ASTOR

ASTOR ELECTRONICS PTY. LTD.

DIVISION OF ELECTRONIC INDUSTRIES LTD., BOX 183, P.O. SOUTH MELBOURNE

Reg. Office: Astor House, 161-173 Sturt St., South Melbourne. Telegrams: "Schuh"

SERVICE DATA
ASTOR MODEL "P15N"
7 TRANSISTOR PORTABLE

Tuning Range: 528 - 1605 Kc/s
Intermediate Frequency: 455 Kc/s
Power Output: 160 Milliwatts
Current Consumption: 9 mA.
Supply Source: 6V. DC. four 1.5V cells in series

ACCESS TO INTERIOR

Remove screw from rear of cabinet.

Insert coin or blade into slot at base of cabinet, twist and lift back off body of cabinet.

CHASSIS SERIAL NUMBER

Remove cabinet back and view serial number stamped into metal chassis near trimmer capacitors.

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ALIGNMENT EQUIPMENT

Signal Generator	-	modulated 400 cps
Output Meter	-	15 ohm impedance
Generator Series Capacitor	-	.1uF Part No. 4006-005-03 for I.F.T. alignment
Alignment Tool	-	Flat blade each end Part No. 4121-001-01

ALIGNMENT CONDITIONS

Volume Control	-	maximum
Output Meter Connection	-	to speaker "OFF" jack socket
Supply Voltage	-	6V D.C. (four 1.5V cells in series)

INTERMEDIATE FREQUENCY TRANSFORMER ALIGNMENT

Remove back off cabinet. The receiver chassis does not have to be removed for alignment purposes.

Set tuning gang to high frequency end of travel position.

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

Oper. No.	Generator Connection	Generator Frequency	Instructions
	To pin "B" on circuit board (converter base)	455 Kc/s	Adjust iron core of 3rd IF trans. for max. output
2	As oper. 1	455 Kc/s	Adjust iron core of 2nd IF trans. for max. output.
3	As oper. 1	455 Kc/s	Adjust iron core of 1st IF trans. for max. output
4	Repeat operations 1, 2 and 3.		

SETTING THE DIAL POINTERS

Turn thumb wheel until tuning capacitor is against low frequency end of travel stop. Pointers are to align with end of travel spots on dial reading.

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 and B	600 Kc/s	Set tuning pointers to 600 Kc/s spot on dial. Adjust iron core of oscillator coil also moveable winding on rod aerial for maximum output.
2	As oper. 1	1400 Kc/s	Set tuning pointers to 1400 Kc/s spot on dial. Adjust oscillator and aerial trimmer capacitors for maximum output.
3	Repeat operation 1		
4	As oper. 1	1400 Kc/s	Tune to generator signal and adjust aerial trimmer capacitor whilst rocking tuning gang thru signal.
5	Tuning range after alignment	528 - 1605 Kc/s approx.	

REMOVING CHASSIS FROM CABINET

Remove cabinet back.

Lift battery holder out of cabinet.

Lift battery contact spring and stud plates out of cabinet slots.

