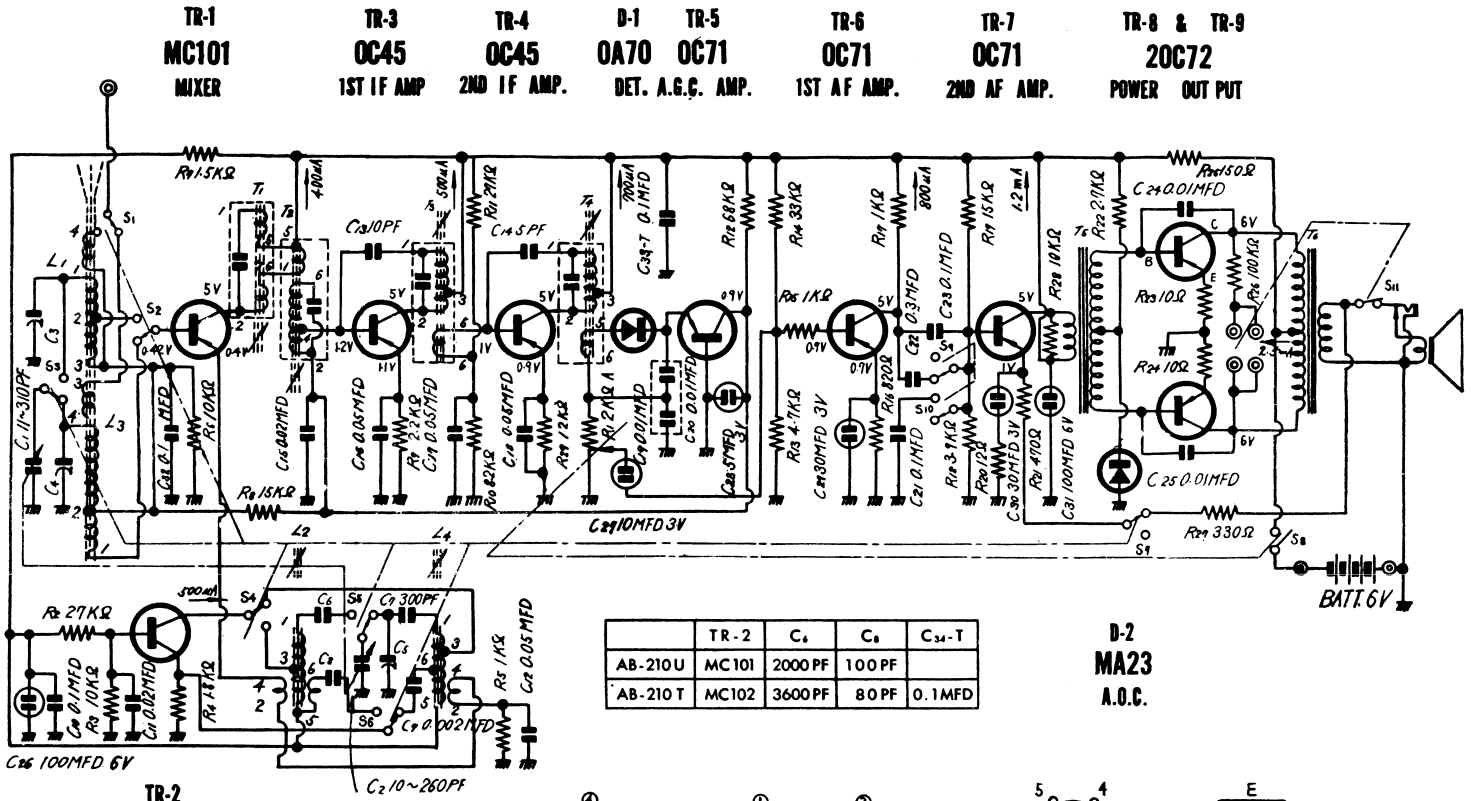
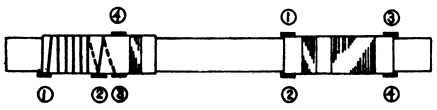
SCHEMATIC DIAGRAM



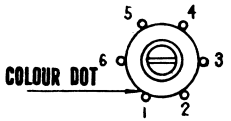
	TR-2	C_4	C_8	C_{34}-T
AB-210U	MC101	2000 PF	100 PF	
AB-210T	MC102	3600 PF	80 PF	0.1 MFD

D-2
MA23
A.O.C.

