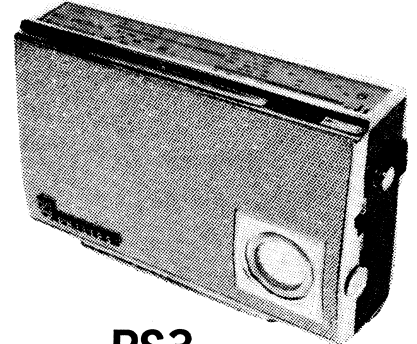


PHILIPS *Service* notes



MT5



PS3

SPECIFICATIONS

Tuning range	520-1620 kc/s
Intermediate frequency	455 kc/s
Battery supply MT5	type 276-P (9v.)
PS3	6xtype 1015 (6x1.5v.)
Battery consumption	See "Output Transistor Adjustment"

REMOVAL OF PRINTED BOARD—PS3

Remove the case back by unscrewing the case back mounting screw. Remove the three board mounting screws. The printed board may be lifted away complete with knobs and dial drum system, to a distance limited by the length of speaker and watch leads.

REMOVAL OF PRINTED BOARD—MT5

Remove case rear which is held to front grille by three screws. Remove volume knob, also tuning handspan knob from tuning capacitor shaft by unscrewing centre retaining screw.

Unsolder speaker connections.

Ease aerial rod assembly from mounting bracket, unscrew four self-tapping board mounting screws and lift board together with aerial rod assembly clear.

Refitting the board is a reversal of the above procedure.

WARNING: Care should be taken to refit the volume knob with minimum pressure to avoid damage to printed board.

Temp. °F.	I _c (TR4/TR5)mA	I (total) mA
65	2.5	10.8
70	2.7	11.1
75	3.0	11.5
80	3.2	11.85
85	3.6	12.4
90	4.1	13.0
95	4.6	13.8
100	5.1	14.6
105	5.5	15.2
110	5.9	16.1
115	6.3	17.0

OUTPUT TRANSISTOR ADJUSTMENT

Provision is made on the printed board to lift the collector lead of TR5 from its soldering lug to allow insertion of a meter. By means of R2 and without signal input, adjust collector current according to the following temperature table (note that total receiver current is also given here).

ALIGNMENT

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

I.F. Alignment

Fully open tuning capacitor and put volume control to maximum. Apply signal generator at 455 kc/s via I.F. dummy to TR1 base. Peak cores of 2nd I.F.T. and 1st I.F.T. in order, in the lower position of the core. Check these adjustments.

R.F. Alignment

Close the tuning capacitor and adjust the dial pointer to the stop mark — MT5 the two parallel lines to the left of centre — PS3 mark at RH end of scale.

Apply the signal generator through a dummy consisting of 4,700 Ω ½ watt 10% carbon resistor in series with I.F. dummy to TR1 base. Put volume control at maximum.

With tuning capacitor fully closed and signal generator at 520 kc/s peak oscillator coil, in top position.

Open tuning capacitor to fullest extent, and with signal generator at 1620 kc/s peak oscillator trimmer.

Repeat these adjustments.

