

**I. F. Adjustment**

Set the signal generator for a signal of 456 KC.

Connect the output of the signal generator through a .1 mf. condenser to the grid of the 1st detector.

Connect the ground lead of the receiver to the ground post of the signal generator.

Turn the band switch to the Range B position (standard wave band).

Turn the volume control to the maximum position.

Attenuate the signal from the signal generator to prevent the levelling-off action of the AVC.

Then adjust the four I.F. trimmers until maximum output is obtained. The adjusting screws for these condensers are reached from the top of the chassis, and the location is shown in Fig. 3.

Connect the antenna lead of the receiver through a 200 mmf. condenser to the output of the signal generator, and adjust the I.F. wave trap trimmer (C1) for minimum output. The location of this trimmer is shown in Fig. 3.

**Range D Alignment**

After the procedure for the alignment of each range, as explained above, is completed, it is advisable to repeat the procedure as a final check.

**CAUTION**—When aligning the short wave bands be sure NOT to adjust at the image frequency. This can be checked as follows: Let us say the signal generator is set for 5000 KC. The signal will then be heard at 5000 KC on the dial of the radio. The image signal, which is much weaker, will be heard at 5000 less 912 KC, or 4088 KC. It may be necessary to increase the input signal to hear the image.

**18,300 KC Adjustment**

Set the signal generator for 18,300 KC.

Connect the antenna lead of the receiver through a 400 ohm resistor to the output of the signal generator.

Turn the rotor of the tuning condenser to the full open position.

Turn the band switch to the Range D position (2nd short wave band).

For this and all subsequent adjustments keep the volume control at the maximum position and attenuate the signal from the signal generator to prevent AVC action.

Adjust the oscillator Range D trimmer (C8) until maximum output is obtained. See Fig. 3 for location of this trimmer.

**15,000 KC Adjustment**

Set the signal generator for 15,000 KC.

Turn the rotor of the tuning condenser carefully until maximum output is obtained.

Adjust the antenna Range D trimmer (C3) to maximum.

When adjusting the antenna Range D trimmer, it will be necessary at the same time to turn the tuning condenser rotor slowly back and forth until the peak of greatest intensity is obtained.

Do not change the setting of the oscillator Range D trimmer.

**Range C Alignment****5800 KC Adjustment**

Set the signal generator for 5800 KC.

Keep the antenna lead of the receiver connected through the 400 ohm resistor to the output of the signal generator.

Turn the rotor of the tuning condenser to the full open position.

Turn the band switch to the Range C position (1st short wave band).

Adjust the oscillator Range C trimmer (C9) until maximum output is obtained. See Fig. 3 for location of this trimmer.

**5000 KC Adjustment**

Set the signal generator for 5000 KC.

Turn the rotor of the tuning condenser carefully until maximum output is obtained.

Adjust the antenna Range C trimmer (C4) to maximum.

Do not change the setting of the oscillator Range C trimmer.

**Range B Alignment****1730 KC Adjustment**

Set the signal generator for 1730 KC.

Turn the rotor of the tuning condenser to the full open position.

Turn the band switch to the standard wave position.

Connect the antenna lead of the receiver through a 200 mmf. condenser to the output of the signal generator.

Adjust the oscillator Range B trimmer (C10) until maximum output is obtained. The location of this trimmer is shown in Fig. 3.

**1500 KC Adjustment**

Set the signal generator for 1500 KC.

Turn the rotor of the tuning condenser carefully until maximum output is obtained.

Loosen the screw of the large pointer and set the pointer at the 1500 KC mark on the standard wave band scale. Retighten the screw.

Adjust the antenna Range B trimmer (C5) to maximum.

Do not change the setting of the oscillator Range B trimmer.

**600 KC Adjustment**

Set the signal generator for 600 KC.

Turn the tuning condenser rotor until maximum output is obtained.

Turn the rotor slowly back and forth at the same time adjusting the 600 KC trimmer (C11) until the peak of greatest intensity is obtained. See Fig. 3 for location of this trimmer.

