ASTOR RADIO

Service Manual 1956-1960



ASTOR model DLP

The Astor model DLP is a superheterodyne using just 2 valves, a 6BE6 mixer and a 6BM8 as detector and audio amplifier.

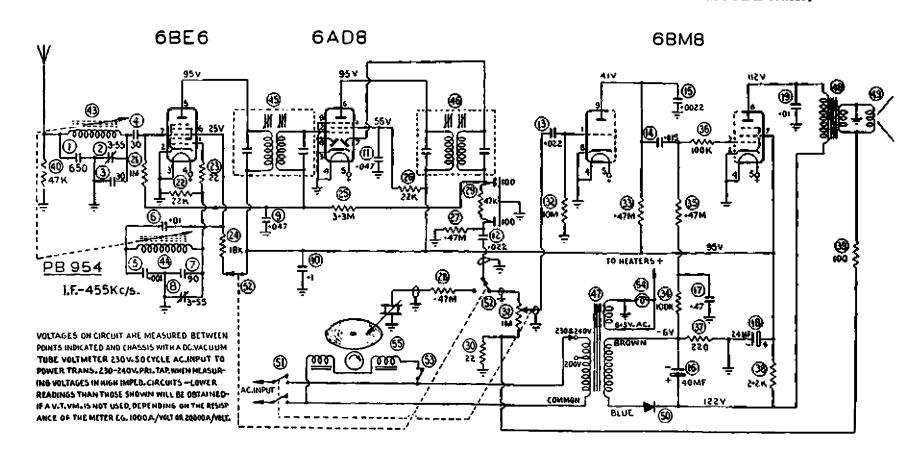
This manual has been compiled by Ray Kelly for the assistance of H.R.S.A. members in the restoration of Astor & Peter Pan radios produced by Radio Corporation Pty.Ltd. in the later days of valve radios, and includes some hybrid car radios. Covering 76 models and 192 pages, this manual is volume 1 of a projected series of 5, covering most major Australian manufacturers of this period.

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Files may contain one or more pages. By putting each model into a separate file, it could be possible to add extra information if it comes to hand, without renumbering pages. For example photographs would help in identifying models. (Ray Kelly, February 2000).

ASTOR MODEL AMR.



Oper- ation No.	Generator Connection	Generator Frequency	Durzy Antenna	Instructions.
1.	To control grid of 6.08 valve (pin No. 2)	455 Kc/s.	0.0LMF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.
2.	To control grid of 6BE6 valve (pin No. 7.)	455 Kc/s.	0.011F Mica capacitor in series with generator	Turn tuning drum until perm.tuner iron cores are out of the windings on coil forcers and the unit is hard against the stop. Leave the grid wire attached to valve socket. Peak 1st IF. trans. pri. and sec. for max. output
3.				Repeat operations 1 and 2

DIAL DRUM SETTING

Turn dial drum toward the rear of plastic mount plate until the perm. tuner iron cores are out of the windings on the coil formers and the unit is hard against the stop. The end of travel spot on dial reading near 1700 Kc/s. is to align with the indicator lines moulded on the top of the plastic mount plate. The dial drum is adjusted by loosening off the screw through the slot in the drum.

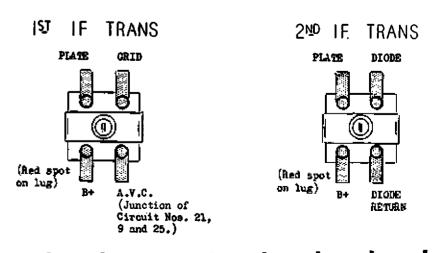
BROADCAST ALIGNMENT

- NOTE: 1. Dummy interna: The 200MP dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment, The dummy antenna 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 the 25 ft. antenna is connected it must be rolled into a scall hank.
- NOTE 2. The antenna and oscillator trinner condensers are accessible through the two holes in the plastic mount plate on the right hand side of the control knobs. The oscillator trinner being nearest to the front edge of the mount plate.

NOTE: 3. Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extrere end of the foruer protruding through the rubber greamet, and the end of the iron core in the forner, when the unit is turned hard against the stop. If incorrect logging and wisalignment are to be evoided no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

Oper- ation Mo.	Generator Connection	Generator Frequency	Durny Antenna	Instructions
1.	To antenna junction lug on chassis	1000 Kc/s.	200LBF Mica capacitor in series with generator	Turn tuning drum until alignment spot at 1000 Kc/s. aligns with moulded indicator lines on top of plastic mt. plate. Peak oscl. trim. cond. then peak antenna coil trimmer cond. for max. output. Repeak oscl. coil trim cond.

- 2. Tuning range after alignment 535 1640 Kc/s.
- 3. Refit plastic mount plate with receiver attached to the cabinet.





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

Bulletin: AK# -1. File. Receivers AC. Date: 2-4-54.

A type 6AE8 converter valve cannot be used as a direct replacement for a type 6AN7 valve due to the socket connections being different. The 6AE8 walve will burn out if it is plugged into a socket wired for a type 6AR7 valve.

MODEL ANK

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33} r.p.m.) and a 5 Valve Superheterodyne Four Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre and 31 Metre Shortwave Bands.

FOR OPERATION FROM:--

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation: - 55 Watts .- approx. Gramo Operation: - 75 Watts.-approx.

TUNING RANGES:-

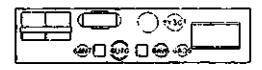
RECEIVER COVERAGE:-

Broadcast Band, 535-1610 Kc/s.		560.7-186.3 Metres.
19 Metre Band, 14.9-15.5 Mc/s.	(Bandspread)	20.13-19.29 Metres (approx.)
25 Metre Band, 11.6-12.1 Nc/s.	(Bandspread)	25.86-24.79 Metres (approx.)
31 Metre Band, 9.4-9.8 Mc/s.	(Bandspread)	31.91-30.61 Metres (approx.)

THIS BULLETIN CONTAINS:-

Alignment Instructions. Circuit Diagram.

Connections for IF. and RF. Transformers. Dial Drive Cording Diagram. Valve Placement Diagram.



VALVE PLACEMENT DIAGRAM #92/279

SOCKET CONNECTIONS

WARNING

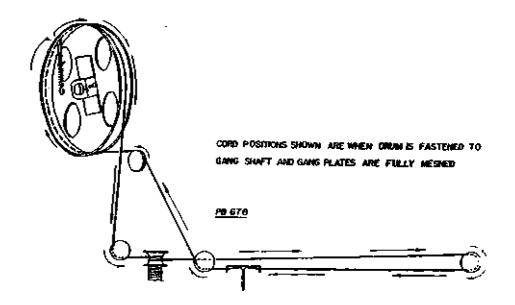
CVW1 ARTAG	<u> </u>
Pin No. 1. Hexade Screen	Hexode Screen
Pin No. 2. Hexode Control Grid	Hexede Control Grii
Pin No. 3. Cathode	Cathode
Pin No. 4. Heater	Heater
Pin No. 5. Heater	Heater
Pin No. 6. No Connection	Hexode Plate
Pin No. 7. Hexode Plate	Triode (oscl.) Grid
Pin No. 8. Triode (oscl.) Plate	friode (oscl.) Plate
Pin No. 9. Triode (oscl.) Grid	No Connection

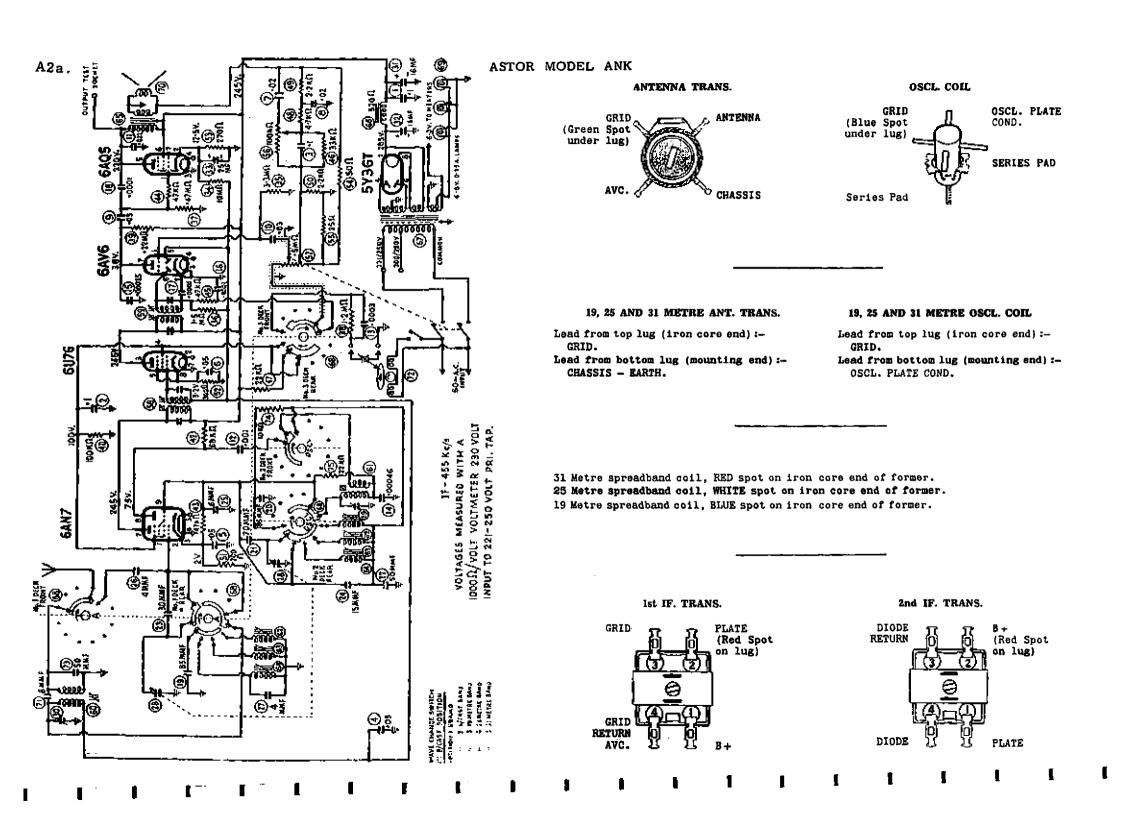
CORDING OF DIAL DRIVE

Length of cord required is 5 ft. 6 ins., which includes about & ins. to spare for tying to tension spring.

Cord Part No. 34/754. Tension Spring Part No. 21/698

GANT Volve





pointer to and fro through the Dignal while adjusting or move them until after the inductance trimmer firm care of

ASTOR MODEL ANK

ALIGNMENT PROCEDURE

FOUTPMENT

Opera- Generator Generator

iead

from

receiver.

ALIGNMENT CONDITIONS

sec. for max. output.

Gignar Generator:		Lord impedance:	o,ucu onms.
Output Meter:		Outout Level:	50 Milliwatts.
Mica Capacitor:	O.OLMF. (for IF.	Vol. Control:	Max. Vol. fully
	trans. alianment		clockwise.
Dummy Antenna:	200MMF. Mich	intermed. Freq.:	458 Ke/s.
	Capacitor.	imput Voltage:	230 Volts 50 Cycle
Cummay intennat	400 Ohm non-industive		AC. input to trans.
	resistor.		221-250 volt ari taa

Blighment Tools: Type M195 and PM331. Tone Control: Treble position. To Remove Chassis from Cabinet-Switch receiver off and disconnect receiver mains lead plus from power point socket. Remove rear cover board from cabinet. then the four control knots from their spindles. From rear of cabinet withdraw Detiker tlug from righthand end of chassis, indicator lamp lead plug from connecting socket and pick-up lead plugs from sockets on chassis. Loosen off screws in AC. mains lead junction block and withdraw receiver AC. mains lead. From teneath receiver mount board remove a nut from each of the four mount screws then withdraw the two rear mount screws. The two front screws are captive and must not be removed from the chassis. Lift receiver chassis upward and to the left out of the cabinet. Refit chassis in exact reverse procedure to removing it.

lio.		rou kredneud	cy Antenna	instructions
1.	To control grid of 6U7G I.F. valve	455 Kc/s.	O.OlMF. Mica capacitor in series with generator.	Turn wave change switch to B/cast band. Leave grid cap on valve. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	To control grid of SAN7 valve	455 Xc/s.	0.01MF. Mica capacitor in series with generator.	Furn cond. Rang plates fully out of mesh. Leave grid wire attached to valve socket. Peak lst I.F. trans. pri. and sec. for max. ontout.

Dummy

Series with

generator.

pin Nc. 2. 4. Fully mean the cond. gong plater. Set the centre of the dial pointer to align alth the centre of the end of travel mark on the dial reading near 540 Ke/s. 1. In one cane 600 Me/s. 200MMF. Mica furn cond. gong and diel pointer until lead : nom series with receiver generator. à. Is antenna 1400 Ke/s. lead frem Series with receiver. generator. 7. Is untenna 600 Ke/s. 200MMF, Mica

Repeat operations No. 1 and 2. copacitor in scatte of dial pointer aligns with centre of 600 Kc/s. spot on dial reading. Leave the gang and pointer set in this position and neak the osel, coil inductance trim (iron core) for max. output. 200MMF. Mica Turn cond. gang and dial pointer until capacitor in contre of dual pointer aligns with cantre of 1400 Kc/s, soot on dial reading. Adjust osch, coil trim condenser for logging and peak antenna trans. trim. condenser for max. output. Turn cond. gang and dial pointer until capacitor in castre of dial pointer aligns with consider of 600 Kc/s. Spot on dial reading. betwee the gang and cointer set in this position. Re-peak osal, coil ind. trip. firm core; and then peak the antenna trans. ind. trim. (iron core) for max. susput. Do not rock the gang or dial

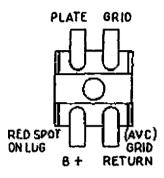
both of these transformers has been peaked for text, output. 8. To antenna 1400 Kc/s. 200MMF. Mica Turn cond. work and dial neinter until lead capacitor in centre of also painter blighs with centre of 1400 Ke/L. root in circle : - :from series with receiver. generator. ing. Adjust obein beit trim condender for lossing one remark on three tremut trim, condenser for max, outsut. 9. Turn wave change switch to 31 metre band (this band must be silled vefore the 25 and 19 metre bands). 10. To antenna 9.6 Mc/s. 400 ohm non- Turn dial pointer and can be as Me/s. lead from inductive Adjust 31 metre bond stell coll, and. receiver. resistor. trim. (iron core for tolding the new hould 31 metre ant, trans, trim, (iron core: for max, output. Rock gond, gong to and fro through the signal while adjusting. 11. To antenna 11.8 Mc/s. 400 ohm non-Turn wave change switch to 25 metre inductive band. Turn dial pointer and saus to lead from 11.8 Me/s. Adjust 25 metre band osel. receiver. resistor. coil ind. trim. (iron core) for logging and neak 25 matro ant, trues, trim, (iron core) for max, cutout. Nack cent. gong to and fro through the signal while adjusting. 12. To antenna 15.2 Mc/s. 400 ohm non-Turn wave change switch to 19 metre band. Turn dial pointer and tank to lead from inductive 15.2 Mo/s. Adjust 19 matre band osel. resistor. receiver. coil, ind. trim. (iron core for loseing and neak 19 metre ant, crons, trim. (iron core) for max, outside. Edek come. gang to and fro through the simuluthis adjusting. 13. Check the logging of the shortwave bands on some well-known thostwive stations. If a crystal calibrator is available, check the logging at cross 100 Kc/s. mark on the dial. 31 Metre spreadband coil, RED spot on iron core end of former. 25 Metre spreadband coil. WHITE spot on iron core end of former. 19 Metre spreadband coil, BLUE spot on iron core end of former.

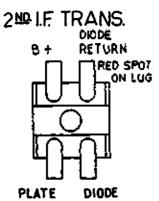
INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE.-The mains adjustment tap should be adjusted as follows: For any AC, voltage between 200 V, and 220 V,, on the 200-220 V, tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT .- For 200-220 Volt Operation: The receiver chauses has to be removed from the cabinet for this adjustment. SWITCH THE RESELVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Resigner chassis from cabinet as detailed on page 2. The AC, junction strip is located to the righthand end of the chassis. Unsolder the mains lend wire from the switch on the volume control which is attached to the 221-250 volt top and re-solder it to the 200-220 volt tap.

1월 LF TRANS.





TRANSFORIER CONNECTIONS

ALFTENNA COIL: Start of winding - furthest from mounting end - ANTENNA

Finish of winding - nearest to mounting end - GRID

CSCL. COIL: Start of winding - furthest from mounting end-JUNCTION OF CIRCUIT NO.No. 9 & 11

Finish of winding - nearest to mounting end - OSCL.GRID.

POWER TRANSFORFER

PART No. 7164 40 0 50 cycle mains PART No. 7165 40 & 50 cycle mains

FRI. Red lead - Common FRI. Red lead - Common
" Green lead - 200V mains " Green lead - 200V mains

" Black lead - 230 & 240V mains " Black lead - 230 & 240V mains

" White lead - 250V mains

Electro-static shield joined internally to centre tap of HT. secondary.

Hr. Secondary.

Hr. Secondary.

Start - Blue lead
Centre tap - yellow lead
Centre tap - yellow lead

Finish - Blue lead Finish - Blue lead

6.3V Mr. secondary: Start, indicator lamp tap and finish in 15 B & S winding wire leads.

5V. IF. secondary: - Start and finish in 21 B & S winding wire.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL --- ANL

TWO UNIT GRAMO-RADIO COMBINATION

An Automatic 4 Speed Record Changer (78,45, 33-1/3, 16-2/3, r.p.n.) and an 8 valve Superheterodyne Broadcast Band Receiver.

FCR OPERATION FROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer T164)
Power trans Primary Tap-red-common.

" " -green-200 Volt mains.
" " -black-230 & 240 Volt mains.

200-250 Volt 40 or 50 Cycle AC. Mains (Power Transformer T165)
Power trans.Primary Tap-red-common.

" " "-green-200 Volt mains.
" " "black-230 & 240 Volt mains.

" " -white-250 Volt mains.

NOTE:

The record changer drive pulley for 40 Cycle mains operation is part No. 046/524.

POWER CONSUMPTION:

Radio Operation:- 75 Watts-approx. Gramo Operation:- 90 Watts-approx.

TUNING RANGE:

Broadcast Band 535-1640 kc/s. - 560-182.9 herres.

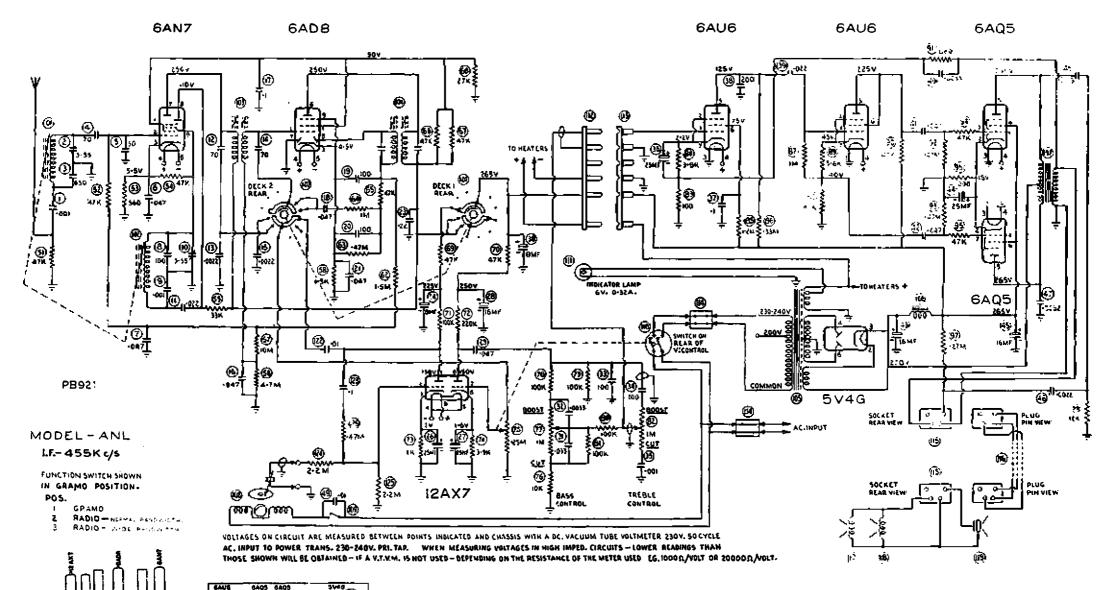
THIS BULLETIN CUITAINS:

Alignment instructions.

Circuit Diagram.

Connections for IF. and RF Transformers.

Valve Placement Diagram.



ALIGHBRAT PROCEDURE

<u>E</u>	100	<u>Her</u>	4	LICHTENT CONDITIONS.
Signal Cenerator	r:		Load Impedance:	2.5 Ohms (output meter connected
Cutput Hoter	:			across speaker trans secondary).
			Output Level :	50 jiilliwetts
Nica Capacitor	:	0.0lif (for I.F. trans alignment)	Vol Control :	Max.vol fully clockwise
Dummy Antenna	:	200:EF	Bass Control :	Min.Bass position
		mica capacitor	Treble Control:	liin.Treble position
Alignment Tools	ż	Type Mil95	Intermediate Fr	
	•	and Pai581		Centre position. "Radio"(normal band- width)
			Input Voltage :	230 volts 50 cycle AC. input to trans. 230-246 Volt tan.

NOTE: 1.

The receiver chassis has to be removed from the cabinet to make adjustments to the I.F. transformer iron cores, or to set the pointer on the dial knob to the and of travel spot at the H.F. end of the dial.

It is not necessary to remove the receiver chassis to adjust the tuning unit tripper condensers.

NOTE: 2.

Instructions for removing the cabinet base and chasses units are detailed on the following pages of this bulletin.

I.F. TRANSFORMER ALIGNMENT.

Cper No.	Generator Connection		Dummy Antenna	Instructions
1.	To signal grid of 6AD8 IF. valve pin No.2.	455 Kc/s	O.OIMF Nice capacitor in series with generator	Turn gramo - radio switch to centre position "Radio" normal bandwidth. Leave grid wire attached to valve socket. Peak 2nd IF. trans pri. and sec. for max output.
2.	To signal grid of 6AN7 valve pin No.2.	455 Ke/s	0.01:F :lica capacitor in series with generator	Turn perm tuner so that iron cores are fully out of winding on coil formers and the unit is hard against the stop.
				Leave grid wire attached to valve socket. Peak lst. IF. trans. pri and sec. for max. output.
3.				Repeat operations 1 and 2

BROADCAST ALIGHERM

NOTE 1.

After the pointer line on the dial knob has been set to the end of travel spot near 1700 Kc/s, the receiver oscl, and serial trim, condensers may be aligned while the template is fitted to the chassis or the template may be removed, the chassis fitted to the cabinet them align the oscl, and serial trim, condensers using the calibrated transfer dial reading on the catinet.

NOTE 2.

Both iron cores in the perm, tuner unit are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the forzer protryding through the rubber grommet and the end of the iron core in the former when the unit is turned fully anti-clockwise and is hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

<u>HOTE 3.</u> The 200 NNF Dummy antenna must be connected to the antenna junction lug on the chassis. Should an antenna be connected to the short antenna lead from the receiver it is to be disconnected or relied into a small hank.

Oper.	Generator	Generator	Dumsy	
?!o -	Connection	Francis	Artonno	

Instructions.

				25.0 02 40 420 130 1
1.	To antenna junction lug.	1000 Kc/s	200 !IF mice capacitor in series with generator	Turn perm tuner and dial pointer knob until the centre of the line on the knob aligns with the centre of the 1000 Kc/s spit on the template (or the dial reading on the cabinet if the receiver is fitted to the cabinet. Peak oscl. coil triumer condenser then yeak ant. coil triumer condenser for max. output. Repeak oscl. coil triumer condenser.
				Check logging at each end of tuning scale.

Tuning range after alignment 535 to 1340 Kc/s.

RADIO CORPORATION PTY. LTD.

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126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

Bulletin: ANM-1 File: Receivers AC. 26-7-56 Page 1.

TECHNICAL BULLETIN



TABLEGRAM MODEL — "ANM"

An Automatic 3 Speed Record Changer (78, 45, 33} r.p.m.) and a 5 Valve Superheterodyne Broadcast Receiver.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:--

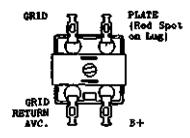
Radio Operation:-40 Watts.-approx. Gramo Operation:-60 Watts.-approx.

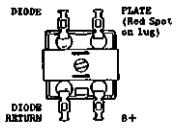
TUNING RANGE:-

535-1610 Kc/s. - 560.7-186.3 Metres.

1st IF. TRANS.

2nd IF. TRANS.





ANTENNA TRANS.

Start of winding - furthest from mounting end - Antenna. Finish of winding - nearest to mounting end - Grid.

OSCL. COIL

Start of winding - furthest from mounting end - Junction of circuit Nos. 6 and 9.
Finish of winding - nearest to mounting end - Oscl. grid.

INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE: The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200V. and 220V. on the 200-220V. tap and for any AC. voltage between 221V. and 250V. on the 221-250V. tap.

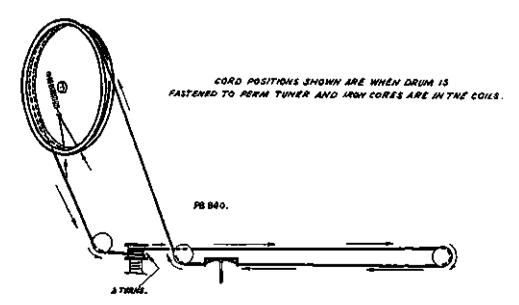
MAINS VOLTAGE ADJUSTMENT: For 200-220 volt operation:— the receiver chassis does not have to be removed from the cabinet for this adjustment. SWITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove the cabinet base board by unscrewing the four rubber mount feet screws fastening the base to the cabinet. The AC. mains tap junction strip is located at the left hand end of the chassis. The mains lead wire from the switch on the volume control which is attached to the junction strip tap marked 221-250 volt is to be unsoldered and re-soldered to the tap marked 200-220 volt. Refit cabinet base board and rubber mount feet.

CORDING OF DIAL DRIVE

Length of cord required is 6 ft. 3 ins., which includes about 8 ins. to spare for tying to tension spring.

Cord Part No. 34/754.

Tension Spring Part No. 508/30C.



ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator: Output Meter:

Dummy Antenna:

Mica Capacitor: 0.01MF. (for IF. trans. alignment)

200MMF. Mica Capacitor

Intermed. Freq.: Input Voltage:

Load Impedance: 7,000 ohms. Output Level: 50 Milliwatts. Vol. Control: Max. Vol. fully Clockwise. 455 Kc/s.

> 230 Volts 50 Cycle AC. input to trans. 221-250 volt pri. tap. Treble position.

Alignment Tools: Type 48/712 and

PM581

Tone Control:

Note:-The receiver chassis does not have to be removed from the cabinet to align the IF. or RF. signal stages. Only the base of the cabinet is required to be removed.

Oper No.	r.	Generator Connection	Generator Frequency	Dumny Antenna	Instructions
1.	6BI	signal grid of H5 I.F. valve n No. 2	455 Kc/s.	0.01 MF Mica capacitor in series with generator	Turn grame-radio switch to radio position. Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	of	signal grid 6BE6 valve a No. 7	455 Kc/s.	0.01 MF Mica capacitor in series with generator	Turn perm tuner so that iron cores are fully out of windings. Leave grid wire attached to valve socket Peak lst I.F. trans. pri. and sec. for max. output.
3.					Repeat operations No. 1 and 2.
4.	age	rn perm tuner so ainst the stop. avel spot on dia	Set centre	of dial pointe	out of coil windings and hard r to align with centre of end of

from receiver

capacitor in series with generator

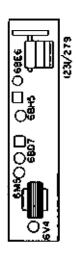
5. To antenna lead 1000 Kc/s. 200 MMF Mica Turn perm tuner and dial pointer until centre of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak oscl. coil trim. cond. then peak antenna trans. trim. cond. for max. output. Repeak oscl. coil. trim. cond.

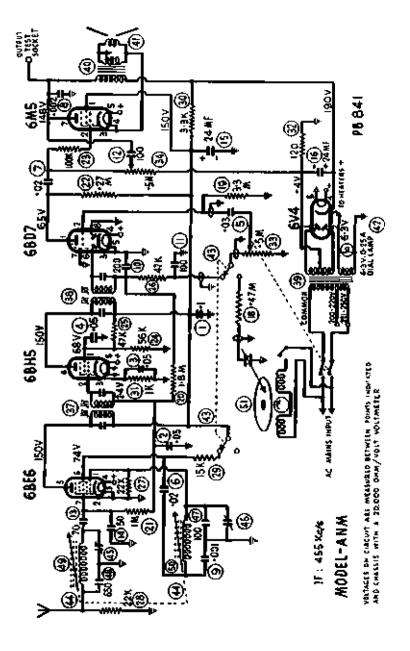
6. Repeat operations No. 4 and 5. 7.

Check logging at each end of the dial.

NOTE:-Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet and the end of the iron core in the former, when the unit is turned fully clockwise and is hard against the stop.

If incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.





A5.

EATTER 1

RADIO CORPORATION PTY. LTD.

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126-120 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

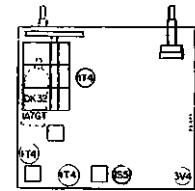
BULLETIN: ANP-1 File: Receivers

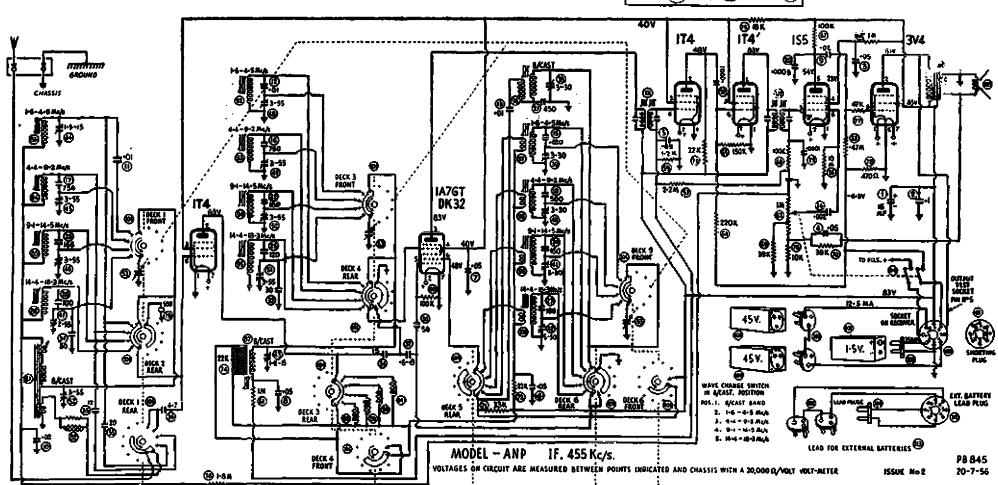
Portable Date: 3-8-56

Page: 1.

MODEL "ANP"

6 VALVE SUPERHETERODYNE 5 BAND PORTABLE RECEIVER





ALIGNMENT INSTRUCTIONS

BOUIPMENT

ALIGNMENT CONDITIONS

Signal generator: Output mater: Alignment tools:

Part No. M195 &

PM581

Output level ''A'' battery

Load impedance: 10,000 ohms 25 milliwatts 1.5 volts

Mica capacitor:

Oper. Generator

0.01 MF for I.F. trans alignment

Generator

"R" battery Vol. control

90 volts max. volume (fully clockwise)

Dummy antenna 400 ohm noninductive resistor Alignment template: Part No. PB832

Intermed, freq. 456 Kc/s.

TO REMOVE CHASSIS FROM CABINET

Pull control knobs straight upward off control spindles. Remove cabinet base by unscrewing the screws around the base of the cabinet. Remove cardboard battery packers and then the batteries. From the top of the cabinet, unscrew the screws fastening the dial, then unscrew and withdraw four screws on top of the cabinet. The chassis will then slide out of the cabinet. Do not remove the screws fastening the bandle brackets to the cabinet. Re-fitting the chassis to the cabinet is the exact reverse procedure to removing it.

LF. TRANS. ALIGNMENT Dummy

No.	Connection	Frequency	Antenna	Instructions
1.	PB832 with 2" x 2"	scrows and : ith the four	wts, then fit serews which f	o the cardboard alignment template alignment template in position on asten the chassis to the cabinet.
2.	To signal grid of 174 IF valve (pin No. 6)	455 Kc/s.	.01 MF mica capacitor in series with generator	Turn wave change switch to b/cast band position. Leave grid wire attached to valve socket. Peak 2nd IFT Pri. and sec. for max. output.
3.	To signal grid	455 Kc/s.	.01 MF mica capacitor in series with generator	Turn cond. gang plates fully out of mesh. Leave grid wire attached to valve Peak 1st IFT pri. and sec. for max. output.
4.	Repeat operations	Nog 2 and 1	ŧ.	

DIAL POINTER SETTING

Fully mesh condenser gang plates and set centre of dial pointer on centre of end of travel mark on dial reading near 540 Kc/s.

BROADCAST BAND ALIGNMENT

Oper No.	r. Generator Connection	Generator Frequency	Instructions
1.	band, connect to	the active t	eiver rod aerial for alignment of the broadcast erminal of the signal generator output approx. which the wire into a vertical position.
2.	Place receiver of dial is upperwood Move the chassis rod aerial point and so that the	nassis with fer t and the ferri to a position s to the 2 ft. Tixed primary	rrite rod aerial attached so that the receiver ite red is horizontal and nearest to the operator. a so that the fixed primary winding end of the of aerial wire attached to the generator output, winding is not closer than 2 ft. from the
	2 ft. of aerial		
	Place the 'B'	batteries in t	heir respective positions at the ends of the
	when fitted into	de the same an	nount of mass around the chassis as exists
3.	Refer para.	600 Kc/s.	Turn cond. gang and dial pointer until centre of dial pointer is on 600 Kc/s. dial mark. Leave
	l and 2		the cond. gang and dial pointer set in this
			position and peak the b/cast band oscl. coil
			inductance trim. (iron core) and the b/cast band
			RF trans. ind. trim. (iron core) from the base
			end of the trans. also peak for max. output the
			secondary trimmer coil on the ferrite rod.
			Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 600 Kc/s.
•			dial mark until after the inductance trimmers
			and the rod trimmer coil have been peaked for max. output.
4.	Refer para.	1470 Ke/s	Turn cond. gang and dial pointer until centre of
	1 and 2	•	dial pointer is on 1470 Kc/s. dial mark. Adjust
			b/cast band oscl. coil trim. cond. for logging
			and peak b/cast band RF trans and ferrite rod trim, conds. for wax. output.
æ	Damast spansettan	e Mag 3 and 4	firm. comes, tot mov. anches.

5. Repeat operations Nos. 3 and 4.

SHORT-WAVE BAND ALIGNMENT 1.6-4.5 Mc/s.

(This band is to be aligned before the higher frequency shortwave bands).

Oper No.	 rator lection	Generator Frequency	Dummy Antenna	Instructions
	iver il aerial rth sockets	1.7 Mc/s.	400 ohm non- inductive resistor	Turn wave change switch to 1.6-4.5 Mc/s. band position. Turn cond. gang and dial pointer until centre of dial pointer is on 1.7 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak 1.6-4.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 1.6-4.5 Mc/s. band antenna and RF trans. ind. trim. (iron cores) for max. output.

ASTOR MODEL AND.

2.	To receiver external aerial and earth sockets	4.2 Mc/s.	400 ohm non- inductive resister	Turn cond. gang and dial pointer until centre of dial pointer is on 4.2 Mc/s. dial mark. Adjust 1.6-4.5 Mc/s. band escl. coil trim. cond. for legging, then peak 1.6-4.5 Mc/s. band antenna and RF trans. trim. cond. for max. cutput.	2.	To receiver external aerial and earth seckets	9 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 9 Mc/s. dial mark. Adjust 4.4-9.2 Mc/s. band oscl. coil trim. cond. for logging, then peak 4.4-9.2 Mc/s. band antenna and RF trans. trim. condensors for max output.
3.	To receiver external aerial and earth sockets	1.7 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 1.7 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position. Repeak 1.8-4.5 Mc/s. band oscl. coil ind. trim. (iron core) then peak the 1.8-4.5 Mc/s. band antenna and RF trans. ind. trim. (iron ceres) for max. cutput. Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 1.7 Mc/s. dial mark until after the ind. trim. (iron cere) of the three coils has been peaked for max. cutput.	3.	To receiver external aerial and earth sockets	4.5 Mc/s	400 ohm non- inductive resistor	furn cond. gang and dial pointer until centre of dial peinter is on 4.5 Mc/s. dial mark. Leave cond. gang and dial pointer set in this position. Repeak 4.4-9.2 Mc/s. band oscl. coil. ind. trim. (iron core) then peak the 4.4-9.2 Mc/s. band ant. and RF trans. ind. trimmers (iron cores) for max. output. Do not rock the cend. gang or dial pointer to and fro through the signal while adjusting or move them off the 4.5 Mc/s. dial mark until after the ind. trim. (iron core) of the three coils has been peaked for max. output.
4.	To receiver external aerial and earth sockets	4.2 Mo/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 4.2 Mc/s. mark on dial. Readjust 1.6-4.5 Me/s. band escl. coil trim cond. for logging, then repeak 1.6-4.5 Mc/s. band antenna and RF trans. trim. condensers for max. cutput. Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim.	4.	To receiver external social and earth seckets	9 Nc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is en 9 Mc/s. dial mark. Readjust 4.4-9.2 Mc/s. band escl. coil trim. cend. for legging, then repeak 4.4-9.2 Mc/s. band antenna and RF trans. trim. cends. for max. output. Rock cend. gang to and fro through the signal while adjusting the antenna and RF trans. trim. cendensers.
5.	To receiver external serial and earth sockets	3 Nc/s.	400 chm non- inductive resistor	conds. Check tracking at 3 Mc/s.	5.	To receiver external aerial and earth seckets.	6.5 Nc/s.	400 ohm non- inductive resister	Check tracking at 6.5 Mc/s.

SHORT-WAVE BAND ALIGNMENT 4.4-9.2 Mc/s.

1. To receiver external aerial and earth sockets 4.5 Mc/s.

inductive resistor

400 ohm non- Turn wave change switch to 4.4-9.2 Mc/s. band position. Turn cond. gang and dial pointer until centre of dial pointer is on 4.5 Mc/s. mark on dial. Leave cond. gang and dial pointer set in this position and peak the 4.4-9.2 Mc/s. band oscl. coil ind. trim. (iron core) and the 4.4-9.2 Mc/s. band antenna and RF trans. ind. trim (iron cores) for max. output.

SHORT-WAVE BAND ALIGNMENT 9.1-14.5 Mc/s.

1. To receiver external serial and earth sockets

resistor

9.6 Mc/s. 400 ohm non-inductive 9.1-14.5 Mc/s. band position. furn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position, and peak the 9.1-14.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 9.1-14.5 Mc/s. band antenna and RF trans. ind. trim. (iron cores) for max. output.

ASTOR MODEL ANP.

J. To exist act act act act act act act act act ac				on 15.2 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak the 14.4-18.3 Mc/s. band oscl. coil ind. trim. (iron core) and the 14.4-18.3 Mc/s. band antenna and RF trans. ind. trimmers (iron cores) for max.	1.	S/wave bands	1.6- 4.5 M 4.4- 9.2 M 9.1-14.5 M 14.4-18.3 M T-WAVE COIL	c/s. c/s. c/s. c/s. IDENTIFICATI
3. To exact the second	e rial and arth sockets		inductive resistor	14.4-18.3 Mc/s. band position. Turn. cond. gang and dial pointer until centre of dial pointer is	_	B/cast band	TUNING RA	NGE AFTER A
3. To exact the second	o external		400 ohm non-	ENT 14.4-18.3 Mc/s. Turn wave change switch to	6.	Remove control chassis to the		gnment template
3. To example of the state of t	erth sockets					external aerial and earth sockets		inductive resistor
3. To	To receiver external and earth sockets To receiver external erial and earth and earth sockets	·	400 ohm non- inductive resistor 400 ohm non- inductive resistor	Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 9.6 Mc/s. dial mark until after the ind. trim. (iron core) of the three coils has been peaked for max. output. Turn cond. gang and dial pointer until centre of dial pointer is on 14.2 Mc/s. mark on dial. Readjust 9.1-14.5 Mc/s. band oscl. coil trim. cond. for logging, then repeak 9.1-14.5 Mc/s. band antenna and RF trans. trim. cends. for max. cutput. Rock the cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. cends. Check tracking at 11.8 Mc/s.	~;	To receiver external aerial and earth sockets	18 Mc/s. 16.2 Mc/s.	400 ohm non- inductive resistor 400 ohm non- inductive
	To receiver external aerial and earth sockets	9.6 Mc/s.	400 ohm non- inductive resistor	max. output. Turn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position and repeak the 9.1-14.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 9.1-14.5 Mc/s. band ant. and RF trans. ind. trimmers (iron cores) for max. output.	3.	To external aerial and earth sockets	15.2 Wc/s.	400 ohm non- inductive resist>r
630	To receiver actornal cerial and earth sockets	14.2 Nc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 14.2 Mc/s. dial mark. Adjust 9.1-14.5 Mc/s. band osel. coil trim. cond. for logging, then peak 9.1-14.5 Mc/s. band ant. and RF trans. trim. conds. for	2.	To external aerial and earth sockets	18 Mc/s.	400 ohm non- inductive resistor

output.

2.	To external aerial and earth sockets	18 Mc/s.	400 ohm non- inductive resister	until centre of dial pointer is en 18 Mc/s. dial mark. Adjust 14.4-18.3 Mc/s. band oscl. coil trim. cend. for logging, then peak 14.4-18.3 Mc/s. band antenna and RF trans. trim. cends. for
3.	To external aorial and earth sockets	15.2 Nc/s.	400 ohm non- inductive resister	max. output. Turn cond. gang and dial pointer until centre of dial pointer is on 15.2 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position and repeak the 14.4-18.3 Mc/s. band osel. coil ind. trim (iron core) and the 14.4-18.3 Mc/s. band ant. and RF trans. ind. trimmers (iron cores) for max. output. Do not rock the cond. gang to and fro through the signal or move the dial pointer off 15.2 Mc/s. dial mark until after the ind. trimmer (iron core) of the three coils has been peaked for max. output.
4.	To receiver external acriel and earth sockets	18 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and d.al pointer until centre of dial pointer is on 18 Mc/s. mark on dial. Readjust 14.4-18.3 Mc/s. band osci. trim. cond. for logging, then repeak 14.4-18.3 Mc/s. band antenna and RF trans. trim. conds. for max. output. Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. conds.
5.	To receiver external aerial and earth sockets	16.2 Mc/s.	400 ohm non- inductive resistor	
6.			gnment templat	e from the chassis, then refit the
	7	TUNING RA	NGE AFTER	ALIGNMENT
	B/cast band	635-1610 K	c/s.	
	S/wave bands	1.6- 4.5 M		
	•	4.4- 9.2 M		
		9.1-14.5 M	ic/s.	
		14.4-18.3 M		
			-	

SHORT-WAVE COIL IDENTIFICATION SPOT COLOURS

RF ,, (L201) RED & WHITE Oscl. ,, (L200) RED

spots on iron core end of former

spot ,, ,, ,, ,, ...

4.4- 9.2 Mc/s. band aerial coil (PT913) WHITE Spot on iron core end of former .. (PT913) WHITE 17 21 22 27 21 11 17 (L202) WHITE Dacl. 9.1-14.5 Mc/s. band aerial coil (L204) BLACK & WHITE spots on iron core end of former .. (L204) BLACK & WHITE (L203) BLACK Osel. spot ,, ,, ,, ,,,, 14.4-18.3 Mc/s. band aerial coil (L206) YELLOW & WHITE spots on iron core end of former .. (L206) YELLOW & WHITE (L205) YELLOW Oscl. Spot . .

NOTE 1: Pin No. 5 on the external battery lead socket connects to the output valve plate. The output meter may be connected between this pin and the chassis.

NOTE 2: Check the logging of the shortwave bands on some well known shortwave stations. If a crystal calibrator is available, check the logging at several 100 Kc/s, marks on the dial.

NOTE 3: If the dial pointer does not log correctly after refitting the chassis to the cabinet, remove the dial reading from the cabinet and hold the tuning spindle with one hand; with the other hand, slide the base end of the pointer the required distance. Refit dial reading and recheck logging.

FERRITE ROD AERIAL

PRIMARY - (fixed winding 5 turns)

Lead from end turn nearest end of rod-Lead from end turn nearest to secondary-

CHASSIS AERIAL LOADING COIL

SECONDARY - (fixed winding)

Lead from end turn nearest to fixed primary- GRID

Lead from end turn nearest to sec. trim coil- JOINED TO LEAD FROM SEC. TRIM. COIL END TURN NEAREST FIXED SEC.

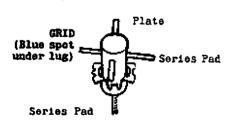
SECONDARY TRIMMER COIL - (movable winding)

Lead from end turn nearest to fixed secondary-JOINED TO LEAD FROM FIXED SEC. END TURN NEAREST SEC. TRIM COIL.

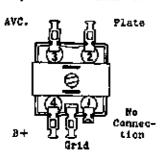
Lead from end turn nearest end of rod-

AVC.

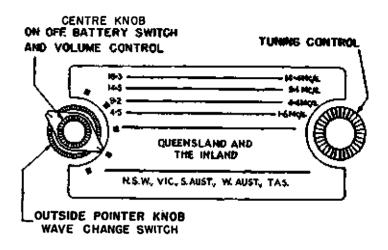
B/CAST. OSCL. COIL



B/CAST. RF. TRANS.



16.



FOR OPERATION FROM:

1.5 volts ''A'' Battery

90 volts ''B'' Battery (two 45 volt ''B'' Batteries in series)

CURRENT CONSUMPTION:

''A'' Battery 350 milliamps

"B" Battery 12.5 milliamps (no signal)

POWER OUTPUT:

250 Milliwatts - max.

100 Milliwatts - undistorted.

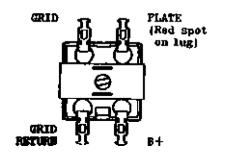
INTERMEDIATE FREQUENCY:

455 Ko/s.

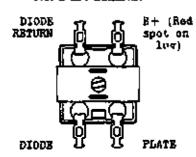
TUNING RANGES:

Broadcast Band:- 535-1610 Ke	
Shortwave 1.6- 4.5 Mc 4.4- 9.2 Mc 9.1-14.5 Mc 14.4-18.3 Mc	/s. 187.5 - 66.66 Metres /s. 68.18- 32.60 Metres /s. 32.96- 20.68 Metres /s. 20.83- 16.39 Netres

No. 1 IF. TRANS.



No. 2 IF. TRANS.



SHORT-WAVE ANT, TRANS.

Lead from top lug (iron core end):

Lead from bettom lug (mounting end):

SHORT-WAVE RF. TRANS.

Lead from top lug (iron core end):

Lead from bottom lug (mounting end):

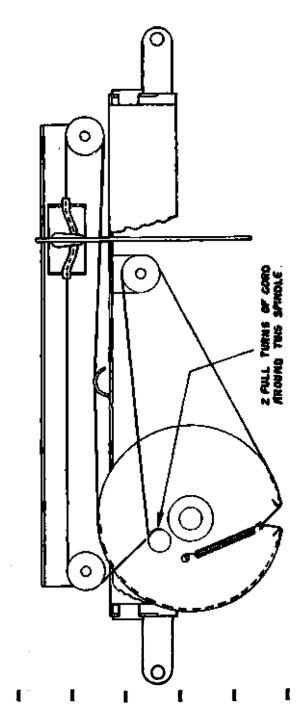
SHORT-WAVE OSCL. COILS

SECONDARY-lead from bottom lug (mounting end)-CHASSIS lead from top lug (iron core end)-GRID

PRIMARY- lead from bottom lug (mounting end)-OSCL. PLATE lead from top lug (iron core end)-JUNCTION OF .05 MF. COND. AND 22K
OHM RESISTOR CIRCUIT Nos. 6 AND 72.

RF. AND IF. TRANSFORMERS

- A. The RF transformer part No. PT890 has been changed to an RF. transformer part No. L220. The base connections and method of mounting the transformers are identical.
- B. The lst IF. transformer part No. PT864 has been changed to an IF. transformer part No. L216. The base connections and method of mounting both transformers are identical.
- C. The 2nd IF. transformer part No. PT869 has been changed to an IF. transformer part No. L218. The base connections and mounting are identical for both types. The IF. transformer L218 has no condensers connected internally; therefore, when using the IF. transformer L218 a 70 MNF tubular ceramicon condenser tol. +2%% -5% part No. C209 is to be wired across the primary base lugs and a 70 MMF cond. part No. C209 is to be wired across the secondary base lugs. The condensers are to be close to the chassis and the coloured spot end of the condensers is to be wired to the B+ lug of the primary and the AVC diode return lug of the secondary.



CORDING OF DIAL DRIVE

which includes about cord required is 4 ft. Jins, tying to the tension spring.

Cord, Part No. 34/75





RADIO CORPORATION PTY. LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

BULLETIN-ANR-1 File: RECEIVERS BATTERY

Date: 10-1-57

Paga 1

MODEL "ANR"

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33-1/3 r.p.m.) and an 8 Valve Superheterodyne Five Band Receiver.

FOR OPERATION FROM: -32 volt D.C. Supply.

CURRENT CONSUMPTION:--

Radio Operation: 0.85 Amps.

(Does not include dial lamps, cabinet indicator lamp or wave band indicator

lamp)

1.1 Amps.

[Includes three dial lamps, one cabinet indicator lamp and one wave band indicator lamp all wired in series. Each lamp

6-8V. 0.25 Amp. Part No. PM678.)

Gramo Operation: 1.6 Amps.

(Includes three dial lamps, one cabinet indicator lamp and one wave band indicator lamp.)

Total

INTERMEDIATE FREQUENCY: 455 Kc/s.

TUNING RANGES:

Broadcast Band			-188.3	Metras
/	1.6- 4.5 Mg 4.4- 9.2 Mg	c/s. 187.5	- 66.66	
			32.60	Metres
Tuning Ranges	9.1-14.5 Mc	o/s. 32.96	- 20.68	
	14.4-18.5 Mc	c/s. 20.83	- 16.39	Metres

THIS BULLETIN CONTAINS:

Technical Specifications. Alignment Procedure. Circuit Diagram.

Connections for IF and RF Transformers. Valve Placement Diagram. Dial Drive Cording Diagram.

CHASSIS SERIAL NUMBER:

 Open record changer door and remove screw ''A'' located in record changer compartment - refer diagram on page 12.

 Pull cabinet receiver door forward to approx. 45° then remove far end of hook-on tension spring from anchor bolt on inside of cabinet.

 Lower receiver door to a horizontal position and rest the door on a padded stool.

4. The serial number is situated on the top flat section of the chassis at the left end just beneath the cartridge fuse mounted on the lip of the chassis.

5. Refit hook-on tension spring to anchor bolt and reflt screw "A."

SHORT-WAVE ANT. TRANS.

Lead from top lug (iron core end):
GRID

Lead from bottom lug (mounting end):
AVC

SHORT-WAVE RF. TRANS.

Lead from top lug (iron core end):
GRID

Lead from bottom lug (mounting end): CHASSIS

SHORT-WAVE OSCL, COILS

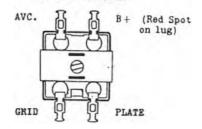
SECONDARY-

lead from bottom lug (mounting end)-CHASSIS lead from top lug (from core end)-GRID

PRIMARY-

lead from bottom lug (mounting end)-OSCL. PLATE lead from top lug (iron core end)-B $_{i}$

No. 1 IF. TRANS.



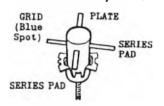
ANTENNA TRANS. B/CAST



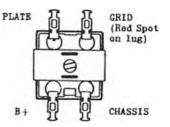
RF. TRANS. B/CAST.

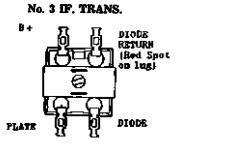


OSCL. COIL B/CAST.



No. 2 IF. TRANS.





DRIVER TRANS.

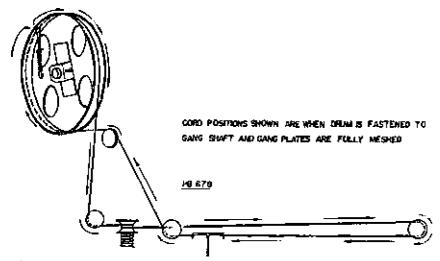
PRI. Red - B+
Blue - Plate

SEC. Yellow- Grid Red - Chassis

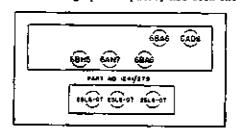
Green - Grid

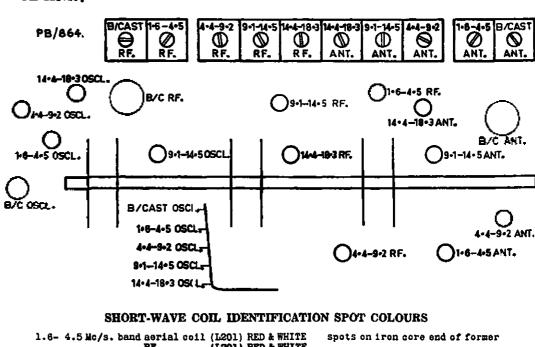
CORDING OF DIAL DRIVE

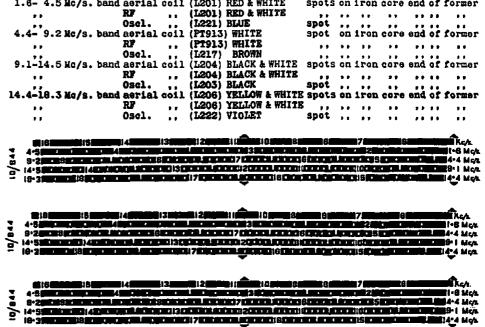
Length of cord required is 5 ft. 6 ins. which includes about 6 ins. to spare for tying to the tension spring. Cord part No. 34/754. Tension Spring part No. 21/698

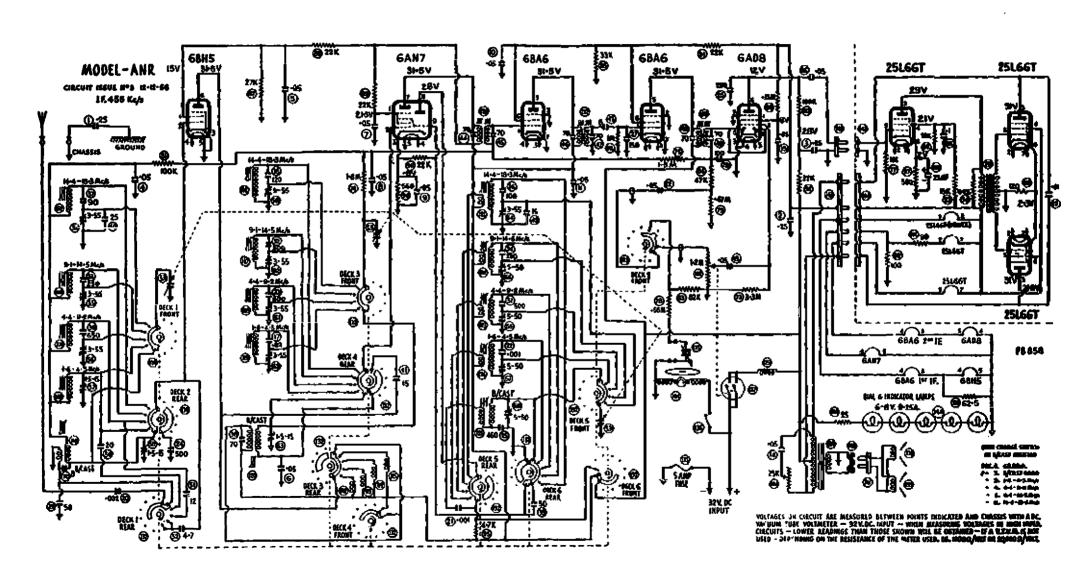


NOTE .- One turn shown around tuning spindle pulley has been increased to two turns.









Oper-

ation Generator

ASTOR MODEL ANR.

		ALIG	NMENT	Instruct	TONS	
(LIG	nment cond	ITIONS:		EQUIPME	NT:	
Load Impedance: Output Level: Vol. Control: Tone Control: Intermediate freq.: BC. Supply:		5,000 Ohms 50 milliwatts Max. vol. (fully clockwise). Treble position 485 Kc/s. 32 Volt DC. Mains		Signel Generator Output Meter Mica Capacitor— Dummy Antenna— Dummy Antenna— IF. Attenuator— Alignment tools—		0.01 MFD. 200MMFD Mica capacitor 400 Ohm. non inductive resister Part No. M174 (.004MFD and 20K ehm resister in series) Part No. M195 and PM561
		IF.	TRANS.	ALIGNME	NT	
Oper- ation No.	Generator Connection	Generator Frequency	Dumy Aptema	I	estruoti	ons
1. 2. 3.	Remove receiv	er dial bac	ikground i	plate from mice T or in b	chassis urn wave and. Le	change switch to B/east. ave grid wire attached

2.	Remove roce	iver dial become at each er	ikground plate fi	rom chassis which is fastened by
3.	To centrel grid of 6BA6 2nd	456 Ke/s.	0.01MTD. mice capacitor in series with	Turn wave change switch to B/cast. band. Leave grid wire attached to valve socket. Peak 3rd IF.
4.	IF. valve pin No. 1 To control grid of 6846 lst	456 Kc/s.	generator 0.01MFD mica capacitor in series with	trans. pri. and sec. for max. output. Leave grid wire attached to valve socks. Peak 2nd IF. trans. pri. and sec. for max. cutuat.

6BA6 1st series with 1F. valve generator pin 80. 1
To control 455 Kc/s. 0.01MFD mica capacitor in 6AB7 valve series with pin 80. 2

Generator

Cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak lat IF. trans. pri. and sec. for mex. output.

BROADCAST BAND ALIGNMENT

<u> </u>	COUNTAGETON	*Lednerich	Antenna	Instructions
1.	raba tore red	a comunat 186	lion where	/844 refer page 15), with clear adhesive the dial pointer slides. The template placed central between the two control
2.	abructes and	move the parties of t	ointer bas	e. n control grid (pin No. 1) of 2nd 6BA6

 Set centre of dial pointer on centre of end of travel mark on dial reading template near 550 Kc/s., cond. gang plates fully meshed.

4.	To antenna terminal.	600 Kc/s.	200MMPD. Mica capacitor in series with generator.	Turn gang and dial pointer until dial pointer is on 600 Kc/s. dial mark. Leave the gang and dial pointer set in this position and peak the B/cast oscl. coil. ind. trim (iron core) for max. eutput.
5.	To antenna terminal.	1400 Kc/s.	200MMFD. Mica capacitor in series with generator.	Turn gang and dial pointer to 1400 Ke/s. dial mark. Adjust B/cast osel. coil trim. cond. for logging and peak B/cast ant. and RF. trans. trim. condensors for max. output.
6.	To antenna terminal.	600 Kc/s.	200MMFD. Mica capacitor in series with generator.	Turn gang and dial pointer to 800 Kc/s. dial mark. Leave the gang and dial pointer set in this position. Re-peak the B/cast oscl. coil ind. trim. (iron core) then peak the B/cast ant. and RF. trans. ind. trimers (iron cores) for max. entput. De not rock the gang to and fro through the signal while adjusting or move the dial pointer off 600 Kc/s. dial mark until after the inductance trimmers of these three transformers have been peaked for max. output.
7.	To antenna terminal	1400 Ko/s.	200 MATD. Mica capacitor in series with generator.	Repeat operation No. 5.

SHORT-WAVE BAND ALIGNMENT 1.6-4.5 Mc/s.

(This band is to be aligned before the higher frequency shortwave bands).

Oper- ation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions			
1.	To antenna terminal	1.7 No/s.	400 ohm non- inductive resister	Turn wave change switch to 1.6-4.5 Mo/s. band position. Turn cond. gang and dial pointer until centre of dial pointer is on 1.7 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak 1.6-4.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 1.6-4.5 Mc/s. band antenna and RF trans. ind. trim. (iron cores) for max. output.			
2.	To antenna terminal	4.2 Mc/s.	400 ohm non- inductive resister	Turn cond. gang and dial pointer until centre of diel pointer is on 4.2 Mc/s. dial mark. Adjust 1.6-4.5 Mc/s. band oscl. coil trim. cond. for logging, then peak 1.6-4.5 Mc/s. band antenna and RF trans. trim. conds. for max. output:			

3.	To antenna terminal	1.7 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 1.7 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position. Repeak 1.6-4.5 Mc/s. band oscl. coil ind. trim. (iron core) then peak the 1.6-4.5 Mc/s. band antenna and RF trans. ind. trim. (iron cores) for max. cutput. Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 1.7 Mc/s. dial mark until after
4.	To antenna terminal	4.2 Mc/s.	400 ohm non- inductive resistor	the ind. trim. (iron core) of the three coils has been peaked for max. output. Turn cond. gang and dial pointer until centre of dial pointer is on 4.2 Mc/s. mark on dial. Readjust 1.6-4.5 Mc/s. band oscl. coil trim cond. for logging, then repeak 1.6-4.5 Mc/s. band antenna and RF trans. trim. condensers for max. output.
5.	To antenna terminal	3 Mc/s.	400 ohm non- inductive resistor	Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. conds. Check tracking at 3 Mc/s.

SHORT-WAVE BAND ALIGNMENT 4.4-9.2 Mc/s.

1.	To antenna terminal	4.5 Mc/s.	400 ohm non- inductive resistor	Turn wave change switch to 4.4-9.2 Mc/s. band position. Turn cond. gang and dial pointer until centre of dial pointer is on 4.5 Mc/s. mark on dial. Leave cond. gang and dial pointer set in this position and peak the 4.4-9.2 Mc/s. band oscl. coil ind. trim. (iron core) and the 4.4-9.2 Mc/s. band antenna and RF trans. ind. trim (iron cores) for max.
2.	To antenna terminal	9 Mc/s.	400 ohm non- inductive resistor	output. Turn cond. gang and diel pointer until centre of diel pointer is on 9 Mc/s. diel mark. Adjust 4.4-9.2 Mc/s. band oscl. coil trim. cond. for logging, then peak 4.4-9.2 Mc/s. band antenna and RF trams. trim. condensers for max. output.

3.	To antenna terminal	4.5 Mc/s.	400 ohm nou… inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 4.5 Mc/s. dial mark. Leave cond. gang and dial pointer set in this position. Repeak 4.4-9.2 Mc/s. band tsci. coil. ind. trim. (iron core. then peak the 4.4-9.2 Mc/s. hand ant. and RF trans. ind. trimmers (iron cores) for max. catput. Do not rock the cond. gang or dial pointer to and fro through the signal while adjusting or move them off the 4.5 Mc/s. dial mark until after the ind. trim. (iron core) of the three coils has been peaked for max. output.
4.	To antenna terminal	9 Ma/s.	400 ohm non- inductive resister	Turn cond. gang and dial pointer until centre of dial pointer is on 9 Mc/s. dial mark. Readjust 4.4-9.2 Mc/s. band oscl. coil trim. cond. for logging, then repeak 4.4-9.2 Mc/s. band antennand RF trans. trim. conds. for max. output. Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. condensers.
5.	To antenna terminal	6.5 Mc/s.	400 ohm non- inductive resistor	Check tracking at 6.5 Mc/s.

SHORT-WAVE BAND ALIGNMENT 9.1-14.5 Mc/s.

•	To antenna terminal	9.6 Mc/s.	400 ohm non- inductive resistor	Turn wave change switch to 9.1-14.5 Mc/s. band cosition. Turn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position, and peak the 9.1-14.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 9.1-14.5 Mc/s. band antenna and RF trans. ind. trim. (iron cores) for max. output.
2.	To antenna terminal	14.2 Mg/B.	400 ohm non- inductive resister	Turn. cond. gang and dial pointer until centre of dial painter is on 14.2 Mc/s. dial mark. Adjust 9.1-14.5 Mc/s. band oscl. coil trim. cond. for logging, then peak 9.1-14.5 Mc/s. band ant. and RF trans. trim. conds. for gax. output.

· .	To antenna terminal	9.6 Mc/s.	400 ohm non- inductive resister	Turn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position and repeak the 9.1-14.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 9.1-14.5 Mc/s. band ant. and RF trans. ind. trimmers (iron cores) for max. output. Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 9.6 Mc/s. dial mark until after the ind. trim. (iron core) of the three coils has been peaked for
•	To antenna terminal	14.2 Mc/s.	400 ohm non- inductive resistor	max. eutput. Turn cond. gang and dial pointer until centre of dial pointer is on 14.2 Mc/s. mark on dial. Readjust 9.1-14.5 Mc/s. band oscl. coil trim. cond. for logging, then repeak 9.1-14.5 Mc/s. band antenna and RF trans. trim. conds. for max. output. Rock the cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. conds.
•	To entenna terminal	11.8 Mc/s.	400 ohm non- inductive resistor	Check tracking at 11.8 Mc/s.
	SE	ORT-WAVE	BAND ALIGNM	ENT 14.4-18.3 Mc/s.
		10 5 4 4		•

1.	To antenna terminal	15.2 Mc/s.	400 ohm non- inductive resistor	Turn wave change switch to 14.4-18.3 Mc/s. band position. Turn. cond. gang and dial pointer until centre of dial pointer is on 15.2 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak the 14.4-18.3 Mc/s. band oscl. coil ind. trim. (iron core) and the 14.4-18.3 Mc/s. band antenna and RF trans. ind. trimmers (iron cores) for max. output.
2.	To antenna terminal	18 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 18 Mc/s. dial mark. Adjust 14.4-18.3 Mc/s. band oscl. coil trim. cond. for logging, then peak 14.4-18.3 Mc/s. band antenna and RF trans. trim. conds. for max. output.

4.	To anterna To anterna terminal	15.2 Ma/s.	400 ohm non- inductive resistor 400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 15.2 Mc/s. dial mark. Leave the cond. gang and dial pointer set is this position and repeak the 14.4-18.3 Mc/s. band oscl. coil ind. trim (iron core) and the 14.4-18.3 Mc/s. band ant. and RF trans. ind. trimmers (iron cores) for max. output. Do not rock the cond. gang to and fro through the signal or move the dial pointer off 15.2 Mc/s. dial mark until after the ind. trimmer (iron core) of the three coils has been peaked for max. output. Turn cond. gang and dial pointer until centre of dial pointer is on 18 Mc/s. mark on dial.
				Readjust 14.4-18.3 Mc/s. band oscl. trim. cond. for logging, then repeak 14.4-18.3 Mc/s. band antenna and RF trans. trim. conds. for max. output. Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. conds.
5.	To antenna terminal	16.2 Mc/s.	400 ohm non- inductive resistor	Check tracking at 16.2 Mc/s.
6.	Remove contro	l knobs, IF	. attenuator and	alignment template, then refit

- Remove control knobs, IF. attenuator and alignment template, then refit chassis to cabinet.
- 7. If the dial pointer does not log correctly with the stations marked on the b/cast section of the dial in the cabinet, remove the chassis from the cabinet and slide the pointer to the left or right the distance required to correct the logging, then refit the chassis.