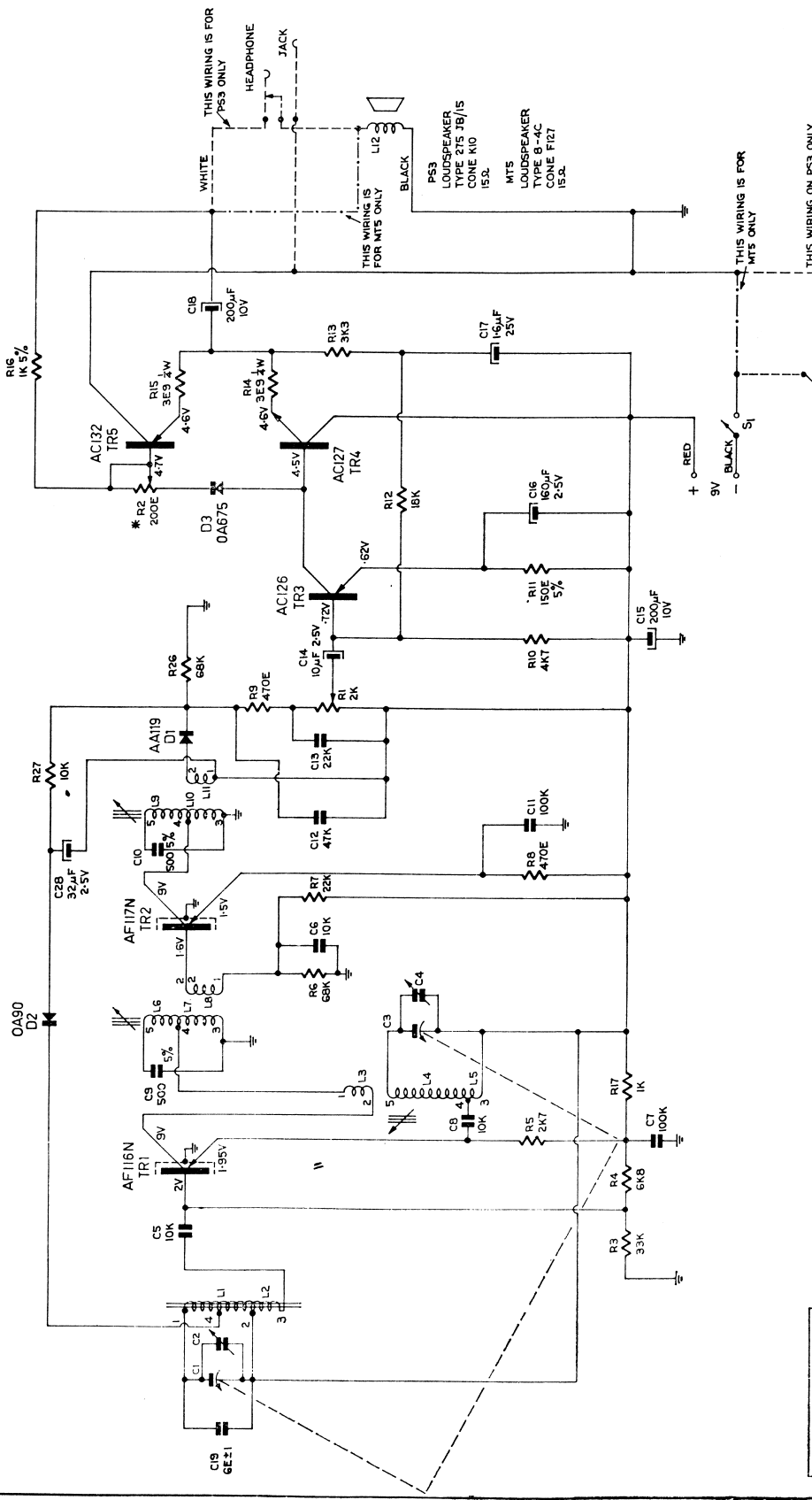
Set pointer at 600 kc/s (7ZL) and peak aerial coil at this frequency.

Set pointer at 1500 kc/s (3AK) and peak aerial trimmer at this frequency.

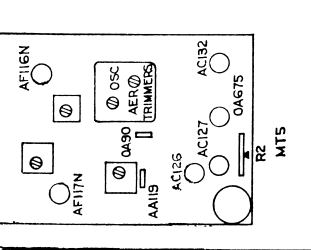
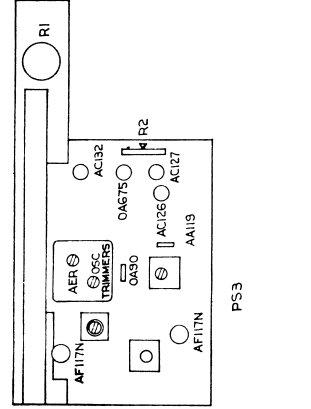
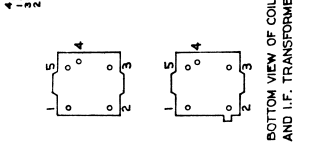
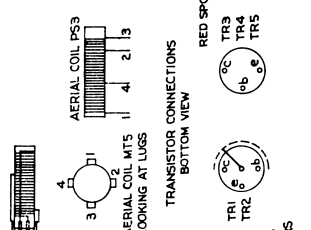
Repeat above two adjustments.

