MODEL 933 SCHEMATIC

I.F. = 470KC

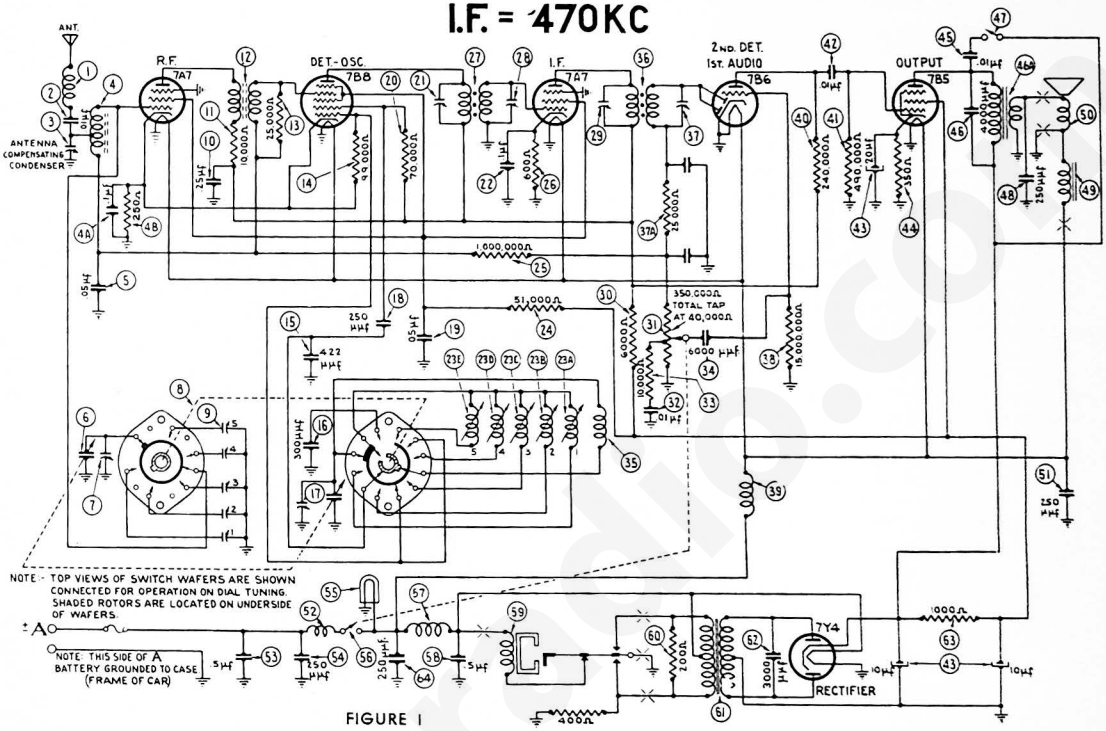

FIGURE 1

PARTS LIST

No.	Description	Part No.
①	Antenna Choke	65-0184
②	Condenser (.01 mfd.)	61-0014
③	Antenna Compensator	Part of ⑨
④	Antenna Transformer	65-0182
④a	Condenser (.01 mfd.)	30-4499
⑤b	Resistor (250 ohms)	33-125336
⑤	Condenser (.05 mfd.)	30-4444
⑥	Tuning Condenser	63-0024
⑦	First Padder (on Tun. Cond.)	
⑧	Wafer Switch	412-1024
⑨	Antenna Padder Assy.	77-0286
⑩	Condenser (.25 mfd.)	30-4446
⑪	Resistor (10,000 ohms)	33-310237
⑫	R. F. Transformer	65-0183
⑬	Resistor (25,000 ohms)	33-325337
⑭	Resistor (99,000 ohms)	33-399237
⑮	Silver Mica Condenser (422 mmfd.)	61-0066
⑯	Silver Mica Condenser (300 mmfd.)	61-0003
⑰	Second Padder (on Tun. Cond.)	
⑱	Condenser (250 mmfd.)	30-1038
⑲	Condenser (.05 mfd.)	30-4444
⑳	Resistor (70,000 ohms)	33-370337
㉑	Padder (Pri. 1st I. F. Trans.)	
㉒	Condenser (.1 mfd.)	30-4499
㉓a	Oscillator Transformer (1)	65-0169
㉓b	Oscillator Transformer (2)	65-0170
㉓c	Oscillator Transformer (3)	65-0171
㉓d	Oscillator Transformer (4)	65-0172
㉓e	Oscillator Transformer (5)	65-0173
㉔	Resistor (51,000 ohms)	33-351257
㉕	Resistor (1,000,000 ohms)	33-510237
㉖	Resistor (600 ohms)	33-160438
㉗	First I. F. Transformer	65-0160
㉘	Padder (Sec. 1st I. F. Trans.)	
㉙	Padder (Pri. 2nd I. F. Trans.)	
㉚	Resistor (6,000 ohms)	33-260337
㉛	Volume Control (350,000 ohms) and On-Off Switch	67-0019
㉜	Condenser (.01 mfd.)	61-0014
㉝	Resistor (10,000 ohms)	33-310237
㉞	Condenser (6,000 mmfd.)	30-4467
㉟	Oscillator Transformer (Dial)	65-0165
㊱	Second I. F. Transformer	65-0161
㊲	Padder (Sec. 2nd I. F. Trans.)	
