

ALIGNMENT INSTRUCTIONS

- Be sure both the set and signal generator are thoroughly warmed up before starting alignment.
- Use an amplitude modulated generator covering 455 KC to 36 MC.
- Use a modulated output for every step except Step 2.
- Connect an output meter across the speaker voice coil.
- Use a non-metallic alignment tool.
- Set the VOLUME, SENSITIVITY and BANDSPREAD controls fully clockwise, CW-TONE control at HIGH and the PHONO-RADIO knob at RADIO.
- Refer to Figs. 4 and 5 for location of alignment adjustments.

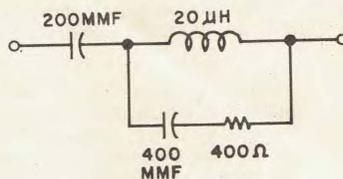


Fig. 3. RMA Dummy Antenna

Step	Signal Generator Connections	Generator Frequency	Band Selector Setting	Receiver Dial Setting	Adjust
IF ALIGNMENT					
1	High side to stator plates of center section of TUNING gang. Low side to chassis.	455 KC	1	1000 KC	A, B, C, D, E and F for max. output. Keep reducing gen. output so that the output meter reading does not exceed 50 milliwatts.
CW PITCH CONTROL ADJUSTMENT					
2	Same as Step 1.	455 KC (No Mod.)	1	1000 KC	Set the CW-TONE control to CW. Remove the PITCH CONTROL knob and adjust G for a zero beat. Replace the knob with the dot in the top center position. After completing Step 2, reset the CW-TONE control to HIGH.
RF ALIGNMENT					
3	High side thru RMA dummy antenna (Fig. 3) to terminal A1 on back of chassis. Low side to chassis. Connect the jumper between A2 and G.	36 MC	4	36 MC	H, I and J for maximum output as in Step 1.
		18 MC	4	18 MC	K, L and M for maximum output as in step 1.
4	Same as Step 3.	14 MC	3	14 MC	N, O and P for maximum output as in Step 1.
		10 MC	3	10 MC	Q, R, and S for maximum output as in Step 1.
5	Same as Step 3.	5 MC	2	5 MC	T, U and V for maximum output as in Step 1.
		1.8 MC	2	1.8 MC	W for maximum output as in Step 1.
6	Same as Step 3.	1500 KC	1	1500 KC	X, Y and Z for maximum output as in Step 1.
		600 KC	1	600 KC	Z" for maximum output as in Step 1.

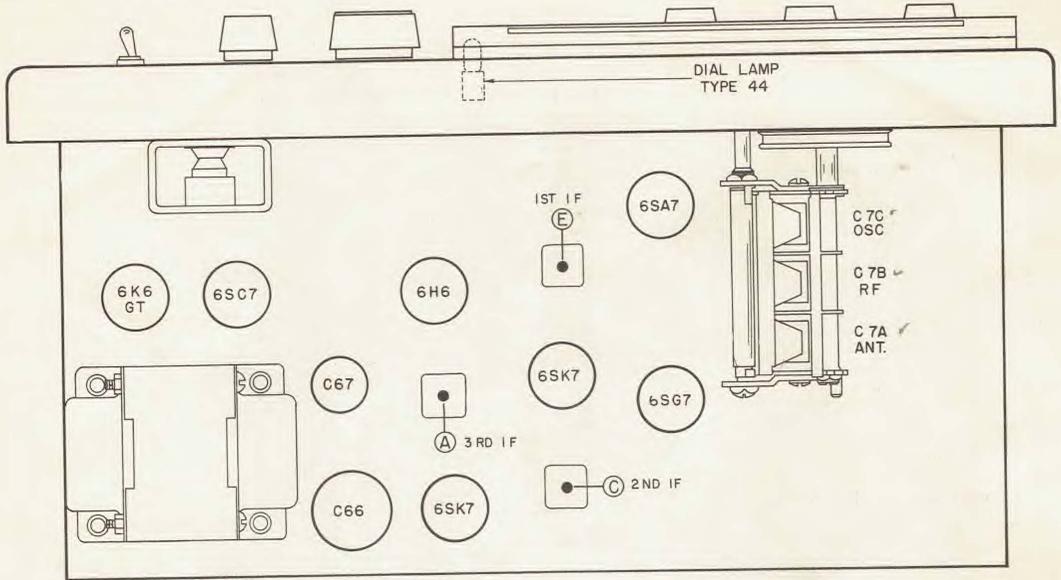


Fig. 4. Top View of Chassis Showing Location of Alignment Adjustments, Tubes and Dial Lamp

