

# Emerson Radio R-f Alignment

Models 543, 544  
Chassis 120046, 120052

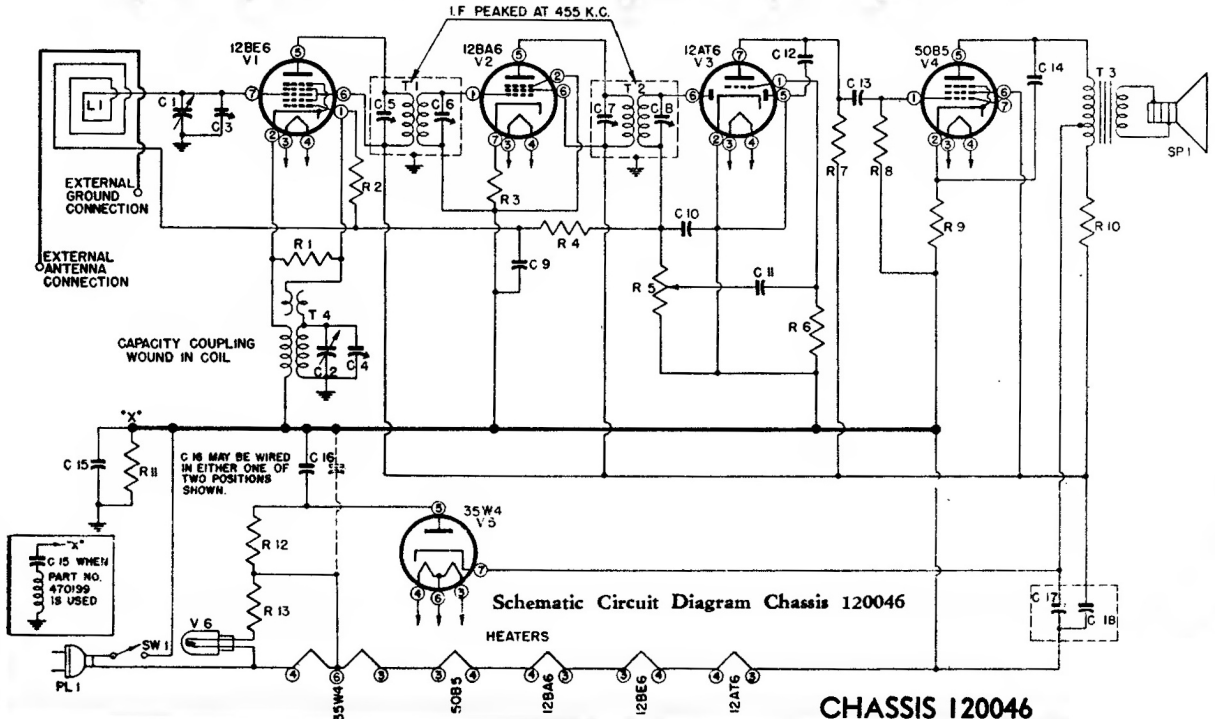
Chassis 120046 below,  
120052 next page.

## I-f Alignment

1. Rotate the variable condenser to the minimum capacity position.
2. Feed 455 kc to the converter grid (stator of the r-f section of the variable condenser) through a 0.1 mfd. condenser and adjust the four i-f trimmers for maximum response.

1. Connect the oscillator to a coil composed of three to four turns of wire wound in a circle approximately 12" in diameter. This coil should be held parallel to and in line with the loop antenna of the receiver at a distance of 15 to 20 inches.
2. Radiate a signal at 1425 kc, set the dial indicator to 1425 kc, and adjust the trimmers on the variable condenser for maximum response.
3. Radiate a 600 kc signal and tune in the signal on the receiver. Adjust the loose outside turn of the loop antenna for maximum response. This loose turn may be moved to either side of the center. Fasten it in the position which gives maximum response.
4. Repeat steps 2 and 3 until no further improvement is evident.

C1, C2	900013	Two-gang variable condenser	R2, R6	397000	15 meg., 1/2 watt resistor
*C3, C4		Trimmers, part of variable condenser	R3	340310	180 ohms, 1/2 watt resistor
*C5, C6, } C7, C8 }		Trimmers, part of i-f transformers	R4	321290	2.2 meg., 1/4 watt resistor
C9	920040	0.1 mfd., 200 volt condenser	R5	390015	0.5 meg. volume control
C10	910000	0.00022 mfd. mica condenser	R7, R8	321130	470,000 ohms, 1/4 watt resistor
C11	920010	0.002 mfd., 600 volt condenser	R9	340290	150 ohms, 1/2 watt resistor
C12	920240	0.0005 mfd., 600 volt condenser	R10	370490	1,000 ohms, 1 watt resistor
C13, C14	920020	0.02 mfd., 400 volt condenser	R11	321050	220,000 ohms, 1/4 watt resistor
C15	920050	0.2 mfd., 200 volt condenser (used when T1 and T2 are 720000, and 720100 respectively), or	R12	340050	15 ohms, 1/2 watt resistor
C15	470199	0.2 mfd., 200 volt assembly (used when T1 and T2 are 720525 and 720529 respectively)	R13	340010	10 ohms, 1/2 watt resistor
C16	920030	0.05 mfd., 400 volt condenser	SP1	180000	P.M. speaker
C17, C18	925009	50-50 mfd., 150 volt dual electrolytic condenser	*SW1		Line switch on volume control
L1	700000	Loop antenna	T1	720000	First i-f transformer, or
*PL1		Power plug, part of line cord	T1	720525	First i-f transformer, midget
R1	310810	22,000 ohms, 1/4 watt resistor	T2	720100	Second i-f transformer, or
			T2	720529	Second i-f transformer, midget
			T3	734000	Output transformer
			T4	716010	Oscillator coil
				583010	Pilot light
				807000	Line cord
				507090	Pilot light socket



