

MODELS 5K, 5KL
Alignment, Parts
WELLIS-GARDNER & CO.
Alignment, Parts
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 below, 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	Code	Capacitance	Voltage	List Price
3A205	Tube Socket, 8 Prong	\$.05	C1	.05	180	.15
3A202	Tube Socket, 7 Prong	.15	C2	.02	mf.	.15
3A208	Tube Socket, 7 Prong	.15	C3	.10	mf.	.20
3A204	Tube Socket, 7 Prong	.15	C4	.22	mf.	.25
3A205	Speaker Socket, 5 Prong	.15	C5	.01	mf.	.20
3A205	6&5 Tube Socket and Cable Assembly	.45	C6	.25	mf.	.15
40X100			C7	.01	mf.	.15
40X100			C8	.02	mf.	.15
40X100			C9	.02	mf.	.15
40X100			C10	.02	mf.	.15
40X100			C11	.02	mf.	.15
40X100			C12	.02	mf.	.15

SPEAKERS

12A257	6" Dynamic Speaker Compl. with Output Transformer (T6)	5.80	40X32	C23	250 mmf.	.15
12A260	8" Dynamic Speaker Compl. with Output Transformer (T6)	6.35	40X31	C24	2100 mmf.	.25
12A258	10" Dynamic Speaker Compl. with Output Transformer (T6)	6.85			4800 mmf.	.30

KNOBS

2X38	Felt Washer (Used behind knobs)	.10	17A64	C1	30-90 mmf. Wave Trap Trimmer	.25
8X30	Rubber Chassis Mounting Cushion	.10		C3	2-25 mmf. Range "D" Antenna Trimmer	.25
2A67	Band Change Switch	.85		C4	2-25 mmf. Range "D" Antenna Trimmer	.25
2A68	Top Band Change Switch	.85		C5	2-25 mmf. Range "D" Oscillator Trimmer	.40
30X44	Grid Clip Only	.10		C6	2-25 mmf. Range "C" Oscillator Trimmer	.40
4A50	Terminal Strip (2 lugs insulated with mounting hole in center)	.10		C7	2-25 mmf. Range "C" Oscillator Trimmer	.40
4A18	Terminal Strip (2 lugs insulated with mounting strap in center)	.10		C8	450-600 mmf. 400 KC Trimmer	.45
32X49	Tube Shield (Tuning Eye)	.15		C17	70-150 mmf. 1st I.F. Trimmers	.40
13X80	Tube Shield Base (Tuning Eye)	.15		C18	70-150 mmf. 1st I.F. Trimmers	.40
13X214	Antenna and Ground Lead Assembly	.30		C19	70-150 mmf. 2nd I.F. Trimmers	.40
25X122	Chassis Mounting Feet	.10		C20	150-250 mmf. 2nd I.F. Trimmers	.40
23A61	Gang Condenser Mounting Cushion Assembly	.15				

GENERAL

17A60			17A60	C1	30-90 mmf. Wave Trap Trimmer	.25
17A59			17A59	C3	2-25 mmf. Range "D" Antenna Trimmer	.25
				C4	2-25 mmf. Range "D" Antenna Trimmer	.25
				C5	2-25 mmf. Range "D" Oscillator Trimmer	.40
				C6	2-25 mmf. Range "C" Oscillator Trimmer	.40
				C7	2-25 mmf. Range "C" Oscillator Trimmer	.40
				C8	450-600 mmf. 400 KC Trimmer	.45
				C17	70-150 mmf. 1st I.F. Trimmers	.40
				C18	70-150 mmf. 1st I.F. Trimmers	.40
				C19	70-150 mmf. 2nd I.F. Trimmers	.40
				C20	150-250 mmf. 2nd I.F. Trimmers	.40

MISCELLANEOUS

14A61	2 Gang Condenser less Dial and Drive Assembly	2.50
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RESISTORS

Part No.	Description	List Price	Code	Resistance	Wattage	List Price
A9104	Main Pointer	\$.03	R1	100,000 Ohm	.2	.015
A9104	Dial Bracket Only	.25	R2	15,000 Ohm	.2	.10
A9104	Dial Glass	1.15	R3	2 Megohm	.2	.10
A9104	Volume Control Potentiometer	.20	R4	150 Ohm	.2	.10
A9104	Band Change Pointer Shaft and Pulley	.10	R5	50,000 Ohm	.5	.15
A9104	Brass Collar for Volume Indicator	.10	R6	10,000 Ohm	1.0	.15
A9104	Brass Collar for Band Indicator	.10	R7	50,000 Ohm	.2	.10
A9104	Small Hex Shoulder Nuts	.10	R8	100,000 Ohm	.2	.10
A9104	3-No. 6 Flat Washers	.10	R9	2 Megohm	.2	.10
A9205		.25	R10	2 Megohm	.2	.10
A94504		.50	R11	500,000 Ohm	.2	.15
A94504		.50	R12	100,000 Ohm	.2	.15
A94504		.50	R13	500,000 Ohm	.2	.15
A9505		.10	R14	100,000 Ohm	.2	.10
A9505		.10	R15	100,000 Ohm	.2	.10
A9505		.10	R16	1 Megohm	.2	.10
A9505		.10	R17	8 Megohm	.2	.10
A9505		.10	R18	8 Megohm	.2	.10

