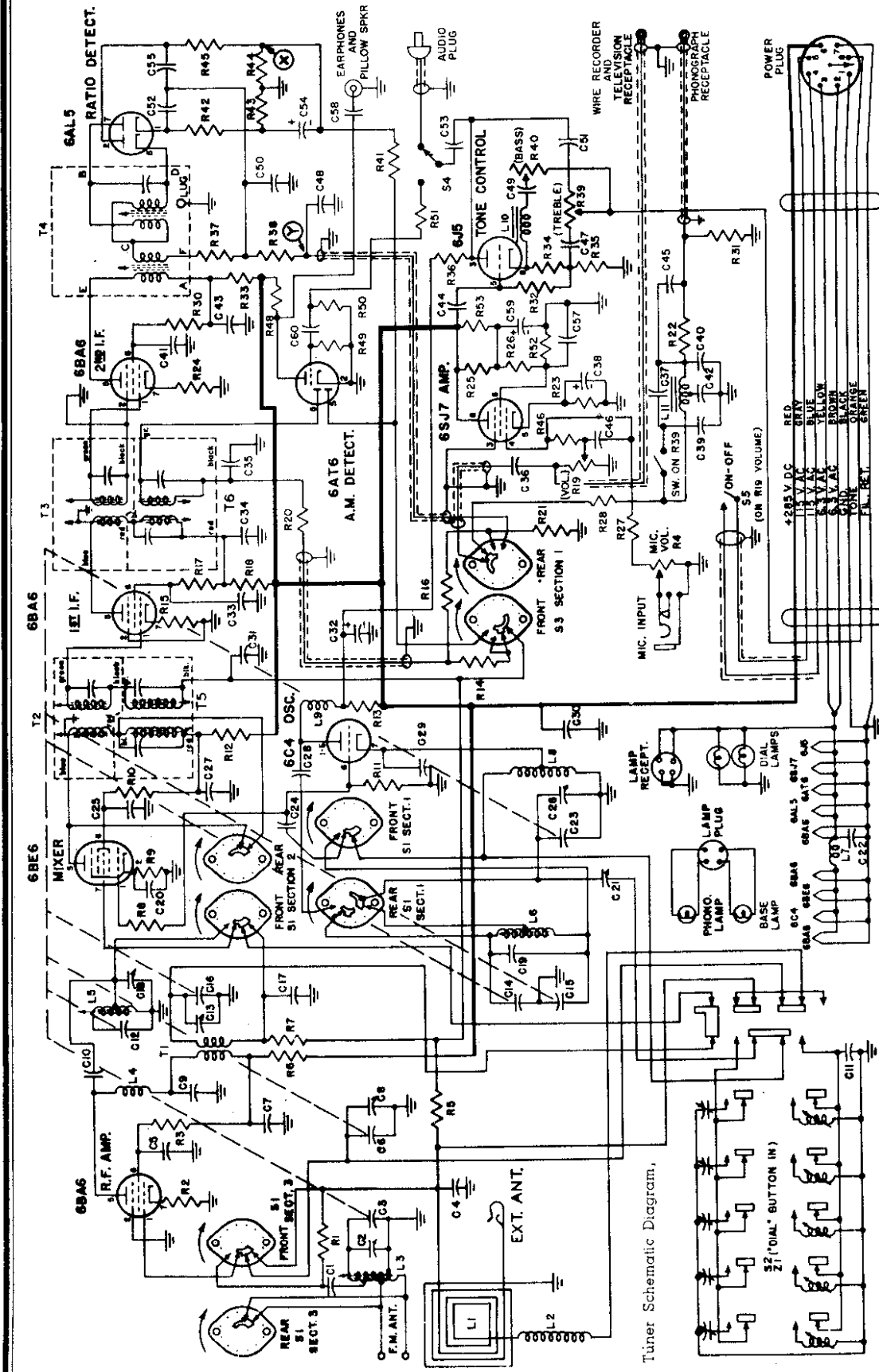


HOFFMAN RADIO CORP.