TUNING RANGE AFTER ALIGNMENT

B/cast band	535-1610 Kc/s.
S/wave bands	1.6- 4.5 Mc/s.
•	4.4- 9.2 Mc/s.
	9.1-14.5 Mc/s.
	14 4-10 7 Ma/a

SHORT-WAVE COIL IDENTIFICATION SPOT COLOURS

1.6- 4.5 Mc/s. band					spots	on	iron	COLG	ezd	οſ	former
**	RF		(L201) I	red & White		.,				.,	
4.4- 9.2 Nc/s. band	Oscl.		(L221)	BLUE	spot		• •	• •			former
					spot	OΠ	iron	COLG	end	o f	former
			(PT913)			• •		• •			
• •	Oscl.	.,	(L217)	BROWN			* *			• •	

RADIO CORPORATION PTY. LTD. File: Receivers

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4. File: Receivers
Bulletin: APK-1
Date: 184.58
Page: 1



MANTEL MODEL— APK 4 VALVE SUPERHETERODYNE BROADCAST RECEIVER

FOR OPERATION FROM: -

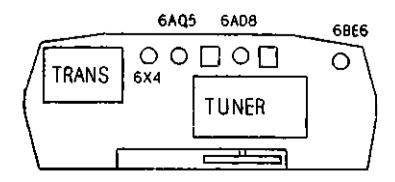
200-240 Volt 50 Cycle Supply Mains (Power Transformer PT938)
Power Trans. Primary Mains Tap - common
" " " - 200 Volt mains
" " - 230 & 240 Volt mains

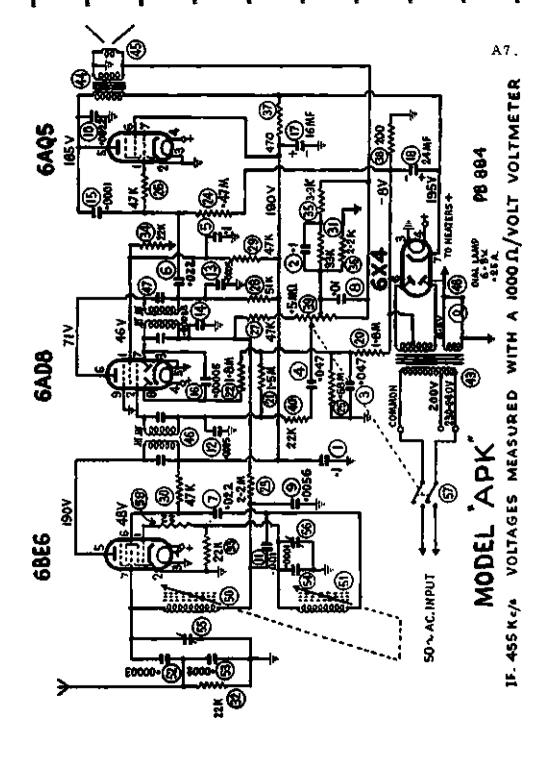
230-250 Volt 40 & 50 Cycle Supply Mains (Power Transformer PT939)
Power Trans. Primary Mains Tap - common

" " " - 230 Volt mains.
" " " - 250 Volt mains

POWER CONSUMPTION: - 40 Watts approx.

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





A7a.

ALIGNMENT PROCEDURE:

POTTEMPNE.

Alignment Tools: Type M195 and PM581

EQU	TEMBRI.	With Quarter Countitories			
Signal Generator Output Meter:		Load impedance: Output Level:	5.500 ohms 50 Milliwatts		
Mica Capacitor:	0.01MF (for IF. trans.alignment)	Vol. Control: Intermed. Freq:	Max. Vol. fully clockwise 455 Kc/s.		
Dummy Antenna	200MMF Mica capacitor	Input Voltage	230 Volt 50 Cycle AC. input to trans. 230-240 volt pri.		

ALTONORNO CONDITOTORS

tap.

NOTE 1:

Dummy Antenna: The 200MMF dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment. The dummy antenna 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 into a small hank.

NOTE 2:

All alignment points are accessible when the rear section of the cabinet is removed from the front section as detailed on page 8.

NOTE 3:

3.

Both iron cores in the perm. tuner are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet, and the end of the iron core in the former, when the unit spindle is turned fully anti-clockwise and the unit is hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

IF. TRANS. ALIGNMENT

Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To control grid of 6AD8 valve (pin No. 2)	455 Kc/s.	O.OlMF Mica capacitor in series with generat	Leave grid wire attached to valve socket. Peak 2nd IF. 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 gen- erator	Turn dial/tuning knob anti- clock- wise until perm. tuner iron cores are out of the windings on coil formers and the unit is hard agianst the stop. Leave grid wire attached to valve socket. Peak 1st IF. trans. pri. and sec. for max. output.

Repeat operations No. 1 & 2

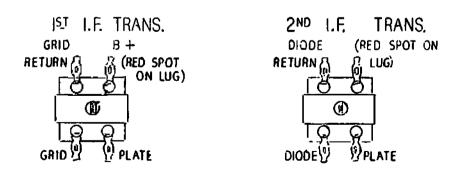
DIAL POINTER SETTING

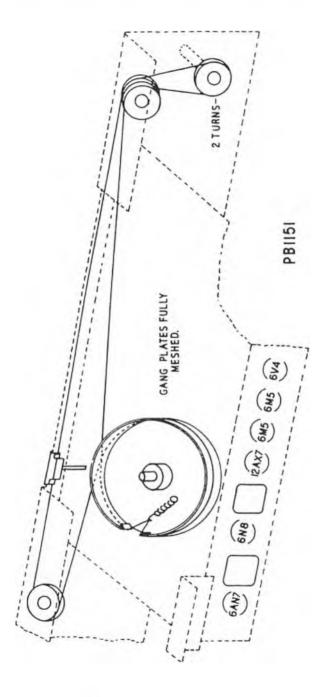
- Remove push-on type knob in centre of tuning knob. A piece of thin cord slid behind the knob in the form of a loop and pulled from the front is a convenient means of removing push-on type knobs.
- Loosen the three ½" x 3/32" CSK Head screws fastening locating washer and clear dial cover.
- 3. Turn perm tuner spindle fully anti-clockwise until the unit is hard against the stop.
- 4. Turn clear dial cover until centre of line on dial cover aligns with end of travel spot on dial reading near 1700 Kc/s.
- 5. Tighten the three 3/32" screws then refit push-on type centre knob.

B/CAST ALIGNMENT

Operat No.	ion Generator Generator Connection Frequenc		Instructions
1.	To antenna 1000 Kc/s. junction lug on chassis	20CAMF Mica capacitor in series with generator	Turn tuning dial knob and perm- tuner until dial pointer aligns with centre of alignment spot on dial reading at 1000 Kc/s. Peak oscl. coil trimmer cond., then peak antenna coil trimmer cond. for max. output. Re-peak oscl. coil trim condenser.

- Check logging at each end of the dial. Tuning range after alignment 535-1640 Kc/s.
- 3. Refit rear section of cabinet





ASTOR

RADIO CORPORATION PTY, LTD.

123-130 GRANT STREET, SOUTH MELBOURNE S.C.4

TECHNICAL BULLETIN

File: Receivers AC.

BULLETIN: AQL-1

Date: 16-8-60

Page: 1

PLAY-GRAM MODEL "AQL"

3 VALVE SUPERHETERODYNE BROADCAST RECEIVER AND A 4 SPEED (16-2/3, 33-1/3, 45 and 78 R.P.N.) SINGLE RECORD PLAYER.

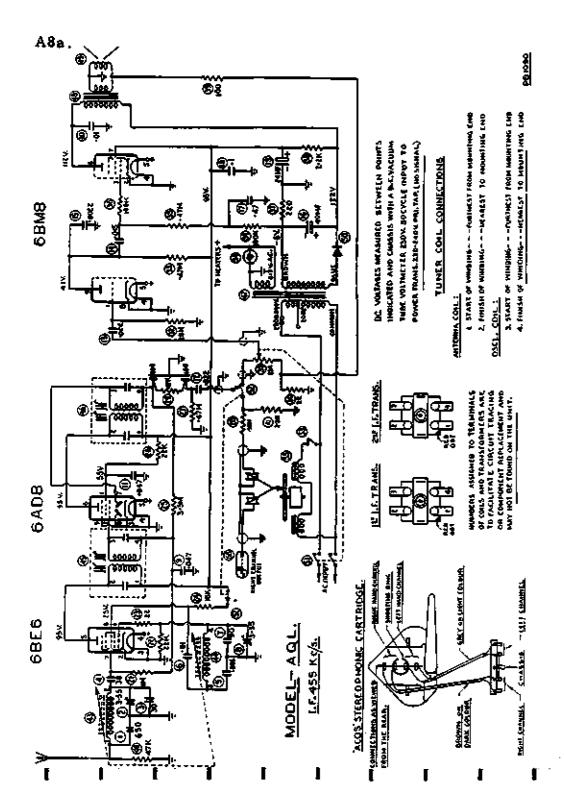
PICK-UP ARM FITTED WITH A STEREO CARTRIDGE.

The right channel output from pick-up cartridge in terminated in a bayonet socket located on the rear of the cabinet. Before playing stored recordings the input of an external amplifier/speaker unit (Model "AST") is to be connected to this socket.



THIS BULLETIN CONTAINS:

- 1. Service Instructions Electrical.
- 2. Service Instructions Mechanical.
- 3. Component Parts List.
- 4. Chassis Serial Number.
- 5. Valve Placement Diagram.
- 6. Circuit Diagram.



MODEL - AQL

FOR OPERATION FROM:

PCWER CONSUMPTION:

Radio Operation: 20 Watts - approx. Gramo Operation: 40 Watts - approx.

TUNING RANGE:

Signal Generator:

Output Meter

NOTE:

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

SERVICE INSTRUCTIONS — electrical

ALIGNMENT PROCEDURE.

modulated 400 C.P.S.

EQUIPMENT:

ALIGNMENT CONDITIONS

7000 ohms

50 Milliwatts

Load Impedance:

Output Level

" -black 250V. mains.

Mica Capacitor : 0.01 MF (for IF. Vol. Control : Max. Vol. fully trans. alignment) clockwise Dummy Antenna 200MMF Nice 455 Kc/s. Intermed. Freq: capacitor Input Voltage : 230 Volts. Straight Alignment 50 Tycle AC. Tool: Type PM581 input to trans. 230-240 volt. Flexible Alignment Tool: Type 48/712 ori. tan. Gramo/Radi Radic position. Ewitch: (clockwise)

IF. TRANSFORMER ALLUMMENT

Remove the record player turntable from its spindle.

Removal instructions are detailed in the Service Instruction (mechanical) section of the bulk tin.

The receiver chassis does not have to be removed from the cabinet for alignment purposes.

2.

Oper. No.	Generator Connection	Generator Frequency	Dumny Antenna	Instructions
1.	To control grid of 6AD8 valve (pin No.2)	455 Kc/s.	O.OIMF Mica capacitor in series with generator	leave grid wire attached to valve socket. Peak 2nd IF. 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 tuning drum until perm. tuner iron cores are out of the windings on coil formers and the unit is hard against the stop. Leave the grid wire attached to valve socket. Peak lat IF. trans. pri. and sec. for max. output.

Repeat operations 1 and 2.

DIAL DRUM SETTING

Turn dial drum toward the rear of plastic mount plate until the perm. tuner iron cores are out of the windings on the coil formers and the unit is hard against the stop. The end of travel spot on dial reading near 1700 Kc/s. is to align with the indicator lines moulded on the top of the plastic mount plate. The dial drum is adjusted by loosening off the screw through the slot in the drum.

BROADCAST ALIGNMENT

- NOTE: 1. Dummy Antenna: The 20CART dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment. The dummy antenna 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 the 25 ft. antenna is connected it must be relied into a small hank.
- NOTE: 2. The antenna and oscillator trimmer condensers are accessible through the two holes in the plastic mount plate on the right hand side of the control knobs. The cscillator trimmer being nearest to the front edge of the mount plate.
- NOTE: 3. Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet, and the end of the iron core in the former, when the unit is turned hard against the stop. If incorrect logging and misalignment are to be avoided no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

Oper.	Generator Connection	Generator Frequency	Dumny Antenna	Instructions
1.	To antenna junction lug on chassis	1000 Kc/s.	200 MAF Mica capacitor in series with generator	Turn tuning drum until alignment spot at 1000 Kc/s, aligns with moulded indicator lines on top of plastic mt. plate. Peak oscl. trim. cond. then peak antenna coil trimmer cond. for max. output. Repeak oscl. coil trim cond.

- 2. Tuning range after alignment 535 1640 Kc/s.
- 3. Refit plastic mount plate with receiver attached to the cabinet.

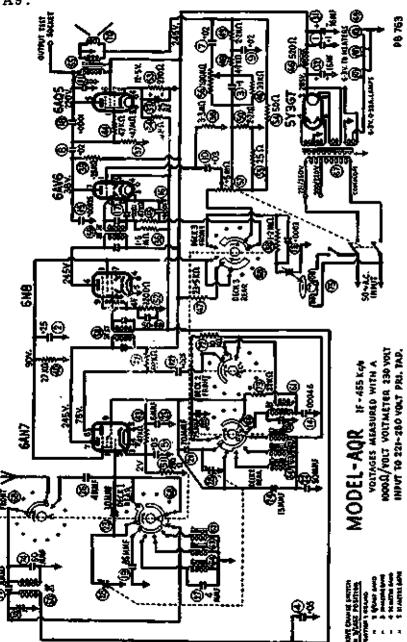
SERVICE INSTRUCTIONS—mechanical

1. TO OPEN BASE SECTION OF CABINET

- A. Open lid of cabinet by pressing two lid release buttons one located on each side of the cabinet.
- B. Place pick-up arm on rest pillar and secure it to rest pillar wire spring clip attached to rest pillar.
- C. Unscrew and remove two screws located near edge of cabinet between control knobs. The other located near edge of cabinet close to speaker grille.
- D. Close lid and turn cabinet completely over then open base lid section of cabinet.

TO REMOVE TURNTABLE FROM RECORD PLAYER UNIT

- A. Open the base section of cubinet as detailed in para. 1.
- B. The base end of the turntable spirale fits into a three point mount die-cast housing. On the side of this housing is a leaf spring the free end of which fits into a groove in the turntable centre boss. This prevents the turntable sliding off the spindle when the unit is inverted.
- C. To release the turntable to allow it to slide off the spindle insert a screwdriver between the housing and the spring then lever the spring slightly outward.
- D. When the spring has been disengaged from the turntable open the top lid and remove turntable from interior of cabinet.





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

Bulletin: AQR-1.
File. Receivers AC.
Date: 22-3-55.

MODEL AOR

GRAMO-RADIO COMBINATION

An automatic 3 Speed Record Changer (78, 45, 33) r.p.m.) and a 5 Valve Superheterodyne Four Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre and 31 Metre Shortwave Bands.

FOR OPERATION FROM:--

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation: 55 Watts.-approx. Grame Operation: 75 Watts.-approx.

TUNING RANGES:-

RECEIVER COVERAGE:-

Broadcast Band, 535-1610 Kc/s. 560.7-186
19 Netre Band, 14.9-15.5 Mc/s. (Bandspread) 20.13-19.29
25 Netre Band, 11.6-12.1 Mc/s. (Bandspread) 25.86-24.
31 Netre Band, 9.4-9.8 Mc/s. (Bandspread) 31.91-30.

560.7-186.3 Metres. 20.13-19.29 Metres (approx.) 25.86-24.79 Metres (approx.) 31.91-30.61 Metres (approx.)

THIS BULLETIN CONTAINS:--

Alignment Instructions. Circuit Diagram.

Connections for IF. and RF. Transformers. Dial Drive Cording Diagram. Valve Placement Diagram. Instructions for Changing Mains Input Voltage Tap. Instructions for Removing Chassis from Cabinet. Chassis Social Number.



WALVE PLACEMENT DIAGRAM 1063/279

EQUIPMENT

Signal Generator:

ALIGNMENT CONDITIONS

trim. condenser for max. output.

Load Impedance: 5,000 ohms.

Output Meter:		Output Level:	50 Milliwatts.
Mica Capacitor:	0.01MF. (for IF.	Vol. Control:	Max. Vol. fully
•	trans. alignment)		clockwise.
Dummy Antenna:	200MAT. Mica	Intermed. Freq.:	
•	Capacitor.	Input Voltage:	230 Volts 50 Cycle
Dummy Antonna:	400 0hm non-industive	-	AC. input to trans.
· · •	resistor.		221-250 volt pri. tap
Alignment Tools:	Type M195 and PM581.	Tone Control:	Treble position.
	A		

To Remove Chassis from Cabinet— Removecover board from rear of cabinet by unserewing the screws fastening it to the cabinet, then remove the four push-on control knobs. Unplug the pick-up lead plugs from small sockets beneutn gramo motor, the cabinet base indicator lamp lead plug from small socket on chassis and the speaker lead plug from R.H. end of chassis. Discomment receiver AC. mains leads from AC. lead junction block. Unsolder from spring tension arm the earth braid connected to chassis. Release clip on tension spring at rear side edge of cabinet, then release tension arm. Fully open record rear side edge of cabinet, then release tension arm. Fully open record compartment door and place a piece of cloth over top of the door. Remove serews and bracket at top rear edge of dial penel, then lower receiver penel door down to rest on top of record compartment door. Unserew wood screw in bracket which is central on rear edge of chassis, also a 5/32" machine screw from bottom of bracket at each end of chassis, then lift chassis out of the cabinet. After alignment the chassis is refitted to the cabinet in the reverse procedure to removing it.

Opera- tion No.		or Generator ion Frequency		Instructions.
gri 6N8 val	control d of I.F. ve (pin 2)		O.OlMF. Mica capacitor in series with generator.	Turn wave change switch to B/cast band. Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
2. To gri GAN	control d of 7 ve (pin		0.01MF. Nica capacitor in series with generator.	Turn cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Feak lst I.F. trans. pri. and sec. for max. output.
3.	•			Ropeat operations No. 1 and 2.
				t the centre of the dial pointer to align ark on the dial reading near 540 Kc/s.
5. To lea fro	antenna d	600 Kc/s.	200MMF. Mica capacitor in series with generator.	Turn cond. geng and dial pointer until
lea fro	_	•	200MMF. Mica capacitor in series with generator.	furn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400 Ke/s. spot on dial read- ing. Adjust escl. coil trim condenser for logging and peak antenna trans.

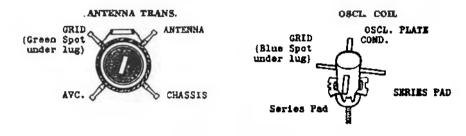
	tor Generate ion Frequen		Instructions
7. To antenna lead from receiver.	600 Kc/s.	200MF. Mica capacitor in series with generator.	centre of 600 Ke/s. spet an dial reading Leave the gang and pointer set in the position. Re-peak escl. coll. ind. trim. (iron core) and then peak the antenna trans. ind. trim. (iron core for max. output. Do not rock the gas or dial pointer to and fro through the signal while adjusting or move them until after the industance trimmer (iron core) of both of these trans-
8. To antenna lead from receiver.	1400 Kc/s.	200MMF. Mica capacitor in series with generator.	formers has been peaked for mex. output furn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400 Ke/s. spot on dial reading. Adjust osci. coil trim condense for logging and repeak antenna trans. trim. condensor for max. output.
		to 31 metre ba	nd (this band must be aligned before th
25 and 19 me O. To antenna lead from receiver.	9.6 Mc/s.	400 ohm non- inductive resister.	Turn dial pointer and cond. gang to 9. Mo/s. Adjust 31 metre hand osel. coi ind. trim. (iron core) for logging and peak 31 metre ant. trans. trim. (iron core) for max. output. Rock cond. gar to and fro through the signal while adjusting.
l. To antenna lead from receiver.	11.8 No/s.	400 olm non- inductive resistor.	Turn wave change switch to 25 metre band. Turn diel pointer and cond. gar to 11.8 Mc/s. Adjust 25 metre band escl coil ind. trim. (iron core) for leggin and peak 25 metre ant. trans. trim. (iro core) for max. output. Rock cond. gang to and fre through the signal while adjusting.
2. To antenna lead from receiver.	15.2 Mc/s.	400 ohm non- inductive resistor.	Turn wave change switch to 19 metre band Turn dial pointer and cond. gang to 15.2 Mc/s. Adjust 19 metre band osci coil ind. trim. (iron core) for leggin and peak 19 metre ant. trans. trim. (iron core) for max. output. Rock cond gang to and fro through the signal while adjusting.
5. Check the lo stations. I 100 Kc/s. ma	I a crystal	callbrator 1s	ds on some well-known abortwave available, check the logging at each

³¹ Metre spreadband coil, RED spot on iron core end of former. 25 Metre spreadband coil, WHITE spot on iron core end of former. 19 Metre spreadband coil, BLUE spot on iron core end of former.

ASTOR MODEL AQR.

CONTROL KNOBS

All	l cabinets except Mahogany	Mahogany
Tuning	17/779-3	17/779-7
Volume	17/779-2	17/779-6
Tone	17/779	17/779-4
Wave Change	167/91	167/81-2
Control Knob Spring Clips	22/755	22/755



19, 25 AND 31 METRE ANT, TRANS.

19, 25 AND 31 METRE OSCIL COIL

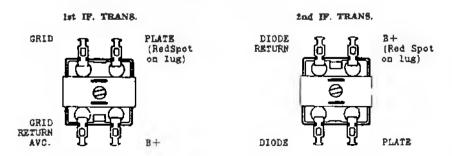
Lead from top lug (iron core end) :- GRID.

Lead from top lug (iron core end) :-

Lead from bottom lug (mounting end):- CHASSIS - EARTH.

Leed from bottom lug (mounting end):-OSCL. PLATE COND.

- 31 Metre apreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on Iron core end of former.
- 19 Metre spreadband coil, BLUE spot on iron core end of former.



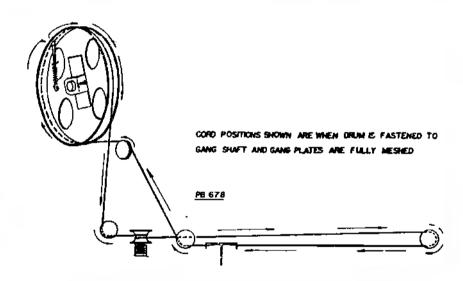
CORDING OF DIAL DRIVE

Length of cord required is 5 ft. 6 ins., which includes about 8 ins. to spare for tying to tension spring.

Cord Part No. 34/754.

Tension Spring Part No. 27/87.

NOTE:- 1 turn shown around drive spindle changed to 2 turns.



INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INFUT TAPS

MAINS VOLTAGE.-The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT.-For 200-220 Volt Operation: The receiver chassis has to be removed from the cabinet for this adjustment. SWITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove chassis from cabinet as detailed on page 2. The mains lead wire from the switch on the volume control which is attached to the 221-250 V, tap on the mains terminal strip is to be unsoldered from the 221-250 V, tap and re-soldered to the 200-220 V, tap. Refit chassis to cabinet in exact reverse procedure to removing it.

CHASSIS SERIAL NUMBER

The serial number is stamped into the top edge of the metal chassis near the power transformer and is visible from the rear of the cabinet when the cover board is removed.



RADIO CORPORATION PTY. LTD.

A10.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL AQS

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33\frac{1}{2}\text{r.p.m.}) and a 5 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Meins.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:--

Radio Operation:- 55 Watts.-approx. Gramo Operation:- 75 Watts.-approx.

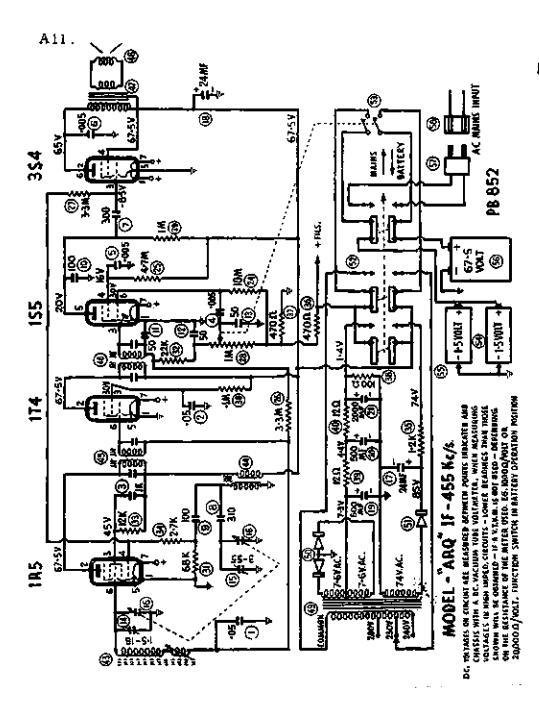
TUNING RANGES:—

RECEIVER COVERAGE:-

Bro	adcast	Band,	535-1610 Kc/s.		560.7-186.3	Metres.	
19	Metre	Band,	14.9-15.5 Mc/s.	(Bandspread)	20.13-19.29	Metres	(approx.)
25	Metre	Band,	11.6-12.1 Mc/s.	(Bandspread)	25.86-24.79	Metres	(approx.)
31	Metre	Band,	9.4-9.8 Mc/s.	(Bandspread)	31.91-30.61	Metres	(approx.)
49	Metre	Band,	5.95-6.25 Mc/s.	(Bandspread)	50.42-48.0	Metres	(approx.)

THE GRAMO-RADIO COMBINATION MODEL "AQS" IS A MODEL 'HQR' RECEIVER
CHASSIS FITTED INTO A DIFFERENT TYPE CABINET. EXCEPT FOR THE PARTS LISTED BELOW
WHICH ARE REQUIRED FOR FITTING TO THE DIFFERENT CABINET, ALL REFERENCE
FOR ALIGNMENT PROCEDURE, CIRCUIT DIAGRAM AND PARTS LIST SHOULD BE MADE TO THE
MODEL 'HQR' SERVICE BULLETIN SHEETS.

Chassis to cabinet mount screws 1" x 5/32" Csk. Hd. Flor. Bronze	17/560-36
Cup Washer - Flor. Bronze	269/250
Dial Reading	35/816-4
Cabinet	279/221





MODEL "ARQ" SPORTSTER

AC. or BATTERY OPERATED 4 VALVE SUPERHETERODYNE MIDGET PORTABLE RECEIVER

FOR OPERATION FROM:

AC. MAINS 50 CYCLE. 200 Volt. 230 Volt or 240 Volt (Power trans. T137).
AC. MAINS 40 CYCLE. 230 Volt or 250 Volt (Power trans. T145).
BATTERY OPERATION. 1.5 Volts ''A'' Battery (two 1.5 volt torch cells in parallel) and 67.5 volts ''B'' Battery.

POWER CONSUMPTION: AC. OPERATION

								trans.				37⊠A.
230	• •	• •	* *	••	• •	• •			••	230	• •	 32mA.
230	Vole	40	eyele	ÀĊ.	mains	input	to	trans.	(T145)		Voit	32mA. 34mA.
												32mA.

POWER CONSUMPTION: BATTERY OPERATION

''F' Battery 250 mA. (no signal).

TUNING RANGE: POWER OUTPUT:

535 to 1610 Kilocycles. 560.7 to 186.3 Metres.

180 milliwatts (max.).
100 milliwatts (undistorted).

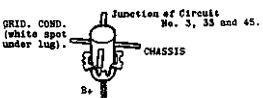
ROD AERIAL CONNECTIONS:

Fixed Winding: Lead from end turn furthest from movable winding-GRID.

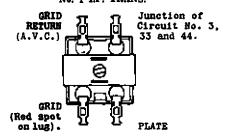
Movable Winding: Lead from end turn furthest from fixed winding-AVC-

The adjacent end turn leads of both windings are joined together as shown on the circuit diagram.

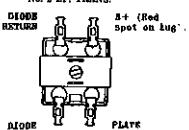
OSCL. COIL



No. 1 LF. TRANS.



No. 2 LF. TRANS.



ALIGNMENT INSTRUCTIONS

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator:
Output meter:
Mica Capacitor: O.Ol MF (P/No. PC145)
for IFT Alignment.
Straight Alignment Tool P/No. PM581,
Flexible Alignment Tool P/No. 48/712.

Load impedance: 5,000 ohms.
Output level: 6 milliwatts.
Volume control: Max. volume (fully clockwise).
''A'' battery 1.5 voits.
''B'' battery 67.5 volts.
I.F. frequency 455 Kc/s.

IF. TRANS, ALIGNMENT

The receiver chassis has to be removed from the leather case to align the I.F. transfermers.

- A. Remove tuning, volume and mains/bettery push-on type knobs (a piece of thin cord in the form of a loop slid under the knob and pulled from the front is a convenient means of removing push-on type knobs.
- B. Unclip three press stud fasteners at hase of leather case.
- C. Turn tuning condenser shaft until cond. plates are fully meshed.
- D. Remove screw and nut fastening front of leather case to chassis. The screw and nut are situated approx. one inch above tuning condenser shaft.
- E. Remove screw and nut fastening chassis bracket to centre of base of leather case.
- F. Lift end of chassis furthest from speaker then withdraw chassis from leather case.
- G. Remove ''A'' batteries, prise up lugs fastening battery box, then lift off batt. box.
- fl. Unfasten nut fastening corner of mount plate, then lift mount plate.

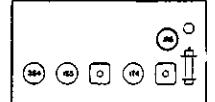
Oper No.	. Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To signal grid of IT4 valve (pin No. 6)	455 Ke/s.	0.01 MF Mica capacitor in series with generator.	Leave grid wire attached to valve socket. Peak 2nd IFT pri. and sec. for max. output.
2.	To signal grid of 1R5 valve (pin No. 6).	455 Kc/s.	0.01 MF Mica capacitor in series with generator.	Leave grid wire attached to valve socket. Peak 1st IFT pri. and sec. for max. output.
3.			-	Repeat operations Nos. 1 and 2.

BROADCAST ALIGNMENT:

- A. Refit receiver chassis to leather case.
- B. Refit tuning knob.
- C. TUNING KNOB POINTER SETTING: Fully mesh condenser gang plates and set centre of tuning knob pointer on centre of end of travel spot on the leather case beneath the numerals ''55.'' The three screws which fasten the chassis to the front of the condenser gang when loosened off allow the cond. gang to be moved to align the dial knob pointer to the end of travel spot. The receiver chassis has to be removed from the leather case to loosen the screws and move the cond. cang.
- D. To inject a signal into the receiver rod aerial, connect to the active terminal of the signal generator approximately 2 ft. of aerial wire, then fashion the wire into a vertical position.

E. Place receiver chassis so that ferrite and aerial is uppermost and horizontal, and so that the fixed secondary winding end of the ferrite red points to the 2 ft. of vertical aerial wire. A distance of not less than 1 ft. is to be between the end of the ferrite red and the 2 ft. of vertical aerial wire attached to the signal generator.

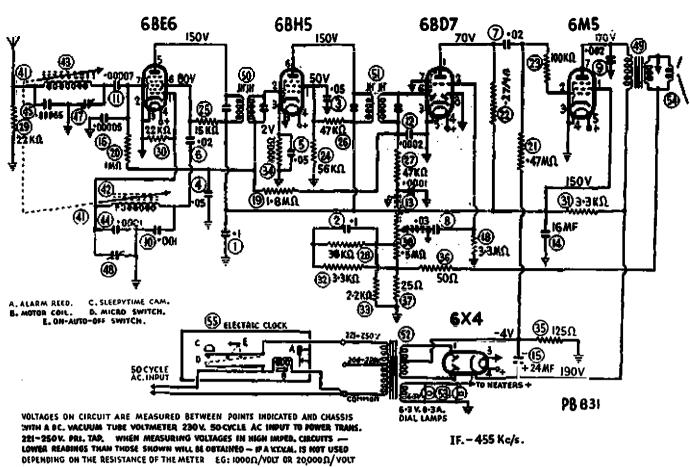
Oper. No.	Connection	Genera Freque		Instructions
1.	Refer para. D. and E.	600 K	:/s.	Turn cond. gang and tuning knob until centre of tuning knob pointer aligns with centre of 600 Kc/s. spot on dial. Leave cond. gang and tuning knob pointer set in this pesition then peak the oscl. coil ind. trim. (iron core) for max. eutput. Also peak the movable winding on the ferrite red for max. output.
2.	Refer para. D. and E.	1470 K	e/s.	Turn cond. gang and tuning knob until centre of tuning knob pointer is on 1470 Kc/s. distant. Adjust osc. trim. cond. for logging and peak ferrite rod aerial trimmer condenser for max. output.
3.	Refor para. D. and E.	600 K	:/3.	furn cond. gang and tuning knob until centre of tuning knob pointer is on 800 Kc/s. dtal mark. Leave the cond. gang and tuning knob pointer set in this position. Repeak esc. coil ind. trim. (iron core) and the movable winding on the ferrite rod. Do not rock cond. gang to and fro through the signal while adjusting the trimmors or move the tuning knob pointer off 600 Kc/s. dial mark until after the triemers have been adjusted for max. output.
4.	Refer para. D. and E.	.470 K	e/s.	Turn cond. gang and tuning knob until centre of tuning knob pointer is on 1470 Kc/s. dial mark. Adjust osc. coil trim. cond. for logging and peak ferrite rod aerial trim. condenser for max. output.
		Tuning ra	inge af	ter alignment 535 to 1610 Kc/s.



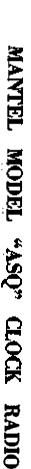
WALLE PLACEMENT DIAGRAM

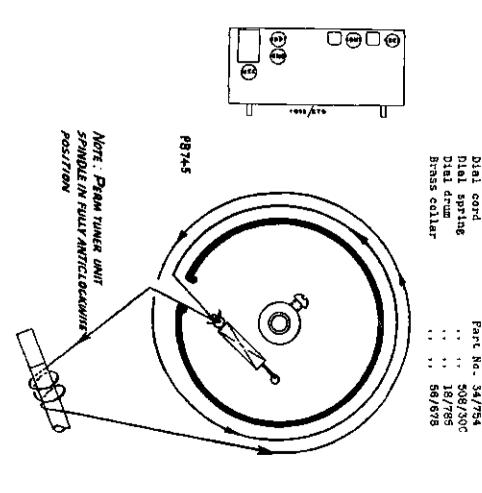
#17/279





IF. - 455 Kc/s.





The length of dial cord required is 3 ft. 6 ins. which includes 9 ins. spare for tying to the tension Spring.

DIAL DRIVE CORDING

MANTEL MODEL "ASO" CLOCK RADIO

ALIGNMENT PROCEDURE

EQUIPMENT

Alignment Tool : Type M195

ALIGNMENT CONDITIONS

Load Impedance: 7000 ohms, output meter Signal Generator: connected across spkr. Output Meter Mica Capacitor : 0.01MF (for I.F. trans. alignment) Dummy Antenna : 200 MMF. Mica Capacitor

trans. primary. 3.5 ohms, output meter connected across spkr. trans. secondary. : 50 Milliwatts

Output Level Vol. Control: Max. vol. fully clockwise Intermed. Freq.: 455 Ko/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.

ALIGNMENT: The I.F. transformer variable iron cores are accessible when the rear section of the cabinet is removed from the front section.

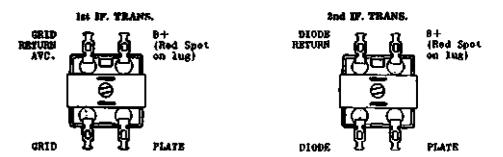
Opera No.	tion	Generator Connection		Dummy Antenna	Instructions
1.	Remov	receiver		t as detailed or	n page 5.
2.	of 6BH	gnal grid 5 valve o. 2)	455 Kc/s.	0.01 MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
3.		gnal grid 36 valve No. 7)	455 Kc/s.	0.01 MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Turn perm tuner so that iron cores are fully out of windings on coil formers. Peak lst IF trans. pri. and sec. for max. output.
4. 5.	COLL 1	cormers and	the unit is	s hard against '	Repeat operations No. 2 and 3. s fully out of the windings on the the stop. Set the centre of the the dial reading near 1700 Kc/s.
6.	To an	ionna 10 ion lug	000 Kc/s. 20 60 s	00 MMF mica apacitor in eries with enerator	Turn perm tuner until centre of dial pointer aligns with centre of spot on dial reading at 1000 kc/s. Peak oscl. coil trimmer condenser then peak antenna trans. trim. cond. for max. output. Repeak oscl. coil trim. cond.

- Tuning range after alignment 535 1640 Kc/s.
- Check logging at each end of the dial; then refit rear section of the cabinet.
- NOTE: Both iron cores are pre-set at the factory to an exact dimension of 2,275" between the extreme end of the former protruding through the rubber groumet, and the end of the iron cores in the former, when the unit is turned fully anti-clockwise and is hard against the stop. If incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAP FOR 200-220 VOLT OPERATION

MAINS VOLTAGE: The mains voltage adjustment tap should be adjusted as follows: For any A.C. voltage between 200V, and 220V, on the 200-220V, tap and for any A.C. voltage between 221V. and 250V. on the 221-250V. tap.

- A. The receiver chassis does not have to be removed from the cabinet for this adiustment.
- Switch the receiver off and DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET.
- Unscrew and remove the self tapping screw and washer from each of the four corners of the rear section of the cabinet.
- D. Prise rear section of cabinet away from front section.
- The transformer primary mains tap terminal strip is located on the top right hand end of the chassis.
- The lead from the electric clock which is soldered to the 221-250 volt tap is to be unsoldered and resoldered to the tap terminal marked 200-220 volt.



ANTENNA TRANS.

Start of winding - furthest from mounting end - Antenna. Finish of winding - nearest to mounting end - Grid.

OSCL. COIL

Start of winding - furthest from mounting end - Junction of circuit Nos. 6 and 10. Finish of winding - nearest to mounting end - Oscl. grid.

POWER TRANS.

(PT938) 50 cycle Pri. red lead - common green lead - 200-220V. black lead - 221-250V.

HT. Sec. blue lead - start yellow lead - centre tap blue lead - finish

LT. Sec. (two windings in parallel) start and finish in winding wire

MODEL "AST" A13. AUDIO **AMPLIFIER**

POJER OUTPUT:

1 Watt

FOR OPERATION FROM:

200-240 Volt 50 cycle AC. Mains (Power Transformer PT962)

Power trans. Primary Tap, 'C' common. 200 Volt mains. 230 & 240 Volt mains.

230-250 Volt 40 or 50 cycle AC. Mains (Power transformer PT983) Power trans. Primary Tap, 'C' common.

> 230 Volt mains. 250 Volt mains.

POWER CONSUMPTION:

30 Watts approx.

INSTRUCTIONS (ELECTRICAL) SERVICE

EQUIPMENT:

Audio Signal Generator Output Meter

TEST CONDITIONS:

Volume Control:

maximum (fully clockwise)

Audio Signal

100C CPS

Generator Signal

Generator

Output

O.l Volt.

4 Ohms impedance Output Meter :

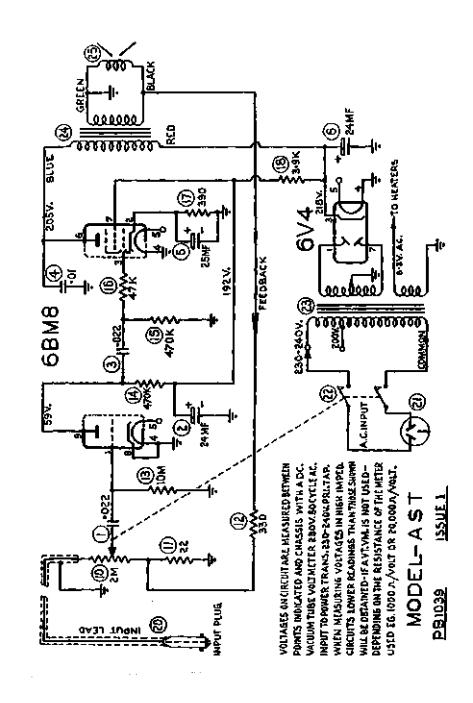
Connected across secondary winding of output transformer. (Speaker voids coil disconnected.)

Mains Input

Voltage

23C Volts 50 cycle AC. input to power transformer 230-240 Volt

primary tap.



AUDIO AUPLIFIER GAIN TEST:

The amplifier chassis does not have to be removed from the cabinet to check the overall gain of the amplifier.

<u>INPORTANT</u>: Before disconnecting leads from speaker voice coil terminals, note the lead colours to ensure correct phasing of the speaker when the leads are reconnected.

- A. Set frequency of audio generator to 1000 cycles.
- B. Adjust output level of generator to 0.1 Volt.
- C. Disconnect leads from voice coil terminals on speaker.
- D. Connect output meter across secondary of output transformer.
- E. Connect audio signal generator output lead to input plug on free end of amplifier input lead.
 - Cenerator output lead 'active' to amplifier lead plug centre contact.
 - Senerator output lead 'non-active' to amplifier lead plug metal casing.
- F. Turn ON/OFF switch volume control fully clockwise.
- C. With a signal input of O.1 Volt applied to amplifier input, the output meter should indicate a minimum of 800 milliwatts output. (4 Ohms impedance, output meter across transformer secondary, speaker voice coil disconnected.)

STEREOFHONIC REPRODUCTION AND SPEAKER PHASING:

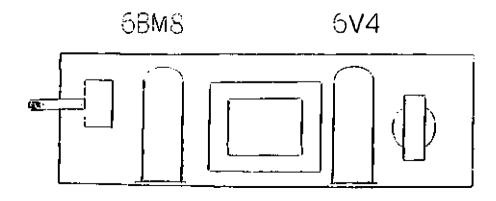
STEREOPHONIC REPROPERTIES: The Model 'AST' amplifier/speaker unit may be connected to a grammo, audio amplifier for Stereophonic reproduction provided the grammo/audio amplifier incorporates a Stereo cartridge in the pick-up head and has the leads from the Stereo cartridge connected to the channels as detailed below.

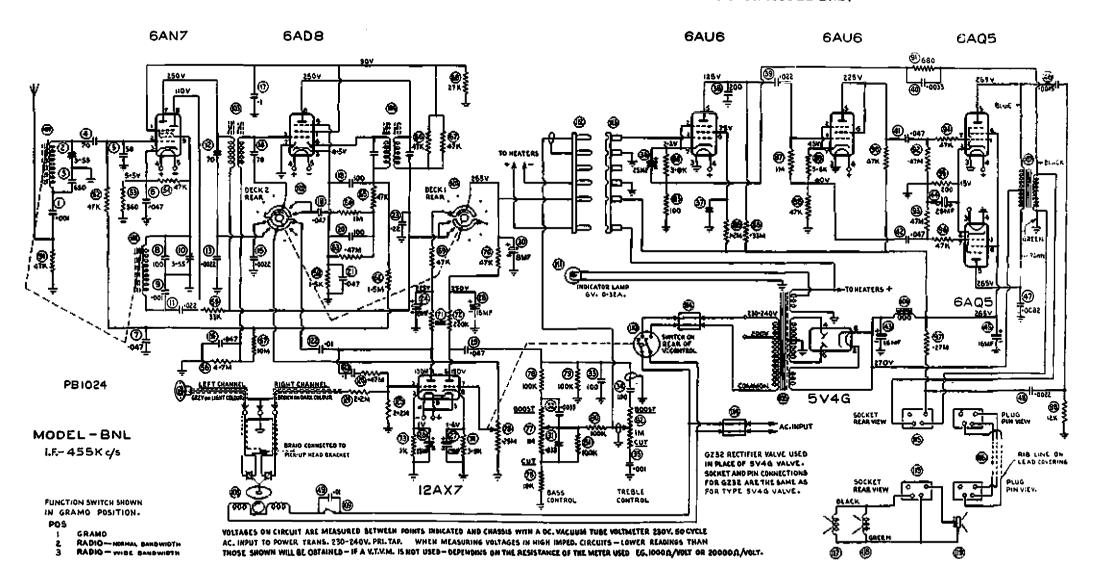
- A. The proput lead imm one channel connected to the input of the audic amplifier in the gramo/audio amplifier unit.
- B. The output lead from the other channel connected to a socket situated examples on the gramo/amplifier cabinet. Into this models is inserted the plug on the end of the input lead from the Model 'AST'.

SPEAKER PHASING: When Model 'AST' audio amplifier unit is connected to a gramo/audio amplifier for Stereophonic represention, it is essential that the speakers in both units be phased correctly.

A method used for checking the phasing of the appakers is detailed in the following paragraphs.

- Connect the plug on the end of the amplifier input lead of the Model 'AST' to the Stereo channel socket or the grame/audio amplifier.
- 2. Place the Model 'AST' cabinet approx. four feet to one side in line with the speaker cabinet of the gramo/mudio amplifier.
- Play a monophonic record and accurarcly adjust the output of each speaker to the same volume.
- To conduct the following test the listener should be located in a position midway tetuzen the speaker cabinets and approx. four feet away in front.
- 5. If the phasing is correct the reproduced sound wall appear to be radiated from a point midway between the two speakers.
- 6. With incorrect phasing the quality of reproduction will be poor, it will appear to be lacking in bass response and will appear to be radiated from both opeakers.
- 7. If the speakers are incorrectly phases, reverse the leads connected to the voice coil terminals of the speaker of the Model 'AST' then repeat the test detailed above.





11/3/2

RADIO CORPORATION PTY. LTD.

A14a.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL - BNL

TWO UNIT GRAMO-RADIO COMBINATION

The Model 'BNL' is a Model 'ANL' two unit gramo-radio combination which has been modified so that it may be used with an additional amplifier/speaker unit for Stereophonic reproduction.

Except for the modifications detailed below, the hardware listed on page 2 and the circuit diagram attached, all reference is to be made to Model 'ANL' Service data bulletin 'ANL-1' for service instructions, alignment procedure and component parts list.

- A. The four speed record changer unit part No. M439 has been changed to a four speed record changer part No. M497 which has a stereo cartridge in the head of the pick-up arm.
- B. The left channel lead from the stereo cartridge is wired to a socket located on the rear of the receiver cabinet.
- C. The right channel lead from the stereo cartridge is wired to the 2.2 begoin series input resister circuit Fo. 124.

The end of the input lead (lead approx. 18 ft.) from the additional amplifier/speaker unit is inserted into the channel outlet socket at the rear of the cabinet.

The ON/OFF supply mains switch, tone controls and volume centrol on Hodel 'ENL' function only on the Hodel 'ENL'.

EQUIPME	NT.	ALIGNMENT CONDITIONS						
Signal Generator: Output Meter: Mica Capacitor:	0.01MF. (for IF.	Load impedance Output Level: Vol. Control:	7,000 Chms. 50 Milliwatts. Max. Vol. Fully					
Dummy Antenna:	trans. alignment) 200MBF. Hica Capacitor	Intermed. Freq.: Input Voltage:	clockwise. 455 Kc/s. 230 Volts 50 Cycle AC. input to trans					
Alignment Tools:	Type M195 and PM581	Tone Control	230-240 volt pri. tap. Treble position.					

IF. TRANS. ALIGNMENT.

NOTE:

The front section of the cabinet with the receiver chassis attached may be removed from the cabinet as a complete unit.

It is necessary to remove this section of the cabinet with receiver attached to make adjustments to the IF. transformer iron cores. It is not required to be removed for adjustment to the tuning unit trimmer condensers.

Removal instructions for front section of cabinet are detailed on the concluding pages of this bulletin.

Cper.	Generator Connection			Instructions
1.	To signal grid of 6BH5 I.F. valve pin No. 2	455 Kc/s.	0.01MF Mica capacitor in series with generator	Turn grame-radio switch to radio position. Leave grid wire attached to valve socket. Peak 2nd I.P. trans. pri. and sec. for max. output.
2.	To signal grid of 6926 valve pin No. ?	455 Kc/s.	O.OMF Mica capacitor in series with generator	Turn perm. tuner so that iron cores are fully out of winding and the unit is hard against the stop. Leave grid wire attached to valve socket. Peak lst. I.F. trans. pri. and sec. for max. output.
3.				Repeat operations 1 and 2.

 Refit front section of cabinet with receiver chassis attached to main section of cabinet.

MAINS VOLTAGE TAP ADJUSTMENT FOR OPERATION ON 200 VOLT MAINT

The receiver chassis has to be removed from the cabinet for this adjustment. DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER PINT SOCKET AND SUMMER THE FRONT SECTION OF THE CABINET (TO WHICH THE ASCRIVER CRASSIS IS ATTACKED) FROM THE MAIN SECTION OF THE CABINET AS DETAILED IN THIS BULLETIN. The mains junction strip is on top of the chassis between the power transformer and the chassis front plate. To gain access to junction strip remove the push-on type knobs, unsolder the leads attached to speaker then remove the two sorows fastening the chassis to the front plate. The lead from the volume control switch which is connected to the 230-240 volt tap is to be unsoldered from the 230-240 volt tap and then re-soldered to the 200 volt tap.

TRANSFORMER CONFECTIONS

ARTENNA CCIL

Start of winding - furthest from mounting end - ANTENNA Finish of winding- nearest to mounting end. - CRID

OSCL. COIL

Start of winding - furthest from mounting end - SUNCTION CF CIRCUIT NO. 2 & 6
Finish of winding- nearest to mounting end - CSCL. GRID.

PO'ER TRANSFORMER (Part No. T171)

PRIMARY:

Red lead common
Green lead 200 volt mains tap
Black lead 230 & 240 volt mains tap.

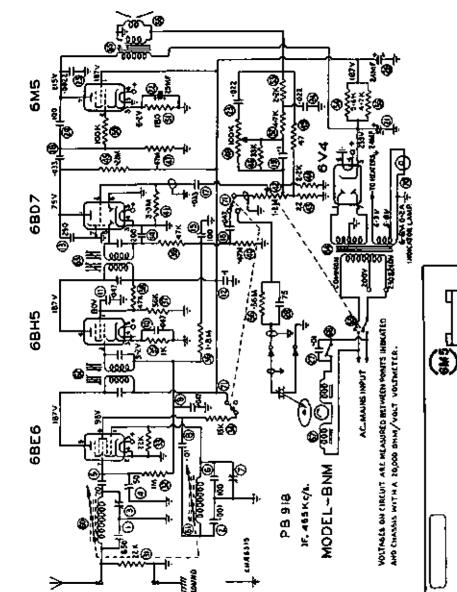
HT. SECONDARY:

Blue start
Yellow centre tap
Blue finish

Electro-static shield joined internally to centre tap of H.T. secondary.

LT. SECONDARY

Start and finish in winding wire.





RADIO CORPORATION PTY. LTD. Bulletin: BM-1

126-130 CRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

Pile: Receivers AC.

Date: 8.7.58 Page: 1

TABLEGRAM MODEL ---- BNM

An Automatic 4 Speed Record Changer (70, 45, 33-1/3, 16-2/3, r.p.m) and a 5 valve Superheterodyne Broadcast Band Receiver.

FOR OPERATION PROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer T??1) Power trans Primary Tap-red-common. " -green-200 Volt mains. " -black-230 & 240 Volt mains.

NOTE: 1

Then the receiver is to be operated from a 250 volt 40 or 50 cycle AC. supply mains the transformer urinary connections are as for the 240 volt supply mains but a 180 Chm 10 watt resistor Part No. R166 is to be mounted beneath the chassis and wired in the power trans. common lead (red.)

NOTE: 2

<u>(\$)</u>

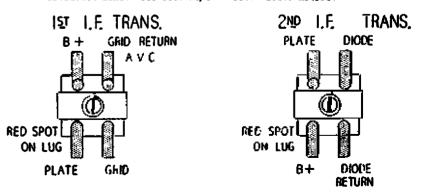
The record changer drive pulley for 40 cycle mains operation is Part No. 846/524.

POWER CONSUMPTION:

Radio Operation: - 40 Watts-approx. Gramo Operation: - 60 Watts-approx.

TUNING RANGE:

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



A16.

MODEL BNP
6 VALVE SUPERHETERODYNE 5 BAND
PORTABLE RECEIVER

POWER OUTPUT:

250 Milliwatts - max. 100 Milliwatts - undistorted.

INTERNALDIATE PREQUENCY:

455 Kc/s.

POR OPERATION PROM:

1.5 Volts "A" Battery
and
90 Volts "B" Battery (two 45 volt "B" Batteries in series)

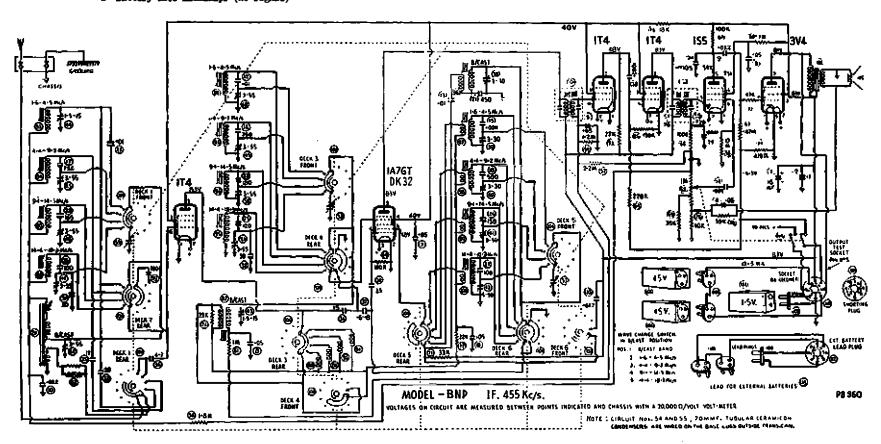
TUNING RANGES:

Broadcast Bands - 535 - 1610 Kc/s. 560.7 - 186.3 Metres.

Shortwave (1.6-4.5 lic/s. 187.5-66.66 Metres
4.4-9.2 lic/s. 68.18-32.60 Metres
Tuning Ranges (9.1-14.5 Lc/s. 32.96-20.68 Metres
14.4-18.3 Lc/s. 20.83-16.39 Metres

CURRENT CONSUMPTION:

"A" Battery 350 milliamps.
"B" Battery 12.5 milliamps (no signal)



ALIGHTADE INSTRUCTIONS.

equipaent:

Alignment Template: Part No. PB832

ALICHEMT CONDITIONS:

455 Kc/s.

and sec. for max. output.

			
Signal generator	:	Load Impedance:	10,000 Ohms
Gutput Meter:		Output Level :	25 milliwatts
Alignment tools	Part No. M195	& "A" Battery :	1.5 volts
Mica capacitor	: 0.01 lF for I		90 volts
Dunmy Antenna	: 400 ohm non- inductive res	Volume Control:	max. volume (fully clockwise)

TO REMOVE CHASSIS FROM CABINET.

Intermed. Freq:

Full push-on type tuning knob straight up off tuning spindle. Pull push-on type volume - on/off small knob straight up off vol. control spindle. With the aid of a spike release the spring clip fastening inside of wave change switch knob to volume control shaft.

Remove cabinet base by unscrewing the screws around the base of the cabinet. Remove cardboard battery packers and then the batteries. From the top of the cabinet, unscrew the screws fastening the dial.

Remove four screws fastening plastic legend plate to cabinet, then from top of cabinet unscrew and remove four countersunk screws which fasten chassis to cabinet.

The chassis will now clide out of the cabinet.

Generator

Generatan

Re-fitting the chassis to the cabinet is the exact reverse procedure to removing it.

Dumay

IF. TRANSFORMER ALIGNMENT:

io.	Connection	Frequency	Anterna	Instructions
1.	template PB832 v	rith 충 x 숨 ; cop of chassi	screws and nut s with the for	n to the cardboard alignment ts, then fit alignment template or screws which fasten the chassis ontrol spindles.
2.	To signal grid of 1T4 IF. valve (pin No.6)	455 Kc/s.	.01 iF mica capacitor in series with generator	Turn wave change switch to b/cast band position. Leave grid wire attached to valve socket. Peak 2nd 1FT Pri.

3. To signal grid 455 Kc/s. of 1A70T valve .01 IF mica capacitor in series with generator

Yurn cons. pacy plater fully constituents, leave grid wire attuiched to walve. Pean Let 17, pri. and ucc. for cans. Figures.

Repeat operations Hos. 2 and 3.

DIAL POINTER SETTING.

Fully mesh condenser gang plates and set centre of dial pointer on centre of end of travel mark on dial reading near 540 Kc/s.

BROADCAST BAND ALIGNIENT

				_
Oper.	Generator	Generator		
No.	Connection	Frequency	Instructions	
140.	COURTECATOR	r reduciic)	1:63 61.46 51.7(2)	

- 1. To inject a signal into the receiver red acrial for alignment of the broadcast band, connect to the active terminal of the signal generator output approx. 2 ft. of acrial wire, then fashion the wire into a vertical position.
- 2. Place receiver chassis with ferrite rid aerial attached at that the receiver dial is uppermost and the ferrite rod is herizontal and nearest to the operator. Move the chassis to a position so that the fixed prinary winding end of the red aerial points to the 2 ft. of aerial tire uttached to the generator output, and so that the fixed prinary winding is not closer than 2 ft. from the 2 ft. of aerial wire.

Place the "B" batteries in their respective positions of the chassis to provide the came amount of rain arount the chastis when fitted into the cabinet.

3. Refer. para. COC Kc/s.

Turn come, many and dial pointer thatil centre of dial pointer is it. 50% ho/s. Mail tark. Leave the cond. many and dial cointer set in this position and yeak the lycast land seel, call inductance trim. (Iron core) and the lycast band RF. trans. ind. trim. (Iron core) from the tase end of the trans. also peak for max. output the sec. trimmer coil on the ferrite rod. Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 600 Kc/s. dial mark until after the inductance trimmers and the rod trimmer coil have been peaked for max. output.

- 4. Refer para. 1470 Kc/s. Turn cond. gang and disl pointer until centre of dial pointer in on 1470 Kc/s. dial mark. Adjust b/cast band oscl. coil trin. cond. for logging and peak b/cast band RF. trans and ferrite rod trin. conds. for rax. output.
- Repeat operations Hos 3 and 4.

SHORT-WAVE BAND ALIGNMENT 1.6-4.5 No/s.

(This band is to be aligned before the higher frequency shortwave bands)

Oper No.	Generator Connection	Generator Frequency	Durmy Antenna	Instructions
1.	To receiver external aerial & earth sockets	1.7 Nc/s.	400 ohm non- inductive resistor	Turn wave change switch to 1.5-4.5 lk/s. tand position. Turn cond. gang and dial pointer until centre of dial pointer is on 1.7 lk/s. mark on dial. Leave the cond.gang and dial pointer set in this position and peak 1.6-4.5 lk/s. band oscl. coil ind. trim. (iron core) and the 1.6-4.5 lk/s. band antenna and RF. trans. ind. trim. (iron cores) for max. output.
2.	To receiver external acrial & earth sockets	4.2 Mc/s.	400 ohr. non- inductive resistor	Turn cond. gang and dial pointer until centre of, dial pointer is on 4.2 Mc/s. dial mark. Adjust 1.6-4.5 Mc/s. band oscl. coil trim. cond. for logging, then peak 1.6-2.5 Mc/s. band antenna and Mr. trans. trim. cond. for sax. output.
3.	To receiver external aerial & earth sockets	1.7 Mc/s.	400 ohm non- inductive resistor	Furn cond. gang and dial pointer until centre of dial pointer is on 1.7 Mc/s mark on dial. Leave the cond. gang and dial pointer set in this position Repiak 1.6-4.5 Mc/s. band

osol, oril ind. trim.
(iron core: then peak
the 1.6-1.5 Mo/s. band
chterns and RP. trams.
ind. trim. (iron core.)
for max. butput. Is not
for through the signal or
move the dial pointer off
the 1.7 Mo/s. dial mark
until after the ind. trim.
(iron core)of the three
coils has been peaked for
max. output.

To receiver 4.2 Mc/s. 400 Ohm nonexternal aerial inductive & earth sockets resistor

Turn cond. gang and dial pointer until centre of dial pointer until centre of dial pointer is ca 4.2 %c/s. mark on dial . Readjust 1.6-1.5 Nc/s. band osel. coil trin cond. for logging, then repeak 1.6-4.6 Nc/s. band antenna and RF trans. trin condensers for max. A but. Rock cend. gang to a to through the signal wille adjusting the unterna and RF trans. trin, conds.

Check tracking at 3 Mc/s.

To receiver external aerial & earth sockets 3 Mc/s. 400 ohm noninductive resistor

SHORT-WAVE BAND ALIGHTENT 4.4-9.2 Mc/s.

To receiver 4.5 lic/s. 400 ohm nonexternal aerial inductive & earth sockets resistor Turn wave energe switch to 4.4-9.2 ke/s. hand position Turn cond.gang and dial pointer until centre of dial pointer is on 4.5 ke/s. Lark on dial. Leave cond. gang and dial pointer set in this position and peak the 4.4-9.2 ke/s. hand oucl. coil ind. trim. (iron core) and the 4.4-9.2 ke/s. band antenna and RF trans. ind. trim (iron cores) for tax. output.

ASTOR MODEL BNP.

Oper.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
2.	To receiver external aerial & earth sockets	9 lic/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 9 Mc/s. dial mark. Adjust 4.4-9.2 Mc/s. band oscl. coil trim.cond. for logging, then peak 4.4-9.2 Mc/s. band antenna and RF trans. trim condersers for max. output.
3.	To receiver external aerial & earth sockets	4.5 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 4.5 Mc/s dial mark. Leave cond. gang and dial pointer set in this position. Repeak 4.4-9.2 Mc/s. band oscl. coil ind. trim. (iron core) then peak the 4.4-9.2 Mc/s. band antenna and RF. trans. ind. trimmers (iron cores) for max. output. Do not rock the cond. gang or dial pointer to and fro through the signal while adjusting or move them off the 4.5 Mc/s dial mark until after the ind. trim. (iron core) of the three coils has been peaked for max. output.
4.	To receiver external aerial & earth sockets	9 Mc/s.	400 ohm non- inductive resistor	Turn cond, gang and dial pointer until centre of dial pointer is on 9 Mc/s. dial mark. Readjust 4.4-9.2 Mc/s. band oscl. coil trim. cond. for logging, then, repeak 4.4-9.2 Mc/s band antenna and RF transtrim. conds. for max. output.

Oper. No.	Generator Connection	Generator Frequency	Dumny Antenna	Instructions
				Rock cond. gang to and fro through the signal while adjust- ing the antema and RES trans. trim, condensers.
5.	To receiver external serial & earth sockets	6.5 Nc/s.	400 ohm non- inductive resistor	Check tracking at 6.5 Mc/s.
	SHORT-	MAVE BAND ALIG	MENT 9.1-14.5 M	o/s.
1.	To receiver external aerial & earth sockets	9.6 Mc/s.	400ohm non- inductive resistor	Turn wave change switch to 9.1-14.5 Hc/s. band. position Turn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position, and peak the 9.1-14. itc/s. band. oscl. coil ind. trin. (iro core) and the 9.1-14 Hc/s. band entenma and HF. trans. ind. trim. (iron cores) for max. output.
2.	To receiver external serial & earth sockets	14.2 Mc/s.	400 Ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 14.2 Mc/s. dial sark. Adjust 9.1-14.5 Mc/s band oacl. coil trim cond. for logging, then peak 9.1-14.5 Mc/s. band antenna & RP. trans. trim. confor pax. output.

SHORT-WAVE BARD ALIGHTED 14.4-18.5 Co./s.

Oper. No.	Generator Connection	Generator Frequency	Durny Antenna	Instructions	Onen	Cenerator	Constant	Danner	
3.	To receiver	9.6 Lic/s.	400 Ohr. non-	Turn cond. gang and dial	No.	Connection	Generator Frequency	Duncty Antenna	Instructions
	external aerial & earth sockets		inductive resistor	pointer until centre of dial pointer is on %.6 Me/s. dial mark. Leave the cond. gang and dial pointer set in this position and repeak the %.1-14.5 Me/s. band oscl. coil. ind. trim. (iron core) and the %.1-14.5 Me/s. band antenna and RF trans. ind. trimmers (iron cores) for max. Output. Do not rock the cond. grg to and fro through the signal or		To externel Aerial and earth sockets	15.2 Hc/s.	400 Ohn non- inductive resistor	Turn wave change switch to 13.4-18.3 Mc/s. band position Turn cond. gang and dial pointer until centre of dial pointer is on 18.2 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak the 14.4-18.3 Mc/s. band osel. coil ind. trin. (iron core) and the 14.4-18.5 Mc/s. band antenna and EP trans. ind. tringers (iron cores) for max. output.
	8 0	14 2 No.	400 Ohn man	move the dial pointer off the 9.6 kc/s. dial nark until after the ind. trim. (iron core) of the three coils has been peaked for max. output.		To external serial and earth sockets	18 lic/s.	400 Ohm non- inductive resistor	Turn cond, gang and dial pointer until centre of cial pointer is on 18 Me/s. diel mark. Adjust 16.4-16.3 Me/s. band pointer is on it frin, cond. for logging, then peak 11.4-16.3 Me/s. band antenna and RF trans. trim. conds. for.
4.	To receiver external aerial & earth sockets	14.2 Mc/s.	400 Ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 14.2 hc/s. mark on dial. Readjust 9.1-14.5 hc/s. band oscl. coil trim. cond. for logging, then repeak 9.1-14.5 hc/s. band antenna and hf trans. trim. conds. for max. output. Rock the cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. conds.		To external aerial and earth sockets	15.2 Nc/s.	400 Ohm non- inductive resistor	Fax. output. Turn cond. gang and dial pointer until centre of dial pointer is on 15.2 Mc/s. dial mark. Leave the cond. gang and dial pointer set in this position and repeak the 14.4-18.3 Mc/s. band cucl. doil ind. trin. (iron core) and the 14.4-18.3 Mc/s. band ant. and RF trans. ind. trinners (iron cores) for max. subput. Bo no rock the cend. gang to and fro through the signal or
5.	To receiver external serial & carth sockets	11.8 Hc/s.	400 Ohm non- inductive resistor	Check tracking at 11.8 lic/s.					nove the dial pointer off 15.2 Ho/s. dial mark mail after the ind. trin. (iron core) of the three coils has been peaked for max. output.

Plate

Connec-

Series Pad

PLATE (Red spot on lug)

B+ (Red spot on lug)

PLATE

tion

ASTOR MODEL BNP.

Oper. No.	Generator Connection	Generator Frequency	Duray Antenna	Instructions
4.	To receiver external aerial and earth sockets	18 Hc/s.	400 Ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 18 Mc/s. mark on dial. Readjust 14.4-18. Mc/s. band oscl. trim. cond. for logging, then repeak 14.4-18.3 Mc/s. band antenna and RF trans. trim. conds. for max. output. Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim. conds.
•	To receiver external serial and sarth sockets	16.2 fic/s.	400 Ohm non- inductive resistor	Check tracking at 16.2 Mc/s.

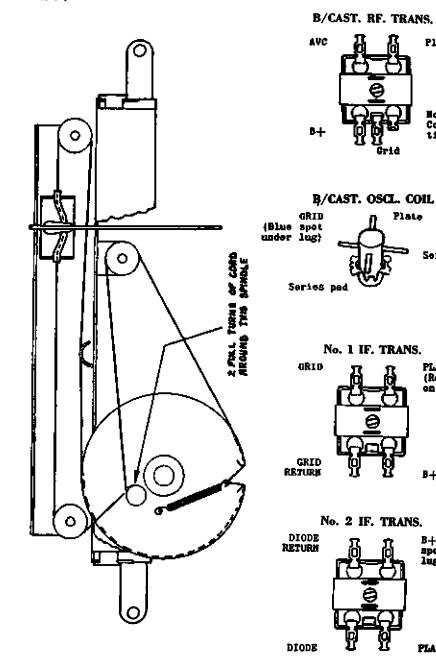
ô. Remove control knobs and alignment template from the chassis, then refit the chassis to the cabinet.

