

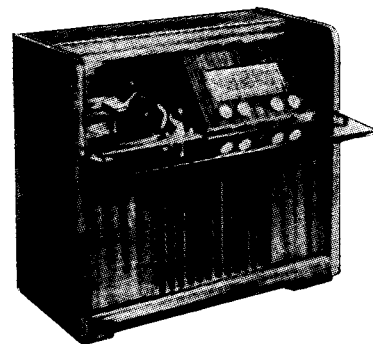
FLEETWOOD RADIO

MODEL 1160A

SPECIFICATIONS

(Subject to alteration without notice)

Power Supply	.....	200-250V, 40-50 c/s.
Tuning Ranges	.....	530-1620 kc/s. 4.7-9.2 Mc/s. 9.1-18.4 Mc/s.
Intermediate Frequency	.....	455 kc/s.
Cabinet	.....	Radiogram.
Record Changer	.....	Philips type AG1000.



VALVE EQUIPMENT AND VOLTAGE ANALYSIS

Valve Function	Valve No.	Valve Type	Plate Volts	Screen Volts	Osc. P. Volts	Bias Volts	
Frequency Converter	V1	6AN7	230	50	55	—	
I.F. Amplifier	V2	6BH5	230	50	—	—	
Demodulator, A.V.C. and 1st Audio	V3	6BD7	70	—	—	—	
Phase Splitter	V4	6BD7	170	—	—	—	
Push-Pull Power Amplifier	V5	6M5	265	230	—	7.5	
Push-Pull Power Amplifier	V6	6M5	265	230	—	7.5	
Rectifier	V7	6V4	Cathode — L18 C.T., 278V.				
Dial Lamps (2), Bezel Lamp	V11, 12, 13	6.3V, 0.32A tubular screw					
Voltage across R24, -3V; R15, 36V; R14 and 15, 40V.							

NOTE: These voltages are measured with an "1,000 ohms per volt" meter and may vary $\pm 10\%$ from the figures quoted. They are measured from the socket points indicated to chassis or across the resistors listed. The receiver should be in a "no signal" condition.

TO REMOVE CHASSIS FROM CABINET.

Remove the power plug from the mains outlet socket. Remove the four control knobs (a firm pull is all that is necessary). Remove the cabinet back. Remove the aerial and earth terminal panel and unclip the leads from the cabinet.

Remove the pick-up, speaker, gramophone unit power and bezel lamp plugs from their respective sockets. Remove the two screws at the top of the dial back plate and the two screws at the rear of the chassis. The chassis may now be withdrawn from the cabinet.

The replacement of the chassis is a reversal of the above procedure. Care should be taken to see that the front edge of the side chassis flange engages under the lip of the front mounting bracket.

MAINS VOLTAGE ADJUSTMENT.

The power transformer is provided with two mains voltage tappings on the primary winding—200/230 volts and 240/250 volts—for adjustment to the supply voltage at the point of installation. The receiver is adjusted at the factory to the 240/250 volts tapping.

DIAL CALIBRATION.

In the event of an equal calibration error over the entire dial scale, the dial cursor can easily be moved on the dial drive cord to correct the error.

ALIGNMENT.

During alignment, set volume control at maximum and tone control at central position. With the tuning capacitor fully closed, set the dial cursor on the 120 mark of the relocation scale.

I.F. channel alignment is carried out in the following sequence:—

Connect 100pF capacitor from plate of 6BH5 to chassis and peak secondary of 2nd I.F.T. (screw nearer 6BD7).

Transfer 100pF capacitor to 6BD7 diode to chassis position and peak primary of 2nd I.F.T. (screw nearer 6BH5).

Remove the detuning capacitor and peak secondary of 1st I.F.T. (screw nearer 6BH5).

Peak primary of 1st I.F.T. (screw nearer 6AN7).

Repeat operations on 1st I.F.T. only.

The trimmer layout drawing is shown as an inset on the circuit diagram drawing.

B/c band alignment frequencies are: 1,420 kc/s, 3XY (oscillator and aerial trimmers), and 600 kc/s, 7ZL (slug padding with gear rocking).

On the short wave bands the oscillator operates on a frequency above signal frequency so that of the two signals tunable on the receiver, the high frequency one is correct. In short wave alignment, SW2 band (4.7-9.2 Mc/s) should be done first before attempting alignment of SW1 band.