MODELS C1006, C1007,
CHASSIS 131, 132



POWER SUPPLY CHASSIS:

Phase Inverter.....	6I5
Audio Output (4 tubes).....	6K6GT/G
Rectifier.....	5U4G
Power Supply.....	115 V.A.C. 50-60 C.P.S.
Power Consumption (incl. phono.).....	175 Watts
C1006.....	235 Watts
C1007.....	18 Watts
Undistorted Audio Output.....	18 Watts

SPECIFICATIONS

TUNING RANGES:	535 Kc to 1650 Kc
Broadcast Band.....	88 Mc to 108 Mc
FM Band.....	
INTERMEDIATE FREQUENCIES:	455 Kc
Broadcast Band.....	10.7 Mc
FM Band.....	
NORMAL OPERATING CURRENTS	
5U4G Cathode Current.....	190 Ma
6V6 Cathode Current (both tubes).....	110 Ma

RECORD CHANGER: Webster Model 56, RCD.CH. 15-10
WIRE RECORDER: Webster Model 79, WIREC 17-1

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MODELS C1006, C1007,
CHASSIS 131, 132

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. Depress Manual pushbutton.
4. Turn receiver on and let it warm up for fifteen minutes or longer in order to minimize drift effects.
5. Connect output meter across speaker voice coil and set meter on lowest range, but not below 2.5 volt scale.
6. Connect output of signal generator to stator of C16 (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.
7. Adjust I.F. trimmers on T2 and T3 for maximum reading on the output meter. Keep the meter reading on the lower half of the scale.

(NOTE: The above mentioned trimmers are on the top of their respective I.F. cans and are not to be confused with the iron core adjustments also coming out of the tops of the FM IF 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 "hot" side of loop through a .1 mfd condenser and a 400 ohm resistor in series.
2. Set signal generator to 1650 Kc (modulated) and adjust oscillator trimmer (C26) to signal frequency. (Tuning gang should be at minimum capacity setting for this adjustment).
3. Set signal generator to 535 Kc. (Modulated) and adjust oscillator padder (C21) to signal frequency. (Gang should be at maximum capacity setting for this adjustment).
4. Repeat steps 2 and 3 to insure correct adjustment.
5. Set signal generator to 1400 Kc. (modulated). Tune signal in by rotating condenser gang until signal is heard. Adjust trimmers C8 and C13 for maximum reading on output meter. Keep signal generator output low so that meter reading is on lower half of scale.

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 1/2 w. carbon resistor between terminals A and B of T2. Solder another 5,000 ohm 1/2 w. carbon resistor between terminals D and E 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 generator to point "X" on diagram. Connect the positive side of meter to ground.
5. Connect output of signal generator directly to stator of C12. Adjust signal generator to 10.7 Mc.
6. Adjust the tuning slugs on transformers T2 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 T4 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 T4 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 100 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 carbon 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 100 Mc.
5. Adjust tuning slug on L6 for maximum indication on meter.
6. Set signal generator to 90 Mc.
7. Tune set by rotating gang condenser until meter reads maximum. Now adjust tuning slugs on L3 and L5 for maximum meter reading. While making the above adjustments keep the output on the signal generator low so that the meter reading is between 1/2 volt and 1 volt.
8. Set signal generator to 106 Mc.
9. Tune set by rotating gang condenser until meter reads maximum. Now adjust tubular trimmers C2 and C18 for maximum meter reading.
10. Repeat steps 6 through 9 inclusive twice for proper alignment.

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.

PUSHBUTTON ADJUSTMENTS

The frequency ranges for the pushbuttons are given in figure 2. A layout of the pushbutton adjustments is shown in Figure 3. Note that in this figure, pushbutton number 1 is now to the extreme right, since the pushbutton assembly is being viewed from the rear. To make pushbutton adjustments, proceed as follows:

1. Turn the receiver on and let it warm up for fifteen minutes or longer in order to minimize drift effects.
2. Depress the DIAL pushbutton and tune in the station which is to be set on pushbutton number 1.
3. Now depress pushbutton number 1 and adjust tuning slug 1a and trimmer 1b (Figure 3) until the station is accurately tuned in again.