TUNING RANGE AFTER ALIGNMENT

535 - 1610 Kc/s. 1.6 - 4.5 Hc/s. 4.4 - 9.2 Hc/s. B/cast band S/wave bands 9.1 - 14.5 Mc/s. 14.4 - 18.3 Nc/s.

SHORT-WAVE COIL IDENTIFICATION SPOT COLOURS.

1.6	- 4.5	lic/s.	band	aerial RF				WHITE WHITE		on H	iron	COTE	end n	of	fc	rmer.
	11			Oscl.)RED			spot	te	81	ŧŧ	Ħ	11		11
4.4	- 9.2	lic/s.	bend	aerial	(PT91	Ś)WHI	TE		- 41	99	47	10	11	EB		10
	er .	•		RF		3)WH)			н	10	41	62	10	11		rı
	H			Oscl.)WHI?			14	10		11	Ħ	**		18
9.1	-14.5	Mc/s.	band	aerial	(1204)BLAC	κ	& WHI	E sp	ots	on ir	on co	re e	nd (of	former.
	14	•		rf				e whi			tf	14 16	t		11	11
	11			Oscl.	(1203					y v	11		1	11	*	tt
14.4	-18.3	Mc/s.	band	aerial	(1206	YEL	LOW	& WH	ITE s	pota	11	E1 61	ì	tt	Ħ	tt
	11	•		rf				& VH		1	10		I	t t	11	ta
	16			Oscl.	(1205	YEL		,	g.	not	ET .	11 11	1	tt	ŧŧ	tł .



A17.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MANTEL MODEL "BNQ"

5 VALVE SUPERHETERODYNE BROADCAST RECEIVER

FOR OPERATION FROM:

200-240 Volt 50 Cycle AC. Supply Mains (Power Trans. PT962)
Trans. pri. taps-200V. mains and 230-240V. mains.

230-250 Volt 40 Cycle AC. Supply Mains (Power Trans. PT983)
Trans. pri. taps-230V. mains and 250V. mains.

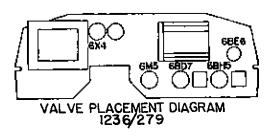
Power Consumption 40 Watts (approx.)

TUNING BANGE:

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

THIS BULLETIN CONTAINS:

Alignment Instructions. Circuit Diagram. Component Connections for Transformers. Cleaning Agent for Cabinet. Valve Placement Diagram.



ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

wise.

Signal Generator: Output Meter:

Alignment Tool

ter:

Mica Capacitor: 0.0

0.01MF (for I.F.T.

alignment).

Dummy Antenna: 200 MMF. Mica

Capacitor. Type M195. Output Level: Vol. Control:

Input Voltage:

Intermed. Freq.: 455 Kc/s.

Load Impedance: 7.000 ohms.

230 Volts 50 Cycle A.C. input to trans.

50 Milliwatts.

Max. Vol. fully clock-

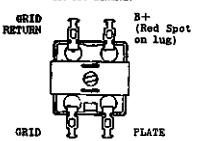
Z30V, pri. tap
Tone Control: Treble position

CLEANING AGENT FOR PLASTIC CABINET:

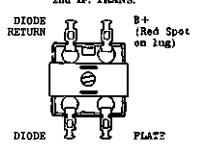
Do not polish the cabinet with an abrasive material or motor car polish, as permanent damage may result to the finish of the toughened polystyrene material of which the cabinet is made.

To restore the cabinet lustre, wipe the cabinet with a soft cloth dampened with water and lightly polish with PEPCO furniture polish.

1st IF. TRANS.



2nd IF. TRANS.



ANTENNA TRANS.:

Start of winding - furthest from mounting end - Antenna Finish of winding - nearest to mounting end - Signal grid.

OSCL. COIL:

Start of winding - furthest from mounting end - Junction of circuit Nos 9 and 14 Finish of winding - nearest to mounting end - Oscl. grid.

POWER TRANS. (PT962) 50 cycle.

POWER TRANS. (PT983) 40 cycle.

PRI.

Red lead-common. Steads
Green lead-200v. Schanged
Black lead-230 & 240v. to lugs

HT. SEC.

Blue lead-start.
Yellow lead-centre tap.
Blue lead-finish.

| Changed to lugs | Changed to lugs |

LT. SEC. (two windings in parallel)
Start and finish in winding wire.

PRI.

Red lead-common. | leads | Green lead-230V. | changed | to lugs |

HT. SEC.

Yellow lead-start. Slue lead-centre tap. Changed to lugs

LT. SEC. (two windings in parallel).
Start and finish in winding wire.

ASTOR MODEL BNQ.

DUMMY ANTENNA:

The 200 MMF dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment. The 200 MMF, dummy antenna 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, is should be rolled up into a small hank.

I.F. TRANS. ALIGNMENT:

Oper- ation No.	Generator	Generator Frequency	Dummy Antenna	Instructions
1. 2.	Remove receive To signal grid of 68H5 valve (pin No. 2).		0.01MF mica capacitor in series with	detailed on page 7. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.
3.	To signal grid of 6BE6 valve (pin No. 7).		generator. 0.01MF mica capacitor in series with generator.	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are fully out of winding on coil formers. Peak lst IF. trans. pri. and sec. for
4.				max. output. Repeat operations Nos. 2 and 3.

B/CAST BAND ALIGNMENT:

- 1. Refit chassis to front section of cabinet.
- 2. Refit control knobs and tuning pointer knob.
- 3. DIAL POINTER SETTING

Turn tuning pointer-knob anticlockwise until perm. tuner iron
ceres are out of windings on coil
formers and the unit is hard
against the stop. Loosen two
grub screws in perm. tuner roller.
Set centre of line on dial pointer
to align with centre of end of
travel spot on dial reading near
1700 Kc/s. Securely tighten the
two grub screws.
Turn tuning-knob and perm. tuner
until centre of line on dial

I. To antenna 1000 Kc/s. 200 MMF mica junction lug capacitor in on chassis series with generator

Turn tuning-knob and perm. tuner until centre of line on dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak oscl. coil trimmer condenser then peak antenna trans. trim. cond. for max. output. Repeak oscl. coil trim cond.

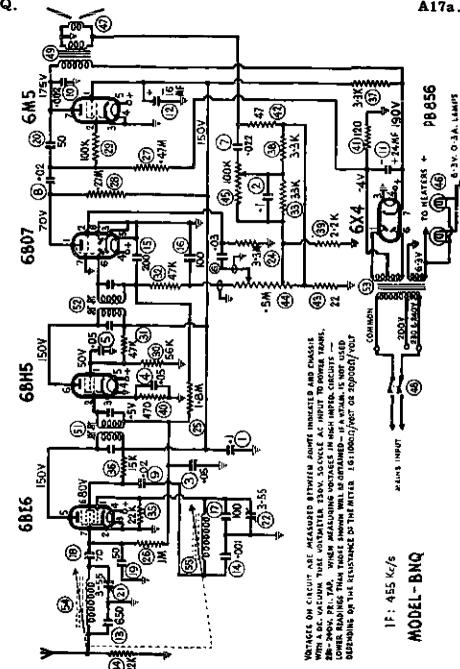
- 5. Tuning range after alignment 535 1640 Kc/s.
- 6. Check logging at each end of the band then refit rear section of cabinet.

 NOTE 1: Both iron cores are pre-set at the factory to an exact dimension of 2.275"

 between the extreme end of the former protruding through the rubber grommet,
 and the end of the iron cores in the former, when the perm. tuner unit

 spindle is turned fully anti-clockwise and is hard against the stop.

 If incorrect logging and mis-alignment are to be avoided, no adjustment
 of the iron cores must be made to vary this dimension. Both iron cores
 must have the same colour identification spot on the end of the iron core.
- NOTE 2: Receivers with a perm. tuner unit fitted with iron cores having a blue spot on the end of the core must use dial reading part No. Al03/835 and receivers with a perm. tuner unit with brown spot iron cores the dial reading must be part No. Al03/835-1.



A18.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

TABLE MODEL BNS 7 VALVE SUPERHETEROYDNE FIVE BAND RECEIVER

FOR OPERATION FORM: -

200-240 Volt 40 or 50 Cycle Supply Mains (Power Transformer T119)
Power Trans. Primary Mains Tap-red-common.

" " -green-200V mains.
" " -green-200V mains.
" " -black-230 & 240V. mains

200-250 Volt 40 or 50 Cycle Supply Mains (Power Transformer T120)

Fower Trans, Prinary Mains Tap-red-common.

" " " " " " green-200V mains.
" " " " " -black-230 & 240V mains
" " " -white-250V mains

POWER CONSUMPTION: -

60 Watts-approx.

TUNING RANGES :-

Broadcast Band:-		560.7 - 186.3 Metres
(1.6 - 4.5 Mc/s.	187.5 - 66,66 Metres
Shortweve (4.4 - 9.2 Mc/s.	68.18 - 32.60 Metres
Tuning Ranges (9.1 -14.5 Mc/s.	32.96 - 20.68 Metres
	14.4 -18.3 MMc/s.	20.83 - 16.39 Metres

INTERMEDIATE FREQUENCY:

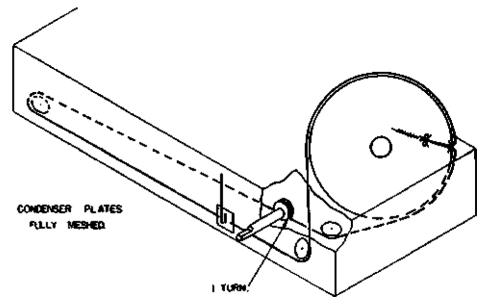
455 Kc/s.

THIS BULLETIN CONTAINS:-

Alignment Instructions.
Circuit Diagram.
Connections for IF. and RF. transformers.
Dial Drive Cording Diagram.
Valve Placement Diagram.

CORDING OF DIAL DRIVE

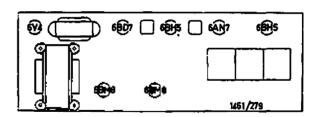
Note: 1 turn of dial cord around tuning spindle drive pulley increased to 2 turns.

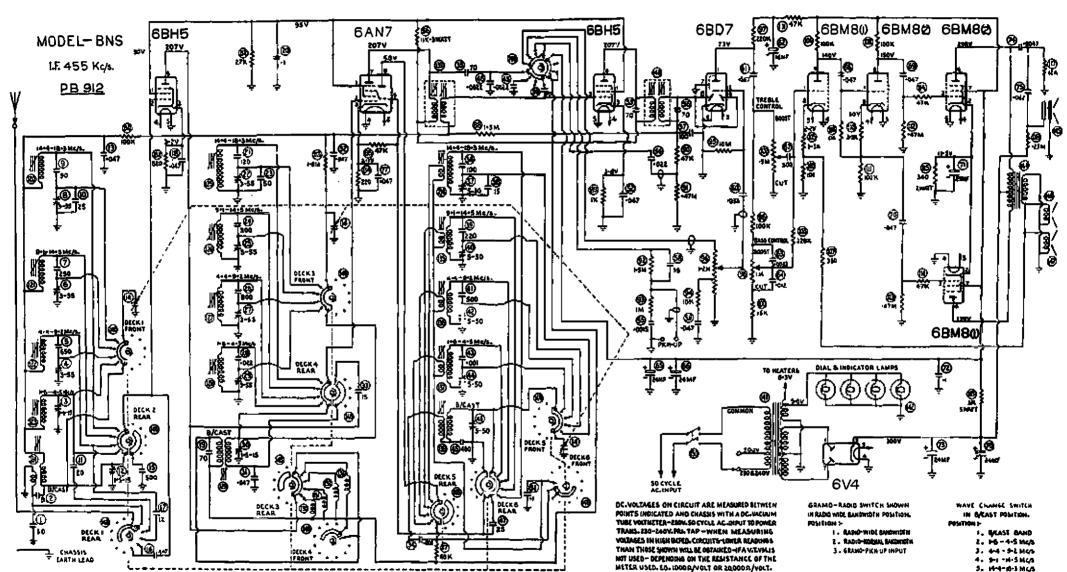


Length of cord required is 5 ft. 6 ins. which includes about 6 ins. to spare for tying to the tension spring.

Cord Part No. 34/784.

Tension Spring Part No. 21/698.





of 6AN7 valve

Repeat operations No.2 & 3.

pin No.2

ASTOR MODEL

		<u>ALIC</u>	NIENT PROCE	DURE.		S 2.115.	BRO/, DC.\S
	EQUIP	<u> 19at</u>		<u> A LI GNMENT</u>	CONDITIONS.	NOTE: 1.	Supplied wit template par
Signal Genera Output Meter		O.OIMF	T	3 T			Fasten align cellulose ta
Mica capacito Dumny Antenna		200 MMF Hic		d Impedance:	2 Ohrs (output meter connected across sec. of		The centre 1 the dial bac
Dumy Antenna	:	400 Ohm non inductive resistor	!~		10,000 : 2 Ohn imped. speaker trans.		Should the t
IF. Attenuato	rı	.0039 MF pe condenser e a 22 K. ohr	nd Vol	put Level: . Control:	50 Hilliwatts Nax. Vol. fully	NOTE: 2.	
re	sistor		n Gra	mo Radio ction Switch:	clockwise Position No.2. "Radio" (normal		the dial point call signs on
Alignment Too	le:	Type M195 & PM581	Inp	ermed. Freq.: out Voltage:	bandwidth) 455 Kc/s 230 Volts 50 Cycle AC. input to trans.		In the base a pair of lo dial pointer logging. Ho
Alignment Tem	plate :	Part No.PB9	Ton	e Control :	230-240 Volt pri. tap. Treble position	Oper- ation No.	Generator Generator From From From Generator From Generator Genera
	enerato onnecti	r	TRANS ALICM Generator Frequency	Dumny Antenna	Instructions	bet	meet IF. attenuateen the signal ssis.
1. Remove re							centre of dial
	ecerver bullati	chassis fro	m cabinet a	s detailed in th	e following pages	2. Set res	ding template n
2. To of (ecerver bulleti: control 6BH5 2n ve pin 1	n. grid d. IF.	m cabinet a	0.01MF Mica capacitor	Turn wave change switch to b/cast. band.Turn gramo radio function	res 3. To	ding template no antenna 60
2. To of (bulleti control 6BH5 2m	n. grid d. IF.		0.01HF Mica capacitor inseries with	Turn wave change switch to b/cast. band.Turn gramo	res 3. To te	ding template no antenna 60

capacitor

in series

ator

attached to valve

socket. Turn cond.

out of mesh. Peak lst. IF. trans.pri.

with gener- gang plates fully

and sec. for max cutput.

BROADCAST BAND ALIGNMENT.

NOTE: 1.	Supplied with each BNS-1 Service Bulletin in an alignment template part No.FB949.
	Fasten alignment template on to front of dial back plate with cellulose tape.
	The centre line of the template is to be on the centre line of the dial back plate.
	Should the template be lost, another template may be made by fastening the template diagram from this bulletin on to cardboard.

NOTE: 2. When the receiver has been realigned and refitted to the cabinet the dial pointer may be moved for correct logging to the station call signs on the dial in the cabinet.

In the base of the cabinet near the front is a slot through which a pair of long nose pliers may be inserted to grip the base of the dial pointer to slide it in either direction to correct the logging. Hold tuning knob tight when moving the pointer.

atio		Generator Frequency	Dumy Antenna	Instructions
1.	Connect IF. at between the si chassis.	tenuator (.00 gnal grid (pi	39 MF and 22K. o n No.2.) of 6BH5	hn resistor in series) 2nd. IF. valve and the
2.				of travel mark on dial ang plates fully meshed.
3.	To antenna terminal	600 Kc/a.	200MMFD Mica capacitor in series with generator.	Turn cond. gang and dial pointer until dial pointer is on 600 Ke/s. dial mark. Leave the cond. gang and dial pointer set in this position and peak the B/cast oscl. coil. ind. trim. (iron core) for max. output.
4.	To antenna terminal	1400 Kc/s.	200MFD. Mica capacitor in series with generator.	Turn cond. gang and dial pointer to 1400 Kc/s. dial mark. Adjust B/cast oscl. coil trim. cond. for logging and peak B/cast. ant. and RF. trans. trim. condensers for max. output.
5.	To antenna terminal	600 Kc/s.	2001AFD. Hica capacitor in series with generator.	Turn gang and dial pointer to 600 Kc/s. dial rark. Leave the cond. gang and dial pointer set in this position. Re-peak the B/cast osel. coil ind. trim. (iron

core) then peak the B/cast.

ASTOR MODEL BNS.

antenna and RF. trans. ind. trimmers (iron cores) for max. output. Do not rock the cond. gang to and fro through the signal while adjusting or nove the dial pointer off 600 Kc/s. dial mark until after the ind. trimmer of these three transformers have been peaked for max. output. Repeat operation No.4.

6. To antenna terminal

1400 Kc/s. 200 MHFD Mice capacitor in series with

SHORT-WAVE BAND ALIGNMENT 1.6-4.5 Mc/s.

generator.

(This band is to be aligned before the higher frequency shortwave bands).

Oper atio No.	M.	Generator Connection	Generator Frequency	Dumry Antenna	Instructions
1.		antenna rminal	1.7 Mc/s.	400 ohm non- inductive resistor	Turn wave change switch to 1.6-4.5 Mc/s. band position. Turn cond. gang and dial pointer until centre of dial pointer is on 1.7 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak 1.6-4.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 1.6-4.5 Mc/s. band antenna and RF trans. ind. trin. (iron cores) for rax. output.
2.		antenna. rninal	4.2 Mc/s	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 4.2 Mc/s. dial mark. Adjust 1.5-4.5 Mc/s. band oscl. coil trim. cond. for logging, then peak 1.6-4.5 Mc/s. band antenna and RF trans. trim. cond. for max. output.

- To antenna 1.7 Mc/s. 400 ohn non-Turn cond. gang and terminal inductive pointer until centre of dist resistor pointer is on I.7 Mc/s mark on dial. Leave the cond.gang and dial pointer set in this position. Repeak 1.6-4.5 Hc/s. band oscl. coil ind. trin. (iron core) then peak the 1.6-4.5 Hc/s. band antenna and RF trans.ind. trim. (iron cores) for max. output. Do not rock the condenser sang to and fro through the signal or move the dial pointer off the 1.7 Mc/s. dial mark until after the ind. trim (iron core) of the three coils has been peaked for max. output.
- To antenna 4.2 Mc/s. 400 ohm non-Turn cond. gang and dial terminal inductive pointer until centre of dial resistor pointer is on 4.2 Mc/s. mark on disl. Readjust 1.6-4.5 Mc/s. band oscl. coil trim cond. for logging then repeak 1.6-4.5 Mc/s band antenna and RF trans. trim, condensers for max. output. Rock cond. gang to and fro through the signal while adjusting the antenna and RF. trans. trim. conds.
- To antenne 3'Mc/s. 400 ohm nonterminal inductive resistor

5.

SHORT-WAVE BAND ALIGNMENT 4.4-9.2 Mc/8.

To antenna 4.5 lic/s. 400 ohm nonterminal inductive resistor

Turn wave change switch to 4.4-9.2 Mo/s band position. Turn cond. gang and dial pointer until centre of dial pointer is on 4.5 Mc/s. mark on diel. Leave cond. gang and dial pointer set in this position and peak the 4.4-9.2 Mc/s. band cscl. coil ind. trim. (iron core) and the :.4-9.2 Mc/s. bend antenna and RF trans. ind. trim (iron cores) for max. output.

Check tracking at 3 Mc/s.

ASTOR MODEL BNS.

		4			MODEL B	NS.			
2.	To artenna terminal.	9 Mo/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 9 Mc/s. dial mark. Adjust 4.4-9.2 Mc/s. band cscl. coil trim. cond. for logging, then peak 4.4-9.2 Mc/s. band antenna and RF trans, trim condensers for max. output.					leave the cond. gang and dial pointer set in this position, and peak the 9.1-14.5 Mo/s. band oscl. coil ind, trim, (iron core)
3.	To antenna terminal	4.5 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dial pointer is on 4.5 Mc/s. dial mark. Leave cond. gang and dial pointer set in this position. Repeak 4.4-9.2 Mc/s. band osel. coil. ind. trim (iron core) than peak the 4.4-9.2 Mc/s. band ant. and RF trans. ind. trimers (iron cores) for max. output. Do not rock the cond. gang or dial pointer to	2.	To antenna terminal	14.2 Mc/s.	400 ohn non- inductive resistor	and the 9.1-14.5 Me/s. band antenna and RF trans. ind. trim. (iron cores) for max. output. Turn cond. gang and dial pointer until centre of dial pointer is on 14.2 Me/s. dial mark. Adjust 9.1-14.5 Me/s. band cscl. coil trim. cond. for logging, then peak 9.1- 14.5 Me/s. band ant. and RF trans. trim. conds. for max. output.
4.	To antenna terminal	9 Xo/ a.	400 ohm non- inductive resistor	and fro through the signal while adjusting or move them off the 4.5 Mc/s, dial mark until after the ind, trim. (iron core) of the three coils has been peaked for max, output. Turn cond, gang and dial pointer until centre of dial pointer until centre of dial pointer is on 9 Mc/s, dial mark, Readjust 4.4-9.2 Mc/s, hand cocl. coil trin.cond. for logging, then repeak 4.4-9.2 Mc/s, band antenna and RF trans, trim. conds. for max, output. Rock cond. gang to and fro through the signal while	5.	To entenna	9.6 No/s.	400 ohn non-	Turn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mo/s. dial mark. Leave the cond. gang and dial pointer set in this position and repeak the 9.1 -14.5 Mc/s. band oscl. coil ind. trim. (iron core) and the 9.1-14.5 Mc/s. bend ant. and RF truns. ind trimmers (iron cores) for max. output. Do not rock the cond. gang to and fro through the signal or nove the dial pointer off the 9.6 Mc/s. dial mark until after the ind. trim, (iron core) of the three coils has been peaked for max. output. Turn cond. gang and dial
5.	To anterna terminal	6.5 Mc/s.	400 ohn non- inductive resistor	adjusting the antenna and RF trans. trim. condensers. Check tracking at 6.5 Mo/s.		terminal		inductive resistor	pointer until centre of dial pointer is on 14.2 Mc/s. mark on dial. Readjust 9.1-14.5 Mc/s. band osol. coil trim. cond. for logging, then repeak 9.1-14.5 Mc/s. band antenna and RF trans. trim. conds. for max. output.
		SHOR	R-FAVE BAND ALIC	MENT 9,1-14,5 Mc/s,					Rock the cond. gang to and
1.	To antenne terminal	9.6 Mc/s.	400 ohm non- inductive resistor	Turn wave change switch to 9.1-14.5 Mc/s. band position. Turn cond. gang and dial pointer until centre of dial pointer is on 9.6 Mc/s. dial mark.	5.	To antenna terminal	11.8 Mo/s.	400 ohm non- inductive resistor	fro through the signal while adjusting the enterms and RF trans. trim. conds. Check tracking at 11.8 Mc/s.

A18e.

SHORT-WAVE BAND ALIGNMENT 14.4-18.3 No/s.

		·		
1.	To antenna terminal	15.2 No/s.	400 ohn non- inductive resistor	Turn wave change switch to 14.4-18.3 Mc/s. band position. Turn. cond. gang and dial pointer until centre of dial pointer is on 15.2 Mc/s. mark on dial. Leave the cond. gang and dial pointer set in this position and peak the 14.4-18.3 Mc/s. band oscl. coil ind. trim. (iron core) and the 14.4-18.3 Mc/s. band entenn and RF trans. ind. trimmers (iron cores) for max. output.
2.	To antenna terminal	18 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dia pointer is on 18 Mc/s. dial mark. Adjust 14.4-18.3 Mc/s band oscl. coil trim. cond. for logging, then peak 14.4-18.3 Mc/s band antenna and RF trans. trim conds. for max, output.
3.	To antenna terminal	15.2 Mc/s.	400 ohm non- industive resistor	Turn cond. gang and dial pointer until centre of dis pointer is on 15.2 Mc/s. di mark. Leave the cond. gang and dial pointer set in thi position and repeak the
				14.4-18.3 Mc/s. band oscl. coil ind. trim (iron core) and the 14.4-18.3 Mc/s. band ant. and RF trans. ind trimmers (iron cores) for max. output. Do not rock the cond. gang to and fro throuthe signal or move the dial pointer off 15.2 Mc/s. dial mark until after the ind. trimmer (iron core) of the three coils has been peaked for max.output.
4.	To antenna terminal	18 Mc/s.	400 ohm non- inductive resistor	Turn cond. gang and dial pointer until centre of dis pointer is on 18 Mc/s. mark on dial. Readjust 14.4-18.3 Mc/s. band oscl. trim. cond for logging, then repeak

gang and dial til centre of dial on 15.2 Mc/s. dial re the cond. gang cointer set in this ind repeak the

.4-18.3 Mc/s. and RF trans. ind. iron cores) for it. Do not rock the to and fro through or move the dial f 15.2 Mc/s. dial after the ind. ron core) of the s has been peaked tout. gang and dial til centre of dial on 18 Mc/s. mark leadjust 14.4-18.3 oscl. trim. cond. for logging, then repeak 14.4-18.3 Mc/s. band antenna and RF trans. trim. conds. for max. output.

Rock cond. gang to and fro through the signal while adjusting the antenna and RF trans. trim conds.

- 5. To antenna 16.2 Mc/s. 400 ohm non-Check tracking at 16.2 Mc/6. terminal inductive resistor
- Remove IF. attenuator and alignment template, then refit chassis to cabinet.
- If the dial pointer does not log correctly with the stations marked on the b/cast section of the dial in the cabinet, tilt the cabinet on to one end. In the base of the cabinet will be seen a slot near the front edge, through this hole grip

the base of the pointer with a pair of long nose pliers and slide the pointer to the left or right the distance required to correct the logging.

Hold tuning knob tight when moving the dial pointer.

TUNING RANGE AFTER ALIGNMENT.

B/cast band 535 - 1610 Kc/sS/wave bands 1.6 - 4.5 Mc/B. 4.4 - 9.2 Mc/s. 9.1 -14.5 Mo/s. 14.4 -18.3 Mc/s.

SHORT- WAVE COIL IDENTIFICATION SPOT COLOURS.

1.6 - 4.5 Mc/s.	band	aerial RF	(1201)	RED RED	& 71 & W	HITE HITE	apots	on	iron	core	end	of	former	r•
11 4.4 - 9.2 Mo/s.	band	Oscl.	(1221) (PP913)BLUE 3)WHJ	i Te								former	
11		Oscl.	(PT913 (1217))EROW	THI .		£T .	0	11 11	41	Ħ	Q	tt	
9.1 -14.5 Mc/s.	band	aerial RF	(L204))BIAC	К &	: WHE	E apoi	te o	on ire	on com	re er	nd o	of form	œr.
и 14.4-18.3 Мс/в.	band	aerial	(L206)) YELL	OW	& WHI	ME spe	ote	on ix	con ce	are e	end		rper
tt sa		RF Oscl.											former	

NOTE: Check the logging of the shortwave bands on some well known shortwave stations. If a crystal calibrator is available check the logging at several 100 Kc/s. marks on the dial.

SHORT-WAVE ANT. TRANS.

Lead from top lug (iron core end):

GRID

Lead from bottom lug (mounting end): $\label{eq:AVC} \textbf{AVC}$

SHORT-WAVE RF. TRANS.

Lead from top lug (iron core end):
GRID

Lead from bottom lug (mounting end): CHASSIS

SHORT-WAVE OSCL. COILS

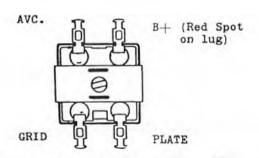
SECONDARY:

Lead from bottom lug (mounting end)—CHASSIS Lead from top lug (iron core end) —GRID

PRIMARY:

Lead from bottom lug (mounting end) -OSCL. PLATE Lead from top lug (iron core end) -B+

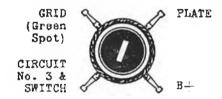
No. 1 IF. TRANS.



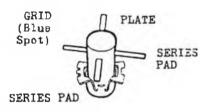
ANTENNA TRANS, B/CAST.



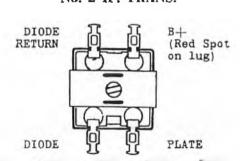
RF, TRANS, B/CAST.

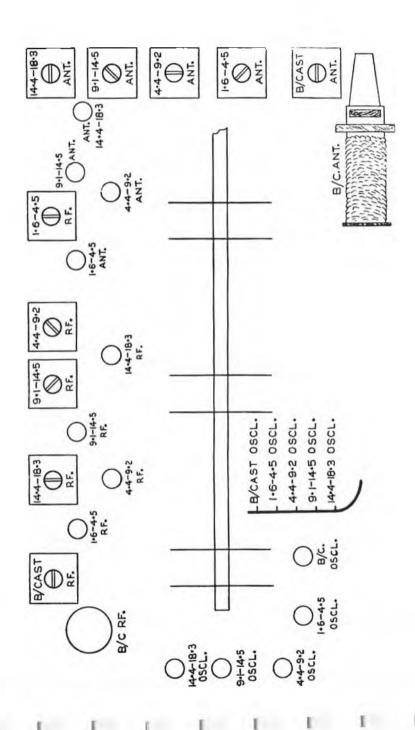


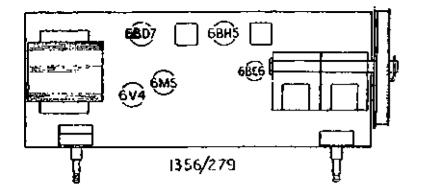
OSCL. COIL B/CAST.

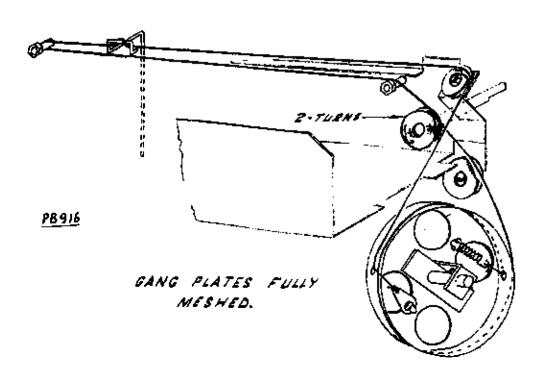


No. 2 IF. TRANS.











RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MANTEL MODEL "BPJ

5 VALVE SUPERHETERODYNE BROADCAST RECEIVER.

FOR OPERATION FROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer T171)

Power trans Primary Tap-red-common

" " "-green-200 Volt mains.

" "-black-230 & 240 Volt mains.

When the receiver is to be operated from a 250 volt 40 or 50 cycle AC. supply mains the transformer primary connections are as for the 240 volt supply mains but a 180 0hm 10 watt resistor Part No. R166 is to be mounted beneath the chassis and wired in the yower trans. common leed (red).

POWER CONSUMPTION: 40 Watts-approx.

TUNING RANGE: 535-1610 Kc/s. - 560.7-186.3 Metres.

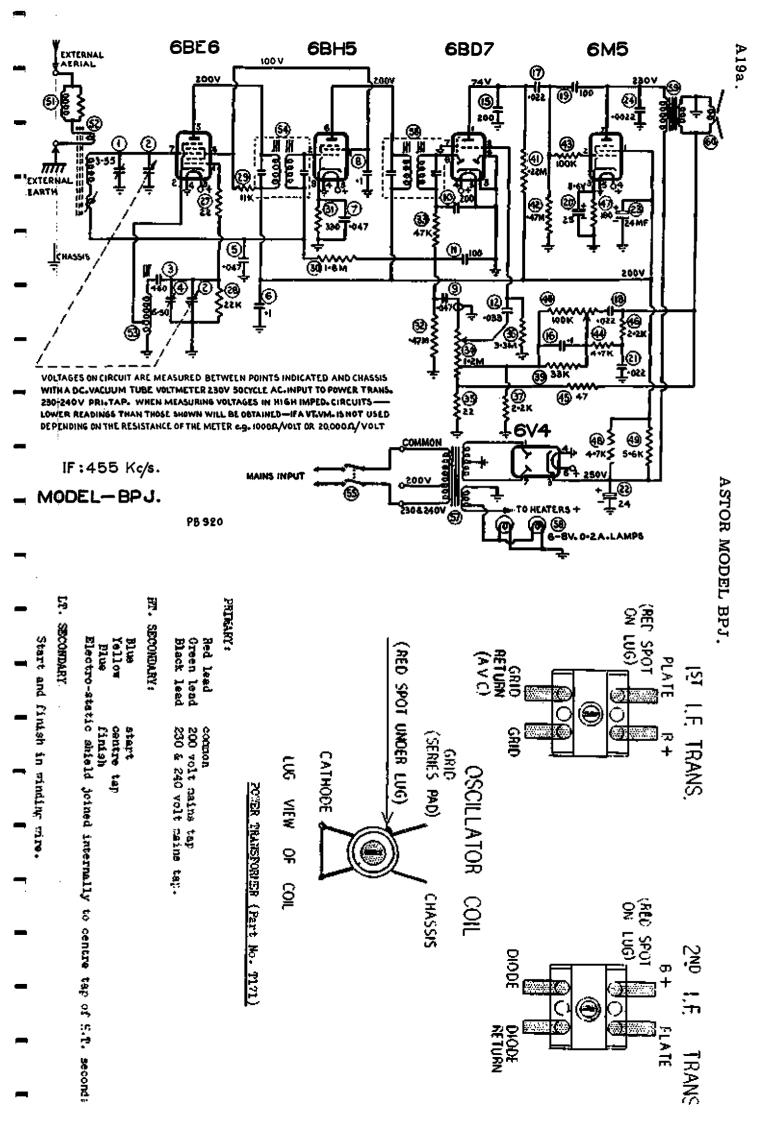
THIS BULLETIN CONTAINS:

Alignment Instructions.

Circuit Diagram.

Valve Placement Diagram.

Instructions for Replacing Dial Reading.



EQUIPMENT.

ALIGNMENT CONDITIONS.

Signal Generator: Outcut Meter: Mica Capacitor:

Dummy Antenna:

4.

O.OLMF Mica Capacitor for I.F. trans alignment 200 MMF Mica Capacitor

Straight Alignment Tool: type PM581 for b/cast. trim. adjustment Flexible Alignment Tool: type 48/712 for

> b/cast. osc. coil core and I.F.T. core adjustment.

Load Impedance: 7000 ohms Output Level: 50 Milliwatts Vol. Control: Max. vol. fully clockwise.

Intermediate Fraquency: 455 Kc/s. Input Voltage: 230 Volts 50

cvcle AC input to trans. 230-240V. Primary tap.

Tone Control: Treble position, fully clockwise.

IF. ALICHMENT.

Operation Generator Generator No. Connection Frequency Antenna

Durany

Instructions.

- 1. Remove receiver chassis from cabinet as detailed in the following pages of this bulletin.
- To signal 455 Kc/s. 0.01MF Mics grid of 6BH5 valve (pin series with No. 2.) generator

Leave grid wire attached to capacitor in valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.

To signal 455 Kc/s. O.OlMF Mica grid of 6BE6 valve (pin series with. No. 7) generator

Turn tuning control until capacitor in condenser gang plates are fully out of mesh. Leave grid wire attached to valve socket. Peak 1st I.F. trans pri. and sec. for max. output.

Repeat operations 2 and 5.

BROADCAST ALIGNMENT.

- 1. Fully mesh the condenser 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 535 Kc/s.
- To AVC connection of rod series with aerial generator

600 Kc/s. 200 MMF Mica Turn cond. gang and diel pointer capacitor in to 600 Kc/s. dial mark. Leave the cond. gang and dial pointer set in this position, peak osc. coil ind. trim (iron core) and the sec. trimmer coil on ferrite rod aerial for max. output.

Do not rock the cond. gang to and fro through the signal or move the dial pointer off the 600 Kc/s dial mark until after the inductance trimmer and the rod trimmer coil have been peaked for max. output.

3. To AVC connection of rod aerial

4.

1400 Kc/s 200 MMF

Mica

Turn cond. game and dial pointer until centre of dial pointer is on capacitor 1400 Kc/s. dial mark. Adjust osc. coil in series trim. cond. and rod aerial trim. condenser for max. output.

Repeat operations 5 and 6.

Refit receiver chassis to cabinet. Tuning range after alignment 535 - 1610 Kc/s.



ECLIPSE RADIO PTY. LTD.

11-21 STURT STREET, SOUTH MELBOURNE TECHNICAL BULLETIN

BULLETIN BPM-1

File: RECEIVERS AC.

Date: 24:8/54

MODEL-BPM

5 Valve Superheterodyne Broadcast Mantel Model Receiver

FOR OPERATION FROM:

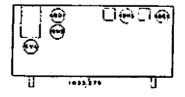
200-250 Volt 50 Cycle AC. Supply Mains.

Power trans. primary mains tape: 200-220 volts and 221-250 volts.

Power Consumption 40 Watts (approx.)

TUNING RANGE:

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



(3)

1F: 455 Kc/s

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COOKING S

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6807

6BHS

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68E6

ALIGNMENT PROCEDURE

ALIGNMENT CONDITIONS

Load Impedance: 7,000 ohms Signal Generator: Output Level : 50 Milliwatts Output Meter Mica Capacitor : 0.01MF (for I.F. Vol. Control : Max. Vol. fully

ROUIPMENT

Operation Generator Generator

trans. alignment) clockwise.

: 200 MMF. Mica Intermed. Freq.: 455 Kc/s. Dummy Antenna Capacitor Input Voltage : 230 Volts 50 Cycle

Alignment Tool : Type M195 AC. input to trans. 221-250 volt pri. tap.

Cummy 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.

ALIGNMENT: The I.F. transformer variable iron cores and the trimmer condensers beneath the perm tuner are accessible when the rear section of the cabinet is removed from the front section.

A short thin screw-driver or a long thin screw driver (having a slight bend) inserted through the holes in the chassis is used for adjusting the screw in the perm tuner trim. condensers.

Dismov

No.	Connection	Frequency	Antenna	Instructions
1.				n of cabinet remove the screw abinet off the front section.
2.	To signal grid of 6BH5 valve (pin No. 2)	455 Kc/s.	0.01 MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
3.	To signal grid of 68E6 valve (pin No. 7)	455 Kc/s	0.01 MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Turn perm tuner so that iron cores are fully out of windings on coil formers. Peak 1st IF trans. pri. and sec. for max. output. Repeat operations No. 2 and 3.

- Turn perm. tuner so that the iron cores are fully out of the windings on the coil formers and hard against the stop. Set the centre of the dial pointer on the end of travel spot on the dial reading near 1700 Kc/s. From the rear of the dial the pointer may be moved with a pair of long nose pliers.
- To antenna 1000 Ke/s. 200 MMF mica Turn perm tuner until centre junction lug capacitor in of dial pointer aligns with series with centre of spot on dial reading on chassis generator at 1000 Kc/s. Peak oscl. coil trimmer conlenser then beak antenna trans. trim. cond. for max. output. Repeak usel, coil trim, cond.
- Tuning range after alignment 535 1640 Kc/s.
 - Theck logging at each end of the dial; then refit rear section of the cabinet.

MOTE: Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber gromme: and the end of the iron cores in the former, when the unit is turned fully anti-clockwise and is hard against the stop.

Ir incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the screw end of the iron core.

MODEL - BOL

FOR OPERATION FROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer T202) Power trans Primary Tap-red-common

" -green-200 Volt mains. " -black-230 & 240 Volt mains

200-250 Volt 40 or 50 Cycle AC, Mains (Power transformer T203)

Power trans, Primary Tap-red-common

-creen-200 Volt mains. -black-230-240 Volt mains

" -white-250 Volt mains

NOTE: Record changer drive pulley for 40 cycle mains operation is

Part No: 346/524

POWER CONSUMPTION:

Radio Operation - 50 Watts-approx. Gramo Operation - 76 Watts-approx.

TUBING RANGE:

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

ALIGNMENT PROCEDURE.

EQUIPMENT

Mica Capacitor :

ALIGNMENT CONDITIONS

Signal Generator: Modulated 400 CPS. Output Keter: Connect output Output Meter

meter across 0.01MF. (for IF. secondary winding

trans. alignment) of one output

200MF Mica transformer Dumy antenna : Capacitor

Output Level: 50 milliwatts Alignment Tools speaker voice coil (a) type M195 for disconnected

IF. transformer 20 milliwatts alignment. speaker voice coil

connected

(b) type PM581 for broadcast Output Meter

trimmer 4 Ohma. Impedance: alignment Vol. Control: Max. Vol. Fully

> Intermed. Freq. 455 Kc/s.

Input Voltage: 230 Volts 50 Cycle

clockwise

AC. input to trans.

230-240 volt mri. tap.

Treble position. Tone control : Fully clockwise.

TRANSFORMER CONNECTIONS.

POWER TRANSFORMER.

PART NO. T202 40 & 50 cycle mains PART NO. 7203 40 & 50 cycle mains

FRI. Red lead - Common Red lead - Common

Green lead - 200V mains Green lead - 200V mains

Black lead - 230 & 240V naine Black lead - 230 & 240V mains

White lead - 250V mains

Electro-static shield joined internally to centre tap of HT. secondary.

HT. Secondary HT. Secondary

Start - Blue lead Start - Blue lead Centre tap - yellow lead

Centre tap - yellow lead Finish - Blue lead Finish - Blue lead

LT. Secondary LT. Secondary

Start and finish in winding wire Start and finish in winding wire

ANTENNA COLL

Start of winding - furthest from mounting end - Junction of Circuit No. 2, 41 and antenna.

Finish of winding - nearest to mounting end - Junction of Circuit No. 1. and 3

OSCILLATOR COIL.

Start of winding - furthest from mounting end - Junction of Circuit No. 6

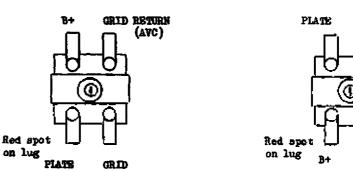
Finien of winding - nearest to mounting end - Junction of Circuit No. 5 7. 43. and 44.

IST I.E. TRANS.

on lug

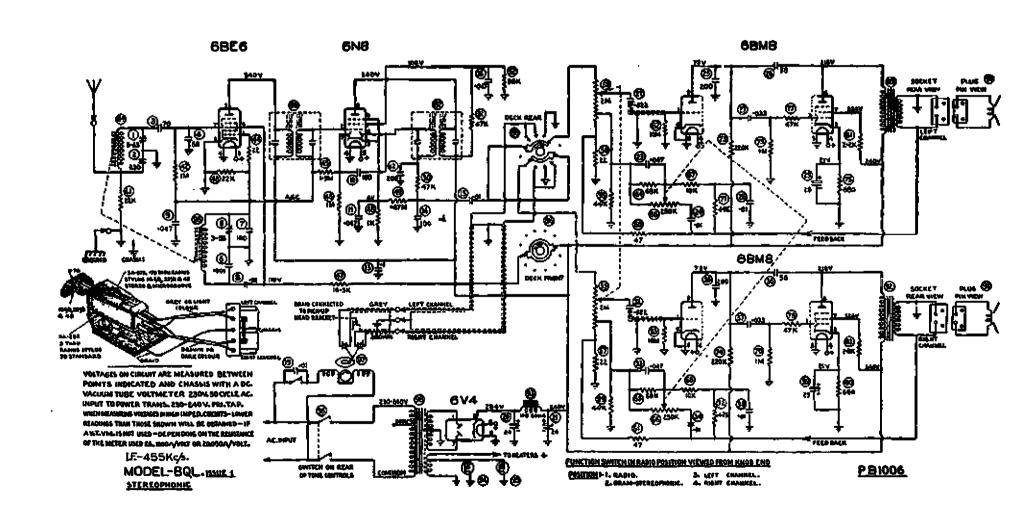
2ND LE TRANS.

DIODE



DIODE RETURN

A22. ASTOR MODEL BQL.



A21b.

Open lid of cabinet and secure pick-up arm under rest pillar chip.

Remove the screws fastening the rear panel then recove panel from cabinet.

With the rear of the cabinet toward operator place the cabinet on to a table so that end of the cabinet adjacent to the record changer is against the flat surface of the table.

IF. TRANSFORMER ALIGNMENT.

Oper No.	Generator Connection	Generator Frequency	Durry Antenna	Instructions
1.	To signal grid of 688 IF. valve pin Bo. 2	455 Kc/s.	0.01MP Mica capacitor in series with gen- erator.	Turn grame-radio switch to radio position. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.
2.	To signed grid of GHSG valve pin No. 7.	455 Kc/s.	0.01MF Mica capacitor in series with gen- erator.	Turn perm. tuner so that iron cores are fully out of winding and the unit is hard against the stop. Leave grid wire attached to valve socket. Peak lat. IF. trans. pri. and sec. for nax. output.
3.				Repeat operations 1 and 2.

TUNING DISC SETTING.

Insert a sharp pointed thin spike in hole in gold coloured metal cover in centre of moulded tuning disc, then lever cover out of the disc.

Loosen the three $\frac{1}{4}$ " x 3/32" Whit. csk. hd. screws fastening the washer in centre of tuning disc.

Turn the tuning spinale anti-clockwise until pern tuner unit iron cores are out of windings on coil formers and unit is hard against stop.

Set the centre of the indicator line on the tuning disc to align with the centre of the end of travel spot near 1700 Kc/s, on the dial reading.

Securely tighten the three 3/32" screws in centre washer then refit cover to the centre of tuning disc.

BROADCAST ALIGNMENT

NOTE: 1

Both iron cores in the perm, tuner unit are pre-set at the factory to an exact dimension of 2.275° between the extreme end of the former protruding through the rubber grownet and the end of the iron core in the former, when the unit spindle is turned fully anti-clockwise and is hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

ASTOR MODEL BQL.

NOTE: 2.

The 200 MMF Dummy antenna coust be connected to the antenna junction lug on the chassis. Should an antenna be connected to the short antenna lead from the receiver it is to be disconnected or rolled into a small hank.

Oper.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To antenna junction lug on chassis	1000 Kg/s.	200 MMF mica capacitor in series with gen- orator	Turn perm tuner and tuning disc. until centre of indicator line on tuning disc. aligns with centre of 1000 Kc/s spot on dial reading. Peak osci. coil trimmer cond. then peak ant. coil trimmer cond.for maximum output. Repeak oscl. coil trimmer cond.

2. Check logging at each end of tuning

dial.

Tuning range after alignment 535 to 1640 Kc/s.

AUDIO AMPLIFIER GAIN TEST

Oper. No.	Generator Connection	Generator Frequency		Instructions
1.	To antenna junction lug on chassis	1000 Kc/s.	(A)	Connect output meter across secondary winding of one channel output transformer.
			(B)	Tune receiver to generator 1000 Kc/s signal.
			(c)	Adjust signal input until output meter reads 20 milliwatts (volume control turned maximum clockwise, speaker voice coil connected).
			(0)	Leave input signal set at this level, Disconnect output meter and then connect output meter across the secondary winding of the other channel output trans- former and note the output meter reading. (volume control turned maximum clockwise, speuker voice coil connected.)
			(B)	The difference in output between the amplifier channels must not exceed 7 milliwatts.

[]



MODEL BRK.

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33 r.p.m.) and an 8 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metro, 25 Metro, 31 Metro and 49 Metro Shortwave Bands.

FOR OPERATION PROM:-

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

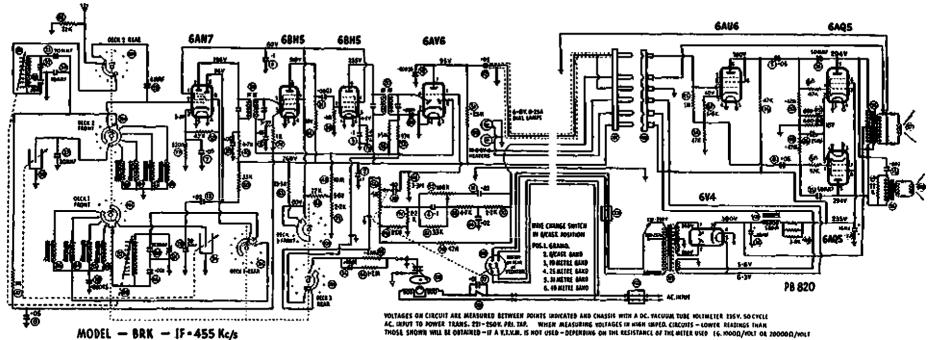
POWER CONSUMPTION:-

Radio Operation: - 55 Watts-approx. Gramo Operation: - 75 Watts-approx.

TUNING RANGES:-

RECRIVER COVERAGE:-

Broadcast	Band,	535-1610	Ke/s.		560.7-186.3	Metres.	
19 Metre	Band,	14.9-15.5	Mc/s.	(Bandspread)	20.13-19.29	Metres	(approx.)
25 Metre	Band,	11.6-12.1	Mc/s.	(Bandspread)	25.86-24.79	Metres	(approx.)
31 Metre	Band,	9.4-9.8	Mc/s.	(Bandspread)	31.91-30.61	Metres	(approx.)
49 Metre	Band,	5.95-6.25	Mc/s.	(Bandspread)	50.42-48.0	Metres	(approx.)



AC. CIPUT TO POWER TRANS. 221-250Y. PRI. TAP. WHEN MEASURING VOLTAGES IN MIGH UMPED. CIRCUITS - COWER READINGS THAN
THOSE SHOWN WILL BE OBTAINED - IF A Y.T.K.M. IS NOT USED - DEPENDING ON THE RESISTANCE OF THE METER USED. 66. ROOD (NOLT OR 2000DD) / NOLT

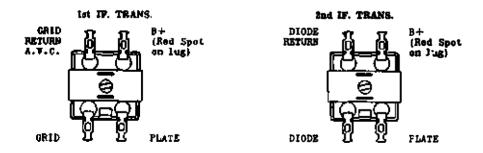
ALIGNMENT PROCEDURE						B/CAST AND S/WAYE ALIGNMENT					
		UIPMENT	•		VMENT CONDITIONS	Oper- ation		Generator	Dummy		
Signa	l Gonerator:			Load Impedan	ce: 2 Ohms (output moter connected across sec. of 10,000-2 Ohm imped. trans. circuit No. 95)	Ho. 1.	DIAL POINTER ST are out of the the step. Set	vindings on the	coil formers an e dial pointer o	Instructions that perm. tuner iron cores d the unit is hard against n the centre of the and of	
Mica Dummy	t Meter: Capacitor: Antenna: Antenna:	trans. 200MMF capacit	or non-inducti	Output Level Vol. Control Intermed. Fr Input Voltag	: 50 Milliwatts : Max. Vol. fully clockwise :eq.: 455 Kc/s.	2.	travel spot on Te antenna lead	the dial near 1 1000 Ke/s.	700 Kc/s. 200MMF mica capacitor in series with generator	Turn tuning control and porm. tuner until centre of dial pointer aligns with centre of spot on dial reading at 1000 Ke/s. Peak b/cast oscl. coil trimmer cond., then peak	
Align	ment Tools:	Type Ml	.95 and PM581	Tone Control	: Treble position					b/cast antenna coil trim. cond. for max. output. Re-peak oscl. coil trim.	
			IF. TRAN	is. Alignment		3.				condenser. Tuning range after align-	
Oper- ation			Generator Frequency	Dummy Antenna	Instructions	4.	6			ment 535-1610 Kc/s. Check logging at each end of the dial	
1.	Remove rece	Lver sow	er supply ch	essis and tuning	unit chessis from cabinet	5. 6.	the 31, 25 and	19 metre bands)	•	band must be aligned before	
	as detailed	on page	11.	_	·	6.	To antenna lead	6.08 Mc/s.	400 Ohm non- inductive	Turn wave change switch to 49 metre band. Furn tuning	
2.	A. Loose	n off gr	ub screws in	ning unit chassis tone control ges upward off the	ar wheel hub, then				resistor in scries with generator	Spindle and perm. tuner at 1 dial pointer align: with the 3.08 Muys. mark of	
	B. Unser		nut fastenin	g small metal gea	r plate to bush on tone					the Hal. Adjust 49 metro band usel, coll ind. trimmer (trop core) for	
			ontrol shaft straight up		r plate with gears attached					logging, then beak 43 metre antenna boll ind.	
			ointer by pri of pointer c		ip which fastens it to dial					trimmer (iron :ore) for max. output.	
		e from e to chas		ial plate the las	rge lock nut fastening dial	7.	To antenna lead	9.6 Ma/s.	400 Ohm non- inductive rasistor in	Turn wave change switch to 31 metre band. Furn tuning spindle and perm. tuner	
Ŀ.	Connect spe	aker lea	ads and lead:	s from tuning un	it chassis to power supply				series with generator	until dial pointer aligns with 9.6 Mc/s. mark on	
4.	To control of 6885 2nd valve pin N	IP.	455 Kc/s.	0.01MF Mica capacitor in series with generator	Turn wave change switch to b/cast band. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.					dial. Adjust 31 metre osel. coil ind. trimmer (iron core) for logging, then peek 31 metre antenna coil ind. trim. (iron core) for max. output.	
5.	To control of 6AN7 value pin No. 2	grid v e.	455 Kc/s.	O.OlMF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are out of windings on coil formers. Peak 1st IF. trans. pri. and sec. for max. cutput.	8.	To antenna lead	11.8 Mc/s.	400 Ohm non- inductive resistor in series with generator	Turn wave change switch to 25 metre band. Turn tuning spindle and perm. tumer until dial pointer aligns with the 11.8 Mc/s. mark on the dial. Adjust 25 metre band sscl. coil ind- trim. (iron core) for	
6.	volume conf	trol she		ar wheel to tone	ar wheel and plate assy, to control shaft. Make sure					logging, then peak 25 metre antenna coil ind. trim. (iron core) for max. output.	

Oper- ation No.	Generator Connection	Generator Frequency	Nummv Antenna	Instructions
9.	To antenna lead	15.2 Mc/s.	400 Ohm non- inductive resistor in series with generator	Furn wave change switch to 19 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 15.2 Me/s. mark on the dial. Adjust 19 metre band oscl. coil ind. trim. (iron core) for logging, then peak 19 metre antenna coil ind. trim (iron core) for max. output.
10.	To antenna lead	Multi- vibrator		Check logging on 49, 31, 25 and 19 metre bands at each 100 Ke/s. mark on the dial.

NOTE: The iron cores in the perm. tuner coils and the s/w. conds. on the perm. tuner are set to an exact dimension. No adjustment to the dimensions is to be made if misalignment and incorrect logging are to be avoided.

COIL COLOUR CODE

- 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil, BROWN spot on iron core end of former.



CIRCUIT ALTERATION (1-3-56)

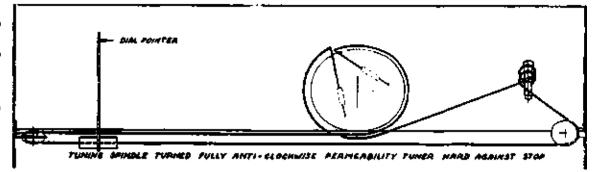
The 520 Ohm filter choke circuit No. part No. PT806 has been deleted from the circuit. No other changes are made to the circuit when this deletion is made.

CORDING OF DIAL DRIVE

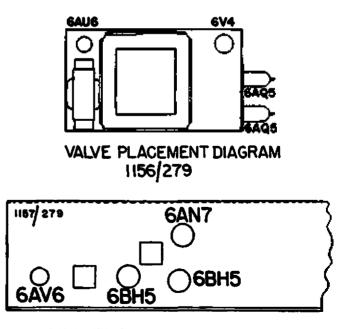
Length of cord required is 4 ft. 6 ins., which includes about 8 ins. to spare for tying to tension springs.

Cord Part No. 34/754.

Tension Spring (2) Part No. 508/30C.



PA 245



VALVE PLACEMENT DIAGRAM

POWER CONSUMPTION

AC. OPERATION:

200	Volt	50	cycle	AC.	mains	input	to	trans.	(T137)	200	Volt	tap.	37mA.
				**	11			**	10		67	11	32nA.
240	tı	**	H	**	11	n	**	11	91	240	11	18	32mA.
230	Volt	40	cycle	AC.	mains	input	to	trans.	(T145)	230	Volt	tap.	34mA .
				H	**			11	11	250	11	11	32mA -

BATTERY OPERATION:

Function	Switch	"Save"	Position:	"A"	Battery	250 mA.	
11	**	1)	*1	"B"	Battery	7 mA. (no	signal)
Function	Switch	"Full"	Position:	"A"	Battery	250 mA.	• ,
17	17	*1	ır	"B"	Battery	10 mA (no	signal)

ALIGNMENT INSTRUCTIONS

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator;

Output meter:

Mica Capacitor: 0.01 MF (P/No. PC145)

for IFT Alignment.

Straight Alignment Tool P/No. PM581.

Flexible Alignment Tool P/No. 48/712.

Load impedance: 5,000 ohms.

Output level: 6 milliwatts.

Volume control: Max. volume (fully clockwise).

"A" battery 1.5 volts.

"B" battery 67.5 volts.

I.F. frequency 455 Kc/s.

IF. TRANS. ALIGNMENT

The receiver chassis has to be removed from the leather case to align the I.F. transformers.

- A. Remove tuning, volume and mains/battery/on-off push-on type knobs (a piece of thin cord in the form of a loop slid under the knob and pulled from the front is a convenient means of removing push-on type knobs.
- B. Unclip press stud fasteners at rear of leather case.
- C. Turn tuning condenser shaft until condenser plates are fully meshed.
- D. Lift leather case flap and remove moulded back panel.
- E. From beneath leather case remove screw and nut fastening chassis bracket to base of leather case.
- F. Remove two self tapping screws fastening chassis mount brackets to the metal plate at top corners of the leather case
- G. Lift end of chassis furthest from speaker then withdraw chassis from leather case.
- H. Remove "A" batteries, prize up lurs fastening battery box, then lift off battery box.

- I. Remove nut fastening corner of mount plate, then lift off mount plate.
- J. Refit "A" batteries into battery box.

Ope No.		Generator Frequency	Dunny Antenna	Instructions
1.	To signal grid of IT4 valve (pin No.5)	455 Kc/s.	0.01 MF Mica capacitor in series with renorator	Leave grid wire attached to valve socket. Peak 2nd IFT pri. and sec. for max. output.
2.	To signal grid of 1R5 valve (pin No. 6.)	455 Kc/s.	0.01 MF Mica capacitor in series with generator	Loave grid wire attached to valve socket. Poak 1st IFT pri. and sec. for max. output.
3.			-	Repeat operations Nos. 1 & 2.

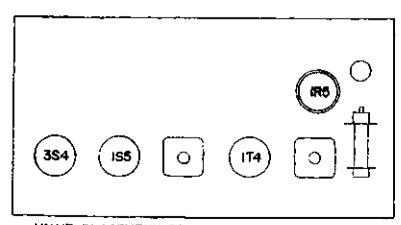
BROADCAST ALIGNMENT:

- A. Refit receiver chassis to leather case.
- B. Refit tuning knob.
- C. TUNING KNOB POINTER SETTING: Fully uesh condenser gang plates and set centre of tuning knob pointer on centre of end of travel spot on the leather case escutcheon beneath the numerals "55." Three screws on the front of the chassis and which fasten the chassis to the front of the condenser gang when loosened off allow the cond. gang to be moved to align the dial knob pointer to the end of travel spot. The receiver chassis has to be removed from the leather case to loosen the screws and move the cend. gang.
- D. To inject a signal into the receiver rod aerial, connect to the active terminal of the signal generator approximately 2 ft. of aerial wire, then fashion the wire into a vertical position.
- E. Place receiver chassis so that ferrite rod aerial is uppermost and horizontal, and so that the fixed secondary winding end of the ferrite rod points to the 2 ft. of vertical aerial wire. A distance of not less than 1 ft. is to be between the end of the ferrite rod and the 2 ft. of vertical aerial wire attached to the signal generator.

Oper.	Generator	Generator	Instructions
No.	Connection	Frequency	
1.	Refer para. D. and E.	600 Kc/s.	Turn cond. gang and tuning knob until centre of tuning knob pointer aligns with centre of 600 Kc/s. spot on dial. Leave cond. gang and tuning knob pointer set in this position, then peak the oscl. coil ind. trim. (iron core) for max. output. Also peak the movable winding on the ferrite rod for max. output.

- 2. Refer para. 1470 Kc/s. Turn cond. gang and tuning knob until D. and E. centre of tuning knob pointer is on 1470 Kc/s. dial mark. Adjust osc. trim. cond. for logging and peak ferrite rod aerial trimmer condenser for max. output.
- 3. Refer para. 600 Kc/s. Turn cond. gang and tuning knob until centre D. and E. of tuning knob pointer is on 600 Kc/s. dial mark. Leave the cond. gang and tuning knob pointer set in this position. Repeak osc. coil ind. trim. (iron core) and the movable winding on the ferrite rod. Do not rock cond. gang to and fro through the signal while adjusting or move the tuning knob pointer off 600 Kc/s. dial mark until after the trimmers have been adjusted for par. output.
- 4. 1470 Kc/s. Turn cond. gang and tuning knob until centre Refer para. D. and E. of tuning knob pointer is on 1470 Kc/s. dial mark. Adjust osc. coil trim. cond. for logging and peak ferrite rod aerial trim. condenser for max. output.

Tuning range after alignment 535 to 1610 Kc/s.



VALVE PLACEMENT DIAGRAM



RADIO CORPORATION PTY. LTD.

A23a.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL-BRO-"SPORTSTER" PORTABLE

4 VALVE SUPERHETERODYNE PORTABLE RECEIVER WITH BATTERY HEACTIVATION

FOR OPERATION FROM:

AC. MAINS 50 CYCLE. 200 Volt, 230 Volt or 240 Volt (Power trans. T137) Trans. Primary Tap - red - common

> -green- 200 Volt mains -black- 230 Volt mains " -yellow-240 Volt mains

AC. MAINS 40 CYCLE: 230 Volt or 250 Volt (Power trans. T145)

Trans Primary Tap - red - common

" -green- 230 Volt mains " -black- 250 Volt mains

BATTERY OPERATION. 1.5 Volts 'A' Battery (two 1.5 volt torch cells in parallel) and 67.5 volts 'B' Battery.

POWER CONSUMPTION - Refer page 2.

FUNCTION SWITCH POSITIONS: Left to right (clockwise)

Position 1. SAVE internal battery operation 2. FULL

internal battery operation 3. OFF receiver awitched "off"

4. MAIES operation from AC. mains.

RE-ACT battery reactivation

535 to 1610 Kc/s - 560.7 to 186.3 Metres. TUNING RANGE:

POWER OUTPUT: 180 milliwatts (mex.) 100 milliwatts (undistorted)

THIS BULLETIN CONTAINS:

- Technical Data.
- Alignment Procedure.
- Circuit Diagram.

ON LUG)

TRANSFORMER CONFECTIONS.

PC ER Phass. (T 137) 50 CYCLE POWER TRANS. (T 145) 40 CYCLE Pris red lead - common Fri. red lead - common ordern lead - 200V. green leed - 230V. tirck lead - 230V. black 1=ad - 250V. vallew load - 24cV. H.T. Sec. yellow lend - start yellow lead - start blue lead - finish blue load - finish crame lead - start Crange lead - start brown lead - contro tap brown lead - centre tap transations - finish orange load - finish

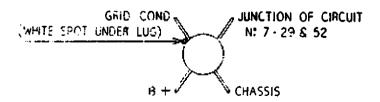
ROD AERIAL CONNECTIONS:

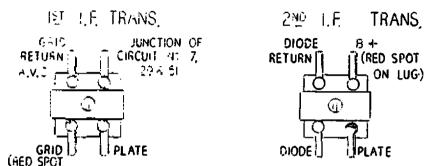
Fixed Finding: Lead from end turn furthest from movable winding - GRID.

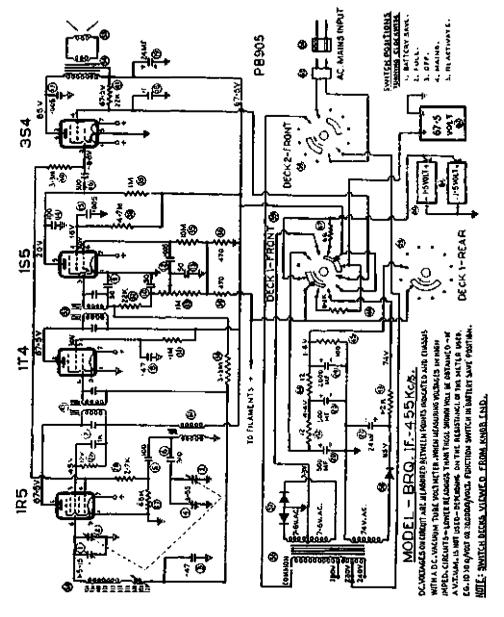
Livable Minding: Lead from end turn furthest from fixed winding-AVC.

The adjacent end turn leads of both windings are joined together as shown on the circuit discrem.

OSCILLATOR COIL









POWER OUTPUT:

4 Watts

FOR OPERATION FROM:

200-240 Volt 50 cycle AC, Mains (Power Transformer Tll9)

Power trans. Primary Tap, red-common.

green-200 Volt mains. black-230 & 240 Volt mains.

200-250 Volt 40 or 50 cycle AC. Mains (Power transformer T120) Power trans. Primary Tap, red-common

green-200 Volt mains. black-230-240 Volt mains. Thite-250 Volt mains.

POWER CONSUMPTION: 44 Watts approx.

SERVICE INSTRUCTIONS (ELECTRICAL)

EQUIPMENT:

Audio Signal Generator Output Meter

TEST CONDITIONS:

Volume Control: Tone Control :

maximum (fully clockwise) treble (fully clockwise)

Audio Signal Generator

1000 CPS.

Signal Generator Output

O.1 Volt.

Output Meter :

2.5 Ohms impedance

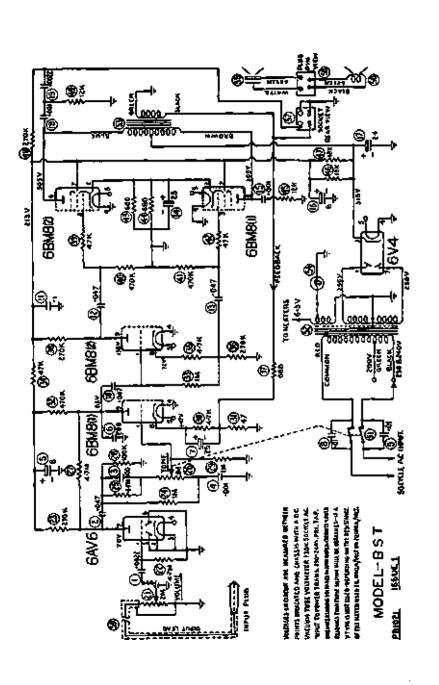
Connected across secondary winding of output transformer. (Speaker voice

coil disconnected)

Mains Input

Voltage

230 Volta 50 cycle AC. input to power transformer 230-240 Volt princry tap.



AUDIO AMPLIFIER GAIN TEST:

The amplifier chassis does not have to be removed from the cabinet to check the overall gain of the amplifier.

<u>PPORTAIN</u>: Before disconnecting leads from low frequency speaker voice coil terminals, note the lead colours to ensure correct phasing of the speaker when the leads are reconnected.