㊲a	Resistor (25,000 ohms)	33-325237
㊳	Resistor (15,000,000 ohms)	33-615337
㊴	Filament Choke	65-0201
㊵	Resistor (240,000 ohms)	33-424337
㊶	Resistor (490,000 ohms)	33-449237
㊷	Condenser (.01 mfd.)	30-4124
㊸	Filter Condenser (10—10—20 mfd.)	61-0028
㊹	Resistor (350 ohms)	33-135336
㊺	Condenser (.01 mfd.)	30-4381
㊻	Condenser (4,000 mmfd.)	30-4185
㊼a	Output Transformer	65-0162
㊼	Tone Control Switch	42-1406
㊽	Condenser (250 mmfd.)	61-0033
㊾	Field Coil — Not Replaceable	
㊿	Cone Kit For 73-0024-3 Speaker	91-0068
	For 73-0024-6 Speaker	91-0028
	For 73-0025-2 Speaker	91-0065
(51)	Condenser (250 mmfd.)	61-0033
(52)	"A" Choke	65-0037
(53)	Condenser (.5 mfd.)	30-4565
(54)	Condenser (250 mmfd.)	61-0033
(55)	Pilot Lamp	34-2040
(56)	On-Off Switch and Volume Control	67-0019
(57)	Vibrator Choke	65-0075
(58)	Condenser (.5 mfd.)	30-4565
(59)	Vibrator	83-0017

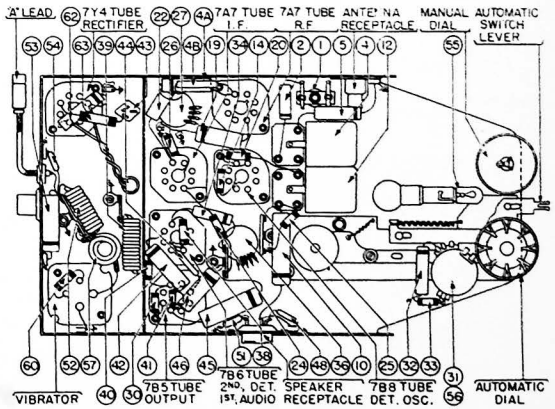

FIGURE 2

No.	Description	Part No.
㊽	Resistor (200 ohms)	33-120337
㊾	Power Transformer	65-0159
㊿	Condenser (3,000 mmfd.)	61-0059
(51)	Resistor (1,000 ohms)	33-210437
(52)	Condenser (250 mmfd.)	61-0033
(53)	Dial Disc. and Drum Assy.	77-0323
(54)	Station Indicator Dial	318-1395
(55)	Dial Tabs	79-0343
	Push Button Knob	55-0474
	Loktal Socket	55-0575
	Back Strap	28-5998FA3
	Front Bracket	57-0753FC36
	Fuse	45-2559
	Fuse Lead	77-0235
	Interference Condenser	30-4007
	Distributor Resistor	33-1196

MODEL 933
ADJUSTMENTS

All padding adjustments are carefully made at the factory and ordinarily no readjustments are necessary. However, when readjustments are required, the procedure given below must be followed in detail.