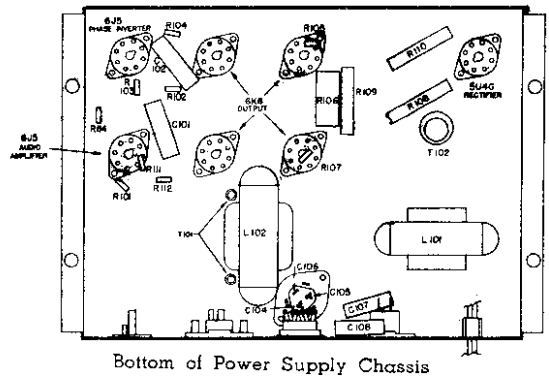
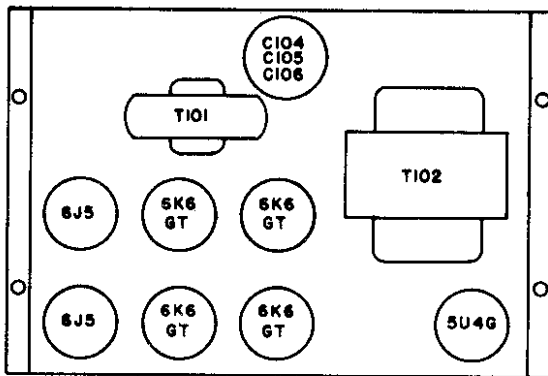
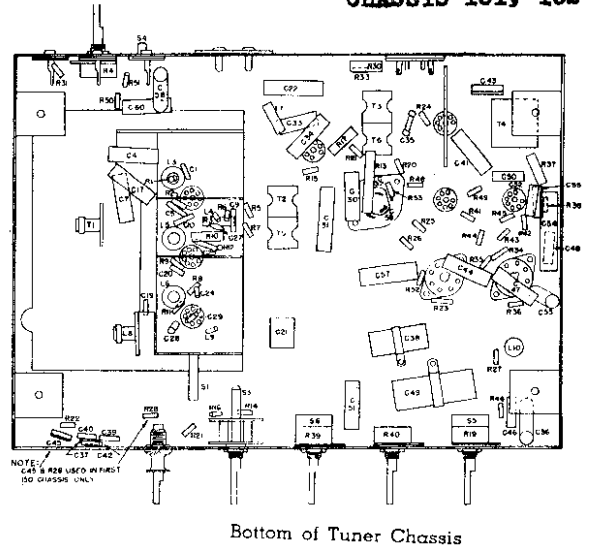
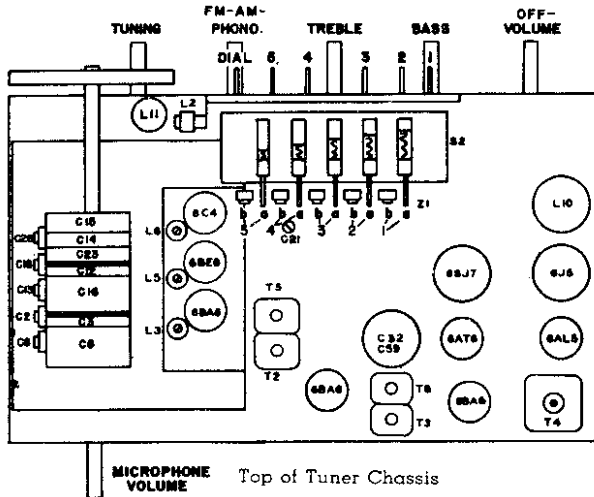
MODEL B502

4. Repeat the above procedure for the remaining pushbuttons.

NOTE: When making oscillator coil pushbutton adjustments, it is desirable that this adjustment be made from the high-frequency end (slug all the way out). The proper oscillator coil slug setting will then be reached before there is any possibility of tuning the oscillator to the low frequency side of the carrier.

HOFFMAN RADIO CORP.

MODELS C1006, C1007,
CHASSIS 131, 132



Top of Power Supply Chassis

NORMAL OPERATING VOLTAGES

The following tables list the normal operating voltages to be expected at the various tube socket terminals.