**Replacement Parts**

**NOTICE**—There is a large letter on the chassis which identifies the set as to major part changes. When ordering parts, please be sure to mention the series number and this large letter.

**MISCELLANEOUS****SOCKETS**

Part No.	Description	List Price
3A245	Tube Socket, 8 Prong	\$.15
3A242	Tube Socket, 7 Prong	.15
3A243	Tube Socket, 5 Prong	.15
3A248	Speaker Socket, 5 Prong	.15
13X255	665 Tube Socket and Cable Assembly	.45

**SPEAKERS**

12A257	4" Dynamic Speaker Compl. with Output Transformer (T6)	5.80
12A260	8" Dynamic Speaker Compl. with Output Transformer (T6)	6.35
12A258	10" Dynamic Speaker Compl. with Output Transformer (T6)	6.85

**KNOB**

Specify Name of Knob and Model of Radio	Description	List Price
	Tuning Control — Set Screw Type	.20
	Volume Control — Push-On Type	.15
	Band Switch — Push-On Type	.15

**GENERAL**

2X38	Felt Washer (Used behind knobs)	doz. .10
8X23	Rubber Chassis Mounting Cushion	ea. .10
2A457	Band Change Switch	.85
2A461	Tone Control Switch	.20
30X44	Grid Clip Only	doz. .10
4A50	Terminal Strip (2 lugs insulated with mounting hole in center)	.10
4A18	Terminal Strip (2 lugs insulated with mounting strap in center)	.10
32X69	Tube Shield (Tuning Eye)	.15
32X70	Tube Shield Base (Tuning Eye)	.10
13X60	Line Cord and Plug	.50
13X214	Antenna and Ground Lead Assembly	.30
25X122	Chassis Mounting Feet	ea. .10
25A61	Gang Condenser Mounting Cushion Assembly	.15
	Includes 3—Rubber Cushions	
	3—Hex Shoulder Nuts	
	3—No. 6 Flat Washers	

**DIAL AND DRIVE ASSEMBLY****DIAL ASSEMBLY**

Part No.	Description	List Price
15A104	Dial Assembly Complete less Dial Lamp, Lamp Socket and Main Pointer	\$3.00
25X924	Dial Bracket Only	.25
58X149	Dial Glass	.15
26X235	Volume Control Pointer Shaft and Pulley	.20
26X240	Band Change Pointer Shaft and Pulley	.20
29X20	Brass Collar for Volume Indicator	.10
29X60	Brass Collar for Band Indicator	.25
15X60	Small Pointers	.10
28X44	Takeup Springs for Small Pointers	.10
15X79	Main Pointer	.10

41X12	Wave Band or Volume Indicator Cord (8")	doz. .30
7A37	Lamp Socket	.10
7A32	Dial Lamp	.20
9X30	Cardboard Dial Background	.10
25X231	Dial Clamping Bracket	.10
4X141	Dial Crystal and Escutcheon Assembly	1.15

**DRIVE ASSEMBLY**

5A36	Drive Bracket and Bushing Assembly Complete	.35
26X234	Drive Shaft	.20
26X249	Drive Drum and Main Pointer Shaft	.45
28X27	20" Tuning Drive Cord	doz. .45
	Tension Spring for Drive Cord	.10

**TRANSFORMERS AND COILS**

Part No.	Code	Description	List Price
9A492	T1	Antenna Transformer and Can Assembly	\$1.75
9A493	T2	Oscillator Coil and Can Assembly	1.55
9A494	T3	1st I.F. Transformer and Can Assembly	1.35
9A495	T4	2nd I.F. Transformer and Can Assembly	1.35
53X134	T5	115 Volt, 60 Cycle Power Transformer	1.35
53X136	T6	115-230 Volt, 40-40 Cycle Power Transformer	4.70
51X31	T6	Output Transformer (Part of Speaker Assembly)	2.45
9A714	L1	Wave Trap (456 KC)	.55

