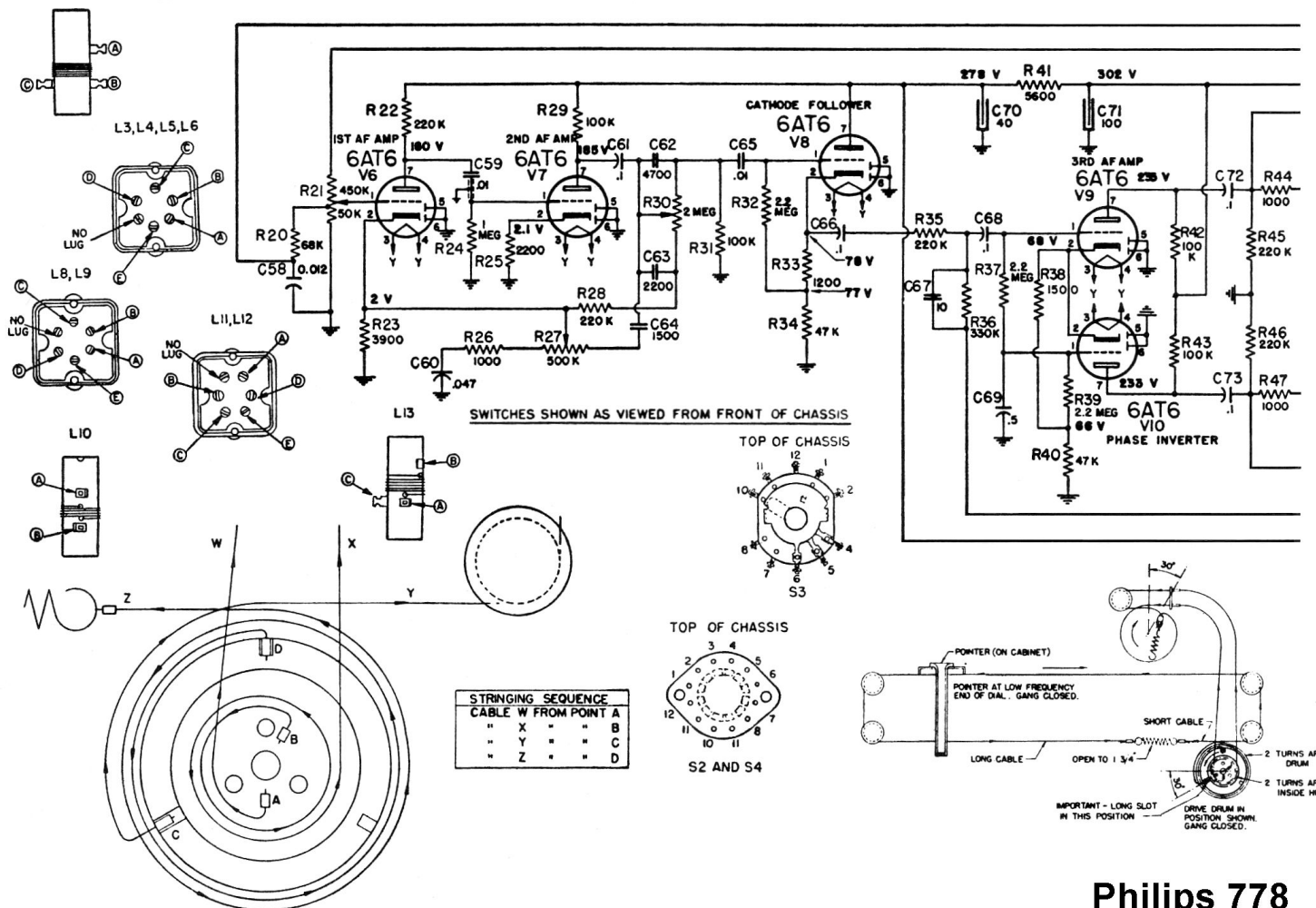