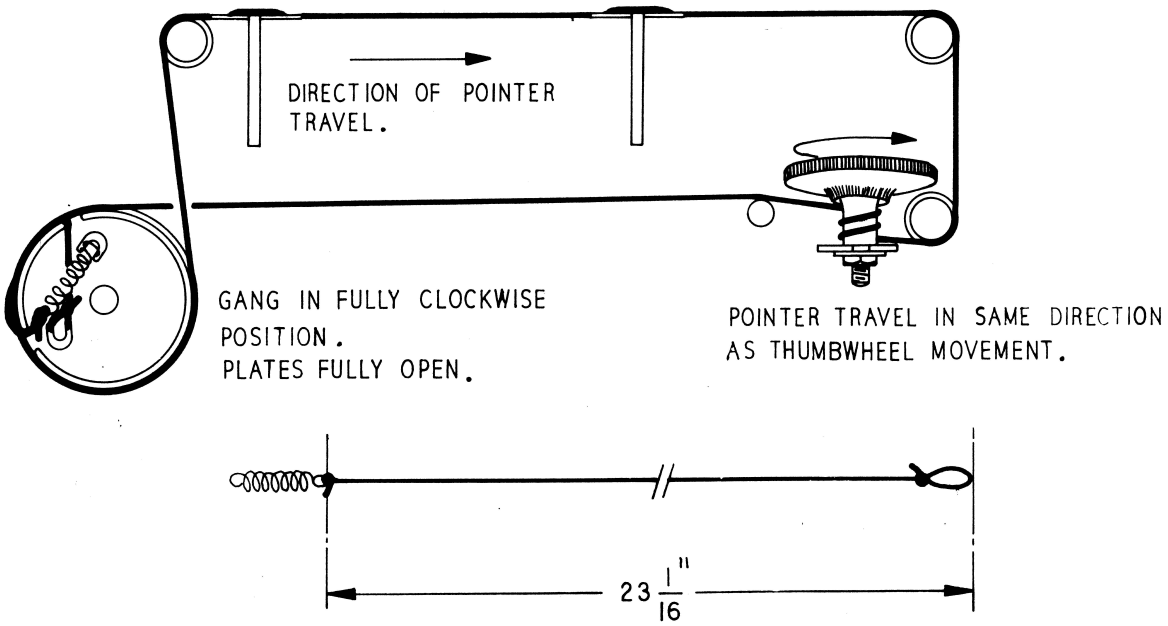
Lift jack socket mount plates out of cabinet slots.

Remove (4) black screws from chassis then lift chassis upward.

Disconnect leads from speaker then lift chassis away from cabinet. Remove (2) screws fastening tone switch in position.

Refitting is the reverse to removal.

DIAL CORDING



Prepare cord and spring then install as shown.

OUTPUT TRANSISTOR COLLECTOR CURRENT ADJUSTMENT

Equipment: 0 - 10 mA. DC meter

Conditions: Disconnect the link marked "M" on the circuit board pins located near the left-hand end of board. Connect meter positive lead to the collector of AC132 (pin toward top of board). Connect meter negative lead to other pin (chassis).

Connect 6V. DC supply to receiver, switch "ON" and turn volume control to min. position. Do not disconnect speaker.

Adjust bias potentiometer to obtain a reading of 2.5 mA. at a room temperature of 25°C.

NOTE: Reading will vary with temperature. From this table select the correct current and adjust bias to obtain same.

