ASTOR

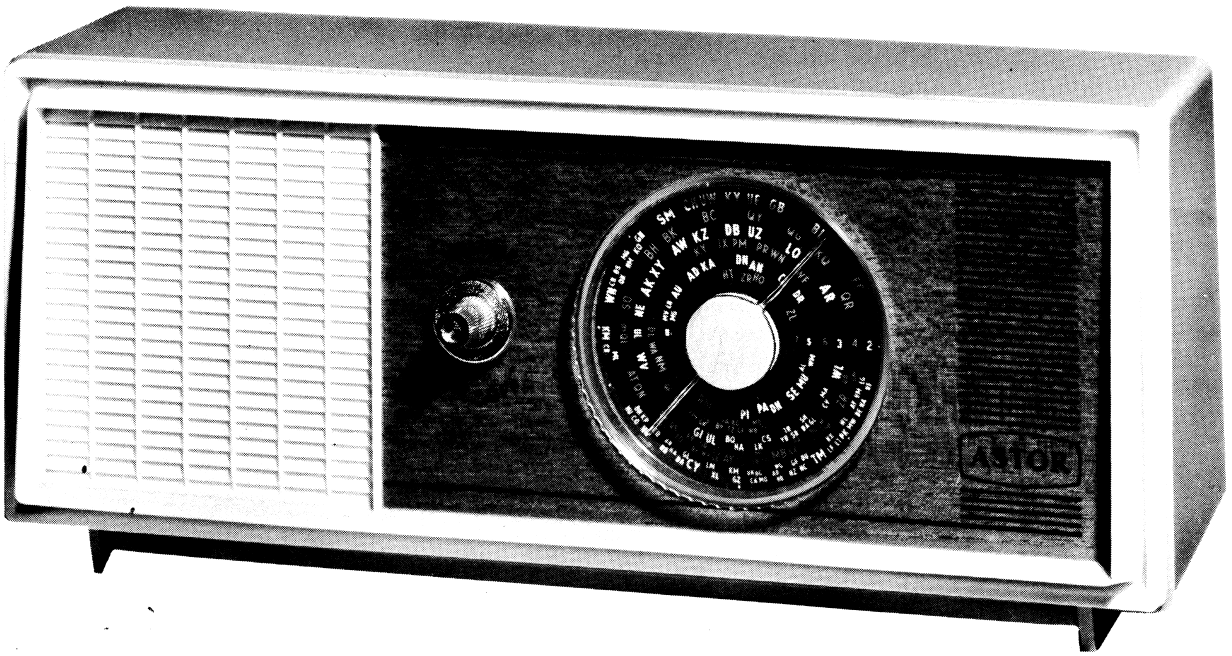
RADIO CORPORATION PTY. LTD.

1090-1140 Centre Road, Clayton

SERVICE DATA

ASTOR MODEL "MB021"

5 TRANSISTOR BROADCAST BAND MAINS OPERATED MANTEL RECEIVER



Tuning Range:	525 - 1630KHz approx.
Intermediate Frequency:	455KHz.
Power Output:	100 milliWatts
Current Consumption:	10 Watts, approx.
Supply Source:	240 Volts. 50Hz.

ACCESS TO INTERIOR

Remove two screws from rear of cabinet and two screws from base of cabinet. Open cabinet by removing cabinet body from front section escutcheon.

CHASSIS SERIAL NUMBER

Serial number is visible through the hand grip aperture at the top in the rear of the cabinet.

CAUTION

Disconnect receiver power lead plug from mains socket before making adjustments inside the cabinet.

ALIGNMENT EQUIPMENT

Signal Generator - modulated 400 Hz.
Output Meter - 15 Ohm impedance
Series Capacitor - for I.F.T. alignment, .1uF
Part No. 4009-008-20

Alignment Tools

(a) Flat metal blade each end - Part No. 4121-001-01 for I.F.T. and oscillator coil iron core adjustment.

(b) Chisel point type Part No. 4121-005-01 for trimmer capacitor adjustment.

ALIGNMENT CONDITIONS

Volume Control - maximum volume (fully clockwise)
Output Level - 50 milliWatts
Output Meter Connection - across speaker voice coil
Supply Voltage Source - 240 Volts - 50 Hz.