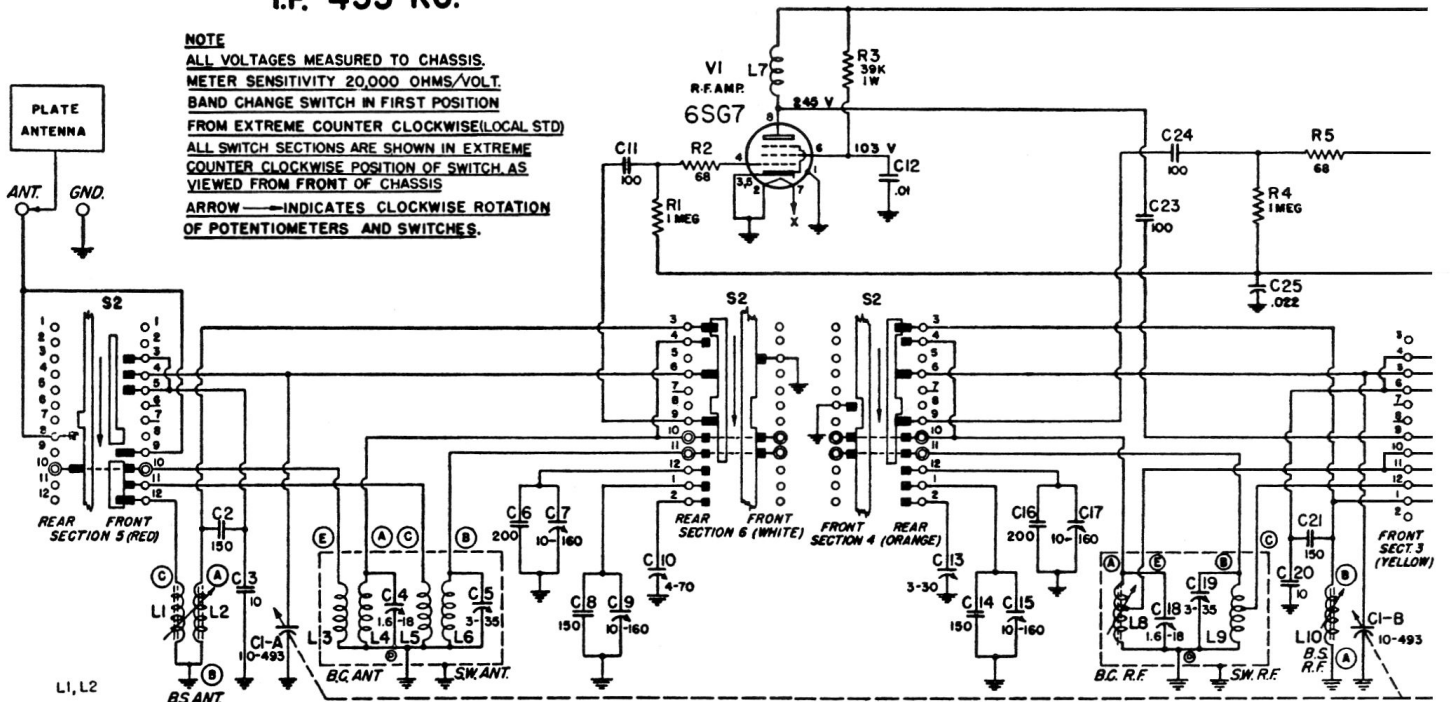