- 1. Set frequency of audio generator to 1000 cycles.
- B. Adjust output level of generator to 0.1 Volt.
- C. Disconnect leads from voice coil terminals on speaker.
- D. Connect output meter across secondary of output transformer.
- E. Connect audio signal generator output lead to input plug on free end of amplifier input lead.
 - Generator output lead 'active' to amplifier lead plug centre contact.
 - Generator output lead 'non-active' to amplifier lead plug metal casing.
- F. Turn CN/OFF switch tone control fully clockwise also volume control fully clockwise.
- G. With a signal input of 0.1 Volt applied to amplifier input, the output meter should indicate a minimum of four watts output. (2.5 Ohms impedance, output meter across transformer secondary, speaker voice coil disconnected).

STEPEOPHONIC REPRODUCTION AND SPEAKER PHASING:

STEREOPHONIC REPRODUCTION: The Model 'BST' amplifier/speaker unit may be connected to a gramo/audio amplifier for Stereophonic reproduction provided the gramo/audio amplifier incorporates a Stereo cartridge in the pick-up head and has the leads from the Stereo cartridge connected to the channels as detailed below.

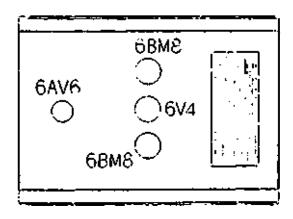
- A. The cutput lead from one channel connected to the input of the audio amplifier in the grano/audio amplifier unit.
- B. The output lead from the other channel connected to a socket situated somewhere on the gramo/amplifier cabinet. Into this socket is inserted the plug on the end of the input lead from the Madel 'BST'.

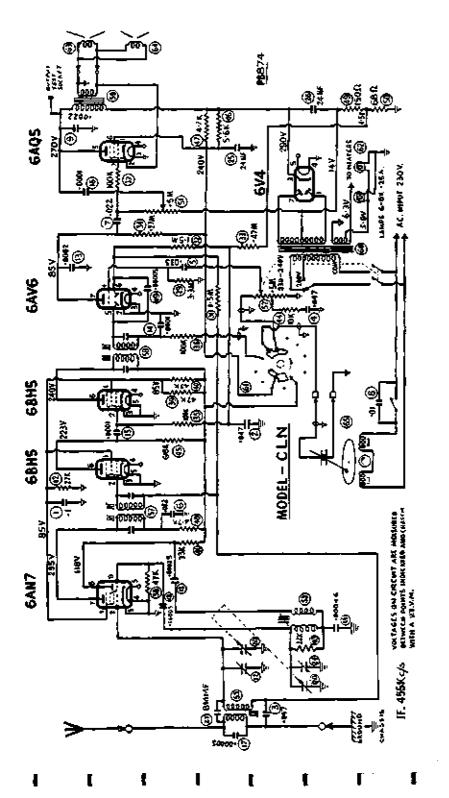
SPEAKER PHASING: When Model 'SST' audio amplifier unit is connected to a grand/audio amplifier for Stereophonic reproduction, it is essential that the speakers in both units be phased correctly.

A method used for checking the phasing of the speakers is detailed in the following personaphs.

- Connect the plug on the end of the amplifier input lead of the Model 'BST' to the Stereo channel socket of the gramm/ audio amplifier.
- Place the Model 'BST' cabinet approx. four feet to one side in line with the speaker cabinet of the grano/audic amplifier.
- Play a monophonic record and accurriely adjust the cutput of each speaker to the same volume.
- 4. To conduct the following test the listener should be located in a position midway between the speaker cabinete and approx.

 four feet away in front.
- 5. If the phasing is correct the reproduced sound will appear to be radiated from a point midway between the two speakers.
- 6. With incorrect phasing the quality of reproduction will be poor, it will appear to be lacking in bass response and will appear to be radiated from both speakers.
- 7. If the speakers are incorrectly phased, reverse the leads connected to the voice coil terminals of the low frequency speaker of the Model 'BST' then repeat the test detailed above.







RADIO CORPORATION PTY. LTD.

A25.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL CLN.

GRAMO-RADIO COMBINATION

An Automatic 4 Speed Record Changer (78, 45, 33-1/3, 16-2/3, r.p.m.) and a valve Superheterodyne Broadcast Rand Receiver.

FOR OPERATION FORM.

200-240 Volt 50 Cycle AC. Mains (Power Transformer Tl19)

Power trans Primary Tap-red-common.

" " " "-green-200 Volt mains.
" " " -black-230 & 240 Volt mains.

200-250 Volt 40 Cycle AC. Mains (Power Transformer T120)

Power trans. Primary Tap-red-common.

" "-green-200 Volt mains." "-black-230 & 240 Volt mains.

" " -white-250 Volt mains.

POWER CONSUMPTION

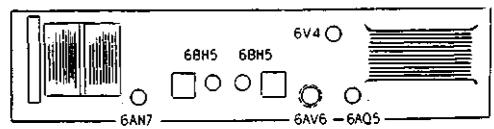
Radio Operation: - 55 Watts-approx. Gramo Operation: - 75 Watts-approx.

TUNING RANGE

Broadcast Eand: 535-1610 Hc/s. - 560.7-186.3 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
- 6. Valve Placement Diagram.
- 7. Instructions for Removing and Refitting Receiver Chassis and ilecord changer from Cobinet.
- 8. Instructions for Changing Mains Voltage Tap Position.
- 9. Chassis Serial Number.



ALIGNAEUT CONDITIONS

cond. for max. output.

A25a.

EQUIPMENT

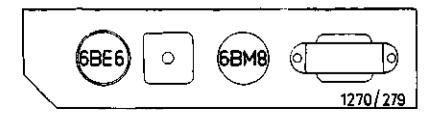
ALIGNMENT PROCEDURE

				ALIGN T COMPTECTION
Signal Generator: Output Meter: Mica Capacitor: Dummy Antenna:	0.01MF. (fo trans. alig 20MAF. Mic Capacitor	Output or IF. Vol. Comment)	ntrol:	5,000 Ohms. 50 Milliwatts. Max. Vol. fully clockwise. 455 Kc/s. 230 Volts 50 Cycle
Alignment Tools:	Type M19 5 a PM581	ind Tone Co:	ntrol	AC. input to trans. 230-240 volt pri.tap. Treble position.
	_	IF. TRANS. AL	IGNEENT	
Opera- Generat	or Generator on Frequency	Dummy Antenna	-	Instructions
1. Remove receive	er chassis fro	m cabinet as	detailed on	page 6.
2. Connect speak	er leads to sp	eaker sockets		
To control gr of 6BH5 2nd II valve (pin No		0.01MF Mica capacitor in series with generator	valve s	rid wire attached to socket. Peak 2nd IF. pri. and sec. for max.
4. To control gr of 6AN7 valve (pin No.2)	id 455 Kc/s.	0.01MF. Mica capacitor in series with generator	of mesh.	e. gang plates fully out Leave grid wire attach- te socket. Peak lst IF. i. and sec. for max.
5.			Repeat or	erations No. 3 and 4.
	B/CAS	T ALIGNMENT		
 Fully mesh the align with the 540 Kc/s. 	cond. gang p	lates. Set the end of trave	ne centre o el mark on	of the dial pointer to the dial readingnear
2. To antenna lea	ad 600 Kc/s.	200MMF. Mica capacitor in scries with generator	ertil con igns with spot on d the gang position	. gang and dial pointer tre of dial pointer al- centre of 600 Kc/s. dial reading. Leave and pointer set in this and peak the oscl. coil (iron core) for max.
3. To antenna les	ad 1400 Kc/s.	200MMF. Mica capacitor in series with generator	until cen gns with spot on d oscl. coi	t. gang and dial pointer atre of dial pointer ali- centre of 1400 Kc/s. tial reading. Adjust 1 trim cond. for log- 1 peak ant. trans. trim.

-	Generator O Connection		Dommy Antenna	Instructions
4.	To antenna lead from receiver	500 Kc∕s.	200 MMF. Mica capacitor in series with generator	Turn cond. gang and onel pointer until centre of dual pointer aligns with centre of 600 Ke/s. spot on dial reading. Leave the rang and pointer act in this position. Respeck escl. coil ind. trim (iro core) and peak the int. trans ind. trim. (iron core) for max. output. Do not rock the cond. 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 has been peaked for max. output.
5.	To antenna lead from receiver	1400 Kc/s.	2000MF. Mica capacitor in series with generator	Turn cond. gang and diel pointer until centre of dial pointer aligns with centre of 1400 Kc/s-spot on dial reading. Adjust the coil trim condenser for loseing and re-peak antenna trans. trin. condenser for max. output.
Green S ander 1		9. B/CAST ANTENNA GHASSIS	(GRID PLATE Blue Spot nder lug) SERIES PAD
	lat IF. THA	ANS.		2nd IF, TRANS.
C	TO TO	PLATE (Red Sp on lug)		RETURN B+

INSTRUCTIONS FOR REMOVING A RECORD PLAYER TURNTABLE WHICH HAS SEIZED ON THE TURNTABLE SPINDLE

- Allow the unit to to cool, i.e. the spindle and turntable tearing not to be warm too to friction or by counting the unit.
- Apply a small quantity of ponetrene to the hole in the top of the spindle.
- 3. Fasten the pick-up to its rost pillar, then turn the unit upside fowm.
- 4. Insert a weige between the cabinet and the turntable metal motor mount plate. Do not press the wedge in tes far to avoid undue strain on the motor mounting.
- 5. Dip a piece of rigid wire into the punetrone to form a blob of panetrone on the end of the wire. Insert the wire between the orbinat and the meter mount plate and apply the penetrone to the junction of the turntable spindle and the turntable boss (where the spindle enters the boss).
- 3. After act minutes, remove wedge and turn unit right-side up.
- 7. The turn while revolves on a fixed spindle. Ease turntable up and around on spindle; do not use great force. If the turntable does not move nature thru, 2 to 5.
- Then the terminable is removed, apply to the spindle a slight application of light il (sewing machine oil or SAE20). The spindle may be given a rub or two with very fine many paper before applying the oil if the turniable was difficult to remove.
- 3. No further seizure of the turntable on the spindle should be encountered once the oil is applied to the spindle.
- 10. Under no circumstances allow oil to be placed on the rubber drive gulley or the inside rim of the turntable.





RADIO CORPORATION PTY. LTD.

OIVISION OF ELECTRONIC INDUSTRIES LTD 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

PLAY-GRAM MODEL "CML"

A 2 VALVE SUPERHETERODYNE BROADCAST RECEIVER AND A 4 SPEED (163/3, 331/3, 45 and 78 R.P.M.) SINGLE RECORD PLAYER.

FOR OPERATION FROM:

200-240 Volt 50 Cycle Supply Mains (Power Transformer T148 Power Trans. Primary Mains Tap-red-common.

, ,, ,, ,, ,, -green 200V. mains , ,, ,, ,, -black 230 & 240V. mains.

230-250 Volt 40 Cycle Supply Mains (Power Transformer T149 Power Trans. Primary Mains Tap-red-common.

,, ,, ,, -green 230V. mains ... -black 250V. mains ...

POWER CONSUMPTION:

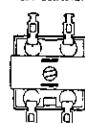
Radio Operation: 18 Watts.-approx. Gramo Operation: 38 Watts.-approx.

TUNING RANGE:

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

IF. TRANS.

GRID RETURN



B - (Red Spot on Lug)

쀳 뗏 PLATE

ANTENNA TRANS.:

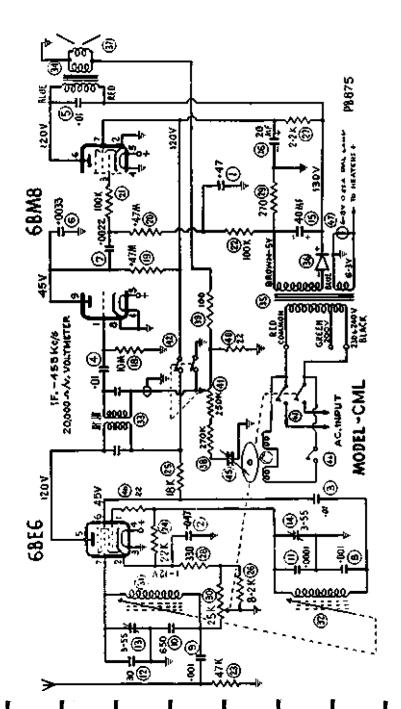
Start of winding - furthest from mounting end - Junction of circuit Nos. 9, 10 & 30.

Finish of winding - nearest to mounting end - Signal grid.

GRID

OSCL. COIL:

Start of winding — furthest from mounting end — 0scl. grid. Finish of winding — nearest to mounting end — Junction of circuit Nos. 3 k \pm .



ALIGNMENT PROCEDURE:

EQUIPMENT:	_		ALIGNMEN	Tν	CONDITIONS:
atan.		Land	Impedance	77	OOO shee

Signal Generator:

Output Meter:

Mica Capacitor:

O.01MF (for IF. trans.

Load Impedance:

Output Level:

Vol. Control:

Max. Vol. fully

alignment) clockwise
Dummy Antenna: 200MMF Mica Capacitor Intermed. Freq.: 455 Kc s.

Straight Alignment Tool: Type PM581 Input Voltage: 230 Volts 50 Cycle AC. Flexible Alignment Tool: Type 48/712 input to trans. 230-240

volt pri. tap

NOTE 1:

Dummy Antenna: The 200 MMF dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment. The dummy antenna must be connected to the junction lug on the chassis. It is not necessary to have the 25 ft. antenna connected to the receiver during alignment. If the 25 ft. antenna is connected it should be fully rolled up into a small hank. NOTE 2:

The motor mount plate has to be removed from the cabinet to align the IF transformer and RF signal circuits.

- Unscrew and remove the five screws A, B, C, D & E shown on the drawing on Page 9.
- 2. Lift up rear edge of motor mount plate and at the same time slide motor mount plate towards rear of cabinet so that mount plate disengages with a bracket on inside of front of cabinet.

Oper- ation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
3.	To control grid of 6BE6 valve (pin No. 7)	455 Kc/s.	0.01MF Mica capacitor in series with generator.	Turn tuning drum until perm. tuner iron cores are out of the windings on coil formers and the unit is hard against the stop. Leave grid wire attached to valve socket. Peak IF. trans. pri. and sec. for max. output.

DIAL DRUM SETTING:

Turn dial drum toward the rear of motor mount plate until the perm. tuner iron cores are out of the windings on the coil formers and the unit is hard against the stop. The end of travel spot on dial reading near 1700 Kc s. is to align with the indicator arrows moulded on the top of the motor mount plate. The dial drum is adjusted by loosening off the screw in the centre of the drum and is accessible through the slot in the drum.

4. To antenna 1000 Kc/s. 200MMF Mica capacitor in series with generator.

Turn tuning drum until alignment spot at 1000 Kc/s. aligns with moulded arrows on top of motor plate. Peak oscl. coil trimmer cond., then peak antenna coil trimmer cond. for max. output. Re-peak oscl. coil trim condenser.

- 5. Tuning range after alignment 535-1640 Kc s.
- 6. Refit motor mount plate with receiver attached to the cabinet. NOTE:

Both iron cores are pre-set at the factory to an exact dimension of 2.275° between the extreme end of the former protruding through the rubber grommet, and the end of the iron core in the former, when the unit is turned hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the came gritter in interference and the radio of the iron cores must have

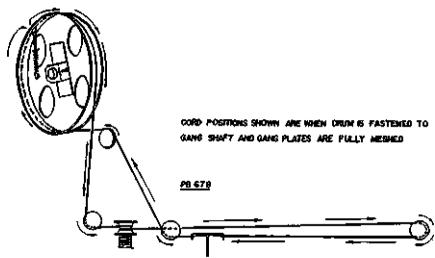
CORDING OF DIAL DRIVE

Length of cord required is 5 ft. 6 ins., which includes about 8 ins. to spare for tying to tension spring.

Cord Part No. 34/754.

Tension Spring Part No. 21/698.

Note:- 1 turn shown around drive spindle changed to 2 turns.



INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE.—The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT.-For 200-220 Volt Operation: The receiver chassis has to be removed from the cabinet for this adjustment. SWITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove chassis from cabinet as detailed on page 2.

The mains lead wire from the switch on the volume control which is attached to the 221-250 V. tap on the mains terminal strip is to be unsoldered from the 221-250 V. tap and re-soldered to the 200-220 V. tap.

CHASSIS SERIAL NUMBER

The serial number is Stamped into the top edge of the metal chassis near the power transformer and is visible from the rear of the cabinet when the cover board is removed.



RADIO CORPORATION PTY. LTD.

A27.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

124-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL CNK

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33] r.p.m.) and a 5 Valve Superheterodyne Four Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre and 31 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation: - 55 Watts.-approx. Gramo Operation: - 75 Watts.-approx.

TUNING RANGES:-

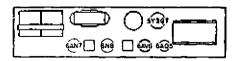
RECEIVER COVERAGE:-

Broadcast Band, 535-1610 Kc/s.		560.7-186.3 Metres.	
19 Metre Band, 14.9-15.5 Mc/s.	(Bandspread)	20.13-19.29 Metres {approx.	.)
25 Metre Band, 11.6-12.1 Mc/s.	(Bandspread)	25.86-24.79 Metres (approx.	j
31 Metre Band, 9.4-9.8 Mc/s.	(Bandspread)	31.91-30.61 Metres (approx.	.)

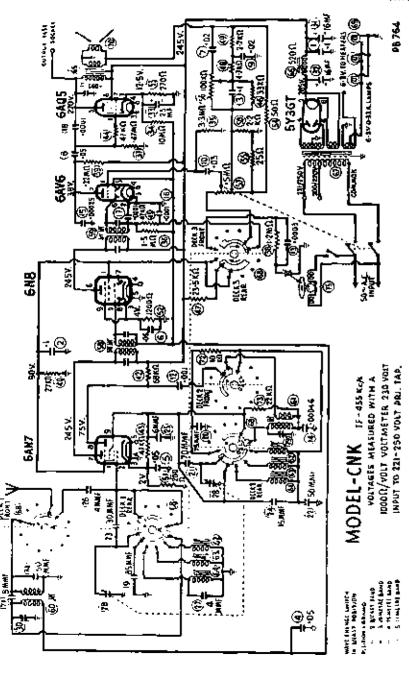
THIS BULLETIN CONTAINS:-

Alignment Instructions. Circuit Diagram.

Connections for IF. and RF. Transformers.
Dial Drive Cording Diagram.
Valve Placement Diagram.
Instructions for Changing Mains Input Voltage Tap.
Instructions for Removing Chassis from Cabinet.
Chassis Serial Number.



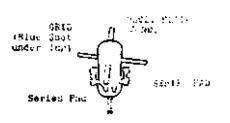
VALVE PLACEMENT DIAGRAM 1063/279



ANTENNA TRANS.

OSCI, COIL





19, 25 AND 31 METRE ANT. TRANS.

19, 25 AND 31 METRE OSCL. COIL

Lead from top lug (iron core end) :-GRID.

Lead from top lug (iron core end) :-

GRID.

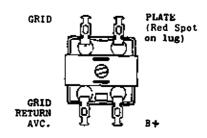
CHASSIS - EARTH.

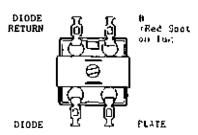
Lead from bottom lug (mounting end) :- Lead from tottom lug (mounting end) :-OSCL. PLATE COND.

- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former
- 19 Metre spreadband coil. RLUE spot on iron core end of former.

1st IF. TRANS.

2nd IF. TRANS.





ALIGNMENT PROCEDURE

EQUIPMENT

: -ra- Generator Generator

ALIGNMENT CONDITIONS

Signal Generator:		Load Impedance:	5,000 ohms.
Output Meter:		Output Level:	50 Milliwatts.
Mica Capacitor:	0.01MF. (for IF. trans. alignment;	Vol. Control:	Max. Vol. fully clockwise.
Dummy Antenna:	200MMF. Mica Capacitor.	Intermed. Freq.: Input Voltage:	455 Kc/s. 230 Volts 50 Cycle
Dummy Antenna:	400 Ohm non-inductive resistor.		AC. input to trans. 221-250 volt pri. tap.
Alignment Tools:	Type M195 and PM581.	Tone Control:	Treble position.

To Remove Chassis from Cabinet— DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove three push-on type control knobs from spindles near radio-dial and wave change switch knob from right hand side of cabinet. Remove screws fastening cabinet back to cabinet. Withdraw speaker lead plug from socket at end of chassis and pick-up lead plugs from small sockets beneath grame unit. Disconnect cabinet base indicator lamp lead plug from its socket and receiver AC, mains leads from AC, junction block on cabinet. Remove small wood screw fastening tone control bracket to underside of receiver mount board. Remove a nut from each of two captive screws through brackets at each end of receiver chassis; then lift receiver chassis out of cabinet.

Refit the chassis to the cabinet in the exact reverse procedure to removing it.

Dummy

. 3				Instructions
1.	To control grid of 6NS I.F. valve (pin No. 2)	455 Kc/s.	0.01MF Mica capacitor in series with generator.	Turn wave change switch to B/cast band. Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	To control grid of GAN7 valve (pin No. 2)	455 Xc/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 with the cer	the cond. ga	nng plates. So	et the centre of the dial pointer to align mark on the dial reading near 540 Kc/s.
5.	To unterna lead from receiver.	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 600 Kc/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.
ö.	To untenta, lead from receiver.	·	200MMF. Mica capacitor in series with generator.	Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400 Kc/s. spot on dial reading. Adjust oscl. coil trim condenser for logging and peak antenna trans. trim. condenser for max. output.

7. To antenna 600 Kc/s. 200MMF. Mica capacitor in series with receiver.

Turn cond, gang and dial pointer until centre of dial pointer aligns with centre of 600 Kc/s, spot on dial reading. Leave the gang and pointer set in this position. Re-peak osci. 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 has been peaked for max, output.

8. To antenna 1400 Kc/s. 200MMF. Mica capacitor in from series with receiver. generator.

Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400 Kc/s. spot on dial reading. Adjust oscl. coil trim condenser for logging and repeak antenna trans. trim. condenser for max. output.

- 9. Turn wave change switch to 31 metre band (this band must be aligned before the 25 and 19 metre bands).
- 10. To antenna 9.6 Mc/s. 400 ohm nonlead inductive from resistor.

Turn dial pointer and cond. gang to 9.6 Mc/s. Adjust 31 metre band oscl. coil ind. trim. (iron core) for logging and peak 31 metre ant. trans. trim. (iron core) for max. cutput. Rock cond. gang to and fro through the signal while adjusting.

11. To antenna 11.8 Mc/s. 400 ohm nonlead inductive from resistor. Turn wave change switch to 25 metre band. Turn dial pointer and cond. gang to 11.8 Mc/s. Adjust 25 metre band oscil. coil ind. trim. (iron core) for logging and peak 25 metre ant. trans. trim. Firon core) for max. output. Rock cond. gang to and fro through the signal while adjusting.

12. To antenna 15.2 Mc/s. 400 ohm nonlead inductive from resistor. receiver. Turn wave change switch to 19 metre band. Turn dial pointer and cond. gang to 15.2 Mc/s. Adjust 19 metre band osql. coil. ind. trim. (iron core for logging and peak 19 metre ant. trans. trim. (iron core) for max. output. Rock cond. gang to and fro through the signal while adjusting.

13. Check the logging of the shortwave bands on some well-known shortwave stations. If a crystal calibrator is available, check the logging at each 100 Kc/s, mark on the dial.

³¹ Metre Spreadband coil, RED spot on iron core end of former.

²⁵ Metre spreadband coil, WHITE spot on iron core end of former.

¹⁹ Metre spreadband coil, BLUE spot on iron core end of former.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 124-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

Bulletin: CNM-1.
File: Receivers AC.

27/4/55.

Page 1.

GRAMO-RADIO COMBINATION MODEL—"CNM"

An Automatic 3 Speed Record Changer (78, 45, 33] r.p.m.) and a 5 Valve Superheterodyne Broadcast Receiver.

FOR OPERATION FROM:--

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation:-55 Watts.-approx. Gramo Operation:-75 Watts.-approx.

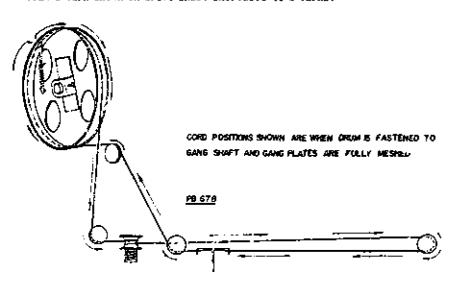
TUNING RANGE:--

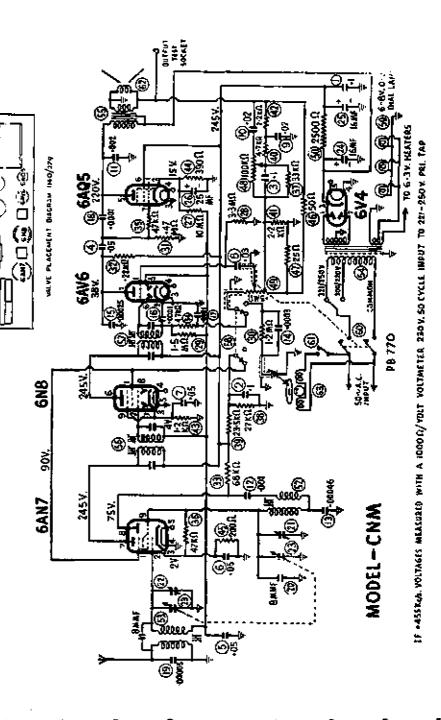
535-1610 Kc/s. - 560.7-186.3 Metres.

CORDING OF DIAL DRIVE

Length of cord required is 5 ft. 6ins., which includes about 8 ins. to spare for tying to tension spring. Cord Part No. 34/754. Tension Spring Part No. 21/698.

NOTE: 1 turn shown on drive shaft increased to 2 turns.





ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

50 Milliwatts.

clockwiss.

Max. Vol. fully

Signal Generator:

Output Meter:

Mics Capacitor: O.OlMF. (for IF.

Dummy Antenna:

200MMF. Mica Capacitor

Alignment Tools: Type M195 and

P¥581.

trans. alignment)

Intermed. Freq.: 455 Kc/s. Input Voltage:

Output Level:

Vol. Control:

230 Volts 50 Cycle

Load Impedence: 5,000 ohms.

AC. input to trans. 221-250 volt pri. tap

Tone Control: Troble position.

GRID

ANTENNA TRANS.

OSCL. COIL

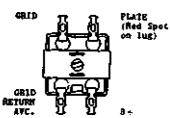


ANTENNA

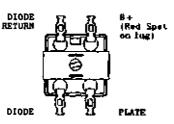
OSCL. PLATE COMD. (Blue Spet under tuci SERVES PAD CHASSIS

1st IF. TRANS.





2nd IF. TRANS.



Opera- Generator Generator Dummy Instructions tion Connection Frequency No. 1. To control 455 Kc/s. 0.0lMF. Mica Leave grid wire attached to valve socket. grid of capacitor in Peak 2nd I.F. trans. pri. and sec. for 6N8 I.F. series with max. output. valve (pin No. 2) generator 2. To control 455 Kc/s. 0.01MF. Mica Turn cond. gang plates fully out of grid of capacitor in mesh. Leave grid wire attached to valve 6AN7 valve series with socket. Peak 1st I.F. trans. pri. and (pin No. 2) generator 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 disl reading near 540 Kc/s. 5. To antenna 600 Kc/s. 200MMF. Mica Turn cond. gang and dial pointer until capacitor in centre of dial pointer aligns with lead from sories with centre of 600Kc/s. spot on dial reading. receiver generator Leave the gang and pointer set in this position and peak the oscl. coil inductance trim (iron core) for max. output. 200MMF. Mica Turn cond. gang and dial pointer until 6. To antenna 1400 Kc/s. lead capacitor in centre of dial pointer aligns with centre of 1400Kc/s. spot on dial reading. from series with receiver generator Adjust oscl. coil trim condenser for logging and peak antenna trans. trim. condenser for max. output. 7. To antenna 600 Kc/s. 200MMF. Mica Turn cond. gang and dial pointer until capacitor in centre of dial pointer aligns with lead from

series with centre of 600Kc/s. spot on dial reading. receives Leave the gang and pointer set in this generator position. Re-peak osel, 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 has been peaked for max. output.

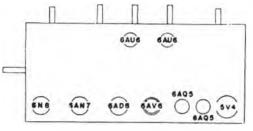
8. To antenna 1400 Kc/s. 200MMF. Mich Turn cond. gang and dial pointer until lead capacitor in centre of dial pointer aligns with from series with centre of 1400Kc/s. spot on dial reading. receiver generator Adjust oscl. coil trim condenser for logging and repeak antenna trans. trim. condenser for max. output.

Tuning range after alignment: 535-1610 K:/s.



MODEL — "CPP" — CONCERTMASTER

GRAMO-RADIO COMBINATION



YALVE PLACEMENT DIAGRAM 1252/279

An automatic 3 Speed Record Changer (78, 45, 33 r.p.m.) and a 9 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

POWER CONSUMPTION:-

Radio Operation: 80 Watts.-epprox. Gramo Operation: 100 Watts.-epprox.

TUNING RANGES:-

RECEIVER COVERAGE:-

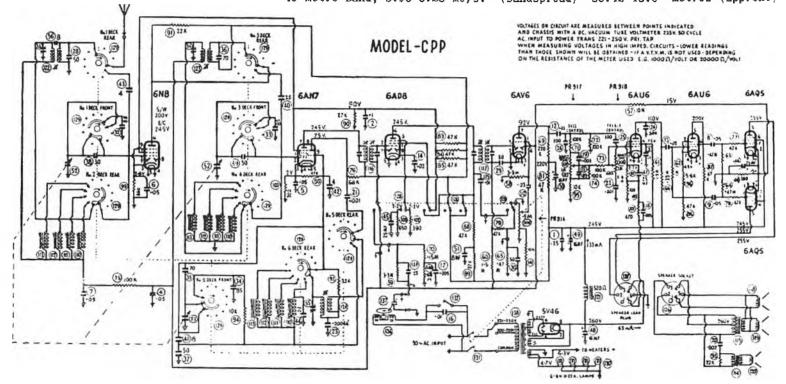
Broadcast Band, 535-1610 Kc/s.

19 Metre Band, 14.9-15.5 Mc/s. (Bandspread) 20.13-19.29 Metres (approx.)

25 Metre Band, 11.6-12.1 Mc/s. (Bandspread) 25.86-24.79 Metres (approx.)

31 Metre Band, 9.4-9.8 Mc/s. (Bandspread) 31.91-30.61 Metres (approx.)

49 Metre Band, 5.95-6.25 Mc/s. (Bandspread) 50.42-48.0 Metres (approx.)



A29a.

ASTOR MODEL CPP.

ALIGNMENT INSTRUCTIONS

ALIGNMENT CONDITIONS

EQUIPMENT

Load Impedance: 10,000 ohms.
Output Level: 50 Milliwatts.
Vol. Control: Max. Vol. fully
clockwise.
Bass Tone Control: Min. Bass Position.
Treble Tone Control: Min. Treble
Position.
Intermed. Freq.: 455 Kc/s.
Supply Mains: 230 volts 50 cycle
AC. input to trans. 221-250V.
primery tap.

Signel Generator.
Output Meter.
Mico Capacitor: 0.01MF. (For I.F.T.
alignment).
Dummy Antenna: 200MMF. Mica capacitor.
Dummy Antenna: 400 ohm. non-inductive
resistor.
Alignment Tools: Type M195 and PM581.
IF. Attenuator: Type M195 and PM581.
IF. Attenuator: Type M196. This
attenuator consists of a 20K ohm % w.
resistor and a .006MF. cond. wired
in series and having clips attached
for connecting to the chassis and IF.
valve signal grid during alignment
of the RF. signal circuits.

Remove chassis from cabinet - refer page 12.

	tion Conerator	Generator		
No.	Connection	Prequency	Dummy Antenna	Instructions
1.	To signal grid of 6ADS IF. valve pin No. 2.	485 Kc/s.	0.01kk mica capacitor in series with generator.	Turn wave change switch to B/cast band. Leave grid wire attached to valve socket. Peak 2nd. IF. trans. pri. and sec. for max. output.
2	To signal grid of BAN7 valve. Pin No. 2.	455 Kc/s.	0.01MF. Mica capacitor in series with generator.	Cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak lst. IF. trans. pri. and sec. for max. output.
3.				Repeat operations No. 1 and 2.
4.	Set centre of dinear 540 Kc/s.			of travel mark on dial reading y meshed.
ő.	Connect IF. atte			ceiver chassis and signal grid
6.	To antenna terminal.	800 Xc/s.	200 MMF. Mica capacitor in series with generator.	Turn cond. gang and dial pointer until centre of pointer aligns with centre of 600 Kc/s. dial mark. Leave the cond. gang and dial pointer set in this position and peak the B/cast osel. coil. ind. trim. (iron core) for max. output.
7.	fo antenna terminal.	1400 Kc/s.	200MHF. Mich capacitor in series with generator.	Turn. cond. gang and dial pointer until centre of pointer aligns with 1400 Kc/s. spot en dial reading. Adjust 8/cast oset, coil trin. condenser for logging and peak 8/cast ant. and RF. trans. trim. condensers for max. output.

600 Ke/s. 200MMF. Mica Turn cond. gang und dia. 8. To antenna terminal. capacitor in pointer until centre of series with pointer aligns with centry of generator. 600 Ke/s, dual tone. tu. " the cond. sung and side pointer set in this soult am and re-peak the Elenat arel. coil. ind. trim. iron con. for max, output, then peak the B/cast antenna and RF, trong, ind. trimmers (from cores) for max. output. Do not rock the cond. gang to and fro through the signal or move the dial pointer off 600 Ke/2. dial mark, until after the ind. trimmers (iron cores) or both these transformers have been peaked for max, output, 1400 Kc/s. 200MMF. Mica Turn cond. gang and dial 9. To antenna terminal. capacitor in pointer to 1400 Ke/s. Adjust series with B/cast oscl. coil, tric. generator. cond. for logging and peak B/cast ant. and RF. trans. trim. condensers for max. output. 10. Turn wave change switch to 49 metre band (this band must be aligned before the 31 metre. 25 metre and 19 metre bands). 11. To antenna 6.05 Mc/s. 400 ohm non-Turn cond. gang and dial pointer terminal. inductive until centre of pointer aligns resistor. with centre of 6.05 Mc/s. dial mark. Adjust 49 metre band oscl. coil ind. trim. (iron core) for logging and peak 49 metre ant. and RF. trans. ind. trimmers (iron cores: for max. autput. Rock cond. gang to and fro through the signal while adjusting. 9.6 Mc/s. 400 chm non-To antenna Turn wave change switch to 31 metre band. Turn cond. gang terminal. inductive resistor. and dial pointer until centre of pointer aligns with centre of 9.6 Mc/s. dial cark. Adjust 31 metro band osel. coil. ind. trim. , iron core, for logging and peak 31 metre ant. and RF. trans. trimmers

(iron cores; for max. output. Rock cond. gang to and fro through the signal while

adjusting.

13.	To antenna terminal.	11.8 Mc/s.	400 ohm non- inductive resistor.	Turn wave change switch to 25 metre band. Turn cond. gang and dial pointer until centre of pointer aligns with centre of 11.8 Mc/s. dial mark. Adjust 25 metre band osci. coil. ind. trim. (iron core) for logging and peak 25 metre ent. and RF. trans. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.
14.	To antenna terminal.	15.2 Mc/s.	400 ohm non- inductive	Turn wave change switch to 19 metre band. Turn cond. gang

resistor.

metre band. Turn cond. gang and dial pointer until centre of pointer aligns with centre of 15.2 Mc/s. dial mark.
Adjust 19 metre band oscl. coil. ind. trim. (iron core) for logging and peak 19 metre ant. and RF. trans. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.

- 15. Disconnect IF. attenuator from receiver.
- 16. Check the logging of the shortwave bands on some well-known shortwave stations. If a crystal calibrator is available, check the logging at each 100 Kc/s, mark on the dial.

SHORTWAVE COIL COLOUR CODE

- 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil, BLUE spot on iron core end of former.

INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE.—The mains adjustment top should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT.-For 200-220 Volt Operation: The receiver chassis has to be removed from the cabinet for this adjustment. DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove the chassis from the cabinet as detailed on page 12. The mains lead wire from the switch on the volume control which is attached to the 221-250 volt tap is to be un-solvered from the 221-250 V. tap and then re-soldered to the 200-220 volt tap. Refit the chassis to the cabinet in the exact reverse procedure to removing it

19, 15, 31 AND 19 METRE ANT. TRANS.

.and from top lug (iron core end):-

bad from bottom lug (mounting end):-A.V.C.

19, 25, 31 AND 49 METRE RF. TRANS.

Lead from top lug (iron core end):GRID.

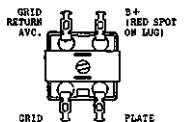
Lead from bottom lug (mounting end):-CHASSIS-EARTH.

19, 25, 31 AND 49 METRE OSCL. COIL

Lead from top lug (iron core end):- GRID.

Lead from bottom lug (mounting cnd):-OSCL. PLATE.

1st IF. TRANS,



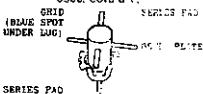
ANTENNA TRANS. B C. (RION CORED)

GREEN SPOT UNDER EUG,

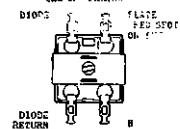
RF. TRANS B C. (IRON CORED)

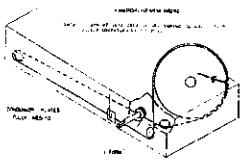


OSCU, CORL B.C.



200 IF FRANS





in come in five formely in the first in pay, any and operating about a sea.

The last first in the standard spring.

Less first the spring.

Tentum Spring fort No. 22,888.



MODEL CRK.

GRAMO-RADIO COMBINATION

An automatic 4 Speed Record Changer (78,45,33-1/3,16-2/3 r.p.m.) and an 6 valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Matre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FORM: -

MODEL - CRK - IF = 455 Kc/s

200-240 Volt 50 Cycle Supply Mains (Power Transformer T119)
Power Trans. Primary Hains Tap-red-common.

" " -green-200V mains.
" " -black-230 & 240V. mains.

200-250 Volt 40 Cycle Supply Mains (power Transformer T120)
Power Trans. Primary Mains Tap-red-common.

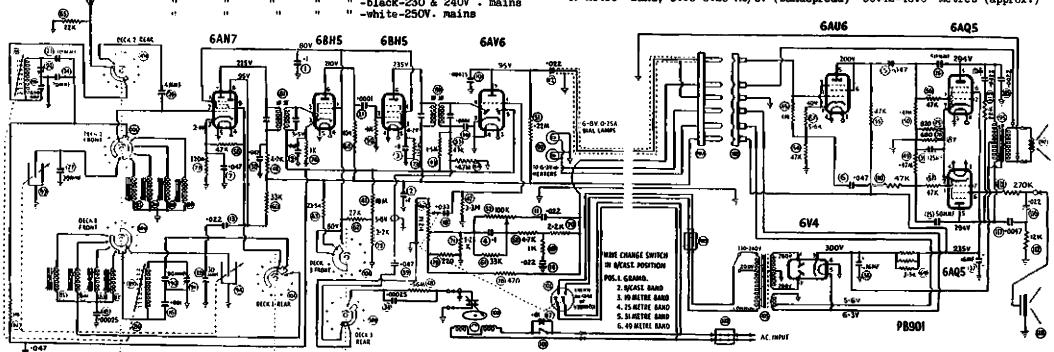
" " -green-200V mains
" " -black-230 & 240V . mains

ASTOR MODEL CRK.

POWER CONSUMPTION: -

Radio Operation: - 55 Watts-approx. Gramo Operation: - 75 Watts-approx.

TUNING RAMGES: Broadcast Band, 535-1610 Kc/s. 19 Metre Band, 14.9-15-5 Mc/s. (Bendspread) 25 Metre Band, 11.6-12.1 Mc/s. (Bendspread) 25.86-24.79 Metres (approx.) 31 Metre Band, 9.4-9.8 Mc/s. (Bandspread) 31.91-30.61 Metres (approx.) 49 Metre Band, 5.95-6.25 Mc/s. (Bandspread) 50.42-48.0 Metres (approx.)



VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A DC. VACUUM TUBE VOLTMETER 235V. SO CYCLE
AC. IMPUT TO POWER TRANS. 230-240V. PRI. TAP. WHEN MEASURING VOLTAGES IN HIGH IMPER CIRCUITS — LOWER READINGS THAN
THOSE SHOWN WILL BE OBTAINED—IF A V.T.V.M. IS NOT USED—DEPENDING ON THE RESISTANCE OF THE METER USED—EG. 10000/1001F OR 2000000/1001F

ASTOR MODEL CRK.

B/CAST AND S/WAVE ALIGNMENT

					_		2.1	16.0 0/	V-1-1-0-11-0-1	
	ĐQU	alignment f Ti rven t	ROCEDURE	ALIGNMENT CONDITIONS	Ope ati No.	.on	Generator Connection	Generator Frequency	Dunny Antenna	Instructions
Out Mice Dum Dum	nal Generator: put Meter: a Capacitor: ay Antenna: ay Antenna: gument Tools:	O.OLMF (for IF. trars. elignment 2007-2018 Mica capacitor 400 Ohm non-inductive resistor Type M195 and PM581		: 2 Ohms (output meter connected across sec- of 10,000-2 Ohm imped. trans. Circuit Mo. 95) SO Milliwatts Max. Vol. fully clockwise		are the trav	out of the w stop. Set t el spot on t ntenna	indings on the	coil formers and we dial pointer :	Turn tuning art against in the unit is mart against in the contre of the end if Turn tuning control and perm, tuner until centre of dial pointer aliens with centre of spot on dial rending at 1000 Ke/s. Peak b/cast each, then peak b/cast entunne coil trim. cond. for max. output. Re-peak oscl. coil trim. condensor.
Une		11. 100	GIS+ AUIUIGENI		3.					Tuning range after align-
ti No.			Dumny Antenna	Instructions	4.					ment 535-1610 Kc/s. Check legging at each end of the dial.
1.	Remove receiv	er power supply chase	sis and tuning w	nit chassis from cabinet	5.	Turn	wave change	switch to 49 metre bands).	etre band (this	band to be eligned before
2.		ack plate assembly fr	_		6.			6.08 Mc/s.	400 Ohm Non- inductive resistor in	Turn wave change switch to 49 metre band. Turn tun-
	A. Pull di	al pointer up, then t	twist it over to	rear of dial background.					series with	ing spindle and parraturer tuner until dial pointer
	B. Slide d	ial lamp sockets off	edge of dial ba	ckground.					gonerator	aligns with the 6.06 Mc/s.
	C. Unacrew backgro		sa from mount pla	ate at each end of dial						mark on the dial. Adjust 49 metre band oscl. coil ind. trimmer (iron core)
	D. Pull di	al background assy. i	forward straight	off control spindles.						for logging, then peak
3.	Connect speak chassis.	er leads and leads fi	rom tuning unit	chassis to power supply						49 metre antenna coil ind. trimmer (iron core) for max. cutout.
4.	To control gr of 6BH5 2nd I valve pin No.	P.	capacitor in	Turn wave change switch to b/cast band. Leave grid wire attached to valve socket. Peak 2nd IF. thank pri. and sec. for max. output.	7.	To ar	ntenna lead	9.6 Mc/s.	400 Ohm non- inductive resistor in series with generator	Turn wave change switch to 31 metre band. Turn tuning spindle and peraturer until dial pointer aligns with 9.6 Mc/a. mark on dial. Adjust 31
5.	To control gr of 6AN7 valve pin Ho. 2		0.01MF Mica capacitor in series with gener- ator	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are out of windings on coil formers. Peak lst IF. trans. pri. and sec- for max. output	8.	То аг	ntenna lead	11.8 Mc/s.	400 Ohm non- inductive	metre oscl. coil ind. trimmer (iron core) for logging, then pack 31 metre antenna coil ind. trin. (iron core) for max. output. Turn wave change switch to 25 metre band. Turn
ô.	Refit diel pl	ate assembly and dial	l pointer.						resistor in series with generator	tuning spindle and perm. tunor until dial pointer aligns with the 11.6 Mc/s. mark on the dial.

ASTOR MODEL CRK.

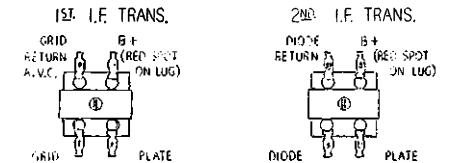
Sper- stion No.	Cenerator Connection	Generator Frequency	Dunmy Antenna	Instructions
9.	To antenna lead	15.2 Mc/s.	tive resis- tor in series with generator	Adjust 25 metre band osci. coil ind. orim. (iron core) for logring, then peak 25 metre antenna coil ind. trim. (iron core) for max. output. Turn move change switch to 19 metre band. Turn tuning spindle and permeturer until field pointer aligns with 15.2 Mc/s. mark on the dial. Adjust 19 metre band osci. coil ind. trim. (iron core) for logging, then peak 19 metre antenna coil ind. trim (iron core) for
10.	To Any nna lead	Multi- vibrator		Check logging on 49, 31, 25 and 12 netre bands at each 100 Ke/s.

SOTE: The iron cores in the parm, tuner coils and the s/w, conds, on the perm, tuner are set to an exact dimension. No adjustment to the dimensions is to be made if miselignment and incorrect leading are to be avoided.

<u>(VII.</u>	49 Metre	spreadband coil,	YELLOW spot on iron core end of former.
701,7115			RED spot on iron core and of former. WHITE spot on iron/and of former.
272	25 Wetre	spreadbant coil,	WHITE spot on iron/end of former.
	19 Metre	spreadband coil,	BROWN spot on iron core end of former.

SHORTWAVE SPREADBAND COIL INDESTIFICATION COLOURS

40 Notice spreadband coil, YELLOW spot on iron core end of former. 31 Netro spreadband coil, RED spot on iron core end of former. 25 Netro spreadband coil, UNITE spot on iron core end of former. 19 Matri coreadband coil, DROWN spot on iron core end of former.

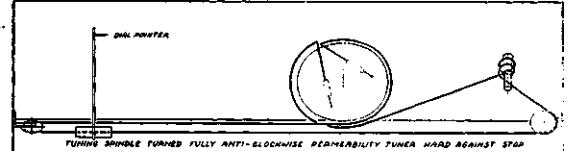


CORDING OF DIAL DRIVE

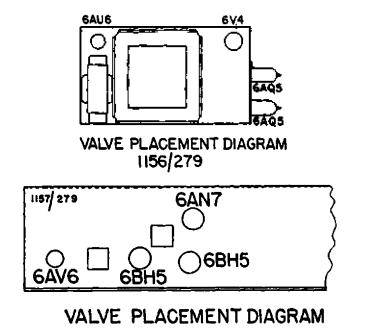
Length of cord required is 4 ft. 6 ins., which includes about 3 ins. to spare for tying to tension springs.

Cord Part No. 34/754.

Tension Spring (2) Part No. 503/39C.



P2 783





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL DLN.

GRAMO-RADIO COMBINATION

An Automatic 4 Speed Record Changer (78, 45, 33-1/3, 16-2/3, r.p.m.)and a 6 valve Superheterodyne Broadcast Band Receiver.

FOR CPERATION FROM

200-240 Volt 50 Cycle AC. Mains (Power Transformer T119)

Power trans Primary Tap-red-common.

" -preen-200 Volt mains. " -black-230 & 240 Volt mains.

200-250 Volt 40 & 50 Cycle AC. Mains (Power Transformer T120)

Power trans. Primary Tap-red-common.

"-green-200 Volt mains.

" -black-230 & 240 Volt mains. " -white-250 Volt mains.

POWER CONSUMPTION.

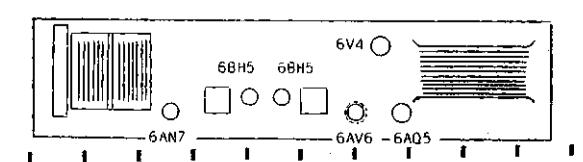
Radio Operation: - 55 Watts-approx. Gramo Operation: - 75 Watts-approx.

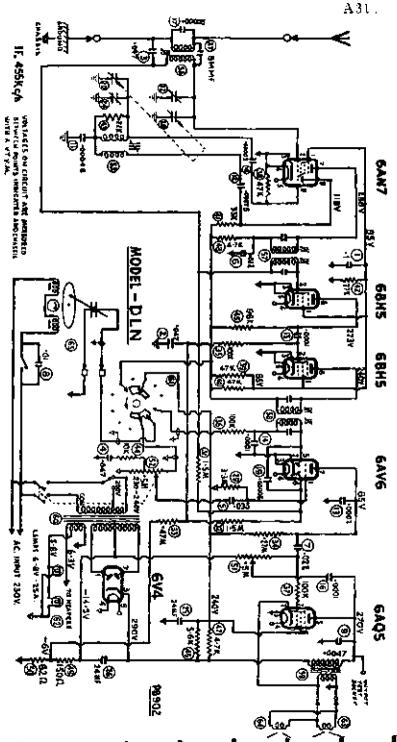
TUNING RANGE

Broadcast Band: 535-1610 Kc/s. - 560.7-186.3 Metres.

THIS BULLETIN CONTAINS

Alignment Instructions. Circuit Diagram. Connections for IF. and RF Transformers Dial Drive Cording Diagram Valve Flacement Diagram.

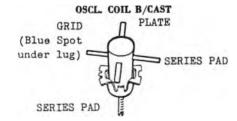




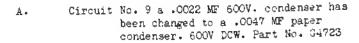
710	14.	ALIGNM	MENT PRO	CEDURE		Ope ti
	EQU	I PMENT		ALICN	MENT CONDITIONS	4.
Out Mic	nal Generator: put Meter: a Capacitor: mmy Antenna: gnment Tools:	0.01MF. (for Trans. alignm 200MMF. Mica Capacitor Type M195 and	Intermed. Input Volt	el: col: Freq.:	5,000 Ohms. 50 Milliwatts. Max. Vol. fully clockwise. 455 Kc/s. 230 Volts 50 Cycle AC. input to trans. 230-240 volt pri.tap.	
	•	PM561	Tone Contr	01	Treble position.	
		<u>IF</u>	. Trans. Align	MENT		
	era- Generato on No. Connectio	r Generator n Frequency	Dummy Antenna		Instructions	5.
1.	Remove receive	r ohassis from	cabinet es de	tailed on p	age 6.	
2.	Connect speake	r leads to spe	aker sockets.			
3.	To control gri of 6BH5 2nd IF valve (pin No.	•	0.01MF Mica capacitor in series with generator	valve soc	d wire attached to ket. Peak 2nd IF. i. and sec. for max.	
4.	To control gri of 6AN7 valve (pin No.2)	d 455 Kc/s.		out of mes	rang plates fully in. Leave grid wire to valve socket. Peak cans. pri. and sec.	
5.				Repeat ope	rations No.3 and 4.	
		<u>b/c</u>	AST ALIGNMENT			
1.					the dial pointer to e dial reading near	
2.	To antenna lea	d 600 Kc/s.	200MMF.Mica capacitor in series with generator	until cent aligns wit spot on di the gang a this posit oscl. coil	gang and dial pointer are of dial pointer th centre of 600 Kc/s. al reading. Leave and pointer set in tion and peak the ind. trim (iron max. output.	
3.	To antenna lea from receiver	d 1400 Kc/s.	200MMF. Mica capacitor in series with renerator	ter until ter aligns Kc/s. spot just oscl. logging an	gang and dial poin- centre of dial poin- with centre of 1400 on dial reading Ad- coil trim cond. for d peak ant. trans.	

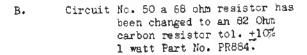
•	a- Generator No.Connection		Dunmy Antenna	Instructions
•	To antenna lead from receiver	600 Kc/s.	200 M.F. Mica capacitor in series with generator	Turn cond. Fang and dial pointer until centre of pointer aligns with centre of 600 Kc/s. spot on dial reading. Leave the range and pointer set in this position. Re-peak oscl. coil ind. trum (iron core) and teak the ant. trans. and trim. (iron core) for max. sutput. Do not rock the cond. gang or dial pointer to and fro through the signal while adjusting or move them until after the inductance triamer (iron core) of both of these transformers has been peaked for max. output.
•	To entenna l lead from receiver	1400 Kc/s.	200MMF. Mica capacitor in series with generator	Turn cond. game and dial pointer until centre of dial pointer aligns with centre of 1400 Kc/s. spot on dial reading. Adjust escl. coil trim condenser for logging and re-peak antenna trans. trim. condenser for max. cutput.





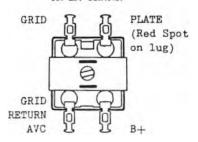
CIRCUIT COMPONENT CHANGE TO ELIMINATE INSTABILITY

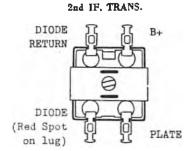




C. The parts list on page 3 and 4 details the new parts. The changes are included in the circuit diagram in this bulletin.

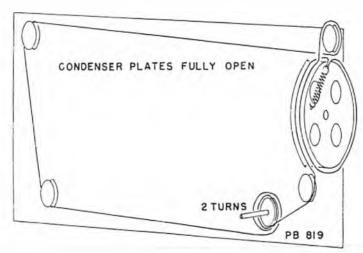
1st IF. TRANS.

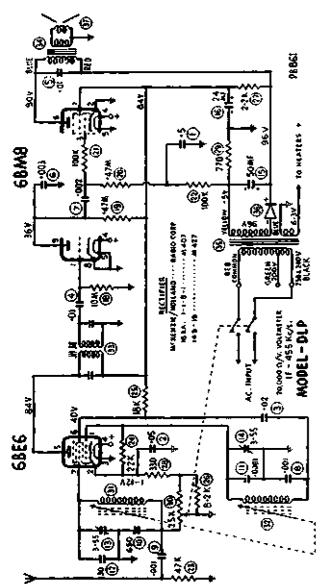




CORDING OF DIAL DRIVE

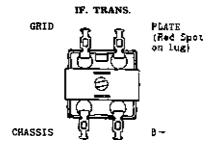
Length of cord required is 5 ft. 6 ins., which includes about 8 ins. to spare for tying to tension spring. Cord Part No. 34/754. Tension Spring Part No. 21/698.





Oper- ation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To control grid of 68E6 valve (pin No. 7)	455 Kc/s.	O.OIMF Mica capacitor in series with generator.	Turn thing control anti- clocks, e until perm, tuner iron cores e out of the windings on coil inters and the unit is hard against the stop. Leave grid wire attached to valve socket. Peak IF, trans. pri. and sec. for max. output.
2.	To antenna junction lug on chassis	1000 Kc/s.	200MMF Mica capacitor in series with generator.	Turn tuning control until dial pointer aligns with centre of alignment spot on dial reading at 1000 Kc/s. Peak oscl. coil trimmer cond., then peak antenna coil trimmer cond. for max. output. Re-peak oscl. coil trim condenser.

Check logging at each end of the dial. Tuning range after alignment 535-1640 Kc/s.



ANTENNA TRANS.:

Start of winding-furthest from mounting end-Signal grid. Finish of winding-nearest to mounting end-Junction of circuit Nos. 9, to & 30. A small quantity of receivers were despatched from the factory with the connections to the aerial coil reversed. This will cause a 2DB drop in overall gain. Receivers returned for service are to be checked and have the connections corrected if found incorrect.

OSCL. COIL:

Start of winding-furthest from mounting end-Junction of circuit Nos.3 & 8. Finish of winding-nearest to mounting end-Oscl. grid.

POWER TRANS. (T141) 50 cycle)

PRI.

Red lead-common. Green lead-200V. mains tap. Black lead-230 & 240V. mains tap.

HT. SEC. Slue lead—start.

Yellow lead-finish.

LT. SEC.

Start and finish in winding wire.

POWER TRANS. (T142) 40 cycle

PRI.

Red lead-common. Green lead-230V. mains tap. Black lead-250V. mains tap.

HT. SEC. Blue lead-start.

Yellow lead-finish.

LT. SEC.

Start and finish in winding wire.

ALIGNMENT PROCEDURE:

EQUIPMENT:

ALIGNMENT CONDITIONS:

Output Meter: Mica Capacitor: 0.01MF (for IF. trans. alignment

Output Level: Vol. Control:

Load Impedance: 7,000 ohms. 50 Milliwatts Max. Vol. fully clockwise

200MMF Mica Capacitor Dummy Antenna: Alignment Tools: Type M195 and PM581

Intermed. Freq.: 455 Kc/s. Input Voltage: 230 Volts 50 Cycle AC.

input to trans. 230-240

volt pri. tap

NOTE 1:

Signal Generator:

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.

NOTE 2:

The receiver chassis does not have to be removed from the cabinet for alignment of the IF, or RF, signal circuits. All alignment functions may be made when the rear section of the cabinet is removed from the front section.

NOTE 3:

To remove cabinet rear section from front section, prise off the two spring clips from the cabinet base with a thin blade screwdriver or knife, then at the base of the cabinet insert the thin blade screwdriver or knife into the crevice between the two cabinet sections and prise the rear section of the cabinet away from the front section.

NOTE 4:

Dial Pointer Setting: Turn tuning knob anti-clockwise until perm. tuner iron cores are out of the windings on the coil formers and the unit is hard against the stop. Set centre of transparent dial pointer line on centre of end of travel spot on dial reading near 1700 Kc/s.

NOTE 5:

Positioning of the dial pointer may be made by loosening the two grub screws fastening the tuning spindle to the core carriage roller. Set the centre of the dial pointer on centre of end of travel spot on dial reading near 1700 Kc/s. then with the iron cores out of the windings on the coil formers and the core carriage hard against the stop securely tighten the two grub screws.

NOTE 6:

.Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet, and the end of the iron core in the former, when the unit is turned fully anti-clockwise and is hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MANTEL MODEL "DLP"

2 VALVE SUPERHETERODYNE BROADCAST RECEIVER

FOR OPERATION FROM:

200-240 Volt 50 Cycle Supply Mains (Power Transformer f141) Power Trans. Primary Mains Tap-red-common.

..-green 200V. mains. ,,-black-230 & 240V. .. mains.

230-250 Volt 40 Cycle Supply Mains (Power Transformer 1142) Power Trans. Primary Mains Tap-red-common.

> ..-green-230V. mains. • • ..-black-250V. mains.

POWER CONSUMPTION:

18 Watts approx.

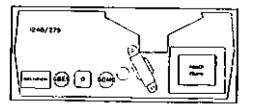
TUNING RANGE:

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

THIS BULLETIN CONTAINS:

Alignment Instructions. Circuit Diagram.

Instructions for Changing Mains Voltage Tap. Instructions for Removing Chassis from Cabinet. Valve Placement Diagram. Instructions for Replacing Dial.



A32a.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 CRANT STREET, SOUTH MELSCURNE, S.C.4.

Bulletin: DML-2 File: RLCETVERS ..C. Date: 20.8.59

TECHNICAL BULLETIN

Page: 1.

MODEL — DML PORTABLE GRAMO-RADIO UNIT

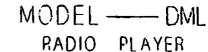
MODIFICATIONS FOR STEREOPHONIC

Modifications have been made so that Hodel 'DHL' may be used with an additional amplifier/speaker unit for Stereophonic reproduction.

- (A) The four speed, single record player unit part No. M468 has been changed to a four speed, single record player part No. M505 which has a stereo cartridge in the head of the pick-up arm.
- (B) The sterec cartridge left channel lead is wired to the receiver audic amplifier (junction of circuit No. 26 and 38.)
- (C) Circuit No. 26, a 1.2 megohe resistor is changed to a 550K ohm 10% N carbon resistor part No. R5642 to eliminate acoustic feedback (boom) when some records are being played.
- (D) The right channel lead from the sterec cartridge is wired to a socket located central on the rear of the plastic cabinet.

The end of the input lead (lead approx. 18 ft) from the additional amplifier/speaker unit is inserted into the right channel outlet socket at the rear of the cabinet.

The ON/OFF supply mains switch, tone control and volume control on Model 'DML' function only on the Model 'DML'.



FOR OPERATION FROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer PHCL) Power trans. Primary Tap - red - common - green - 200 Volt mains -black - 230 & 240 Volt mains

When the receiver is to be operated from a 250 Volt 40 or 50 cycle AC. supply main the transformer primary connections are as for the 240 volt supply mains but a 180 Ohm 10 Watt resistor Part No. R166 is to be mounted beneath the chassic and wired in the power trans. common lead (red),

NOTE: 2 The record player four speed drive pulley for 40 cycle mains operation is Part No. 846/524.

POWER CONSUMPTION:

Radio Operation: 40 Watts - approx. Cramo Operation: 60 Watts - approx.

TUNING RANCE:

Dummy Antenna

535 - 1610 Kilocycles 560.7 - 186.3 Metres.

ALIGNMENT PROCEDURE.

EQUIPMENT:

AUGUMENT COMPTONS:

treble position

455 He/s

Signal Generator: modulated 4000PS. Load Impedance: 7000 Ohus Output Meter Output Leval :: 50 Milliwatts Mica Capacitor : 0.01 MF Mica Vol. Control : Max. vol. (fully capacitor, for clockvise) IF. trans Tone Control :

alignment.

: 200 MMF Mica

Prequency

(fully cleckwise) Intermediate

capacitor Alignment Tool : Straight type 271501 for b/cas.

laput. Voltage:

200 Volts 50 cycle

trim, adjustment. AC. input to 230-Alignment Tool : Flexible type 24CV. pri. tap.

48/712 for b/cast Grazo/Radio osc. coil core and Switch

Radio position

IFT. core adjustment

9 g M Q (g) (d) 6807 **€**33 (a) * SBHS 68E6

A33b.

IF. TRANSPONIER ALIGNMENT.

It is not necessary to remove the chassis from the cabinet to adjust the iron cores in the IF. transformers.

Take sure the pick-up arm is anchored to its rest pillar.

Place the cabinet on a table with the base of the cabinet uppermost.

Memove the four screws from the base of the cabinet, then lift base section of cabinet upward on the hinges.

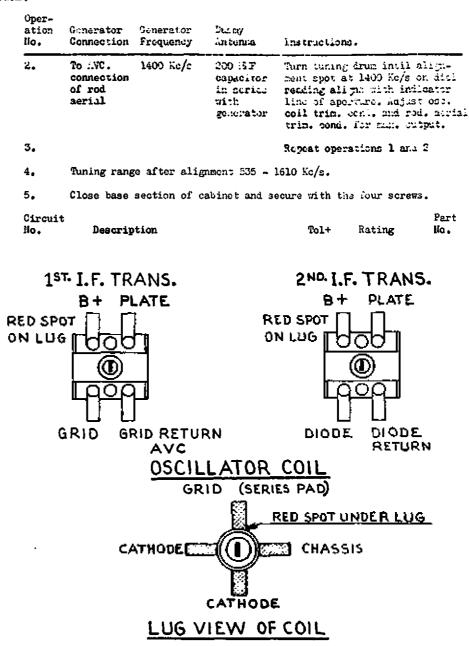
-	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	Fo signal grid of 62H5 valve (pin Ho.2.)	455 Kc/s	O.ONF Mica capacitor in series with generator	Turn gramo-radio switch to radio position. Leave grid wire attached to valve socket Peak 2nd IF. trans. pri. and sec. iron cores for max. output.
2.	To signal grid of GBZ6 converter valve (pin No.7.)	453 Kc/s	O.Olif liica capacitor in scries with generator	furn tuning drum until tuning condenser plates are fully out of mesh. Leave grid wire attached to valve socket. Peak lst. IF. trans. pri. and sec. iron cores for max. output.

DIAL DRUM SETTING:

Fully tesh the condenser gang plates. Set the centre of the end of travel spot near 535 Kc/s on dial reading to align with the indicator line across dial reading aperture. The dial reading drum is adjusted by loosening the screw in the bush of the drum.

BROADCAST ALICHIENT

1.	To M.C. connection of rod aericl	∂00 Ke/s	200 MAF capacitor in series with generator	Turn tuning drum until alignment spot at 600 Kc/s on dial reading aligns with indicator line of aperture Leave cond. gang set in this position, peak osc. coil ind. trim (iron core) and scc. trimmer coil on ferrite rod acrial for mex. output. Do not rock thecond. gang to and fro through the signal or more the dial drum off the 600 Kc/s dial mark until after the ind. trim. and rod acrial trim. coil have
				and rod serial trim. coil have been peaked for max. output.



(leads

(chenzed

(to lugs

DURMY ARTENNA:

The 200 MAF dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment. The 200 MMF, durny antenna must be connected to the antenna junction lug or 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.

I.F. TRANS. AN ICHIENT:

	Generator Connections	Generator Frequency	Dunny Antenna	Instructions
1. 2.	Remove receiver			detailed on pare 6. Leave grid wire attached to
	of 6BH5 valve (pin No.2).		capacitor in Series with generator	
3.	To signal grid of GREG valve (pin No.7).	455 Kc/s.	0.01MF mica capacitor in series with generator.	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are fully out of windings on coil formers. Peak 1st IF. trans. pri. and sec. for max. output.
4.				Repeat operations No. 2 & 3.

B/CAST BAND ALIGNMENT:

4.

- 1. Refit chassis to front section of cabinet.
- 2. Refit control knobs and tuning pointer knob.
- 3. DIAL POINTER SETTING

Turn tuning pointer-knoh enticlockwise until perm. tuner iron cores are out of windings on coil formers and the unit is hard against the stop. Loosen two grub screvs in perm. tuner roller. Set centre of line on dial pointer to align with centre of end of travel spot on dial reading near 1700 Kc/s. Securely tighten the two rrub scress.

1000 Kc/s. 200 MMF mica To antenna junction lug on chassis

capacitor in series with generator.

Turn tuning-knob and perm. tuner until centre of line on dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak oscl. coil trimer condenser then peak antènna trans. trim. cond. for max.output. Repeak oscl. coil trim cond.

- 5. Tuning range after alignment 535 - 1640 Kc/s.
- Check logging at each end of the band then refit rear section of cabinet. NOTE 1: Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the

ANTENNA TRANS:

Start of winding - furthest from mounting end - Antenna Finish of winding - nearest to mounting end - Signal grid.

OSCL. COIL:

Start of winding-furthest from mounting end - Junction of circuit Nos. 9 and 14. Finish of winding - mearest to mounting end - Oscl. grid.

POWER TRANS. (PT962)

POWER TRANS. (PTSES)

Red lead-common

Green lead-230V.

PRI.

(leads Red lead-common. changed Green lead-200V. Black lead-230 & 240V. (to lugs

HT. SEC.

Nive leed-start. (leads Yellow lead-centre tap. (changed (to lugs Blue lead-finish.

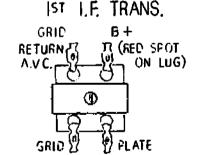
I.T. SEC. (two windings in parallel) Start and finish in winding wire.

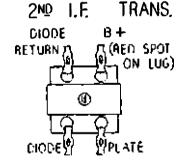
Black lead-250V. HT. SEC.

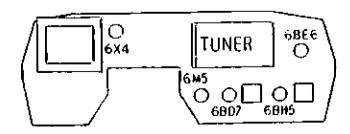
PRI.

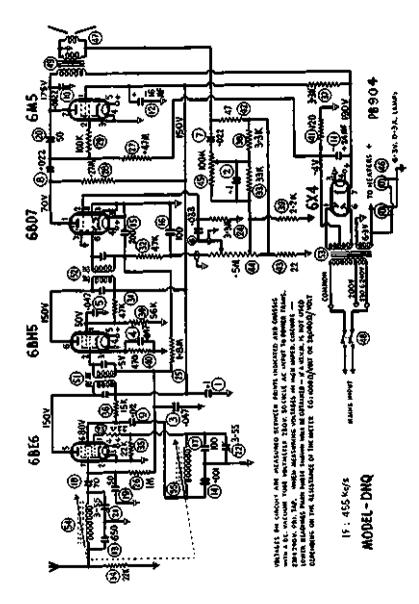
(leads Yellow lead-start. Blue lead-centre tap. (changed Yellow lead-finish. (to lurs

LT. SEC. (two windings in parallel) Start and finish in winding wire.











RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 CRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN MANTEL MODEL-DNQ

5 VALVE SUPERHETERODYNE BROADCAST RECEIVER FOR OPERATION FROM: -

200-240 Volt 50 Cycle Supply Mains (Power Transformer PT962) Power Trans. Primary Mains Tap-red-common. leads "-green-200V mains. (changed "-black-230 & 240V. mains(to lugs

230-250 Volt 40 & 50 Cycle Supply Mains (Power Transformer PT983) Power Trans. Primary Hains Tap-red-common leads " -i-reen-236V mains changed " -black-250V mains (to lugs

POWER CONSUMPTION: -

40 'atts-approx.

TUNING RANGE: -

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

THIS BULLETIN CONTAINS:

Alignment Instructions

Circuit Diagram.

Component

Connections for Transformers.

Cleaning Agent for Cabinet.

Valve Placement Diagram

PROCEDURE ALIGNMENT

EQUIPMENT

ALIGN/ENT CONDITIONS

A35a

Signal Generator: Output Meter: Mica Capacitor:

O.ClaF (for I...T. Vol.Control:

Load Impedance: 7,000 ohms. Output Level: 50 Milliwatts hax. Vol. Fully Clock-

alignment).

wi se Intermed. Freq.:455 Kc/s.

Dummy Antenna:

Alignment Tool

200 M.F. dica

Capacitor Type :1195

Input Voltage: 230 Volts 50 Cycle A.C.

Input to trans. 230V. pri. tap

Tone Control: Treble position

A36.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL DOR

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33} r.p.m.) and a 5 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation: 55 Watts.-approx. Gramo Operation: 75 Watts.-approx.

TUNING RANGES:-

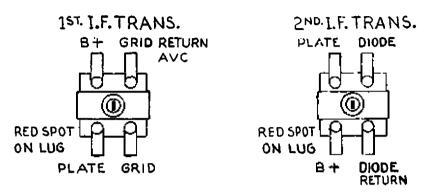
RECEIVER COVERAGE:-

Broadcast Band, 535-1610 Kc/s.		560.7-186.3 Metres.
19 Metre Band, 14.9-15.5 Mc/s.	(Bandspread)	20.13-19.29 Metres (approx.)
25 Metre Band, 11.6-12.1 Mc/s.	(Bandspread)	25.86-24.79 Metres (approx.)
31 Metre Band, 9.4-9.8 Mc/s.	(Bandspread)	31.91-30.61 Metres (approx.)
49 Metre Band, 5.95-6.25 Mc/s.	(Bandspread)	50.42-48.0 Metres (approx.)

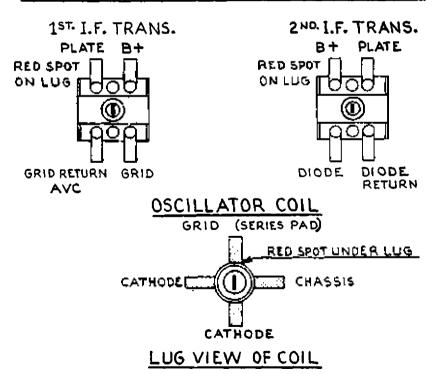
THE GRAMO-RADIO COMBINATION MODEL "PQR" IS A MODEL 'HQR' RECEIVER
CHASSIS FITTED INTO A DIFFERENT TYPE CABINET. EXCEPT FOR THE PARTS LISTED BELOW
WHICH ARE REQUIRED FOR FITTING TO THE DIFFERENT TYPE CABINET, ALL REFERENCE
FOR ALIGNMENT PROCEDURE, CIRCUIT DIAGRAM AND PARTS LIST SHOULD BE MADE TO THE
MODEL 'HQR' SERVICE BULLETIN SHEETS.

Chassis to cabinet mount screws 1" x 5/32" Csk. Hd. Flor. Bronze	17/560-36
Cup Washer - Flor.Bronze	269/250
Dial Reading	35/816-3
Cab. Indicator Light Bezel Socket Assy	A128/30C
Cabinet Assy Walnut	277/221-1
Cabinet Assy Rose Mahogany	277/221-2
Cabinet Assy Brown Mahogany	277/221-3
Cabinet Assy Light Walnut	277/221-4

JONNECTIONS FOR I.F. TRANS. PART No. PT869



CONNECTIONS FOR I.F. TRANS. PART No. L 284





RADIO CORPORATION PTY. LTD.

A37

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.L.

TECHNICAL BULLETIN

TABLEGRAM MODEL --- ENK

An Automatic 4 Speed Record Changer (76, 45, 33-1/3, 16-2/3, r.p.m) and a 5 valve Superheterodyne Broadcast Band Receiver.

FOR OFERATION PROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer T171)

Power trans Primary Tap-red-common.

" " -green-200 Volt mains.

" " -black-230 & 240 Volt mains.

NOTE: 1

when the receiver is to be operated from a 250 volt 40 or 50 cycle aC. supply mains the transformer primary connections are as for the 240 volt supply mains but a 160 Ohm 10 watt resister Part No. R166 is to be mounted beneath the chassis and wired in the power trans. common lead (red.)

NOTE: 2

The record changer drive pulley for 40 cycle mains operation is Part No. 846/524.

POMER CONSUMPTION:

Radio Operation:- 40 watts-approx. Gramo Operation:- 60 watts-approx.

TUNING RANGE:

Broadcast Band: 535-1610 Kc/s. - 560.7-186.3 Metres.

THIS BULLETIN CONTAINS:

- 1. Alignment Instructions.
- 2. Circuit Diagram.
- 3. Component
- 4. Connections for IF. and RF. Transformers.
- 5. Valve Placement Diagram

Operation Generator

<u> DQUIP.HIT</u>		<u> Alighi</u>	ENT CONDITIONS
Signal Generator: Output Meter :	Modulated 400 CPS.	Load Impedance: Cutout Level :	7000 Ohrs 50 Hillivatts
Hica Capacitor :	0.011F Mica Capacitor Part 30. FC145 for	Vol. Control :	
Alignment Tool :	i.F. trens. alignment Straight type Part No. PM581 for b/cast. trin.	Intermediate Frequency : Input voltage :	455 Hc/s, 230V 50 cyclo
Alignment Tool :	adjustment Flexible type Part No. 48/712 for b/cast. osc.	•	AC. input to trans. 230-240V. Pri. tap.
	coil core and I.F.T.	Tone Control :	Treble position fully clockwise
		Grano-radio Switch	Radio position.

ALLIGICIENT PROCEDURE

I.F. TRANS. ALIGNEEPT

Dunny

Generator

No.	Connection	Frequency	An tenna	Instructions.
1.		in the IF.	transformers. Co	from the cabinet to adjust mly the cabinet base has to
2.	Make sure pick	:-up arı is s	enchored to its	rest pillar.
3.			erews and four see then remove co	rubber cushion feet located abinet tase.
4.	To signal: grid of 6BH5 valve (pm No.2.)	455 Kc/s.	0.01°F lifes capacitor in series with generator	
5.	To signal grid of 6BE6 valve (pin do.7)	455 Kc/s,	0.0HF Hica capacitor in series with generator	Turn tuning control until condensor gang plates are fully out of mesh. Leave grid wire attached to valve socket. Peak lst. I.F. trans pri. and soc. iron cores for max, output.
6.				Repeat operations 4 and 5.

BROWDCAST ALIGNARY

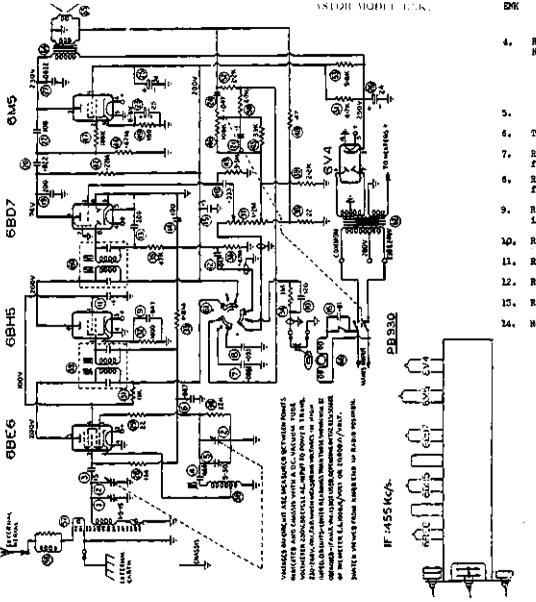
- NOTE 1. Before access to the adjustment points Lay be made on this receiver for complete adjustment of the RF. stages it is necessary to:-
 - Remove the chase's from the extinct.
 - Remove the front section of the channel from the main section.
 - Reflit back into the cabinet only the chancis and attach the control knobs to the spiniles.

Instructions for removing and refittin; the chassis also for removing the front section of the cabinet are detailed in the following pages of this bulletin.

- NOTE 2. To inject a signal into the ferrite rod aerial connect to active terminal of signal generator RF, output approxicately 2 ft. of serial wire then fashion the serial wire into a vertical position.
- NOTE 3. Tilt cabinet backward until it rests on its rear end. Turn cabinet so that control knob side of cabinet is nearest to 2 ft. of vertical aerial wire. A distance of not less than 1 ft. 6 ins is to be between the control knob side of the cabinet and the 2 ft. of vertical wire connected to cignal generator.

Operation	Generator	Generator	Duriny	
No.	Connection	Frequency	Antenna	Instructions.

- Fully mesh condenser gang plates then fit push-on type transparent disc so that centre of line on disc alims with centre of end of travel cark on dial reading near 535 Kc/s.
- Reconnect speaker leads to receiver
- Refer 600 Kc/s. Refer Turn cond. Jong and transparent note 2 & 3 note 2 & 3 disc until line on disc is on 500 Kc/s. diel mark. Leave the cond. ang and disc set in this position then peak osc. coil ind. trim. (.ron core)and the sec. trituer coil on ferrite rod acrial for max. output. Do not rock the cond. gang to and fro through the signal or move the line on the disc off the 600 Kc/s. dial mark until after the ind. trimer and the rod aerial trimer coil have been peaked for max, output,



Turn cond. gang and Refer 1400 Kc/s. Refer transparent disc until line Note 2 43 note 2 & 3 on disc is on 1400 Rofe. dial mark, idjust osc. coil trin. cond. then red aerial trin. cond. for max output.

Repeat operations 5 and 4

- Tuning range after alignment 535-1610 Kc/s.
- Remove the control knobs and pointer disc and unsolder speaker leads from terminal strip.
- Remove chassis from cabinet and then remove the chassis support bracket from side of cabinet.
- Refit front section of cabinet to main section of cabinet. NOTE Refitting is the reverse procedure to removing it. Securely tighten the soress.
- Refit chassis support bracket to side of cabinet .
- Refit chassis to cabinet . and reconnect speaker leads.
- Refit transparent dial disc and check logging.
- Refit push-on type control knobs.
- Refit cabinet base to cabinet and securely tighten the screws.

	10%	SOOV DOW	
' mica condenser	10% 25%	SOOV DOW	FC728
F wire wound trimmer condenser			C157
' paper condenser	20%	LOGY DOW	D4733
F Paper condenser	20%	400V DCV	P8223
((1	20%	100V DCV	D\$333
1 11 11	20%	200V DCW	B4733
'Silvered mica condonser	2.5%	500V DCW	C170
aper condenser	20%	400V DOW	P1043
' Paper "	20%	200V DCW	E4733
Silvered mica condenser	10%-	500V DCV	PC995
MAF Silvered mica condenser	10%	SOOV DOW	PC994
AF Paper condensor	20%	400V DCW	P1043
MF Paper condenser	20%	COCA DCA	G1033
i LIP Paper condenser	20%	2007 DCW	R3333
IMP Silvered mica condenser	10%	500V DCW	PC995

. oer-	Generator	Generator	Dunany.	
tion C.	Connection	Frequency	Antenna	Instructions,
	screws fastening	the plastic so	unt plate to the	indle then remove the six e cabinet base, pages of this bulletin.
	Fo control grid of GADS valve (pin No.2.)	455 Kc/s.	0.01MF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max.output.
	To control grid of 62E6 valve (pin No.7.)	453 Kc/a <i>.</i>	0.01MP Rica capacitor in series with generator	Turn tuning drum until perm, tuner iron cores are out of the windings on coil formers and the unit is hard against the stop. Leave the grid wire attached to valve socket. Peak 1st IF. trans. pri. and sec. for rex. output.
4.				Repeat operations

5. Refit the receiver chassis to the plastic mount plate.

DIAL DRUM SETTING.

2 and 3.

Turn dial drum toward the rear of the plastic mount plate until the parm. there iron cores are out of the windings on the coil formers and the unit is hard against the stop. The end of travel spot or dial reading near 1700 Kc/s. Is to align with the indicatur arrors moulded on the top of the plastic mount plate. The dial drum is adjusted by loosening off the screw through the slot in the drum

BROADCAST ALLUGISTAT.

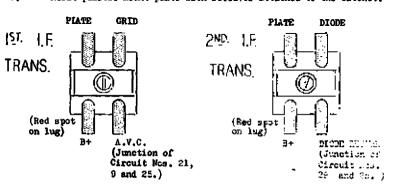
EXTERL Duray Antenna: The 2001MF dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment, The dummy antenna must be connected to the antenna junction lug on the charsis. It is not necessary to have the 25 ft. antenna connected to the receiver during alignment: If the 25 ft. antenna is connected it must be rolled into a small hank.

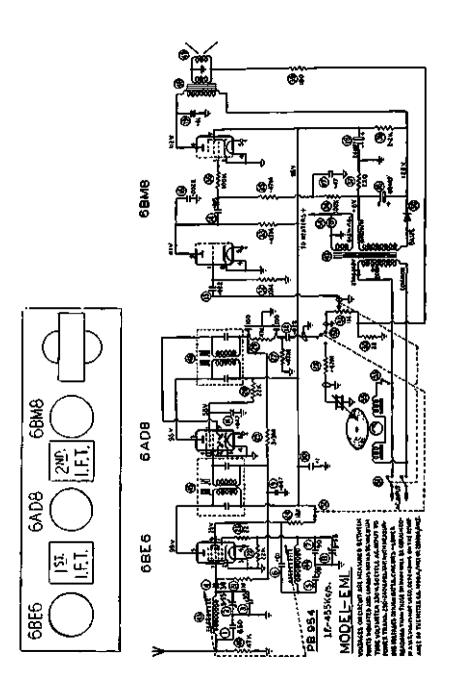
- NOTE: 2. The antenna and oscillator triumer condensers are accessible through the two holes in the plastic mount plate on the right hand side of the control knobs. The oscillator triumer being nearest to the front edge of the rount plate.
- MOTE: 3. Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grownet, and the end of the iron core in the former, when the unit is turned hard against the stop.

 If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

Oper- ation No.	Generator Connection	Cenerator Frequency	Durny Antenna	Instructions.
1.	To antenna junction lug on chassis	1000 Кс/в.	200MF Eira capacitor in series with generator	Turn tuning drum until alignment spot at 1000 Kc/s. aligns with noulded arrows on top of plastic mt. plate Peak oscl coil trim cond. then poak antenna coil trimmer cond. for rax. output. Re-peak oscl. coil trim.cond.

- Tuning range after alignment 535 1640 Kc/s.
- 3. Refit plastic mount plate with receiver attached to the cabinet.





MODEL— EML

A38a

PLAY - GRAM

FOR OPERATION FROM:

200-240 Volt 40 or 50 Cycle Supply Mains (Power Transformer T148)

Power Trans. Primary Mains Tap-red-comme.

" " " green 200V. mains

" " " black 250 & 240V. mains.

230-250 Volt 40 or 50 Cycle Supply Mains (Power Transformer T149)

Power Trans. Primary Mains Tap-red-commen.

Power Trans. Prinary Mains Tap-red-common.
" " " -green 230V. moins.
" " -black 250V. mins.

POWER CONSUMPTION:

Radio Operation: 20 Watts - approx. Gramo Operation: 40 Watts - approx.

TUNING RANGE:

535 - 1640 Ko/a. : 560.7 - 182.9 Metres.

ALIGNMENT PROCEDURE.

EQUIPMENT:

ALIGNMENT COMDITIONS

Signal Generator: Load Impedance: 7000 ohms
Output Meter: Output Level: 50 Millimatts
Mica Capacitor O.OlMF (for IF. Vol. Control: Max. Vol. fully
trans. alignment) clockwise.

Dummy Antenna : 200MMF Mica capacitor.

Straight Alignment
Tool: Type PM581
Flexible Alignment
Tool: Type 48/712

Intermed. Preq: 455 Kc/s.
Input Voltage: 230 Volta.
50 Cycle AC.

input to trans. 230-240 volt. pri. tap.

Gramo/Radio Switch:

Radio penition (clockwise)

IF. TELNS ALIGNMENT.

NOTE: The plastic mount plate to which the record player unit and the receiver chassis are mounted has to be removed from the cabinet to align the IF. transformers.



ECLIPSE RADIO PTY. LTD.

11-21 STURT STREET, SOUTH MELBOURNE TECHNICAL BULLETIN

BULLETIN FNQ-1

File: RECEIVERS AC.

Date: 9/6/54

MODEL-FNQ

4 Valve Superheterodyne Broadcast Mantel Model Receiver

For Operation From:

200-250 Volts 50 Cycle AC. Mains Supply.

Power trans. primary mains taps: 200-220 volts and 221-250 volts.

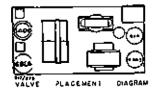
Power Consumption 40 Watts (approx.)

Tuning Range:

535 - 1640Kc/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.



ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator: Load Impedance : 5.500 ohms

Output Meter: Output Level : 50 Milliwatts

Mica Capacitor : 0.01MF (for I.F. Vol. Control : Max. Vol. fully trans. alignment) clockwise.

Dummy Antenna : 200MMF. Mica Intermed. Freq.: 455 Kg/s.

Capacitor Input Voltage : 230 Volts 50 Cycle Alignment Tools : Type M195 and PMS81.

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.

 			
- Generator Connection	Generator Frequency	Dummy Antenna	Instructions

No.

- . To remove chassis from cabinet, prise off push on knob from vol. controspindle and centre knob from dial reading. Remove dial reading oy unscrewing three screws in metal disc in centre of dial. Remove three screws from cabinet back, then, from beneath cabinet, two screws which fasten the cabinet to the chassis.
- To represent the pointer on the cabinet, connect a piece of stiff wire to the chassis and fashion it into position so that the wire is perpendicular to the centre of the perm. tuner dial shaft.
- 3. Turn perm. tuner dial spindle fully anti-clockwise, then fit dial reading so that centre of end of travel spot on H.F. end of dial reading aligns with centre of wire pointer.

200MMF Mica

series with

generator.

capacitor in

. To control 455 Kc/s. 0.01MF Mica grid of capacitor in 6AD8 valve series with (pin No. 2) generator. 5. To control 455 Kc/s. O.OLMF Mica grid of capacitor in 6BE6 valve series with (pin No. 7) generator.

Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.

Turn dial and perm. tuner fully anti-clockwise. Leave grid wire attached to valve socket. Peak lst [.F. trans.pri. and sec. for max. eutput. Repeat operations Nos. 4 and 5.

Repeat operations Nos. 4 and 5.
Turn perm. tuner and dial until
centre of 1000 Ke/s. spot on
dial aligns with centre of wire
pointer. Peak oscl. coil trim.
cond. then peak antenna trans.
trim. cond. for max. output.
Re-peak oscl. coil trim. cond.

8. Check logging at each end of the dial.

To antenna 1000 Kc/s.

junction lug

on chassis

42V 1757 AC, IMPUT £0000 · (53)

6AQ5

6AD8

6BE6

MODEL_FNQ

VOLTMETE

1000 T/VOLT

HLIM

URE

Ñ

S

ŭ

VOLTAG

455 Kc/s

A39a.

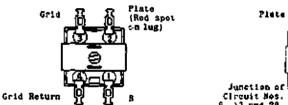
- b. Pember data receipt, and wire pointer attracted to classing then refit change to cobinet. Turn perm, tuner and diel coincic fully outledackwise. Befit diel reading so that control of employ upot on Hall and or diel aligns with control or pointer work on extense.
- these langing of each end of the Mini. Tuning over a fitter transment has-1640 Kefs.

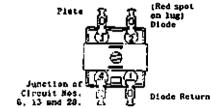
Soft iron cores of the perm, tuner are pre-set at the factory to an exact dimension of 2.275" between the extreme one of the former protrucing, through the rubber grommet, and the end of the iron core in the former, when the unit is turned fully enti-clockwise and is hard atminut the 2tep.

If incorrect legging and mis-alignment are to be avoided, no adjustment of the iron cores must be node to vary this discussion. Both iron cores must have the same colour identification upot on the screw end of the iron core.

No. 1 IF. TRANS.

No. 2 IF. TRANS.





ANTENNA TRANS.

Start of winding - furthest from mounting end - AVC. Finish of winding - nearest to mounting end - Signal grid.

OSCL. COIL.

Start of winding - furthest from mounting end - Junction of circuit Nos. 7 and 11. Finish of winding - nearest to mounting end - Osel, grid.

ALIGNMENT PROCEDURE

ROUIPMENT

ALIGNMENT CONDITIONS

Load impedance : 5,500 ohms Signal Generator : Output level :50 Williwatts Output meter : O.DIMF (for I.F. trans. Vol. control : Max. vol. fully Mica capacitor alignment) clockwise : 260 MMP Mica Capacitor Intermed. Freq. : 455 Kg/s. Dummy antenna : 230 volts 50 evele : Type M195 Input voltage Alignment tool AC. input to trans. 221-250 volt pri. tap.

DUMMY ANTENNA: The 200 NNF 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.

ALIGNMENT: The I.F. transformer variable iron cores and the trimmer condensers on the perm. tuner are accessible when the rear section of the cabinet is removed from the front section.

1.02 600 1.021 50011021				
Coer.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.				tion of cabinet remove the screw and off the front section.
2.	To signal grid of 6AD8 valve (pin No. 2)	1 455 Kc/s.	O.01 MF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
3.	To signal grid of SAN7 valve (pin No. 2)	d 455 Kc/s.	0.01 MF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Furn perm tuner so that iron cores are fully out of windings on coil formers. Peak lst I.F. trans. pri. and sec. for mex. output.
4. 5.	the coil form	ers and hard	against the sto	Repeat operations No. 2 and 3. on cores are fully out of windings on pp. Set the centre of the dial

DIAL POINTER: Turn perm. tuner so that iron cores are fully out of windings of the coil formers and hard against the stop. Set the centre of the dial pointer on the end of travel spot on the dial reading near 1700 Kc/s. From the front of the cabinet the dial pointer may be moved by prising out the spring clip at each end of the dial. Hold the tuning knob with one hand and with a pair of long nose pliers move the top of the dial pointer so that it slides on the dial cord.

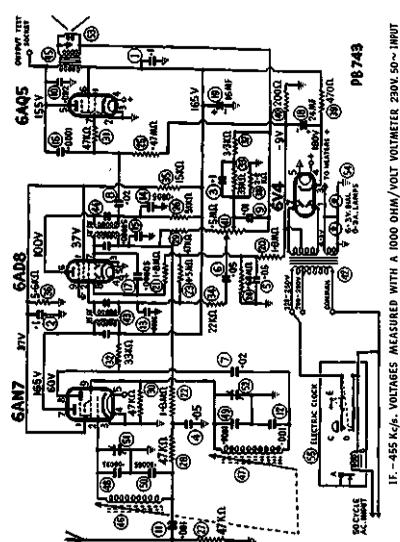
i. To antenna 1000 Kc/s. 200 MMF mica junction lug capacitor in chassis ueries with generator

Turn perm tuner until centre of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak oscl. coil trimmer cendenser then peak antenna trans. trim. cond. for max. output. Repeak oscl. coil trim. cond.

- 7. funing range after alignment 535 1640 Kc/s.
- Check logging at each end of the dial; then refit rear section of the cabinet.

NOTE: Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the outreme end of the former protruding through the rubber grommet, and the end of the iron cores in the former, when the unit is turned fully eleckwise and is hard against the step.

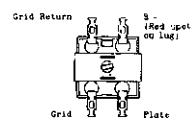
If incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must

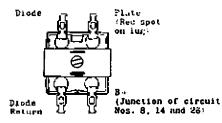


IF. – 455 Kc/s. VOLTAGES MEASURED WITH A P. A.ALARM RIED. C. SLEEPTIME CAM.
b. MOTOR COIL. - D. MICRO SWITCH.

No. 1 IF. TRANS.

No. 2 IF, TRANS.





ANTENNA TRANS.

Start of winding - furthest from mounting end - AVC.

Finish of winding - nearest to mounting end - Signal Grid.

oscr. coir

Start of winding - furthest from mounting and - Junction of circuit Nos. 7 and 12. Finish of winding - nearest to mounting and - Osci. grid.

POWER TRANSFORMER

Pri. red lead - common. Pri. green lead - 200-220V. Pri. black lead - 221-250V.

HT. Sec.

Blue lead - start.

Yellow lead - centre tap.

Slue lead - finish.

LT. Sec. (two windings in parallel)
Start and finish
in winding wire.

DIAL READING MODIFICATION

The dial reading consisted of a printed strip and in front of which was a transparent bar which is held in position in the cabinet by a spring clip at each und of the transparent bar.

The above has been changed so that the dial reading is printed on the rear side of the transparent bar and which is held to the cabinet by the same type spring alip.

Printed dial reading					VicTas.	25/785-1
(four printed dial readings)	A115/785	• •		• •	S.AW.A.	25/785-2
Transparent dial bar	25/785	• •	• •		Q'ld.	25/785-3
					N.S.W.	25/785-4

A40a.



ECLIPSE RADIO PTY. LTD.

11-21 STURT STREET, SOUTH MELBOURNE
TECHNICAL BULLETIN

BULLETIN FQM-1

File: RECEIVERS AC.

Dute: 1 10 54

MODEL "FQM" CLOCK RADIO

4 Valve Superheterodyne Broadcast Receiver.

For Operation From:

200-250 Volt 30 Cycle AC. Supply Mains.

Power trans. primary mains taps: 200-220 volts and 221-250 volts.

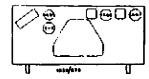
Power Consumption 33.5 Watts Radio and Clock.
4.5 Watts Clock only.

Tuning Range:

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

This Bulletin Contains:

Alignment instructions.
Circuit Diagram.
Component
Connections for Transformers.
Valve Placement Diagram.



A41.



MODEL FOR

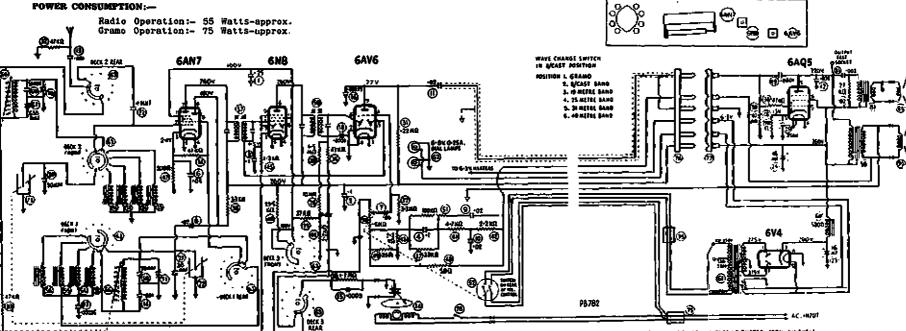
GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78. 45, 33; r.p.m.) and a 5 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

MODEL - FQR

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.



1f. 455 Kc/s.

TUNING RANGES:-

Broadcast Band, 535-1610 Kc/s.
19 Metre Band, 14.9-15.5 Mc/s. (Bandspread)

25 Metre Band, 11.6-12.1 Mc/s. (Bandspread)

31 Metre Band, 9.4-9.8 Mc/s. (Bandsprend;

49 Metre Band, 5.95-6.25 Mc/s. (Bandspruad)

VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN FOINTS INDICATED AND CHASSIS WITH A DC. VACUUM TUBE VOLTMETER 235V. 50 CYCLE
AC. INDICT TO FOWER TRANS. 221-250V. PRI. TAD. WHEN MEASURING VOLTAGES IN HIGH IMPED. CIRCUITS — LOWER READINGS THAN
THOSE SHOWN WILL BE OBTAINED — IF A V.T.V.M. IS NOT USED — DEPENDING ON THE RESISTANCE OF THE METER USED EG 100001/YOLF OR 2000001/YOLF.

RECEIVER COVERAGE:-

560.7-186.3 Metres. 20.15-19.29 Metres (approx.)

1079/279

25.86-24.79 Xetres (approx.)

31.91-30.61 Metres tapprox.

50.42-48.0 Metres improx.

ALIGNMENT PROCEDURE

EQUIPMENT ALIGNMENT CONDITIONS Signal Generator: Load Impedance: 5,000 ohms. (output Meter: Output Level: 50 Milliwatts. 0.01MF. (for IF. Mica Capacitor: Vol. Control: Max. Vol. fully trans. alignment) clockwise. Intermed. Preq.: 455 Kc/s. Input Voltage: 230 Volts 50 Cycle AC. input to trans. 221-250 volt pri. 200MMF. Mica Capacitor. Dummy Antenna: 400 Ohm non-inductive resistor. Dummy Antenna: tap. Alignment Tools: Type M195 and PM581. Tone Control: Treble position.

No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	Remove receiver detailed on page		hassis and tunin	g unit chassis from cabinet as
2.	pull gear B. Unscrew la control. C. From volume by pulling D. Remove dial cord at res	grub screws i wheel straigh rge nut faste control shaf it straight u pointer by pr ar of pointer m each end of	n tone control at upward off the ning small metal tremove small apward. ising up centre carriage.	is:- tear wheel hub, then s control spindle. t gear plate to bush on tone ear plate with gears attached clip which fastens it to digl arge lock nut fastening dial
3.	Connect speaker chassis.	leads and lea	ds from tuning v	nit chassis to power supply
4.	To control grid of 6N8 valve pin No. 2.	435 Kc/s.	0.01 MF Mica capacitor in series with generator.	Turn wave change switch to b/cast. band. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.
5.	To control grid of GAN? valve, pin No. 2.	455 Kc/s.	0.01 MF Mica capacitor in series with generator.	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are out of windings

gear wheel teeth mesh correctly.

B. CAST. AND S. WAVE. ALIGNMENT

Oper- ation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	are out of the wi	ndings on the e centre of t	coll formers and he dial pointer o	hat perm tuner from cores the unit is hard against a the centre of the end of
2.	To antenna lead	1000 Ke/s.	200 MMF mica capacitor in series with generator.	Turn tuning control and perm. tuner until centre of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak b/cast. oscl. coil trimmer cend., then peak b/cast. antenna coil trim. cond. for max. output. Re-peak oscl. coil trim. condenser.
3. 4.				Tuning range after alignment 535-1610 Kc/s. Check logging at each end
5.			metre band (this	of the dial. band must be aligned before
6.	the 31, 25 and 19 To antenna load	6.08 Mc/s.	400 ohm non- inductive resistor in series with generator.	Turn wave change switch to 49 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with the 6.08 Mc/s. mark on the dial. Adjust 49 metre band escl. coil ind. trimmer (iron cere) for logging, then peak 49 metre antenna coil ind. trimmer (iron cere) for max. output.
7.	To antenna lead	9.6 Mc/s.	400 ohm non- inductive resistor in series with generator.	furn wave change switch to 31 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 9.6 Mc/s. mark on dial. Adjust 31 metre escl. coil ind. trimmer (iron core) for logging, then peak 31 metre antenna coil ind. trim. (iron core) for max. output.
8.	To antenna lead	11.8 Mc/s.	400 ohm non- inductive resistor in series with generator.	Turn wave change switch to 25 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with the 11.8 Me/s. mark on the dial. Adjust 25 metre band csel. cell ind. trim. (iron core) for logging, then peak 25 metre antenna cell ind. trim. (iron core) for max. eutput.

9. To antenna lead 15.2 Mc/s. 400 ohm noninductive resistor in series with generator.

Turn wave change switch to 19 metre band Turn tuning spindle and perm. tuner until dial pointer aligns with 15.2 Mc/s. mark on the dial. Adjust 19 metre band oscl. coil ind. trim. (iron core) for max. output. Check logging on 49, 31, 25 and 19 metre bands at each 100 Kc/s. mark on the

dial.

Multi-To antenna lead vibrator

NOTE: The iron cores in the perm. tuner coils and the s/w. conds. on the perm. tuner are set to an exact dimension. No adjustment to the dimensions is to be made if misalignment and incorrect logging are to be avoided.

- COIL COLOUR CODE 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre apreadband coil. RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil, BROWN spot on iron core end of former.

INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

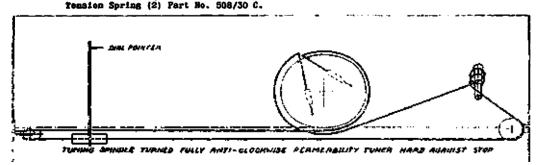
MAINS VOLTAGE.-The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT: For 200-220 volt operation: The receiver or the power unit chassis do not have to be removed from the cabinet for the adjustment. SWITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE FOWER POINT SOCKET.

Remove cabinet back board from the cabinet by unscrewing the screws fastening it to the cabinet. From the rear of the cabinet, the mains tap torminal strip may be seen on the side of the power unit chassis mounted to the base of the cabinet. Unsolder the mains lead wire from the AC. junction block which is attached to the mains terminal strip tap marked 221-250V. and re-solder it to the terminal strip tap marked 200-250V. Refit cabinot back board to cabinet.

CORDING OF DIAL DRIVE

Length of cord required is 4 ft. 6 ins., which includes about 8 ins. to spare for tying to tonsion springs. Cord Part No. 34/754.



PB 788

TRANSFORMER CONNECTIONS

B. CAST ANCENNA TRANS.

Start of winding - furthest from mounting end - Antenna, A.V.C. Finish of winding - nearest to mounting end - Grid. B/CAST OSCL COIL

Start of winding - furthest from mounting end - Osch. plate. Finish of winding - nearest to mounting and - Osci, grid.

19, 25, 31 AND 49 METRE ANT, TRANS.

Lead from top lug (iron core end) :-GRID.

Lead from bottom lug (mounting end) :-CHASSIS - EARTH.

19, 25, 31 AND 49 METRE OSCL, COIL

Lead from top lug (iron core end) :-GRID.

Lead from bottom lug (mounting end) :-OSCL. PLATE COND.

49 Metre spreadband coil, YELLOW spot on iron core end of former.

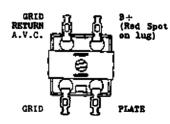
31 Metre spreadband coil, RED spot on iron core end of former.

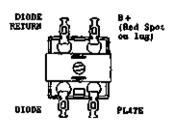
25 Metre apreadband coil. WHITE spot on iron core end of former.

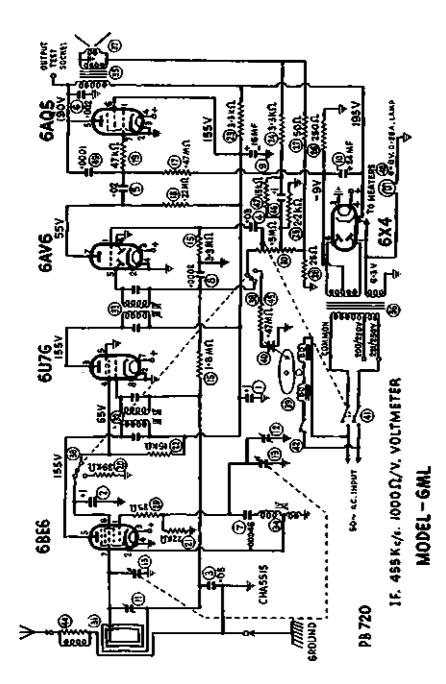
19 Metre spreadband coil, BROWN spot on iron core end of former.

1st IF. TRANS.

2nd IF. TRANS.









RADIO CORPORATION PTY. LTD.

DIVISION OF BLECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

A42.

TECHNICAL BULLETIN

MODEL "GML" MICROGRAM

- A. 5-Valve Superheterodyne Broadcast Receiver
- A. 3-speed (33), 45 and 78 R.P.M.) Single Record Player

For operation from:-

200-250 Volts 50 Cycle AC Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

Power Consumption:-

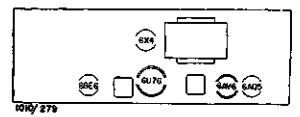
Radio Operation:- 40 Watts.-approx. Grame Operation:- 60 Wetts.-approx.

funing Range:~

535-1610 Kc/s.: 560.7 - 186.3 Metres.

This Bulletin contains:-

Alignment Procedure Circuit Diagram



VALVE PLACEMENT DIAGRAM

A42a.

ALIGNMENT PROCEDURE

EQUIPMENT ALIGNMENT CONDITIONS Load Impedance : 5.500 Ohms when Signal Generator: output meter is connected across speaker transformer Output Meter: primary. Load Impedance : 4 Ohms when Mica Capacitor : 0.01MF (for I.F. output meter is trans. alignment) connected across speaker transformer secondary. : 200MMF. Mica : 60 Milliwatts Dummy Antenna Output Level Vol. Control Capacitor : Max. Vol. fully clockwise Intermed. Freq.: 455 Kc/s. Input Voltage : 230 Volts 50 Cycle Alignment Tools : Type M195 and PM581. AC. input to trans. 221-250 volt pri. tap.

- 1. Remove push-on type control knobs.
- 2. Fasten clip on to pick-up arm.
- 3. Remove two screws, cup washers and rubber washers situated each side of motor mount plate near side of cabinet.
- 4. Prise up motor mount plate with motor attached.
- 5. Disconnect pick-up lead plugs from their sockets.
- 6. Unsolder AC. leads to motor at the terminal strip or unfasten the leads inside the switch terminal box on the motor mount plate.
- 7. Remove two screws fastening loop aerial to cabinet.
- 8. Remove the nut and washers on each screw protruding through the two brackets on the rear of chassis and the nut and washer on each screw protruding through the two slotted brackets on the front of the chassis.
- 9. Tilt chassis on its power transformer end.

	ra- Generator Generator n Connection Frequency		Instructions
Ĭo.		 -	
10.	To control 455 Ke/s. grid of 6U7G valve	capacitor in series with generator	Leave grid cap on valve. Peak 2nd I.F. trans. pri. and sec. for max. output.
11.	To control 455 Kc/s. grid of 6BE6 valve (pin No. 7)	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.
L2.			Repeat operations No. 10 and 11.
13.	Refit chassis to cabin tightened securely.	et and make sur	re the nuts on the mount screws are
Ļ4.	Refit push-on type cont	rol knobs.	
15.	Refit loop aerial to ca	binet.	
L6.	Fully mesh the cond. gapointer to align with the near 540 Kc/s.	mg. plates and the centre of th	set the centre of the control knob me end of travel mark on the dial reading

	ra- Generator Generator 2 Connection Frequency		Instructions
17.	To AVC end 600 Kc/s. of loop aerial (outside turn of sec.)	200 MMF Mica capacitor in series with generator	Turn cond. gang and control knob pointer to 600 Kc/s. and peak the oscl. coil ind. trim (iron core) for max. output. Rock the gang to and fro through the signal while adjusting.
18.	To AVC end 1400 Kc/s. of loop aerial (outside turn of sec.)	200 MMF Mica capacitor in series with generator	Turn cond. gang and control knob pointer to 1400 Kc/s. Adjust oscl. coil trim. condenser for logging and peak loop aerial trim. cond. for max. output. The loop aerial must be in its mounted position when the loop trimmer is being peaked.

20. Refit motor assembly to cabinet in exact reverse procedure to removing it.

LOOP AERIAL

Primary (3 turns)
Outside turn — AERIAL LOADING COIL
Inside turn — EARTH SOCKET AND CHASSIS

Secondary Outside turn - AVC. Inside turn - GRID.

OSCL. COL.

GRID - Series
Pad (Red spot
under lug)

CATHODE

No. 1 LF. TRANS.

GRID

RETURN

GRID

B + (Red spot an lug)

B + (Red spot on lug)

DIODE RETURN (Red spot on lug)

(A) (1)

PLATE

DIODE O U PLATE

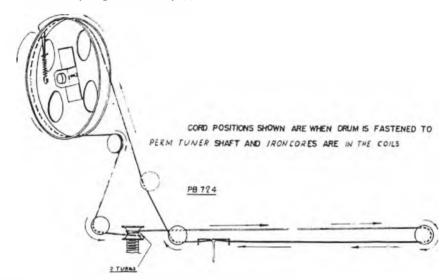
No. 2 I.F. TRANS.

CORDING OF DIAL DRIVE

Length of cord required is 6 ft. 3 ins., which includes about 8 ins. to space for tying to tension spring.

Cord Part No. 34/754.

Tension Spring Part No. 21/698.



TYPE 6U7G VALVE CHANGED TO TYPE 6N8 VALVE

The third and future production runs of Model ''GNM'' receivers will use a type 6N8 valve in place of the type 6U73 valve.

VALVE BASE CONNECTIONS

	6U7G	6N8
Pin No. 1	No connection	Screen
., 2	Heater	Signal grid
,, 3	Plate	Cathode
., 4	Screen grid	heater
5	Suppressor grid	heater
,, 6	No connection	plate
. 7	Heater	Diode
,, 8	Cathode	Diode
,, 9		Suppressor grid
Grid Cap	Signal grid	

CIRCUIT COMPONENT CHANGES

- A. Cathode bias resistor 300 ohms changed to 1200 ohm resistor tol. $\pm~10\%~\%$ watt part No. R1222.
- B. Screen bleed resistor 100,000 ohms changed to 27,000 ohm resistor tol. ± 10% 1 watt part No. 22732.
- C. Screen feed resistor 22,000 chms or 27,000 chms 1 watt changed to 23,500 chms 2 watt consisting of two 47,000 chm resistors tol. ± 10% 1 watt part No. 24732 wired in parallel.
- D. 6U7G valve socket 8 pin changed to 9 pin socket part No. 279/250 and adaptor plate part No. 33/698.



RADIO CORPORATION PTY. LTD.

PHYSION OF ELECTRONIC INDUSTRIES LTD.

124-130 GRANT STREET, SOUTH MELROURNE S.C.4

A43.

(Red Spot

on lug)

PLATE

TECHNICAL BULLETIN

TABLEGRAM MODEL - "GNM"

An Automatic 3 Speed Record Changer (78, 45, 33) r.p.m.) and a 5 Valve Superheterodyne Broadcast Receiver.

FOR OPERATION FROM:-

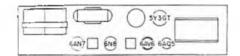
200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:—

Radio Operation:-55 Watts.-approx.
Gramo Operation:-75 Watts.-approx.

TUNING RANGE:-

535-1610 Kc/s. - 560.7-186.3 Metres.



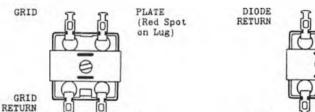


VALVE PLACEMENT DIAGRAM 1063/279

VALVE PLACEMENT DIAGRAM 992/279

DICDE

1st IF. TRANS.



2nd IF, TRANS.

5Y 3GT

AVC. U ANTENNA TRANS.

Start of winding - furthest from mounting end - AVC. Finish of winding - nearest to mounting end - Signal grid.

OSCL. COIL

Start of winding - furthest from mounting end - Junction of circuit Nos. 11 and 13.

Finish of winding - nearest to mounting end - Oscl. grid.

ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator:

Output Meter:

Dummy Antenna:

PM581.

Alignment Tools: Type M195 and

Mica Capacitor: 0.01MF. (for IF. trans. alignment)

200MMF. Mics

Capacitor

Output Level: Vol. Control: Intermed. Freq.: 455 Ke/3.

Load Impedance: 5,000 ohms. 50 Milliwatts. Max. Vol. fully clockwise.

230 Volts 50 Cycle Input Voltage: AC. input to trans.

Tone Control:

221-250 volt pri. tap. Treble position.

Ope No.		Generator Frequency	Dummy Antenna	Instructions
1.	To signal grid of I.F. valve (6U7G grid cap) (6N8 pin No. 2)	455 Kc/s.	0.01 MF Mica capacitor in series with generator	Remove chassis from cabinet. Leave grid wire attached to valve. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	To signal grid of GAN7 valve pin No. 2	455 Kc/s.	0.01 MF Mica capacitor in series with generator	Turn perm tuner so that iron cores are fully out of windings. Leave grid wire attached to valve. Feak lst I.F. trans. pri. and sec. for max. output.

Repeat operations No. 1 and 2.

Turn perm tuner so that iron cores are fully out of coil windings and hard against the stop. Set centre of dial pointer to elign with centre of end of travel spot on dial reading near 1700 Kc/s.

5. To antenna lead from receiver

3.

6.

7.

1000 Ke/s. 200 MF Mica

capacitor in series with generator

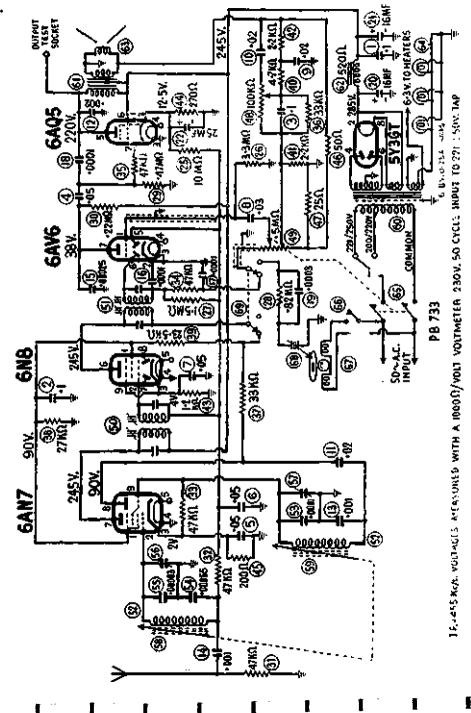
Turn perm tuner and dial pointer until centre of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak oscl. coil trim. cond. then peak antenna trans. trim. cond. for max. output. Repeak oscl. coil. trim. cond.

Repeat operations No. 4 and 5.

Check logging at each end of the dial.

NOTE:-Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet and the end of the iron core in the former, when the unit is turned fully clockwise and is hard against the stop.

If incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the screw end of the iron core.



MANTEL MODEL "GPM"



5 VALVE SUPERHETERODYNE BROADCAST RECEIVER

FOR OPERATION FROM:

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

TUNING RANGE:

535-1640 Kc 'a. : 560.7-182.9 Metres.

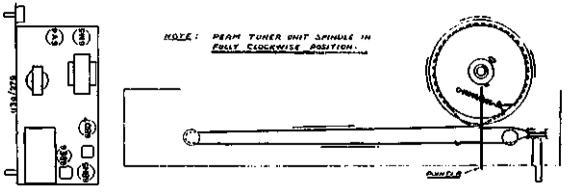
CORDING OF DIAL DRIVE

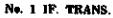
Length of cord required is 5 ft., which includes about 8 ins. to spare for tying to tension spring.

Cord part No.

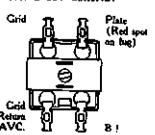
34/754 508/30C A116/755

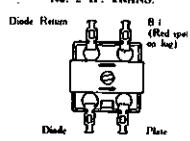
Spring part No.
Dial Pointer part No.

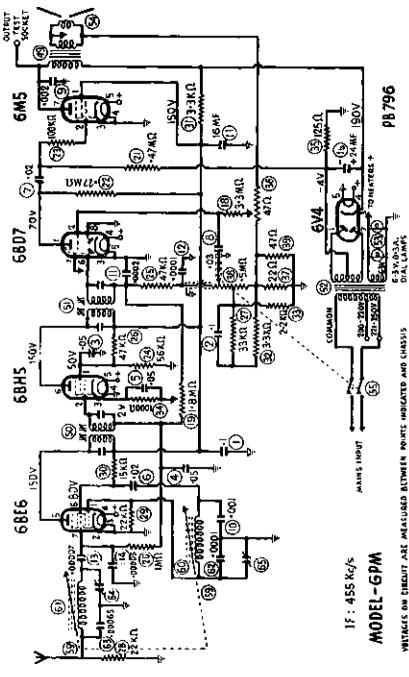




No. 2 IP. TRANS.







ASTOR MODEL GPM.

A44a.

ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator:
Output Meter:
Mica Capacitor:
0.01MF (for trans. alignment).

Dummy Antenna: 200 MMF. Mica Capacitor.

Load Impedance: 7,000 ohms.
Output Level: 50 Milliwatts.
Vol. Control: Max. Vol. fully clockwise.

Intermed. Freq.: 455 Kc's.
Input Voltage: 230 Volta 50 Cycle A.C. input to

221-250 volt pri. tap.

Instructions

DUMMY ANTENNA:

Operation

Alignment Tool: Type M195.

The 200 MMF, dummy antenna must not be connected to the free end of the 25 ft. antenna during alignment. The 200 MMF, dummy antenna 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 bank. Should a plate antenna be fitted into the rear section of the cabinet in addition to the 25 ft. antenna, the lead from the plate antenna must be disconnected from the antenna junction lug on the chassis during alignment.

Dummy

I.F. TRANS. ALIGNMENT:

Cenerator

Generator

Connection	Frequency	Antenna	
			Unscrew and remove four screws from rear of cabinet then prise rear section of cabinet away from front section. If a plate antenna is fitted, disconnect the lead from the antenna at the antenna junction lug on the chassis.
To signal grid of 6BH5 valve (pin No. 2).	455 Kc/s.	0.01MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd 1F. trans. pri. and sec. for max. output.
To signal grid of 6BE6 valve (pin No. 7).	455 Ke/s,	0.01MF mica capacitor in series with generator	
			Repeat operations Nos. 2 and 3.
BAND ALIGN	iment:		Place receiver chassis on its back so that front section of cabinet is uppermost. Remove two push-on type control knobs by pulling them straight up off the spindles. Remove dial reading by unscrewing four hex. head chrome plated screws and washers fastening dial to cabinet. Remove two Csk. head screws and washers fastening base of front section of cabinet to chassis. Lift front section of cabinet up and over top of chassis. The dial pointer will slide through the trough the four front of cabinet. The cabinet with speaker attached is to rest against chassis end rear backets.
	To signal grid of 6BH5 valve (pin No. 2). To signal grid of 6BE6 valve (pin No. 7).	To signal grid 455 Kc/s. of 6BH5 valve (pin No. 2). To signal grid 455 Kc/s. of 6BE6 valve	To signal grid 455 Kc/s. of 6BH5 valve (pin No. 2). To signal grid 455 Kc/s. of 6BE6 valve (pin No. 7). 0.01MF mica capacitor in series with generator 0.01MF mica capacitor in series with generator

Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
6 .		-		Fit control knob, then set the dial up so that treats between control spindles and edge o cabinet, dial pointer in front of dial.
7.	Dial Pointer Setting			Move dail reading until control spindles as central with spindle holes in moulded skitts of dial reading. Turn tuning control knob anti-clockwise until perm, tuner iron cores are out of windings on coil formers and the unit is hard against the step. Set dial pointer on end of travel spot on dial reading near 1700 Ke step.
8.	To antenna junction lug on chassis	1000 Kc⁄i.	200 MMF mica capacitor in series with generator	Turn perm. tuner until centre of dial points aligns with centre of spot on dial reading a 1000 Kc.s. Peak oscl. coil trimmer condenser then pea antenna trans, trim, cond. for max. out; . Repeak oscl. coil trim cond.
9,	Tuning range	after alisoment	535 1640 Kc.	•
10.				relit chassis to cabinet.

NOTE: Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extract end of the former protruding through the rubber grommet, and the end of the iron cores in the form. Seen the perm, tuner unit spindle is turned fully anti-clockwise and a hard against the stop. If incorrect logging and mis-alignment are to be avoided, no adjustment of the non cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

INSTRUCTIONS FOR REMOVING CHASSIS FROM CABINET

- 1. Unscrew and remove four screws from rear of cabinet then prise rear section of cabinet away from from section,
- 2. Unsolder lead attached to plate aerial if a plate aerial is fitted inside the top of the cabinet.
- 3. Remove two push-on knobs from control spindles by pulling them straight off the spindles.
- 4. Unscrew and remove four hex, head chrome plated screws and washers fastening dial to cabinet.
- 5. Unsolder speaker and dial lamp leads from terminal strip on top of chassis.
- 6. Unscrew and remove two Cak, head screws and washers from ben ath front section of cabinet.
- 7. Withdraw chassis from cabinet so that dial pointer slides through long slot in cabinet.

CHASSIS SERIAL NUMBER

The chassis serial number is stamped into the year edge of the metal chassis. When viewing the receiver from the rear it is visible through the lower slot in the cabinet back at the left or by removing the four screws in the cabinet back. It may be prised away from the front section.



DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

"MODEL GPR"

5 VALVE SUPERHETERODYNE PORTABLE RECEIVER

POUR POSITION BATTERY SWITCH

Economy - Internal Batteries. Normal - Internal Batteries. 3. Receiver 'OFF.'' 4. External Batteries.

FOR OPERATION FROM:

1.5 volt ''A'' battery and 90 volts ''B'' battery. (Two 45 volt ''B'' batteries connected in series.)

BATTERY CONSUMPTION:

Internal Batteries:-ECONOMY-''A'' Battery. ''B'' Battery. Internal Batteries:-NORMAL-''A'' Battery. "B" Battery. "'A' Battery. External Batteries:-300 mA. "B" Battery. 13 mA.

TUNING RANGE:

535 to 1620 Kilocycles. 560.7 to 185.18 Metres.

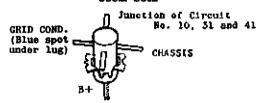
INTERMEDIATE FREQUENCY:

455 Kc/s.

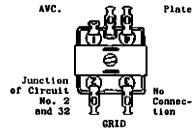
POWER OUTPUT:

250 milliwatts (max.). 100 milliwatts (undistorted).

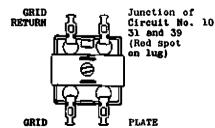
OSCL. COIL



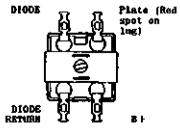
RF. TRANS.

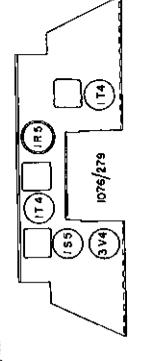


No. 1 IF. TRANS.



No. 2 IF. TRANS.







1F. 455 Kyr (a) (b) (b) (c) (c) (d)

5

-uiu-

(a)

MODEL - GPR

A45a.

ASTOR MODEL GPR.

ALIGNMENT INSTRUCTIONS:

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator: Output Meter:

Load Impedance: 10,000 ohms. Output Level: 25 milliwatts. Volume Control: Max. vol. (fully clockwise).

Mich Capacitor: 0.01MF (part No. PC145) for I.F.T. Alignment. ''A'' Battery: 1.5 volts.
''B'' Battery: 90 volts (two 45 volt

''B'' batteries connected in sories).

Alignment Tools: Part No. PM581 and M195. Intermediate Freq.: 458 Kc/s.

TO REMOVE CHASSIS FROM CABINET: Turn receiver battery/off switch to the ''OFF'' position.

Remove the dial pointer centre tuning push-on knob by pulling it straight off the tuning control spindle. Remove volume control and ON/OFF switch knobs. Unscrew and remove two screws through top ridge of cabinet, then from top of cabinet prise rear section of cabinet away from front section. Remove small plurs from battery sockets, then remove the batteries. Disconnect from speaker the lend connecting speaker frame to chassis.

The chassis is held in the cabinet by a $4'' \times 5/32''$ Whit. screw and nut at each end of the chassis. Loosen off these two screws, withdraw speaker lead plug from socket on chassis, then lift the chassis out of the cabinet.

Generator connection.		Instructions.	

- The wire connecting the speaker frame to the receiver chassis which was disconnected when removing the chassis from the cabinet is to be reconnected during alignment of the receiver.
- 2. To control 455 Kc/s. O.OlMF mica Leave grid wire attached to valve socket. Peak 2nd IF trans. pri. and in series sec. for max. output. (pin No. 6) with generator.
- 3. To control 455 Mc/s. O.OlMF mica capacitor in series with generator.

 Leave grid wire attached to valve socket. Turn gang plates fully out of mesh. Peak lst IF trans. pri. and sec. for max. output.
- 1. Repeat operations No. 2 and 3.
- 5. ALICHVENT TEMPLATE: A cardboard alignment template part No. PB 758 is available from the factory. The template may be made by using the diagram on page 10 and fastening it to a piece of cardboard.
- G. DIAL FOINTER SETTING: Fit alignment jig to chassis, then fit push-on pointer-tuning knob to tuning spindle. Fully mesh cond. gang plates and set centre of dial pointer on centre of end of travel spot on template near 540 Ke/s.
- To inject a signal into the receiver rod aerial connect to the active terminal of the signal generator approx. 2 ft. of aerial wire, then fashion the wire into a pertical position.

- 8. Place receiver chassis in a horizontal position with the red aerial maparmost and so that the fixed primary winding end of the red aerial points to the 2 ft. of aerial wire attached to the generator and so that the fixed primary winding is not closer than 2 ft. from the 2 ft. of aerial wire.
- 9. Refer para. 600 Kc/s. 7 and 8.

Turn cond. gang and dial pointer until centre of dial pointer is on 600 kc/s. mark on dial template. Leave the cond. gang and dial pointer set in this position and peak osc. coil ind. trid. (iron core) and then from the base of the RF trans. peak the RF. trans. ind. trim. (iron core). Also peak for make output the secondary trimmer coil on the ferrite rod by sliding the trimmer coil along the serial rod.

Refer para. 1400 Kc/s.
 7 and 8.

Turn cond. gang and dial pointer until centre of pointer is on 1400 Kc/s. d. mark on template. Adjust osc. cci trim. cond. for logging and peak Kf trans. trim. cond., then rod aerial trimmer cond. for max. output.

11. Refer para. 600 Kc/s. 7 and 8.

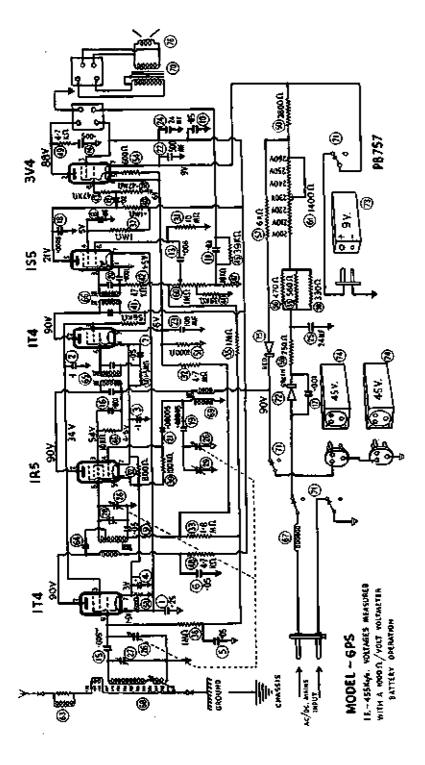
Turn cond. gang and dial points until centre of dial pointer is on 7 Ke/5. mark on dial template. Leave 'me rain and dial pointer set in this position. Repeak osc. coil ind. trim. (iron core RF, trans. ind. trim. (iron core) and the secondary trim. coil on the ferrite rod. Do not rock the gang to and fro through the signal white adjusting the trimmers or move the dial pointer off 600 Kc/s. dial template mark until after the ind. trimmer of these three coils has been peaked for max. output.

12. Refer para. 1400 Kc/s. 7 and 8.

Turn cond, gang and dial pointer until centre of dial pointer is on 1400 Kc/s. mark on dial template. Adjust oscl. coil trim. cond. for logging and peak RF trans. and ferrite rod aerial trimmer conds. for max. output.

13. Refit receiver chassis to cabinet in the exact reverse procedure to removing it.

TUNING RANGE AFTER ALIGNMENT, 535 to 1620 Kc/s.





RADIO CORPORATION PTY. LTD.

A46.

OIVISION OF ELECTRONIC INDUSTRIES LTD.

124-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL "GPS"

5 VALVE SUPERHETERODYNE UNIVERSAL PORTABLE RECEIVER.
WITH BATTERY REACTIVATION

FOR OPERATION FROM:

195-260 Volt 40-60 Cycle A.C. electric supply mains.
195-260 Volt D.C. electric supply mains or
9 volts ''A'' battery and
90 volts ''B''battery. (Two 45 volt ''B'' batteries connected in series.)

POWER CONSUMPTION:

Battery operation: - 50Ma. ''A'' Battery.
11Ma. ''B'' Battory.

A.C. operation: 90Ma. 230 volts 50 cycle A.C. input to receiver. Mains registor adjustable clip adjusted to 8.7 volts

D.C. across valve filament circuit.

D.C. across valve filament circu

D.C. operation: 65Ma. 230 volts D.C. input to receiver. Mains resistor adjustable clip adjusted to 8.7 volts D.C.

across valve filament circuit.

TUNING RANGE:

535 to 1620 Kilocycles. 560:7 to 185

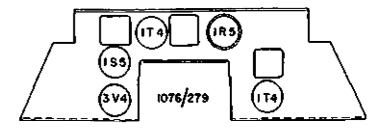
560:7 to 185.18 Metres.

POWER OUTPUT:

250 milliwatts (max.).
100 milliwatts (undistorted).

THIS BULLETIN CONTAINS:-

Technical Data. Alignment Procedure. Circuit Diagram.



ASTOR MODEL GPS.

ALIGNMENT INSTRUCTIONS

EQUIPMENT

for I.F.T. Alignment.

ALIGNMENT CONDITIONS

Signal Generator: Output Meter: Safety Lamp: 230 volt 40 watt incandescent lamp. Mica Capacitor: 0.01MF (part No. PC145) Load Impedance: 10,000 ohms. Output Level: 25 milliwatts. Volume Control: Max. vol. (fully clockwise).

"'A' Battery: 9 volts.

''B'' Battery: 90 volts (two 45 volt ''B'' batteries connected in series).

Alignment Tools: Fart No. PM581 and M195. Intermediate Freq.: 455 Kc/s.

TO REMOVE CHASSIS FROM CABINET: Turn receiver ON/OFF switch to the ''OFF'' position and withdraw the AC/DC mains lead plug from the small socket at the rear of the receiver cabinet.

Remove the dial pointer centre tuning push-on knob by pulling it straight off the tuning control spindle. Remove volume control and ON/OFF switch knobs by loosening off the small grub screws in the knobs. (The first production run had push-on type knobs and no grub screws). Unscrew and remove two screws through top ridre of cabinet, then from top of cabinet prise rear section of cabinet early from front section. Disconnect from speaker the lead connecting speaker frame to chassis.

The chassis is held in the cabinet by a \{\frac{1}{2}\) x 5/32" Whit. screw and nut at each end of the chassis. Loosen off these two screws, withdraw speaker lead plug from secket on chassis then lift the chassis out of the cabinet.

Opera- Generator Generator Dummy
tion. connection. Frequency. Antenna. Instructions.

- The receiver may be aligned when operating it from batteries or from the A.C. or D.C. mains. When operating it from the A.C. or D.C. mains apply the safety lamp between the receiver chassis and ground to make sure the chassis is not above earth potential; if it is, reverse the receiver plug in the power point/light socket.
- The wire connecting the speaker frame to the receiver chassis which was
 disconnected when removing the chassis from the cabinet is to be reconnected
 during alignment of the receiver.
- 3. To control 455 Kc/s. O.OIMF mica Leave grid wire attached to valve capacitor socket. Peak 2nd IF trans. pri. and if valve in series sec. for max. output. (pin No. 6)
- Generator.

 It control 455 Kc/s. O.01MF mica capacitor socket. Turn gang plates fully out of mesh. Peak 1st IF trans. pri. and sec. for max. output.
- 5. Repeat operations No. 3 and 4.
- 6. ALIGNMENT TEMPLATE: Supplied with each 'GPS' Service Bulletin is a cardboard alignment template. Should this template be lost another one may be made by using the diagram on page 12 and fistening it to a piece of cardboard.
- 7. DIAL POINTER SETTING: Fit alignment jig to chassis, then fit push-on pointer-tuning knob to tuning spindle. Fully mesh cond. gang plates and set centre of dial pointer on centre of end of travel spot on template near 540 Kc/s.
- 8. To inject a signal into the receiver rod aerial connect to the active terminal of the signal generator approx. 2 ft. of aerial wire then fashion the wire into a vertical position.

- 9. Place receiver chassis in a horizontal position with the rod aerial based most and so that the fixed primary winding end of the rod aerial points to the 2 ft. of aerial wire attached to the generator and so that the fixed primary winding is not closer than 2 ft. from the 2 ft. of aerial state.
- 10. Refer para. 600 Kc/s. 8 and 9

Turn cond. gang and dial pointer and centre of dial pointer is on the 20/3, mark on dial template. Leave the contigang and dial pointer set in this position and peak osc. coil Ind. trum. (iron core) and then from the base of the RF trans. peak the RF. trans. in trim. (iron core). Also peak for max output the secondary trimmer coil to the ferrite rod by sliding the trimmer coil along the aerial rod.

11. Refer para. 1400 Kc/s. 8 and 9

Turn cond. gang and dial pointer unticentre of pointer is on 1400 Kc/s. di mark on template. Adjust osc. coil tri cond. for logging and peak RF trans. trim. cond. then rod aerial trimmer cond. for max. output.

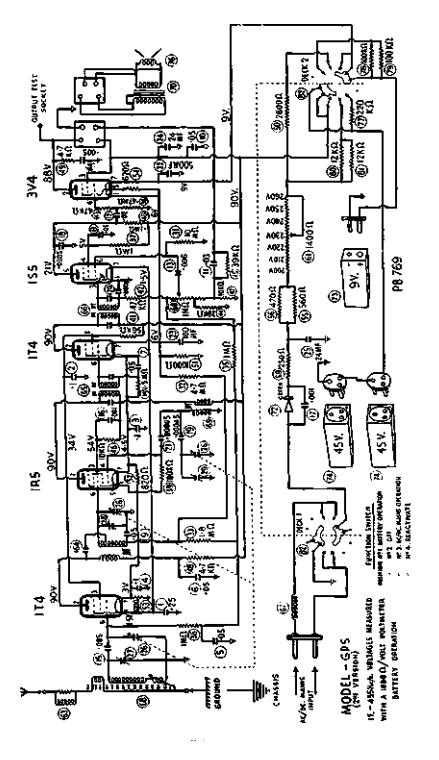
12. Refer para. 600 Kc/s. 8 and 9 Turn cond. gang and dial pointer unticentre of dial pointer is on 600 Kc/s: mark on dial template. Leave the gans; and dial pointer set in this position. Repeak osc. coil ind. trim. (from core) RF. trans. ind. trim. (from core) and the secondary trim. coil on the ferrirod. Do not rock the gang to and fro through the signal while adjusting ttrimmers or move the dial pointer of 600 Kc/s. dial template mark until after the ind. trimmer of these three coils have been peaked for max. output.