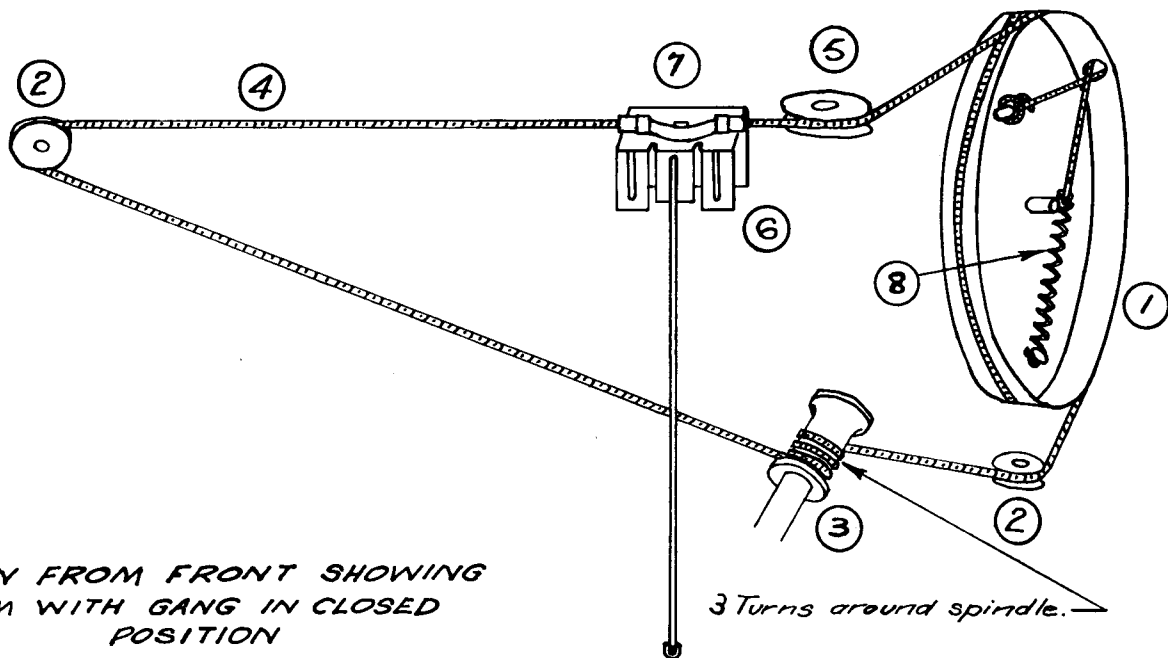
On SW2 band (4.7-9.2 Mc/s) alignment frequencies are: 4.825 Mc/s (114 on relocation scale), (oscillator coil slug) and 8.9 Mc/s (16 on relocation scale), (oscillator and aerial trimmers). Rock the tuning gang while adjusting the aerial trimmer.

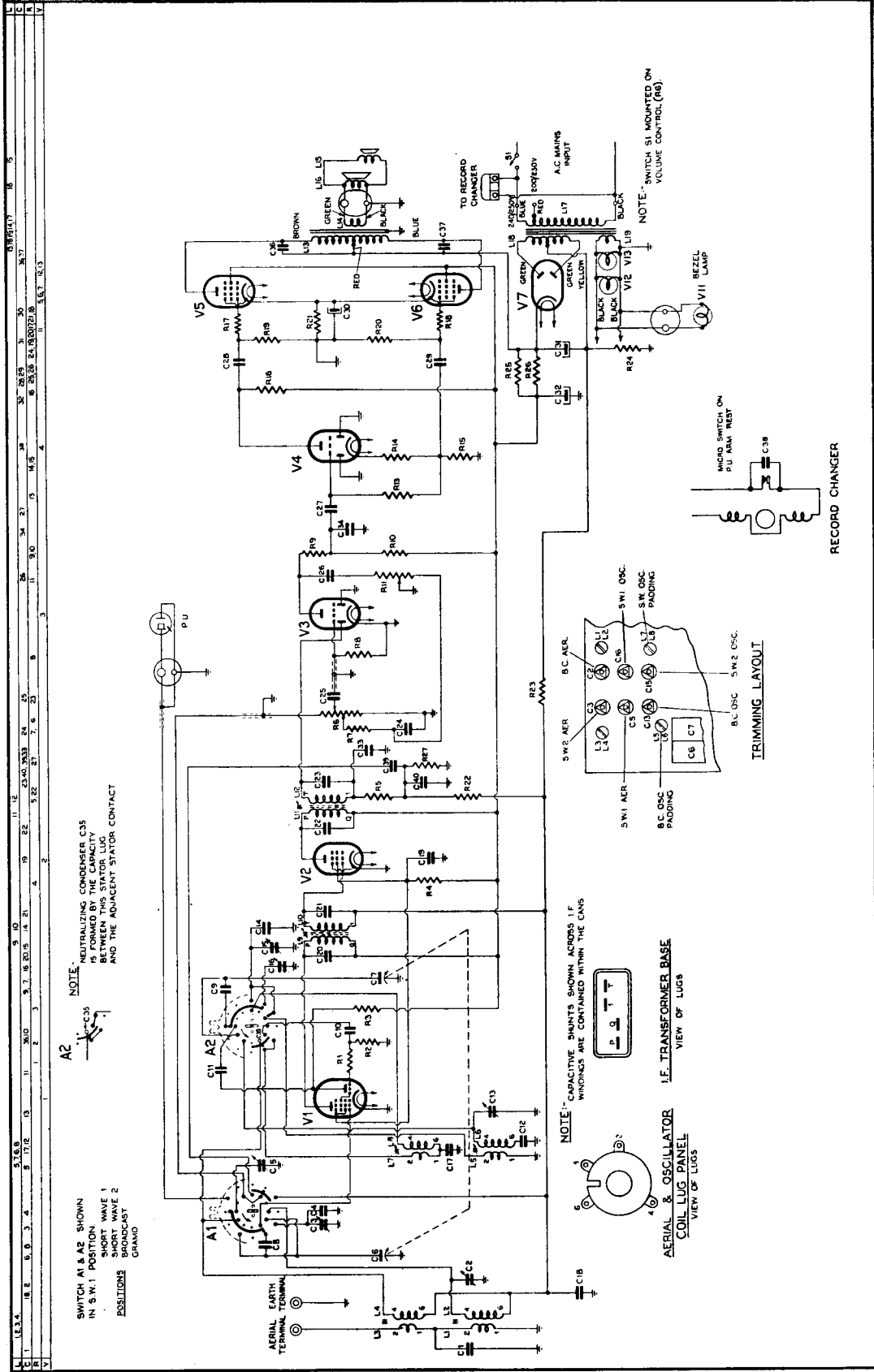
SW1 band (9.1-18.4 Mc/s) alignment frequency is 17.8 Mc/s (small green triangle), (oscillator and aerial trimmers, rock gang while adjusting aerial trimmer). Calibration should be checked at 9.65 Mc/s (small green triangle).