DIAL INDICATOR SETTING

1. Prise the push-in type metal insert from the centre of the transparent tuning knob.

2. Loosen the three 1/4" x 3/32" Whit. csk. hd. screws fastening the washer in the centre of the tuning knob.

3. Fully mesh capacitor gang plates, then set centre of indicator line on tuning knob to align with the end of travel spot near "State" station prefix numbers on dial reading.

4. Securely tighten the three 3/32" screws in centre washer then refit push-in metal insert.

CAPACITORS

Circuit No.	Value	Description	Tol ±	Rating V.DCW	Part Number
1		Two Gang - Tuning			4000-028-03
2	5-30pF	Trimmer - compression			4000-023-01
3	.01uF	Disc Ceramic		25	4008-039-06
4	.01uF	Disc Ceramic	20%	25	4008-039-07
5	220pF	Polyester	5%	100	4004-005-03
6	5-15pF	Trimmer - W.W.			4000-024-01
7					
8	.01uF	Disc Ceramic		25	4008-039-10
9	.01uF	Disc Ceramic		25	4008-039-10
10					
11	5uF	Electrolytic		12	4005-018-16
12	220pF	Polyester	5%	100	4004-005-03
13	.01uF	Disc Ceramic		15	4008-039-10
14	220pF	Polyester	5%	100	4004-005-03
15	.22uF	Disc Ceramic		25	4008-053-01
16	.01uF	Disc Ceramic		25	4008-039-10
17	10uF	Electrolytic		16	4005-007-08
18	3uF	Electrolytic		6	4005-034-01
19	.01uF	Disc Ceramic		25	4008-039-10
20					
21	3uF	Electrolytic		6	4005-034-01
22	.22uF	Polyester	10%	160	4009-007-14
23	250uF	Electrolytic		16	4005-011-10
24	100uF	Electrolytic		25	4005-002-28
25	200uF	Electrolytic		18	4005-006-10
26	820pF	Polyester	10%	100	4004-022-03
27	.01uF	Disc Ceramic		25	4008-039-10
28					
29					

RESISTORS

Circuit No.	Value Ohms	Description	Tol ±	Rating Watts	Part Number
30	100K	Carbon	10%	.5	4022-013-02
31	10K	Carbon	10%	.5	4022-004-01
32	82K	Carbon	10%	.5	4022-037-01
33	2.2K	Carbon	10%	.5	4022-021-02
34	82K	Carbon	10%	.5	4022-037-01
35	10K	Carbon	10%	.5	4022-004-01
36	680	Carbon	10%	.5	4022-028-02
37	82K	Carbon	10%	.5	4022-037-01
38	56K	Carbon	10%	.5	4022-003-03
39	8.2K	Carbon	10%	.5	4022-027-02
40					
41	560	Carbon	10%	.5	4022-010-01
42	470	Carbon	10%	.5	4022-016-01
43	1.5K	Carbon	10%	.5	4022-007-01
44	100K	Carbon	10%	.5	4022-013-02
45	5K	Volume Control DP. ST. switch attached			4032-017-08
46	4.7K	Carbon	10%	.5	4022-005-01
47	33K	Carbon	10%	.5	4022-059-03
48	22	Carbon	10%	.5	4022-033-01
49	10K	Carbon	10%	.5	4022-004-01
50					
51	4.7K	Carbon	10%	.5	4022-005-01
52	1.2K	Carbon	10%	.5	4022-040-01
53	220	Carbon	10%	.5	4022-017-01
54	68	Carbon	10%	.5	4022-024-01
55					
56					
57					
58					
59					