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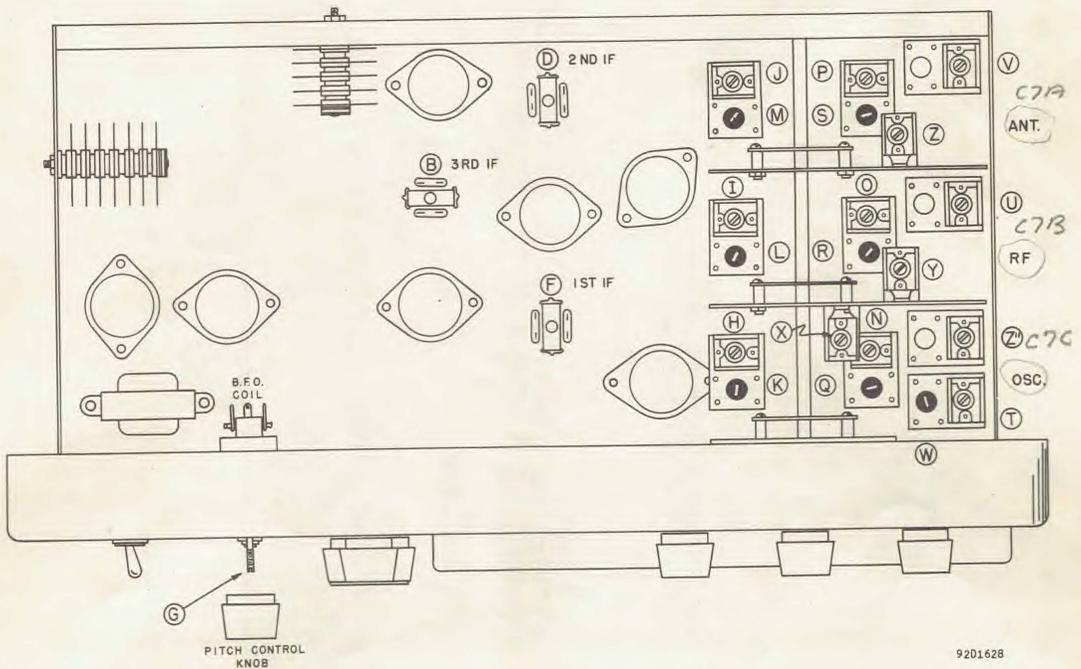


