RADIO CORPORATION PTY. LTD.
DIVISION OF ELECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.
TECHNICAL BULLETIN

Bulletin: PM-1.
File: Receivers AC.
Date: 7/8/52.
Page: 1.

MANTEL MODEL "PM"

5 Valve Superheterodyne Broadcast Receiver.

For operation from:-

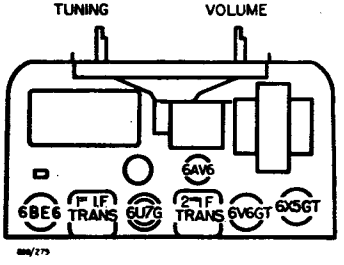
200-250 Volt 50 Cycle AC. Mains Supply.
Power Consumption 40 Watts (approx.)

Tuning Range:-

535-1640 Kc/s. : 560.7-182.9 Metres

This Bulletin contains:-

1. Alignment Instructions.
2. Circuit Diagram.
3. Component Parts List.
4. Connections for IF. and RF. Transformers.
5. Dial Drive Cording Diagram.



ALIGNMENT PROCEDURE

EQUIPMENT

Signal Generator:

Output Meter:

Mica Capacitor : 0.01MF (for I.F. trans. alignment)

Dummy Antenna : 200MMF. Mica Capacitor

Alignment Tools : Type M195 and PM581.

ALIGNMENT CONDITIONS

Load Impedence: 5,000 ohms

Output Level : 50 Milliwatts

Vol. Control : Max. Vol. fully clockwise.

Intermed. Freq.: 455 Kc/s.

Input Voltage : 230 Volts 50 Cycle AC. input to trans. 221-250 volt pri. tap.

Dummy Antenna: The 200MMF. dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment, but must be connected to the antenna junction lug on the chassis. It is not necessary to have the 25 ft. antenna connected to the receiver during alignment, if it is connected it should be rolled up into a small hank.

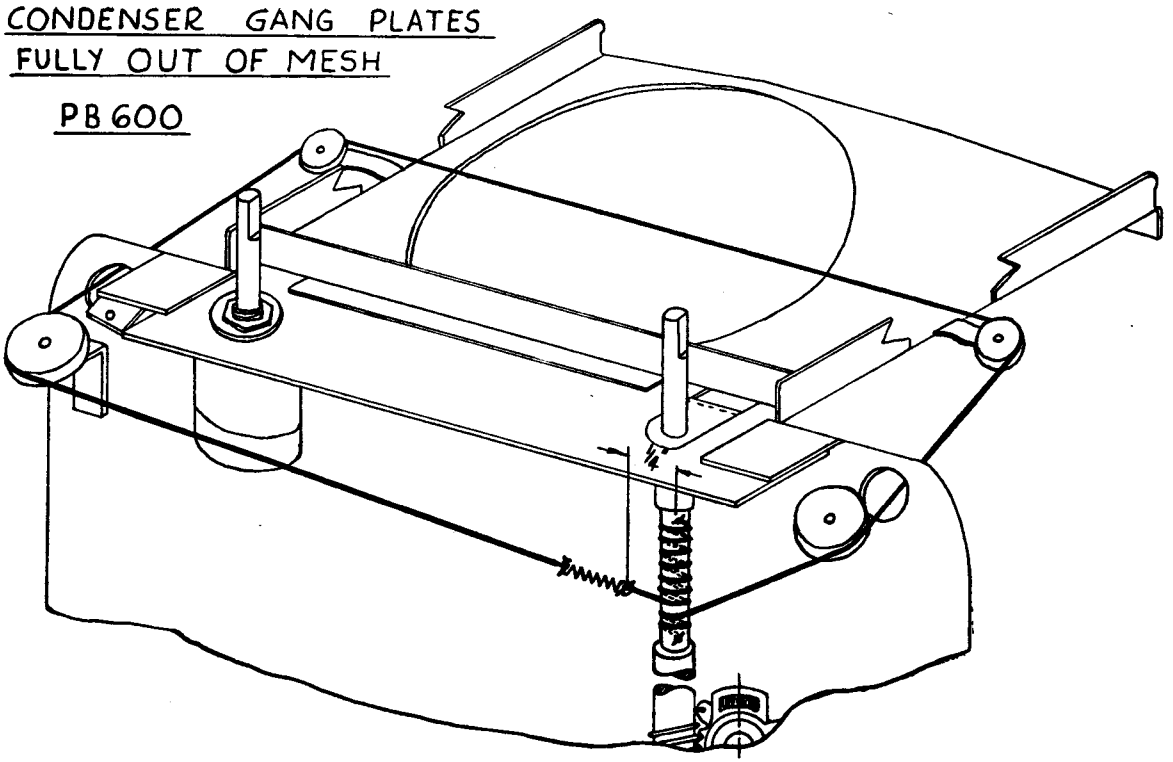
Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To control grid of 6U7G valve	455 Kc/s.	0.01MF. Mica capacitor in series with generator	Remove chassis from cabinet. Leave grid cap on valve. Peak 2nd I.F. trans pri. and sec. for max. output.
2.	To control grid of 6BE6 valve (pin No. 7)	455 Kc/s.	0.01MF. Mica capacitor in series with generator	Turn cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak 1st I.F. trans pri. and sec. for max. output.
3.				Repeat operations No. 1 and 2.
4.				Fully mesh the cond. gang plates. Set the centre of the dial pointer to align with the centre of the end of travel mark on the dial reading near 540 Kc/s.
5.	To antenna junction lug on chassis	600 Kc/s.	200MMF. Mica capacitor in series with generator	Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 600Kc/s. spot on dial reading. Leave the gang and pointer set in this position and peak the oscl. coil inductance trim (iron core) for max. output.