13. Refer para. 1400 Kc/s. 8 and 9

Turn cond, gang and dial pointer unitcentre of dial pointer is on 1400 Kc/s. mark on dial template. Adjust oscl. coil trim. cond. for logging and peak RF trans. and ferrite rod aerial trimmer conds. for max, output

14. Refit receiver chassis to cabinet in the exact reverse procedure to remove it. Make sure that the grub screws in the control knobs are tightened securely.

TUNING RANGE AFTER ALIGNMENT, 535 to 1620 kg/s.



RADIO CORPORATION PTY. LTD.

A46b.



DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

"MODEL GPS" (2nd Version)

5 VALVE SUPERHETERODYNE UNIVERSAL PORTABLE RECEIVER

Function Switch Positions

- Internal Battery Operation.
 Receiver "Off."
- 3. AC. or DC. Mains Operation.
- 4. Battery Reactivation.

FOR OPERATION FROM:

195-260 Volt 40-60 Cycle A.C. electric supply mains. 195-260 Volt D.C. electric supply mains or

9 volts ''A'' battery and

90 volts ''B' battery. (Two 45 volt ''B'' batteries connected in series.)

POWER CONSUMPTION:

Battery operation: - 50mA. ''A'' Battery.

llmA. ''B' Battery.

A.C. operation: 100mA. 230 volts 50 cycle A.C. input to receiver. Mains

resistor adjustable clip adjusted to 230V.

D.C. operation:-60mA. 230 volts D.C. input to receiver. Mains resisted adjustable clip adjusted to 230%, position.

TUNING RANGE:

535 to 1620 Kilocycles. 560.7 to 185.18 Metres.

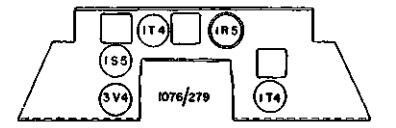
POWER OUTPUT:

250 milliwatts (max.).

100 milliwatts (undistorted).

THIS BULLETIN CONTAINS:-

- 1. Technical Data.
- 2. Alignment Procedure.
- 3. Circuit Diagram.



A46c.

ALIGNMENT INSTRUCTIONS

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator:
Output Meter:
Safety Lamp: 230 volt 40 watt
incandescent lamp.
Mica Capacitor: 0.01MF (part No. PC145)
for I.F.T. Alignment.
Alignment Template: Part No. PB758

Load Impedance: 10,000 ohms. Output Level: 25 milliwatts. Volume Control: Max. vol. (fully clockwise).

''A'' Battery: 9 volts.

''B'' Battery: 90 volts (two 45 volt ''B'' batteries connected in series).

Alignment Tools: Part No. PM581 and M195.

Intermediate Freq.: 455 Kc/s.

TO REMOVE CHASSIS FROM CABINET: Turn the receiver switch marked "BATT""OPP". "MAINS"-"REACT" to the "OPF" position and withdraw the AC/DC mains lead
plug from the small socket at the rear of the receiver cabinet.

Remove the dial pointer centre tuning push-on knob by pulling it straight off the tuning control spindle. Remove volume control and ON/OFF switch knobs by loosening off the small grub screws in the knobs. (The first production run had push-on type knobs and no grub screws). Unscrew and remove two sorews through top ridge of cabinet, then from top of cabinet prise rear section of cabinet nway from front section. Disconnect from speaker the lead connecting speaker frame to chassis.

The chassis is held in the cabinet by a $\frac{1}{4}$ " x 5/32" Whit. screw and nut at each end of the chassis. Loosen off these two screws, withdraw speaker lead plug from socket on chassis then lift the chassis out of the cabinet.

Opera- Generator Generator Dummy
tion. connection. Frequency. Antenna. Instructions.

- The receiver may be aligned when operating it from batteries or from the A.C. or D.C. mains. When operating it from the A.C. or D.C. mains apply the safety lamp between the receiver chassis and ground to make sure the chassis is not above earth potential; if it is, reverse the receiver plug in the power point socket.
- 2. The wire connecting the speaker frame to the receiver chassis which was disconnected when removing the chassis from the cabinet is to be reconnected during alignment of the receiver.
- 3. To control 455 Kc/s. 0.01MF mica Leave grid wire attached to valve grid of IT4 capacitor socket. Peak 2nd IF trans. pri. and IF valve in series sec. for max. output. (pin No. 6) with
- generator.

 4. To control 455 Kc/s. O.01MF mica capacitor socket. Turn gang plates fully out of mesh. Peak 1st IF trans. pri. and with sec. for max. output.

5. Repeat operations No. 3 and 4.

- 6. ALIGNMENT TEMPLATE: A cardboard alignment template part No. PB 758 is available from the factory. The template may be made by using the diagram on page 12 and fastening it to a piece of cardboard.
- 7. DIAL POINTER SETTING: Fit alignment jig to chassis, then fit push-on pointer-tuning knob to tuning spindle. Fully mesh cond. gang plates and set centre of dial pointer on centre of end of travel spot on template near 540 Kc/s.
- 8. To inject a signal into the receiver rod aerial connect to the active terminal of the signal generator approx. 2 ft. of aerial wire then fashion the wire into a vertical position.

9. Place receiver chassis in a horizontal position with the rod aerial uppermost and so that the fixed primary winding end of the rod aerial points to the 2 ft. of aerial wire attached to the generator and so that the fixed primary winding is not closer than 2 ft. from the 2 ft. of aerial wire.

10. Refer para. 600 Kc/s. 8 and 9

Turn cond. gang and dial pointer until centre of dial pointer is on 600 Kc/s. mark on dial template. Leave the cond. gang and dial pointer set in this position and peak osc. coil ind. trim. (iron core) and then from the base of the RF trans. peak the RF. trans. ind. trim. (iron core). Also peak for max. output the secondary trimmer coil on the ferrite rod by sliding the trimmer coil along the aerial rod.

11. Refer para. 1400 Kc/s. 8 and 9

Turn cond. gang and dial pointer until centre of pointer is on 1400 Ke/s. dial mark on template. Adjust osc. coil trim. cond. for logging and peak Ri trans. trim. cond. then rod aerial 'rimmer cond. for max. output.

12. Refer para. 600 Kc/s. 8 and 9

Turn cond. gang and dial pointer until centre of dial pointer is on 600 Kc/s. mark on dial template. Leave the gang and dial pointer set in this position. Repeak osc. coil ind. trim. (iron core. RF. trans. ind. trim. (iron core. and the secondary trim. coil on the ferrite rod. Do not rock the gang to and fro through the signal while adjusting the trimmers or move the dial pointer off 800 Kc/s. dial template mark until after the ind. trimmer of these three coils have been peaked for max. output.

13. Refer para. 1400 Kc/s. 8 and 9

Turn cond. gang and dial pointer until centre of dial pointer is on 1400 Kc/s. mark on dial template. Adjust oscl. coil trim. cond. for logging and peak RF trans. and ferrite rod acrial trimmer conds. for max. output.

14. Refit receiver chassis to cabinet in the exact reverse procedure to removing it. Make sure that the grub screws in the control knobs are tightened securely.

TUNING RANGE AFTER ALIGNMENT, 535 to 1620 Kc/s.

A4".

ALIGNAENT EQUIPMENT

R.F. Signal Generator

- mrdulated 400 cps.

A.F. Signal Generator

- 0000 cps. - 15 ohm impedance.

Output Meter Series Capacitor

- R.F. Sig. Gen. for I.F.T. alignment .01 MF Part No. PC145.

Alignment Tools

- (a) Blade tip type Part No. Bi581 for triumer cond. adjustment.
- (b) Hexagonal tip type Part No. 410/81 for I.F.T. core adjustment.
- (c) Flexible rod type Part No. 46/712 for osc. coil core adjustment.

I.F. attenuator - Part No. M447.

ALIGNABIT CONDITIONS

The receiver chaosis does not have to be removed from the cabinet for alignment purposes; refer para. 3 Service Instructions mechanical.

Function Switch

Radio position.

Volume Control Tone Control maximum volume (fully clockwise)
maximum troble (fully clockwise)

Output Level -

50 milliwatts.

Output Meter Connection -

across secondary of one output transformer,

speaker veice coil disconnected.

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

IMPORTANT: It will be found that maximum output peaks will be obtained at two positions of the I.F. transformer adjustable cores, the correct setting is the one where the cores are the furthest apart.

NOTE: The final peaking of the cores nearest the top of the I.F. transformers should be performed last.

This is necessary so that the upper cores will not be disturbed when withdrawing the hexagonal alignment tool.

Oper.	Generator Connection	Generator Frequency	Instructions
1,	.01 MF cond. in series, to grid end of red aerial.	455 Ke/s.	Turn tuning control to high freq. end of travel. Peak 2nd I.F. trans. pri. and sec. iron cores for max- output.
2.	As Oper.1.	455 Ke/s ₁	Peak lat I.F. trans. pri. and sec. iron cores for max. output.

RADIO CORPORATION PTY. LTD.

ASTOR

DIVISION OF ELECTRONIC INDUSTRIES LLD.
ASSOC HOUSE, 161-173 Start Screes, South Melbourne.

SERVICE DATA

ASTOR MODEL "GRW"

CONCERTMASTER STEREOGRAM

6 VALVE SUPERHETERODYNE BROADCAST BAND RECEIVER

AND A 4 SPEED RECORD CHANGER



6MS

61.1

FUNCTION: TUNING RANGE: INTERMEDIATE FREQUENCY: RECORD CHANGER:

PICK-UP CARTRIDGE: SPEAKERS: SPEAKER VOICE COIL IMPEDANCE: POWER OUTPUT: MAINS INPUT VOLTAGE TAPS: MAINS FREQUENCY: POWER CONSIMPTION:

VALVE COMPLEMENT:

Radio - Gramo Mono - Gramo Steren 535 - 1640 Kilneyelen 455 Kilocycles COLLARO "STUDIO" 4 Speed (16-2/3, 03-1/3, 45 and 78 RIPM) Crystal = Ronette type STEREO = 105 8" diameter permag, each channel 15 Ohma 2.25 Batts each channel 200, 230 & 240, 250, 50 Cycles Rodin Operation - 55 Water Grosso Operation = 90 Watts 63N7 Mixer - Oscillator 6NB I.F. Amplifier - Detector 12AX7 Audio Amplifier (one section each channel) Audio Output (left channel)

Audio Output (right channel)

H.T. Rectifier

SETTING THE DIAL POINTER

Turn tuning control until the tuning condenser gang is at the low frequency end of travel stop, condenser plates fully meshed. Set the centre of dial pointer to the centre of the end of travel spot, left hand end of dial reading.

BROADCAST ALICHMENT

- A. To inject a signal into the receiver rod herial, connect to the active terminal of the signal generator approximately two feet of aerial wire, then fashion the wire into a vertical position.
- B. Place vertical wire at a position in line with ferrite rod aerial and located at a position not less than 1 ft. from the inductance trimmer end of ferrite rod.
- C. Connect I.F. attenuator between pin 2 of 6N8 valve socket and chassis.

Oper.	Generator Connection	Generator Frequency	Instructions
1.	Refer para. A & B.	600 Kc/s.	Turn tuning cond. gang and dial pointer to 600 Kc/s dial mark. Leave cond. gang and pointer set in this position, adjust osc. coil iron core and rod aerial inductance trimmer (metal ring) for max. output.
NOTE:	Do not rock operation is	the cond. gang t	and fro through signal until this
2.	Hefer para. A & B.	1400 Kc/s.	Turn cond. gang and dial pointer until centre of dial pointer is on centre of 1400 Kc/s mark on dial. Adjust osc. and aerial trimmer condensers for max. output.
3.	Repeat operat	tions 1 and 2.	
	Tuning range	after alignment	555 - 1646 Ke/s.

AUDIO AMPLIFIER GAIN AND BALANCE TEST

Punction Switch Volume Control, Tone Control Cutput Meter and Speaker Connections

- Mone resition.
- maximum volume (fully elockwise)
- maximum troble (fully clockwise)
- output meter across one channel output (speaker voice coil disconnected) and a speaker voice coil across the other channel output.

Audio Congrator Encountry

- 1000 cps.

Audio Generator Connection Pefere proceeding not colours of lends and connections, then disconnect explifies usput leads from pick-up scalets. Connect generator to the of the input leads to amplifier.

Audio Generator Output - 100 millivolts.

With equipment connected as arrove the output rater should read between ..! and .6 watta.

Leave input signal set at 100 mV; exchange output motor and specific connections to opposite channels.

Check output meter reading which should be between .25 and .6 watts.

The differenc in output between the two channels must not exceed PLF or 150 milliwatts (approx.).

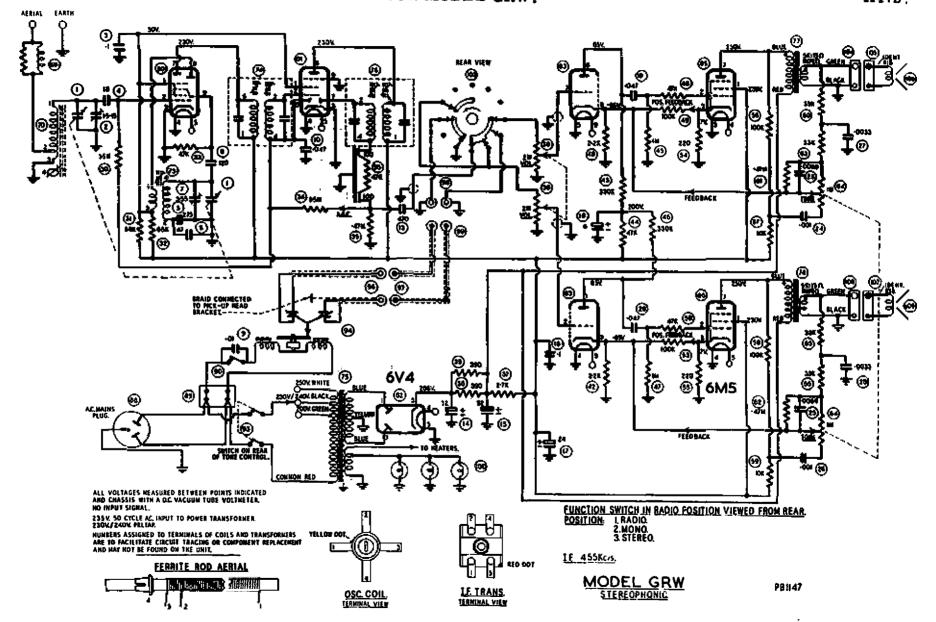
SPEAKER THASING

It is essential that the speakers be phased correctly.

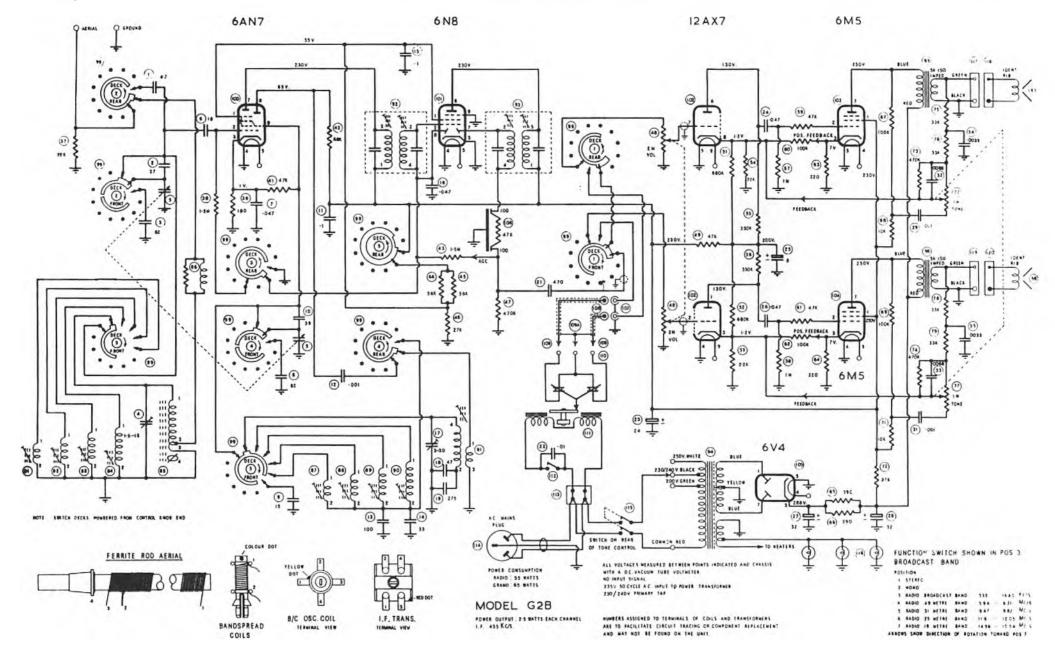
If a speaker has to be removed for service, note the lead connection of ensure correct phasing when reconnection.

A method used for checking the phasing of the speckers is detailed a the following paragraphs.

- 1. Play a monophonic record.
- To conduct the following test the listener should be located as a
 position four feet away in front of the centre of the ratinet.
- If the phasing is correct the reproduced sound will agree to be radiated from a point near the centre of cabinet front.
- 4. With incorrect phasing the quality of reproduction will be poor, it will appear to be lacking in bass response and will appear to be radiated from both ends of the cabinet.
- 5. If the speakers are incorrectly phased, reverse the leads connected to the voice coil terminals of one speaker than repeat the test detailed above.



ASTOR MODEL G2B.



AUDIO AMPLIFIER GAIN AND BALANCE TEST

Function Switch : Mone exaction

Votume Control : Max. volume (fully clockwise) Max. Ireble (fully clockwise) Tone Control

Output Meter and Speaker Connections

Output meter across one channel output (appearer voice cos) disconnected) and a speaker voice coil acrons the other channel

AF. Gen. Freq : 1000 res

AF Gen. Connection Before proceeding note colours of leads and

connections, then disconnect amplifier input leads from pick-up sockets. Connect generator to one of the input leads to

amplifier.

AE Can Dutout 100 millivolts.

With equipment connected as above the output meter should read between . 25 and A - otto

heave most stand not at 100 mV. then transfer output moler and speaker connections to opposite charges

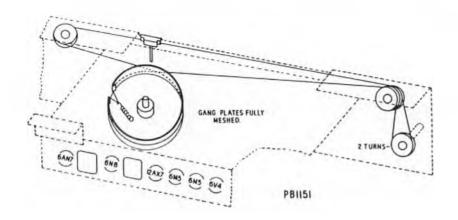
Check output meter reading which should be between . 25 and . 6 watte

The difference in output between the two channels must not exceed 2DB or 15 walls Jappron).

SPEAKER PHASING

It is essential that the speakers be phased correctly. If a speaker is comoved for service, note lead connections to ensure correct phasing when reconnecting. A method for checking the phaning is detailed as follows :-

- 4) Play a monophonic record.
- leb. If the phasing is norrect the reproduced sound will appear to be caduated from a point near the centre of the cabinet. The fintener should be located 4 feet away in front of the cabinet.
- I With incorrect phasing the quality of reproduction will be poor, it will appear to be tacking in base response and will appear to be radiated from both ands of the cabinet
- d) If the speakers are incorrectly phased, reverse the leads connected to the voice coil terminals of one speaker then repeat the test detailed above



RADIO CORPORATION PTY. LTD.

ASTOR

DIVISION OF SUSCINOMIC INDUSTRIES LTO Astor House, 161-173 Start Street, South Melbourne.

SERVICE DATA

ASTOR MODEL G 2B

CONCERTMASTER STEREOGRAM.RADIO

An automatic four speed record changer and a 6 valve superheterodyne five band receiver incorporating band spreading of the 49 metre, 31 metre, 25 metre and 19 metre shortwave bands.



CAUTION: Disconnect power plug from mains socket before making adjustments inside the retinet.

CHASSIS SERIAL NUMBER

The number is stanifed into metal chauses and is visible through a alot in front wall of record changer compartment.

NOTE: Some first production run chases have the verial number stamped into the chaeses adjacent to mains lead anchor point. No viewing specture is provided in these receivers

A48 b.

ALIGNMENT EQUIPMENT

ASTOR MODEL G2B.

R. F Signal Generator:
A. F Signal Generator:

Modulated 400 cps.

1000 cpe.

Output Meter :

15 ohme imped.

Series Capacitor: [.F.T. alignment.01 mF

Part No. 4003-031-02

Dummy Aersal:

Short Wave Bands - 400 ohns

non-inductive resistor.

Alignment Tools :

Blade tip type, Part No PM581 or 4121-015-01 for I.F. T. and trummer

adjustment.

Flexible rod type Part No.

4121-018-01 for B'c osc. and bandspread

coils adjustment

I F Attenuator:

Part No. M447 or 4121-007-02

ALIGNMENT CONDITIONS

The chassis does not have to be removed from the cabinet for alignment purposes; refer paragraph: ACCESS 10 CHASSIS

Function Switch :

: Radio position.

Volume Control : Tone Control : Max. volume (fully clockwise)

: Max. treble (fully clockwise)
: 50 milliwatts

Output Level:
Output Meter Connection:

Across sec. of one output trans.

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Oper No.	RF. Sig. Gen. Connection	Generator Frequency	Instructions
•	. Of mF cond. in series, to grid end of rod aerial	455 Kc/s.	Turn tuning control to HF. end of travel. Peak 2nd IFT. pri. and sec. cores for max.
Z.	As oper. 1.	455 Kc/e.	Peak lst IFT. pri. and sec. cores for max.

Dial Pointer Setting

Furn tuning control until cond. gang is at LF, end of travel stop, cond. plates fully meshed. Set centre of dial pointer on centre of end of travel spot at left end of dial.

Broadcast Alignment

- A. To inject a signal into rod aerial, connect to Sig. Gen. active terminal approximation feet of aerial wire, then fashion wire to a vertical position.
- B Place vertical wire in line with rod aerial and not less than 1 ft. from inductance trimmer end.
- C Connect IF. attenuator between pin 2 of 6N8 socket and chassis.

t. Refer para A & B

600 Kc/a.

Turn cond. gang and dial pointer to 600 Kc/s dial mark.
Leave cond. gang and pointer set in this position. Adjust osci coil core and rod aerial ind. trim (metal rine) for max.

NOTE: Do not rock cond. gang to and fro thru signal.

Oper. No.	RF. Sig. Gen. Connection	Generator Frequency	Instructions
4.	Refer para. A. & B.	1400 Ke/s	Turn cond. gang & pointer out: centre of pointer is on 1400 Kc/s mark on dial. Adjust rec. & aerial trim, conds, for max
5.	Repeat operations And 2		Tuming range after alignment \$15-1440 Ke/s

SHORT-WAVE ALIGNMENT

Turn function switch to 49 Metre band (this band must be aligned before the 31, 25 and 19 Metre bands).

NOTE: Turn the iron core of the oscillator coil being aligned until the iron core is almost fully out of the coil former, then turn the iron core so that it re-enters the coil and a signal is obtained.

Screwing the iron core into oscillator coil about 5 turns will produce another peak. This peak is the image which occurs with the oscillator frequency 455 Kc/s. lower than the signal frequency. The correct peak is the one with the iron core furthest out of the coil former and in the oscillator frequency 455 Kc/s higher than the signal frequency.

6.	To aerial lead	6.05 Mc/s 400 ohm non- inductive resistor in series with gen.	Turn tuning control until pointer aligns with 6.05 Mc/s spot on dial. Adjust iron core of 49 Metre band osc. coil for logging. Peak 49 Metre aerial coil iron core for max. Rock tuning cond. through signal while adjusting.
7.	To aerial lead	9.6 Mc/a as oper.6	Turn tuning control until pointer aligns with 9.6 Mc/s spot on dial. Adjust iron core of 31 Metre band osc. coit for logging. Peak 31 Metre aerial coit iron core for max. Rock tuning cond. through signal while adjusting.
8.	To aeriał lead	ii.8 Mc/a as oper.6	Turn tuning control until pointer aligns with 11. fl Mc/s spot on dial. Adjust iron core of 25 Metre band osc. coil for logging. Peak 25 Metre aerial coil iron core for max. Rock tuning cond. through signal while adjusting.
9.	To aerial lead	15.2 Mc/s as oper. 6	Turn tuning control until pointer aligns with 15.2 Mc/s spot on dial. Adjust iron core of 19 Metre band osc. coil for logging. Peak 19 Metre aerial coil iron core for max. Rock tuning cond. through signal while adjusting.
10.	Disconnect IF. Attenuator from	om receiver	

Check logging of the shortwave bands on some well-known shortwave stations.
 If a crystal calibrator is available, check the logging at each 100 Ke/s mark on dial.

SERVICE INSTRUCTIONS - electrical

ALICHMENT EQUIPMENT

R.F. Signal Generator - modulated 400 cps.

A.F. Signal Generator - 1000 cps.

Output Meter - 15 ohm impodance.

Series Capacitor - R.F. Sig. Gen. for I.F.T. alignment .01 MF Part No.Pc145.

Alignment Tools

(a) Blade tip type Part No. PM581 for trimmer cond. adjustment.

- (b) Hexagonal tip type Part No. 410/81 for I.F.T. core adjustment.
- (c) Flexible rod type Part No. 48/712 for osc. coil core adjustment. I.F. attentuator - Part No. M447.

ALIGNMENT CONDITIONS

The receiver chassis does not have to be removed from the cabinet for alignment purposes; refer para. 2 Service Instructions mechanical.

Function Switch - Radio position.

Volume Control - maximum volume (fully clockwise)
Tone Control - maximum treble (fully clockwise)

Output Level - 50 milliwatts.

Output Meter Connection - across secondary of one output transformer,

speaker voice coil disconnected.

INTERNEDIATE FREQUENCY TRANSFORMER ALIGNMENT

It will be found that maximum output peaks will be obtained at two positions of the I.F. transformer adjustable cores, the correct setting is the one where the cores are the furthest spart.

NOTE: The final peaking of the cores nearest the top of the I.F. transformers should be performed last.

This is necessary so that the upper cores will not be disturbed when withdrawing the hexagonal alignment tool.

Oper. No.	Generator Connection	Generator Prequency	Instructions
1.	.01 MF cond. in series, to grid end of rod aerial.	455 Kc/e.	Turn tuning control to high freq. end of travel. Peak 2nd I.F. trans. pri. and sec. iron cores for max. output.
2.	As Oper.1.	455 Kc/a.	Poak lat I.F. trans. pri. and sec.

RADIO CORPORATION PTY. LTD.

ASTOR

DIVISION OF ELECTRONIC INDUSTRIES LEG.
Astor House, 161-173 Start Street, South Melbourne.

SERVICE DATA

ASTOR MODEL "G 3A"

STEREOGRAM

5 VALVE SUPERHETERODYNE BROADCAST BAND RECEIVER AND A 4 SPEED RECORD CHANGER



6 V 4

FUNCTION: TUNING RANGE: INTERMEDIATE FREQUENCY: RECORD CHANGER:

PICK-UP CARTRIDGE:
SPEAKERS:
SPEAKER VOICE COIL IMPEDANCE:
POWER OUTPUT:
MAINS INPUT VOLTAGE TAPS:
MAINS FREQUENCY:
POWER CONSUMPTION:

VALVE COMPLEMENT:

Radio - Gramo Mono - Gramo Stereo 535 - 1640 Kilocycles 455 Kilocycles COLLARO "STUDIO" 4 Speed (16-2/3, 33-1/3, 45 and 78 RPM) Grystal - Ronette type STEREO - 105 6" diameter permag, each channel 15 Ohma 2.25 Watts each channel 200, 230 & 240, 250. 50 Cycles Radio Operation - 55 Watts Gramo Operation - 90 Watta 6AN7 Mixer-Oscillator LF. Amplifier - Detector 6GNB Audio Amplifier and Output (left channel) Audio Amplifier and Output (right channel)

R.T. Rectifier

A49.

ASTOR MODEL G3A.

A49a.

SETTING THE DIAL POINTER

Turn tuning control until the tuning condenser gang is at the low frequency end of travel stop, condenser plates fully meshed. Set the centre of dial pointer to the centre of the end of travel spot, left hand end of dial reading.

BROADCAST ALIGNMENT

- A. To inject a signal into the receiver rod aerial, connect to the active terminal of the signal generator approximately two feet of aerial wire, then fashion the wire into a vertical position.
- B. Place vertical wire at a position in line with ferrite rod aerial and located at a position not less than 1 ft. from the inductance trimmer end of ferrite rod.
- C. Connect I.F. attenuator between pin 2 of 6N8 valve socket and chassis.

Oper. No.	Generator Connection	Generator Frequency	Instructions		
1,	Refer para. A & B.	600 Kc/s	Turn tuning cond-gang and dial pointer to 600 Kc/s dial mark. Leave cond. gang and pointer set in this position, adjust osc. coil iron core and rod aerial inductance trimmer (metal ring) for max. output.		
<u>note</u> :	Do not rock operation is		and fro through signal until this		
2.	Refer para. A & B.	1400 Kc/s.	Turn cond. gang and dial pointer until centre of dial pointer is on centre of 1400 Kc/s mark on dial. Adjust osc. and aerial trimmer condensers for max. output.		
3.	Repeat opera	tions 1 and 2.			

nepeat operations I and Z.

Tuning range after alignment 535-1640 Kc/s.

AUDIO AMPLITIER GAIN AND BALANCE TEST

Function Switch Volume Control	-	Mono position. maximum volume (fully clockwise)
Tone Control	-	maximum treble (fully clockwise)
Output Meter and	-	output meter across one channel output
Speaker connections		(speaker voice coil disconnected) and a speaker voice coil across the other channel output.
Audio Generator Prequency	-	1000 cps.

Audio Generator Connection Before proceeding note colours of leads and connections, then disconnect amplifier input leads from pick-up sockets. Connect generator to one of the input leads to amplifier.

Audio Generator Output - 100 millivolts.

With equipment connected as above the output meter should read between .25 and .6 watts.

Leave input signal set at 100 mV; exchange output meter and speaker connections to opposite channels.

Check output meter reading which should be between .25 and .6 watts.

The difference in output between the two channels must not exceed 2DB or 150 milliwatts (approx.).

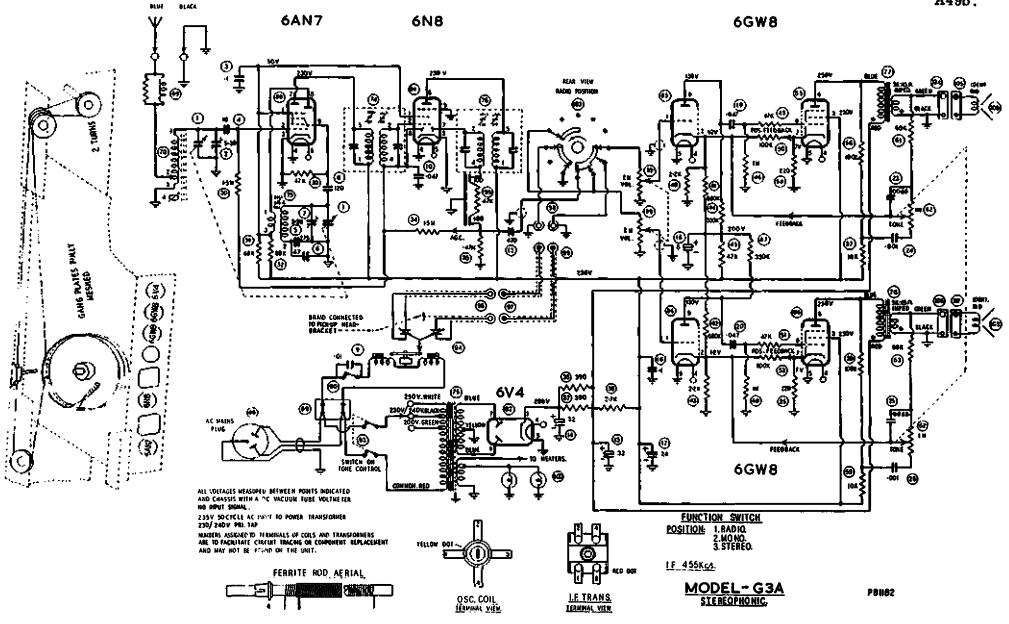
SPEAKER PHASING

It is essential that the speakers be phased correctly.

If a speaker has to be removed for service, note the lead connections to ensure correct phasing when reconnecting.

A method used for checking the phasing of the speakers is detailed in the following paragraphs.

- 1. Play a monophonic record.
- To conduct the following test the listener should be located at a position four feet away in front of the centre of the cabinet.
- 3. If the phasing is correct the reproduced sound will appear to be radiated from a point near the centre of cabinet front.
- 4. With incorrect phasing the quality of reproduction will be poor, it will appear to be lacking in bass response and will appear to be radiated from both ends of the cabinet.
- 5. If the speakers are incorrectly phased, reverse the leads connected to the voice coil terminals of one speaker than repeat the test detailed above.



1 1

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ASTOR MODEL HPP.

ALIGNMENT INSTRUCTIONS

ALIGNMENT CONDITIONS

Load Impedance: 10,000 ohms. Output Level: 50 Milliwatts.

Vol. Control: Max. Vol. fully clockwise.

Bass Tone Control: Nin. Bass Position.
Treble Tone Control: Nin. Treble
Position.

Intermed. Freq.: 455 Ke/s.
Supply Mains: 230 volts 50 cycle
AC. input to trans. 221-250V.
primary tap.

EQUIPMENT

Signal Generator. Output Meter.

Mica Capacitor: 0.01MF. (For I.F.T. alignment).

Dummy Antenna: 200MMF. Mica capacitor. Dummy Antenna: 400 ohm. non-inductive resistor.

Alignment Tools: Type M195 and PM581.

IF. Attenuator: Type M174. This attenuator consists of a 20K ohm % w. resistor and a .004MF. cond. wired in series and having clips attached for connecting to the chassis and IF. valve control grid during alignment of the RF. signal circuits.

To remove chassis from cabinet to align the trimmers of the RF. and IF. circuits. Remove the five push-on type control knobs from front of cabinet, wave change switch knob near record changer and gramo vol. control knob from L.H. side of cabinet by pulling the knobs straight off their spindles.

Remove the screws holding the cabinet back to the cabinet. Disconnect the receiver chassis AC mains leads from the AC junction block and the cabinet indicator lamp lead plug from its socket. Pull the pick-up leads out of the sockets on rear of receiver chassis. Remove four screws fastening gramo vol. control bracket on inside of left hand end of cabinet. On the rear edge of the chassis, at each end, a screw through a metal strip fastens the chassis to the sabinet; remove these two screws then slide the chassis out of the cabinet.

Operat No.	ion	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.		control grid 6U7G IF.	455 Ke/s.	O.OlMF Mica capacitor in series with generator.	Turn wave change switch to B/cast band. Leave grid cap on valve. Peak 2nd IF. trans. pri. and sec. for wax. output.
2.	of (control grid SAN7 valve. No. 2.	455 Kc/s.	0.01MF. Mica capacitor in series with generator.	Gang plates fully out of mesh.
3. 4.	Set	centre of dis	al mointer o	o centre of end.	Repeat operations No. 1 and 2. of travel mark on dial reading
•				g plates fully	
5.	Con	nect IF. atten 6U7G IF. valv e	uator type M	174 between reco	siver chassis and control grid
ъ.		antenna winal.	600 Kc/s.	200MMF. Mica capacitor in series with generator.	Turn gang and dial pointer until centre of pointer aligns with centre of 600 Kc/s. dial mark. Leave the gang and dial pointer set in this position and peak the B/cast oscl. coil. ind. trim. (iron core) for max. output.

7.	To antenna terminal.	1400 Ke/s.	200MMF. Mica capacitor in series with generator.	Turn gang and dial pointer until centre of pointer aligns with 1400 Kc/s. spot on dial reading. Adjust B/cast oscl. coil trim. condenser for logging and peak B/cast ant. and RF. trans. trim. condensers for max. output.
8.	To antenna terminal.	600 kc/s.	200MMF. Mica capacitor in series with generator.	Turn gang and dial pointer until centre of pointer aligns with centre of 600 Kc/s. dial spot. Leave the gang and dial pointer set in this position and re-peak the B/cast oscl. coil. ind. trim. (iron core) for max. output. then peak the B/cast antenna and RF. trans. ind. trimmers (iron cores) for max. output. Do not rock the cond gang to and fro through the ilgnal or move the dial pointer off 600 Kc/s. dial mark, until after the ind. trimmers (iron cores of both of thes 't informer have been peak or max.
9.	To antenna terminal.	1400 Kc/s.	200MMF. Mica capacitor in series with generator.	Turn gang and dual pointer to 1400 Kc/s. Adjust E/cast oscl. coil. trim. cond. for logging and peck B/cast ant. and RF. trans. trim. condensers for max. output.
10.	Turn wave chang the 25 and 19 me		1 metre band (t	his band must be aligned before
11.	To antenna terminal.	9.6 Ma/s.	400 ohm non- inductive resistor.	Turn dial pointer and gang to 9.6 Mc/s. Adjust 31 metre band oscl. coil. ind. trim. (iron core) for logging and peak 31 metre ant. and RF. trans. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.
12.	To antenna terminal.	11.8 Mc/s.	400 ohm non- inductive resistor.	Turn wave change switch to 25 metre band. Turn dial pointer and gang to 11.8 Mc/s. Adjust 25 metre band oscl. coil. ind. trim. (fron core) for logging and penk 25 metre ant. and RF. trans. trimers (iron cores) for max. output. Rock cond. gang to and fro through the

signal while adjusting.

To antenna terminal.

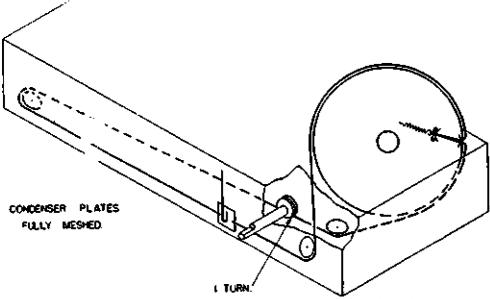
15.2 Mc/s.

inductive resistor.

400 ohm non- Turn wave change switch to 19 metre band. Turn dial pointer and gang to 15.2 Mc/s. Adjust 19 metre band oscl. coil. ind. trim. (iron core) for logging and peak 19 metre ant. and RF. trans. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.

- Disconnect IF. attenuator from receiver.
- Check the logging of the shortwave bands on some well-known shortwave 15. stations. If a crystal calibrator is available, check the logging at each 100 Kc/s. mark on the dial.
 - 31 Metre spreadband coil, RED spot on iron core end of former.
 - 25 Metre spreadband coil, WHITE spot on iron core end of former.
 - 19 Metre spreadband coil, BLUE spot on iron core end of former.

CORDING OF DIAL DRIVE



Length of cord required is 5 ft. 6 ins. which includes about 6 ins. to spare for tying to the tension spring. Cord Part No. 34/754.

Tension Spring Part No. 21/698.

INSTRUCTIONS FOR CHANGING MAIN VOLTAGE INPUT TAPS

MAINS VOLTAGE.-The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap. MAINS VOLTAGE ADJUSTMENT .- For 200-220 Volt Operation: The receiver chassis has to be removed from the cabinet for this adjustment. DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove the chassis from the cabinet as detailed on page 2. Unsolder the mains lead wire from the switch on the volume control which is attached to the 221-250 volt tap and re-solder it to the 200-220 volt tap. Refit the chassis to the cabinet in the exact reverse procedure to removing it.



RADIO CORPORATION PTY. LTD.

A50a.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL—"IPP"—CONCERTMASTER

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33% r.p.m.) and a 9 Valve Superheterodyne Four Band Receiver incorporating Rand preading of the 19 Metre, 25 Metre and 31 Metre Shortwave Rands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation:-80 Watts.-approx. Gramo Operation:-100 Watts.-approx.

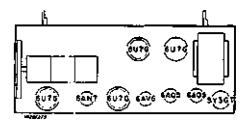
TUNING RANGES:-

RECEIVER COVERAGE:-

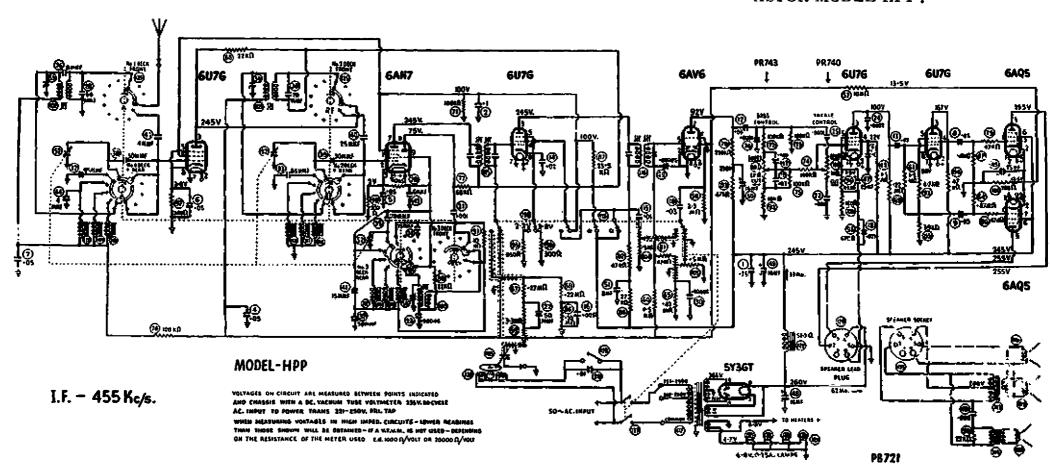
Broadcast Band, 535-1610 Kc/s. 560.7-186.3 Metres. 19 Metre Band, 14.9-15.5 Mc/s. (Bandspread) 20.13-19.29 Metres (approx.) 25 Metre Band, 11.6-12.1 Mc/s. (Bandspread) 25.86-24.79 Metres (approx.) 31 Metre Band, 9.4-9.8 Mc/s. (Bandsprend) 31.91-30.61 Metres (approx.)

THIS BULLETIN CONTAINS:-

- 1. Alignment Instructions.
- 2. Circuit Diagram.
- 3. Component Parts List.
- Connections for IF. and RF. Transformers.
- 5. Dial Drive Cording Diagram.
- 6. Valve Placement Diagram.
- 7. Instructions for Changing Mains Input Voltage Tap.
- 8. Instructions for Removing Chassis from Cabinet.



ASTOR MODEL HPP. A50b.



ALIGNMENT PROCEDURE - MODEL "HO"

EQUIPMENT:		ALIGNMENT CONDITIONS:
Signal Generator	:	Load Impedance : 5,000 ohms.
Output Meter	;	Output hevel : 50 Milliwatts.
Mica Capacitor	: 0.01MF (for I. trans. alignme	
Dunmy Antenna	: 200MMF Mica Capaciter.	Intermed. Froq. : 455 Kc/s. Input Voltage : 230 Volts 50 Cycle.
Alignment Tools	: Type M195 and PM581.	A.C. input to trans. 230-250 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 entenna 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.

tap.

Opera- tion No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To control grid of 688G tube	455 Kc/s.	0.01MF Mica capacitor in serios with generator	Remove chassis from cabinet, refit dial to dial sheft. Leave grid cap on tube. Peak 2nd I.K. trans. pri. and sec. for max. output.
2.	To control grid of 6A8G tube	455 Kc/s.	O.OlMF Mica capacitor in series with generator	Turn cond. gang plates fully out of mesh. Leave grid cap on tube. Peak lst 1.F. trans. pri. and sec. for max. output.
3.				Repeat operations No. 1 and 2.
4.				Fully mesh the cond. gang plates. Connect a piece of stiff wire to the chassis and fashion it into a vertical position behind the dial and directly above the centre of the dial shaft to represent the dial pointer on the cobinet. Adjust the dial by moving the drum on the cond. gang shaft until the contre of the pointer aligns 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 Ka/s.	200MMF Mica capacitor in series with generator	Turn cond. gang and dial until 600 Kc/s. Spot on dial aligns with centre of pointer. Leave the gang and dial set in this position and peak the oscl. coil inductance trim, (iron core) for max. cutput.
6.	To antenna junction lug on chassis	1400 Kc/s.	200MMF Mica capacitor in series with generator	Turn cond. gang and dial until 1400 Ke/s. Spot on dial aligns with centre of pointer. Adjust each. coil trim. condenser or logging and peak antenna trans. trim. condenser for max. output.



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

A51.

MANTEL MODEL "HQ"

4 Tube Superheterodyne Broadcast Receiver.

FOR OPERATION FROM:

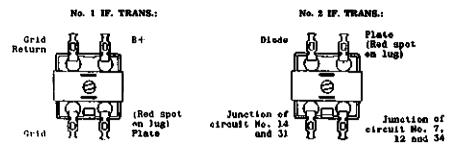
200-250 Volt 50 Cycle A.C. Mains Supply.

Power Consumption 40 Watts (approx.).

TUNING RANGE:

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

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



6BE6 CONVERTER TUBE

The type 6A8G converter tube used in the Model ''HQ'' receiver has been changed to a type 6BEG converter tube.

A new circuit using a 6BE6 tube in the converter stage is shown on page 6
The socket connections and new components required for the 6BE6 tube
and the connections for the new oscillator coil are detailed below:-

NEW COMPONENTS

	14544	COME CHENT	9			
Circuit N	o. f	Description		Part	. No.	
	7 pin socket			A104		
	Socket Mount Pl				3/698	
	Eyelets-socket				2/291-1	
	Eyelets-adaptor				1/291	
54.	20,000 Ohm % wa				PR166	
55.	30,000 Ohm 1 wa	tt resistor		5	7R156	
	6BE6 tube				_	
56.	Oscillator coil			PT859		
OSCILLATOR O	COIL CONNECTIONS:	6 BE 6	SOCKET CON	nections:		
SERIES PAD (Red spot	T CHASSIS	Pin No. 1.	Oscl. grid	Pin No. 4.	Heater	
under lug) a	CATHODE	Pin No. 2.	Cathode	Pin No. 5	Plate	
		Pin No. 3.	Heater	Pin No. 6	. Screen	
CATHO	DE T	Pin No. 7.	Signel grid			

CIRCUIT COMPONENT CHANGE:

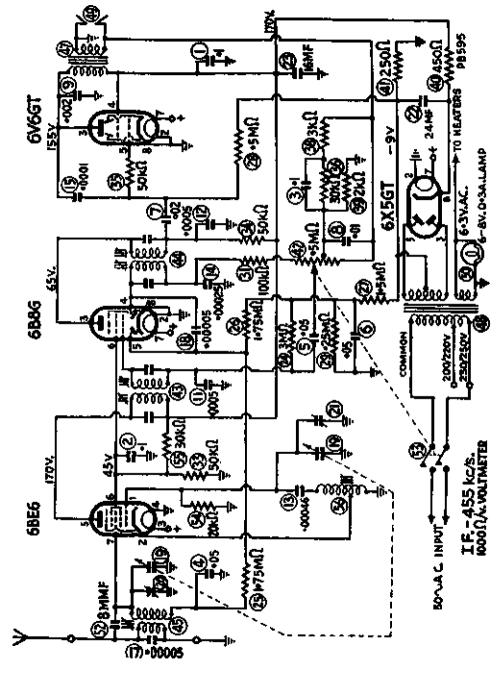
To improve the power output on strong signals with current production 6R8G valves the following circuit components have been changed—
A. Circuit No. 24, a 3 Megohm resistor, changed to a 1.5 Megohm carbon resistor, tol. ±10%, % Watt, Part No. PR388, new circuit No. 57.
B. Circuit No. 27, a 1.5 Megohm resistor, changed to a 1 Megohm carbon PR388.

resistor, tol. ±10%, % Watt, Part No. PR246, new circuit No. 58.

CIRCUIT MODIFICATION:

The end of the 1.75 Negohm AVC bias filter resistor circuit No. 25, which is connected to the 6886 valvo diode (pin No. 5) and the junction of the .00005 MFD condenser Circuit No. 18 and the 1.75 Megohm filter resistor circuit No. 26, has been changed from this position and is connected to the junction of the rolume control and the 100,000 Ohm resistor circuit No. 31.

This change applies simple AVC to the converter valve instead of delayed AVC bins.



DIAL-ENOB ASSEMBLY:

Barly production of the Model "MQ" receiver had the dial reading and the tuning mee as a complete moulding and which was a push-on fitting to the varb. cond. drive shaft. Part numbers for these dials are listed on page 6.

This moulding has been changed so that the dial reading and the push-on tuning knob are separate parts. From the outside of the cabinet the dial reading position before being tightened to the bush on the drive spindle with screws can be varied for more accurate legging. Webble when the dial reading is turned has been eliminated.

NEW COMPONENTS USED WITH THE NEW DIAL ASSEMBLY:

	Part No.
Variable condenser with different drive assembly	PC883
Drive spindle bush	29/756
Drive spindle bush grub screw (2) }" x 5/32" Whit.	30/860-7
Diel reading B.S.W.	36/786-2
Dial resding VicTas.	35/756-3
Dial reading Q'land	35/766-4
Dial reading-S.AW.A.	36/786-6
Dial locating washer	30/788
Dial locating washer fastening screws (3) 1" x 3/32" Csk. Eq. Whit.	5/560-4
Paper washer-behind knob	6/449-4
Felt washer-between knob end paper washer	79/30C-1
Knob circlip	22/755
Knob	27/755

6AD8 VALVE SUBSTITUTE FOR 6B8G VALVE

The mext production rum of the Medel "HQ" Receiver will use a 6ADS valve in place of the 6BSG valve. The change is due to 6BSG valves being in short supply. Medifications to the circuit and circuit components are as follows—

1. The diede end of the 1.75 Megohm A.V.C. bias filter resistor circuit No. 25

is connected to the junction of the 100,000 Ohm. resistor circuit No. 31, the .00025 MFD Cond. and the 2nd I.F. Transformer, circuit No. 44.

2. Circuit No. 31, a 100,000 Ohm resistor, is changed to a 50,000 Ohm cerbon

. Circuit No. 31, a 100,000 Ohm resistor, is changed to a 50,000 Ohm cerbon resistor, tel. ±10% % watt, Part No. PRIGO, new circuit No. 69.

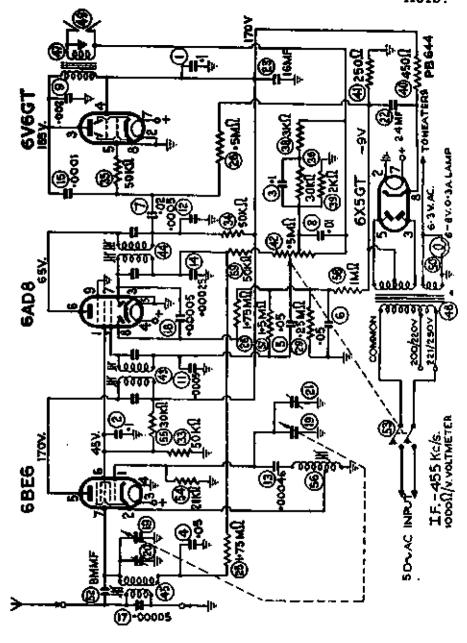
VALVE SOCKET CONNECTIONS:

	6B8Ç	6AD8
Pin No. 1	Chassia	Screen Grid
Fin No. 2	Heater-	Signal Grid
Pin No. 3	Plate .	Cathodo-Chasais
Pin No. 4	Diode	Heater+
Pin No. 5	AVC Diede	Heater-
Pin Bo. 6	Seroon	Plate
Pin No. 7	Heater+	AVC Diode
Pin No. 8	Cathode-Chassis	Diode
Pin No. 9		Suppressor Grid-Chassis

NEW PARTS REQUIRED:

	Part No.
9-Pin Valve Socket	279/250
Valve Socket Adaptor Plate	33/698
6AD8 Valve	6AD8
50.000 Ohm. % Watt Resistor	PR160

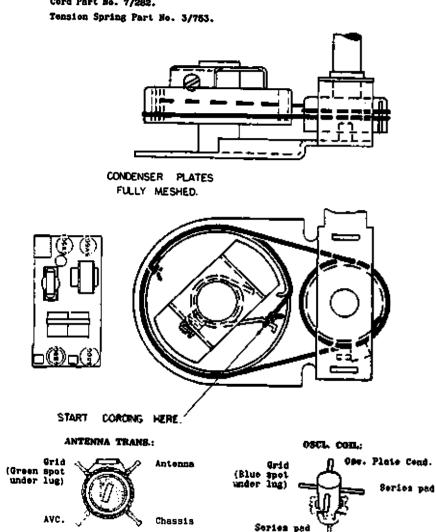
A new circuit diagram which shows a 6AD8 valve is on page-10.

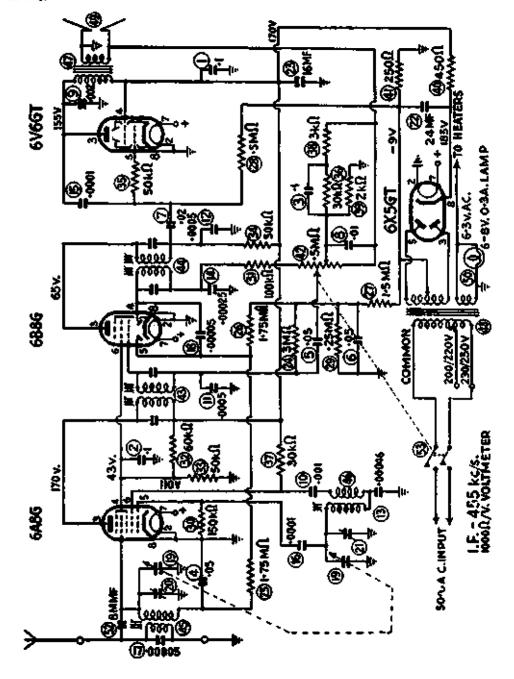


CORDING OF DIAL DRIVE:

Longth of cord required is 2 ft., which includes about $6^{\prime\prime}$ to spare for tying to tension spring .

Cord Part No. 7/282.





STEREOPHONIC RECORD PLAYER

3 VALVE 2 CHANNEL AUDIO AMPLIFIER AND A 4 SPEED SINGLE RECORD PLAYER (16-2/3, 33-1/3, 45 and 78 R.P.M.)

POWER OUTPUT:

0.5 watt

FOR OPERATION FROM:

200-240V 50 cycle and 250V 40 cycle or 50 cycle AC Mains (Power Transformer T251).

Power trans. Primary Tap, red - common.

" " green - 200V 50 cycle mains.

" " black - 230 & 240V 50 cycle mains.

" " orange - 250V 40 or 50 cycle mains.

POWER CONSUMPTION:

64 Watts approx.

SERVICE INSTRUCTIONS (ELECTRICAL)

EQUIPMENT:

Audio Signal Generator Output Meter

TEST CONDITIONS:

Volume Control: maximum (fully clockwise)
Tone Control: maximum treble (fully clockwise)

Tone Control : maximum treble (fully clockwise)
Audio Signal

0.1 Volt.

Generator : 1000 CPS

Signal Generator

Output :

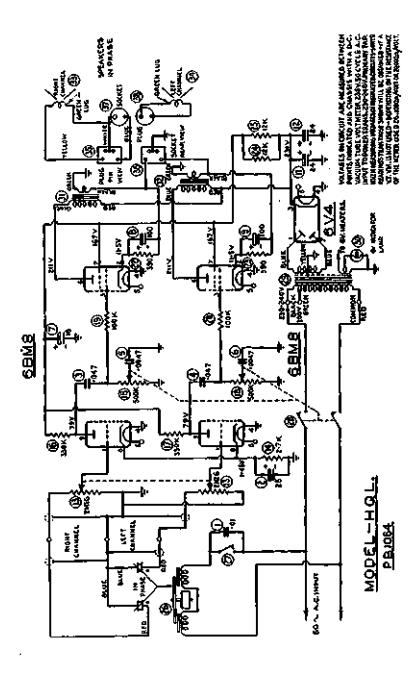
Output Meter : 4 Ohms impedance.

Connected alternatively across secondary winding of each output transformer. (Speaker voice coils dis-

connected).

Mains Input Voltage

235 Volts 50 cycle AC. input to power transformer 230-240 Volt primary tap.



A52a.

ASTOR MODEL HQL.

AUDIO AMPLIFIER CAIN TEST:

The amplifier chassis/record player unit has to be removed from the cabinet to check the overall gain of the amplifiers.

IMPORTANT: Before disconnecting pick-up leads from terminals of volume controls, identify the leads to ensure correct channel connection when the leads are reconnected.

- A. Set frequency of audio generator to 1000 cycles.
- B. Adjust output level of generator to 0.1 volt.
- C. Disconnect pick-up leads from terminals of volume controls.
- D. Disconnect the 4 pin plug attached to speaker leads from socket of amplifier.
- E. Connect output meter across secondary winding of left-channel output transformer.
- F. Connect audic signal generator output lead to input terminal lug of left channel volume control(control nearest mount bush).
 - Generator output lead 'active' to volume control terminal lug.
 - Generator output lead 'non-active' to amplifier chassis.
- G. Turn ON/OFF switch tone control fully clockwise.
- H. Turn volume control to maximum. fully clockwise.
- With a signal input of 0.1 voltapplied to amplifier input, the output meter should indicate a minimum of 500 milliwatts output.
- J. Repeat paragraphs A to I with audic signal generator connected to right channel volume control and the output meter connected to secondary winding of right channel output transformer.

AUDIO AMPLIFIER BALANCE TEST:

- A. Set fraquency of cudio signal generator to 1000 cycles.
- B. Connect audio signal generator output lead to right channel volume control input lug.
- c. Connect plug on speaker lead to four pin socket of amplifier.
- D. Connect output meter across secondary winding of right-channel output transformer.

- E. Turn tone control and volume control fully clockwise.
- F. Adjust output of audio signal generator until output meter indicates 25 Milliwatts.
- G. With the controls and signal generator set, connect audio signal generator output lead to left channel volume control input lug and the output meter across the secondary winding of the left channel output transformer.
- H. The difference in output between the two channels must not exceed 8 milliwatts.

SPEAKER PHASING:

It is essential that the speakers be phased correctly.

If a speaker has to be removed for service, note the lead connections of ensure correct phasing when reconnecting.

A method used for checking the phasing of the speakers is detailed in the following paragraphs.

- 1. Place the speaker cabinets in line approx. four feet a: .
- 2. Play a monophonic record.
- 3. To conduct the following test the listener should be located in a position midway between the speaker cabinets and approx. four feet away in front.
- 4. If the phasing is correct the reproduced sound will appear to be radiated from a point midway between the two speakers.
- 5. With incorrect phasing the quality of reproduction will be poor, it will appear to be lacking in bass response and will appear to be radiated from both speakers.
- 6. If the speakers are incorrectly phased, reverse the leads connected to the voice coil terminals of one speaker then repeat the tost detailed above.

1079/279



MODEL HOR

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33) r.p.m.) and a 5 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

IF. 455 Kc/s.

POWER CONSUMPTION:-

MODELS - HQR.JQR, DQR, AQS.

Radio Operation: 55 Watts-approx. Gramo Operation:- 75 Watts-approx.

TUNING RANGES:-RECEIVER COVERAGE:-Broadcast Band, 535-1610 Kc/s. 560.7-186.3 Metres. 20.13-19.29 Metres (approx.) 19 Metre Band, 14.9-15.5 Mc/s. (Bandspread) 25 Metre Band, 11.6-12.1 Mc/s. (Bandspread) 25.86-24.79 Metres (approx.) 31 Metre Band, 9.4-9.8 Mc/s. (Bandspread) 31.91-30.61 Metres (approx.) 32) 47 K f2 49 Metre Band, 5.95-6.25 Mc/s. (Bandspread) 50.42-48.0 Metres (approx.) 6AN7 DECK 2 REAR **6AV6** WAVE CHARGE SWITCH IN B/CAST POSITION POSITION I. GRAMO 2. B/CAST BAND 3. 19 METRE BAND 4. 25 METRE BAND 5. 31 METRE BAND 6. 49-METRE BAND DECK 2 Θĺ 10 6-31. HEATERS Samu monu (d) DECK FREAK PB 781 1.05 1(5)

VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A DC. VACUUM TUBE VOLTMETER 235 V. SO CYCLE AC, INPUT TO POWER TRANS. 221-250V. PRI, TAP. WHEN MEASURING VOLTAGES IN HIGH IMPED. CIRCUITS - LOWER READINGS THAN THOSE SHOWN WILL BE OBTAINED - IF A V.T.V.M. IS NOT USED - DEPENDING ON THE RESISTANCE OF THE METER USED. EG. 1000 (1) NOT OR 20000 (1) NOT.

ASTOR MODEL HQR.

ALIGNMENT PROCEDURE

ALIGNMENT PROCEDURE			B/CAST. AND S/WAVE. ALIGNMENT						
	EQ	UIPMENT	ALIGNME	NT CONDITIONS	-19q0		Generator	Dummy	Instructions
31/48	al Generator:		Load Impedance:	5,000 ohms.	ation	Generator	Frequency	Antenna	
(10, 5;	it lieter:		Output Level:	50 Milliwatts.	No.	Connection	TTING TUPD III	ning spindle so t	hat perm tuner iron cores
III.ca	Capacitor:	O.OlMF. (for IF. trans. alignment)	Vol. Control:	Max. Vol. fully clockwise.	••	are out of the the stop. Set	windings on the the centre of th	coil formers and o dial pointer o	the unit is hard against n the centre of the end of
Dr Joseph	; Antonna:	200MMF. Mica Capacitor.	Intermed. Freq. Input Voltage:	230 Volts 50 Cycle	2.	travel spot on To antenna lead	the dial near 17	700 Ke/s. 200 MMF mica capacitor in	Turn tuning control and nerm, tuner until centre
Ouray	/ Antenna:	400 Ohm non-inductivesistor.	6	AC. input to trans. 221-250 volt pri. tap.		Todu		series with generator.	of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s.
Aligi	ment Tools:	Type M195 and PM581.	Tone Control:	Treble position.					Peak b/cast. oscl. coil trimmer cond., then peak
	I.F. TRANS. ALIGNMENT								b/cast. antenna coil trim. cond. for max. output.
Oper- ation		Generator	Dummy						Re-peak oscl. coil trim. condenser.
No.	Connection	n Frequency	Antenna	Instructions	3.				Tuning range after align- ment 535-1610 Kc/s.
1.	Remove rece	iver nower supply cha	SSIS and tuning unit	chassis from cabinet as	4.				Check logging at each end of the dial.
•	detailed on	page 6.	mara and vanishe ans	chassis if on capitot as	5.	Turn wave chan	ge switch to 49	metre band (this	band must be aligned before
2.	A. Looser pull B. Unser control C. From by pu D. Remove cord (E. Remove plate	ol. volume control shaft lling it straight upw e dial pointer by pris at rear of pointer ca e from each end of di to chassis.	tone control gear w upward off the cont ng small metal gear remove small gear p ard. ing up centre clip w rriage. al plate the large	rel spindle. plate to bush on tone late with gears attached which fastens it to dial lock nut fastening dial	6.	To antenna lead		400 ohm non- inductive resistor in series with generator.	Turn wave change switch to 49 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with the 6.08 Mc/s. mark on the dial. Adjust 49 metre band oscl. coil ind. trimmer (iron core) for logging, then peak 49 metre antenna coil ind. trimmer (iron core) for max. output.
3.	chassis.	aker leads and leads	from tuning unit c	hassis to power supply	7.	To antenna lead	9.6 Mc/s.	400 ohm non- inductive	Turn wave change switch to 31 metre band. Turn tuning
4.	To control g of 6N8 valve pin No. 2.	e	capacitor in b/c series with wingenerator. soc tre	n wave change switch to east. band. Leave grid a tached to valve sket. Peak 2nd IF. us. pri. and sec. for a output.				resistor in series with generator.	spindle and perm. tuner until dial pointer aligns with 9.6 Mc/s. rark on dial. Adjust 31 metre oscl. coil ind. trimmer (iron core) for logging,
5.	To control pof GAN7 valv pin No. 2.	ve,	capacitor in to series with per generator. cor on IF.	ve grid wire attached valve socket. Turn w. tuner so that iron es are out of windings coil formers. Peak 1st trans. pri. and sec. wax. output.	8.	To antenna lead	l 11.8 Mc/s.	400 ohm non- inductive resistor in series with generator.	then peak 31 metre antenna coil ind. trim. (iron core) for max. output. Turn wave change switch to 25 metre band. Turn tuning spindle and perm. tuner until dial peinter aligns with the 11.8 Mc/s. mark
۴.	control sha	back plate, dial poi ft and gear wheel to teeth mesh correctly.	tone control shaft	d plate assy, to volume . Make sure that the				O-way deav .	on the dial. Adjust 25 metre band osel. coil ind. trim. (iron core) for logging, then peak 25 metre antenna coil ind. trim. (iron core) for max. eutput.

9. To antenna lead 15.2 Mc/s.

400 ohm noninductive resistor in series with generator. Turn wave change switch to 19 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 15.2 Me/s. mark on the dial. Adjust 19 metre band oscl. coil ind. trim. (iron core) for max. output.

10. To antenna lead Multivibrator Other logging on 49, 31, 25 and 19 metre bands at each 100 Kc/s. mark on the dial.

NOTE: The iron cores in the perm. tuner coils and the s/w. conds. on the perm. tuner are set to an exact dimension. No adjustment to the dimensions is to be made if misalignment and incorrect logging are to be avoided.

- COLL COLOUR CODE
 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core and of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Netre spreadband coil, EROWN spot on iron core end of former.

INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE.—The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

MAINS VOLTAGE ADJUSTMENT: For 200-20 volt operation: The receiver or the power unit chassis do not have to be removed from the cabinet for the adjustment. WHITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE OWER POINT SOCKET.

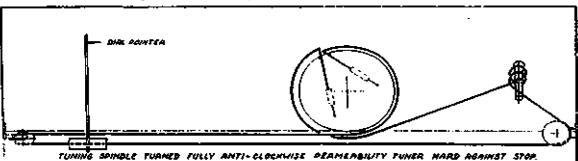
Remove cabinet back board from the cabinet by unscrewing the screws astening it to the cabinet. From the rear of the cabinet, the mains tap terminal strip may be seen on the side of the power unit chassis mounted to the base of the cabinet. Unsolder the mains lead wire from the AC. junction block which is attached to the mains terminal strip tap marked 221-250V. and re-solder it to the terminal strip tap marked 200-250V. Refit cabinet back board to cabinet.

CORDING OF DIAL DRIVE

Longth of cord required is 5 ft. 6 ins., which includes about 8 ins. to spare for tying to tension spring.

Cord Part No. 34/754.

Tension Spring (2) Part No. 508/30C.



TRANSFORMER CONNECTIONS

B CAST ANTENNA TRANS.

Start of winding - furthest from mounting end - Antenna, A.V.C. Finish of winding - nearest to mounting end - Grid.

B/CAST OSCL COIL.

Start of winding - furthest from mounting end - Oscl. plate. Finish of winding - nearest to mounting end - Oscl. prid.

19. 25. 31 AND 49 METRE ANT. TRANS.

Lead from top lug (iron core end):- GRID.

Lead from bottom lug (mounting end):-CHASSIS - EARTH. 19, 25, 31 AND 49 METRE OSCL. COIL

Lend from top lug (iron core end):GRID.

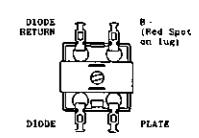
Lead from bottom lug (mounting end):-OSCL. PLATE COND.

- 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Netre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil. BROWN spot on iron core end of former.

1st IF. TRANS.

GRID | 6 + (Red Spot on lug)

2nd IF. TRANS.





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL HQS

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33 r.p.m.) and a 5 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation: 55 Watts.-approx. Gramo Operation: 75 Watts.-approx.