DIAL AND DRIVE ASSEMBLY
DIAL ASSEMBLY

13X69			13X69	R12	25 Ohm	.25
				R13	210 Ohm	.20

VARIABLE

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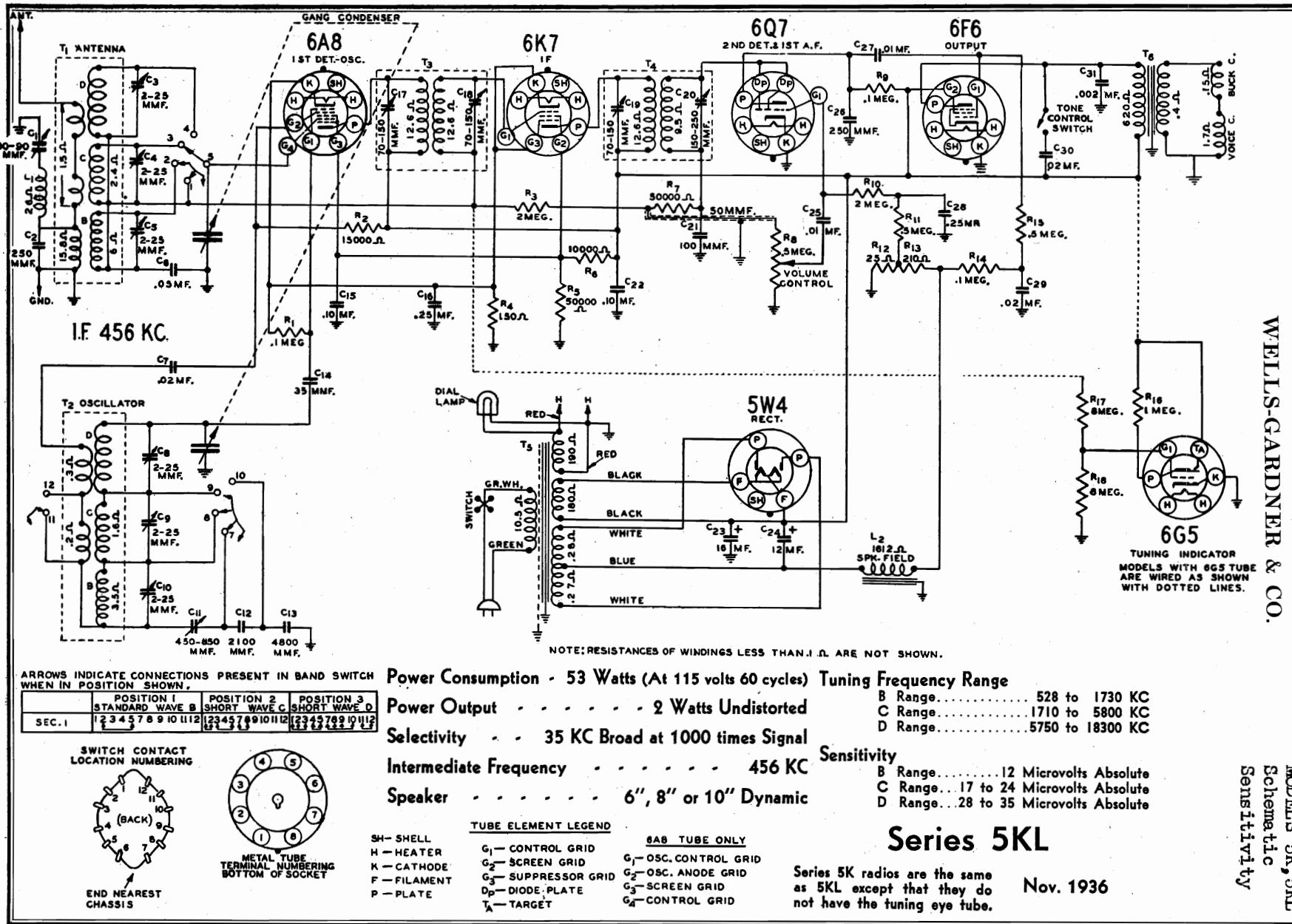
Prices Subject to Change Without Notice

Part No.	Code	Description	List Price
4IX12		Wave Band or Volume Indicator Cord (8")	.20
7A32		Lamp Bracket	.10
7A32		Dial Lamp	.10
7X30		Cardboard Dial Background	.20
25X331		Dial Clamping Bracket	.10
4IX141		Dial Crystal and Escutcheon Assembly	.15

DRIVE ASSEMBLY			
SA36		Drive Bracket and Bushing Assembly Complete	.35
25X234		Drive Shaft and Main Pointer Shaft	.20
25X234		20" Tuning Drive Cord	.45
25X237		Tension Spring for Drive Cord	.10