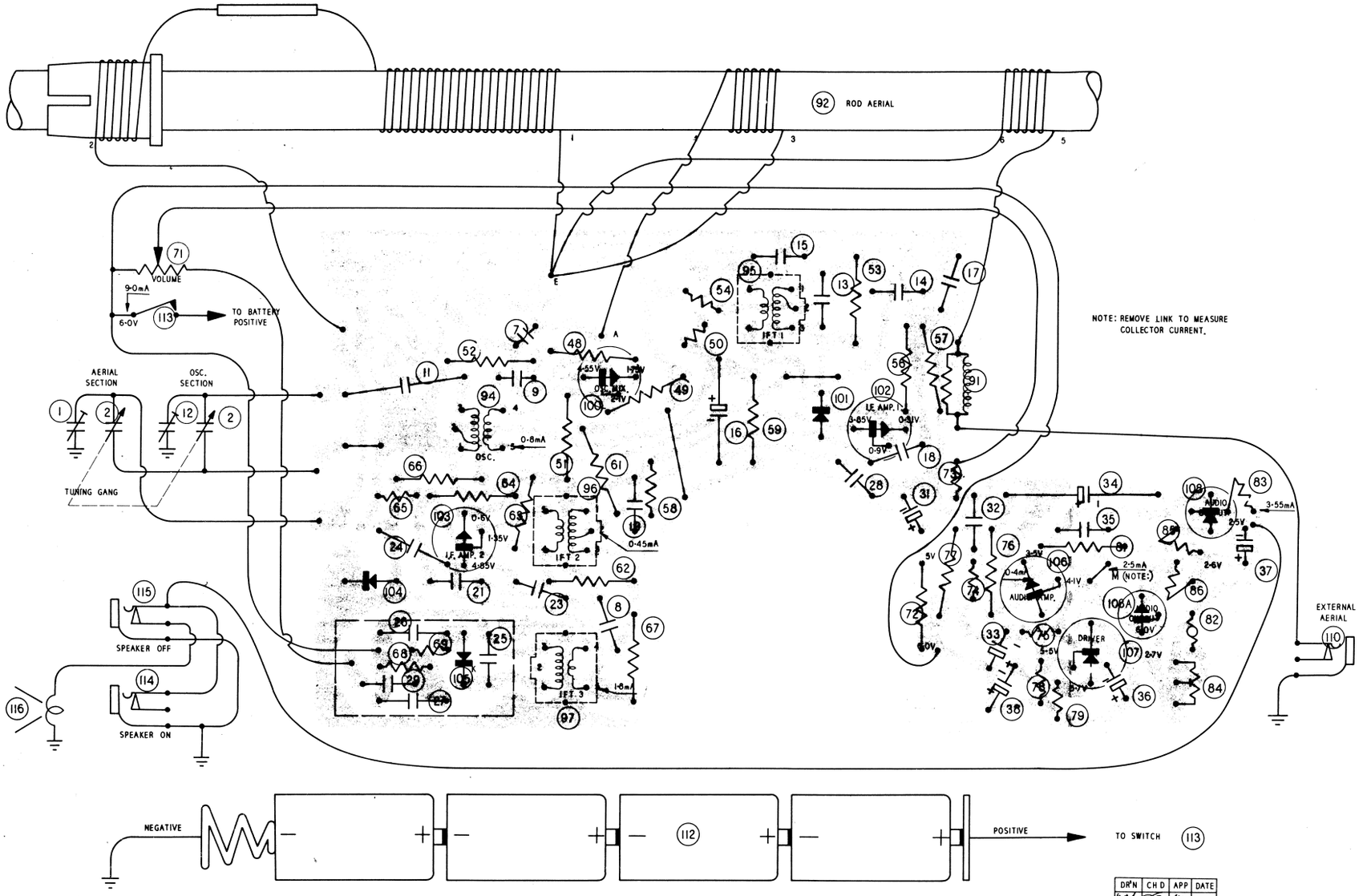
59°F	-	15°C	1.2 mA
68°F	-	20°C	1.7 mA
77°F	-	25°C	2.5 mA
86°F	-	30°C	2.9 mA
104°F	-	40°C	4.6 mA
113°F	-	45°C	5.9 mA

Bridge the two pins with a soldered wire link.

CLEANING AGENT FOR PLASTIC BAG AND MOULDED PLASTIC CASE

Do not polish the carry bag or the moulded plastic case with an abrasive material, motor car polish, boot polish or similar household cleaning fluids as permanent damage may result to the finish of the bag or the moulded case.

To restore the finish of the carry bag and moulded case wipe with a soft cloth dampened with water and lightly polish with a neutral wax.



DR'N	CH'D	APP	DATE

CIRCUIT BOARD PRINTED WIRING SIDE MODEL P15N.

PB1455 A

CIRCUIT NO.	MISCELLANEOUS	PART NUMBER
91	Coil, loading	4036-051-01
92	Ferrite rod aerial	4074-065-01
93		
94	Oscillator transformer	4043-049-01
95	I.F. transformer No. 1-455 Kc/s (orange-green)	4044-031-01
96	I.F. transformer No. 2-455 Kc/s (orange-blue)	4044-031-02
97	I.F. transformer No. 3-455 Kc/s (orange-violet)	4044-031-03
98		
99		
100	Converter transistor - SE1001	4128-063-01
101	Overload diode - 1N295	4127-001-01
102	I.F. amp. transistor No. 1 - SE1001	4128-063-01
103	I.F. amp. transistor No. 2 - SE1001	4128-063-01
104	A.G.C. control diode - 1N295	4127-001-01
105	Detector diode - 1N67	4127-025-01
106	Audio amp. transistor - SE2001	4128-064-01
107	Audio driver transistor - 2N406	4128-009-02
	Push-pull output transistors - AC127/132 consist of:	4128-065-01
108	Transistor AC132 (Supplied as	
108A	Transistor AC127 matched units only)	
109		
110	Socket-external aerial	7222-033-01
111		
112	Battery (4) 1.5 volt - Eveready 1035	4062-001-03
113	Switch - part of circuit No. 71	
114	Socket - speaker 'ON'	7222-033-01
115	Socket - speaker 'OFF'	7222-033-01
116	Speaker - 5" x 3" type 53D00/277/15	4056-016-04