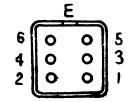
TR-2
MC101 or MC102
LOCAL OSC.



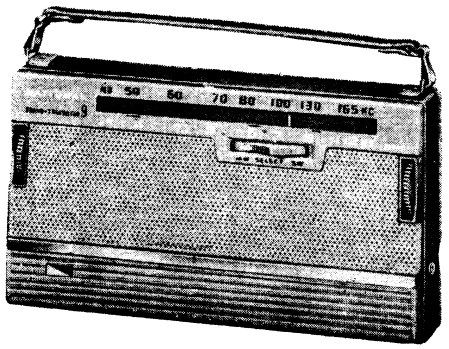
L_1 L_3
FERRITE ROD ANTENNA COIL



L_2 & L_4
OSC. COIL
(BOTTOM VIEW)



T_1 T_2 T_3 & T_4
IF TRANS.



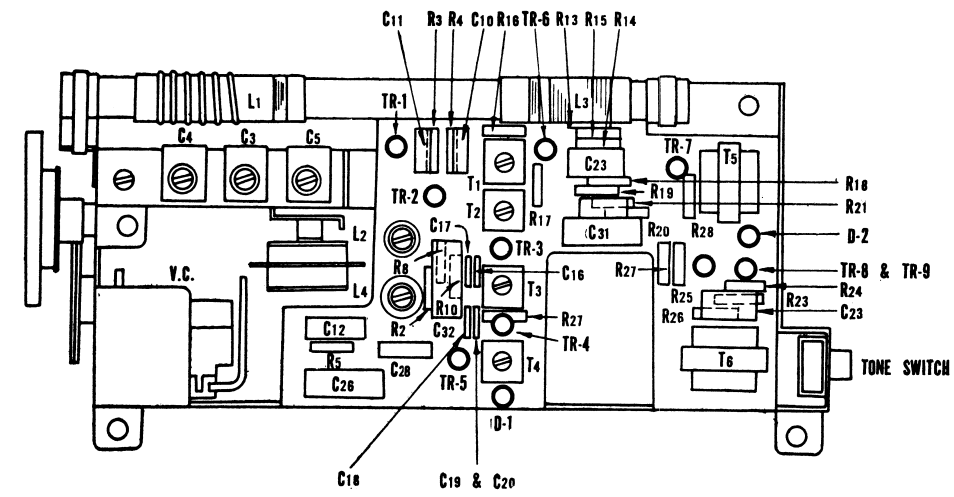
SPECIFICATIONS

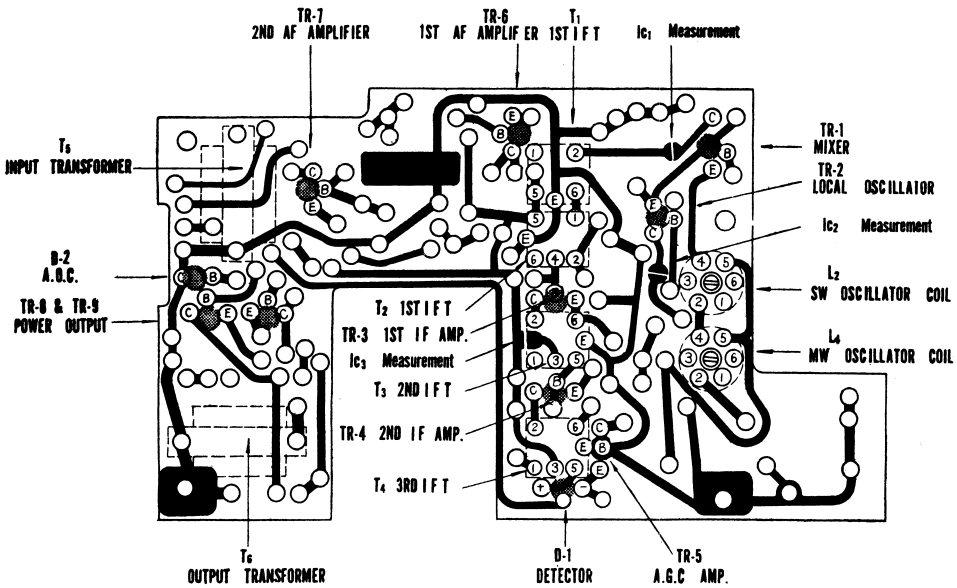
Frequency Range :	MW 540~1600Kc/s (556~187.5m) S W 3.9~11Mc/s (77 ~ 27.3 m)...AB-210U 7~18Mc/s (42.9~16.6m)...AB-210T
Intermediate Frequency :	455 Kc/s
Sensitivity :	MW 200 μV / m / 50 mW S W 250 μV / m / 50 mW...U 700 μV / m / 50 mW...T
Power Output :	150 mW, undistorted [illegible] mW, maximum