Fig. 5. Bottom View of Chassis Showing Location of Alignment Adjustments

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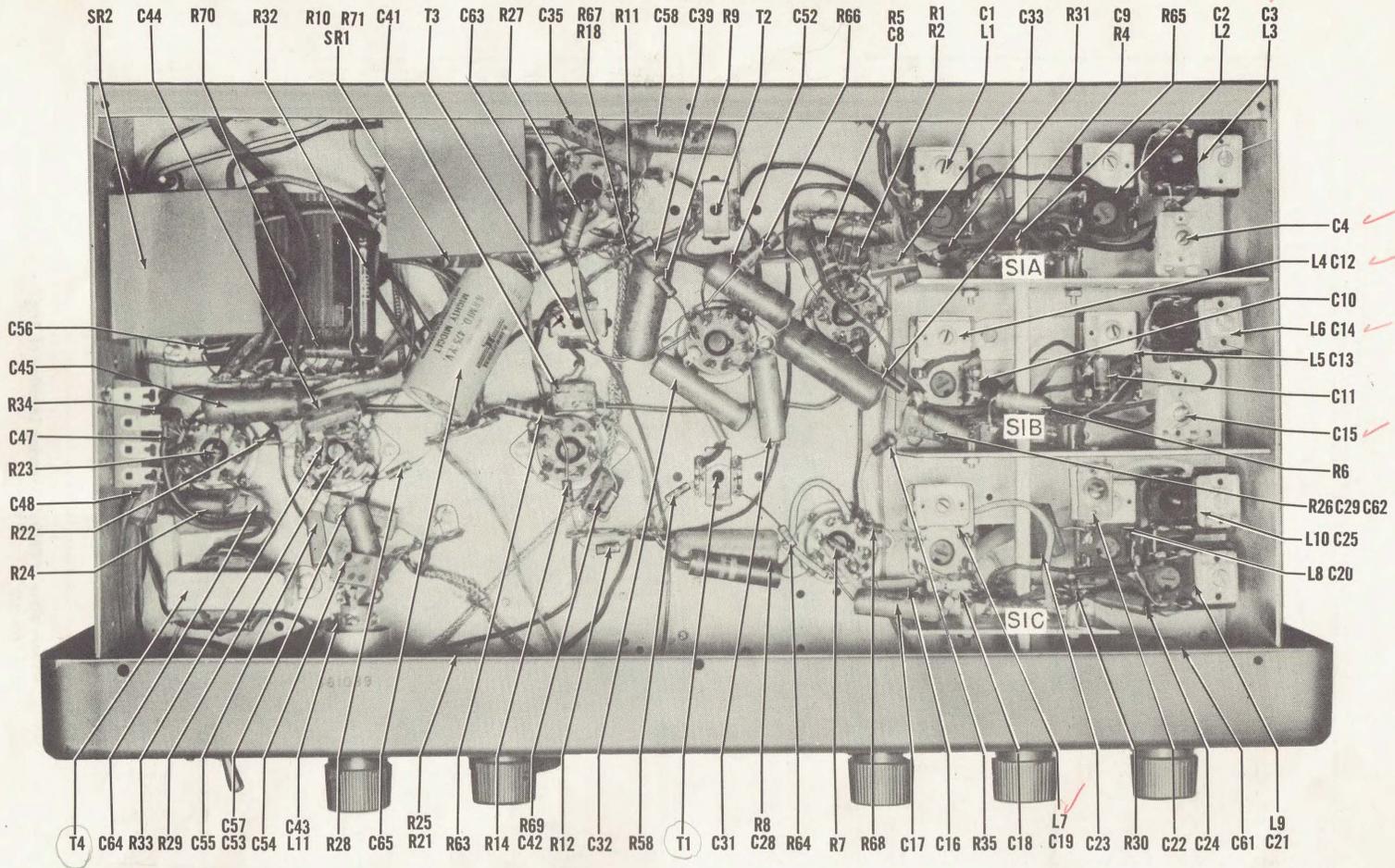
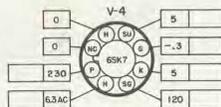


Fig. 6. Bottom View of Chassis Showing Component Location

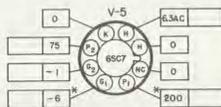
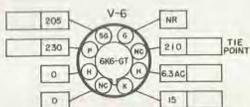
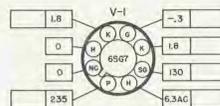
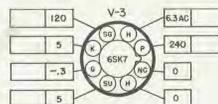
SERVICE PARTS LIST

Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number
CAPACITORS					
C-1,2,3,12, 13,14,19, 20,21	Trimmers; part of coils L-1,2, 3,4,5,6,7,8 and 9 respectively	-----	T-1,2	Transformer, 1st and 2nd IF	50C243.
C-4,15,22	Trimmer, 1.5-15 mmf.	44A191	T-3	Transformer, IF; detector stage	50C242
C-7A, B and C	Tuning capacitor, 3 section	•48C281 or •48C291	T-4	Transformer, audio output	55B093
C-9, 32, 35, 58	.05 mfd. 200 V., tubular	46A5U03J	T-5	Transformer, power	52C212
C-9, 28	.05 mfd. 600 V., tubular	46A5U03J	SWITCHES		
C-10	22 mmf. 500 V., ceramic	47X21UK220M	S-1A	Switch wafer, BAND SELECTOR; antenna stage	•06B389 or *62B070
C-11	15 mmf. 500 V., ceramic	47X21UK150M	S-1B	Switch wafer, BAND SELECTOR; RF stage	•06B039 or *62B072
C-16	390 mmf. 500 V., mica	47X20B391K	S-1C	Switch wafer, BAND SELECTOR; oscillator stage	•06B044 or *62B071
C-17, 53	.01 mfd. 600 V., tubular	46A4Y103J	S-2	Switch, toggle (s.p.d.t.); PHONO-RADIO	60A139 60B469
C-18	68 mmf. 500 V., ceramic	47X25UK680K	S-3A, B & C	Switch, CW-TONE	
C-23	3000 mmf. 500 V., mica	47X30C302K	S-4	Switch, OFF-ON; part of VOLUME control R-20	-----
C-24	1500 mmf. 500 V., mica	47X30C152J		Shaft and index plate, BAND SELECTOR	•06B392 or *60B485
C-25	Padder; part of coil L-10	-----	PLUGS AND SOCKETS		
C-29, 33	220 mmf. 500 V., mica	47X20B221K	J-1	Jack, PHONES	36A002
C-31, 43	.02 mfd. 200 V., tubular	46A4U203J	J-2	Jack, PHONO	36A029
C-38	2 mmf., twisted wire assembly	-----	PL-1	Line cord and plug	87B1573
C-39	.1 mfd. 600 V., tubular	46A4Y104J	SO-1	Socket assembly, phono motor (model 8R40C)	87B1901
C-41, 42	47 mmf. 500 V., mica	47X20B470M		Socket, tube; octal	6A250
C-44, 55	270 mmf. 500 V., mica	47X20B271K	TUBES AND DIAL LAMPS		
C-45, 48, 52, 53	.02 mfd. 600 V., tubular	46A4Y203J	V-1	6SG7: RF amplifier	90X6SG7
C-47	.002 mfd. 1000 V., tubular	46A104	V-2	6SA7: converter	90X6SA7
C-54	470 mmf. 500 V., mica	47X20B471J	V-3, 4	6SK7: 1st and 2nd IF amplifiers	90X6SK7
C-56	.01 mfd. 600 V., molded tubular	46A4C103J	V-5	6SC7: BFO and audio amplifier	90X6SC7
C-57	1000 mmf. 500 V., mica	47X25B102M	V-6	6K8GT: audio output	90X6K8GT
C-61	.25 mfd. 200 V., tubular	46A4T254J	V-7	6H6: AVC and detector	90X6H6
C-62	2.2 mmf. 500 V., bakelite gimmick	47A160-4	LM-1	Lamp, dial; type 44	39A003
C-64	10 mfd. 25 V., electrolytic	45A121	MISCELLANEOUS PARTS		
C-65A and B	Dual 8 mfd. 475 V., electrolytic	45B169		Adaptor, 7-inch record (Model 8R40C)	8D1246
C-66A and B	Dual 40 mfd. 450 V., electrolytic	45B159		Back, cabinet (Model 8R40C)	8D1733
C-67	80 mfd. 150 V., electrolytic	45B178		Background, dial; paper	32B488
RESISTORS					
R-1	1 megohm 1/2 watt, carbon	23X20X105M		Bracket, mtg.; front (for mtg. tuning capacitor)	•67A671 or *67A678
R-2	120 ohms 1/2 watt, carbon	23X20X121K		Bracket, mtg.; rear (for mtg. tuning capacitor)	•67A555 or *67A556