TUNER CHASSIS

Pin No.	1	2	3	4	5	6	7	8
6BA6 (R.F.)	-6*	0	6.3 AC	0	290	195	.5	—
6BE6 (Conv.)	-11.5*	5	6.3 AC	0	290	70	-5.7*	—
6C4 (Osc.)	240	0	6.3 AC	0	240	-11.5*	0	—
6BA6 (1st I.F.)	-7*	0	6.3 AC	0	270	190	.6	—
6BA6 (2nd I.F.)	0	0	6.3 AC	0	250	100	1.0	—
6AL5 (Ratio Det.)	.25*	-25*	6.3 AC	0	-1*	0	-.1*	—
6AT6 (AM Det.)	-4	0	6.3 AC	0	-1.5*	-12.5*	150	—
6S7 (A.F. Amp.)	0	0	0	0	3.5	65	6.3 AC	100
6J5 (Tone Control)	0	6.3 AC	200	245	43*	90	0	95

POWER SUPPLY CHASSIS

Pin No.	1	2	3	4	5	6	7	8
6J5	0	0	75	0	0	75	6.3 AC	3
6J5	0	6.3 AC	210	—	50	—	0	85
6K6	0	0	300	300	0	—	6.3 AC	0
5U4G	—	335	—	410	—	410	—	335
		5.0 AC ★						5.0 AC ★

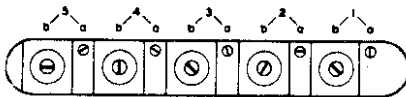
D.C. voltages measured with 20,000 ohm/volt meter.

A.C. voltages measured with 1000 ohm/volt meter.

* Measured with V.T.V.M. (subject to wide variations because of tubes and V.T.V.M. used).

All voltages measured with reference to chassis except as follows:

★ Measured between pin numbers 2 and 8 on 5U4 socket. NOTE: Above readings are obtained with no signal input to receiver and band switch in phono position.