L	1, 2,	3, 4,	5, 6,	7,	8,	9,	10,
C	2, 3, 1-A,	4,	5, 6, 7, 8, 9, 11, 10,	12,	13, 14, 15, 16, 17,	23, 18, 24, 19,	25, 20, 21, 1-B,
C	58,	60, 59,	61, 64, 62, 63,	65,	66,	67, 70, 68, 69,	71, 72, 73,
R	1,	2,	3,	4,	5,	6,	7,
R	20, 21, 23, 22,	24, 26, 25,	27, 29, 28,	30, 31,	32, 33, 34,	35, 36, 37, 41, 38, 39, 40,	42, 43, 45, 46, 44, 47,

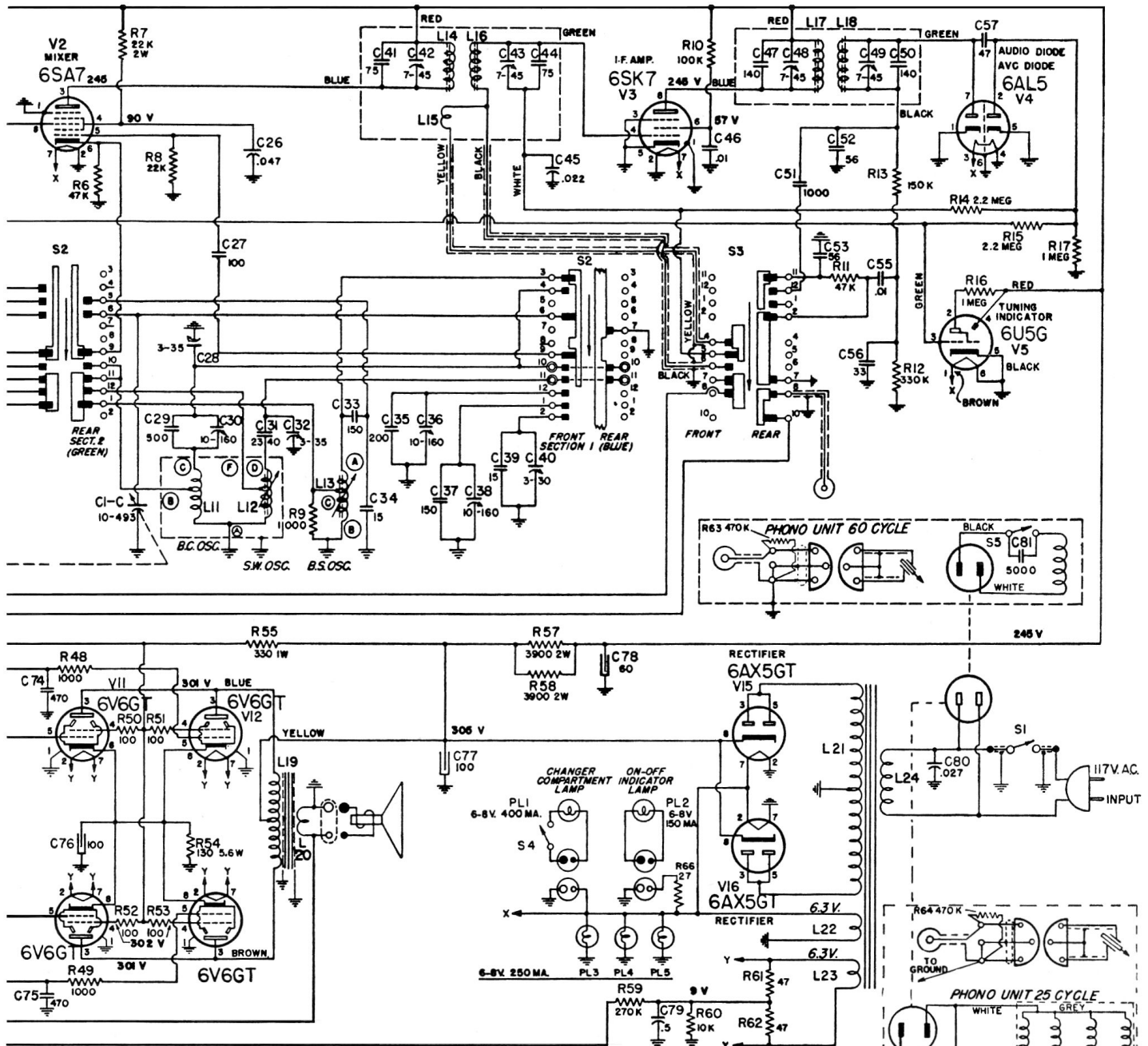
I.F. 455 KC.