R-3	10,000 ohms, SENSITIVITY control	25B590		Cabinet, Model 8R40 (does not include front panel or top cover)	66D359
R-4, 31	22 ohms 1/2 watt, carbon	23X20X220M		Cabinet, Model 8R40C	78F224
R-5	39,000 ohms 1 watt, carbon	23X30X393K		Clip, IF mtg.	76A385
R-6, 26	6800 ohms 1 watt, carbon	23X30X682K		Cord, dial (specify length)	36A001
R-7	18,000 ohms 1/2 watt, carbon	23X20X183K		Dial	83E407
R-8	10,000 ohms 1/2 watt, carbon	23X40X103K		Dial light assembly	86A125
R-9	470 ohms 1/2 watt, carbon	23X20X471K		Escutcheon	7C248
R-10, 71	15,000 ohms 1/2 watt, carbon	23X45K153K		Foot, mtg.; rubber (Model 8R40)	16A007
R-11, 18, 65	1000 ohms 1/2 watt, carbon	23X20X102K		Glass, escutcheon	22B319
R-12	2.2 megohms 1/2 watt, carbon	23X20X225M		Iron core; for coils L-1,2,4,5, 7,8 and 9	77A068
R-14	47,000 ohms 1/2 watt, carbon	23X20X473M		Knob, SENSITIVITY, BAND SELECTOR, VOLUME and CW-TONE	15A468
R-20	500,000 ohms, VOLUME control	25B605		Knob, PITCH CONTROL	15B470
R-21	150 ohms 1/2 watt, carbon	23X20X151M		Knob, TUNING and BANDSPREAD	15A048
R-22	270,000 ohms 1/2 watt, carbon	23X20X274K		Lock, line cord; male section	76A397-1
R-23, 69	470,000 ohms 1/2 watt, carbon	23X20X474M		Lock, line cord; female section	76A397-2
R-24	680 ohms 1 watt, carbon	23X20X681K		Panel, front (Model 8R40)	68D199
R-25	15,000 ohms 1 watt, carbon	23X30X153M		Panel, front (Model 8R40C)	68A206
R-27, 66	47,000 ohms 1 watt, carbon	23X30X473K		Pointer, dial; TUNING	82A199
R-28	22,000 ohms 1/2 watt, carbon	23X20X223M		Pointer, dial; BANDSPREAD	82A209
R-29, 58	100,000 ohms 1/2 watt, carbon	23X20X104M		Record changer, complete (Model 8R40C)	115A144
R-30, 68	10 ohms 1/4 watt, carbon	23X10X100M		Rectifier, selenium; 300 ma	27A155
R-32	1500 ohms 10 watts, wirewound	24BGI52E		Shield, speaker (Model 8R40C)	8D1874
R-33	15 megohms 1/4 watt, carbon	23X10X156M		Speaker, 5-inch PM (Model 8R40)	85B050
R-34	10,000 ohms 1/2 watt, carbon	23X20X103M		Speaker, 8-inch PM (Model 8R40C)	85C111
R-35	27 ohms 1/4 watt, carbon	23X10X270K		Spring, dial; 11/16"	75A012
R-63	6.8 ohms 1 watt, carbon	23X30X068K		Spring, dial; 25/64"	75A173
R-64	330 ohms 1/2 watt, carbon	23X20X331K		Terminal strip, antenna	88A032
R-67	330,000 ohms 1/2 watt, carbon	23X20X334K		Terminal strip, speaker	88A816
R-70	10 ohms 1 watt, carbon	23X30X100K		Top, cabinet (Model 8R40)	66D616
COILS AND TRANSFORMERS					
L-1	Coil, antenna; band 4	51B783			
L-2	Coil, antenna; band 3	51B782			
L-3	Coil, antenna; bands 1 and 2	51B1241	SR-1,2		
L-4	Coil, RF; band 4	51B787			
L-5	Coil, RF; band 3	51B786	LS-1		
L-6	Coil, RF; bands 1 and 2	51B1240	LS-1		
L-7	Coil, oscillator; band 4	51B791			
L-8	Coil, oscillator; band 3	51B913	TS-1		
L-9	Coil, oscillator; band 2	51B789	TS-2		
L-10	Coil, oscillator; band 1	51B912			
L-11	Coil, BFO	54B044			