Do not attempt to adjust the iron cores of the aerial coils.

MISCELLANEOUS COMPONENTS

No. on Dial Cord Layout Drawing	Description	Code No.	No. on Dial Cord Layout Drawing	Description	Code No.
6	Assembly, cursor	CR.480.664	—	Plug, male (gramo. unit power)	CZ.365.115
—	Assembly, lampholder, 2x	C/F733-5-4	—	Plug, 2-pin polarised (speaker, pick-up and bezel lamp)	C/F691-5-1
—	Assembly, lampholder bezel	CZ.367.920	5	Pulley, dial (large)	CS.359.613
3	Assembly, tuning spindle	CR.371.223	2	Pulley, dial (small), 2x	CS.359.612
—	Badge, Fleetwood	CR.531.421	—	Scale, dial	CS.412.395
—	Bank, W/C switch (aerial)	CZ.200.060	—	Socket, female (gramo. unit power)	CZ.365.116
—	Bank, W/C switch (osc.)	CZ.200.061	—	Socket, 2-pin polarised (speaker, pick-up and bezel lamp)	C/F733-16-1
—	Bezel	CS.430.023	—	Socket, valve (noval), 7x	C/F733-2-14
—	Clip, spring (knob), 4x	CS.281.832	7	Spring, cursor	CS.212.016
—	Clip, spring (I.F.T. mtg.), 2x	A3.652.58	8	Spring, dial cord	CS.210.043
4	Cord, dial drive	69" of cord required			
1	Drum, dial	CS.360.006			
—	Knob, control, 4x	CR.523.714			





1	1.3, 4	10.8	0.9	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	--------	------	-----	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

NOTE:
 NEUTRALIZING CONDENSER C35
 IS FORMED BY THE CAPACITY
 BETWEEN THE GRID OF V1
 AND THE ADJACENT STATOR CONTACT



**SWITCH A1 & A2 SHOWN
 IN S.N.1 POSITION
 SHORT WAVE 1
 SHORT WAVE 2
 BROADCAST
 GRAND**

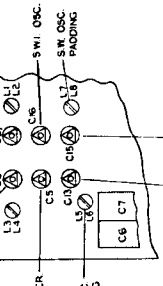
NOTE: CAPACITIVE SHUNTS SHOWN ACROSS I.F.
 WINDINGS ARE CONTAINED WITHIN THE CANS



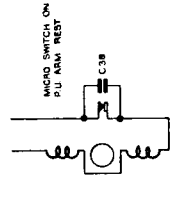
**AERIAL & OSCILLATOR
 COIL LUG PANEL
 VIEW OF LUGS**



**I.F. TRANSFORMER BASE
 VIEW OF LUGS**



TRIMMING LAYOUT



RECORD CHANGER

NOTE: SWITCH S1 MOUNTED ON
 VOLUME CONTROL (R6).

