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

TECHNICAL BULLETIN

SUBJECT-- Summary of Changes

Made

During Production of this Receiver

26/6/41 to 26/6/44.

1. 400MFD. EEC type electrolytic condensers part number PC385 were used in place of the 500MFD. electrolytics PC295 when 500MFD. electrolytics were in short supply. To compensate for the lower capacities an ET type 500MFD. electrolytic was wired in parallel with the first electrolytic circuit number 26.
2. A 25MMFD. wire wound cond. part No. PC222 was used in place of the 20MMFD. wire wound cond. on some production runs to improve the peaking position of the oscl. trimmer.
3. Standard amphenol type 4 pin plugs and sockets not being obtainable a 4 pin socket PM148 was mounted on console cabinet shelf and speaker plug and cover PM669 was wired on speaker leads.
4. During the first years of the war all dial lamps with their respective sockets and parts, plus the press button switch were deleted due to parts not being obtainable.
5. 8MFD/525VP. E'lytic condensers part number PC262 were used in place of the 8MFD/350VP. when the 350 volt type were not available.
6. A 1MFD/200V. paper condenser part number PC182 may be used in place of the .85MFD. cond. circuit number 2.
7. A 16.6 ohm half watt resistor part No. PR416 was used in place of the 16.6 ohm one watt resistor PR374 when 1 watt type were not available.
8. A 1A7G or 1A7GT tube was used in place of the 1C7G tubes when 1C7G tubes were not obtainable.

Parts added.

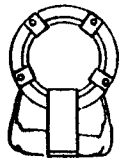
1 off 200,000 ohm resistors PR255.
1 " 20,000 ohm resistors PR166
1 " 70,000 ohm resistors PR256
1 " 5,000 ohm resistors PR250
1 " 16.6 ohm resistors PR374
1 " 100 ohm resistors 15%-0% PR396
1 " .1MFD/200V. cond. PC218
1 " Terminal strip A103/509
1 " 1A7G or 1A7GT tube

Parts deleted.

2 off 50,000 ohm resistors PR160
1 " 1C7G tube

SUBJECT- Coil and IF. Transformer Connections.

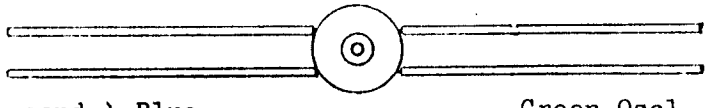
A.V.C. Earth



(Outside secondary) Grid Antenna (Inside primary)

Ant. Trans.

Padder Red Black Padder



(Oscl. plate cond.) Blue Green Oscl Grid

Oscl. Coil

AVC. Black Green Grid

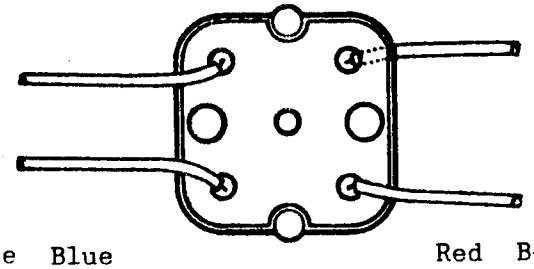


Plate Blue Red B+

1st IF. Trans.

Diode Return Black Green Diode

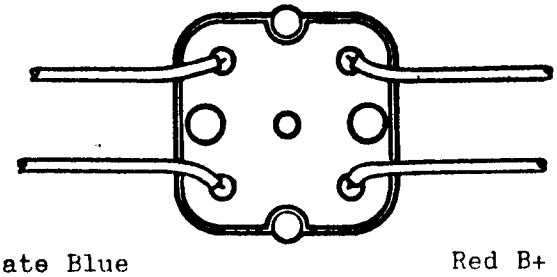
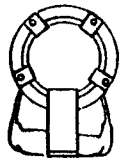


Plate Blue Red B+

2nd IF. Trans.

SUBJECT- Coil and IF. Transformer Connections.

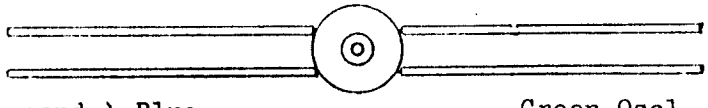
A.V.C. Earth



(Outside secondary) Grid Antenna (Inside primary)

Ant. Trans.