MECHANICAL - WIRED CHASSIS ASSY.

7167-058-01	Pin (5) Circuit board
7120-026-01	Bead (20) transistor and diode spacer
7045-026-01	Shield - detector circuitry
7201-576-16	Screw (3) 5/16" x No. 4 Phillips hd. - board to chassis
7106-033-01	Grommet (2) rod aerial
7309-150-01	Screw (2) gang mount (supplied with gang)
7077-030-02	Drum-dial
7198-801-04	Screw (2) 5/32" x 1/8" BSW cup pointed grub
7225-129-01	Spring - dial cord
1107-002-03	Dial cord - 27½" required
7174-045-01	Pulley (3) dial cord
7198-175-11	Screw (3) ¼" x 3/32" BSW Rd. Hd. - pulleys
7272-018-01	Thumb wheel - tuning
7198-923-01	Screw-special-tuning wheel mount
7262-507-01	Washer - 7/64" Ext. S/P. - screw
7148-001-02	Nut - 3/32" BSW. hex. - screw
7272-019-01	Thumb wheel assy. - volume consists of:
7272-017-11	Thumb wheel
7055-366-14	Circlip
7244-034-01	Terminal (2) speaker terminations

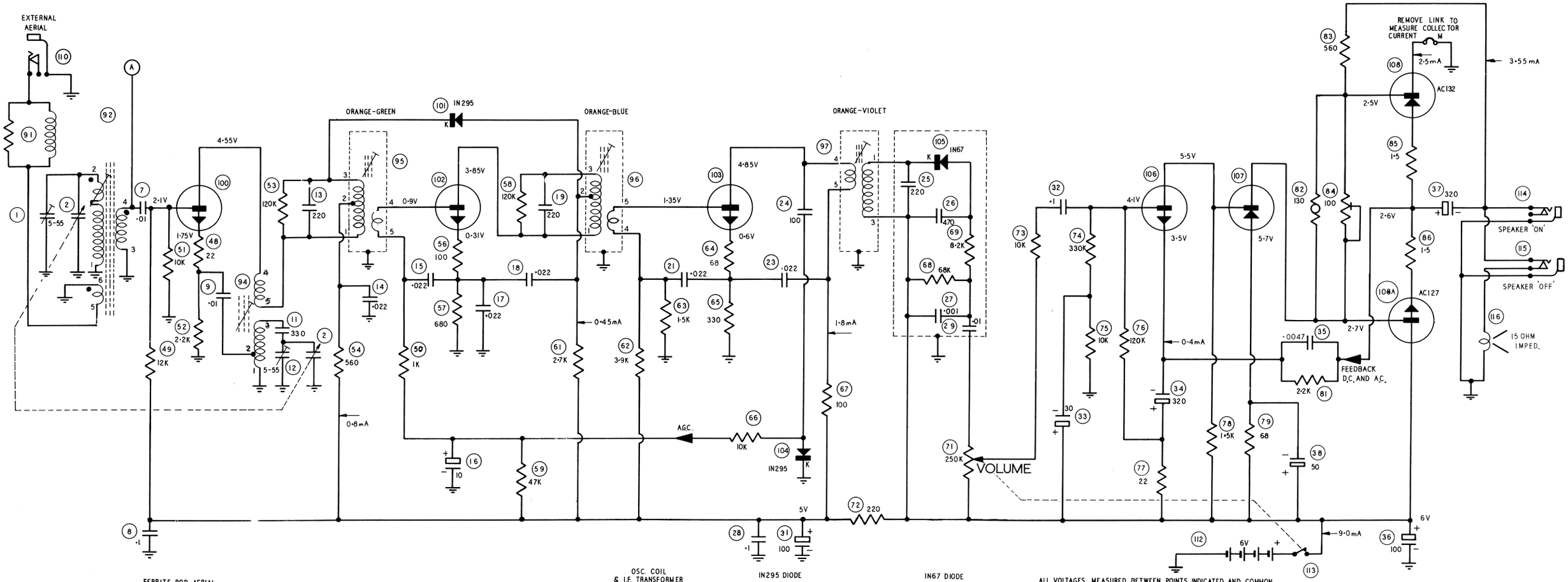
MECHANICAL - CABINET

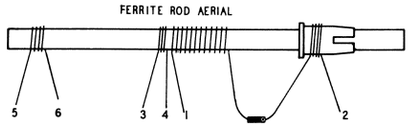
7198-326-11	Screw $\frac{1}{4}$" x $\frac{1}{8}$" BSW. mush. hd. - cab. back
7204-576-19	Screw (4) $\frac{3}{8}$" x No. 4 Phillips hd. - chassis to cab.
7234-119-01	Stud - cab. back screw
7169-560-02	Plate (2) battery contact
7225-206-01	Spring - battery contact
7220-090-01	Battery holder - moulded
7116-105-01	Plate - aerial socket
7116-104-01	Plate - speaker sockets
7005-057-02	Dial background