MT5 PS3

C	1.2	2	3	4	5	6	7	8	9	3.4, 5	6.7	8	9.0	11	13	1.9	2.6	10	3	16	12.2	4.5	17	18	R
C	19																								
C																									
C																									
C																									



CAPACITOR VALUES.
 WHOLE NUMBERS - PF
 UNLESS INDICATED OTHERWISE
 TOLERANCE $\pm 20\%$ FOR FLAT FOIL
 $-10\% + 50\%$ FOR ELECTROLYTIC
 RESISTORS ARE $\frac{1}{2}\% + 10\%$
 UNLESS OTHERWISE SHOWN
 VOLTAGES MEASURED WITH VTVM
 SI IS MOUNTED ON VOLUME CONTROL RI
 * ZERO SIGNAL COLLECTOR CURRENT TR4 AND TR5
 TO BE SET AT 3mA BY MEANS OF R2 AT 75°C.
 NOTE: 3E3 MEANS 3.3E3.
 3K3 MEANS 3,300.



ELECTRICAL PARTS LIST

MT5 PS3

CAPACITORS			RESISTORS			INDUCTORS		
CODE No.	DESCRIPTION	VOLTS TOL. ±% TYPE OR CODE No.	R. No.	DESCRIPTION	WATTS TOL. ±% TYPE OR CODE No.	L. No.	DESCRIPTION	TYPE OR CODE No.
1, 2 } 3, 4 }	Tuning capacitor with trimmers	CZ.107.529	1	2 K carbon potentiometer, log taper } (MT5) with S.P.S.T. rotary switch (volume)	E.088.ZZ/26	1, 2	Rod aerial assembly	CZ.323.066
5	10 K flat foil	30 20 C.280.AA/P10K	1	2 K carbon potentiometer, log taper } (PS3) with S.P.S.T. rotary switch (volume)	E.088.ZZ/27	(MT5)	Ferroxcube rod for above	CS.152.428
6	10 K flat foil	30 20 C.280.AA/P10K	2	200 E carbon pre-set potentiometer } (bias adjust.)	E.097.AC/200E	1, 2	Rod aerial assembly	CZ.323.067
7	100 K flat foil	30 20 C.280.AA/P100K	3	33 K carbon	1/2 10 I.R.C. B.T.S.	(PS3)	Ferroxcube rod for above	CS.152.428 cut to 5"
8	10 K flat foil	30 20 C.280.AA/P10K	4	6K8 carbon	1/2 10 I.R.C. B.T.S.	3, 4, 5	Oscillator coil, brown spot	CZ.323.063
9	Part of 1st I.F.T.		5	2K7 carbon	1/2 10 I.R.C. B.T.S.	6, 7, 8	1st I.F. transformer	CZ.320.525
10	Part of 2nd I.F.T.		6	68K carbon	1/2 10 I.R.C. B.T.S.	9, 10, 11	2nd I.F. transformer	CZ.320.539
11	100 K flat foil	30 20 C.280.AA/P100K	7	22K carbon	1/2 10 I.R.C. B.T.S.	12	Speaker, 15 Ω	CZ.162.537 Rola 8 - 4C
12	47 K flat foil	30 20 C.280.AA/P47K	8	470E carbon	1/2 10 I.R.C. B.T.S.	(MT5)	Speaker, 15 Ω	CZ.161.013 MSP.2751B
13	22 K flat foil	30 20 C.280.AA/P22K	9	470E carbon	1/2 10 I.R.C. B.T.S.			
14	10 μF electrolytic	2.5 — C.426.AS/A10	10	4K7 carbon	1/2 10 I.R.C. B.T.S.			
15	200 μF electrolytic	10 — C.426.AR/D200	11	150E cracked carbon	1/2 5 B8.305.05B/150E			
16	160 μF electrolytic	2.5 — C.426.AR/A160	12	18K carbon	1/2 10 I.R.C. B.T.S.			
17	1.6 μF electrolytic	25 — C.426.AS/F1.6	13	3K3 carbon	1/2 10 I.R.C. B.T.S.			
18	200 μF electrolytic	10 — C.426.AR/D200	14	3E9 metal oxide	1/2 10 E.012.AC/A3E9			
19	6 E ceramic	— 1pF C.322.BD/M6E	15	3E9 metal oxide	1/2 10 E.012.AC/A3E9			
28	32 μF electrolytic	2.5 — C.426.AM/A32	16	1K cracked carbon	1/2 5 B8.305.05B/1K			
			17	1K carbon	1/2 10 I.R.C. B.T.S.			
			26	68K carbon	1/2 10 I.R.C. B.T.S.			
			27	10K carbon	1/2 10 I.R.C. B.T.S.			