Padder Red Black Padder



(Oscl. plate cond.) Blue Green Oscl Grid

Oscl. Coil

AVC. Black Green Grid

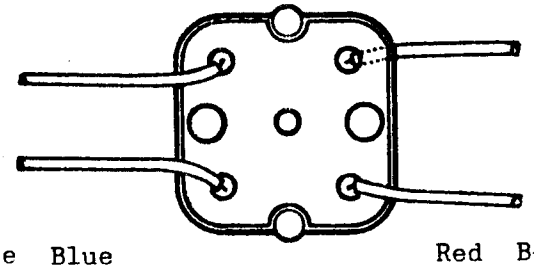


Plate Blue Red B+

1st IF. Trans.

Diode Return Black Green Diode

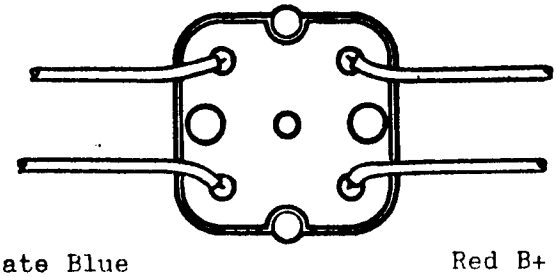


Plate Blue Red B+

2nd IF. Trans.

SUBJECT-

Mechanical Parts Console Model

Dial Reading-Glass	1/287
Dial Diffuser Plate-Glass	12/285
Dial Frame	A106/285
Amphenol Socket Cover	216/224
Dial Pointer Assembly Felt Pad Type	A104/285
Dial Pointer Assembly Type without felt pad	A107/285
Dial Pointer Slider Bar	22/285
Control Extensions	6/281
Control Knob	53/81
Control Knob Spring Insert	17/81
Console Cabinet Cabinets are interchangeable	AB41 changed to AA42
Chassis Mount Feet (metal strip) Left Hand	A103/215-1
Chassis Mount Feet (metal strip) Left Hand	A103/215-2

Mechanical Parts Mantel Model

Dial Reading-Glass	5/287
Dial Diffuser Plate-Glass	4/284
Dial Frame	A107/281
Dial Pointer Assembly (Felt Pad Type)	A135/87
Dial Pointer Assembly (Type without felt pad)	A109/281
Dial Pointer Slider Bar	22/285
Control Extensions	44/81
Control Knobs (with spring insert)	A119/81
Cabinet-Bakelite type	24/216-3
Cabinet-Wood Type	88/221-3
Pilot Lamp Socket and Bracket	A102/295
Studs-Speaker Mounting	5/216
Chassis/Cabinet Mounting Screws	17/79

SUBJECT- Component Parts List-Models "DN" and "DNM"

Circuit No.	Part Name	Tol.±	Rating	Part No.
40.	500,000 Ohm Carbon Resistor	10%	½ Watt	PR245
41.	500,000 Ohm Carbon Resistor	10%	½ Watt	PR245
42.	250,000 Ohm Carbon Resistor	10%	½ Watt	PR249
43.	750,000 Ohm Carbon Resistor	10%	½ Watt	PR267
44.	50,000 Ohm Carbon Resistor	10%	½ Watt	PR160
45.	50,000 Ohm Carbon Resistor	10%	½ Watt	PR160
46.	50,000 Ohm Carbon Resistor	10%	½ Watt	PR160
47.	25,000 Ohm Carbon Resistor	10%	½ Watt	PR155
48.	16.6 Ohm Wire Wound	5%	1 Watt	PR374
49.	1 Megohm Carbon Volume Control			PR360 or PR383
50.				
51.	Oscillator Coil			PT414
52.	Antenna Transformer			PT381
53.	1st IF. Transformer			PT386
54.	2nd IF. Transformer			PT387
55.	Power Transformer			PT110 changed to PT455
56.	Filter Choke-fil.-laminated			PT112
57.	B+Filter Choke-laminated			PT108
58.	B+RF. Choke			PT109
59.	B+RF. Choke			PT109
60.	Small Hash Choke			PT111
61.	Midget Hash Choke			PT439
62.				
63.				
64.	Permag Speaker 15,000 Ohm Input Console / Mantel			PM632 / PM631
65.	8 Pin Sockets			PM532
66.	1K7G Tube			
67.	1M5G Tube			
68.	1C7G Tube			
69.	1L5G Tube			
70.	Battery and Tone Control Switch			PM279
71.	Aerial Terminal			PM306
72.	Earth Terminal			PM306
73.	Battery Lead			PM270
74.	Valve Shield			PM217
75.	Push Button Switch			PM395
76.	Vibrator-6 Volt Synchronous			PM413
77.	Dial Lamp 6.3V. .3A. Min Screw Base T3¼ Bulb.			PM140
78.				