TRANSFORMERS AND COILS			
5A62	T1	Antenna Transformer and Can Assembly	\$1.75
5A63	T2	Oscillator Coil and Can Assembly	1.55
5A64	T3	1st I.F. Transformer and Can Assembly	1.35
5A65	T4	2nd I.F. Transformer and Can Assembly	1.35
5DX134	T5	115 Volt, 60 Cycle Power Transformer	3.35
5DX135	T6	115-230 Volt, 40-60 Cycle Power Transformer	4.70
5X121	T7	Output Transformer (Part of Speaker Assembly)	2.45
5A714	T8	Wave Trap (454 KC)	.55

CONDENSERS			
		TUBULAR	
40X201	C1	.05	.15
40X202	C2	.02	.15
40X203</td			



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

WELLS-GARDNER & CO.

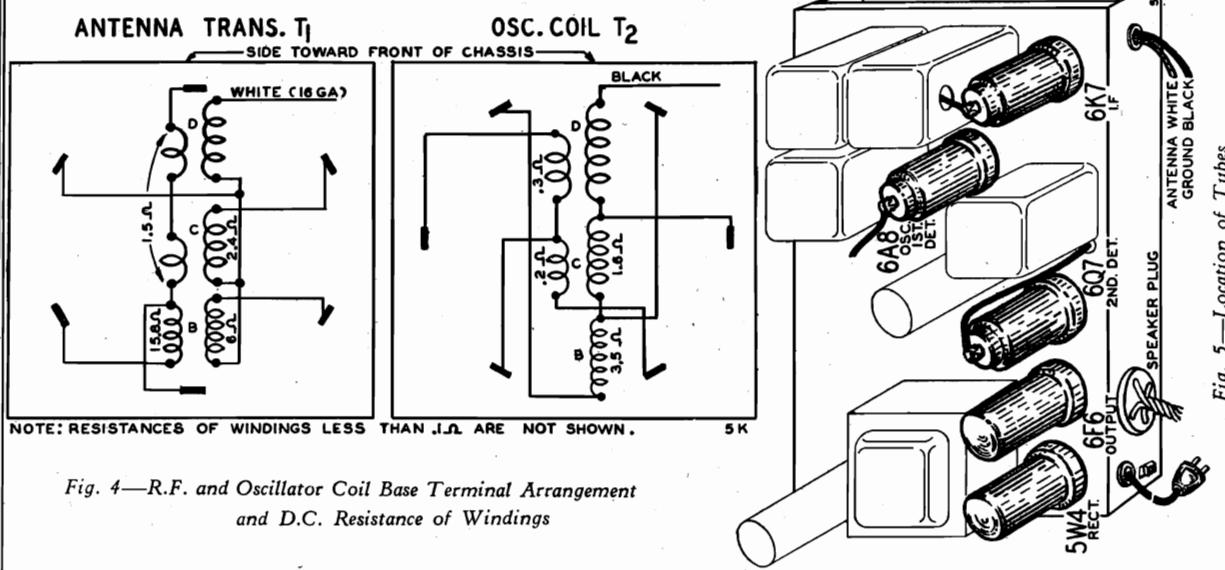


Fig. 4—R.F. and Oscillator Coil Base Terminal Arrangement and D.C. Resistance of Windings

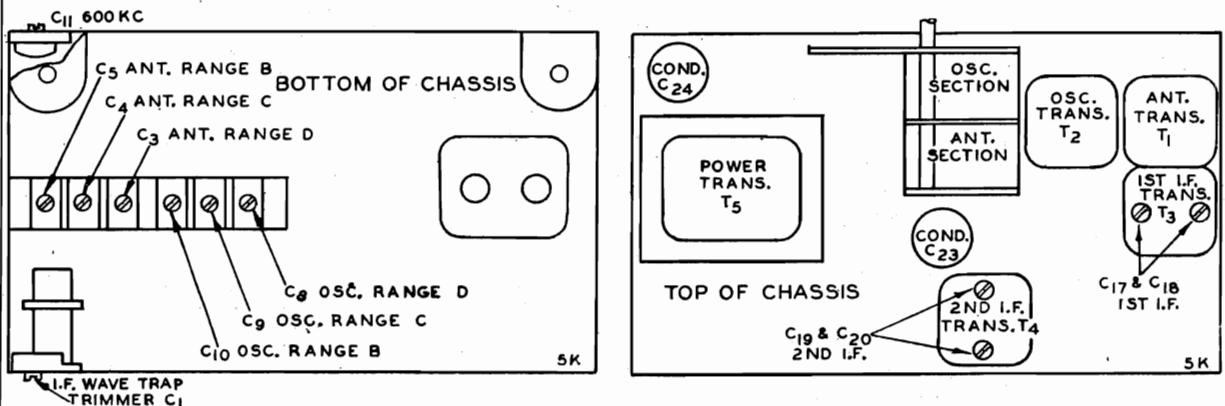


Fig. 3—Location of Trimmers

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 Def.-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.