MISCELLANEOUS

Circuit Number	Description	Part Number
60		
61	Ferrite Rod Aerial	4074-073-01
62	Oscillator Transformer	4043-019-01
63	No.1 I.F. Transformer (green/orange)	4044-031-01
64	No.2 I.F. Transformer (blue/yellow)	4044-032-03
65	No.3 I.F. Transformer (red/purple)	4044-009-06
66	Power Transformer	4041-052-01
67	Speaker Transformer	4042-073-01
68	Transistor - type AT325, converter	4128-120-01
69	Transistor - type AT319, I.F. Amp.	4128-118-01
70	Transistor - type AT319, I.F. Amp.	4128-118-01
71	Diode - type 1N295B, detector	4127-001-02
72	Diode - type BA100, power	4127-081-01
73	Diode - type BA100, power	4127-081-01
74	Transistor - type AT319, audio Amp.	4128-118-01
75	Transistor - type AT438, audio output	4128-195-01
76	Plug and Lead Assy.	4078-006-01
77	Switch - part of circuit No.45 volume	Control
78	Speaker - 5" dia. - type 5D00/274/15	4056-006-22

MECHANICAL

Part Number	Description
7084-232-11	Front Escutcheon Assembly includes:
7160-385-01	Dial Reading on woodgrain panel
7124-073-01	Knob (1) tuning
7031-043-01	Bush (1) tuning knob mt.
7198-802-04	Screw (2) grub type, bush fastening
7198-125-07	Screw (3) 1/4" x 3/32" Whit. csk. hd., tuning knob to bush
7261-008-03	Washer (1) tuning knob clamping
7119-002-05	Insert (1) tuning knob centre
7124-443-02	Knob (1) volume
7225-035-01	Spring Insert (1) volume knob
7169-088-01	Plate (1) tuning gang
7031-017-01	Bush (4) tuning gang mt.
7196-067-15	Screw (4) 3/8" x No.4BA csk. hd. tuning gang mt.
7106-032-01	Grommet (4) tuning gang mt.
7161-484-06	Chrome Washer (1) volume, control bush
7150-854-28	Barrel Nut (1) volume control bush
7150-901-11	Spacer Nut (1) volume control
7261-380-04	Washer (1) flat steel, 3/8" x 11/16", volume control
7111-060-01	Heat Sink (1) output transistor
7120-026-01	Insulator (10) diode and transistor leads
7215-110-01	Shield (1) between power trans. and detector
7065-203-01	Cover (1) mains ON/OFF switch
7054-051-01	Clamp (1) mains lead anchor
7166-001-01	Support Pillar (2) rod aerial
7279-005-02	Nut Plate (2) rod aerial mount
7225-078-01	Clip (2) rod aerial Mount
7210-519-11	Screw (6) 3/8" x No.6 pan hd., circuit board
7261-138-10	Washer (6) flat steel, 9/64" x 5/16" circuit board
7204-027-05	Screw (4) 3/8" x No.6 hex. hd., speaker mt.
7169-422-01	Plate Strengthening (1) power transformer mt.
7152-751-01	Speednut (4) No.4, captive transformers
7152-754-03	Speednut (2) No.10 captive, escutcheon
7204-580-13	Screw (2) 5/8" x No.10 pan hd., escutcheon to cabinet
7198-951-11	Screw (2) 3/8" x 1/8" Whit. Phillips hd., aerial support
7201-577-03	Screw (2) 1/2" x No.6 Phillips hd., cabinet back

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Insert .1uF capacitor in series with generator "hot" lead.

Oper. No.	Generator Connection	Generator Frequency	Instructions
1.	to pin on circuit board (Term.4 of rod aerial)	455 KHz	Adjust iron core of 3rd IF trans. for max. output.
2.	As oper. 1	455 KHz	Adjust iron core of 2nd IF trans. for max. output.
3.	As oper. 1	455 KHz	Adjust iron core of 1st IF trans. for max. output.
4.	Repeat operations 1, 2 and 3		

BROADCAST ALIGNMENT

A. To inject a signal into the receiver, connect 2 ft. of aerial wire to the "hot" terminal of signal generator. Fashion wire into a vertical position.

B. Place receiver so that ferrite aerial is uppermost and horizontal. Tuning end of receiver is to be toward but not less than one foot from generator aerial wire.

