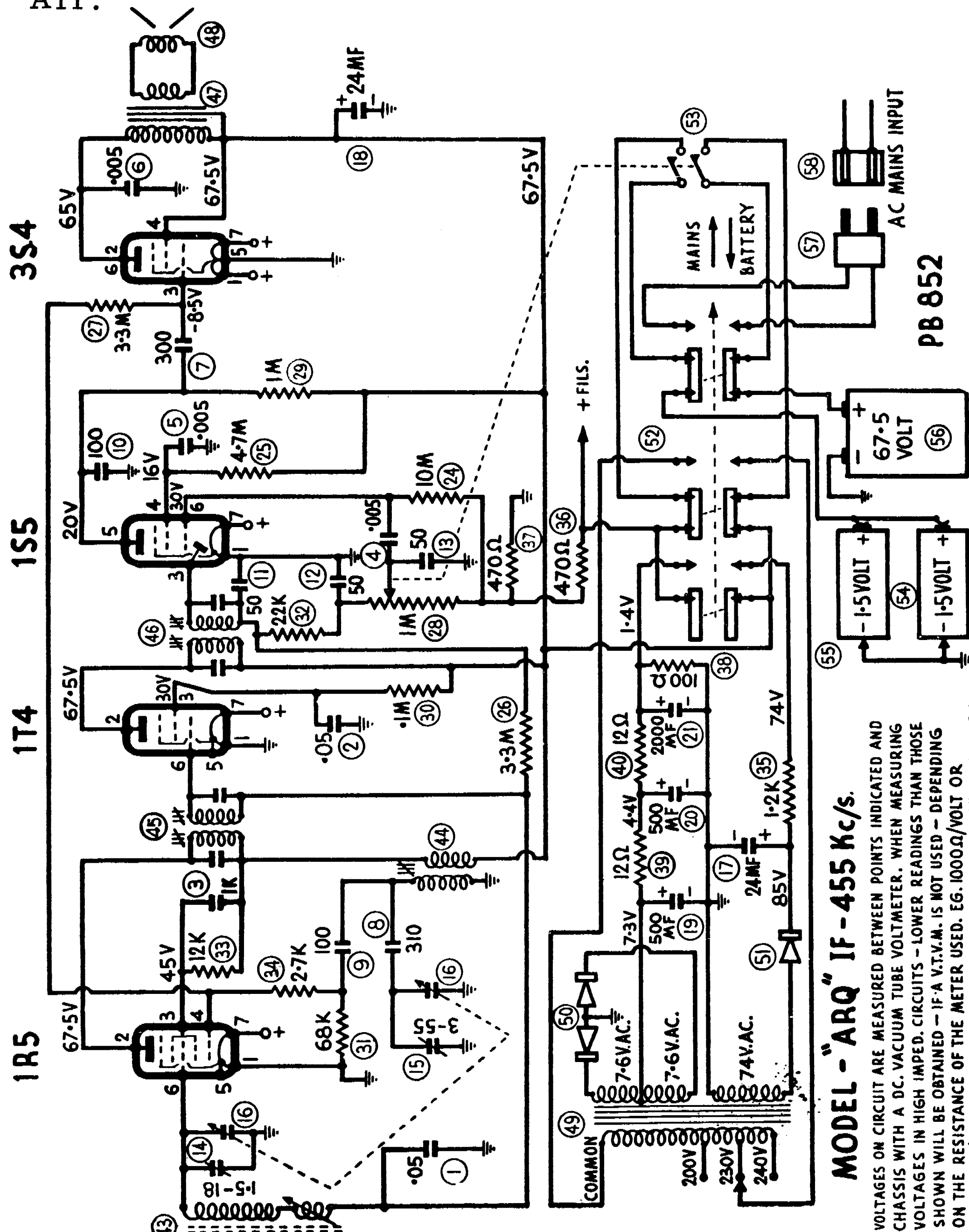
A11.



MODEL - "ARQ" IF - 455 Kc/s.

DC. VOLTAGES ON CIRCUIT ARE MEASURED BETWEEN POINTS INDICATED AND CHASSIS WITH A DC. VACUUM TUBE VOLTMETER. 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. 1000Ω/VOLT OR 20,000Ω/VOLT. FUNCTION SWITCH IN BATTERY OPERATION POSITION

ASTOR

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

200 Volt 50 cycle AC. mains input to trans.	(T137)	200 Volt tap.	37mA.
230 ,, ,, ,, ,, ,, ,, ,, ,,	,,	230 ,, ,,	32mA.
240 ,, ,, ,, ,, ,, ,, ,, ,,	,,	240 ,, ,,	32mA.
230 Volt 40 cycle AC. mains input to trans.	(T145)	230 Volt tap.	34mA.
250 ,, ,, ,, ,, ,, ,, ,, ,,	,,	250 ,, ,,	32mA.

POWER CONSUMPTION: BATTERY OPERATION

''A'' Battery 250 mA.
''B'' Battery 10 mA. (no signal).

TUNING RANGE: 535 to 1610 Kilocycles. 560.7 to 186.3 Metres.

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

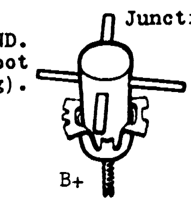
ROD AERIAL CONNECTIONS:

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

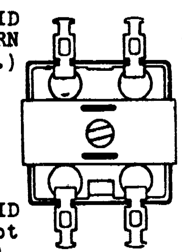
Movable Winding: Lead from end turn furthest from fixed winding—AVC.

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

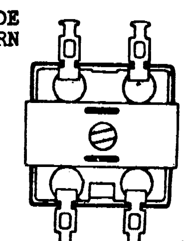
OSCL. COIL



No. 1 I.F. TRANS.



No. 2 I.F. TRANS.



ALIGNMENT INSTRUCTIONS

EQUIPMENT	ALIGNMENT CONDITIONS
Signal Generator:	Load impedance: 5,000 ohms.
Output meter:	Output level: 6 milliwatts.
Mica Capacitor: 0.01 MF (P/No. PC145) for IFT Alignment.	Volume control: Max. volume (fully clockwise).
Straight Alignment Tool P/No. PM581.	''A'' battery 1.5 volts.
Flexible Alignment Tool P/No. 48/712.	''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 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 base 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.

H. 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 Kc/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.

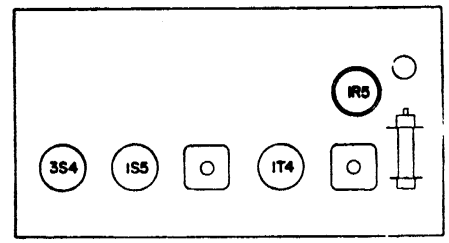
C. TUNING KNOB POINTER SETTING: Fully mesh condenser gang plates and set centre of tuning knob pointer on centre of end of travel spot on the leather case beneath the numerals ''55.'' The three screws which fasten the chassis to the front of the condenser gang when loosened off allow the cond. gang to 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. 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. No.	Generator Connection	Generator Frequency	Instructions
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. D. and E.	1470 Kc/s.	Turn cond. gang and tuning knob until 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. D. and E.	600 Kc/s.	Turn cond. gang and tuning knob until centre 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 the trimmers or move the tuning knob pointer off 600 Kc/s. dial mark until after the trimmers have been adjusted for max. output.
4.	Refer para. D. and E.	1470 Kc/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 range after alignment 535 to 1610 Kc/s.



VALVE PLACEMENT DIAGRAM 1127/279