NOTE

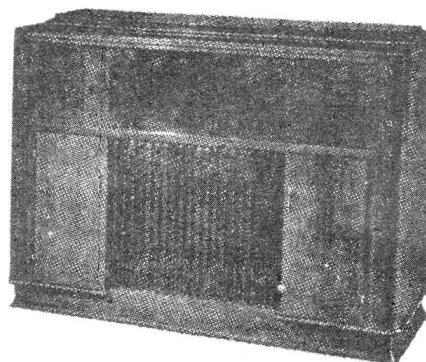
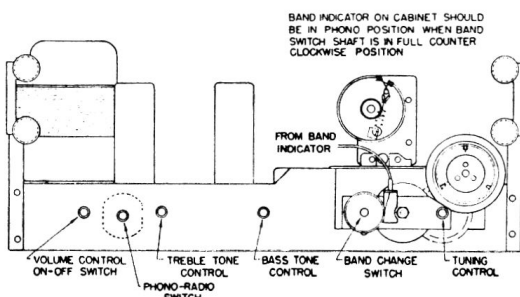
ALL VOLTAGES MEASURED TO CHASSIS.
METER SENSITIVITY 20,000 OHMS/VOLT.
BAND CHANGE SWITCH IN FIRST POSITION
FROM EXTREME COUNTER CLOCKWISE (LOCAL STD)
ALL SWITCH SECTIONS ARE SHOWN IN EXTREME
COUNTER CLOCKWISE POSITION OF SWITCH AS
VIEWED FROM FRONT OF CHASSIS
ARROW — INDICATES CLOCKWISE ROTATION
OF POTENTIOMETERS AND SWITCHES.



11,	12, 19,20, 13,	14,15, 16,	17, 18,21,22,23,24,	L
I-C, 29, 28, 27,30, 26,31, 32,	33,34, 41,35,42,36,37,38,	39,43, 40,44,45,	46, 47, 48,51, 53, 52,56,49,55,50,	57,
74,75,76,	77,	78, 79,	82, 80,	83, 81, 84,
6, 7, 8,	9,	10, 63,	11, 12,13, 14,16,	15, 17,
48,49, 50,52,51,53,	54, 55,	57, 58,	59, 66, 60,	61,62,
				64, 65,
				R



NOTE-VII,VII2,V13,V14=PUSH-PULL-PARALLEL OUTPUT.



Philips 778-2 = No R65 (1500 10W)

Philips 778

SERVICE DATA

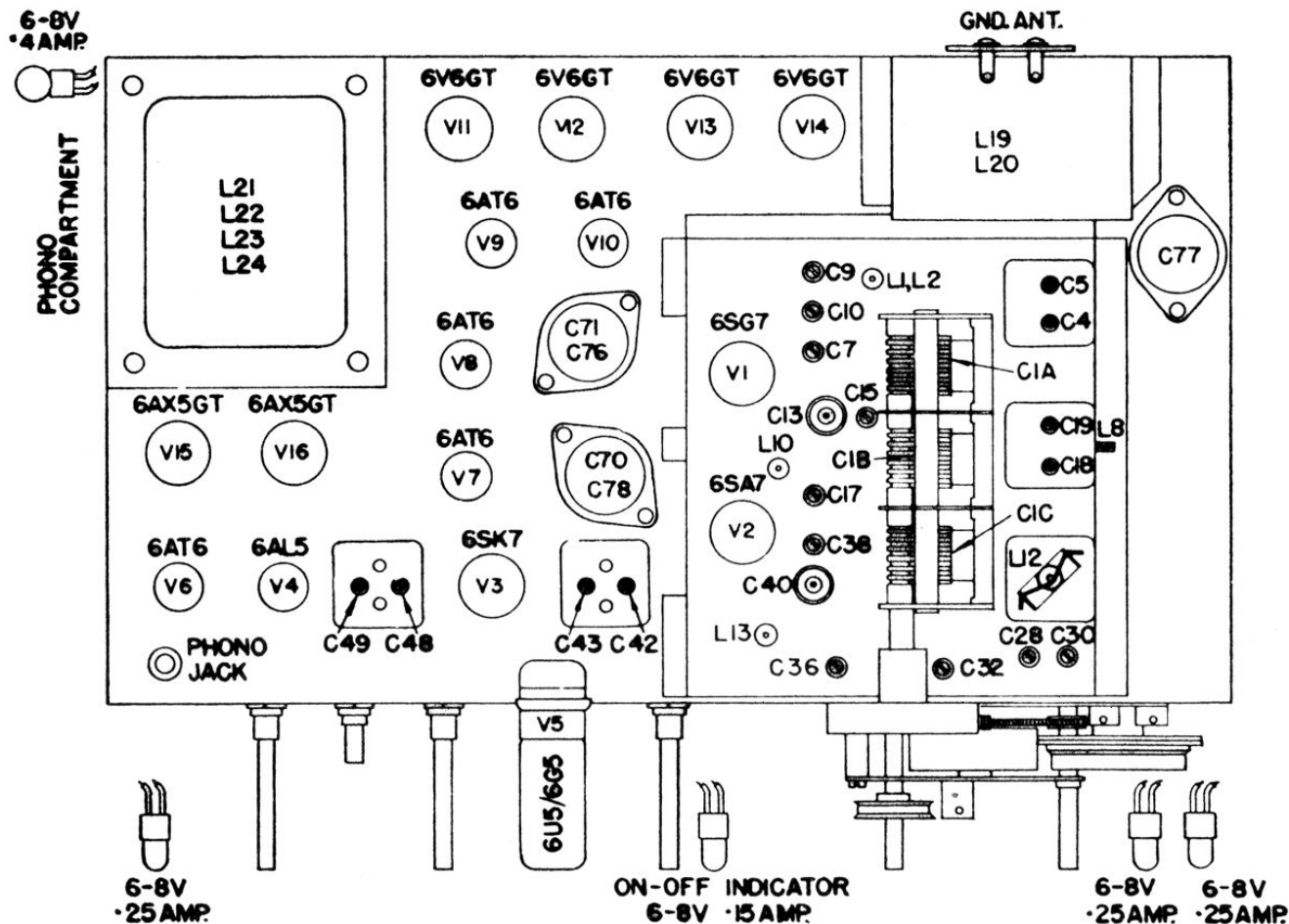
WAVE RANGE SWITCH:

The schematic diagram shows each section of this switch in a straight line form. The short stator contacts are represented as solid squares; the long contacts as solid rectangles and the rotor contacts as bars. All sections are shown in the counter-clockwise (Phonograph) position. As

the switch rotates clockwise, the rotor contacts move downwards through the remaining switch positions as listed above. The exact location of each stator contact on its wafer is shown on a front view drawing of a switch wafer on the schematic diagram.

REMOVAL OF CHASSIS ASSEMBLY

1. Disconnect plug from AC line socket.
2. Disconnect all plugs and leads from the back of chassis i.e., phono motor, changer compartment lamp, on-off indicator lamp, speaker pin tips, plate antenna.
3. Remove two machine screws, one located in each corner
4. Pull the complete chassis mounting panel towards rear of cabinet and disconnect the phono pick up plug from top right hand front corner of chassis. Complete assembly may now be removed.



TO SERVICE SPEAKER

1. Disconnect chassis assembly as above.
 2. Unscrew four mounting screws located in the corners of changer mounting plate.
 3. Remove clamps securing cables to rear of cabinet and withdraw changer from cabinet.
 4. Unscrew two baffle mounting nuts, one below changer compartment, one below radio compartment. Speaker baffle may now be withdrawn from front of cabinet by pulling forward slightly and raising from groove.
- To service on-off lamp, chassis must be removed as above.

TO REMOVE CHASSIS FROM MOUNTING PANEL

1. Remove chassis assembly as above.
2. Take off control knobs.
3. Slide three dial lamp holders off brackets.
4. Unscrew the magic eye tuning indicator and remove the mounting clip.
5. Loosen screw holding dial cable to pointer and free the cable.
6. Loosen screws holding the band indicator cable and free the cable clamps.
7. Take out the five machine screws holding chassis to the panel.
8. Slide chassis towards rear of panel and remove the machine screw holding the band indicator to its bracket.
9. The chassis may now be completely removed from panel.

ALIGNMENT OF RECEIVER

Turn the volume to the full clockwise position for maximum output. Turn the treble tone control fully anti-clockwise and the bass tone control fully clockwise. With the variable capacitor fully closed, adjust the dial pointer on the beginning of the dial scale to the left of the 550 kc. calibration mark, before aligning receiver.

EQUIPMENT REQUIRED

SIGNAL GENERATOR: A generator capable of supplying modulated signals between 455 kc. and 22 Mc.

OUTPUT INDICATOR: A high resistance AC voltmeter or a power output meter.