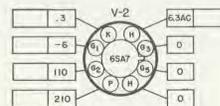
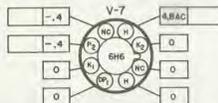
- When tuning capacitor 48C281 is used, brackets 67A555 and 67A671 must be used in conjunction with it.
- When tuning capacitor 48C291 is used, brackets 67A556 and 67A678 must be used in conjunction with it.
- Switch wafers 60B389, 62B039 and 62B044 can be used only in conjunction with shaft and index plate 60B392.
- Switch wafers 62B070, 62B072 and 62B071 can be used only in conjunction with shaft and index plate 60B485.



CONTROL	SETTING
SENSITIVITY	FULLY CLOCKWISE
BAND SELECTOR	POSITION - 1
VOLUME	FULLY COUNTERCLOCKWISE
TUNING	FULLY MESHEO
BANDSPREAD	FULLY OPEN
DW-TONE	HIGH
PHONO-RADIO	RADIO



* CW-TONE SWITCH IN CW POSITION.



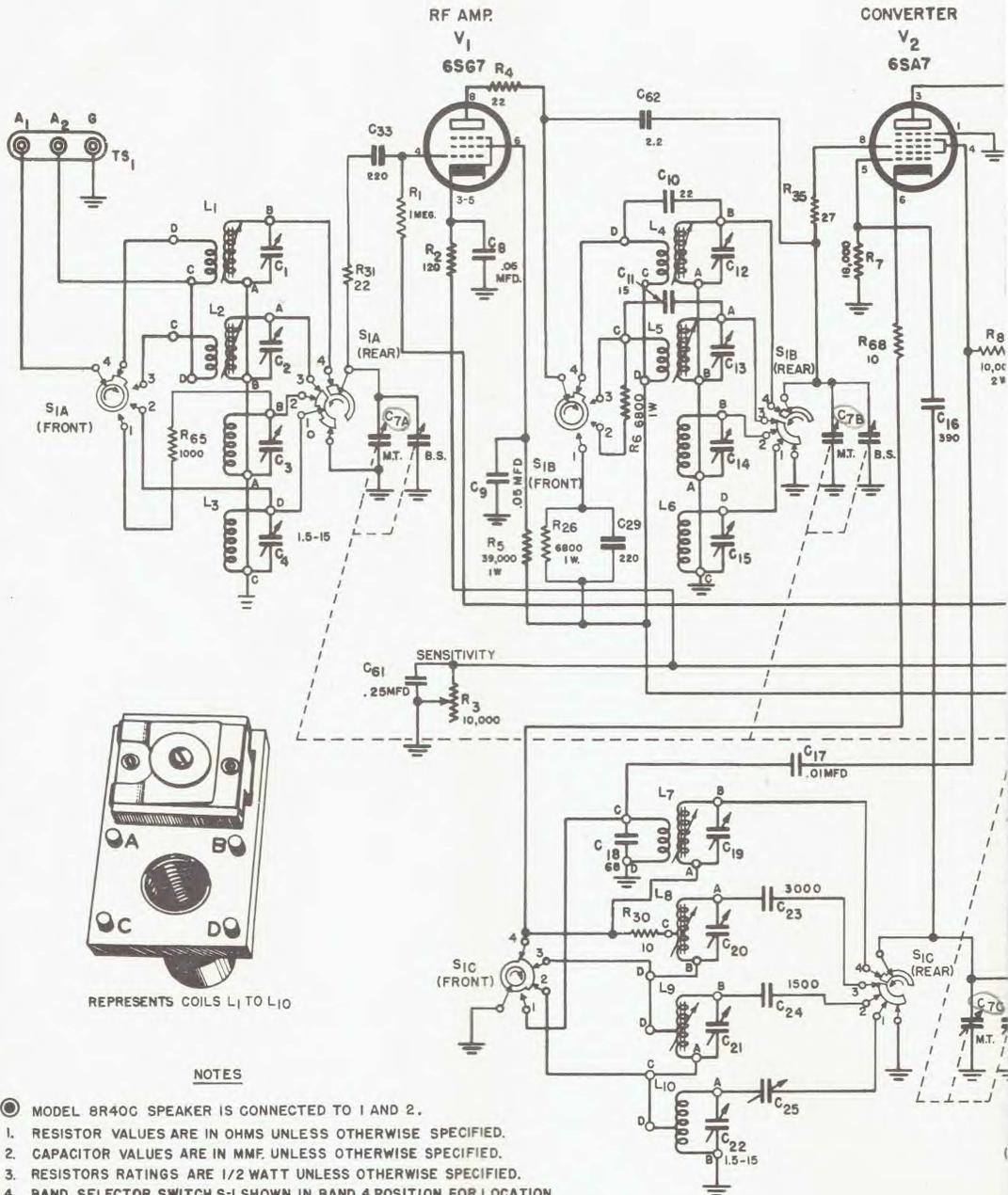
NOTES-

1. SOCKET VIEWS ARE BOTTOM VIEWS.
2. ALL VOLTAGES ARE MEASURED BETWEEN TUBE SOCKET TERMINALS AND CHASSIS WITH ZERO SIGNAL INPUT.
3. LINE VOLTAGE 117 V. AC.
4. ALL VOLTAGES ARE DC UNLESS OTHERWISE SPECIFIED.
5. DC VOLTAGES SHOWN WERE MEASURED WITH A VACUUM TUBE VOLTMETER.
6. "NC"-NO CONNECTION (VOLTAGE SHOWN FOR THIS TERMINAL ONLY WHEN TERMINAL IS USED AS A TIE LOAD).
7. "NR"-NOT READABLE (READING GENERALLY MEANINGLESS).
8. □ SPACE PROVIDED FOR SERVICE METER READINGS.

