

# PHILIPS *Service* notes

PS4, PS5



PS4



PS5

## MODELS PS4, PS5

### SPECIFICATIONS

Tuning range .....	520 - 1620 kc/s
Intermediate frequency .....	455 kc/s
Battery supply .....	6 x type 1015 (6 x 1.5V.)
Battery consumption .....	12.5mA (no signal)

#### REMOVAL OF PRINTED BOARD

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

#### OUTPUT TRANSISTOR ADJUSTMENT

With no signal input, by means of R18, adjust output transistor collector current according to the following temperature table—

Temp. °F.	Ic (TR5/TR6) mA
65	2.5
70	2.7
75	3.0
80	3.3
85	3.7
90	4.3
95	4.7
100	5.1
105	5.8
110	6.5
115	7.4

#### ALIGNMENT

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

##### I.F. Alignment

Fully open tuning capacitor, put volume control at maximum and apply signal generator at 455 kc/s via I.F. dummy, to TR1 base. Peak the cores of I.F. transformers (in the lower position) in order of IFT3, IFT2, and IFT1. Re-check these adjustments.

##### R.F. Alignment

Fully close the tuning capacitor and position dial cursor to the stop mark of the dial scale. Put volume control at maximum. Apply signal generator through I.F. dummy with a 4K7, ½W. carbon resistor in series, to TR1 base.

With tuning capacitor fully closed, peak oscillator coil at 520 kc/s (slug in top position). Fully open tuning capacitor and peak oscillator trimmer at 1620 kc/s. Repeat these adjustments.

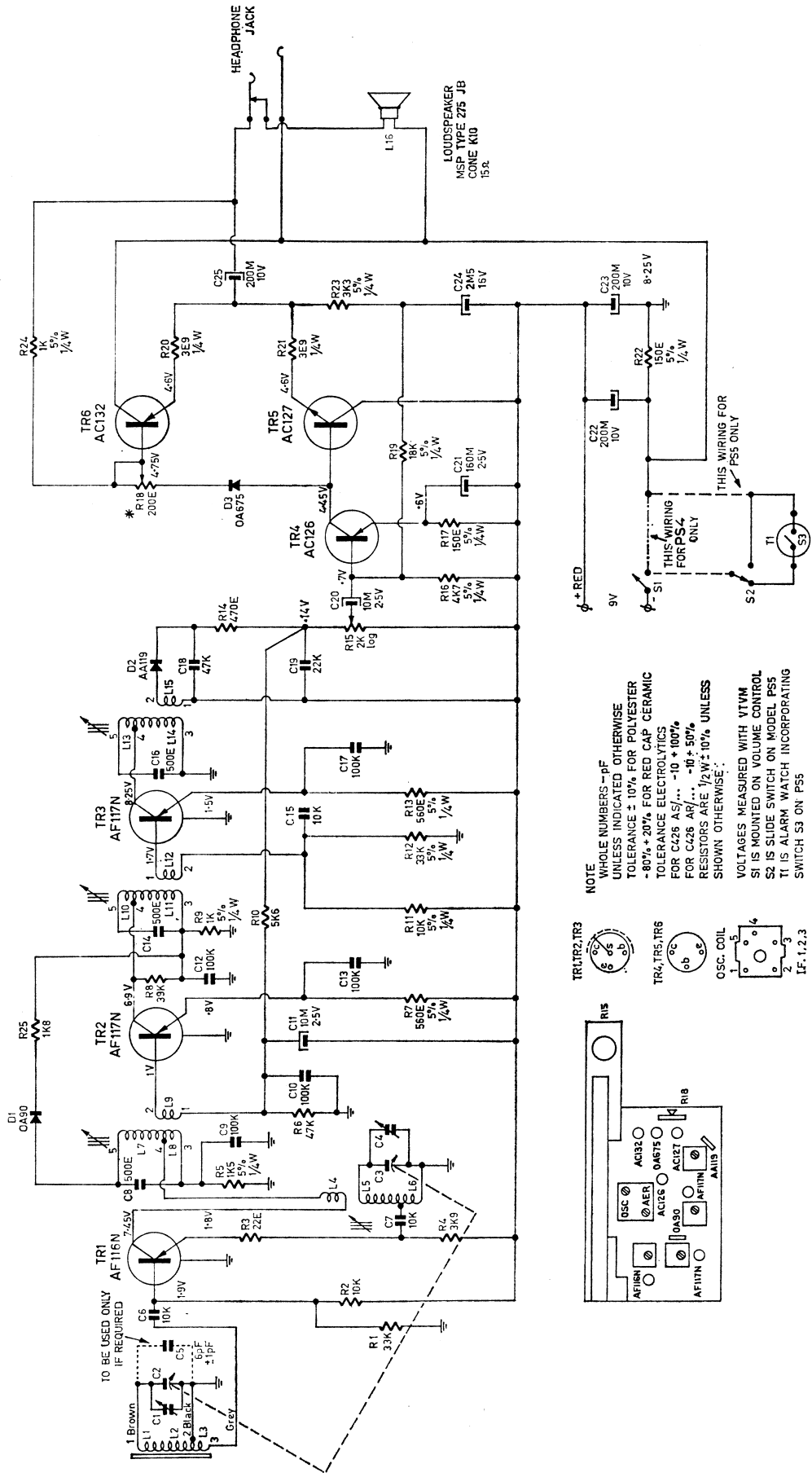
Set dial pointer at 600 kc/s (7ZL) and peak aerial coil. Set dial pointer at 1500 kc/s (3AK) and peak aerial trimmer. Repeat these two adjustments until calibration is satisfactory.