Equipment — Fully charged heavy duty storage battery or 6-volt power pack, 077 or 177 Philco Signal Generator, 027 Philco vacuum tube voltmeter and circuit tester and a 27-7159 Padding screw driver.

General — The vacuum tube voltmeter can be used as a "wireless" output meter as a convenient method for obtaining maximum output reading. Solder one end of a piece of wire to a strip of phosphor bronze approximately 1" wide, 6" long and .02" thick. Coil this strip so that it can be slipped over the top of the type 7B5 output tube, and make a fairly tight contact. Connect the other end of the wire to the "high" terminal of the vacuum tube voltmeter. Then connect a wire from the radio chassis to the "plus" terminal of the vacuum tube voltmeter.

With the Radio and signal generator set up for operation at the prescribed frequency, turn the Radio volume control on full and set the signal generator attenuator so that a half scale reading is obtained on the output meter. The signal in the speaker should be audible but not loud.

The shielding on the generator output lead must be connected to the Radio housing.

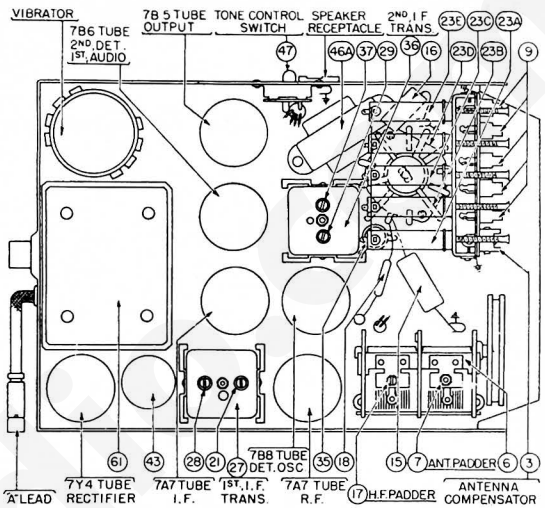

FIGURE 3

OPERATION	SIGNAL GENERATOR		DUMMY CAPACITY	SPECIAL INSTRUCTIONS	ADJUST PADDER
	FREQUENCY	CONNECTION			
1	Press the Automatic Station Selector button until "DIAL" appears in the window and stations can be tuned in by Manual Tuning.				
2	470 K.C.	To Antenna Receptacle on Radio	30 Mmfd. See Note 1	Turn Tuning Condenser Plates Out of Mesh as Far as They Will Go.	(37) (29) (28) (21)
3	1580 K.C.	To Antenna Receptacle on Radio	30 Mmfd. See Note 1	Set Tuning Condenser at 1580 K.C.	(17)
4	1500 K.C.	To Antenna Receptacle on Radio	30 Mmfd. See Note 1	Set Tuning Condenser at 1500 K.C.	(7) Note 2

Make all adjustments for maximum reading on the output meter.

NOTE 1 — Connect the antenna lead, Part No. 41-3191, to the antenna receptacle in the radio. Connect a 30 Mmfd. Condenser in series between the signal generator and the antenna lead.

NOTE 2 — When the antenna stage adjustment is made with the Radio installed in the car, the Radio antenna lead must be connected to the car antenna in the usual manner. Connect the signal generator output lead to a wire placed near the car antenna but not connected to it. Also adjust the antenna compensator (3) for maximum on a weak signal at approximately 1400 K.C.