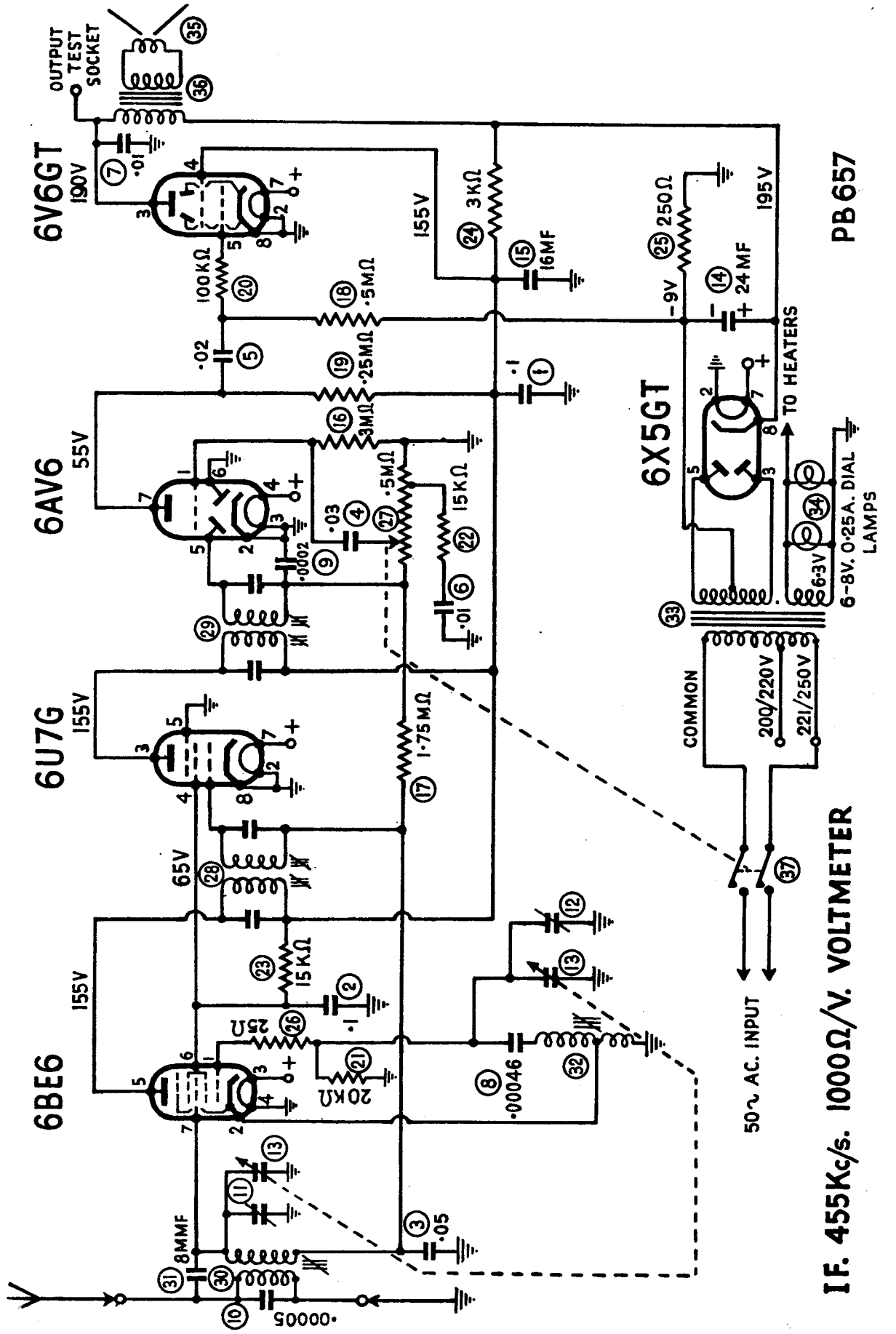
CORDING OF DIAL DRIVE

Length of cord required is 4 ft. which includes about 8" to spare for tying to tension spring.