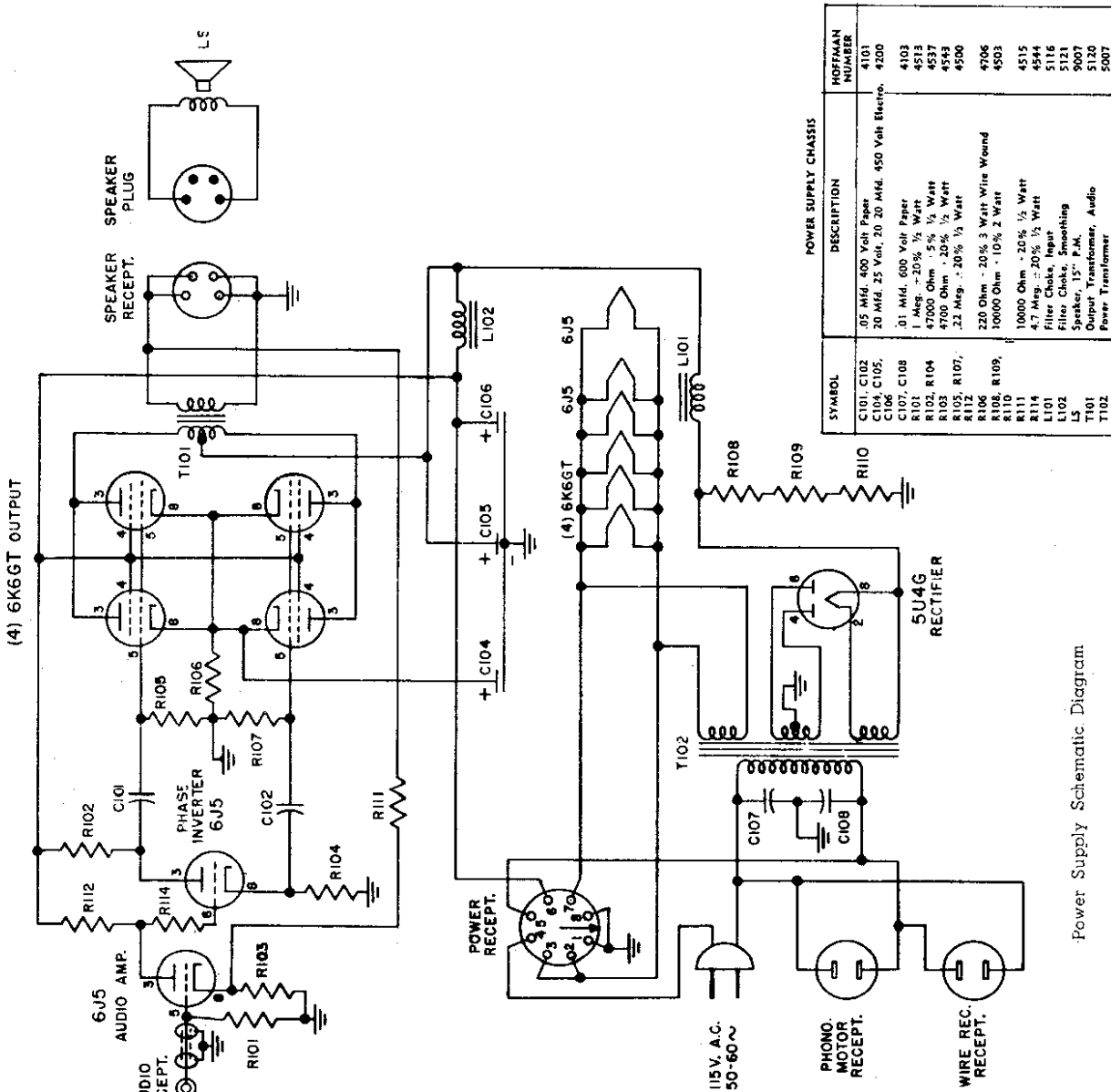


-Pushbutton Adjustments



Push-button Frequencies

SYMBOL	TUNER CHASSIS DESCRIPTION	HOFFMAN NUMBER
C1, C3, C10, C20, C35	100 Mmf. ±10%	4012
C2, C18	1.5-15 Mmf. Trimmer	4316
C3, C6, C12, C14, C15, C16, C23, C27, C32	3 Sect. Variable	4408
C4, C17, C22	.05 Mfd. 200 V.	4100
C5, C25, C45	470 Mmf. ±20 %	4003
C6, C16, C46	.01 Mfd. 400 V.	4112
C7, C30, C34, C44, C51	1.8-30 Mmf. Trimmer	4313
C8, C13, C16	50 Mmf. ±5%	4004
C11	50 Mmf. 2%	4023
C19	220 Mmf. ±20 %	4026
C21	110-500 Mmf. Trimmer	4001
C24	50 Mmf. ±10%	4029
C25	50 Mmf. ±10%	4031
C26	20-450, 20-450 Electrolytic	4200
C28	.02 Mfd. 600 V.	4104
C33, C41	.02 Mfd. 400 V.	4106
C38	25 Mfd. 25 V. Electrolytic	4205
C50, C52, C55	330 Mmf. ±10% Mica or Ceramic	4010
C60	.005 Mfd. 600 V. Tub. Paper	4102
C47, C48	.2 Mfd. 200 V. Tub. Paper	4118
C54	5 Mfd. 50 V. Electrolytic	4209
C39, C40	270 Mmf. ±20 % Mica	4001
C37, C42	100 Mmf. ±20 % Mica	4000
C58	.05 Mfd. 400 V. Tub. Paper	4101
R1	.25 Meg. ±10%	4535
R2, R9, R15, R30	56 Ohm ±10%	4561
R3, R10, R17, R20	33000 Ohm ±20 %	4556
R5, R7, R16, R26, R50	1 Meg. ±20 %	4511
R6, R12, R18, R33	1500 Ohm ±20 %	4534
R9	22 Ohm ±20 %	4560
R1, R36	47000 Ohm ±20 %	4551
R14, R52	2.2 Meg. ±20 %	4502
R22, R25, R32	1.0 Meg. ±20 %	4513
R4	5 Meg. Pot. (Micro. Volume)	4804
R21, R35, R38, R48, R53	47000 Ohm ±20 %	4504
R49	10 Meg. ±20 %	4505
R23, R34	2200 Ohm ±20 %	4512
R25, R27, R28, R46	.22 Meg. ±20 %	4500
R17, R39	120 Ohm ±10%	4546
R10	.25 Meg. Pot. with Switch (T-Table, Volume)	4802
R30	4700 Ohm Pot. ±20 %	4503
R41, R51	300 Ohm ±10%	4506
R42, R45	300 Ohm ±10%	4549
R43, R44	6800 Ohm ±10%	4557
C49	.5 Mfd. 200 V. Tub. Paper	4110
L1	Loop Antenna	55210
L2	Coil—Broadcast Antenna	5265
L3	Coil—F.M. Ant.	5253
L4, L9	Coil—F.F.	5254
L5	Coil—F.M. R.F.	5252
L6	Coil—F.M. Osc.	5251
L7	Coil—Fill R.F.	5266
L8	Coil—B.C. Osc.	5263
L10	Choke—Bass	5113
L11	Choke—Scratch Filter	5114
L1	Band Switch (R.F.)	6014
S1	Bushbaron Switch Assem.	6004
S2	Band Switch	6007
S3	Speaker, R.F. Interstage	6005
S4	Speaker, R.F. Interstage	5264
T1	1st F.M. I.F. Transformer	5274
T2	2nd F.M. I.F. Transformer	5275
T3	Transformer—Rails Detect.	5278
T4	1st A.M. I.F. Transformer	5276
T5	2nd A.M. I.F. Transformer	5277
Z1	Pushbutton Tuning Assembly	55200