**CONDENSERS****TUBULAR**

Part No.	Code	Capacitance	Voltage	List Price
46X80	C1	.25 mf.	180	\$.15
46X202	C7	.02 mf.	360	.15
46X98	C15	.10 mf.	180	.20
46X117	C16	.25 mf.	180	.25
46X105	C22	.10 mf.	360	.20
46X120	C25	.01 mf.	360	.15
46X120	C27	.01 mf.	360	.15
46X117	C28	.25 mf.	180	.25
46X172	C29	.02 mf.	180	.15
46X205	C30	.02 mf.	400	.15
46X100	C31	.002 mf.	400	.15

**MOLDED**

47X69	C2	250 mmf.	.15
47X75	C12	2100 mmf.	.25
47X76	C13	4800 mmf.	.35
47X53	C14	35 mmf.	.10
47X57	C21	100 mmf.	.10
47X65	C26	250 mmf.	.15

**ELECTROLYTIC**

44X32	C23	16 mf. 250 Wet	.75
44X31	C24	12 mf. 340 Wet	.80

**TRIMMERS**

17A44	C1	30-90 mmf. Wave Trap Trimmer	.25
	C3	2-25 mmf. Range "D" Antenna Trimmer	.15
	C5	2-25 mmf. Range "B" Antenna Trimmer	.40
	C6	2-25 mmf. Range "D" Oscillator Trimmer	.15
	C9	2-25 mmf. Range "C" Oscillator Trimmer	.15
	C10	2-25 mmf. Range "B" Oscillator Trimmer	.45
17A40	C11	650-650 mmf. 400 KC Trimmer	.45
17A33	C17	70-150 mmf. 1st I.F. Trimmers	.40
17A34	C18	70-150 mmf. 2nd I.F. Trimmers	.40
	C19	70-150 mmf. 2nd I.F. Trimmers	.40
	C20	150-250 mmf. 2nd I.F. Trimmers	.40

**MISCELLANEOUS**

14A41	2 Gang Condenser less Dial and Drive Assembly	2.50
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**RESISTORS****CARBON**

Part No.	Code	Resistance	Wattage	List Price
A94104	R1	100,000 Ohm	0.2	\$.15
A95153	R2	15,000 Ohm	0.2	.10
A95205	R3	2 Megohm	0.2	.10
A94151	R4	150 Ohm	0.2	.15
B94003	R5	50,000 Ohm	0.5	.15
C94103	R6	18,000 Ohm	1.0	.15
A95203	R7	50,000 Ohm	0.2	.10
A95104	R9	100,000 Ohm	0.2	.10
A95205	R10	2 Megohm	0.2	.10
A94504	R11	500,000 Ohm	0.2	.15
A94104	R12	100,000 Ohm	0.2	.15
A94504	R15	500,000 Ohm	0.2	.15
A95105	R16	1 Megohm	0.2	.10
A95805	R17	8 Megohm	0.2	.10
A95805	R18	8 Megohm	0.2	.10