Cord Part No. 34/754.

Tension Spring Part No. 73/239-1.



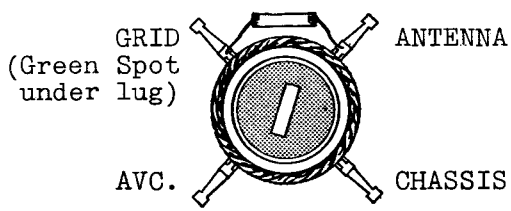

OUTPUT TEST SOCKET
6V6GT
190V
155V
3KΩ
16MF
250Ω
195V
24 MF
-9V
100KΩ
·5MΩ
·02
·25MΩ
·1
6AV6
55V
3MΩ
·5MΩ
15KΩ
·03
·0002
·01
6X5GT
TO HEATERS
6·3V
6-8V. 0·25A. DIAL LAMPS
6U7G
155V
1·75MΩ
65V
COMMON
200/220V
220/250V
6BE6
155V
15KΩ
·1
25Ω
20KΩ
·00046
8MMF
·05
·00005
50~ AC. INPUT
PB 657
I.F. 455Kc/s. 1000Ω/V. VOLTMETER

Circuit No.	Description	Tol.±	Rating	Part No.
1.	.1MF. Paper Condenser	20%	400V. DCW.	PC103
2.	.1MF. Paper Condenser	20%	400V. DCW.	PC103
3.	.05MF. Paper Condenser	20%	200V. DCW.	PC102
4.	.03MF. Paper Condenser	20%	200V. DCW.	PC303
5.	.02MF. Paper Condenser	20%	400V. DCW.	PC111
6.	.01MF. Paper Condenser	20%	600V. DCW.	PC140
7.	.01MF. Paper Condenser	20%	600V. DCW.	PC140
8.	.00046MF. Mica Condenser	2½%	1000VT.	PC728
9.	.0002MF. Mica Condenser	10%	1000VT.	PC124
10.	.00005MF. Mica Condenser	10%	1000VT.	PC141
11.	1.5-18MMF. Trimmer Condenser			PC737
12.	3-50MMF. Trimmer Condenser			PC843
13.	2 Gang Varb. Condenser with gears			PC715
14.	24MF. E'lytic Cond.	20%	350PV.	PC276
15.	16MF. E'lytic Cond.	20%	350PV.	PC283
16.	3 Megohm Carbon Resistor	10%	½ Watt	PR282
17.	1.75 Megohm Carbon Resistor	10%	½ Watt	PR248
18.	.5 Megohm Carbon Resistor	10%	½ Watt	PR245
19.	.25 Megohm Carbon Resistor	10%	1 Watt	PR496
20.	100,000 Ohm Carbon Resistor	10%	½ Watt	PR103
21.	20,000 Ohm Carbon Resistor	10%	½ Watt	PR166
22.	15,000 Ohm Carbon Resistor	10%	½ Watt	PR500
23.	15,000 Ohm Carbon Resistor	10%	1 Watt	PR225
24.	3,000 Ohm Carbon Resistor	10%	1 Watt	PR295
25.	250 Ohm Carbon Resistor	10%	½ Watt	PR259
26.	25 Ohm Wire Wound Resistor	10%	½ Watt	PR281
27.	.5 Megohm Carbon Potentiometer tapped at 40K. Ohms DP.ST. switch attached to housing	20%		PR738
28.	No. 1 IF. Transformer 455 Kc/s.			PT869
29.	No. 2 IF. Transformer 455 Kc/s.			PT869
30.	Antenna Transformer			PT905
31.	8MMF. Cond. part of Ant. Trans.			PC832
32.	Oscl. Coil			PT859
33.	Power Transformer 200-250V. 50 cycle			PT938
	Power Transformer 200-260V. 40 cycle			PT939
34.	Dial Lamp 6-8V. 0.25 Amp. Min. screw base T 3 1/4 size bulb			PM678
35.	Speaker 5" Permag. with 5,500-3.7 Ohms imped. input trans. attached			K183
36.	Input trans. 5,500-3.7 Ohms imped. code No. EDB64			PT930
	Valve Socket-8 pin			PM532
	Valve Shield-ST12 bulb (6U7G valve)			PM217
37.	On/off switch - part of circuit No. 27.			