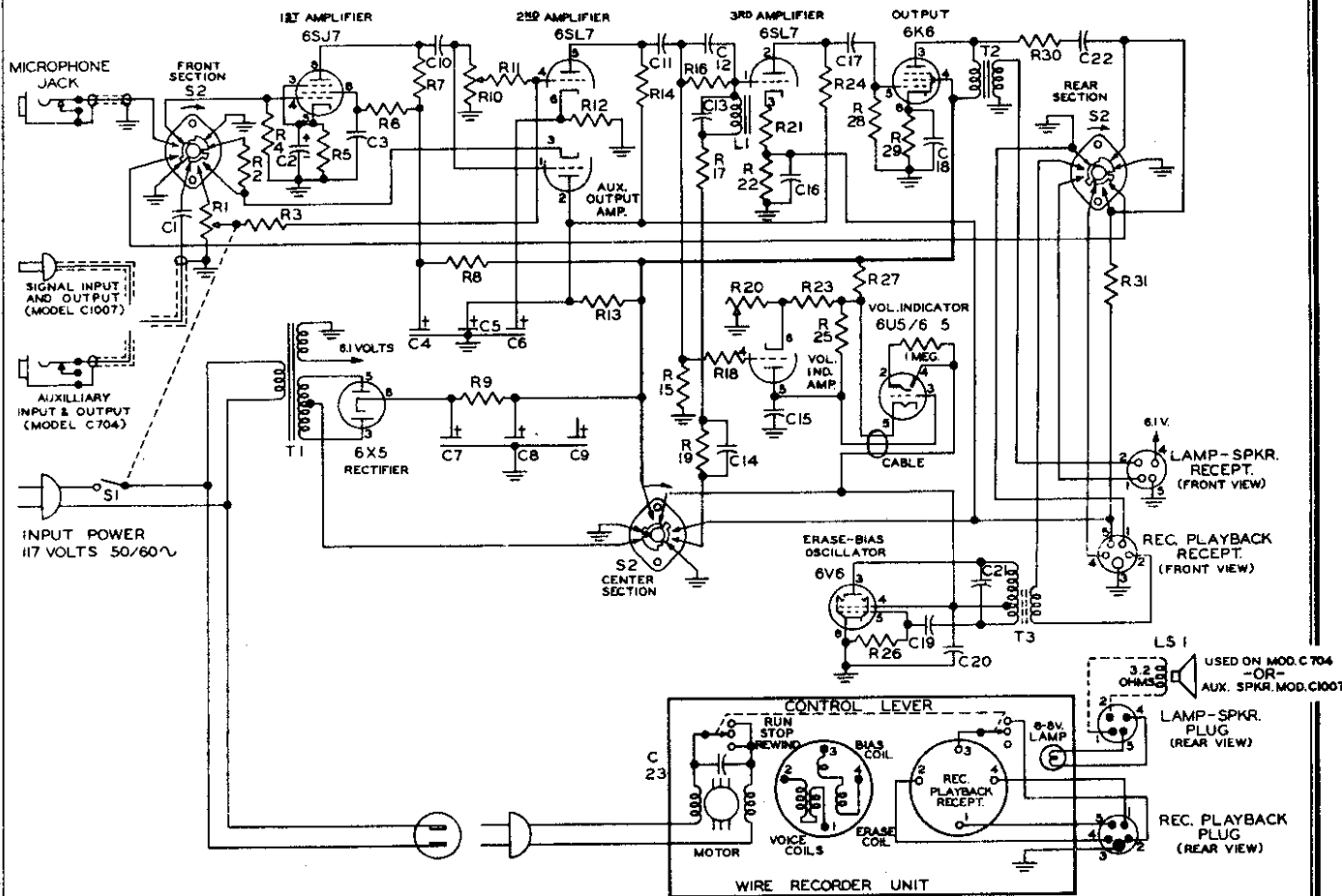


SYMBOL	DESCRIPTION	HOFFMAN NUMBER
C101, C102	.05 Mfd. 400 Volt Paper	4101
C104, C105	20 Mfd. 25 Volt, 20 Mfd. 650 Volt Electro.	4200
C106	.01 Mfd. 600 Volt Paper	4103
C107, C108	1 Meg. ±20% 1/2 Watt	4513
R101	47000 Ohm ±5% 1/2 Watt	4537
R102, R104	4700 Ohm ±20% 1/2 Watt	4543
R103	4700 Ohm ±20% 1/2 Watt	4543
R105, R107	.22 Meg. ±20% 1/2 Watt	4500
A112	.22 Meg. ±20% 1/2 Watt	4500
R106	220 Ohm ±20% 3 Watt Wire Wound	4706
R108, R109	10000 Ohm ±10% 2 Watt	4503
R110	10000 Ohm ±20% 1/2 Watt	4515
R111	4.7 Mfg. ±20% 1/2 Watt	4544
R114	Filter Choke, Input	5116
L101	Filter Choke, Input	5116
L102	Filter Choke, Smoothing	5121
L5	Speaker, 15" P.M.	9007
T101	Output Transformer, Audio	5120
T102	Power Transformer	5007

Power Supply Schematic Diagram

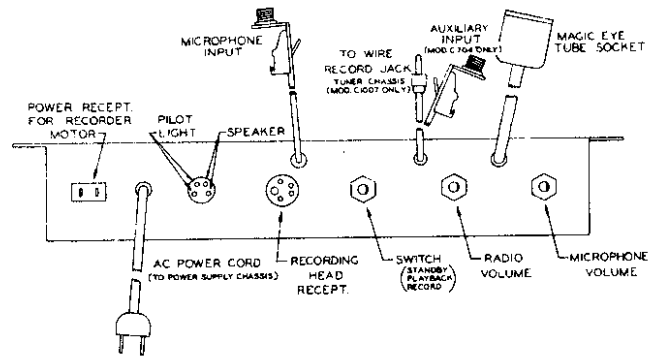
HOFFMAN RADIO CORP.

MODELS C1006, C1007,
CHASSIS 131, 132



-Schematic Diagram

SYMBOL	DESCRIPTION	HOFFMAN NUMBER
C1	.05 Mfd. 200 V.	4100
C2	.25 Mfd. 25 V.	4205
C3, C11, C20, C22, C23	.05 Mfd. 400 V.	4101
C4, C5, C7, C8	20 Mfd. 450 V.	4200
C6, C9	20 Mfd. 25 V.	4200