September, 1964

Published by PHILIPS ELECTRICAL INDUSTRIES PTY. LTD., Australia  
Branches in all States

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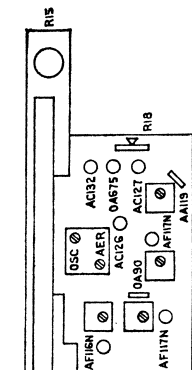
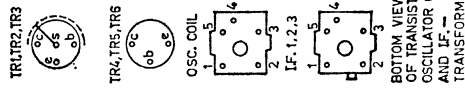
L	12.3	1	2	5	6	7	8	4.5,6	7.8	9	10	11	12	13	14	15	10.11	12	13,14	15	16	17	18	19	20	21	22	23	25		
C		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21,22	23								
R		1	2	3,4	5	6	7	8	9	10,11	12	13	14	15	16,15	17	18	19	20	21,22	23										
TR		1	2																												
TR																															



**NOTE**  
 WHOLE NUMBERS - pF  
 UNLESS INDICATED OTHERWISE  
 TOLERANCE ± 10% FOR POLYESTER  
 -80% + 20% FOR RED CAP CERAMIC  
 TOLERANCE ELECTROLYTICS  
 FOR C426 AS/... -10 + 100%  
 FOR C426 AR/... -10 + 50%  
 RESISTORS ARE 1/2W ± 10% UNLESS  
 SHOWN OTHERWISE.

VOLTAGES MEASURED WITH VTVM  
 S1 IS MOUNTED ON VOLUME CONTROL  
 S2 IS SLIDE SWITCH ON MODEL PS5  
 T1 IS ALARM WATCH INCORPORATING  
 SWITCH S3 ON PS5

\* ZERO SIGNAL COLLECTOR CURRENT TR5/TR6  
 IS SET BY MEANS OF R18 TO 3MA AT 75°F  
 COLLECTOR PNP-RED SPOT  
 COLLECTOR NPN-BLUE SPOT