Oper. No.	Generator Connection	Generator Frequency	Instructions
1.	Refer para. A & B	600KHz	Turn tuning gang until centre of dial pointer line on knob aligns with centre of 600KHz spot on dial reading. Peak iron core of oscillator coil and adjust inductance trimming ring on rod aerial.
2.	As oper. 1	1400KHz	Set dial pointer line to 1400KHz spot on dial. Peak oscillator and aerial trimmer capacitors for maximum output.
3.	Repeat oper. 1 and 2 Tuning range after alignment - 525 to 1630KHz.		

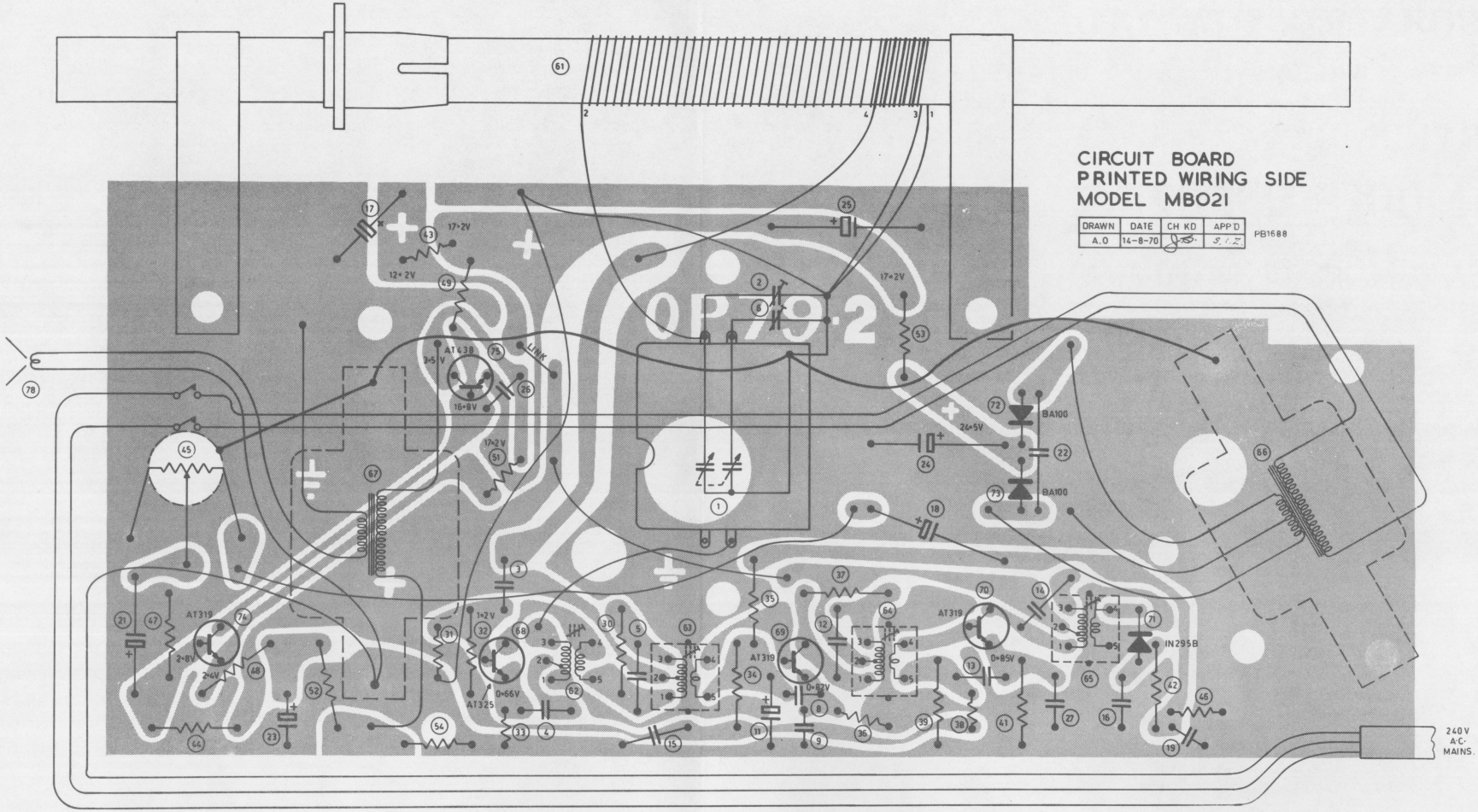
"MB021"