C10, C14, C16, C17	.02 Mfd. 400 V.	4106
C12	100 Mmf. ± 20 %	4000
C13	330 Mmf. ± 10%	4010
C15	.1 Mfd. 200 V.	4111
C18	.01 Mfd. 400 V.	4112
C19	.001 Mfd. 600 V.	4104
C21	.01 Mfd. ± 20 %	4020
R1	.25 Meg. (with switch)	Potentiometer 4805
R2, R5, R12, R21	2200 Ohm ± 20 %	4512
R3, R4, R11	.22 Meg. ± 20 %	4500
R6	2.2 Meg. ± 20 %	4502
R7, R16, R28, R31	.47 Meg. ± 20 %	4506
R8, R13, R17	47000 Ohm ± 20 %	4504
R9	1500 Ohm ± 5%	4701
R10	.5 Meg.	Potentiometer 4804
R14, R19, R24, R26	.1 Meg. ± 20 %	4511
R15, R25	1 Meg. ± 20 %	4513
R18	4.7 Meg. ± 20 %	4544
R20	1000 Ohm	Rheostat 4810
R22	4700 Ohm ± 20 %	4543
R23	15000 Ohm ± 20 %	4539
R27	.1 Meg. ± 20 %	4558
R29	1000 Ohm ± 20 %	4522
R30	22000 Ohm ± 20 %	4501
L1	Peaking Coil	5240
LS1	Loudspeaker 4 x 6 P.M. 3.2 Ohm V.C.	9030
S1	On-Off Switch (Part of R1)	66000
S2	Selector Switch (Shown in Stand-by Pos.)	60000
T1	Power Transformer	5000
T2	Output Transformer	5119
T3	Osc. Coil, Erase and Bias	5239



Front Apron of Chassis

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MODELS C1006, C1007,
CHASSIS 131, 132

HOFFMAN RADIO CORP.

