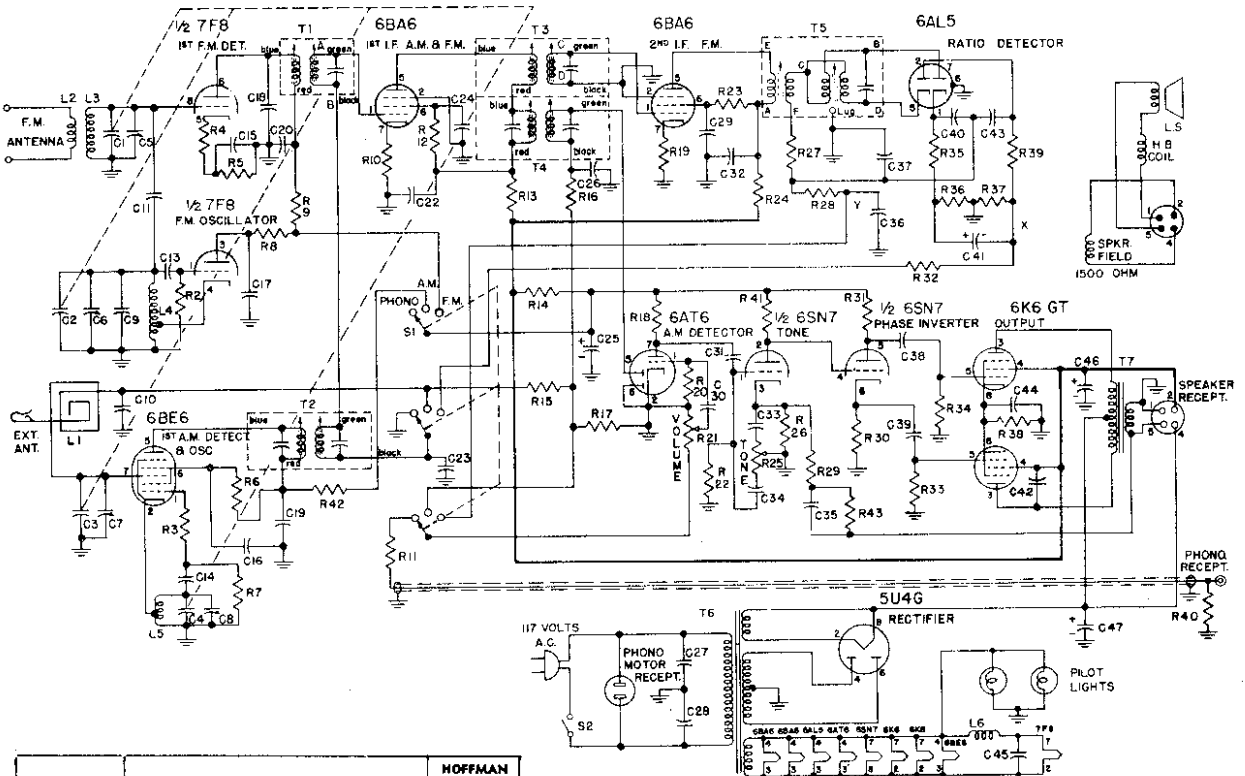


HOFFMAN RADIO CORP.