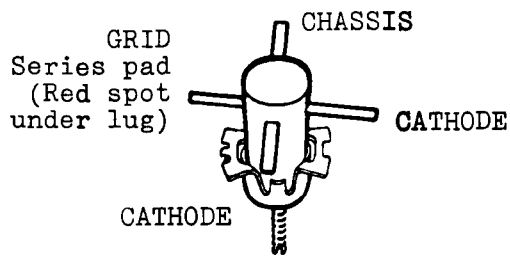
Description	Part No.
Valve Socket-7 pin	A104/58
Terminal Strip-3 lug	A103/509
Terminal Strip-5 lug	A567/30C
Terminal Strip-2 lug	A107/30A
Earth Contact for valve shield	22/30C
Rubber Band for valve shield	1/564-8
Rubber Grommet on power cord	40/30C
Clip IF trans mount	7/670
Clip-coil mount	6/622

Description	Part No.
Dial Cord	34/754
Dial Reading	37/640-2
Dial Lamp Socket Assy.	A140/30C
Valve Grid Clip	873/495
Antenna Wire	WM195
Tuning and Volume Knob Spring	86/71
Dial Pointer Assy.	A105/640
Dial Cord Tension Spring	73/239-1
Cabinet Back	32/640-1
Screws-Chassis to cabinet 1/4" x 1/8" R.H. Whit.	10/560-4
Washers-on chassis mount screws	249/239-1
Washers-between chassis and cabinet back	70/30C
Felt Washers-on control shafts-brown	66/30C
Felt Washers-on control shafts-white	66/30C-1
Dial Pulley - Wood 5/8" dia.	13/613
Dial Pulley - Wood 3/4" dia.	17/87
Dial Pulley - Brass	23/71

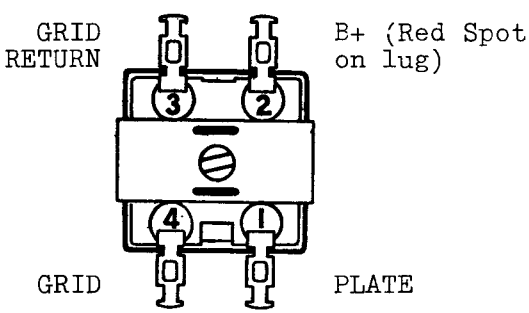
ANTENNA TRANS.



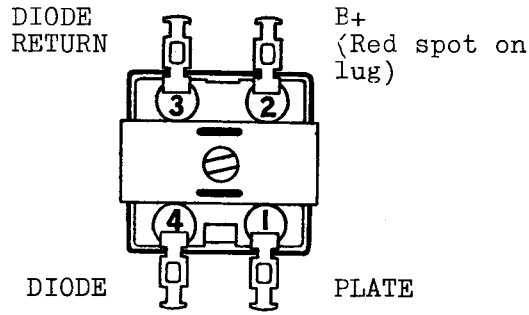
OSCL. COIL



1st IF. TRANS.



2nd IF. TRANS.



Opera– tion No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
6.	To antenna junction lug on chassis	1400 Kc/s.	200MMF. Mica capacitor in series with generator	Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400Kc/s. spot on dial reading. Adjust oscl. coil trim condenser for logging and peak antenna trans. trim. condenser for max. output.
7.	To antenna junction lug on chassis	600 Kc/s.	200MMF. Mica capacitor in series with generator	Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 600Kc/s. spot on dial reading. Leave the gang and pointer set in this position. Re–peak oscl. coil ind. trim. (iron core) and then peak the antenna trans. ind. trim. (iron core) for max. output. Do not rock the gang or dial pointer to and fro through the signal while adjusting or move them until after the inductance trimmer (iron core) of both of these transformers as been peaked for max. output.
8.	To antenna junction lug on chassis	1400 Kc/s.	200MMF. Mica capacitor in series with generator	Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400Kc/s. spot on dial reading. Adjust osc. coil trim. condenser for logging and re–peak antenna trans. trim. condenser for max. output.

Tuning range after alignment: 535–1640 Kc/s.

STYLING LIST

	WALNUT CABINET	IVORY CABINET	MARBLE IVORY CAB.
Cabinet	17/628–1 Walnut	17/628–5 Ivory	17/628–9 Marble Ivory
Knob	22/81–4 Walnut	22/81–6 Champagne	22/81–6 Champagne
	GREEN CABINET	**CHINESE RED CABINET**	**AMBER CABINET**
Cabinet	17/628–2 Green	17/628–6 Chinese Red	17/628–10 Amber
Knob	22/81–3 Green	22/81–4 Walnut	22/81–8 Amber
	BLUE CABINET	**MAHOGANY CABINET**	**AUST. WHITE CAB.**
Cabinet	17/628–3 Blue	17/628–7 Mahogany	17/628–11 Aust. White
Knob	22/81–7 Blue	22/81–4 Walnut	22/81–5 White
	CHAMPAGNE CABINET	**MARBLE CHAMP. CAB.**	**WINE CABINET**
Cabinet	17/628–4 Champagne	17/628–8 Marble Champ.	17/628–12 Wine
Knob	22/81–6 Champagne	22/81–6 Champagne	22/81–11 Wine