7204-075-15	Screw - 3/16" x No. 2 bdr. hd. - background to chassis
7173-060-02	Pointer (2)
7198-924-01	Screw (4) 5/32" BSW. - speaker mount
7148-303-13	Nut (4) 5/32" BSW. hex - speaker mount
7262-010-01	Washer (4) 5/32" Int. S/P - speaker mount
7261-180-20	Washer (4) steel - between cab. and speaker
7027-538-02	Bracket (2) carrying strap
7198-126-17	Screw (2) $\frac{1}{4}$" x $\frac{1}{8}$" BSW. c'sk. hd. - brackets
7330-019-01	Dial surround
7070-106-02	Dial
4085-125-01	Earphone
7010-204-01	Bag-carrying-complete with strap and earphone bag

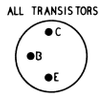
STYLING

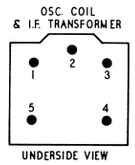
7040-026-01	Cabinet assy comp. - Dark Green
	Includes:
7040-024-01	Cabinet assy. - Dark Green
	Consists of:
7040-023-01	Cabinet - Dark Green
7031-059-01	Bush-threaded
7104-077-01	Grille assy.
	Consists of:
7104-074-01	Grille
7008-350-11	Badge - SEVEN - Light Green
7102-080-01	Gasket
7198-924-01	Screw (4) - speaker
7006-181-01	Back-Cabinet

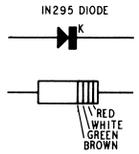
SE1001 SE1001 SE1001 SE2001 2N406 AC127/132

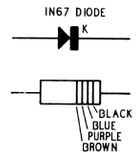












ALL VOLTAGES MEASURED BETWEEN POINTS INDICATED AND COMMON NEGATIVE WITH A D.C. VACUUM TUBE VOLTMETER (NO SIGNAL)

CURRENTS INDICATED ARE MEASURED WITH AVO MULTIMETER MODEL 8 (NO SIGNAL)

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

I.F. 455 Kc./s.