MODELS B-508, B-509,  
B-510, CHASSIS 129



SYMBOL	DESCRIPTION	HOFFMAN NO.
C1, C2, C3, C4	4 Section Variable	4409
C5, C6	Trimmer (F.M. Section)	4308
C7, C8	Trimmer (A.M. Section)	4313
C9, C18	8 Mmf. -10%	4019
C10, C23	.05 Mfd. 200 V.	4100
C11	1.5 Mmf. +20 %	4008
C12	220 Mmf. +20 %	4026
C13	22 Mmf. +10%	4021
C14, C26	100 Mmf. +10%	4012
C15, C17, C45	650 Mmf. =20 %	4011
C16, C19, C21, C22, C24, C29, C30, C31	.01 Mfd. 400 V.	4112
C20, C32	2300 Mmf. +5 %	4006
C25	10 Mfd. 450 V.	4203
C27, C28	.01 Mfd. 600 V.	4106
C33	.02 Mfd. 400 V.	4102
C34	.005 Mfd. 600 V.	4102
C35	.1 Mfd. 200 V.	4111
C36, C42	.002 Mfd. 600 V.	4118
C37, C40, C43	270 Mmf. +20 %	4001
C38, C39	.05 Mfd. 400 V.	4101
C41	5 Mfd. 50 V.	4209
C44	20 Mfd. 25 V.	4200
C46, C47	20 Mfd. 450 V.	4200
R1, R33, R34	.47 Meg. +20 %	4506
R2, R7, R28	22000 Ohm +20 %	4501
R3	22 Ohm +20 %	4560
R4	68 Ohm +20 %	4524
R5	1200 Ohm +10%	4553
R6	15000 Ohm +20 %	4539
R8, R9, R13, R24	1500 Ohm +20 %	4534
R10, R19	56 Ohm +10%	4561
R11, R15, R20	2.2 Meg. +20 %	4502
R12, R23	33000 Ohm +20 %	4556
R14	2200 Ohm +20 %	4540
R16, R17	.1 Meg. +20 %	4511
R18, R40, R41	.22 Meg. +20 %	4500
R21	.5 Meg. Pot. (Volume Control)	4804
R22	1.0 Meg. +20 %	4513
R25	.25 Meg. Pot. (Tone Control)	4805
R26	2200 Ohm +20 %	4512
R27	120 Ohm +10%	4546
R29	4700 Ohm +20 %	4543
R30, R31	47000 Ohm +10%	4559
R32	47000 Ohm +20 %	4504
R35, R39	390 Ohm +10%	4549
R36, R37	6800 Ohm +10%	4557
R38	400 Ohm +20 %	4517
L1	A.M. Loop Antenna	5279
L2	F.M. Antenna Primary Coil	5281
L3	F.M. Antenna Secondary Coil	5283
L4	F.M. Oscillator Coil	5280
L5	A.M. Oscillator Coil	5282
L6	Filament Choke	5266
T1	1st. F.M. I.F. Transformer	5274
T2	1st A.M. I.F. Transformer	5276
T3	2nd F.M. I.F. Transformer	5275
T4	2nd A.M. I.F. Transformer	5277
T5	Discriminator Ratio Detector Coil	5278
T6	Power Transformer	5001
T7	Audio Output Transformer	5111
L5	10" Electrodynamic Speaker	9005

**SPECIFICATIONS**

**TUNING RANGES:**  
 Broadcast Band ..... 535 Kc to 1650 Kc  
 FM Band ..... 88 Mc to 108 Mc

**INTERMEDIATE FREQUENCIES:**  
 Broadcast Band ..... 455 Kc  
 FM Band ..... 10.7 Mc

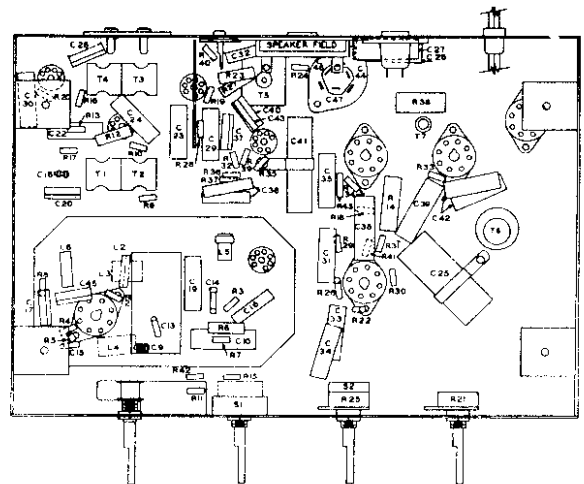
Power Supply ..... 115 V.A.C. 50-50 C.P.S.  
 Power Consumption (incl. phono.) ..... 110 watts  
 Undistorted Audio Output ..... 10 watts

**NORMAL OPERATING VOLTAGES**

The table below lists the normal operating voltages to be expected at the various tube socket terminals.