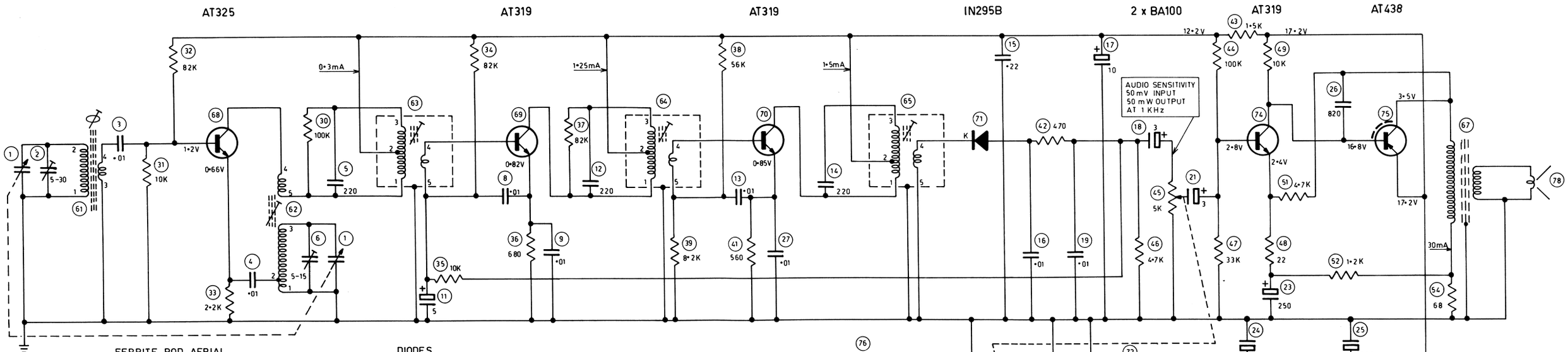
STYLING

Colour	Cabinet Assembly less Cord Entry Slide Assy.	Cord Entry Slide Assembly
Charcoal	7039-005-24	7221-001-04
Squirrel	7039-005-30	7221-001-10
White	7039-005-33	7221-001-13
Coin Gold	7039-005-34	7221-001-16
Wild Pomegranate	7039-005-35	7221-001-17

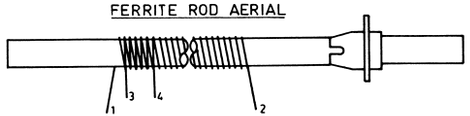
CLEANING OF CABINET

Do not polish cabinet plastic or metal sections with an abrasive material, motor car polish, boot polish or similar household cleaning fluids, as permanent damage may result to the finish of the components.

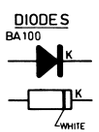

CIRCUIT BOARD
PRINTED WIRING SIDE
MODEL MB021
DRAWN | DATE | CH KD | APP'D
A.O | 14-8-70
PB1688
OP 79-2
17·2V
12·2V
3·5 V
AT 438
LINK
16·8V
17·2V
24·5V
BA100
BA100
AT319
2·8V
24V
1·2V
AT325
0·66V
AT319
0·87V
AT319
0·85V
IN295B
240V A.C. MAINS.



FERRITE ROD AERIAL



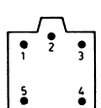
DIODES



ALL VOLTAGES MEASURED BETWEEN POINTS INDICATED AND EARTH WITH A D.C. VACUUM TUBE VOLTMETER (NO INPUT SIGNAL) 240V 50 Hz A.C. INPUT TO POWER TRANSFORMER.

NUMBERS ASSIGNED TO TERMINALS OF COILS AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT BE FOUND ON THE UNIT.

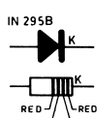
TRANSISTORS
UNDERSIDE VIEW



OSCILLATOR COIL & I.F TRANSFORMER UNDERSIDE VIEW

AT319
AT325

AT438
NOTE> COLLECTOR CONNECTED TO CASE



MODEL MB021

I.F 455 KHz

DRAWN	DATE	CH'KD	APP'D
A.O.	11-8-70		

PB1687