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TECHNICAL BULLETIN

SUBJECT- Component Parts List-Models "DN" and "DNM"

Circuit No.	Part Name	Tol.±	Rating	Part No.
1.	1MFD. Paper Condenser	20%	200V. DCW	PC182
2.	.85MFD. Paper Condenser	20%	100V. DCW	PC267
3.	.5MFD. Paper Condenser	20%	400V. DCW	PC115
4.	.5MFD. Paper Condenser	20%	200V. DCW	PC121
5.	.1MFD. Paper Condenser	20%	400V. DCW	PC103
6.	.1MFD. Paper Condenser	20%	200V. DCW	PC218
7.	.05MFD. Paper Condenser	20%	200V. DCW	PC102
8.	.05MFD. Paper Condenser	20%	200V. DCW	PC102
9.	.02MFD. Paper Condenser	20%	400V. DCW	PC111
10.	.02MFD. Paper Condenser	20%	400V. DCW	PC111
11.	.01MFD. Paper Condenser	20%	600V. DCW	PC140
12.	.01MFD. Paper Condenser	20%	600V. DCW	PC140
13.	.004MFD. Paper Condenser	20%	600V. DCW	PC221
14.	.006MFD. Paper Condenser	20%	600V. DCW	PC217
15.				
16.	.004MFD. Mica Condenser	10%	2000VT.	PC143
17.	.001MFD. Mica Condenser	10%	1000VT.	PC108
18.	.0003MFD. Mica Condenser	10%	1000VT.	PC212
19.	.00025MFD. Mica Condenser	10%	1000VT.	PC126
20.	.0001MFD. Mica Condenser	10%	1000VT.	PC110
21.	.0001MFD. Mica Condenser	10%	1000VT.	PC110
22.	.00005MFD. Mica Condenser	10%	1000VT.	PC141
23.	.00005MFD. Mica Condenser	10%	1000VT.	PC141
24.				
25.	500MFD. Electrolytic Condenser	20%	12VP.	PC295
26.	500MFD. Electrolytic Condenser	20%	12VP.	PC295
27.	12MFD. Electrolytic Condenser	20%	350VP.	PC281
28.	8MFD. Electrolytic Condenser	20%	350VP.	PC280
29.				
30.	2 Gang Varb. Cond.			PC292
31.	Series Padding Cond.			PC164
32.	Trimmer Cond. 1.5-18MMFD.			PC250
33.	Trimmer Cond. Wire Wound			PC367
34.	20MMFD. Wire Wound Cond.			PC166
35.	Hash Plate Condenser			
	Mica Strip			29/216
	Hash Plate			19A/47
	Holding Down Plate			19B/47
36.				
37.	1.75 Megohm Carbon Resistor	10%	½ Watt	PR248
38.	1.75 Megohm Carbon Resistor	10%	½ Watt	PR248
39.	500,000 Ohm Carbon Resistor	10%	½ Watt	PR245

SUBJECT- Voltage Table-Model "DN" Console.

Model "DNM" Mantel.

Equipment:-

DC. Volt Meter: 1,000 ohm per volt meter with 0-10 and 0-250 volt scales.
DC. Ammeter: 0-2 amp scale.

Conditions of Test:-

All voltages measured from tube socket contacts to chassis. Receiver tuned to 1,000 Kc. Volume control full on (clockwise) no signal. Accumulator voltage 6 volts.