**NORMAL OPERATING CURRENTS**

5U4G Cathode Current ..... 95-100 Ma  
 6K6 Cathode Current (both tubes) ..... 55 Ma



Bottom of Chassis

MODELS B-508, B-509,  
B-510, CHASSIS 129

HOFFMAN RADIO CORP.

ALIGNMENT PROCEDURE

**CAUTION:** No alignment adjustments should be attempted without first thoroughly checking over all other possible causes of trouble such as defective tubes, resistors, and condensers. In order to align the receiver properly, remove the chassis from the cabinet and proceed as follows:

**NOTE:** IT IS PARTICULARLY IMPORTANT THAT AM ALIGNMENT BE DONE BEFORE FM ALIGNMENT. THIS IS TO AVOID POSSIBLE INTERACTION BETWEEN FM AND AM ADJUSTMENTS.

AM ALIGNMENT

I.F. ALIGNMENT:

1. Set tuning condenser on high frequency end of tuning range (minimum capacity).
2. Set band switch to AM position.
3. Turn receiver on and let it warm up for fifteen minutes or longer in order to minimize drift effects.
4. Connect output meter across speaker voice coil and set meter on lowest range, but not below 2.5 volt scale.
5. Connect output of signal generator to stator of C3 (see schematic diagram and chassis layout) through a .1 mfd. condenser; connect ground side of generator directly to chassis of receiver. Set signal generator on 455 Kc modulated.
6. Adjust I.F. slugs on T2 and T4 for maximum reading on the output meter. Keep the meter reading on the lower half of the scale.

(NOTE: The above mentioned slugs are located on the top and bottom of their respective I.F. cans. Keep the signal generator output low and the volume control on the receiver wide open during adjustment.)

R.F. ALIGNMENT:

After following the steps outlined above for I.F. alignment, proceed as follows:

1. Connect signal generator to ext. antenna connection of loop.
2. Set signal generator to 1650 Kc (modulated) and adjust oscillator trimmer (C8) to signal frequency. (Tuning gang should be at minimum capacity setting for this adjustment.)
3. Set signal generator to 1400 Kc (modulated). Tune signal in by rotating condenser gang until signal is heard. Adjust trimmer C7 for maximum reading on output meter. Keep signal generator output low so that meter reading is on lower half of scale.
4. Set signal generator to 600 Kc (modulated). Tune signal in until signal is heard. Bend antenna condenser plates (C1) for maximum output on 600 Kc as required.

FM ALIGNMENT

I.F. ALIGNMENT:

1. Set band switch in the FM position.
2. Set tuning condenser to high frequency end of tuning range (minimum capacity).
3. Solder a 5,000 ohm 1/2w. carbon resistor between terminals A and B of T1. Solder another 5,000 ohm 1/2w. carbon resistor between terminals D and C of transformer T3. DO NOT USE WIRE WOUND RESISTORS.
4. Connect the negative side of a 20,000 ohm/volt D.C. voltmeter or vacuum tube voltmeter to point "X" on diagram. Connect the positive side of meter to ground.
5. Connect output of signal generator directly to FM antenna input. Adjust signal generator to 10.7 Mc.
6. Adjust the tuning slugs on transformers T1 and T3 for maximum output. (Note: There are two slugs on each I.F. transformer, one on the top of the can and one on the bottom of the can under the chassis. It is desirable to make this adjustment with an insulated alignment screw

- driver.) While making the above adjustments, keep the output of the signal generator low so that the D.C. reading on the meter is always between 1/2 volt and 1 volt.
7. Adjust the iron slug on the top only of T5 for maximum reading on the meter as outlined in step 6 above.
  8. Remove meter lead from point "X" and connect to point "Y". Set meter to most sensitive D.C. voltage range.
  9. Adjust the iron slug on the bottom only of T5 for a zero reading on the meter. It will be noted that as this slug is adjusted the meter will go from a positive indication to a negative indication. Proper adjustment is obtained when the meter is at the zero point between negative and positive swings of the meter.