DRN	CHD	APP	DATE
KJC		BJ	11-2-66

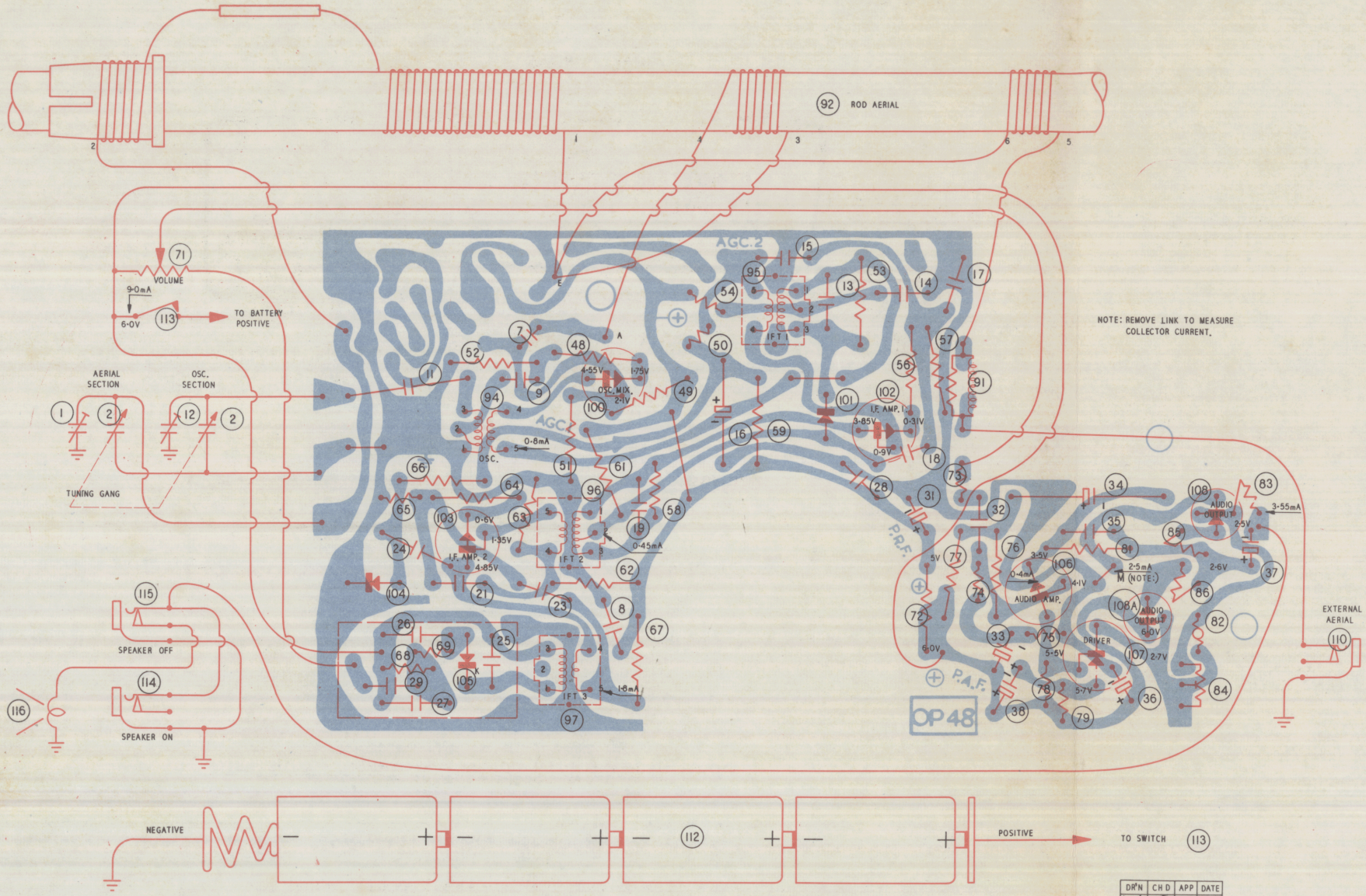
COMPONENT PARTS LIST

MODEL P15N

PB1441

CIR-CUIT NO.	CAPACITORS CAPACITY	DESCRIPTION	TOL ±	VOLTS DCW	PART NUMBER
1	5-55pF	Trimmer			4000-001-03
2		Two gang, tuning			4000-043-01
3					
4					
5					
6					
7	.01uF	Ceramic, disc		25	4008-039-06
8	.1uF	Ceramic, disc		25	4008-004-04
9	.01uF	Ceramic, disc		25	4008-039-06
10					
11	330pF	Mica, silvered	2.5%	500	4003-021-03
12	5-55pF	Trimmer			4000-001-03
13	220pF	Polystyrene	5%	100	4004-005-03
14	.022uF	Ceramic, disc		25	4008-010-05
15	.022uF	Ceramic, disc		25	4008-010-05
16	10uF	Electrolytic		3	4005-007-11
17	.022uF	Ceramic, disc		25	4008-010-05
18	.022uF	Ceramic, disc		25	4008-010-05
19	220pF	Polystyrene	5%	100	4004-005-03
20					
21	.022uF	Ceramic, disc		25	4008-010-05
22					
23	.022uF	Ceramic, disc		25	4008-010-05
24	100pF	Ceramic, disc, N750	5%	500	4008-006-11
25	220pF	Polystyrene	5%	100	4004-005-03
26	470pF	Polystyrene	10%	100	4004-002-05
27	.001uF	Polystyrene	20%	100	4004-001-02
28	.1uF	Ceramic, disc		25	4008-004-04
29	.01uF	Ceramic, disc		25	4008-039-06
30					
31	100uF	Electrolytic		6	4005-002-03
32	.1uF	Ceramic, disc		25	4008-004-04
33	30uF	Electrolytic		6	4005-033-01
34	320uF	Electrolytic		2.5	4005-028-01
35	.0047uF	Ceramic, disc		25	4008-037-03
36	100uF	Electrolytic		6	4005-002-30
37	320uF	Electrolytic		6.4	4005-028-03
38	50uF	Electrolytic		3	4005-001-13
39					
40					
41					
42					