Tube	Plate	Screen	Grid	Oscl. Plate
1C7G	157V.	62V.	-	65V.
1M5G	157V.	62V.	-	-
1K7G	30V.	30V.	2V.	-
1L5G	147V.	157V.	4V.	-

Note:-Grid voltages derived from voltage drop across filaments.

Battery Consumption:-

1.1 Amps. (does not include dial lamps).

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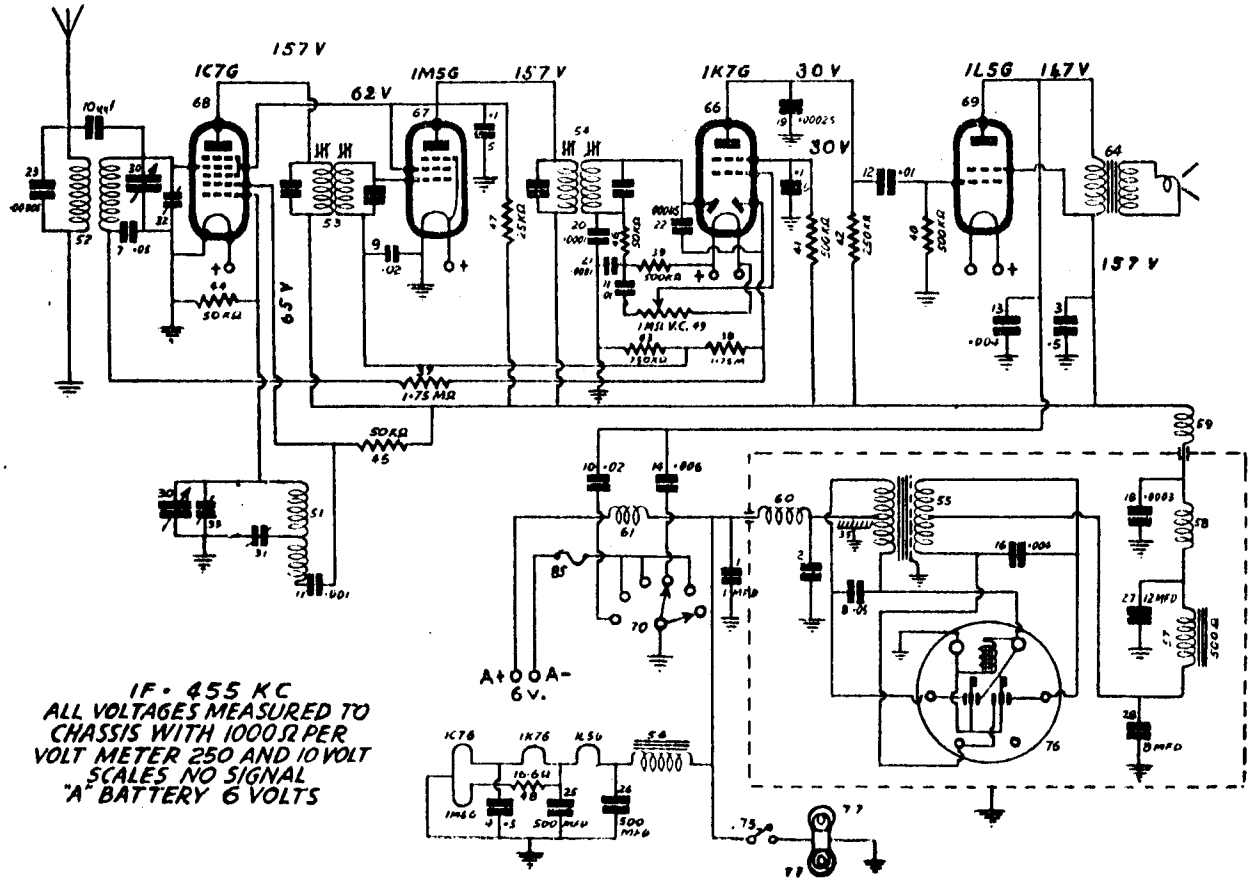
TECHNICAL BULLETIN

SUBJECT- Schematic Circuit Diagram-Models "DN" and "DNM"



SUBJECT- Technical Specifications-Models "DN" and "DNM"

Tube Complement:

Type 1C7G Converter.
Type 1M5G IF. Amplifier.
Type 1K7G Diode Detector, AVC. and 1st Audio.
Type 1L5G Power Output Amplifier.