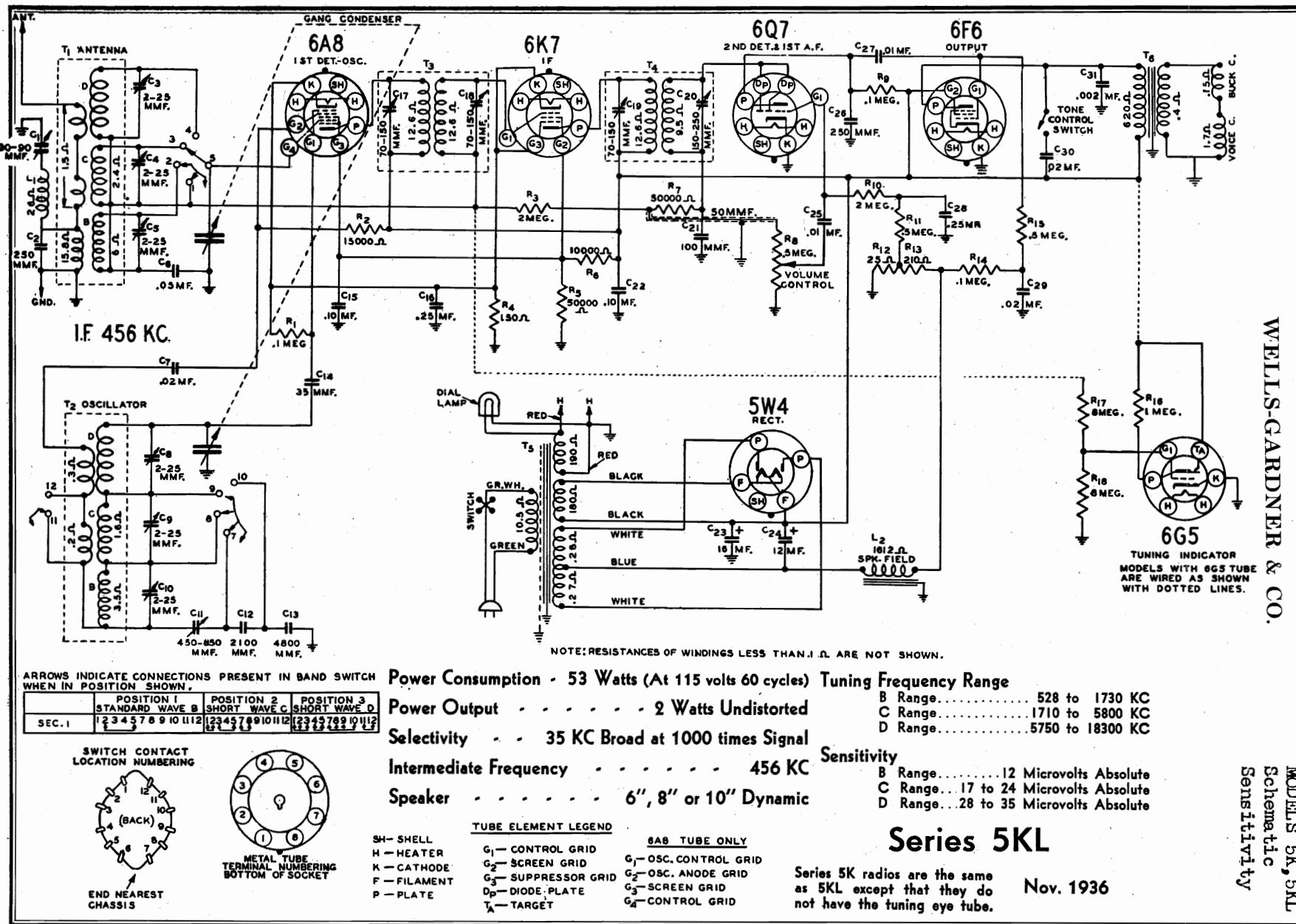
**WIRE WOUND**

43X69	{ R12 R13 }	{ 25 Ohm 210 Ohm }	.35
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**VARIABLE**

36X227	R8	0.5 Megohm Volume Control and On-Off Switch	1.00
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Prices Subject to Change Without Notice



MODELS 5K, 5KL  
Socket, Trimmers  
Voltage, Coils

# WELLS-GARDNER & CO.

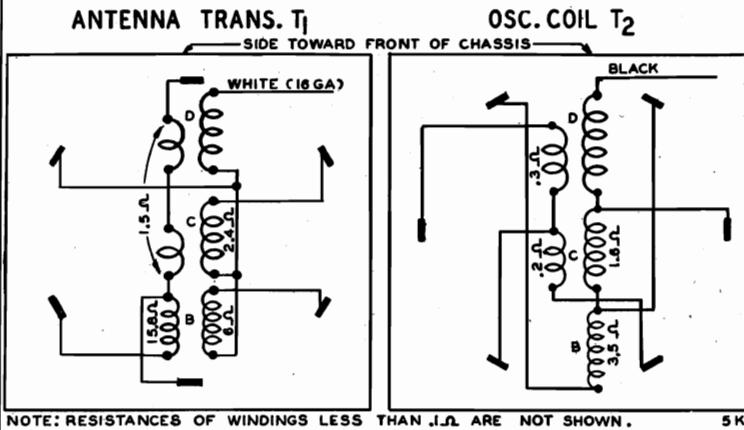


Fig. 4—R.F. and Oscillator Coil Base Terminal Arrangement and D.C. Resistance of Windings

