

WELLS-GARDNER & CO., INC.

MODEL 6G Series
Voltage, Alignment
Socket, Coil Data
Parts List

Standard and Short Wave Battery Radio July 1936

Series 6G
6 Tube - 2 Band

Tubes

The tubes used in this receiver are of the 2 volt series. All of them are of the filament or directly heated types. All of them have a 2 volt filament and should not be connected to a power supply not intended for this type of tube. Maximum filament voltage range is 1.8 to 2.0 volts. Operation of the tubes at under or over this value will be injurious to the tubes and may affect operation of the receiver.

VOLTAGES AT SOCKETS					
Volume Control at Maximum			Antenna Shorted to Ground		
Type of Tube	Function	Across Filament	Plate to Ground	Screen to Ground	Grid to Ground
1C6	1st Det.-Osc.	2.0	90 90(1)	60	6(2)
34	I.F.	2.0	90	60	6(2)
1B5	2nd Det.-1st A.F.	2.0	30(3)		1.5(4)
30	2nd A.F.	2.0	90		4.0(5)
30	Power	2.0	90		6

- (1) Anode Grid to ground.
- (2) As read at "C" Battery.
- (3) As read with 500,000 ohm meter.
- (4) As read from negative end of R11 to ground.
- (5) As read from negative end of K10 to ground.

Alignment Procedure

Correct alignment is extremely important in connection with all wave receivers. The receivers are all properly aligned at the factory with precision instruments and re-alignment should not be attempted unless all other possible causes of the faulty operation have first been investigated and unless the service technician has the proper equipment.

A signal generator that will provide an accurately calibrated signal at 456, 1730, 1500, 600, 16,000, 15,000 and 6000 KC and an output indicating meter are required. It will be practically impossible to align the receiver if unsatisfactory apparatus is used.

Use a non-metallic screwdriver for the adjustments. The complete procedure is as follows:

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 radio 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. 7.

Range B 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.

1730 KC Adjustment

Set the signal generator for 1730 KC. Turn the rotor of the tuning condenser to the full open position.

Keep the band switch in the standard wave position.

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

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 B trimmer (C8) until

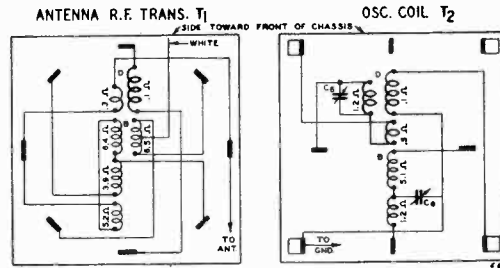


Fig. 8—R.F. and Oscillator Coil Base Terminal Arrangement and D.C. Resistance of Windings

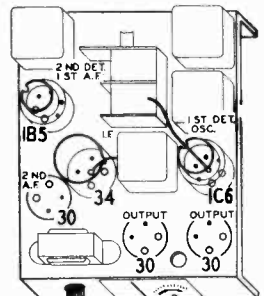


Fig. 9—Tube Arrangement

maximum output is obtained. The location of this trimmer is shown in Fig. 7.

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

Adjust the antenna Range B trimmer (C2) 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 (C9) until the peak of greatest intensity is obtained. See Fig. 7 for location of this trimmer.

Range D Alignment

CAUTION—When aligning the short wave band be sure NOT to adjust at the image frequency. This can be checked as follows: Let us say the signal generator is set for 15,000 KC. The signal will then be heard at 15,000 on the dial of the radio. The image signal, which is much weaker, will be heard at 15,000 less 912 KC, or 14,088 KC. It may be necessary to increase the input signal to hear the image.

16,000 KC Adjustment

Set the signal generator for 16,000 KC. Connect the antenna lead of the radio 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 (short wave band).

Adjust the oscillator Range D trimmer (C7) until maximum output is obtained. See Fig. 7 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 (C1) to maximum. When adjusting this 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.

6000 KC Adjustment

Set the signal generator for 6000 KC. Turn the tuning condenser rotor until maximum output is obtained.

Turn the rotor slowly back and forth at the same time adjusting the 6000 KC (C6) trimmer until the peak of greatest intensity is obtained. See Fig. 7 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.