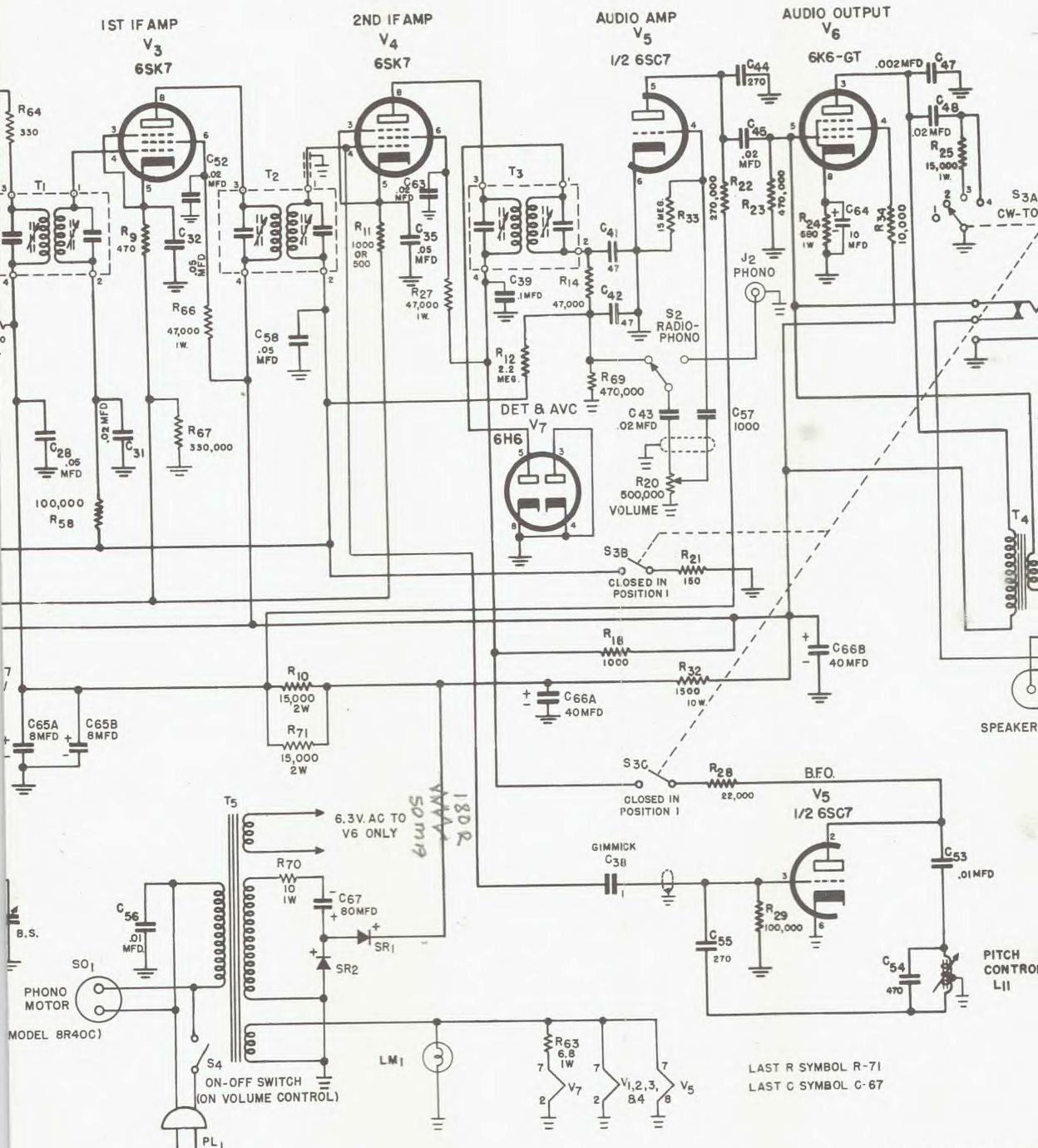
FRONT APRON
BOTTOM VIEW OF CHASSIS

Fig. 7. Tube Socket Voltage Chart

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VALUES AND TOLERANCES SHOWN ARE NOMINAL AND VARIATIONS MAY BE FOUND. IT IS RECOMMENDED THAT THE VALUE OF ANY REPLACEMENT CORRESPOND TO THE NOMINAL VALUE OF THE PART BEING REPLACED.