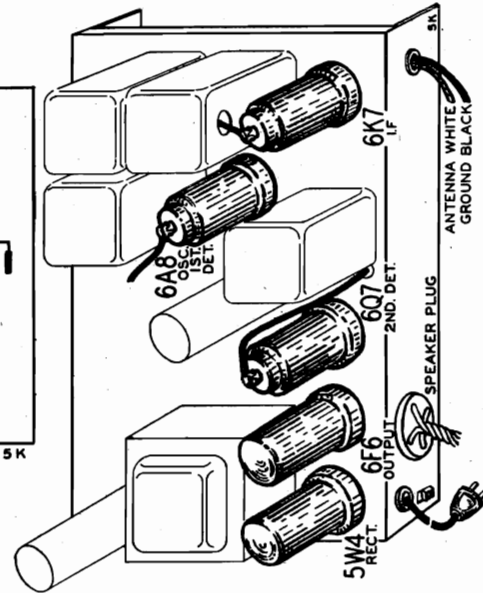


Fig. 5—Location of Tubes

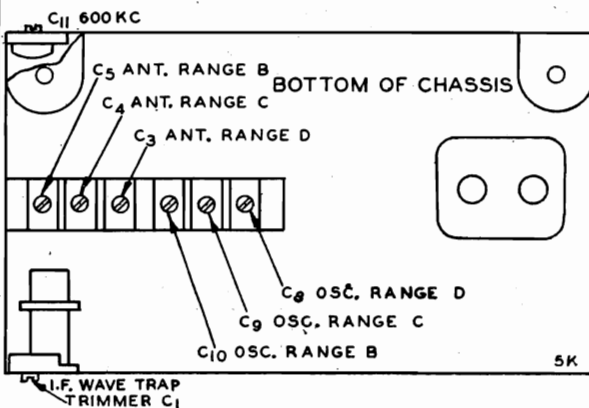
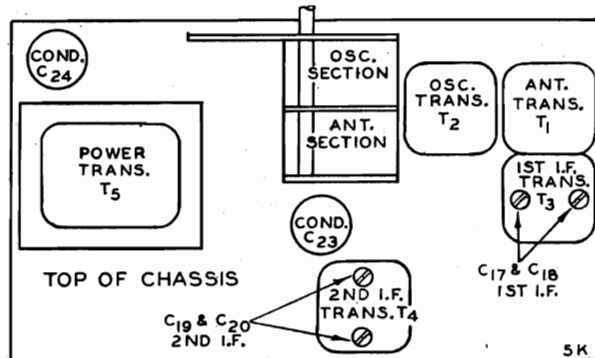


Fig. 3—Location of Trimmers



## VOLTAGES AT SOCKETS

Line Voltage: 115

Volume Control: Maximum

Antenna Shorted to Ground

TUBE	FUNCTION	VOLTAGE BETWEEN SOCKET PRONGS AND GROUND (Unless otherwise indicated)							
		Prong No. 1	Prong No. 2	Prong No. 3	Prong No. 4	Prong No. 5	Prong No. 6	Prong No. 7	Prong No. 8
6A8	1st Det.-Osc. ....	0	6.3(1)	200	110		160	6.3(1)	3
6K7	I.F. ....	0	6.3(1)	200	110	3		6.3(1)	3
6Q7	2nd Det. ....	0	6.3(1)	110	0	0		6.3(1)	0(2)
6F6	Output ....	0	6.3(1)	185	200	12.5(3)		6.3(1)	0
5W4	Rectifier ....	0	5.1(4)		620(5)		620(5)		5.1(4)
6G5	Tuning Indicator ...	Plate to Ground 18		Target to Ground 200		Cathode to Ground 0		Across Heater 6.3 A.C.	

(1) A.C. voltage as read across heater terminals 2 and 7.

(2) Bias (1.5 volts) as read across resistor R12.

(3) Read across resistor R12 and R13.

(4) A.C. voltage as read across heater terminals 2 and 8.

(5) A.C. voltage read across terminals 4 and 6.