ELECTROLYTIC				
P-45X212	C11	4.0 mf.	100 Dry	.45
MOLDED				
P-47X62	C5	70 mmf.		.10
P-47X57	C17	100 mmf.		.10
P-47X54	C19	50 mmf.		.10
P-47X53	C22	35 mmf.		.10
TRIMMER				
P-17A52	C1	2-25 mmf. Range "D" Antenna Trimmer	} .45	
	C2	2-25 mmf. Range "B" Antenna Trimmer		
	C7	2-25 mmf. Range "D" Oscillator Trimmer		
	C8	2-25 mmf. Range "B" Oscillator Trimmer	} .45	
	C4	40-100 mmf. 6000 KC Trimmer		
P-17A35	C9	200-600 mmf. 600 KC Trimmer		.45
P-17A51	C13	70-150 mmf. 1st I. F. Trimmer		.35
	C14	40-100 mmf. 1st I. F. Trimmer		.35
	C15	70-150 mmf. 2nd I. F. Trimmer		.35
	C16	40-100 mmf. 2nd I. F. Trimmer		.35

MISCELLANEOUS				
P-14A54	2 Gang Condenser	less Drive Drum and Dial Assembly		\$2.50
P-A9504	R1	100,000 Ohm	0.2	\$0.10
P-A9503	R2	50,000 Ohm	0.2	.10
P-A9406	R3	2.0 Megohm	0.2	.15
P-A9406	R4	8.0 Megohm	0.2	.15
P-A9504	R6	200,000 Ohm	0.2	.10
P-A9505	R7	3.0 Megohm	0.2	.10
P-A9505	R8	3.0 Megohm	0.2	.10
P-A9452	R9	1,500 Ohm	0.2	.15
P-A9452	R10	2,500 Ohm	0.2	.15
P-A9452	R11	1,500 Ohm	0.2	.15
P-A9502	R13	2,000 Ohm	0.2	.10
P-46X30	C3	.05 mf.	180	\$0.15
P-46X189	C4	.01 mf.	180	.15
P-46X187	C10	.02 mf.	180	.15
P-46X98	C12	.01 mf.	180	.20
P-46X214	C18	.01 mf.	180	.15
P-46X124	C20	.01 mf.	180	.15
P-46X197	C21	.25 mf.	180	.25
P-46X98	C23	.1 mf.	180	.20
Part List				
No.	Description			Price
P-5A32	Drive Bracket Assembly, less Drive Drum and Pointer Shaft			\$0.30
P-24X225	Drive Drum and Pointer Shaft (Mounted on Tuning Condenser Shaft)			.45
P-28X27	20" Back Tuning Drive Cord			doz. .10
P-28X27	Tuning Drive Cord Tension Spring			.10
P-29X20	On-Off Indicator Drive Cord			doz. .20
P-28X44	On-Off Indicator Cord Tension Spring			.10
P-34X218	On-Off Indicator Cord Tension Spring			.10
P-43X55	R6	1.0 Megohm Volume Control and On-Off Switch		1.05
	R12	3.7 Ohm Filament Rheostat		.50
P-3A44	30	Tube Socket		\$0.10
P-3A45	34	Tube Socket		.10
P-3A20	1B5	Tube Socket		.10
P-3A203	1C6	Tube Socket		.10
SPEAKERS				
P-12A217	4"	Magnetic Speaker		4.35
P-12A218	8"	Magnetic Speaker		4.90
P-12X212	Speaker Cable and Socket Assembly			.40
KNOBS				
Specify Name and Model of Receiver		Volume Control Knob		.15
		Tuning Control Knob		.15
		Band Switch Knob		.15
GENERAL				
P-48X23	Rubber Chassis Mounting Cushions			.10
P-32X49	Tube Shield—Large			.20
P-32X32	Tube Shield—Small			.15
P-32X18	Tube Shield Base—Large			.45
P-32X30	Tube Shield Base—Small			.10
P-28X38	Felt Washers (Used behind Knobs)			ea. .10
P-12X16	Glass Dial Crystal			.35
P-28X67	Crystal Retaining Ring			.10
P-2A55	1 Section, 2 Position, Band Change Switch			.75
P-4A49	Single Lug Terminal Strip (Mounting Hole Used)			.10
P-30X14	Grid Clip only			.10
P-13X214	Antenna and Ground Lead Assembly			.30
P-13X244	A, B and C Battery Cable			1.05
P-9A460	T1	Antenna Trans. and Can Assembly		\$2.05
P-9A461	T2	Oscillator Coil and Can Assembly		2.45
P-9A548	I3	Image Rejector		.35
P-9A467	T4	1st I. F. Trans. and Can Assembly		1.40
P-9A463	I5	2nd I. F. Trans. and Can Assembly		1.40
P-50X33	T6	Input Transformer		1.30
P-9A547	L1	Oscillator Plate Choke		.35
P-9A512	L2	Filament Choke Coil		.20
P-15A75	Dial Bracket Assembly, less Pilot Lamp, Pilot Light Socket and Spring Clip, Pointer, and On-Off Indicator Assembly			\$1.45
P-15X48	Pointer			.10
P-25A77	On-Off Indicator Disc Assembly			.15
P-7A40	Pilot Lamp			.10
P-7A8	Pilot Light Socket and Spring Clip			.10
P-25A74	Pilot Light Spring Contact Assembly (on drive shaft)			.20

*Used only on models with filament rheostat.