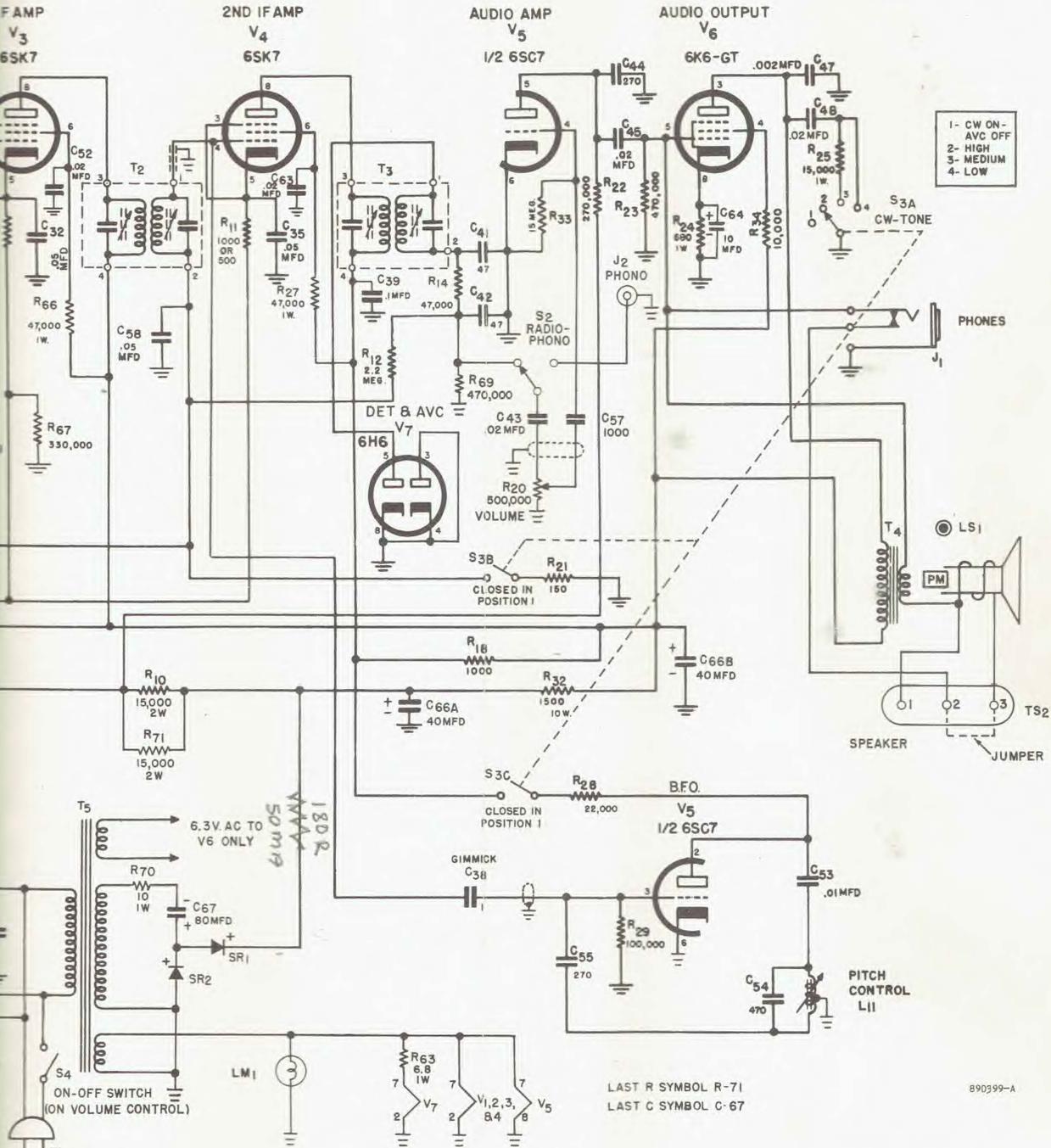
105-125V. 50/60~AC

LAST R SYMBOL R-71
LAST C SYMBOL C-67

Fig. 8. Schematic Diagram

MODELS 8R40 & 8R40C

RUN 1



890399-A

Fig. 8. Schematic Diagram