PARTS LISTS

CAPACITORS

No.	Description	Code No.
C1, 10, 11, 33, 40	100 pF mica	
C2, 3, 5, 15, 16	30 pF air trimmer	CZ.113.700
C4	115 pF mica 2½%	CZ.066.138
C6-7	2 gang tuning	CZ.107.746
C8, 9	180 pF mica 1%	CZ.065.722
C12	475 pF mica 2%	CZ.066.119
C13	60 pF air trimmer	49.005.58
C14	110 pF mica 2½%	CZ.066.140
C17	0.0045 mF mica 10%	
C18, 39	0.05 mF 200V paper	
C19	0.05 mF 400V paper	
C20, 21, 22, 23	Part of I.F. transformers	
C24	0.03 mF 200V paper	
C25	0.01 mF 400V paper	
C26, 27	0.005 mF 600V paper	
C28, 29, 38	0.01 mF 600V paper	
C30	25 mF 10V electrolytic	
C31, 32	40 mF 350V electrolytic	
C34	200 pF mica	
C35	Inbuilt neutralising capacitor—refer circuit diagram drawing.	
C36, 37	0.002 mF 600V paper	

All tolerances are ± 20% unless otherwise specified.

RESISTORS

No.	Description	Code No.
R1	100 ohms ½W carbon	
R2	22,000 ohms ½W carbon	
R3	47,000 ohms 1W carbon 10%	
R4	68,000 ohms 1W carbon	
R5	47,000 ohms ½W carbon	
R6	0.5 megohm carbon potentiometer, tapped at 0.25 megohm, with S.P.S.T. switch	CZ.032.014
R7	12,000 ohms ½W carbon 10%	
R8	10 megohms ½W carbon	
R9	0.15 megohm ½W carbon 10%	
R10	68,000 ohms ½W carbon 10%	
R11	1 megohm carbon potentiometer	CZ.029.149
R13	1 megohm ½W carbon	
R14	1,800 ohms ½W carbon 10%	
R15, 16	47,000 ohms ½W carbon 10%	
R17, 18	4,700 ohms ½W carbon	
R19, 20	0.47 megohm ½W carbon	
R21	150 ohms 1W W/W 10%	
R22	2.2 megohms ½W carbon	
R23	3.3 megohms ½W carbon	
R24	47 ohms ½W W/W 10%	
R25, 26	4,700 ohms 1W carbon	
R27	0.22 megohm ½W carbon	

All tolerances are ± 20% unless otherwise specified.

COILS

No.	Ohms	Description	Code No.
L1	19.6-26.4	B/C aerial coil	CZ.323.026
L2	1.5-2.0		
L3	1.2-1.7	S/W aerial coil	CZ.323.027
L4	<0.5		
L5	0.8-1.2	B/C oscillator coil	CZ.330.613
L6	2.7-3.7		
L7	<0.5	S/W oscillator coil	CZ.330.614
L8	<0.5		
L9	11.5-15.5	1st I.F. transformer	A3.124.25
L10	11.5-15.5		
L11	11.5-15.5	2nd I.F. transformer	CZ.320.434
L12	11.5-15.5		
L13		Output transformer	type KOL40
L14		10,000 ohms p-p	type 5C, F87
L15		Speaker	type 12K, F25
L16		Speaker	
L17	26-36	Power transformer	CZ.344.089
L18	315-425		
L19	<0.5		

IMPORTANT! In ordering spare parts, quote CODE NUMBER of part and MODEL NUMBER of Receiver. In claiming free replacement under GUARANTEE, return defective part PROMPTLY and quote MODEL and SERIAL NUMBER of Receiver and DATE OF PURCHASE.

MODIFICATION SHEET

FLEETWOOD RADIO

MODELS 1160B-C-D

NOTE: This sheet should be read in conjunction with the service data sheet for Model 1160A.

MODEL 1160B.

Model 1160B is the same as Model 1160A except for a change in I.F. transformers. Details are—

L9	4.7-5.2 ohms	} 1st I.F.T.	A3.126.84
L10	8.0-9.0 ohms		
L11	8.3-9.2 ohms	} 2nd I.F.T.	CZ.320.444
L12	4.7-5.2 ohms		

Alignment procedure of the I.F. channel is as under—

1. Screw out the slug of the primary of the 2nd I.F.T. as far as possible.
2. Peak slugs in the following order—
 - Secondary 2nd I.F.T. (nearer V3)
 - Secondary 1st I.F.T. (nearer V2)
 - Primary 1st I.F.T. (nearer V1).
 - Primary 2nd I.F.T. (nearer V2)
3. Do not re-adjust any slugs.

Circuit diagram is published overleaf.

MODEL 1160C.

Model 1160C is the same as Model 1160A except for use of Garrard type RC110 Record Changer.

MODEL 1160D.

Model 1160D is the same as Model 1160B except for use of Garrard type RC110 Record Changer.

FLEETWOOD
DIVISION OF PHILIPS ELECTRICAL INDUSTRIES PTY. LIMITED