TUNING RANGES:-

RECEIVER COVERAGE:-

Broadcast Band, 535-1610 Kc/s.		560.7-186.3 Metres.
19 Metre Band, 14.9-15.5 Mc/s.	(Bandspread)	20.13-19.29 Metres (approx.)
25 Metre Band, 11.6-12.1 Mc/s.	(Bandspread)	25.86-24.79 Metres (approx.)
31 Metre Band, 9.4-9.8 Mc/s.	(Bandspread)	31.91-30.61 Metres (approx.)
49 Metre Band, 5.95-6.25 Mc/s.	(Bandspread)	50.42-48.0 Metres (approx.)

THE GRAMO-RADIO COMBINATION MODEL "HQS" IS A MODEL 'HQR' RECEIVER
CHASSIS FITTED INTO A DIFFERENT TYPE CABINET. EXCEPT FOR THE PARTS LISTED BELOW
WHICH ARE REQUIRED FOR FITTING TO THE DIFFERENT TYPE CABINET, ALL REFERENCE
FOR ALIGNMENT PROCEDURE, CIRCUIT DIAGRAM AND PARTS LIST SHOULD BE MADE TO THE
MODEL 'HQR' SERVICE BULLETIN SHEETS.

Chassis to cabinet mount screws 1" x 5/32" Csk. Hd. Flor. Bronze	17/560-36
Cup Washer - Flor. Bronze	269/250
Cabinet Receiver Door Wire and Anchor Assy.	380/250
Cabinet Receiver Door Stay Arm	387/250
Cabinet	280/221

19. 25 AND 31 METRE ANT. TRANS.

lead from top lug (iron core end):-GRID

Lead from bottom lug (mounting end) :-AVC.

19, 25 AND 31 METRE RF. TRANS.

Lead from top lug (iron core end) :-GRID

Lead from bottom lug (mounting end) :-CRASSIS

19, 25 AND 31 METRE OSCL. COIL

Lead f on top lug (iron core end) :-:R1D

Lead from bottom lug (mounting end) :-PLATE

ANTENNA TRANS. B/CAST.



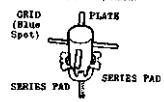
CHASSIS

ANTENNA

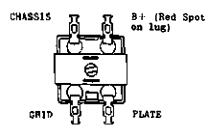
RF. TRANS. B/CAST.



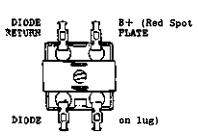
OSCI. COIL B/CAST.



1st IF. TRANS.



2nd IF. TRANS.



RADIO CORPORATION PTY. LTD. DIVISION OF ELECTRONIC INDUSTRIES LTD.

A55.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MANTEL MODEL "HR"

5 Valve Superheterodyne Four Band Receiver Incorporating Bandspreading of the 19, 25 and 31 Metre Shortwave Bands.

FOR OPERATION FROM:

1.5 Volts ''A'' Battery Plug-in type batteries. and 90 Volts ''B'' Battery (Two 45 Volt ''B'' Batteries in Series)

POWER CONSUMPTION:

"'A'' Battery:-300 Milliamps (does not include dial lamps) "'B' Battery:- 11 Milliamps (no signal)

POWER OUTPUT:

250 Milliwatts-max. 100 Milliwatts-undistorted

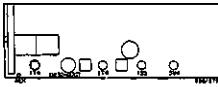
TUNING RANGES:

RECEIVER COVERAGE (approx.):

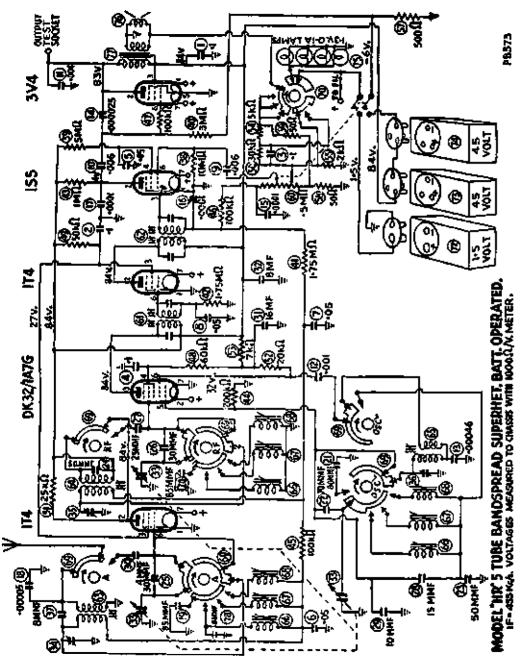
19	Metre	Band	 535-1610 14.9-15.6 11.6-12.1	Mc/s	560.7-186.3 Metres (Bandspread) 20.13-19.29 Metre: (Bandspread) 25.86-24.79 Metre:
			9.4-9.8		(Bandspread) 31.91-30.63 Metre:

THIS BULLETIN CONTAINS:

- Alignment Instructions.
- Circuit Diagram.
- Component Parts List.
- Connections for I.F. and R.F. Trans.
- Valve Placement Diagram.
- 6. Diel Drive Cording Diagram.
- Battery Replacement Diagram.



VALVE PLACEMENT DIAGRAM

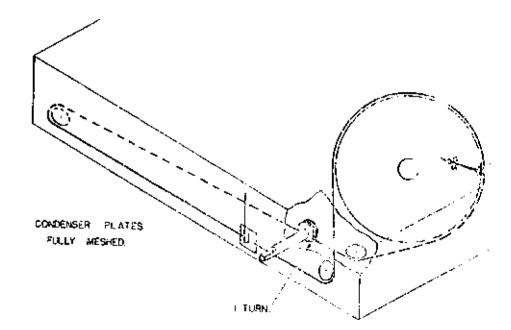


CORDING OF DIAL DRIVE:

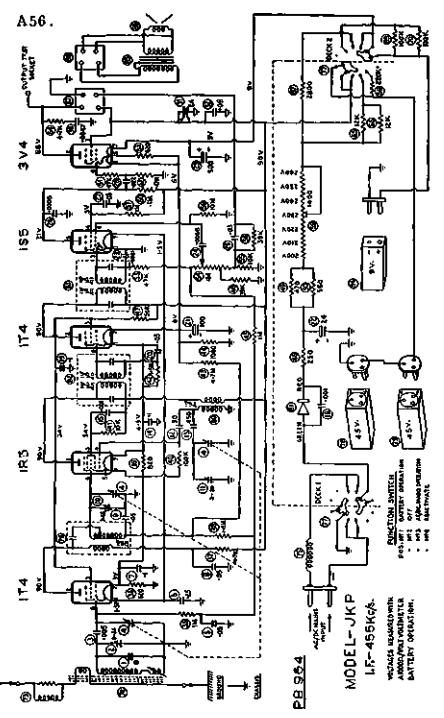
The length of cord required is 5 ft. 6 in. which includes about 6in. to spare for tying to the tension spring.

Dial cord Part No. 7/282.

Tension spring part No.21/698.

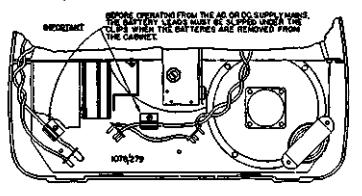


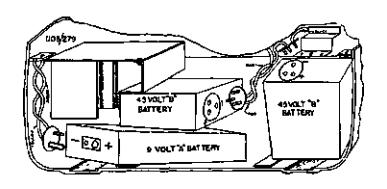
ALIGNMENT INSTRUCTIONS — MO	DEL "HR"		6.	To antenna terminal	600 Ko/s	200MMFD mica capacitor in series with	Turn gang and dial pointer to 600 Kc/s dial wark. Leave the gang end dial pointer set in this position.
ALIGNMENT CONDITIONS	:	equipment:				generator.	Re-peak the B/cast. oscl. coil. ind. trim. (iron core) then peak
Load impedance 10,000 Ohms	S1gr	nal Generator				the B/cast. ant. and RF. trans. ind. trimmers (iron cores) for	
Output Level 25 Milliwatts	Out	put Meter					max. output. Do not rock the gang to and fro through the signal
Volume Control, Max. Vol. (fully clockwise)		a Capacitor 0.01 MFD my Antenna 200 NMFD Mica Capacitor					while adjusting or move the dial pointer off 600 kc/s dial mark until after the inductance trimmers of these three transformers
Tone Control, Treble Tone posit No. 4	ion Dum	my Antenna 400 Ohm non-inductive resistor	7.	To estable	1400 Va/s	200MMFD mica	have been peaked for max. output. Turn gang and dial pointer to 1400
Intermediate freq. 455 Kc/s. Battery Supply ''A'' Battery 1. ''B'' Battery 90	5 Volts	gnment Tools Type M195 and PM581		terminal	1400 Keys	capacitor in series with generator.	kc/s dial mark. Adjust B/cast. oscl. coil. trim. cond. for logging and ponk B/cast. ant. and RF. trans. trim. condensors for max. output.
			8.				Turn wave change switch to 31
Opera- Generator Generator tion No. Connection Frequency	Dummy Antenna	Instructions					metre band (this band must be aligned before the 25 and 19 metre bands).
l To cor at 1 455 Kc/s C grid of 174 c IF tube s	o.OlMFD mica To apacitor in be eries with Lenerator.	Turn wave change switch to B/cast sand. Leave grid wire attached to socket sin. Peak 2nd I.F. trans. pri. and sec. for max. output.	9.	To antenna terminal	9.6 Mc/s	400 Ohm non- inductive resistor in series with generator.	Turn dial pointer and gang to 9.6 Mc/s. Adjust 31 metre band oscl. coil. ind. trim. (iron core) for logging and peak 31 metre ant. and RF. trans. trims. (iron cores) for max. output. Rock gang to and fro through the signal while adjusting.
grid of control of the desired of th	apacitor in Legries with I	Sang plates fully out of meah. Leave grid cap on tube. Peak 2nd L.F. trans. pri. and sec. for max. output.	10.	To antenna terminal	11.8 Mc/s	400 Ohm non- inductive resistor in series with generator.	Turn wave change switch to 25 metre band. Turn dial pointer and gang to 11.8 Mc/s. Adjust 25 metre band oscl. coil. ind. trim. (iron core) for logging and peak ant.
3.	c 5	Set centre of dial pointer on centre of end of travel mark near 550 Kc/s cond. gang plates fully meshed.					and RP. trans. trims. (Iron cores) for max. output. Rock gang to and fro through the signal while adjusting.
terminal c	apacitor in discrete with memorator.	furn gang and dial pointer until lial pointer is on 600 Ke/s dial mark. Leave the gang and dial pointer set in this position and peak the B/cast. oscl. coil. ind. trim. (iron core) or max. output.	11.	To antenna terminal	15.2 Mc/s	400 Ohm non- inductive resistor in series with generator.	Turn wave change switch to 19 metre band. Turn dial pointer and gang to 15.2 Mc/s. Adjust 19 metre band osci. coil. ind. trim. (iron core) for logging and peak ant. and RF. trans. trims. (iron cores) for max. output. Rock gang to and fro through the signal while adjusting.
	sapacitor in K series with o generator. 1 R	Kc/s dial mark. Adjust B/cast. oscl. coil. trim. cond. for logging and peak B/cast. ant. and RF. trans. trim. condensers for max. output.	12.	Check the 1 stations.	If a crysta	il calibrator is	ands on some well-known shortwave available check the logging at each

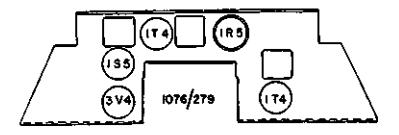


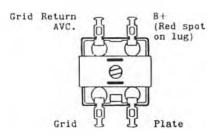
1 1

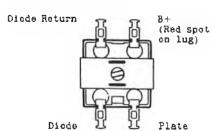
ASTOR MODEL JKP.











ANTENNA TRANS.

Start of winding - furthest from mounting end - Antenna. Finish of winding - nearest to mounting end - Grid.

OSCL. COIL

Start of winding - furthest from mounting end - Junction of circuit Nos. 6 and 10. Finish of winding - neerest to mounting end - Osci. grid:

POWER TRANS. (P)	9381	50	cvcle
------------------	------	----	-------

Pri. red lead - common

.. green lend - 200-220V. .. black lend - 221-250V.

UT. Sec.

blue lead - start yellow lead - centre tap blue lead - finish

LT. Sec. (two windings in parallel)

start and finish in winding wire POWER TRANS. (PT939) 40 cycle

Pri. red lead - common .. green lead - 220-250V.

.. black lead - 251-260V.

HT. Sec.

Yellow lead - start blue lead - centre tap yellow lead - finish

LT. Sec. (two windings in parallel)

start and finish in winding wire



RADIO CORPORATION PTY. LTD.

A57.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MANTEL MODEL "JPM"

5 Valve Superheterodyne Broadcast Receiver.

For operation from:-

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

Tuning Range:-

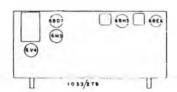
535-1640 Kc/s. : 560.7-182.9 Metres

This Bulletin contains:-

Alignment Instructions. Circuit Diagram.

Connections for Transformers.

Valve Placement Diagram.



ALIGNMENT PROCEDURE

EQUIPMENT

Alignment Tool : Type M195

To antenna

ALIGNMENT CONDITIONS

Signal Generator: Load Impedance : 7,000 onms **Output Meter** Ourput Level : 50 Milliwatts Mica Capacitor : 0.01MF (for 1.F. Vol. Control : Max. Vol. rutly trans. alignment) clockwise. : 200 MMF. Mica Dummy Antenna Intermed. Freq.: 455 Kc/s. Capacitor Input Voltage : 230 Volts 50 Cycle

AC. input to trans. 221-250 volt pri. tap.

Turn perm tuner until centre

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.

ALIGNMENT: The 1.F. transformer variable iron cores and the trimmer condensers beneath the perm tuner are accessible when the rear section of the cabinet is removed from the front section.

A short thin screw-driver or a long thin screw driver (having a slight bend) inserted through the holes in the chassis is used for adjusting the screw in the perm tuner trim. condensers.

No.	n Generator Connection		Dummy Antenna	Instructions
				n of cabinet remove the screw abinet off the front section.
of	signal grid 6BH5 valve n No. 2)	455 Kc/s.	0.01 MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
of	signal grid 6BE6 valve n No. 7)	455 Kc/s.	0.01 MF mica capacitor in series with generator	Leave grid wire attached to valve socket. Turn perm tuner so that iron cores are fully out of windings on coil formers. Peak 1st IF trans. pri. and sec. for max. output. Repeat operations No. 2 and 3.

Turn perm. tuner so that the iron cores are fully out of the windings on the coil formers and hard against the ston. Set the centre of the dial pointer on the end of travel spot on the dial reading near 1700 Kc/s. From the rear of the dial the pointer may be moved with a pair of long nose pliers. 200 MMF mica

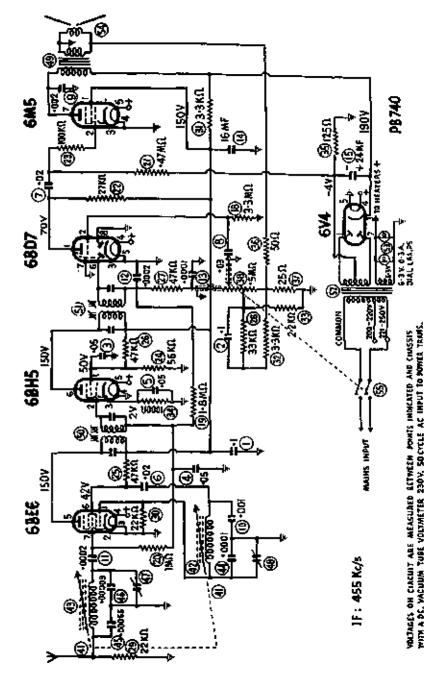
junction lug capacitor in of dial pointer aligns with series with centre of spot on dial reading on chassis generator at 1000 Kc/s. Peak oscl. coil trimmer condenser then peak antenna trans. trim. cond. for max. output. Ropeak osel, coil trim, cond.

1000 Kc/s.

Tuning range after alignment 535 - 1640 Kc/s. Check logging at each end of the dial; then refit rear section of the cabinet.

NOTE: Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet, and the end of the iron cores in the former, when the unit is turned fully anti-clockwise and is hard against the stop.

If incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the screw end of the iron core.





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

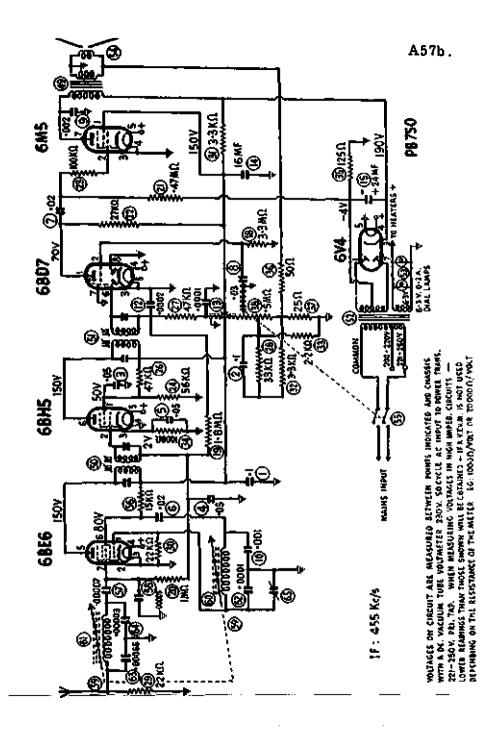
File: Receivers AC. Bulletin: JPM-2.

Date: 26-11-54.

1.

CIRCUIT MODIFICATION

- The modifications listed below have been made to the Model JPM to reduce cross modulation. A new circuit diagram covering the modifications is shown on page 2.
 - A. Circuit No. 25 a 47K. ohm resistor changed to a 15K. ohm 1 watt resistor, new circuit No. 56. Screen voltage increase to 80 volts.
 - B. The permeability tuning unit part No. Ll21 is changed to a new perm tuner part No. Ll25. The perm tuner Ll25 is the same as tuner Ll21 except that the .00003 MF cond. circuit No. 46 on the old circuit is deleted.
 - C. The .0002 MF cond. circuit No. 11 is changed to a .00007 MF cond. new circuit No. 57.
 - D. A .00005 MF cond. is wired from the grid of the 6BE6 valve to the chassis. New circuit No. 58.
- 2. Before the above changes were made, a small quantity of receivers were released with only the 47K. ohm resistor circuit No. 25 changed to a 15K, ohm resistor.
- 3. The 5" permag. speaker part No. K126 cone No. F90 has been changed to an improved 5" permag. speaker part No. K196 cone No. F87, this change is not related to the above circuit modification.



19, 23, 31 AND 49 METRE ANT, TRANS.

Lead from top lug firon core end) :-GRID.

bead from bottom lug (mounting end):-A.V.C.

19, 25, 31 AND 49 METRE RF, TRANS.

Lead from top lug (iron core end) :-GRID.

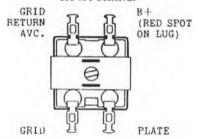
Lead from bottom lug impunting end):-CHASSIS-EARTH.

19, 25, 31 AND 49 METRE OSCI, COIL

Lead from top lug (iron core end) :-GRID.

Lead from bottom lug (mounting end):-OSCL, PLATE,

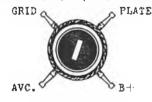
1st IF, TRANS.



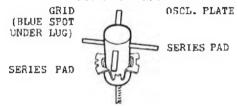
ANTENNA TRANS, B/C. (IRON CORED)



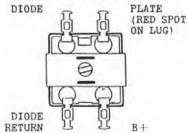
RF, TRANS, B/C. (IRON CORED)



OSCL, COIL B/C.



2nd IF. TRANS.



6N8 R.F. VALVE CATHODE BIAS RESISTOR

Circuit No. 99 an 850 Ohm resistor changed to 860 Ohms consisting of two preferred number value resistors wired in series-

470 0hm 10% WW. part No. R4712 and

390 0hm 10% kW. part No. R3912

SADS LF. VALVE CATHODE BIAS RESISTOR.

Circuit No. 102 a 390 Ohm resistor. When 390 Ohm resistors were in short supply, a 400 Ohm resistor part No. PR268 was used in this position.

SCREEN GRID FEED RESISTOR FOR 6N8, 6AN7 and 6AD8 VALVES

Two 47,000 Ohm I watt resistors wired in parallel were used as the screen feed resistor on a small quantity of the first production run. Later production has in this position three 47,000 0hm 1 watt resistors, all wired in parallel as shown on the circuit on page 6 of bulletin JPP-1.

RADIO CORPORATION PTY LTD.

A58.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL—"IPP"—CONCERTMASTER

GRAMO-RADIO COMBINATION

An automatic 3 Speed Record Changer (78, 45, 33% r.p.m.) and a 9 Valve Superheterodyne Four Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation: 80 Watts.-approx. Gramo Operation:-100 Watts.-approx.

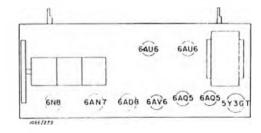
TUNING RANGES:-

RECEIVER COVERAGE:-

Broadcast B	and, 535-1610	Kc/s.	560.7-1	86.3 Metres.
			ead) 20.13-19.29	
		Mc/s. (Bandspr		Metres (approx.)
31 Metre Ba	and, 9.4-9.8	Mc/s. (Bandspr		Metres (approx.)
40 Motre Ra	nd 5,95_6,25	Mc/s Randspr	ead) 50 42-48 0	Matres (seres)

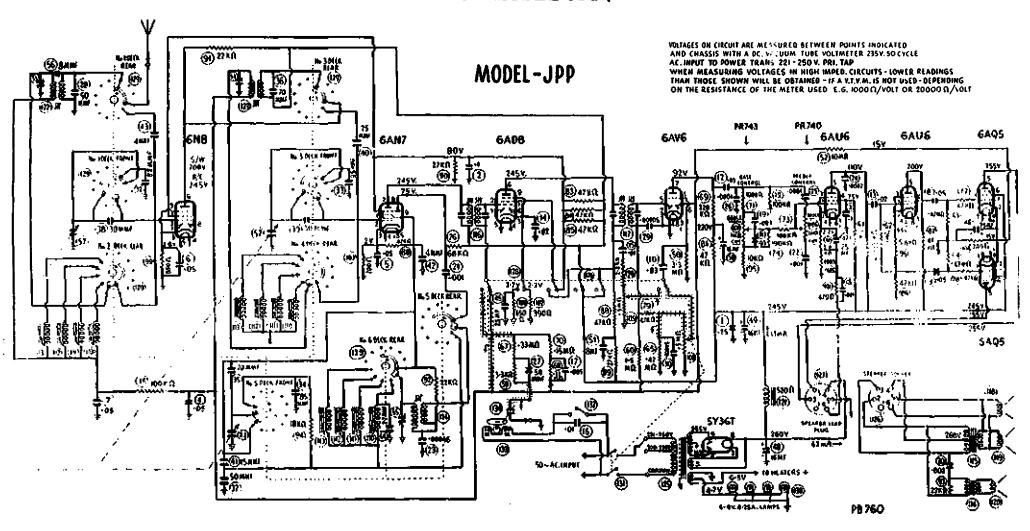
THIS BULLETIN CONTAINS:-

- 1. Alignment Instructions.
- Circuit Diagram.
- Component Parts List. 3.
- Connections for IF. and RF. Transformers.
- Dial Drive Cording Diagram.
- Valve Placement Diagram.
- Instructions for Changing Mains Input Voltage Tap.
- Instructions for Removing Chassis from Cabinet.





ASTOR MODEL JPP.



ASTOR MODEL JPP.

1

ALIGNMENT INSTRUCTIONS

ALIGNMENT CONDITIONS

primary tap.

Load Impedance: 10,000 ohms. Output Level: 50 Milliwatts. Vol. Control: Max. Vol. fully clockwise. Pass Tone Control: Min. Bass Position. Treble Tone Control: Min. Treble Position. Intermed. Freq.: 455 Kc/s. Supply Mains: 230 volts 5G cycle AC. input to trans. 221-250V.

EQUIPMENT

Signal Generator. Output Meter. Mica Capacitor: 0.01MF. (For I.F.T. alignment). Dummy Antenna: 200MMF. Mica capacitor. Dummy Antenna: 400 ohm. non-inductive resistor. Alignment Tools: Type M195 and PM581. IF. Attenuator: Type M174. This attenuator consists of a 20K ohm % w. resistor and a .004MF. cond. wired in series and having clips attached for connecting to the chassis and IF. valve signal grid during alignment of the RF. signal circuits.

ı

To remove chassis from cabinet to align the trimmers of the RF. and IF. circuits. Remove the five push-on type control knobs from front of cabinet, wave change switch knob near record changer and gramo vol. control knob from L.H. side of cabinet by pulling the knobs straight off their spindles. Remove the screws fastening the cabinet back to the cabinet. Disconnect the receiver chassis AC. mains leads from the AC. junction block and the cabinet indicator lamp lead plug from its socket. Pull the pick-up leads out of the sockets on rear of receiver chassis. Remove four screws fastening grame vol. control bracket on inside of left hand end of cabinet. On the rear edge of the chassis, at each end, a screw through a metal strip fastens the chassis to the cabinet: remove these two screws then slide the chassis out of the cabinet.

Operation Generator Generator No. Connection Frequency

Dummy Antenna

Instructions

- To .:gnal grid 455 Kc/s. O.OlMF Mica of ADS IF. capacitor in valve pin No. 2. series with generator. To signal grid 455 Kc/s. of GAN7 valve.
 - O.OlMF. Mica capacitor in series with generator.
- Turn wave change switch to B/cast band. Leave grid cap on valve. Peak 2nd. IF. trans. pri. and sec. for max. output.
- Cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak 1st. If. trans. pri. and sec. for max. output.
- Repeat operations No. 1 and 2. Set centre of dial pointer on centre of end of travel mark on dial reading near 540 Kc/s. Condenser gang plates fully meshed.
- Connect 1F. attenuator type M174 between receiver chassis and signal grad of 6ADS IF. valve pin No. 2.
- To antenna 600 Kc/s. terminal.

200 MMF. Mica Turn cond. gang and dial pointer capacitor in until centre of pointer aligns with centre of 600 series with generator. Kc/s. dial mark. Leave the cond, gang and dial pointer Set in this position and peak the B/cast oscl. coil. ind. trim. (iron core) for max. output.

200MMF. Mica Turn cond. gang and dial To antenna 1400 Kc/s. terminal. capacitor in pointer until centre of series with pointer aligns with 1400 Kc/s. generator. snot on dial reading. Adjust B/cast oscl. coil trim. condenser for logging and peak B/cast ant. and RF. trans. trim. condensers for max. output.

- 8. To antenna 600 Ke/s. 200MMF. Rica terminal. capacitor in series with generator.
- Turn cond. gang and dial pointer until centre of pointer aligns with centre of 600 Kc/s. dial spot. Leave the cond. gang and dial pointer set in this position and re-peak the B/cast oscl. coil, ind. trim. (iron core) for max. output, then peak the B/cast antenna and RF. trans. ind. trimmers (iron cores) for max, output. Do not rock the cond. gang to and fro through the signal or move the dial pointer off 600 Kc/s. dial mark, until after the ind. trimmers (iron cores) of both these transformers have been peaked for max, output.
- 9. To antenna terminal. capacitor in series with generator.

1400 Kc/s. 200MMF. Mica Turn cond. gang and dial pointer to 1400 Kc/s. Adjust B/cast oscl. coil. trim. cond. for logging and neak B/cast ant. and RF. trans. trim, condensers for max. output.

- Turn wave change switch to 49 metre band (this band must be aligned before the 31 metre. 25 metre and 19 metre bands).
 - To antenna 6.05 Mc/s. 400 chm non- Turn dial pointer and cond. terminal. inductive resistor.

gang to 6.05 Mc/s. Adjust 49 metre band oscl. coil ind. trim. (iron core) for logging and peak 49 metre ant. and RF. trans. ind. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.

To antenna 9.6 Mc/s. 400 ohm nonterminal. inductive resistor.

Turn dial pointer and cond. gang to 9.6 Mc/s. Adjust 31 metre band oscl. coil, ind. trim. (iron core) for logging and peak 31 metre ant. and Rf. trans. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.

Fin No. 2.

13.	To antenna terminal.	11.8 Mc/s.	400 ohm non- inductive resistor.	Turn wave cha je switch to 25 metre band. 'urn dial pointer and cond. gang to 11.8 Mc/s. Adjust 25 metre band oscl. coil. ind. trim. (iron core) for logging and peak 25 metre ant. and RF. trans. trimmers (iron cores) for max. output. Rock cond. gang to and fro through the signal while adjusting.
14.	To antenna terminal.	15.2 Mc/s.	400 ohm non- inductive resistor.	Turn wave change switch to 19 metre band. Turn dial pointer and cond, gang to 15.2 Mc/s. Adjust 19 metre band oscl. coil. ind. trim. (iron core) for logging and peak 19 metre ant. and RF. trans. trimme's (iron cores) for max. outp.t. Rock cond. gang to and fro through the signal while adjusting.

- 15. Disconnect IF. attenuator from receiver.
- 16. Check the logging of the shortwave bands on some well-kn 'n shortwave stations. If a crystal calibrator is available, check the logging at each 100 Kc/s. mark on the dial.

SHORTWAVE COIL COLOUR CODE

49 Metre spreadband coil, YELLOW spot on iron core end of former.
31 Metre spreadband coil, RED spot on iron core end of former.
25 Metre spreadband coil, WHITE spot on iron core end of former.
39 Metre spreadband coil, BLUE spot on iron core end of former.

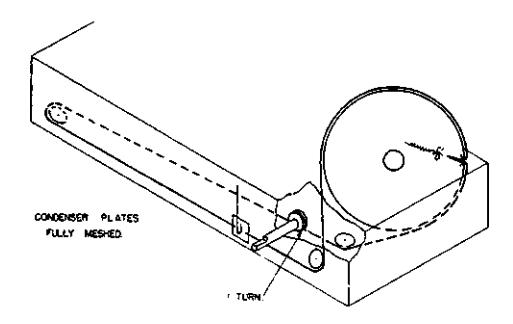
INSTRUCTIONS FOR CHANGING MAINS Vo. TAGE INPUT TAPS

MAINS VOLTAGE.—The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V.

MAINS VOLTAGE ADJUSTMENT.—For 200-220 Volt Operation: The reciver chassis has to be removed from the cabinet for this adjustment. DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove the chassis from the cabinet as detailed on page 2. The mains lead wire from the switch on the volume control which is attached to the 221-250 volt tap is to be un-soldered from the 221-250 V. tap and then re-soldered to the 200-220 volt tap. Refit the chassis to the cabinet in the exact reverse procedure to removing it.

CORDING OF DIAL DRIVE

Note: 1 turn of dial cord around tuning spindle drive pulley increase1 to 2 turns.



Length of cord required is 5 ft. 6 ins. which includes about 6 ins. to spare for tying to the tensi a ranker.

Cord Part No. 34/754.

Tension Spring Tart No. 21/693.



RADIO CORPORATION PTY. LTD.

A59a.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL JOR

GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 33 r.p.m.) and a 5 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains.
Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

Radio Operation:- 55 Watts.-approx. Gramo Operation:- 75 Watts.-approx.

TUNING RANGES:-

RECEIVER COVERAGE:-

Broadcast Band, 535-1610 Kc/s.		560.7-186.3 Metres.
19 Metre Band, 14.9-15.5 Mc/s.	(Bandspread)	20.13-19.29 Metres (approx.)
25 Metre Band, 11.6-12.1 Mc/s.	(Bandspread)	25.86-24.79 Metres (approx.)
31 Metre Band, 9.4-9.8 Mc/s.	(Bandspread)	31.91-30.61 Metres (approx.)
49 Metre Band, 5.95-6.25 Mc/s.	(Bandspread)	50.42-48.0 Metres (approx.)

THE GRAMO-RADIO COMBINATION MODEL ''JQR'' IS A MODEL ''HQR'' RECEIVER CHASSIS FITTED INTO A DIFFERENT TYPE CABINET. EXCEPT FOR THE PARTS LISTED BELOW WHICH ARE REQUIRED FOR FITTING TO THE DIFFERENT TYPE CABINET, ALL REFERENCE FOR ALIGNMENT PROCEDURE, CIRCUIT DIAGRAM AND PARTS LIST SHOULD BE MADE TO THE MODEL ''HQR'' SERVICE BULLETIN SHEETS.

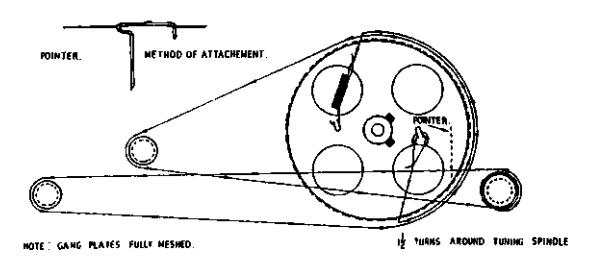
Chassis to cabinet mount screws 1/4" x 5/32" Csk. Hd. N.P.	17/560-43
Cup Washer - N.P.	269/250-1
Dial Reading	35/816-3
Cab. Indicator Light Bezel Socket Assy.	A128/30C
Cabinet Assy Walnut	267/221-1
Cabinet Assy Rose Mahogany	267/221-2
Cabinet Assy Brown Mahogany	267/221-3
Cabinet Assy Light Walnut	267/221-4

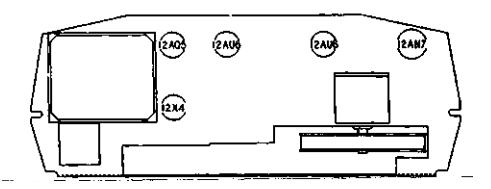
ALIGNMENT PROCEDURE

ALIGNMENT CONDITIONS

A60.

ASTOR MODEL M3B.





R. F. Signal Generator - modulated 400 cps.

Output Meter • 15 Ohm impedance.
Series Capacitor • R. F. Sig. Gen. for 1. F. T.

alignment . 0) mF Part No. 4003-031-02 Remove rear section of cabinet as detailed on Page 1.

Volume Control - maximum volume (fully clockwise).

4003-031-02 Volume Control - maximum volume (fully clockwise).

Alignment Tools -

EQUIPMENT -

 a) Blade tip type, Part No. PM581 or 4121-015-01, for trimmer capacitor and L.F. T. core adjustment.

 Flexible rod type, Part No. 4121-018-01, for oscillator coil core adjustment. Output Level - 50 milliwatts.

Outpot Meter Connection - across secondary of output

transformer, speaker voice coil disconnected.

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Oper. No.	Generator Connection	Generator Frequency	Instructions
1	.01 mF capacitor in series, to grid of 12AU61.F valve.	455 Kc/s	Turn tuning control to high frequent of travel. Peak 2nd I.F. trans. pri. and section cores for max. output
2.	. 01 mF capacitor in series, to grid end of rod aerial.	455 Kc/a	Peak lat I.F. trans pri and sec. (ron) ores for max, output

SETTING THE DIAL POINTER

Turn luning control until the tuning condenser gang is at the low frequency end of travel stop, condenser plates fully meshed. Set the centre of dial pointer to the centre of the end of travel spot, right hand end of dial reading.

Positioning of the pointer may be made from the rear of the chassis by sliding the pointer along the dial cord with a pair of long nose pliers

BROADCAST ALIGNMENT

- A. To inject a signal into the receiver rod aerial, connect to the active terminal of the signal generator approximately two leet of aerial wire, then fastion the wire into a vertical position.
- B. Place vertical wire at a position in line with ferrite rod aerial and located at a position not less than 1 ft. from the inductance trimmer end of ferrite rod.

Oper. No.	Generator Connection	<u>Generales</u> <u>Frequency</u>	Instructions
1.	Refer para. A and B.	600 Kc/a	Turn tuning cond. gang and dial pointer to 600 Kc/s dial mark. Leave cond. gang and pointer set in this position, adjust osc. coil iron core and red aerial inductance trimmer (metal ring) for max. output.

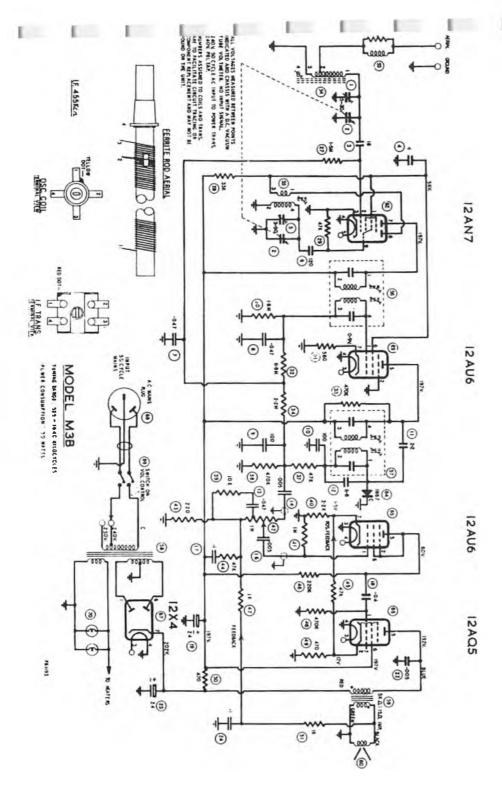
NOTE: Do not rock the cond. gang to and fro through signal.

Refer para. A and B. 1400 Kc/a

Turn cond. gang and dial pointer until centre of dial pointer is on centre of 1400 Ke/s mark on dial. Adjust osc. and aerial trimmer condeners for max. output.

. Repeat operations 1 and 2.

Tuning range after alignment \$25-1640 Kc/s



RADIO CORPORATION PTY. LTD.

A60a.

ASTOR

DIVISION OF ELECTRONIC INDUSTRIES LTD.

Astor House, 161-173 Sturt Street, South Melbourne.

SERVICE DATA

ASTOR MODEL "M3B"

5 VALVE SUPERHETERODYNE BROADCAST BAND MAINS OPERATED MANTEL RECEIVER



ACCESS TO INTERIOR OF RECEIVER

The receiver changin does not have to be removed from the cabinet for alignment of the IF & RF signal circuits. All alignment functions may be made when the rear section of the cabinet is removed from the front section.

REMOVAL OF REAR SECTION OF CABINET -

Prise off the two apring clips from cabinet base with a thin blade screw driver or knife. At the base of the cabinet insert the thin blade into the crevice between the two sections of cabinet, prise the sections apart.

TO REMOVE AND REFIT CHASSIS TO CABINET -

Remove the push-on type knobs.

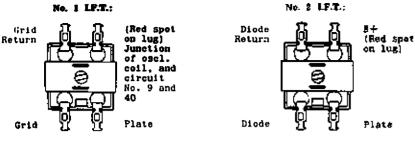
Unclip two leads from speaker terminals.

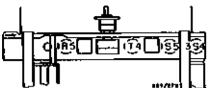
At each end of chassis, lossen screw which fastens chassis to cabinet then withdraw chassis.

Reverse procedure to refit chassis.

CHASSIS SERIAL NUMBER -

The serial number is stamped into the chassis below the volume control. When viewing the receiver from the rear the number is visible through the slote in the cabinet, right hand end.





VALVE PLACEMENT DIAGRAM MODEL "MM"

RE-ROUTE OF METAL RECTIFIER CONNECTING LEAD:

The flexible connecting lead between the metal rectifier and the end of the 375 and 10 watt wire wound resistor on the bakelite terminal strip has been wired so that the lead runs between the end of the resistor and the metal bracket holding the "B" battery.

idel 'MM' receivers with chassis serial numbers below 3300 approx.

are to it is lead re-routed so that the lead lies flat along the terminal board under the resistor or is re-routed around the opposite end of the resistor.

This change is important because when the 'B' battery is fitted the lead becomes pinched between the bracket and the sharp edges of the resistor mount lug.

Should the lug cut through the insulation on the lead and short out the resistor it will cause the metal rectifier to burn out when the receiver is used on A.C. or D.C. mains operation.

AC DC. MAINS LINE RESISTORS:

A quantity of Model ''MM'' receivers (serial numbers 104-2,000) have left the factory with two resistors reversed in the AC/DC, mains line circuit. No damage can be caused to the receiver with these two resistors reversed when the receiver is operated from dry batteries of if operated on A.C. or D.C. mains with the fly lead connected to the 195-214 wolt or 235-260 volt tap.

When the receiver is operated from A.C. or D.C. mains and with the fly lead connected to the 215-234 volt tap the ''A' and ''B' voltages may be excessive due to the decrease in the line series resistor.

The two resistors reversed are the 125 0hm resistor circuit No. 48 and the 140 0hm resistor circuit No. 47. The correct position of these resistors is as shown in the circuit diagram on page 6.

RADIO CORPORATION PTY. LTD.

A61a.

DIVISION OF QUECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL "MM"

4 Tube Superheterodyne Universal Portable Receiver.

FOR OPERATION PROM:

195-260 Volt 40-60 cycle A.C. electric supply mains.
195-260 Volt D.C. electric supply mains or
7.5 volts ''A'' Battery (five 1.5 volts batteries in series) and 67.5 volts ''B'' Battery.

POWER CONSUMPTION:

Battery operation: 50Ma. ''A'' Battery. 10Ma. ''8'' Battery.

A.C. operation:-100Ma. 230 volts 50 cycle A.C. input fly lead connected to 215-234 volt tap.

D.C. operation:-60Ma. 230 volts D.C. input, fly lead connected to 215-234 volt tap.

TUNING RANGE:

535 to 1620 Kilocycles.

POWER OUTPUT:

250 milliwatts (max.).
100 milliwatts (undistorted).

ALIGNMENT INSTRUCTIONS

EQUIPMENT:

ALIGNMENT CONDITIONS:

Signal Generator: Output Meter: Mica Capacitor: 0.01 MFD (Part No. PC145) for I.F.T. Alignment. Dummy Antenna: 200MMFD Mica

capacitor. Alignment Tools: Part No. PM581

and M195

Load Impedance: 5.000 ohms. Output Level: 25 milliwatts. Volume Control: Max. vol. (fully clockwise) ''A'' Battery: 7.5 volts (five 1.5 volt batteries in series). "R" Battery: 67.5 volts. Intermediate Freq.: 455 Kc/s.

To remove chassis from cabinet. Turn vol. control switch off and from receiver remove A.C. cord, cabinet base and 'B' battery. Remove grub screw from under vol. control knob, then pull knob upwards.

Remove dial reading by unscrewing several screws in centre of dial. Remove the screws, one at each end of handle, also screws in top of cabinet. Unsolder two wires connected to loop antenna, then remove bakelite expander strips from between chassis legs and withdraw chassis from cabinet. Remove loop antenna from cabinet and reconnect to receiver (grid lead to loop sec. inside turn. A.V.C. lead to loop sec. outside turn).

Fully mesh cond. gang plates and refit dial reading so that the centre screws are in the centre of the dial slots.

Pasten a piece of stiff wire to the chassis and fashion it into position

Opera- tion No	Generator Connection	Generator Frequency	Dumny Antenna	Instructions
1.	To control grid of IT4 tube (pin No. 6)	455 Kc/s	0.01MFD mica capacitor in series with generator	Turn cond. gang plates fully out of mesh. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	To control grid of IR5 tube (pin No. 6)	455 Kc/a	0.01MFD mica capacitor in series with generator	Turn cond. gang plates fully out of mesh. Peak lst I.F. trans. pri. and sec. for max. output.
3.			•	Fully mesh the cond. gang plates and set the end of the wire pointer to the end of travel spot on the diel reading near 540 Kc/s.
4.	To AVC end of loop (outside turn of sec.)	600 Kc/s	200MMFD Mica capacitor in series with generator	Turn dial to 600 Kc/s dial spot and adjust oscl. coil inductance trimmer (iron core) for max. output. Rock the cond. gang to and fro through the signal while adjusting.
	To AVC end of loop (outside turn of sec.)	1400 Kc/s	200MMFD Mica capacitor in series with generator	Turn dial to 1400 Kc/s dial spot and adjust oscl. coil. trim. condenser for logging and peak loop antenna trim condenser for max. output.
6. 7.	,			Repeat operations Nos. 4 and 5. Remove wire pointer and dial reading from chassis. Disconnect loop antenna from chassis and refit loop to cabinet. Refit chassis to cabinet, reconnect loop antenna to receiver and refit dial reading. The slotted holes in the dial reading allow the dial to be moved either way to log the station on the dial to the pointer on the cabinet.

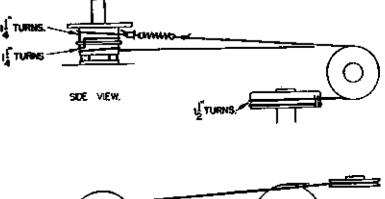
Opera- tion No	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
8.	To AVC end of loop (outside turn of sec.)	1400 Kc/s	200MMFD Mica capacitor in series with generator	Turn dial reading to 1400 Kc/s. re-peak loop antenna triumer condenser for max. output.
9.	2007,			Refit the carrying handle, the cabinet base, and make sure the grub screw in the volume control knob is securely tightened.

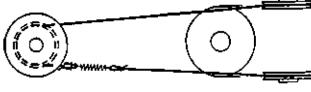
Tuning range after alignment 535-1620 Kc/s.

CORDING OF DIAL DRIVE:

The length of cord required is 3 feet 6 inches, which includes about 6 inches to spare for tying to the spring.

> Cord Part No. 7/282. Spring Part No. 31/304.





TOP VIEW

CONDENSER PLATES FULLY OPEN

PREFERRED NUMBER VALUE RESISTORS

Various resistor values have been changed to preferred number value type resistors and are shown on the new circuit, issue No. 3.

Circuit No.	Description	Tol.	Rating	Part No.
40	10 Megohm carbon resistor	101	₽ W.	R1062
41	3.3 Megohm carbon resistor	10%	Įw.	R3352
42	1.8 Megohm carbon resistor	10%	₹w.	R1852
43	.47 Megohm carbon resistor	101 101	፟ቑ.	R4742
44	.22 Megohm carbon resistor	101	Ţ₩.	R2242
45	100,000 Ohm carbon resistor	10%	₹₩.	R1042
46 NS.	56,000 Ohm carbon resistor	10%	₹W.	R5632
	22,000 Ohm carbon resistor	10%	₽W.	R2252
47	68,000 Ohm carbon resistor	10%	₹₩.	R6882
48	47,000 Ohm carbon resistor	10%	. ¥.₩.	R4732
49	47,000 Ohm carbon resistor	10%	<u>}</u> ₩.	R4732
50	47,000 Ohm carbon resistor	101	₹ W.	R4732
51	[15,000 Ohm resistor consists of two 33,0 part No. 23332 wired in parallel.	00 Ohm IW. 1	.0% resist	OTB
52	22,000 Ohm carbon resistor	10≰	ł₩.	R2232
53	22,000 Ohm carbon resistor	101	íw.	72282
54	2,200 Ohm carbon resistor	10%	. ₩.	R2222
55	2,200 Ohm carbon resistor	10%	Į W.	R2222
82	390 Ohm carbon resistor	10%	î w.	23912

oU7G VALVES CHANGED TO 6N8 VALVES

 $1 \cdot pe$ 6N8 valves will be used in place of the 6U7G valves on future production runs.

The RF stage 607G valve 300 Ohm cathode bias resistor is changed to an 850 Ohm resistor for the 6N8 valve, new circuit No. 88.

The IP stage 6076 valve 500 Ohm cathode bias resistor is changed to a 1200 Ola resistor for the 608 valve, new circuit No. 89.

Circuit No.	Desci	ription	Tol.	Rating	Part No.
89 84	850 Ohm carbo 1200 Ohm carb 9 pin socket Adaptor plate place of 8 pi	10%	₩. ÿ W.	R8512 R1222 279/250 33/698	
	SOCKET CONNECTIONS	·	•		00/050
		6070	61	18	
	Pin No. 1	No connection	Screen (
		Heater	Signal (grid	
		Plate	Cathode		
	" " 4	Screen grid	Heater		
	n n 5	Suppressor grid	Heater		
	" " 6		Plate		
	7 7 7	Heater	Diode		
	n n g	Cathode	Diode		
	-				

Suppressor grid



RADIO CORPORATION PTY. LTD.

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126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

BULLETIN: NS-4

Date: 24-5-55

File: Receivers AC.

Page: J

TECHNICAL BULLETIN Fage 6AN7 VALVE—6AE8 (X79) VALVE

The 6J8GA or 6J8G converter valve has been changed to a type 6AE8 valve for 200 receivers and will then be changed to a type 6AN7 valve for future production runs.

When a GAES or GAN7 valve is fitted a 6 MMF condenser (new circuit No. 83) is wired from the oscl. grid to the chassis and a 4 MMF condenser (new circuit No. 84) is wired across the 31 metre antenna coil. The 300 Ohm converter valve cathode bias resistor is also changed to a 200 Ohm resistor. circuit No. 85.

On the second production run of receivers using 6AN7 valves a 22 K. ohm resistor was wired across the B/cast oscl. coil primary and a 10 K. ohm resistor was wired across the bandspread S/wave oscl. coils (new circuit Nos. 86 and 87).

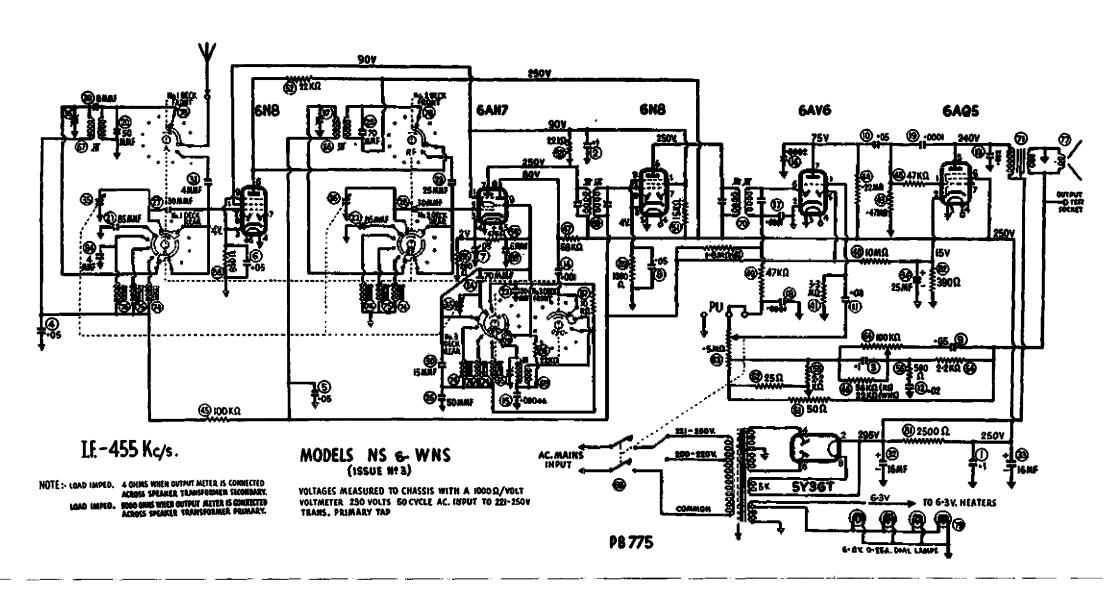
		SOCKET INECTIONS	ADBLO BSLO	6AE8	6AN7
Pin	No.	1 2	No connection Heater	Screen grid Signal grid	Screen grid Signal grid
		Š	Plate	Cathode	Cathode
10	#	4	Screen grid	Heater	Heater
	•	5	Triode grid	Heater	Heater
4	B	6	Triode plate	Plate	Internal connection
		7	Heater	Triode grid	Plate
11	-	8	Cathode	Triode plate	Triode plate
m	19	Ď	-	Internal connection	Triode grid

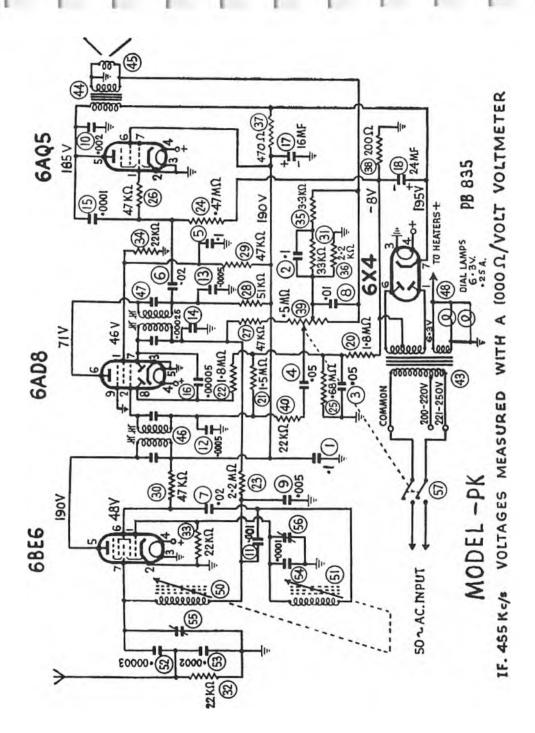
New Circuit No.	Description	Tol.	Rating	Part No
83 °	'6 MMP ceramicon cond. 4 MMP ceramicon cond.	+1 MMF-0 +1 MMF-0	500 V. DCW.	PC 831 PC 830
85	200 Ohm wire wound resistor	10%	↓ W.	PR 176
85 86	22,000 Ohm carbon resistor		↓ w.	R2232 R1032
87	10,000 Ohm carbon resistor 9 pin socket Adaptor plate (for fitting 9 pin socket in place of 8 pin 6J8G socket	10%	₹ ₩•	279/250
	on chassis)			33/698

6AO5 VALVE

A type 6AQ5 valve will be used in place of the 6V6GT valve on future production runs.

	OCKET ECTIONS	6V6GT	6AQ5
Pin 1	No. 1	No connection Heater	Signal grid Cathode
*	* 3	Plate	Heater
**	n 4	Screen grid	Heater
	* 5	Signal grid	Plate
	• 6	No connection	Screen grid
19	* 7	Heater	Signal grid
17	# B	Cathode	





ASTOR

MANTEL MODEL "PK"

A63.

4 VALVE SUPERHETERODYNE BROADCAST RECEIVER

FOR OPERATION FROM:

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

TUNING RANGE:

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

ALIGNMENT PROCEDURE:

EQUIPMENT:

ALIGNMENT CONDITIONS:

Signal Generator: Load Impedance: 5,500 ohms
Output Meter: Output Level: 50 Milliwatts

Mica Capacitor: 0.01MF (for 1F, trans, alignment) Vol. Control: Max. Vol. fully clockwise Dummy Antenna: 200MMF Mica Capacitor Intermed. Freq.: 455 Kc/s.

Alignment Tools: Type M195 and PM581. Input Voltage: 230 Volts 50 Cycle AC. input to

trans. 221-250 volt pri. tap

NOTE 1:

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 log 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.

NOTE 2:

The receiver chassis does not have to be removed from the cabinet for alignment of the IF. or RF. signal circuits. All alignment functions may be made when the rear section of the cabinet is removed from the front section.

NOTE 3:

To remove cabinet rear section from front section, prise off the two spring clips from the cabinet have with a thin blade screwdriver or knife. At the base of the cabinet insert the thin blade screwdriver, or knife into the crevice between the two cabinet sections and prise the rear section of the cabinet away from the front section.

NOTE 4:

Dial Pointer Setting: Turn tuning control knob anti-clockwise until perm. tuner from cores are out of the windings on the coil formers and the unit is hard against the stop. Set centre of dial pointer on centre of end of travel spots on dial reading near 1700 Ke/s.

NOTE 5:

Positioning of the dial pointer may be made from the rear of the chassis by aliding the pointer along the dial cord with a pair of long-nose pliers.

NOTE 6:

Both iron cores are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grommet, and the end of the iron core in the former, when the unit is turned fully anti-clockwise and is hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

ASTOR MODEL PK.

No.	Connection	Frequency	Actenna ———————————————————————————————————	Instructions
I.	To control grid of 6AD8 valve (pin No. 2)	455 Kc/s.	0.01MF Mica capacitor in series with generator.	Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.
2.	To control grid of 6BE6 valve (pia No. 7)	455 Kc/s.	0.01MF Mica capacitor in series with gene- rator.	Turn tuning control anti-clockwise until perm. tuner iron cores are out of the windings on coil formers and the unit is hard against the stop. Leave grid wire attached to valve socket. Peak 1st IF, trans. pri. and soc. for max. output.
3.				Repeat operations No. 1 and 2.
4.	To antenna junction lug on chassis.		200MMF Mica capacitor in series with gene- rator.	Turn tuning control until dial pointer aligns with centre of alignment spot on dial reading at 1000 Ke/s. Peak oscl. coil trimmer cond., then peak antenna coil trimmer cond. for max. output. Re-peak oscl. coil trim condenser.

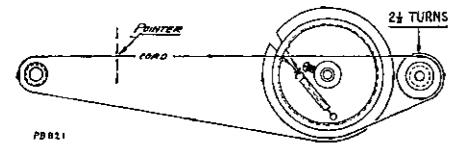
5. Check logging at each end of the dial. Tuning range after alignment 535-1640 Kc/s.

CORDING OF DIAL DRIVE:

Length of cord required is 46 ins., which includes about 8 ins. to spare for tying to tension spring. Cord Part No. 34/754.

Spring Part No. 508/30C.

Dial Pointer Part No. 12/834.



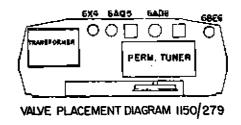
Nose: PERM TIMER UNIT SPINOLE IN FULLY ANTICLOCKWISE POSITION

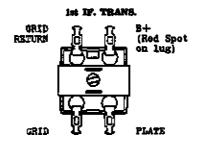
CHASSIS SERIAL NUMBER:

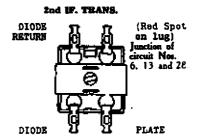
The chassis serial number is stamped into the chassis below the volume control. When viewing the receiver from the rear the serial number is visible through the slots in the cabinet back at the right.

DIAL GLASS REPLACEMENT:

- I. Remove chassis from cabinet.
- 2. Remove all pieces of the broken dial.
- 3. Remove all traces of plastic material with a sharp knife which was previously formed over the rear of the dial.
- 4. Place new dial in position. Check that dial faces correctly.
- 5. Press dial simily against cabinet, then with a hot soldering iron form the plastic retaining wall material over the dial at positions adjacent to where the original dial was fastened.
- Refit chassis to cabinet and adjust dial pointer for logging from the rear of the chassis by sliding the
 pointer along the dial cord the required distance with a pair of long-nose pliers.







ANTENNA TRANS .:

Start of winding—furthest from mounting end—AVC. Finish of winding—nearest to mounting end—Signal grid.

OSCL. COIL:

Start of winding—furthest from mounting end—Junction of circuit Nos. 7 and 11. Finish of winding—nearest to mounting end—Oscl. grid.

POWER TRANS. (PT962) 50 cycle.

POWER TRANS. (PT983) 40 cycle

PRI.

Red lead—common. Green lead—200-220V. Black lead—221-250V.

HT. SEC.

Blue lead—start. Yellow lead—centre tap. Blue lead—finish. HT. SEC.

PRI.

Yellow lead—start. Blue lead—centre tap. Yellow lead—finish.

Red Lead--common. Green lead-220-250V. Black lead-251-260V.

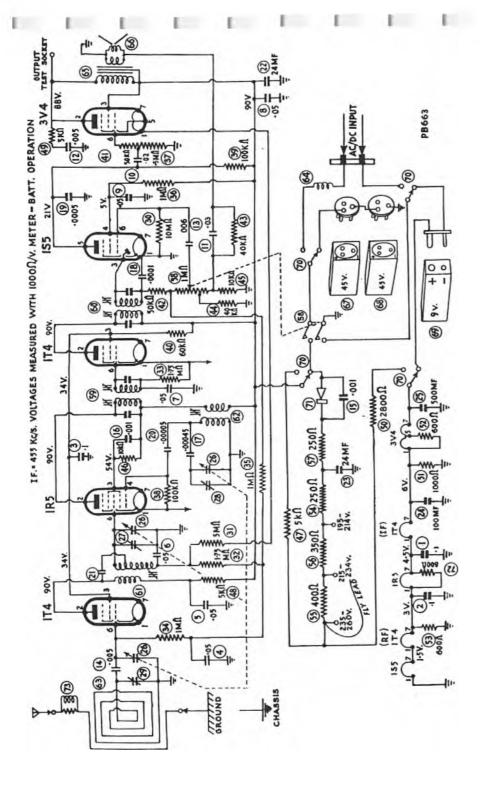
LT. SEC. (two windings in parallel)

LT. SEC. (two windings in parallel)

Start and finish in winding wire.

Start and finish in-winding wire.

1





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

124-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

MODEL "PS"

5 TUBE SUPERHETERODYNE UNIVERSAL PORTABLE RECEIVER.

FOR OPRATION FROM:

195-260 Volt 40-60 Cycle A.C. electric supply mains.
195-260 Volt D.C. electric supply mains or
9 volts ''A'' battery and
90 volts ''B'' battery. (Two 45 volt ''B'' batteries connected in series.)

POWER CONSUMPTION:

Rattery operation: -50Ma. ''A'' Bettery.
11Ma. ''8'' Battery.

A.C. operation:- 100Mms. 230 volts 50 cycle A.C. input fly lead connected to 215-234 volt tap.

D.C. operation:- 60Ma. 230 volts D.C., ipput fly lead, connected to 215-234 volt tap.

TUNING RANGE:

535 to 1640 Kilocycles. 560.7 to 182.9 Netres.

POWER OUTPUT:

250 milliwatts (max.). 100 milliwatts (undistorted)

THIS BULLETIN CONTAINS:

- 1. Technical Data.
- 2. Alignment Procedure.
- 3. Circuit Diagram.

A64

MODEL "PS"

The ''Astor'' Model ''PS'' Universal Portable is a 5 valve superheterodyne francast receiver designed to operate from dry batteries fitted inside the carrying case or from A.C. or D.C. electric supply mains. The power cord for connecting the receiver to the supply mains is contained in a small compartment in the base of the carrying case. A switch in the power cord compartment converts the receiver from dry battery operation to A.C.-D.C. mains operation or vice varsa.

When operating the receiver as a portable no external connections are necessary as a built-in loop aerial is incorporated in the carrying case. Should the receiver be required to operate in localities where the signal pick-up by the built-in loop aerial is not sufficient to provide reasonable volume, an external aerial and earth may be connected to the two small seckets on the rear of the receiver to increase the signal bick-up.

ALIGNMENT INSTRUCTIONS

EQUIPMENT

Signal Generator:
Output Meter:
Safety Lamp: 230 volt 40 watt
incandescent lamp.
Vica Capacitor: 0.01MF (part No. PC145)
for I.F.T. Alignment.

ALIGNMENT CONDITIONS

Load Impedance: 10,000 ohms. Output Level: 25 milliwatts. Volume Control: Max. vel. (fully clockwise).

''A'' Battery: 9 volts.

"B" Battery: 90 volts (two 45 volt "B" batteries connected in series).

Alignment Tools: Part No. PM581 and M195. Intermediate Freq.: 455 Kc/s.

To remove chassis from cabinet: Turn vol. control switch off and from receiver remove A.C. cord and plug by pulling the plug straight off the 2 pin connector in the A.C. cord compartment. Unscrew four screws in the cabinet base, remove cabinet base, then the "A" and "B" batteries.

Loosen off the grub-screw under the volume and tuning control knobs, then pull the knobs straight off their spindles. Remove dial reading from cabinet by unscrewing the two nuts on top of the dial.

Inside the cabinet, on each side of the receiver chassis near the top, is small bracket. A #" x 5/32" Whit. screw through each of these brackets fastens the chassis to the cabinet. When these two screws are removed the chassis will lide out of the cabinet. Reflitting the chassis to the cabinet is the exact merse procedure to removing it. Always make sure that the grub-screws under the control knobs are tightened securely.

 	 	
Generator connection.	Dummy Antenna.	Instructions.

- The receiver may be aligned when operating it from batteries or from the A.C. or D.C. mains. When operating it from the A.C. or D.C. mains apply the safety lamp between the receiver chassis and ground to make sure the chassis is not above earth potential; if it is, reverse the receiver plug in the power point/light socket.
- Fasten dial on to top of chassis with two \(\) Whit. nuts, then fit knobs on to control spindles.
- 3. Remove speaker and loop aerial from their mounting supports.

4.	To control grid of IT4 IF valve (pin No. 6).	455 K¢/s.	0.01MF mica capacitor in series with generator.	Leave grid wire attached to valve socket. Peak 2nd IF trans. pri. and sec. for max. output.
5.	To control grid of IRS valva (pin No. 6).	455 Kc/s.	O.OlMF mica capacitor in series with	Leave grid wire attached to value socket. Turn gang plates fully out of mesh. Peak 1st IF trans. pri. and sec. for max. output.

- Repeat operations No. 4 and 5, then refit speaker and loop aerial to their mount supports.
- DIAL POINTER SETTING: Fully mesh cond. gang plates and set apex of tuning knob pointer on end of travel spot on dial reading near 540 Kc/s.
- 8. To inject a signal into the loop aerial, lay approx. two feet of aerial wire in front of the signal generator and connect one end of it to the generator output active terminal.

 Place receiver approx. two feet distant from the two feet of aerial wire, then stand the receiver chassis on one end so that the speaker is nearest the operator and the control knobs are to the left. The control knobs can be operated with the left hand and all adjustable triumers are accessible from
 - operated with the left hand and all adjustable trimmers are accessible from the right.

 Refer 600 Kc/s. Turn cond. gang and tuning knob unti! pointer is on 600 Kc/s. dial mark.

 Adjust oscl. coil ind. trim (iron core) and RF. trans. ind. trim. (iron
 - core; and RF. trans. Ind. trim. (irol. core, from bottom of trans.) for max. output. Rock cond. gang to and fro through the signal while adjusting.
 - Refer 1400 Kc/s. Turn cond. gang and tuning knob until pointer is on 1400 Kc/s. dial mark.

 Adjust oscl. coil trim. cond. for logging and peak RF. and loop aeria trimmer condensers for max. output. Rock cond. gang to and fro through the signal when peaking RF. and loop

triumer conds.

- 11. Repeat operations No. 9 and 10.
- 12. Refit chassis to cabinet. Make sure the grub-screws under the control knot are securely tightened. Fit "B" batteries securely in position in the cabinet.
- 13. Refer 1400 Kc/s. With the 'B'' b in the cabinet of the cabinet trimmer cond. f
- With the 'B' batteries in position in the cabinet peak (from the botto of the cabinet) the loop aerial trimmer cond. for max. output. For cond. gang to and fro through the signal when peaking the trim condenser.

CIRCUIT MODIFICATION

An 800 Ohm. % Watt resistor Part No. PR257, circuit No. 72, is wired on the 1R5 valve socket between filament pins 1 and 7.

The resistor has been added to stabilise the current through the filament circuit.

When Model ''PS'' receivers are returned for service a check is to be most to make sure the resistor is included and if not it should be added as it was not included in a quantity of the first production run.

POR OFFICATION FROM:

200-240 Volt 40 or 50 Cycle AC. Mains (Power Transformer T202)
Power trans Primary Tap-red-common.

" " -green-200 Volt mains.
" " -black-230 & 240 Volt mains.

200-250 Volt 40 or 50 Cycle AC. Mains (Power transformer T203)
Power trans Primary Tap-red-common

" " -green-200 Volt mains.
" " -black-230-240 Volt mains.
" " -white-250 Volt mains.

NOTE: Record changer drive pulley for 40 cycle mains operation is Part No: 846/524

POJER CONSULTION:

Radio Operation - 50 Watts-approx. Grame Operation - 75 Watts-approx.