Notes :

1. Measurements of voltages and current should be at minimum volume and at no input signal.
2. Voltages indicated in the schematic diagram are given as standard values measured by Vacuum-tube Volt Meter. When 1 KΩ/1 V Tester is used for voltage measurement, please note that you will get lower values (-0.1V on Collector, -0.2V on Base and -0.1V on Emitter respectively) than the above-mentioned standard values obtained by Vacuum-tube Volt Meter.
3. Please make your current measurement within the range of 1 mA. Collector current of each transistor TR-1 (I_{C1}), TR-2 (I_{C2}) and TR-3 (I_{C3}) are to be measured at the points, as illustrated on the printed circuit board removing solder on them.
   Those of other transistors can be measured by cutting the printed circuit on the board.
4. Values of resistor R_8 (15 KΩ), R_2 (27 KΩ), R_{12} (68 KΩ) and R_{22} (2.7 KΩ) given in the diagram may be variable according to radio receiver.

MAIN PARTS LOCATION & PRINTED CIRCUIT BOARD





NATIONAL MODEL AB-210 UorT

ALIGNMENT PROCEDURE

OUTPUT METER ..... Connect Output Meter across speaker voice coil.

OUTPUT LEVEL ..... Attenuate Test Oscillator output always maintain 0.4 volt on Output Meter to prevent overloading of the receiver.

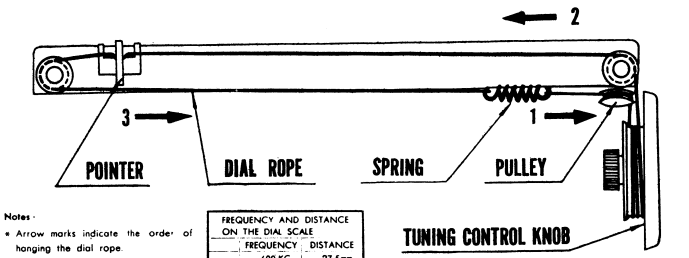
TEST OSCILLATOR ..... Modulate Test Oscillator at 1000c/s and connect the lead wires of Test Oscillator output to Radiation Loop Coil.

RADIO RECEIVER..... Place the radio receiver 20cm away from Radiation Loop Coil. Set volume control to maximum and tone control lever to "HIGH".

RADIATION LOOP COIL... Make up a 20 turn, 15 cm diameter bobbin, using 1mm copper wire.

AB-210 U				
Step	Band Switch position	Test OSC output	Dial setting	Adjusting to maximum output
1	MW	455 KC	Variable capacitor at maximum capacity	IF transformers (T_4, T_3, T_2, T_1)
2		455 KC		Repeat step ①.
3		530 KC		MW OSC coil (L_4)
4		1650 KC	Variable capacitor at minimum capacity	MW OSC trimmer (C_8)
5		530 KC or 1650 KC	Variable capacitor at max. or min. capacity	Repeat steps ③ and ④.
6		600 KC	600 KC	MW ANT coil (L_8)
7		1200 KC	1200 KC	MW ANT trimmer (C_4)
8		600 KC or 1200 KC	600 KC or 1200 KC	Repeat steps ⑥ and ⑦.
9	SW	3.8 MC	Variable capacitor at maximum capacity	SW OSC coil (L_2)
10		4 MC	4 MC	SW ANT coil (L_1)
11		10 MC	10 MC	SW ANT trimmer (C_8)
12		4 MC or 10 MC	4 MC or 10 MC	Repeat steps ⑩ and ⑪.
AB-210 T				
1~8	MW	Same with AB-210 U		
9	SW	6.8 MC	Variable capacitor at maximum capacity	SW OSC coil (L_2)
10		7 MC	7 MC	SW ANT coil (L_1)
11		18 MC	18 MC	SW ANT trimmer (C_3)
12		7 MC or 18 MC	7 MC or 18 MC	Repeat steps ⑩ and ⑪.

