

MODEL-AQR IF-455 Kc/s
 VOLTAGES MEASURED WITH A
 1000Ω/VOLT VOLTMETER 230 VOLT
 INPUT TO 221-250 VOLT PRI. TAP.

WAVE CHANGE SWITCH
 IN B/CAST POSITION
 POSITION 1 GRAMO
 " 2 B/CAST BAND
 " 3 19 METRE BAND
 " 4 25 METRE BAND
 " 5 31 METRE BAND

PB 763



RADIO CORPORATION PTY. LTD.
 DIVISION OF ELECTRONIC INDUSTRIES LTD.
 124-130 GRANT STREET, SOUTH MELBOURNE, S.C.A.

TECHNICAL BULLETIN

MODEL AQR

GRAMO-RADIO COMBINATION

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

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.

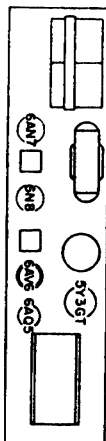
TUNING RANGES:—

Broadcast Band, 535-1610 Kc/s. (Bandspread) 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.)

RECEIVER COVERAGE:—

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

Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
7.	To antenna 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. Re-peak oscil. 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. Turn cond. gang and dial pointer until centre of dial pointer aligns with centre of 1400 Kc/s. spot on dial reading. Adjust oscil. coil trim condenser for logging and re-peak antenna trans. trim. condenser for max. output.
8.	To antenna lead from receiver.	1400 Kc/s.	200MMF. Mica capacitor in series with generator.	Turn dial pointer and cond. gang to 9.6 Mc/s. Adjust 31 metre band oscil. coil ind. trim. (iron core) for logging and peak 31 metre ant. trans. trim. (iron core) for max. output. Rock cond. gang to and fro through the signal while adjusting.
9.	Turn wave change switch to 25 and 19 metre bands).	400 ohm non-inductive 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. (iron core) for max. output. Rock cond. gang to and fro through the signal while adjusting.
10.	To antenna lead from receiver.	11.8 Mc/s.	400 ohm non-inductive resistor.	Turn dial pointer and cond. gang to 15.2 Mc/s. Adjust 19 metre band oscil. 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.
11.	To antenna lead from receiver.	15.2 Mc/s.	400 ohm non-inductive resistor.	Turn dial pointer and cond. gang to 100 Kc/s. mark on the dial.
12.	To antenna lead from receiver.	31 Metre spreadband coil, 25 Metre spreadband coil, 19 Metre spreadband coil,	RED spot on iron core end of former. WHITE spot on iron core end of former. BLUE spot on iron core end of former.	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.

Operation No.	Generator Connection	Generator Frequency	Dummy Antenna	Instructions
1.	To control 6N8 I.F. valve (pin No. 2)	455 Kc/s.	0.01MF. Mica capacitor in series with generator.	Turn wave change switch to B/east band. Leave grid wire attached to valve socket. Peak 2nd I.F. trans. pri. and sec. for max. output.
2.	To control 6AN7 valve (pin No. 2)	455 Kc/s.	0.01MF. Mica capacitor in series with generator.	Turn cond. gang plates fully out of mesh. Leave grid wire attached to valve socket. Peak 1st I.F. trans. pri. and sec. for max. output.
3.	Fully mesh the cond. gang plates.			Repeat operations No. 1 and 2.
4.	With the centre of the end of travel mark on lead from receiver.	600 Kc/s.	200MMF. Mica capacitor in series with generator.	Set the centre of the dial pointer to align centre of dial reading near 540 Kc/s.
5.	To antenna 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 oscil. coil inductance trim (iron core) for max. output.
6.	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 oscil. coil trim condenser for logging and peak antenna trans. trim. condenser for max. output.

ALIGNMENT PROCEDURE

EQUIPMENT

ALIGNMENT CONDITIONS
 Load Impedance: 5,000 ohms.
 Output Level: 500 Milliwatts.
 Vol. Control: Max. Vol. fully clockwise.
 Intermed. Freq.: 455 Kc/s.
 Input Voltage: 230 Volts 50 Cycle AC. input to trans. 221-250 volt pri. tap. Treble position.

Alignment Tools: Type M195 and PM581. Remove cover board from rear of cabinet by unscrewing the screws fastening it to the cabinet, then remove the four push-on control knobs. Unplug the pick-up lead plugs from small sockets beneath grammo motor, the cabinet base indicator lamp lead plug from small socket on chassis and the speaker lead plug from R.H. end of chassis. Disconnect 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 compartment door and place a piece of cloth over top of the door. Remove screws and bracket at top rear edge of dial panel, then lower receiver panel door down to rest on top of record compartment door. Unscrew 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.

Equipment List

Signal Generator:
 Output Meter:
 Mica Capacitor:
 Dummy Antenna:
 Dummy Antenna:
 Alignment Tools:
 To Remove Chassis from Cabinet—

CONTROL KNOBS

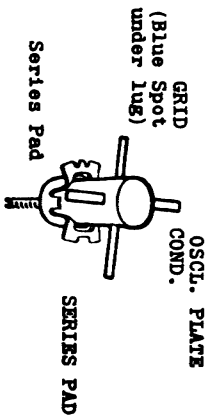
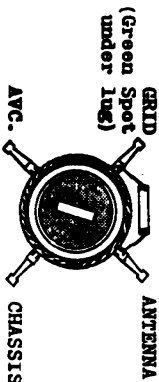
All cabinets except Mahogany		Mahogany	
Tuning	17/779-3	17/779-7	
Volume	17/779-2	17/779-6	
Tone	17/779	17/779-4	
Wave Change	167/81	167/81-2	
Control Knob Spring Clips	22/755	22/755	

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.

ANTENNA TRANS.



19, 25 AND 31 METRE ANT. TRANS.

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

19, 25 AND 31 METRE OSCIL. COIL

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

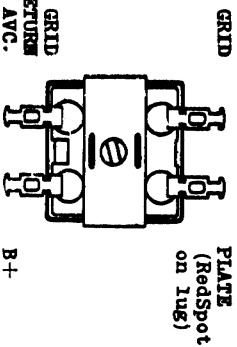
Lead from bottom lug (mounting end) :- CHASSIS - FARTH.
 Lead from bottom lug (mounting end) :- OSCIL. PLATE COND.

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

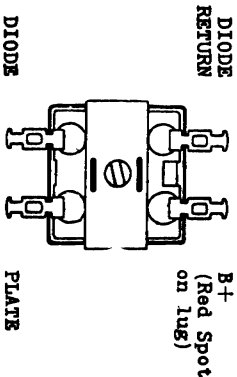
25 Metre spreadband coil, WHITE spot on iron core end of former.

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

1st IF. TRANS.



2nd IF. TRANS.



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. 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.