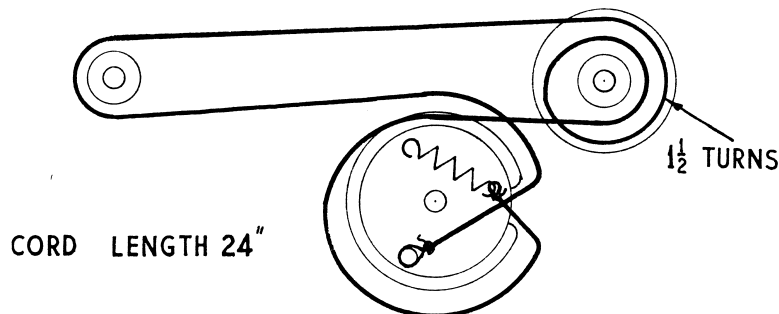
Note: The interspersed letter system of value designation is used in parts lists and in the circuit drawing. M is used to indicate a multiplier of 10⁶, K for a multiplier of 10³ and E a multiplier of 1 and each indicator is appropriately placed in the position of the decimal point. Thus 6K8 = 6,800 and 3E9 = 3.9.

MT5 PS3

MISCELLANEOUS COMPONENTS — PS3

DESCRIPTION	TYPE OR CODE No.	DESCRIPTION	TYPE OR CODE No.
Alarm Watch	CR.485.000	Jack—earphone	CZ.365.600 C/F 733-1-12
Battery case assembly, bottom	CR.572.596	Knob—tuning	CS.432.561
Battery case assembly, top (to which leads are attached)	CR.572.597	Knob—volume	CR.523.578
Case back assembly (consisting of case back and carrying strap bushes)		Pin for carrying strap 2x	
Granite	CR.570.784	gold	CS.258.635
Kangaroo	CR.570.786	chrome	CS.258.634
Waratah red	CR.570.785	Spring—dial cord	CS.200.040
Derwent blue	CR.570.787	Slide switch (Alarm/radio)	CZ.222.024
Carrying strap, long		MISCELLANEOUS COMPONENTS — MT5	
Granite	CS.432.442	Badge—Philips	S8.160.38
Kangaroo	CS.432.441	Cabinet assembly (consists of rear portion plus wedges glued in)	
Waratah red	CS.432.440	Coral rose	CR.574.194
Derwent blue	CS.432.443	Gunmetal	CR.574.195
Carrying strap—short		Blue	CR.574.196
Granite	CS.432.439	Claret	CR.574.197
Kangaroo	CS.432.438	Dial scale	CS.412.469
Waratah red	CS.432.437	Grille assembly—consists of grille, decorative panel, badge, dial scale, spacers	CR.520.872
Derwent blue	CS.432.444	Knob—tuning	CS.432.566
Dial cursor	CS.410.666	Knob—volume	CR.523.569
Dial drum	CS.360.403	Plug—battery	CZ.365.120 C/F.691-5-2
Dial scale	CR.483.046	Screw—cabinet to grille, 3x	CH.091.160
Dial cord, 24" required (bulk)	965/JB1	Screw—gang mounting, 2x	B.054.ED/2.6x4
Dial cord spring	CS.200.040	Screw—tuning knob ret.	CR.310.600
Grille and escutcheon assembly, gold	CR.520.874	Spacer—tuning spindle	CS.284.057
chrome	CR.520.875		

DIAL CORD LAYOUT



PS3 ONLY

GANG IN CLOSED POSITION