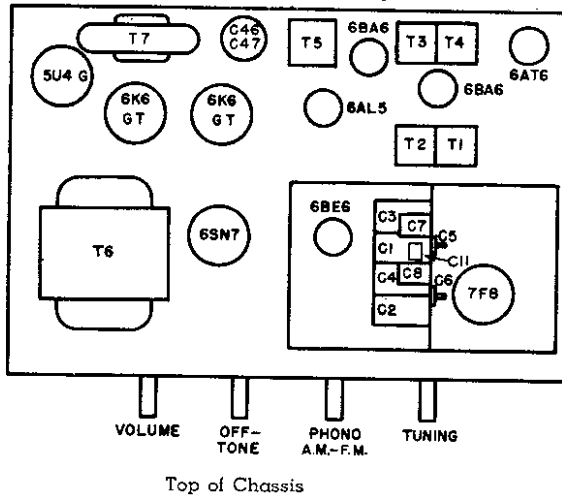
(CAUTION: This adjustment must be made with an insulated alignment screw driver.)

**NOTE:** The above adjustments must be made in sequence and the operator should take particular care that the frequency setting on the signal generator is not touched during alignment. BE SURE THAT THE TWO 5,000 OHM RESISTORS ARE REMOVED FROM THE CIRCUIT AFTER I.F. ALIGNMENT IS COMPLETED. The above adjustments should be made on the basis of meter readings only and no attention should be paid to what is heard coming out of the speaker.

R.F. ALIGNMENT:

1. Set tuning condenser to 107 Mc on the dial.
2. Set band switch to FM position.
3. Connect DC voltmeter to point "X" as outlined above in step 4.
4. Connect output of signal generator to antenna terminals on receiver through 150-ohm resistors. One resistor should be connected in series with the "hot" side of the signal generator and the other resistor should be connected in series with the ground side of the generator. Set signal generator on 107 Mc.
5. Adjust oscillator trimmer C6 for maximum indication on meter, then adjust R.F. trimmer C5.
6. Set signal generator to 90 Mc.
7. Tune set by rotating gang condenser until meter reads maximum. Bend condenser gang plates to bring signal in and to match dial calibration.

**CAUTION:** The above adjustments should be made on the basis of meter readings only and no attention should be paid to what is heard coming out of the speaker.



SOCKET VOLTAGES

Pin No.	1	2	3	4	5	6	7	8
7F8 (FM Det.—Osc.)	—3.0★	0	210	0	3.5	220	6.3 AC	0
6BE6 (AM Det.—Osc.)	—10.5★	0	0	6.3 AC	200	100	—1.5★	—
6BA6 (1st I.F.)	—24★	0	0	6.5 AC	235	115	1.0	—
6BA6 (2nd I.F.)	0	0	0	6.5 AC	230	110	1.1	—
6AT6 (AM Det.)	0	0	0	6.3 AC	—66★	0	65	—
6A15 (Ratio Det.)	.25★	—26★	0	6.3 AC	—05★	0	—05★	—
6SN7 (Tone & P.I.)	0	45	7.2	—39★	170	50	6.3 AC	0
6K6 (Output)	0	6.3 AC	340	260	0	0	0	21
6K6 (Output)	0	6.3 AC	340	260	0	0	0	21

D.C. voltages measured with 20,000 ohm/volt meter.

A.C. voltages measured with 1,000 ohm/volt meter.

★ Must be measured with V.T.V.M. with 100,000 ohm ±10% carbon resistor in series with probe. All measurements made with gang closed and no signal input to receiver.