EQUIPMENT CONNECTIONS AND ALIGNMENT PROCEDURE

SIGNAL GENERATOR: Allow a sufficient length of time after the generator has been turned on for it to become thermally stable before making any tests. Always be sure to use the specified condenser or resistor in series with the signal generator output lead connection as listed in the alignment procedure chart. Connect the return lead of the signal generator to the ground terminal of the receiver.

OUTPUT INDICATOR: If a power output meter is used adjust it for 8 ohms impedance and connect it across the secondary of the output transformer in place of the speaker speech coil. Do not exceed 500 milliwatts output during alignment. If an AC voltmeter is used connect it across the voice coil with the speaker connected and do not exceed 2 volts during the alignment. As the reading of the test meter increases with alignment, regulate the signal generator attenuator to keep the output below the above limits.

ALIGNMENT PROCEDURE CHART

S I G N A L G E N E R A T O R			R E C E I V E R			
OPER- ATION STEPS	Output Connections to Receiver	Frequency	Range Indicator	Tuning Capacitor	See Notes	Adjust in Stated Order for Maximum Output
1	To 6SK7 Control Grid (4) through .05 mf capacitor	455 kc.	Black Pos. 3	Min.		2nd I.F. Trimmers C49, C48
2	To Stator C1-B through .05 mmf capacitor	455 kc.	Pos. 3	Min.	A	1st I.F. Trimmers C43, C42
3	To Antenna Terminal through 200 mmf capacitor*	570 kc.	Pos. 3	570 kc.		Broadcast Padder C30 B.C.-R.F. Coil L8
4	To Antenna Terminal through 200 mmf capacitor*	1600 kc.	Pos. 3	1600 kc.	B	B.C. Osc. Trimmer C28 B.C. R.F. Trimmer C18 B.C. Ant. Trimmer C4
5	To Antenna Terminal through 400 ohms resistance*	7.0 Mc.	Pos. 4	7.0 Mc.	C	S.W. Osc. Trimmer C32 S.W. R.F. Trimmer C19 S.W. Ant. Trimmer C5
6	To Antenna Terminal through 400 ohms resistance*	2.9 Mc.	Pos. 4	2.9 Mc.	D	S.W. Osc. Coil L12
7	To Antenna Terminal through 400 ohms resistance*	21.5 Mc.	Pos. 7	21.5 Mc.	C	B.S. Osc. Trimmer C40
8	To Antenna Terminal through 400 ohms resistance*	15.2 Mc.	Pos. 7	15.2 Mc.	D	B.S. Osc. Coil L13
9	To Antenna Terminal through 400 ohms resistance*	21.5 Mc.	Pos. 7	21.5 Mc.	E	B.S. R.F. Trimmer C13 B.S. Ant. Trimmer C10
10	To Antenna Terminal through 400 ohms resistance*	15.2 Mc.	Pos. 7	15.2 Mc.	F	B.S. R.F. Coil L10 B.S. Ant. Coil L2
11	To Antenna Terminal through 400 ohms resistance*	11.6 Mc.	Pos. 6	11.6 Mc.	C	B.S. Osc. Trimmer C38 B.S. R.F. Trimmer C15 B.S. Ant. Trimmer C9
12	To Antenna Terminal through 400 ohms resistance*	9.6 Mc.	Pos. 5	9.6 Mc.	C	B.S. Osc. Trimmer C36 E.S. R.F. Trimmer C17 B.S. Ant. Trimmer C7

* Or through Standard Dummy Antenna.

ALIGNMENT NOTES

NOTE A: After step 2 has been completed, do not make any further adjustments to the 2nd I.F. Trimmers C49, C48.

NOTE B: After operation 4 has been completed, return to 570 kc. and repeat operation 3, then repeat operation 4.

NOTE C: Unscrew oscillator trimmer capacitor to minimum capacity (counter-clockwise). Turn ad-

justment clockwise until first output peak is obtained. Make adjustments using this peak.

NOTE D: Check high frequency end of dial for accuracy, adjust oscillator trimmer slightly if necessary.

NOTE E: Rock tuning capacitor while adjusting antenna trimmer for maximum output.

NOTE F: Repeat operation 9.