WIRE RECORDER FOR MODELS C1006 and C1007

DESCRIPTION

The Hoffman WIRECORD consists of a wire recorder and associate amplifier. The amplifier is a special 6-tube (plus rectifier) AC-operated unit especially designed to work with the Webster wire recorder head.

TUBE COMPLEMENT

1st A.F. Amp	6SJ7
2nd A.F. Amp. and Aux. output Amp.	6SL7
3rd A.F. Amp. and Volume Indicator Amp.	6SL7
Output Amp.	6K6
Volume Indicator	6U5/6E5
Erase-Bias Oscillator	6V6
Rectifier	6X5
Frequency Response	40 CPS to 9000 CPS

NORMAL OPERATING CURRENTS (6X5 Cathode)

Standby Position	0 Ma.
Play Back Position	30 Ma.
Record Position (Motor off)	50 Ma.
Record Position (Motor on)	54 Ma.

TEST PROCEDURE

No special test procedure is required to service the amplifier unit of the Hoffman Wirecord. If the amplifier fails to function properly, proceed as follows:

1. Check all tubes, preferably by replacing them one at a time with known good tubes.
2. Check all tube socket voltages and compare readings with the voltage table. Any appreciable discrepancy in voltage readings should be investigated by looking for shorted or leaky condensers, or defective resistors.
3. Whenever it is necessary to replace a resistor or a condenser in the amplifier, make certain that the replacement part has the proper resistance or capacitance value, otherwise the amplifier may fail to perform as it should.

VOLUME INDICATOR ADJUSTMENT

The recording level on the wire must be maintained within definite limits in order to obtain good performance from the wire recorder. If the recording level is too high, a permanent record that is difficult to erase will result. If the recording level is too low, the reproduction on playback will be noisy because of the low signal-to-noise ratio. To adjust the volume level indicator for correct indication of volume, proceed as follows:

1. Place switch in RECORD position.
2. Turn Radio volume and microphone volume controls to minimum volume (counterclockwise) position.
3. Rotate R20 (slot adjustment at rear of amplifier chassis) in a counterclockwise direction until the pattern on the indicator tube overlaps. If the indicator pattern cannot be made to overlap:
 - a. Replace indicator tube.
 - b. Replace 6SL7 tube used as 3rd Amp. and volume indicator amplifier.
 - c. Make necessary voltage checks according to voltage chart.
4. If indicator tube pattern overlaps satisfactorily, back off on the adjustment of R20 until the tube pattern is as wide open as it will go. Then move the R20 adjustment until the pattern JUST BEGINS TO CLOSE. This is the final and correct adjustment.

If the wire recorder is now operated so that volume peaks just close the pattern on the indicator tube, no trouble should be experienced in erasing the original material when using the wire for subsequent recordings.

NORMAL OPERATING VOLTAGES

The following table lists the normal operating voltages to be expected at the various tube socket terminals. For tube socket terminal locations, refer to bottom view of chassis.

Pin No.	1	2	3	4	5	6	7	8
6SJ7 1st Ampl.	0	0	5	0	5	17	6.3 AC	65
6SL7 2nd Ampl.	0	200	3.6	0	125	1.0	6.3 AC	0
6SL7 3rd Ampl.	0	160	2.4	0	50	2.0	6.3 AC	0
6K6 Output	0	0	230	245	0	0	6.3 AC	0
6V6 Osc. #	0	0	250	250	-44	0	6.3 AC	0
6V6 Osc. ★	0	0	230	230	-37	—	—	0
6X5 Rectifier	0	6.3 AC •	260	—	260	—	0	300
6U5 Indicator	0	75	29	245	50	6.3 AC	—	—

- Between Pins 2 and 8 on 6X5
- # Wire Recorder switch in "OFF" position
- ★ Wire Recorder switch in "RUN" position

All voltage readings are made with amplifier switch in record position.