Intermediate Frequency:-

455 Kc.

Tuning Range:-

540 Kc. (Kilocycles) to 1650 Kc.

Battery Supply:-

6 Volt Accumulator.

Battery Consumption:-

1.1 Amps (Does not include dial lamps).

Power Output:-

.75 Watt (Max.).
.5 Watt (Undistorted).

Vibrator:-

Self Rectifying, Synchronous Type.

General Description:-

The Models "DN" and "DNM" are 4 tube superheterodyne vibrator/battery operated broadcast receivers designed as mantel and console and mantel.

The circuit consists of tuned aerial and oscillator stages with a pentagrid tube type 1C7G as converter followed by an IF. amplifier using a 1M5G tube, a type 1K7G tube for diode detection AVC. and 1st audio which is resistance capacity coupled to a 1L5G power output amplifier tube.

Full AVC. developed across the diode load resistors circuit numbers 38 and 43 is applied to the converter tube and approximately half AVC. to the IF. amplifier tube.

Bias for the tubes is obtained by virtue of their positions in the filament circuit. 4 volts for the 1L5G tube, 2 volts for the 1K7G and zero bias for the 1M5G and 1C7G tubes.

Tone control is incorporated with the battery switch. A synchronous vibrator has been adopted in preference to the split reed type because of its greater reliability and for the same reason the 120 M/a. fil. type tubes are used rather than the less robust 60 M/a. series. The filament circuit is so arranged that if the filament of one tube becomes open the rise in voltage across the remaining tubes is slight and no damage to the filaments will result.

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TECHNICAL BULLETIN

SUBJECT- Alignment Procedure--Models "DN" and "DNM"

Equipment:-

Signal Generator.
Output Meter.
Alignment Tool.
Dummy Antenna:-
.01MFD. Mica Capacitor.
200MMFD. Mica Capacitor.

Alignment Conditions:-

"A" Battery-6 Volts.
Volume Control-Full on (clockwise).
Tone Control-High Tone Position.
Output Level-50 Milliwatts.
Load Impedance-15,000 Ohms.

Dial Pointer Setting:-

Fully mesh the condenser gang plates, then set the dial pointer on the end of travel mark on the dial calibration near 550 Kc.

Alignment:-

Do not use a screwdriver or alignment tool with an iron point for aligning IF. transformers. A special tool part No. PM581 is available from the factory for alignment purposes or failing this an insulated rod with a small brass blade may be used.

SUBJECT- Alignment Procedure (Contd.)-Models "DN" and "DNM"

Operation	Generator Frequency	Generator Connection	Dummy Antenna	Instructions
1.	455 Kc.	To control grid of 1M5G IF. tube.	.01MFD. mica capacitor in series with generator.	Leave grid clip on tube. Peak 2nd IF. trans. primary and secondary.
2.	455 Kc.	To control grid of 1C7G converter tube.	.01MFD. mica capacitor in series with generator.	Leave grid clip on tube. Turn gang plates full out. Peak 1st IF. Trans. primary and secondary.
3.	1,400 Kc.	To antenna terminal.	200MMFD mica capacitor in series with generator.	Turn Pointer and cond. gang to 1,400 Kc. Adjust oscl. trimmer for logging and peak aerial coil trimmer.
4.	600 Kc.	To antenna terminal.	200MMFD. mica capacitor in series with generator.	Turn pointer and cond. gang to 600 Kc. Adjust series padder for max. output, rock gang to and fro while adjusting.
5.	Repeat operations numbers 3 and 4.			

Tuning range 540 – 1650 Kc.

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TECHNICAL BULLETIN

SUBJECT- Model "DN" Console

Model "DNM" Mantel

4 Tube Vibrator/Battery

Operated Superheterodyne Broadcast Receivers.

Operation is from:-

A 6 Volt Accumulator.

This Bulletin Contains:-

1. Technical Specifications.
2. General Description.
3. Alignment Procedure.
4. Circuit Diagram.
5. Voltage Table.
6. Component Parts List.
7. Coil and IF. Transformer Connections.
8. Summary of Circuit Changes Made During Production.