DIAL CORD DRIVE MECHANISM & FREQUENCY ALIGNMENT

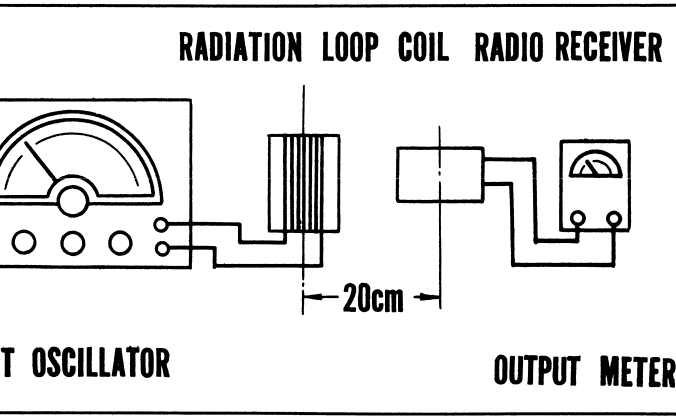


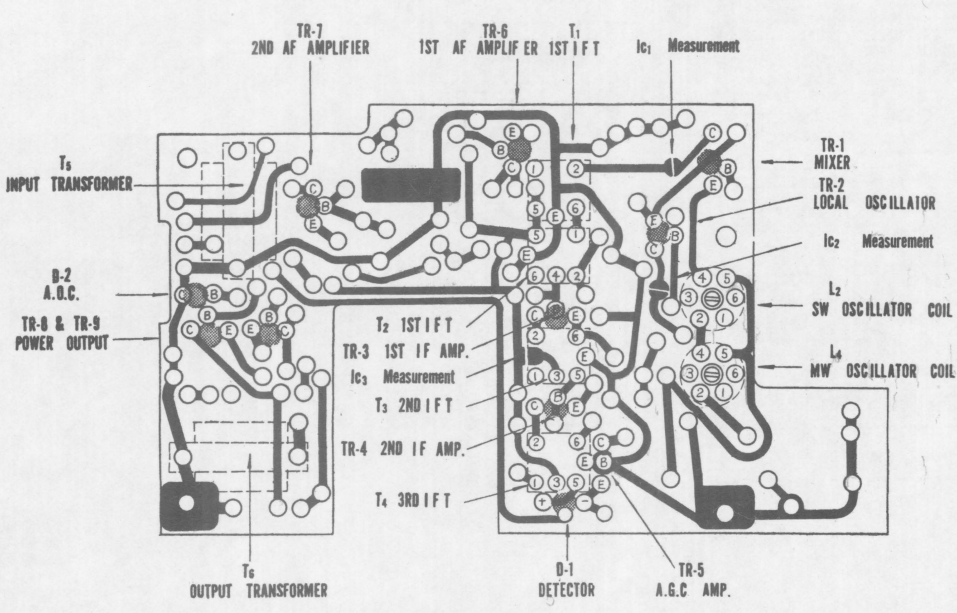
Notes:
* Arrow marks indicate the order of hanging the dial rope.
* Tuning capacitor is positioned at maximum capacity (closed position).
* Frequency to be aligned and distance on the dial scale of the radio receiver are indicated in the above table.

FREQUENCY AND DISTANCE ON THE DIAL SCALE

	FREQUENCY	DISTANCE
MW	600 KC	27.5mm
	1200 KC	93.0mm
SW (U)	4MC	9.4mm
	10MC	103.3mm
SW (T)	7MC	7.5mm
	18MC	109.8mm

Connection of Test Oscillator, Radiation Loop Coil, Radio Receiver and Output Meter.




TR-7
2ND AF AMPLIFIER
TR-6
1ST AF AMPLIFER
T1
1ST I F T
Ic1 Measurement
T5
INPUT TRANSFORMER
D-2
A.O.C.
TR-8 & TR-9
POWER OUTPUT
T2 1ST I F T
TR-3 1ST IF AMP.
Ic3 Measurement
T3 2ND I F T
TR-4 2ND IF AMP.
T4 3RD I F T
T6
OUTPUT TRANSFORMER
D-1
DETECTOR
TR-5
A.G.C AMP.
TR-1
MIXER
TR-2
LOCAL OSCILLATOR
Ic2 Measurement
L2
SW OSCILLATOR COIL
L4
MW OSCILLATOR COIL