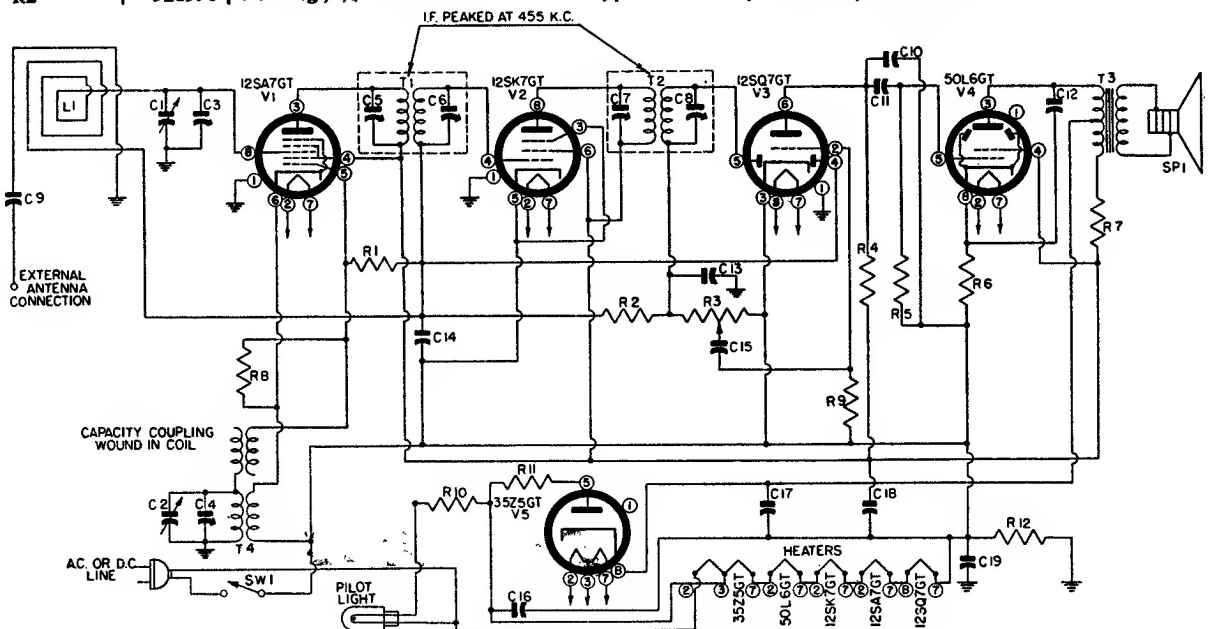
## Emerson Radio, Models 543, 544, Chassis 120052

### See also preceding page for 120046

The following voltage readings are d-c measurements taken from B— (line switch) to the indicated tube-socket pin. A 1000 ohms-per-volt meter should be used for all readings except those indicated by an asterisk (\*), which should be taken with a d-c vacuum-tube voltmeter. Line voltage for these readings was 117 volts, 60 cycles, a.c. Measurements made with 117 volts d.c. will be lower than those given below. Take readings with the volume control set at minimum and the variable condenser closed.

TUBE	PIN NUMBER							
	1	2	3	4	5	6	7	8
12SA7			89	89	*—10			*—1.6
12SK7				*—1.6		89		89
12SQ7		*—0.7		*—1.6	—0.5	37.5		
50L6			110	89				6.2
35Z5				116		116		117
12BE6	*—80				92	92	*—1.3	
12BA6					92	92	1.7	
12AT6	*—0.6					*—0.45	*44	
50B5		5.65			110	92		
35W4	115						115	

Schematic Symbol	†Part No.	DESCRIPTION	Schematic Symbol	†Part No.	DESCRIPTION
C1, C2	900160	Two-gang variable condenser	R3	390015	0.5 meg. volume control
*C3, C4		Trimmer, part of variable condenser	R4, R5	321130	470,000 ohms, ¼ watt resistor
*C5, C6, } C7, C8 }		Trimmers, part of i-f transformers	R6	340290	150 ohms, ½ watt resistor
C9, C15	920010	0.002 mfd., 600 volt condenser	R7	370490	1000 ohms, 1 watt resistor
C10	920240	0.0005 mfd., 600 volt condenser	R8	310810	22,000 ohms, ¼ watt resistor
C11, C12	920020	0.02 mfd., 400 volt condenser	R10	340010	10 ohms, ½ watt resistor
C13	910000	0.00022 mfd. mica condenser	R11	397040	15 ohms, 1 watt wire-wound resistor
C14	920040	0.1 mfd., 200 volt condenser	R12	321050	220,000 ohms, ¼ watt resistor
C16	920030	0.05 mfd., 400 volt condenser	SP1	180000	P.M. speaker
C17, C18	925000	30-50 mfd., 150 volt dual electrolytic condenser	*SW1		Line switch on volume control
C19	920050	0.02 mfd., 200 volt condenser	T1	720000	First i-f transformer
L1	700000	Loop antenna, or	T2	720100	Second i-f transformer
L1	700200	Loop antenna	T3	734000	Output transformer
R1, R9	397000	15 meg., ¼ watt resistor	T4	716010	Oscillator coil
R2	321330	3.3 meg., ¼ watt resistor		583010	Line cord
				807000	Pilot light
				507090	Pilot light socket



Schematic Circuit Diagram Chassis 120052