CIR-CUIT NO.	RESISTORS VALUE OHMS	DESCRIPTION	TOL ±	RATING WATTS	PART NUMBER
43					
44					
45					
46					
47					
48	22	Carbon	10%	.5	4022-033-01
49	12K	Carbon	10%	.5	4022-029-01
50	1K	Carbon	10%	.5	4022-008-01
51	10K	Carbon	10%	.5	4022-004-01
52	2.2K	Carbon	10%	.5	4022-021-02
53	120K	Carbon	10%	.5	4022-031-01
54	560	Carbon	10%	.5	4022-010-01
55					
56	100	Carbon	10%	.5	4022-062-01
57	680	Carbon	10%	.5	4022-028-02
58	120K	Carbon	10%	.5	4022-031-01
59	47K	Carbon	10%	.5	4022-051-03
60					
61	2.7K	Carbon	10%	.5	4022-043-01
62	3.9K	Carbon	10%	.5	4022-020-01
63	1.5K	Carbon	10%	.5	4022-007-01
64	68	Carbon	10%	.5	4022-024-01
65	330	Carbon	10%	.5	4022-011-01
66	10K	Carbon	10%	.5	4022-004-01
67	100	Carbon	10%	.5	4022-062-01
68	68K	Carbon	10%	.5	4022-048-01
69	8.2K	Carbon	10%	.5	4022-027-02
70					
71	250K	Volume control			4032-013-20
72	220	Carbon	10%	.5	4022-017-01
73	10K	Carbon	10%	.5	4022-004-01
74	330K	Carbon	5%	.5	4022-047-09
75	10K	Carbon	10%	.5	4022-004-01
76	120K	Carbon	5%	.5	4022-031-09
77	22	Carbon	10%	.5	4022-033-01
78	1.5K	Carbon	5%	.5	4022-007-07
79	68	Carbon	5%	.5	4022-024-05
80					
81	2.2K	Carbon	10%	.5	4022-021-02
82	130	Thermistor, disc, N.T.C.	10%	1.25	4021-002-02
83	560	Carbon	5%	.5	4022-010-09
84	100	Potentiometer, collector current adjust			4025-031-01
85	1.5	Wire wound	10%	.5	4024-020-01
86	1.5	Wire wound	10%	.5	4024-020-01
87					
88					
89					
90					



DR'N	CH'D	APP	DATE
			14-2-66

CIRCUIT BOARD PRINTED WIRING SIDE MODEL P15N.

PBI455 A B