TUNING RANGE:

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

ALIGNMENT PROCEDURS

<u>DUUI PRENT</u>

Signal Generator: Output Neter:	Hodulated 400 CPS.	Output Heter:	Connect output meter across
Mica Capacitor:	0,014F. (for IF. trans, alignment)		secondary winding of one output
Dúng Antenna:	200MF. Hica		transformer.
431	Capacitor.	Output Level:	50 milliwatts
Alignment Tools:	type III95 for	**	speaker voice coil
(8)			disconnected.
	IF. transformer	p #	20 millivatts
	ali _t mment.		speaker voice coil
(5)	time DIIGAL Com		connected.

(b) type PM581 for broadcast trimmer alignment. Output Level: 50 milliwatts
speaker voice coil
disconnected.
20 milliwatts
speaker voice coil
connected.

Output Meter
Impedance: 4 Ohrs.

Vol. Control: Max. Vol. Fully
clockwise.

Intermed. Freq: 455 Kc/s.

Input Voltage: 230 Volts 50 Cycle
AC. input to trans.
230-240 volt pri.

tap.

Tone Control:

Treble position.

Fully clockwise.

ALIGNMENT CONDITIONS

NOTE:

The speaker baffle board with the receiver chassis attached may be removed from the cabinet as a complete unit.

It is necessary to remove this section of the cabinet with receiver attached to make adjustments to the IF. transformer iron cores. It is not required to be removed for adjustment to the tuning unit triumer condensers.

Removal instructions for front section of cabinet are detailed on the following pages of this bulletin.

Oper No.	Generator Connection	Generator Frequency	Durny Antenna	Instructions
1	To signal grid of GNO IF. valve pin No. 2	455 Kc/s.	0.01MF Mica capacitor in series with gen- erator	Turn grame-radio switch to radio position. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for wax. output.
2	To signal grid of 6BE6 valve pin No. 7	455 Kc/s.	O.OLE Mica capacitor in series with gen- erator	Turn perm, tuner so that iron cores are fully out of winding and the unit ishard against the stop. Leave grid wire attached to valve socket. Peak lst. IF. trens. pri. and sec. for max. output
3				Repeat operations 1 and 2

4 Refit speaker baffle board with receiver chase's attached to main section of cabinet.

TUNING KNOB SETTING

Turn tuning knob anti-clockwise until perm, tuner unit iron cores are out of windings on coil formers and unit is hard against the stop. Set the centre of end of travel spot near 1700 Kc/s. on tuning knob to align with centre of indicator spot on cabinet.

Positioning of the tuning knob may be used by loosening the two grub screws fastening the tuning spindle to the tuning unit core carriage roller.

BROADCAST ALIGNERY

NOTE: 1.

Both iron cores in the perm. tuner unit are pre-set at the factory to an exact dimension of 2.275" between the extreme end of the former protruding through the rubber grounet, and the end of the iron core in the former, when the unit is turned fully anti-clockwise and is hard against the stop.

If incorrect logging and misalignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same column identification spot on the end of the iron core.

NOTE: 2.

The 200 MMF Durny antenna must be connected to the antenna junction lug on the chassis. Shouls an antenna be connected to the short antenna lead from the receiver it is to be disconnected or rolled into a small hank.

Oper	. Generator Connection	Generator Frequency	Duriny Antenna	Instructions			
1.	To antenna junction lug on chassis	1000 Kc/s.	200 Mir nica capacitor in series with gen- erator	Turn perm. tuner and tuning knob until centre of spot at 1000 Kc/s on tuning knob aligns with centre of spot on cabinet. Peak oscl. coil trim. cond. then peak ant. c coil trimer condenser for max. output. Repeak oscl. coil trimmer condenser.			

Check logging at each end of tuning knob dial.

Tuning range after alignment 535 to 1640 Kc/s.

AUDIO AMPLIFIER GAIN TEST

Oper. No.	Generator Connection	Generator Frequency		
1,	To antenna junction lug on chassis	1000 Kc/s.	(Λ)	Connect output meter across secondary winding of one channel output transformer.
	Oli Cimpolp	(B) Tune red Kc/s sig (C) Adjust s neter re control		
			(D)	Leave input signal set at this level. Disconnect output meter and then connect output meter across the secondary winding of the other channel output transformer and note the output meter reading. (volume control turned maximum clockwise, speaker voice coil connected.)
			(E)	The difference in output between the amplifier channels must not exceed 7 milliwaths.

POVER TRANSFORMER

PART NO. T202 40 & 50 cycle mains PART NO. T203 40 & 50 cycle mains

PRI. Red lead - Common PRI. Red lead - Common Green lead - 200V mains "Green lead - 200V mains Black lead - 230 & 240V mains "Black lead - 230 & 240V mains

White lead - 250W mains
Electro-static shield joined internally to centre tap of HT. secondary.

HT. Secondary HT. Secondary

Start - Blue lead
Centre tap - yellow lead
Finish - Blue lead
Finish - Blue lead
Finish - Blue lead

LT. Secondary LT. Secondary

Start and finish in winding wire Start and finish in winding wire

ANTENNA COIL

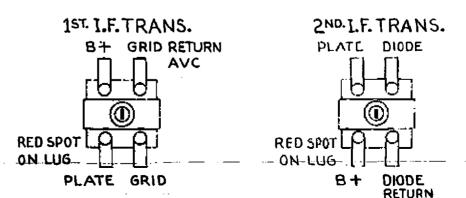
Start of winding - furthest from mounting end - Junction of Circuit No. 2, 41 and antenna. Finish of winding - nearest to mounting end - Junction of Circuit No.1, and 3

OSCILLATOR COIL.

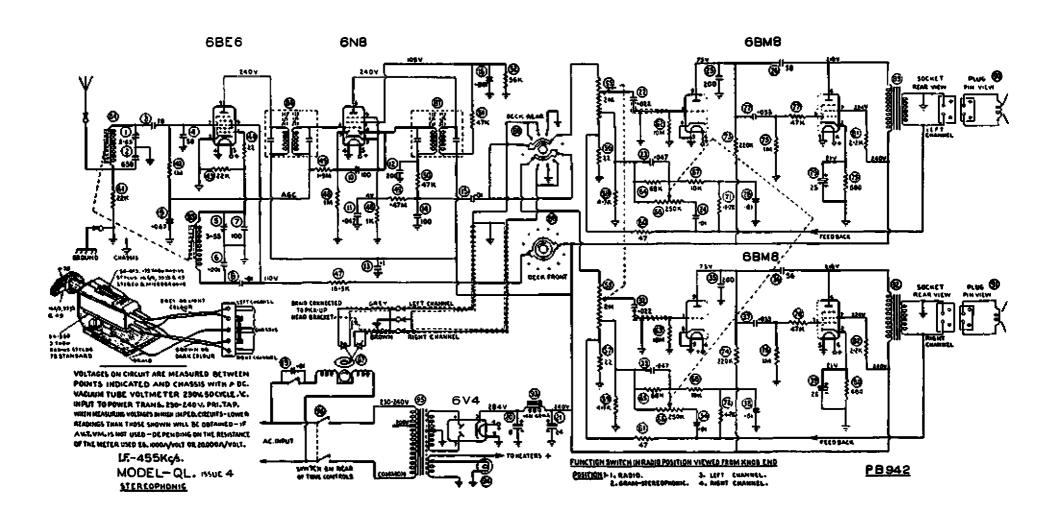
Start of winding - furthest from mounting end - Junction of Circuit No. 6 and 8

Finish of winding - nearest to mounting end - Junction of Circuit No. 5

7, 43, and 44.



A66. ASTOR MODEL QL.



A66.

RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

CLOCK RADIO MANTEL MODEL "QM"

4 Valve Superheterodyne Broadcast Receiver.

For operation from:-

200-250 Volt 50 Cycle AC. Supply Mains.

Power Consumption 33.5 Watts Radio and Clock.

4.5 Watts Clock only.

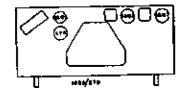
Tuning Range :-

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

This Bulletin contains:-

Circuit Diagram.

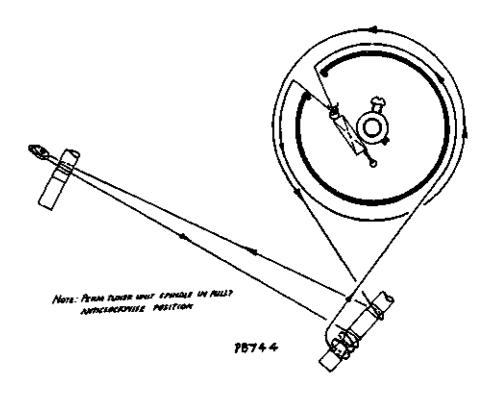
Connections for Transformers. Valve Placement Diagram.

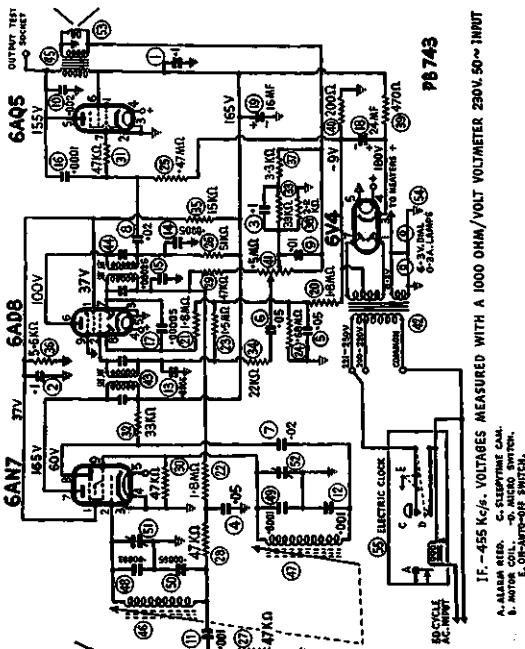


DIAL DRIVE CORDING

The length of dial cord required is 4 ft. 6 ins. which includes 9 ins. spare tying to the tension spring.

Dial cord Part No. 34/754
Dial spring 19/449-1
Dial pointer assy. , . . A101/785-2
Dial drum , . . . 18/785
Brass collar , . . . 56/678-1





No. 1 IF. TRANS.

No. 2 IF. TRANS.

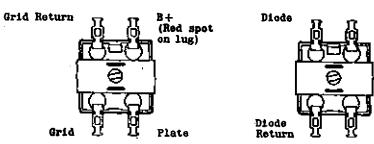
Plate

(Red spot

(Junction of circuit

Nos. 8, 14 and 26)

on lugi



ANTENNA TRANS.

Start of winding - furthest from mounting end - AVC. Finish of winding - nearest to mounting end - Signal Grid,

OSCL COIL

Start of winding - furthest from mounting end - Junction of circuit Nos. 7 and 12. Finish of winding - nearest to mounting end - Oscl. grid.

POWER TRANSFORMER

Pri. red lead - common. Pri. green lead - 200-220V. Pri. black lead - 221-250V.

HT. Sec.

Blue lead - start.

Yellow lead - centre tap.

Blue lead - finish.

LT. Sec. (two windings in parallel) Start and finish in winding wire.

DIAL READING MODIFICATION

The dial reading consisted of a printed strip and in front of which was a transparent bar which is held in position in the cabinet by a spring clip at each end of the transparent bar.

The above has been changed so that the disl reading is printed on the rear side of the transparent bar and which is held to the cabinet by the same type spring clip.

A67.



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

TECHNICAL BULLETIN

BULLETIN-QN-1 File: RECEIVERS BATTERY Page 1. Date: 15/6/53

MANTEL MODEL "QN"

8 Valve Superhoterodyne Four Band Receiver Incorporating Bandspreading of the 19. 25 and 31 Metre Shortwave Hands.

FOR OPERATION FROM:-

32 volt D.C. Supply.

CURRENT CONSUMPTION:--

.85 Amps. (Does not include dial lamps or band indicator lamp).
1.1 Amps. (Includes three dial lamps and one band indicator lamp all wired in series. Each lamp 6-8 volt 0.25 amp.).

Tuning Range:-

Broadcast Band, 535-1610 Kc/s.

19 Metre band, 14.9-15.5 Mc/s (Bandspread)

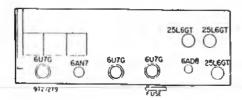
25 Metre band, 11.6-12.1 Mc/s (Bandspread)

31 Metre band, 9.4-9.8 Mc/s (Bandspread)

560.7-186.3 Metres 20.13-19.29 Metres (approx.) 25.86-24.79 Metros (approx.) 31.91-30.61 Metres (approx.)

This Bulletin contains:-

- 1. Alignment Instructions.
- 2. Circuit Diagram.





RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.

126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

BULLETIN QN-2.

File: Receivers
Battery

Date: 18-5-55.

Page: 1.

CIRCUIT MODIFICATION

The 8 MMF mica condenser circuit No. 36 has been changed to a 15 MMF mica condenser tol. \pm 1 MMF part No. PC811 to increase the overall gain. New Circuit No. 95.

TYPE 6U7G VALVES CHANGED TO TYPE 6BH5 VALVES

Type 6U7G valves used in the RF. and 1st and 2nd IF. stages have been changed to type 6BH5 valves.

No change is made to the receiver circuit except for the heater string which has two balancing resistors added due to the lower heater current of the 68H5 valve.

- A. A 125 Ohm 3 watt resistor (new circuit No. 96) is wired in parallel with the series connected heaters of the 68H5 valves in the RF and 1st IF stages.
- B. A 62.5 Ohm 2 watt resistor (new circuit No. 97) is wired in parallel with the heater of the 6BH5 valve in the 2nd IF stage.

VALVE PIN CONNECTIONS:

6U7G
Pin No. 1 No connection
2 Heater
3 Plate
4 Screen grid
5 Suppressor grid
6 No connection
7 Heater
8 Cathode
Top cap Signal grid

6BH5
Pin No. 1 Screen grid
2 Signal grid
3 Cathode

3 Cathode 4 Heater 5 Heater 6 Plate

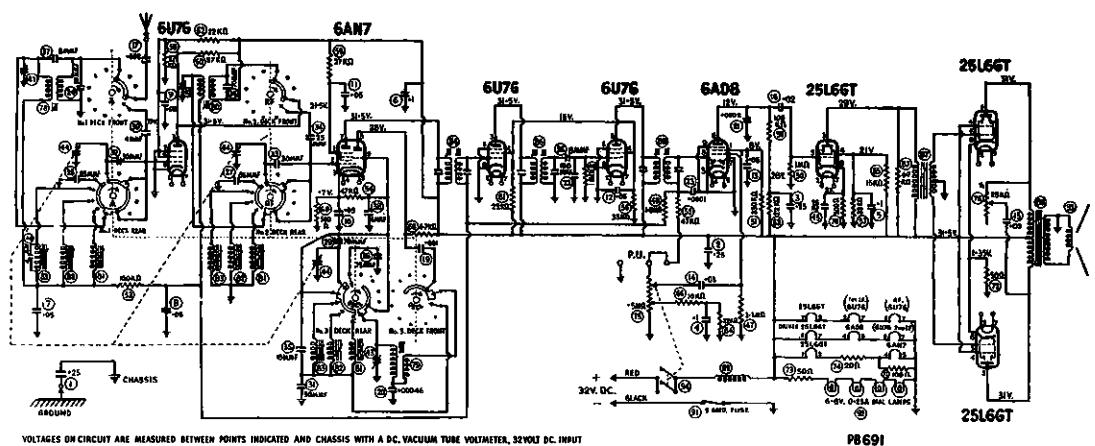
7 Internal connection 8 Internal connection

9 No connection

COMPONENT PARTS:

- A. 1 off 125 Ohm 3 watt wire wound resistor tol. 10% part No. PR704 (πew circuit No. 96).
- B. 1 off 62.5 Ohm 2 watt resistor (new circuit No. 97) consists of two 125 ohm 1 watt wire wound resistors tol. + 10% part No. PR788 wired in parallel.
- C. 3 off 9 pin valve sockets part No. 279/250 for 6BH5 valves.
- D. 3 off adaptor plates Part No. 33/698 for fitting 9 pin sockets to chassis where the 8 pin 6U7G sockets were mounted.

ASTOR MODEL QN.



VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A DC. VACUUM TUBE VOLTMETER, 32YOLT DC. INDIT WHEN MEASURING VOLTAGES IN NIGH MIPED. CIRCUITS,—LOWER READINGS THAN THOSE SHOWN WILL BE OBTAINED—IF A V.T.V.M., IS NOT USED—DEPENDING ON THE RESISTANCE OF THE METER USED. EG: 1000 A/VOLT OR 20,000 A/VOLT.

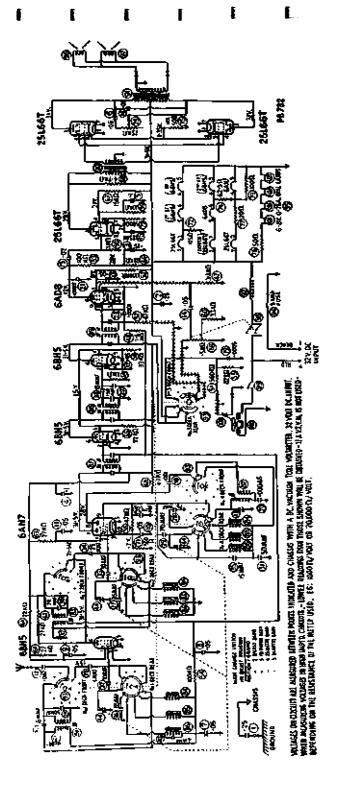
ASTOR MODEL QN.

8. To antenna

1400 Ke/s. 200MMFD. Mica Turn some and dial pointer to

ALIGNMENT INSTRUCTIONS:-

VITGS	MEST CONDITI	ons:	EQUIPMENT:	8.	To antenna terminal.	1400 Ke/s.	200MMFD. Mica capacitor in	Turn gang and dial pointer to 1400 Kd/s. dial mark. Adv.
1000	impedance	-5,000 ohm	Signal generator		***************************************		series with	Byenst osel, coil trim, that.
Putpu	t level	-50 millimatts	Output meter				generator.	for logging and peak "/c '
751 um	e control	-Max. Vel. (ful						ant, and RF, trans, trim, cor- densers for max, output.
		clockwise)	Pummy Antenny -200 MMFD Mica capacitor				4 - 5 - 5 4 - 1	• • •
fane	control	-Treble positio	• • • • • • • • • • • • • • • • • • • •	9.	the 25 and 19 m		metre band (th	is band must be aligned tefore
	mediate freq.	-455 Kc/s	Dummy Antenna -400 Ohm non-induc- tive resistor	10.	To antenna	9.6 Mc/s.		
D. Su	pply	32 volt be main			terminal.		inductive resistor in series with	9.6 Mc/s. Adjust 31 metre band oscl. coil ind. trim. (iron core) for logging and
Opera No.	Connection		Dummy Instructions Antenna				generator.	peak 31 metre ant. and RF. trans. ind. trimmers (iron cores) for max. output. Rick
١.	To control gr of GUTG 2nd l valve.		0.01 MFD Mica Turn wave change switch to capacitor in B/cast band. Leave grid series with clip on valve. Peak 3rd IF	11.	To entone	11 9 Wo/s	400 Ohm non-	gang to and fro through the signal while adjusting. Turn wave change switch to 25
			generator. trans. pri. and sec. for . max. output.	11.	terminal.	11.0 MC/S.	inductive resistor in	metre band. Turn dial pointer and gang to 11.8 Mc/s. Adjust
γ.	To control gr of AU7G lst l valve.		0.01 MFD Mica Leave grid clip on valve. capacitor in Peak 2nd IF. trans. pri. and series with sec. for max. output. generator.			To antenna 15.2 Mc/s. terminal. Check the logging of the shor stations. If a crystal calil 100 Kc/s. mark on the dial.	series with generator.	25 metre band oscl. coil ind. trim. (iron core) for losging and peak ant. and RF. trans.
5.	To control g of GAN7 valve pin No. 2.	rid 455 Kc/s.	0.01 MFD Mica Cond. gang plates fully out capacitor in of mesh. Leave grid wire series with connected to valve socket. generator. Peak lst IF. trans. pri. and					ind. trimmers firon cores. for max. output. Rock gang to and fro through the signal while adjusting.
4.			sec. for max. output. on centre of end of travel mark on dial reading lates fully meshed.	. 12.		15.2 Mc/s.	400 Ohm non- inductive resistor in	Turn wave change switch to 19 metre band. Turn dial pointer and gang to 15.2 Mc/s.
5.	To antenna terminal.	600 Kc/s.	200MMFD. Mica Turn gang and dial pointer uncapacitor in series with generator. Ke/s. dial mark. Leave the gang and dial pointer set in this position and peak the R/cast oscl. coil. ind. trim (iron core) for max. output.				series with generator.	Adjust 19 metre band osci. coil ind. trim. (iron core) for logging and peak ant. and RF. trans. ind. trimmers (iron cores) for max. output. Rock gang to and fro through the signal while adjusting.
ti.	To antenna terminal.	1400 Kc/s.	200MMFD. Mica Turn gang and dial pointer to capacitor in series with generator. for logging and peak B/cast ant. and RF. trans. trim. condensers for max. output.		stations. If	a crystal cali		some well-known shortwave lable check the logging at each
7.	To entenna	600 Kc/s.		BAN	DSPREAD COILS:-	•		
			series with the gong and dial pointer set	L	31 metre coil,	RED Spot on i	ron core end of	former.
			generator. In this position. Re-peak the B/cast oscl. coil ind. trim.	•	25 metre coil,	WHITE spot on	iron core end	of former.
			(iron core) then peak the		19 metre coil,	BLUE spot on	iron core end	of former.
			B/cast ant. and RF. trans. ind	•				
			trimmers (iron cores) for max, output. Do not rock the	NOT	E:			
			ang to and fro through the		The I E etter	Na	W174 / 004 NB	
			signal while adjusting or	sari				cond. and a 20 K. ohm. resistor in te control grid and chassis during
			move the dial pointer off 600	alia	nment of the RF.	and antenna st	ages and during	the measurement of the overall
			Kc/n. dial mark until after the inductance trimmers of these three transformers have	sens	itivity.			
		-	been peaked for max. output.	-	-			





RADIO CORPORATION PTY. LTD.

A68.

DIVISION OF ELECTRONIC INDUSTRIES LTD. 126-139 GRANT STREET, SOUTH MELBOURNE, S.C.4.

TECHNICAL BULLETIN

TABLEGRAM MODEL "QP"

An Automatic 3 Speed Record Changer (78, 45, 33-1/3 r.p.m.) and an 8 Valve Superheterodyne Four Band Receiver incorporating Bandspreading of the 19 Netre, 26 Metre and 31 Metre Shortwave Bands.

FOR OPERATION FROM:-

32 volt D.C. Supply.

CURRENT CONSUMPTION:-

Radio Operation: 0.85 Amps. (Does not include dial lamps or band

indicator lamp).

1.1 Amps. (Includes three dial lamps and one band indicator lamp all wired in series. Each lamp 6-8V. 0.25 Amp. part No. PM678).

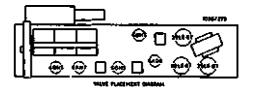
Gramo Operation: 1.6 Amps. (Includes three dial lamps and one band indicator lamp).

TUNING RANGE:-

Broadcast Band,	535-1610 Kc/s.		560.7-186.3 Metr	es
19 Metre Band,	14.9-15.5 Mc/s	(Bandspread)	20.13-19.29 Metr	es (approx.)
25 Metre Band,	11.6-12.1 Mc/s	(Bandspread)	25.86-24.79 Metr	es (approx.)
31 Metre Band,	9.4-9.8 Mc/s	(Bandspread)	31.91-30.61 Metr	es (approx.)

THIS BULLETIN CONTAINS:-

- 1. Alignment Instructions.
- 2. Circuit Diagram.



ALIGNMENT INSTRUCTIONS:-

ASTOR MODEL QP.

		alignmen	t _. instructi	ons:—	ASTOR MODEL (WF.				
ALIGNMI Load Imped	ENT CONDIT	IONS:— 5,000 ohms	Signal ge	EQUIPMENT:-		8.	To antenna terminal.	1400 Kc/s.	capacitor in	Turn gang and dial pointer to 1400 Kc/s. dial mark. Adjust
Output lev		50 milliwatts Max. Vol. (full clockwise)	•	ter citor —0.01 MFD enne —200 MMFD Mice					series with generator.	B/cast oscl. coil trim. cond. for logging and peak B/cast ant. and RF. trans. trim. con- densers for max. output.
Tone cont		reble position		capacitor		9.	Turn wave chang the 25 and 19 m		L metre band (th	is band must be aligned before
Intermedia DC Supply	•	155 Kc/s ? volt DC main:	·	enna —400 Ohm non-i tive resi tools-Part No. M195	lstor	10.	To antenna terminal.	9.6 Mc/s.	400 Ohm non- inductive resistor in	Turn dial pointer and gang to 9.6 Mc/s. Adjust 31 metre band oscl. coil ind. trim.
Operation	Generator	Generator	IF. Atten	uator -Part No. M174	<u> </u>				series with generator.	(iron core) for logging and peak 31 metre ant. and RF.
No.	Connection	Frequency	Antenna	Instructio						trans. ind. trimmers (iron cores) for max. output. Rock gang to and fro through the
of (control grid 6BH5 2nd IF. ve Pin No. 2.	-	capacitor in series with	Turn wave change swi B/cast band. Leav attached to valve	o grid wire socket.	11.	To antenna	11.8 Mc/s.	400 0hm non-	signal while adjusting. Turn wave change switch to 25
of (control grid 6BH5 1st IF. ve Pin No. 2.	•	generator. O.Ol MFD Mica capacitor in series with	Peak 3rd IF trans. sec. for max. outp Leave grid wire at: valve secket. Pea trans. pri. and se	out. tached to : ik 2nd IF.		terminal.		inductive resister in series with generator.	metre band. Turn dial pointer and gang to 11.8 Mc/s. Adjust 25 metre band oscl. coil ind. trim. (iron core) for logging and peak ant. and RF. trans.
of 6	control grid SAN7 valve No. 2.	455 Kc/s.	generator. 0.01 MFD Mica capacitor in series with generator.	output. Cond. gang plates if of mosh. Leave gr connected to valve Feak 1st IF. trans	id wire s socket.					ind. trimmers (iron cores) for max. output. Rock gang to and fro through the signal while adjusting.
			-	sec. for max. out; of travel mark on di	put.	12.	To antenna terminal	15.2 Mc/s.	400 Ohm non- inductive resister in	Turn wave change switch to 19 metre band. Turn dial pointer and gang to 15.2 Mc/s.
5. To	antenna minal.	600 Kc/s.		til dial pointer i Kc/s. dial mark. gang and dial point this position and B/cast oscl. coil. (iron core) for ma	is on 600 Leave the ter set in peak the . ind. trim				series with generator.	Adjust 19 metre band oscl. colind. trim. (iron core) for logging and peak ant. and RF. trans. ind. trimmers (iron cores) for max. output. Rock gang to and fro through the signal while adjusting.
	antenna minnl.	1400 Kc/s.	200MMFD. Mica capacitor in series with generator.	Turn gang and dial p 1400 Kc/s. dial mar B/cast oscl. coil for logging and per ant. and RF. trans densers for max. o	pointer to k. Adjust trim. cond. ak B/cast . trim. con-	13.		a crystal cal		some well-known shortwave lable check the logging at eact
	nntenna minal.	600 Kc/s.	200MMFD. Mica capacitor in series with generator.	Turn gang and dial parties gang and dial point this position.	pointer to k. Leave ointer set Re-peak the	BAN	DSPREAD COIL	s:		
				B/cast oscl. coil (iron core) then p B/cast ant. and RP. trimmers (iron cor max. output. Do n gang to and fro th	eak the . trans. ind. res) for wot rock the rough the		25 metre coil, 19 metre coil,	WHITE spot on	ron core end of iron core end iron core end o	of former.
				signal while adjus move the dial poin Kc/s. dial mark un	ter off 600 til after	NOT	'	NALOF BOTT NO	N174 (.004 MR/	cond. and a 20 K. ohm resistor in
				the inductance tri		serie				e control grid pin No. 2 and

these three transformers have been peaked for max. output.

The I.F. attenuator part No. M174 (.004 MF cond. and a 20 K. ohm resistor in series) is connected between the 68H5 lst. IF, valve control grid pin No. 2 and chassis during alignment of the RF, and antenna stages and during the measurement of the overall sensitivity.

560.7-186.3 Metres.



MODEL "RK" GRAMO-RADIO TABLEGRAM

An Automatic 3 Speed Record Changer (78, 45, 331 r.p.m.) and a 6 Valve Superheterodyne Five Band Receiver incorporating Bandspreading of the 19 Metre, 25 Metre, 31 Metre and 49 Metre Shortwave Bands.

POWER CONSUMPTION:-

Broadcast Band, 535-1610 Kc/s.

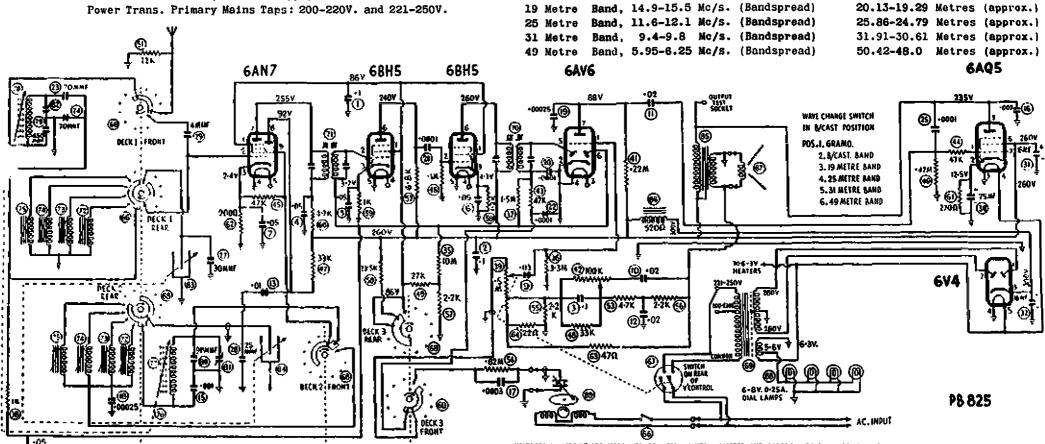
Radio Operation: - 58 Watts-approx. Gramo Operation: - 77 Watts-approx.

FOR OPERATION FROM:-

200-250 Volts 50 Cycle AC. Supply Mains. Power Trans. Primary Mains Taps: 200-220V. and 221-250V.

MODEL - RK - IF = 455 Kc/s

RECEIVER COVERAGE:-TUNING RANGES:-

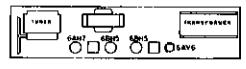


VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A DC VACUUM TUBE VOLTAGEER 235 Y. 50 CYCLE AC INPUT TO POWER TRANS, 221-250V. PRI. TAP. WHEN MEASURING VOLTAGES IN HIGH MAPED. CIRCUITS - LOWER READINGS THAN THOSE SHOWN WILL BE OBTAINED - IF A V.T.V.M. IS NOT USED - DEPENDING ON THE RESISTANCE OF THE METER USED E6. ΝΟΟΩ/YOLT OR 20,000Ω/VOLT

A69a	•				ASTOR	MODEL RK.				
			alignme	nt procedure		Oper-				
Output Meter: Output		Load Imped	el: 50 Milliwatts	ation No.	Generator Cennection	Generator Frequency	Dummy Antenna	Instructions		
trans. alignment) cl			clockwise Freq.: 455 Kc/s.	: 455 Kc/s.		switch to 49 metre bands).	metre band (this	band must be aligned before		
•	Antenna:	resist	non-inductive or		AC. input to trans. 221-250 Volt pri. tap	6.	To antenna lead	6.08 Mc/s.	400 0hm non- inductive resistor in series with	Turn wave change switch to 49 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns
Allgno	ment 10012:	туре м.	195 and PM581	Tone Contr	ol: Treble position				generator	with the 6.08 Mc/s. mark or the dial. Adjust 49 metre
			IF. TRAN	is. Alignment						band oscl. coil ind. trimmer (iron core) for
Oper- ation No.	Generator Connection		Generator Frequency	Dummy Antenna	Instructions				•	logging, then peak 49 metre antenna coil ind. triumer (from core) for max. output.
1.	Remove rece	eiver c	hassis from ca	binet as detaile	ed on page 4.	7.	To antenna lead	9.6 Mc/s.	400 Ohm non- inductive	Turn wave change switch to
2.	To control of 68H5 2nd valve pin N	grid IF.	455 Kc/s.	0.01MF Mica capacitor in series with generator	Turn wave change switch to b/cast band. Leave grid wire attached to valve socket. Peak 2nd IF. trans. pri. and sec. for max. output.				resistor in sories with generator	31 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 9.6 Mc/s. mark on dial. Adjust 31 metre oscl. coll ind. trimmer (iron core) for logging,
3.	To control of 6AN7 val pin No. 2		455 Kc/s.	0.01 MF Mica capacitor in series with generator	Leave grid wire attached to valve socket. Turn perm. tuner so that iron cores are out of windings on coil formers. Peak lst IF. trans. pri. and sec. for max. output.	8.	To antenna lead	11.8 Mc/s.	400 Ohm non- inductive resistor in series with generator	then peak 31 metre antennacil ind. trim. (iron core for max. output. Turn wave change switch to 25 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with the 11.8 Mc/s. mark
		B/CAST AND S/WAVE ALIGNMENT								on the dial. Adjust 25 metre band oscl. coil ind.
1.	are out of the stop. travel spot	the wi Set the t on th	.ndings on the centre of the e dial near 170	coil formers and dial pointer on 00 Kc/s.	hat perm. tuner iron cores if the unit is hard against the centre of the end of					trim. (iron core) for logging, then peak 25 metro antenna coil ind. trim. (iron core) for max. output.
2.	To antenna lead		1000 Ke/s.	200MMF mica capacitor in series with generator	Turn tuning control and porm. tuner until centre of dial pointer aligns with centre of spot on dial reading at 1000 Kc/s. Peak b/cast oscl. coil trimmer cond., then peak b/cast antenna coil trim. cond. for max. output. Re-peak oscl. coil trim. condenser.	9.	To antenna lead	15.2 Mc/s.	400 0hm non- inductive resistor in series with generator	Turn wave change switch to 19 metre band. Turn tuning spindle and perm. tuner until dial pointer aligns with 15.2 Mc/s. mark on the dial. Adjust 19 metre band escl. coil ind. trim. (iron core) for logging, then peak 19 metre antenna coil ind. trim (iron core) for max. output
3. 4.					Tuning range after align- ment 535-1610 Kc/s. Check logging at each end	10.	To antenna lead	Multi- vibrator		Check logging on 49, 31, 25 and 19 metre bands at
					of the dial.	· ·· -	· - ·			each 100 Kc/s. mark on the

PERM. TUNER SETTINGS

- A. Both iron cores are pre-set at the factory to an exact dimension of 2.275" plus or minus .005" between the extreme end of the former protruding through the rubber grommet and the end of the iron core in the former when the unit spindle is turned so that the iron cores are out of the windings on the coil formers and the unit is hard against the stop.
- F. The perm. tuner s/wave. tubular tuning condensers are set when the male section is meshed with the female tube section and the unit is hard against the stop. The end of the plastic insulating material on the male section is to be flush with the entrance end of the tube section.
- C. If incorrect logging and mis-alignment are to be avoided, no alteration is to be made to vary the settings. Both iron cores in any one perm. tuner unit must have the same colour identification spot on the end of the iron core.





TRANSFORMER CONNECTIONS

B CAST ANTENNA TRANS.

Ster of winding - furthest from mounting end - Antenna.

Fin th of winding - nearest to mounting end - Grid.

B AST OSCL. COIL.

Ttan' of winding - furthest from mounting end - Oscl. plate. Finish of winding - nearest to mounting end - Oscl. grid.

19, 25, 31 AND 49 METRE ANT. TRANS.

19. 25. 31 AND 49 METRE OSCL. COIL

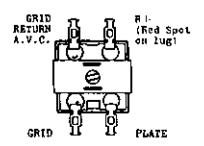
I and from top lug (iron core end):GRID.

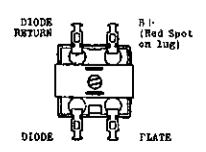
GRID.
Lead from bottom lug (mounting end):CHASSIS - EARTH.

Lead from top lug (iron core end):- GRID.

Lead from bottom lug (mounting end):- OSCL. PLATE COND.

- 49 Ketre spreadband coil. YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil, BROWN spot on iron core end of former.





NOTE: The iron cores in the perm. tuner coils and the s/w. conds. on the perm. tuner are set to exact dimensions. No adjustment to the dimensions is to be made if misalignment and incorrect logging are to be avoided.

COIL COLOUR CODE

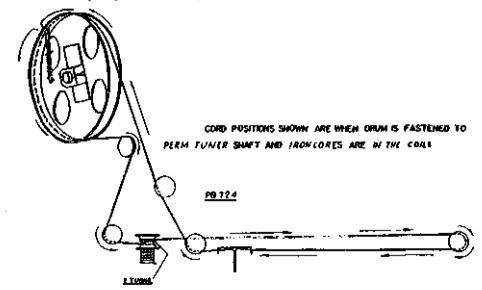
- 49 Metre spreadband coil, YELLOW spot on iron core end of former.
- 31 Metre spreadband coil, RED spot on iron core end of former.
- 25 Metre spreadband coil, WHITE spot on iron core end of former.
- 19 Metre spreadband coil. BROWN spot on iron core end of former.

CORDING OF DIAL DRIVE

Length of cord required is 6 ft. 3 ins., which includes about 8 ins. to spare for tying to tension spring.

Cord Part No. 34/754.

Tension Spring Part No. 21/698.



INSTRUCTIONS FOR CHANGING MAINS VOLTAGE INPUT TAPS

MAINS VOLTAGE: The mains adjustment tap should be adjusted as follows: For any AC. voltage between 200V. and 220V. on the 200-220V. tap and for any AC. voltage between 221V. and 250V. on the 221-250V. tap.

MAINS VOLTAGE ADJUSTMENT: For 200-220 volt operation:— the receiver chassis does not have to be removed from the cabinet for this adjustment. SWITCH THE RECEIVER OFF AND DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET. Remove the cabinet base board by unscrewing the four rubber mount feet fastening the base to the cabinet. The AC. mains tap junction strip is located at the left hand end of the chassis. The mains lead wire from the switch on the volume control which is attached to the junction strip tap marked 221-250 volt is to be unsoldered from the 221-250 volt junction strip tap terminal and re-soldered to the junction strip tap marked 200-220 volt. Refit cabinet base board and rubber mount feet.



RADIO CORPORATION PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD.
126-130 GRANT STREET, SOUTH MELBOURNE, S.C.4.

BULLETIN: RQ-1 File: Receivers Portable.

Date: 15/11/55. Page: 1.

TECHNICAL BULLETIN

MODEL "RQ" MIDGET PORTABLE

4-VALVE SUPERHETERODYNE

FOR OPERATION FROM:

1.5 Volts "A" battery (two 1.5 volt torch cells in parallel) and 67.5 Volts "B" battery.

POWER CONSUMPTION:

"A" Battery 250mA. "B" Battery, 10mA.

TUNING RANGE:

535 to 1610 Kilocycles. 560.7 to 186.3 Metres.

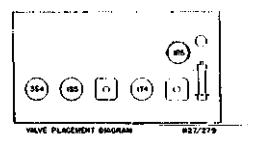
POWER OUTPUT:

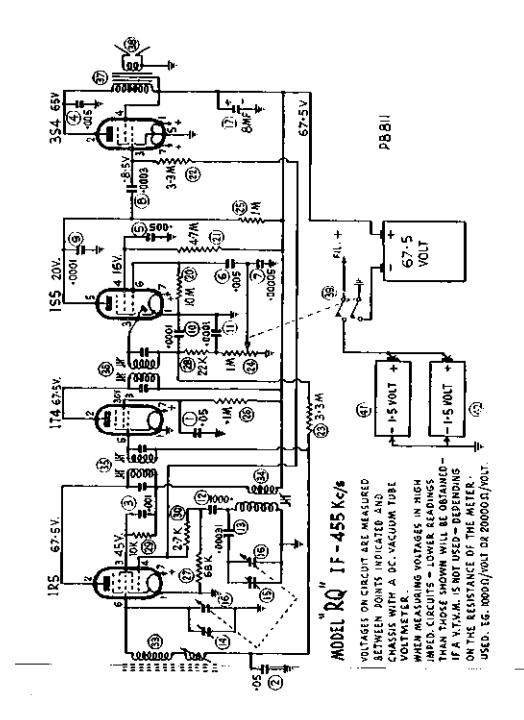
180 milliwatts (max.). 100 milliwatts (undistorted).

THIS BULLETIN CONTAINS:

Technical Data. Alignment Procedure. Circuit Diagram.

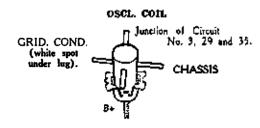
I.F. Transformer Connections.

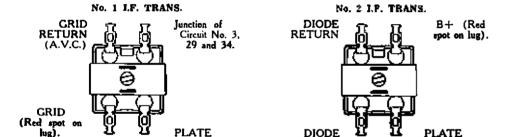


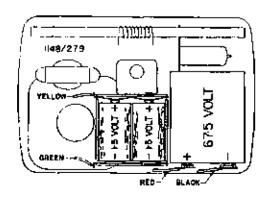


Fixed Winding: Lead from end turn furthest from movable winding-GRID. Movable Winding: Lead from end turn furthest from fixed winding-AVC.

The adjacent end turn leads of both windings are joined together as shown on the circuit diagram.







ALIGNMENT INSTRUCTIONS

EQUIPMENT

ALIGNMENT CONDITIONS

Signal Generator. Output meter:

Mica Capacitor: CO1 MF (P/No, PC145) for IFT

Alignment.

Alignment tools: PM581 and M399.

Load impedance: 5,000 ohms. Output level: 6 milliwatts.

Volume control: Max. volume (fully clockwise). "A" battery 1.5 volts.
"B" battery 67.5 volts. I.F. frequency 455 Kc/s.

Repeat operations Nos. 1 and 2.

I.F. TRANS. ALIGNMENT:

The receiver chassis has to be removed from the cabinet to align the I.F. Transformers.

Remove push-on volume knob and push-on clear dial cover knob.

Place receiver so that carrying handle is uppermost.

Gently press on top of cabinet near rear edge and prise top rear section away from front section.

Ď. Remove "B" battery and "A" battery box.

Remove battery box mount plate by unfastening screw fastening it in position.

F. Using a pair of long nose pliers, remove three speed nuts fastening chassis to cabinet by turning the speed nuts 90 deg. to their fastened positions.

Unsolder leads connected to speaker.

Lift up end of chassis furthest from speaker and withdraw chassis from cabinet.

Extend and reconnect leads to speaker.

Opei No.	. Generator Connection	Generator Frequency	Dommy Antenna	Instructions	
1.	To signal grid of IT4 valve (pin No. 6).	455 Kc/s.		Leave grid wire attached to valve socket. IFT pri. and sec. for max. output.	Peak 2nd
2.	To signal grid of IR5 valve (pin No. 6).	455 Kc/s.		Leave grid wire attached to valve socket. IFT pri, and sec. for max. output.	Peak 1st

BROADCAST ALIGNMENT:

3.

- Refit receiver chassis to front section of cabinet.
- Refit dial reading and dial cover pointer knob.
- DIAL POINTER SETTING: Fully mesh cond. gang plates and set centre of dial pointer on centre of end of travel spot on dial reading near 540 Kc/s. (The three screws which fasten the cond. gang to the chassis when loosened off allow the cond. gang to be moved to align the dial knob pointer to the end of travel spot on the dial.)

D. To inject a signal into the receiver rod aerial, connect to the active terminal of the signal generator approxi-

mately 2 ft. of agrial wire, then fashion the wire into a vertical position.

E. Place receiver chassis so that ferrite rod agrial is appermost and horizontal, and so that the fixed secondary winding end of the ferrite rod points to the 2 ft. of vertical aerial wire. A distance of not less than 1 ft. is to be between the end of the ferrite rod and the 2 ft. of vertical aerial wire attached to the signal generator.

Oper.	Generator	Generator	Instructions
No.	Connection	Frequency	
	Refer para. D. and E.	600 Kc/€.	Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 600 Kc/s. spot on dial reading. Leave cond. gang and dial pointer set in this position, then peak the oscl. coil ind. trim. (iron core) for max. output. Also peak the movable winding on the ferrite rod for max. output.



RADIO CORPORATION PTY. LTD.

DIVISION OF RECTRONIC INDUSTRIES LTD.

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TECHNICAL BULLETIN

Bulletin: RR-1. File: Receivers AC. 16-2-56. Page 1.

MODEL -- RR GRAMO-RADIO COMBINATION

An Automatic 3 Speed Record Changer (78, 45, 334 r.p.m.) and a 6 Valve Superheterodyne Dual Wave Receiver

FOR OPERATION FROM:--

200-250 Volts 50 Cycle AC. Supply Mains. Fower Trans. Primary Mains Taps: 200-220V. and 221-250V.

POWER CONSUMPTION:-

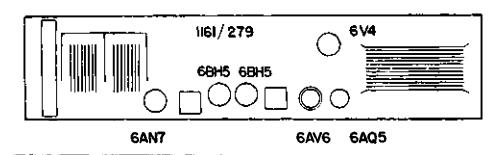
Radio Operation:-55 Watts.-approx. Gramo Operation:-75 Watts.-approx.

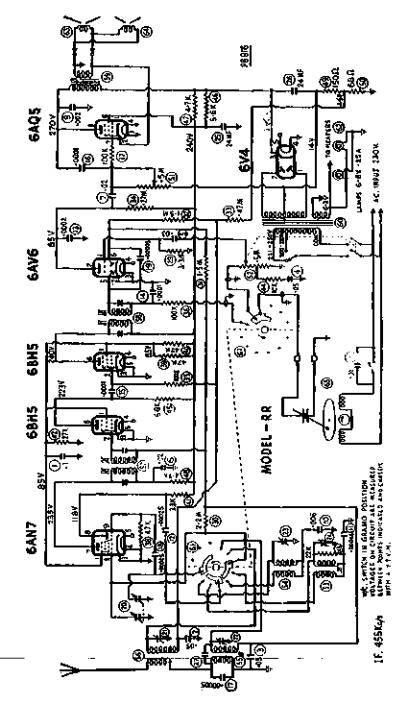
TUNING RANGES:-

Broadcast Rand: 535-1610 Kc/s. - 560.7-186.3 Metres. Shortwave Rand: 5.7-16 Mc/s. - 52.63-18.75 Metres approx.

THIS BULLETIN CONTAINS:-

Alignment Instructions.
Circuit Diagram.
Component
Component
Connections for IF. and RF Transformers.
Dial Drive Cording Diagram.
Valve Pincement Diagram.
Instructions for Removing and Refitting Receiver Chassis and Record Changer from Cabinet.
Instructions for Changing Mains Voltage Tap Position.





A7la.

ASTOR MODEL RR.

ALIGNMENT PROCEDURE EQUIPMENT ALIG-IMENT CONDITIONS Signal Generator: Load Impedance: 6.000 ohms. Output Meter: Output Level: 50 Milliwatts. Mica Capacitor: 0.01MF. (for IF. Vol. Control: Max. Vol. fully trans. alignment) clockwise. Dummy Antenna: 200MMF. Mica Intermed. Freq.: 455 Kc/s. Capacitor Input Voltage: 230 Volts 50 Cycle AC. input to trans. Alignment Tools: Type M195 and 221-250 volt pri. tap. PMSA1. Tone Control: Treble position. IF. TRANS, ALIGNMENT Opera- Generator Generator Dramma Instructions tion Connection Frequency Antenna No. 1. Remove receiver chassis from cabinet as detailed on page 8. 2. Connect speaker leads to speaker sockets. 3. To control 455 Kc/s. O.OIMF. Mica Leave grid wire attached to valve grid of capacitor in socket. Turn wave change switch to 6BHS 2nd IF. series with B/cast band position. Peak 2nd IF. valve (pin No. 2) generator trans. pri. and sec. for max. output. 4. To control 455 Kc/s. O.OlMF. Mice Turn cond. gang plates fully out of grid of capacitor in mesh. Leave grid wire attached to valve socket. Peak 1st IF. trans. pri. and 6AN7 valve series with (pin No. 2) generator sec. for max. output. 5. Repeat operations No. 3 and 4. **B/CAST BAND ALIGNMENT** 1. 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. 2. To antenna 600 Kc/s. 200MMF. Mica Turn cond. gang and dial pointer until lead capacitor in centre of dial pointer aligns with from series with centre of 800 Kc/s. spot on dial reading. receiver generator Leave the gang and pointer set in this position and peak the oscl. coil inductance trim (iron core) for max. output. 3. To antenna 1400 Kc/s. 200MMF. Mica Turn cond. gang and dial pointer until lead capacitor in centre of dial pointer aligns with from series with centre of 1400 Kc/s. spot on dial receiver generator reading. Adjust oscl. coil trim condenser for logging and peak antenna trans. trim. condenser for max. output. 4. To antenna 600 Kc/s. 200MMF. Mica Turn cond. gang and dial pointer until lead centre of dial pointer aligns with capacitor in centre of 600 Kc/s. spot on dial reading. from series with receiver generator 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

	n Connecti	or Generator on Frequency	Dummy Antenna	Instructions
_				pointer to and fro through the signal while adjusting or move them until after the inductance trimmer (iron core) of both of these transformers has been peaked for max. output.
5.	To antenna lead from receiver	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 1400 Kc/s. spot on dial reading. Adjust oscl. coil trim condenser for logging and re-peak antenna trans. trim. condenser for max. output.
			S/WAVE BAND	ALIGNMENT
1.				Turn wave change switch to shortwave band position.
2.	To antenna lead from receiver	15 Mc/s.	400 Ohm non-inductive resistor in series with generator	Turn dial pointer and gang until centre of pointer aligns with centre of 15 Mc/s. spot on dial reading. Adjust shortwave osel. coil trim. condenser for logging and peak shortwave antenna coil trimmer cond. for max. output.
3.	To antenna lead from receiver	8 Mc/s.	400 Ohm non-inductive resistor in series with generator	Turn dial pointer and gang until centre of dial pointer aligns with centre of 8 Mc/s. Spot on dial reading and check tracking.

MAINS VOLTAGE TAP ADJUSTMENT:-

Mains Voltage. — The mains adjustment tap should be adjusted as follows: - For any AC. voltage between 200 V. and 220 V., on the 200-220 V. tap, and for any AC. voltage between 221 V. and 250 V., on the 221-250 V. tap.

Mains Voltage Adjustment. — For 200-220 Volt Operation: The receiver chassis has to be removed from the cabinet for this adjustment. DISCONNECT THE RECEIVER MAINS LEAD PLUG FROM THE POWER POINT SOCKET AND REMOVE THE CHASSIS FROM THE CABINET AS DETAILED ON PAGE 8. The mains voltage junction strip is beneath power transformer end of chassis. The lead from volume control switch which is connected to 221-250 V. tap is to be unsoldered and re-soldered to the 200-220 V. tap.

ANTENNA TRANS. S/WAVE

OSCL COIL S/WAVE

GRID

ARTEKNA



A.V.C.

TO ANTENNA LUG OF B/CAST ANT. TRANS.

SERIES PAD

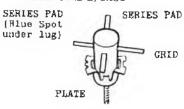
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GRED

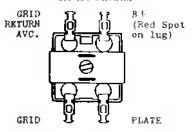
ANTENNA TRANS. B/CAST



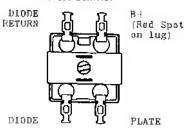
OSCL. COIL B/CAST



1st IF. TRANS.

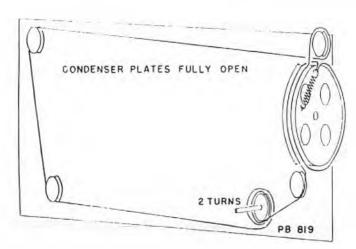


2nd IF, TRANS.



CORDING OF DIAL DRIVE

Length of cord required is 5 ft. 6 ins., which includes about 8 ins. to spare for tying to tension spring. Cord Part No. 34/754. Tension Spring Part No. 21/698.



PROCEDURE FOR REMOVAL OF CHASSIS AND RECORD CHANGER FROM CABINET

Before carrying out any of the following operations, disconnect receiver from power point.

To Perform Service Operations on Chassis.

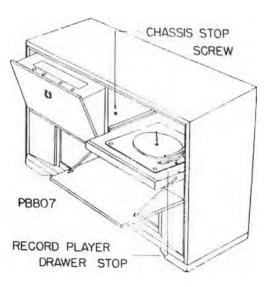
- Remove screws holding lower end of pneumatic Dashpot. Accessible through open back of Cabinet.
- Open Record Player Door and screw out Chassis stop screw (R.H. Florentine Bronze) from side of dividing wall. Hold Radio door closed whilst removing screw.
- Lower the Radio compartment door to the horizontal position on to a suitable support. (Do not lower too far, as hinges will be strained.)

To Remove Chassis.

- Unplug the Speaker and pick-up leads from Chassis. Free the aerial and earth. Remove Control Knobs. Unscrew power leads to Chassis and playor at Junction Block.
- 5. Unplug indicator light lead from Chassis.
- Remove 5 Dial retaining screws. Remove Dial which gives access to chassis mounting screws. Remove 4 Chassis Mounting screws and slide Chassis back.
- Lift Chassis from Cabinet.
 To re-assemble, reverse above procedure.

Removal of Record Changer Unit.

- 8. Open Record Changer door and remove Chassis stop screw as described in No. 2 operation.
- 9. Lower Radio compartment door to gain access to junction block and Chassis.
- Unscrew power lead from junction block. Disconnect pick-up leads from Chassis.
- 11. Open Record Changer door and remove Drawer pullarms. Lower door on to suitable support.
- 12. Remove draw stop screw.
- Slide changer and drawer assembly free from Cabinet. To re-assemble, reverse the above procedure.





CLOCK RADIO MANTEL MODEL "SQ"

5 Valve Superheterodyne Broadcast Receiver.

For operation from:

200-250 Volt 50 Cycle AC. Supply Mains.

Power trans, primary mains taps: 200-220 volts and 221-250 volts.

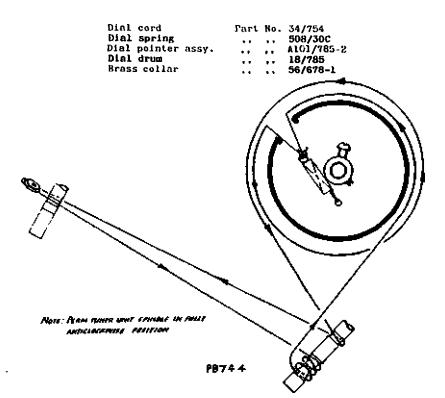
Power Consumption 35.5 Watts Radio and Clock.
4.5 Watts Clock only.

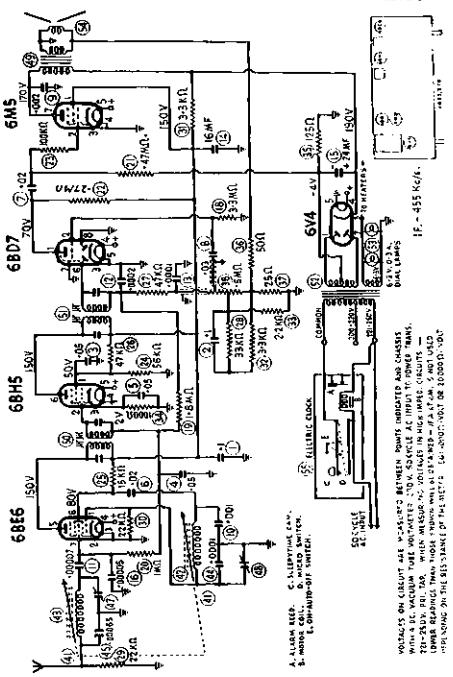
Tuning Range:

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

DIAL DRIVE CORDING

The length of dial cord required is 4 ft. 6 ins. which includes 9 ins. spare for tying to the tension spring.





ALIGNMENT PROCEDURE

ALIGNMENT CONDITIONS

Load Impedance: 7.000 ohms Signal merator: Output Level : 50 Milliwatts Outpu! "cter Mica macitor : 0.01MF (for I.F. Vol. Control : Max. Vol. fully trans. alignment) clockwise.

EQUIPMENT

Dumer: Antenna : 200 MMF. Mica Intermed. Freq.: 455 Kc/s.

Capacitor Input Voltage : 230 Volts 50 Cycle Alignment Tool : Type M195 AC. input to trans. 221-250 volt pri. tap.

Pummy 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.

ALIGNMENT: The I.F. transformer variable iron cores and the trimmer condensers beneath the perm tuner are accessible when the rear section of the cabinet is

Oper No.			Generator n Prequency		Instructions	
1.					ion of cabinet remove the screw	
_					cabinet off the front section.	
2.			455 Kc/s.		Leave grid wire attached to	
		5 valve		capacitor in series with	valve socket. Peak 2nd I.F.	
	(pin N	0. Z)		generator	trans. pri. and sec. for max. output.	
3.	To cla	nal grid	455 Kc/s.	0.01 MF mica	Leave grid wire attached to	
٥.		6 valve	400 KC/5+	capacitor in	valve socket. Turn perm	
	(pin N			series with	tuner so that iron cores are	
	(p	o. ,,		generator	fully out of windings on coil	
				Barras grave	formers. Peak 1st IF trans.	
					· pri. and sec. for max. output.	
4.					Repeat operations No. 2 and 3.	
5.	DIAL P	OINTER: T	urn perm. ti	mer so that iro	n cores are fully out of windings of	
•	the coil formers and hard against the stop. Set the centre of the dial					
	pointe	r on the	end of trave	al spot on the d	ial reading near 1700 Kc/s. From	
	the fr	ont of th	e cabinet ti	ne dial pointer	may be moved by prising out the	
	spring	clip at	each end of	the dial. Hold	the tuning knob with one hand	
	and wi	th a pair	of long nos	ie pliers move t	he top of the dial pointer so that	
			ne dial cord		_	
6.	To an		1000 Kc/s.	200 MMF mica	Turn perm tuner until centre of	
		on lug		capacitor in	dial pointer aligns with centre	
	on cha	3515		series with	of spot on dial reading at	
				generator	1000 Kc/s. Peak oscl. coil	
					trimmer condenser then peak	
					antenna trans. trim. cond. for	
					max. output. Repeak oscl. coil	
_					trim. cond.	
7.				ent 535 - 1640		
8.	cabine		r sach sha	or the dial; the	n refit rear section of the	
NOTE	: Both	iron core	s are pre-s	et at the factor	y to an exact dimension of 2.275"	
	betwe	en the e	ktreme end d	f the former pr	otruding through the rubber	
	grom	net, and	the end of	the iron cores	in the former, when the unit is	
	turn	ad Cullin	alaakeisa ar	d is hard again	of the stan	

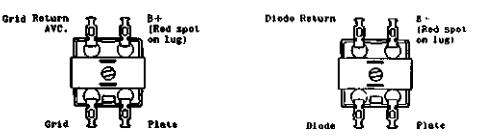
turned fully clockwise and is hard against the stop. If incorrect logging and mis-alignment are to be avoided, no adjustment of the iron cores must be made to vary this dimension. Both iron cores must have the same colour identification spot on the end of the iron core.

CHASSIS SERIAL NUMBER

The serial number is stamped into the rear edge of the metal chassis. The number is visible when the screw in each of the four rear corners of the cabinet is removed and the rear section of the cabinet is prised off the front section.

No. 1 IF. TRANS.

No. 2 IF. TRANS.



ANTENNA TRANS.

Start of winding - furthest from mounting end - Antenna. Finish of winding - nearest to mounting end - Grid.

OSCL. COIL

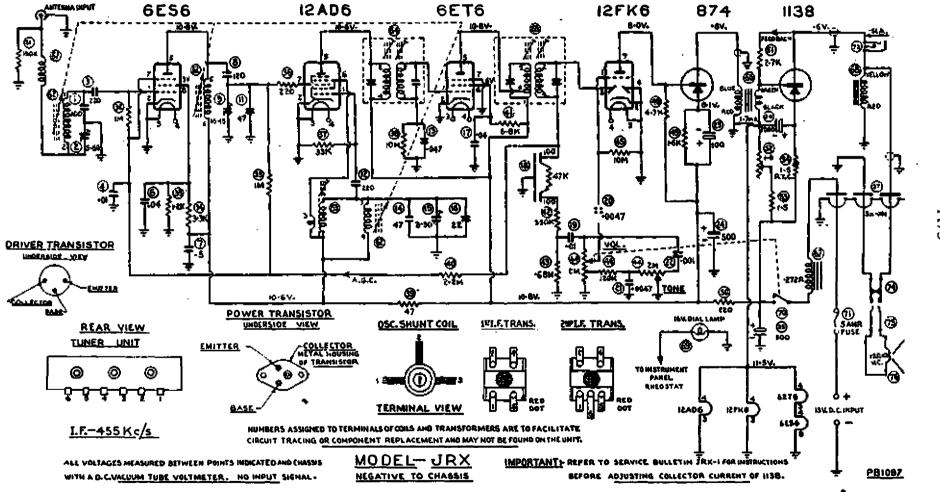
Start of winding - furthest from mounting end - Junction of circuit Nos. 6 and 10. Finish of winding - nearest to mounting end - Oscl. grid.

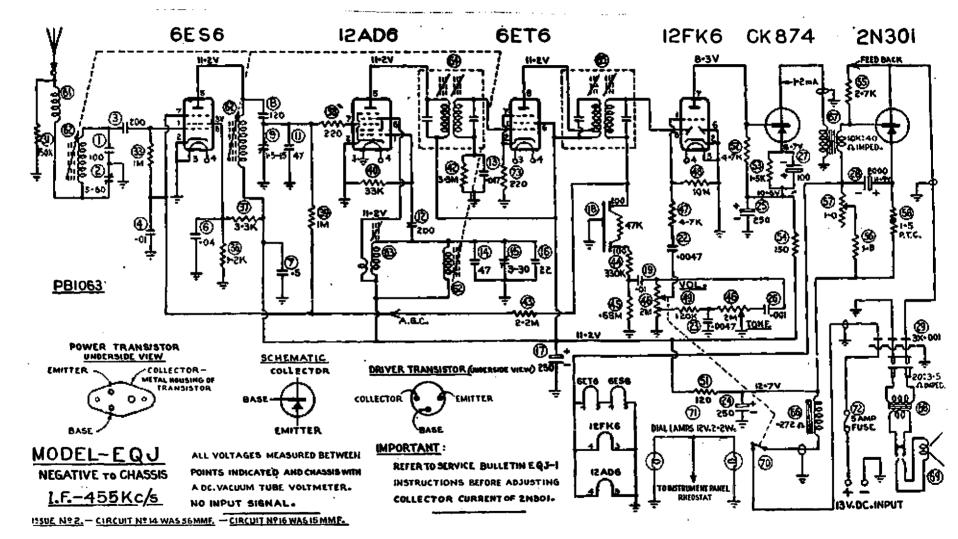
POWER TRANS.

(PT938) 50 cycle

in winding wire

Pri. red lead - common ., green lead - 200-220V. ,. black lead - 221-250V. HT. Sec. blue lead - start yellow lead - centre tap blue lead - finish LT. Sec. (two windings in parallel) start and finish







ELECTRONIC INDUSTRIES LTD.

CAR RADIO DIVISION

Bulletin: JQV_l File: Receivers

Auto

Astor House, 161-173 Sturt Street, South Melhourne.

Date: 26-11-60

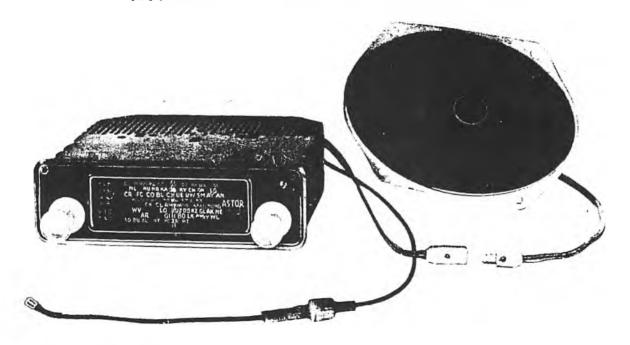
SERVICE BULLETIN

Page: !

MODEL "JQV"

6 VOLT CAR RADIO RECEIVER (Hybrid) Manual Tuning

ESPECIALLY DESIGNED FOR TAILORED FITTINGS
(Vehicle battery negative terminal connected to chassis)
ILLUSTRATION IS FITTING FOR VOLKSWAGEN SEDAN



SERVICE INSTRUCTIONS (Electrical)
Alignment Instructions.
Receiver Servicing Precautions.

SERVICE INSTRUCTIONS (Mechanical)

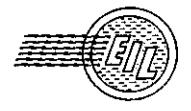
Receiver Serial Number.

IF. & RF. Transformer Connections.

Valve and Transistor Placement Diagram.

Dial Cording Diagram.

Circuit Diagram.



ELECTRONIC INDUSTRIES LTD.

GJL-2 CAR RADIO DIVISION Receivers File:

ASTOR HOUSE, 161-173 STURT ST., SOUTH MELBOURNE, S.C.4 Auto Date: 21.3.62.

SERVICE DATA

Page:

MODEL "GJI

SUMMARY OF PRODUCTION CHANGES

POLARITY PLUGS

The Part Numbers of the polarity plugs have been changed.

Plug - positive to chassis A105/397 Plug - negative to chassis A104/397

CHM-RHEOSTAT - CIRCUIT NO. 56

1 ohm rheostat Part No. R120, has been changed to 1 ohm rheostat Part No. R198.

3.3M OHM RESISTOR - CIRCUIT NO. 41

To stabilize the gain of the I.F. stage the 10M ohm resistor has been changed to 3.3M ohm + 10% 2W Part No. R3352

TUNER UNIT CHANGED

Receiver produced on chassis which have a formed base plate are fitted with tumer units Part No. 1487 in place of tumer unit 1350.

The difference between the two tuners is the fitting of a spacer block Part No. 747/81 to the mount face of L487.

OSCILLATOR TUNING CONTENSERS

The parallel combinations of 47pF/22pF and 56pF/15pF condensers have been changed to a single condenser 68pF +5% 350V DCW Part No. C435.

SPEAKER TRANSFORMER - 20:3.5 OHM IMPEDANCE

Transformer Part No. T246 is to be used as a replacement for T222. This applies to early production receivers which were designed to operate speakers with 3.5 ohm voice coils.

SPEAKER TRANSFORMER - 20:15 OHM IMPEDANCE

To conform with other model car radio receivers, current production 'GJL' receivers are fitted with 20:15 ohm impedance output transformer, Part No.R268

15 OHM VOICE COIL IMPEDANCE SPEAKERS

With the use of 20:15 ohm impedance transformers the following list of part numbers is for speakers which have a voice coil impedance of 15 ohms.

5" dia. type	5F00/87/15	K239
5" x 4" type	54000/83/15	K251
6" dia. type		K236
6" dia. type		K237
6" x 4" type	6451	4056-014-02
6" x 4" type		4056-014-01
7".x 5" type		K249
7" x 5" type		K247
8" dia, type		K238
9" x 6" type		K234
9" x 6" type		K233
10" x 3" type	e 103G05/14/15	K235