This Receiver is NOT in Production

Information is for Service Purposes ONLY

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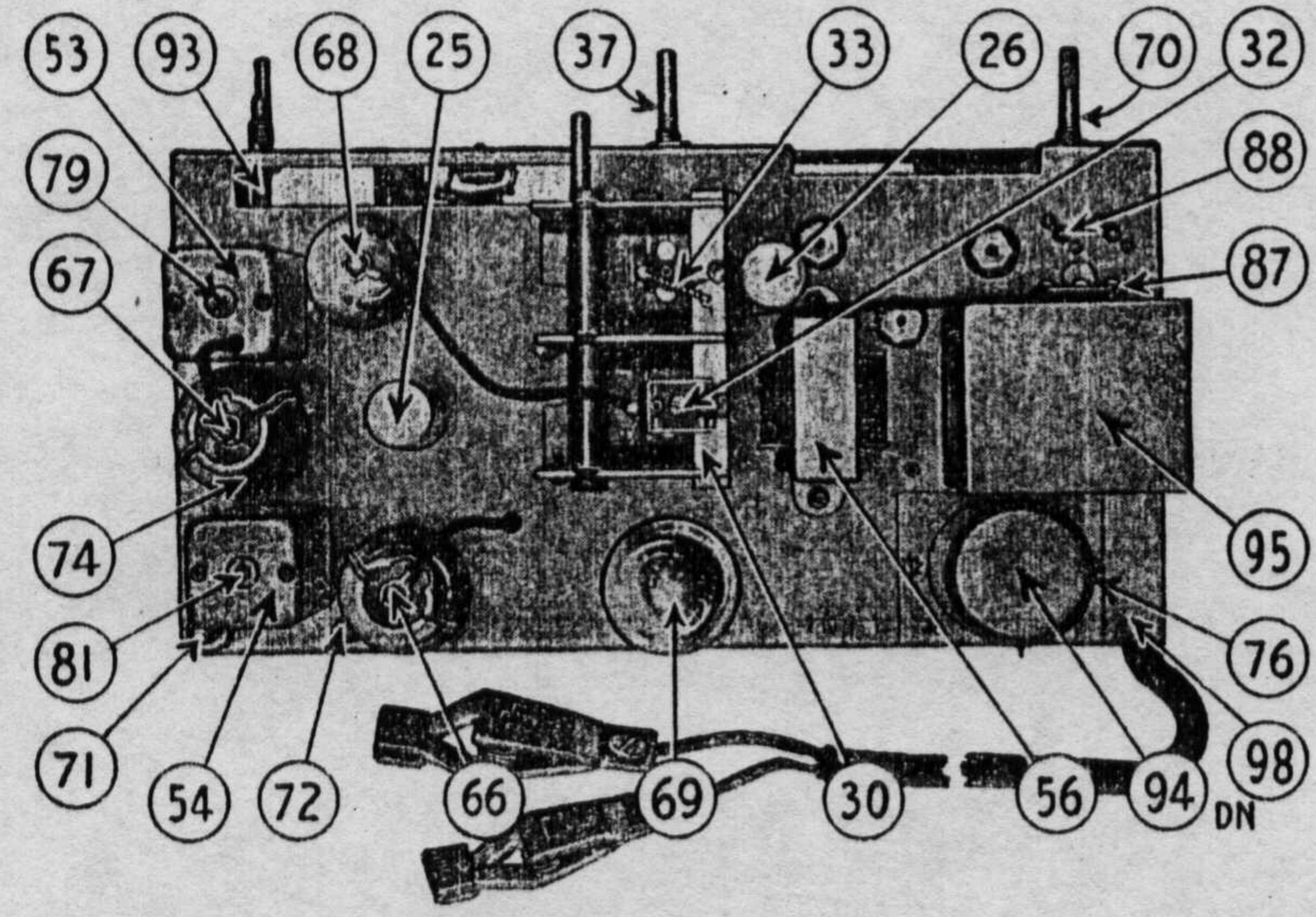
TECHNICAL BULLETIN

SUBJECT- Top View of Chassis-Models "DN" and "DNM"



Bottom View of Chassis-Model "DN"