**OSC. COIL**  
 1 2 3 4 5

**TRANSFORMERS**  
 1 2 3 4 5

**TOP VIEW OF TRANSFORMERS**  
 OSCILLATOR COIL  
 AND IF

**AERIAL COIL**  
 1 2 3

# ELECTRICAL PARTS LIST

# PS4, PS5

CAPACITORS				RESISTORS				INDUCTORS				
C. No.	DESCRIPTION	V.W.	TOL.±%	TYPE or CODE No.	R. No.	DESCRIPTION	W	TOL.±%	TYPE or CODE No.	L. No.	DESCRIPTION	TYPE or CODE No.
1, 2, 3, 4,	Tuning capacitor and trimmers			CZ.107.529	1	33K carbon	½	10	I.R.C. B.T.S.	1,2,3	Rod aerial assembly (blue)	CZ.323.081
5	6E ceramic, pin up		1pF	C.322.BD/M6E	2	10K carbon	½	10	I.R.C. B.T.S.		Ferroxcube rod for above	CS.152.428 cut to 5"
6	10K Polyester	125	10	C.296.AA/A10K	3	22E carbon	½	10	I.R.C. B.T.S.	4,5,6	Oscillator coil (brown)	CZ.323.063
7	10K Polyester	125	10	C.296.AA/A10K	4	3K9 carbon	½	10	I.R.C. B.T.S.	7,8,9	1st I.F. Transformer (white, green)	CZ.320.520
8	Part of 1st I.F.T.				5	1K5 cracked carbon	¼	5	B8.305.05B/1K5	10,11,12	2nd I.F. Transformer (blue)	CZ.320.524
9	100K ceramic	25	+80—20	Ducon CDR	6	47K carbon	½	10	I.R.C. B.T.S.	13,14,15	3rd I.F. Transformer (white, brown)	CZ.320.539
10	100K ceramic	25	+80—20	Ducon CDR	7	560E cracked carbon	¼	5	B8.305.05B/560E	16	Loudspeaker, MSP 275JB, 15Ω	CZ.161.013
11	10M electrolytic	2.5		C.426.AS/A10	8	39K carbon	½	10	I.R.C. B.T.S.			
12	100K ceramic	25	+80—20	Ducon CDR	9	1K cracked carbon	¼	5	B8.305.05B/1K			
13	100K ceramic	25	+80—20	Ducon CDR	10	5K6 carbon	½	10	I.R.C. B.T.S.			
14	Part of 2nd I.F.T.				11	10K cracked carbon	¼	5	B8.305.05B/10K			
15	10K ceramic	25	+80—20	Ducon CDR	12	33K cracked carbon	¼	5	B8.305.05B/33K			
16	Part of 3rd I.F.T.				13	560E cracked carbon	¼	5	B8.305.05B/560E			
17	100K Polyester	125	10	C.296.AA/A100K	14	470E carbon	½	10	I.R.C. B.T.S.			
18	47K ceramic	25	+80—20	Ducon CDR	15	2K carbon potentiometer log taper (volume) with S.P.S.T. rotary switch			E.088.ZZ/27			
19	22K ceramic	25	+80—20	Ducon CDR	16	4K7 cracked carbon	¼	5	B8.305.05B/4K7			
20	10M electrolytic	2.5		Ducon CDR	17	150E cracked carbon	¼	5	B8.305.05B/150E			
21	160M electrolytic	2.5		C.426.AS/A10	18	200E carbon trim potentiometer (bias adj.)			E.097.AC/200E			
22	200M electrolytic	10		C.426.AR/A160	19	18K cracked carbon	¼	5	B8.305.05B/18K			
23	200M electrolytic	10		C.426.AR/D200	20	3E9 metal oxide	¼	10	E.012.AC/3E9			
24	2M5 electrolytic	16		C.426.AR/E2.5	21	3E9 metal oxide	¼	10	E.012.AC/3E9			
25	200M electrolytic	10		C.426.AR/D200	22	150E cracked carbon	¼	5	B8.305.05B/150E			
					23	3K3 cracked carbon	¼	5	B8.305.05B/3K3			
					24	1K cracked carbon	¼	5	B8.305.05B/1K			
					25	1K8 carbon	½	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 10<sup>6</sup>, K for a multiplier of 10<sup>3</sup> 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.

# PS4, PS5

## MECHANICAL PARTS LIST

DESCRIPTION	CODE No.	DESCRIPTION	CODE No.
Alarm watch PS5 only .....	CR.485.000	Escutcheon/grille assembly	
Battery case assembly, bottom .....	CR.572.596	chrome for red and black PS4 .....	CR.520.027
Battery case assembly, top		chrome for red and black PS5 .....	CR.520.025
(to which leads are attached) .....	CR.572.597	gold for fawn PS4 .....	CR.520.028
Case back assembly		gold for fawn PS5 .....	CR.520.026
(consists of case back and		Handle — carrying	
handle bushes)		chrome for red and black .....	CS.432.451
Black PS4 .....	CR.570.856	gold for fawn .....	CS.432.450
Black PS5 .....	CR.570.859	Handle grip .....	CS.432.452
Red PS4 .....	CR.570.857	Handle securing pin, 2 x	
Red PS5 .....	CR.570.860	chrome for red and black .....	CS.279.855
Fawn PS4 .....	CR.570.858	gold for fawn .....	CS.279.854
Fawn PS5 .....	CR.570.861	Handle pin ret. clip, 2 x .....	CH.629.235
Dial cord spring .....	CS.200.040	Jack — earphone .....	CZ.365.600
Dial cursor .....	CS.410.666	Knob — volume .....	CR.523.578
Dial drive cord, 24" .....	965/JB1	Knob — tuning .....	CS.432.561
Dial drum .....	CS.360.403	Screw — case to grille	
Dial scale, N.S.W./QLD. ....	CS.412.488	chrome for red and black .....	CH.082.160.0Y
Dial scale, W.A./S.A. ....	CS.412.489	gold for fawn .....	CS.263.015
Dial scale, VIC./TAS. ....	CS.412.490	Screw — gang mounting, 2 x .....	B.054.ED/2.6 x 4
		Switch — slide (alarm/radio) PS5 only .....	CZ.222.024

### DIAL CORD LAYOUT

