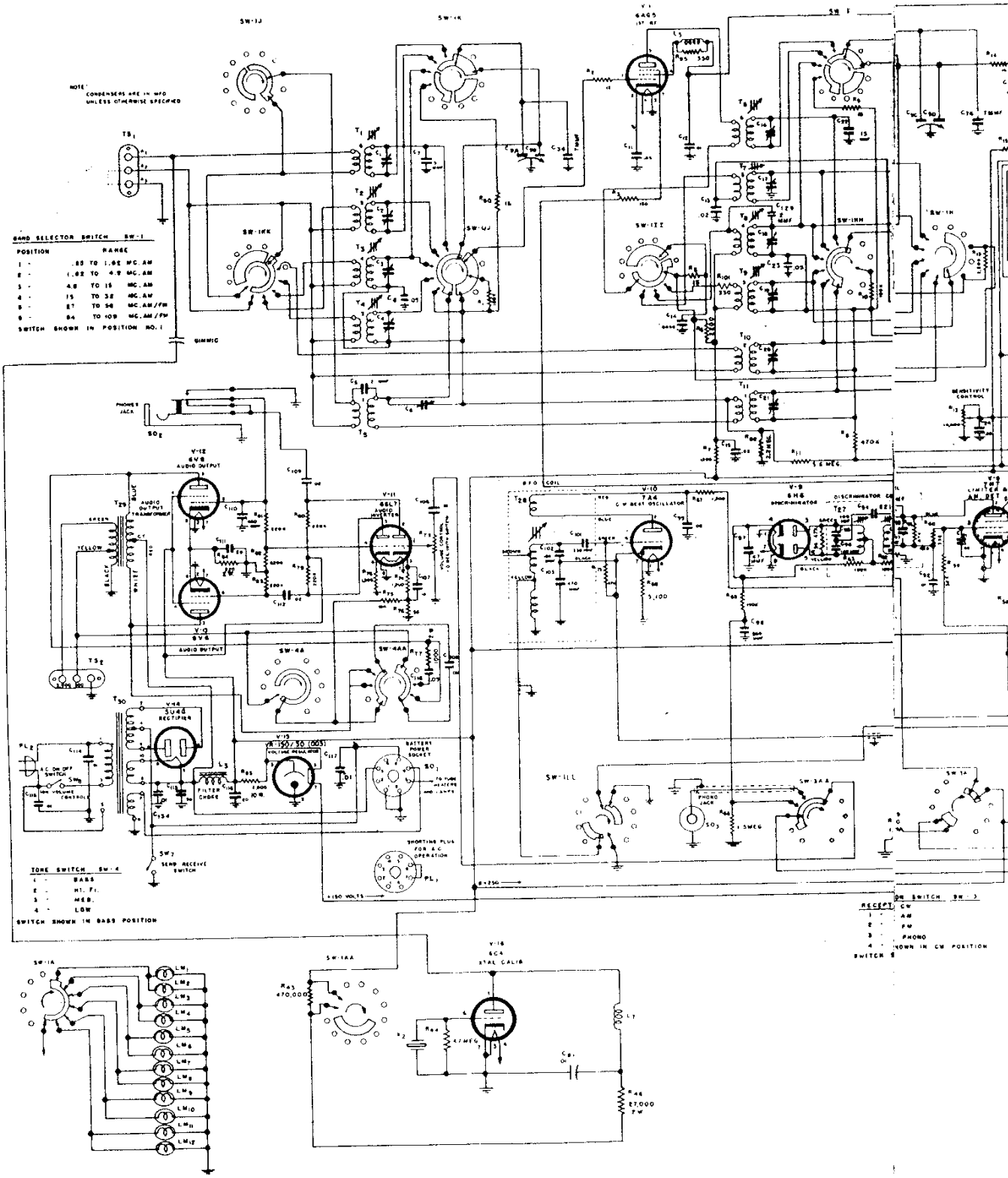
Hallicrafters, Inc.

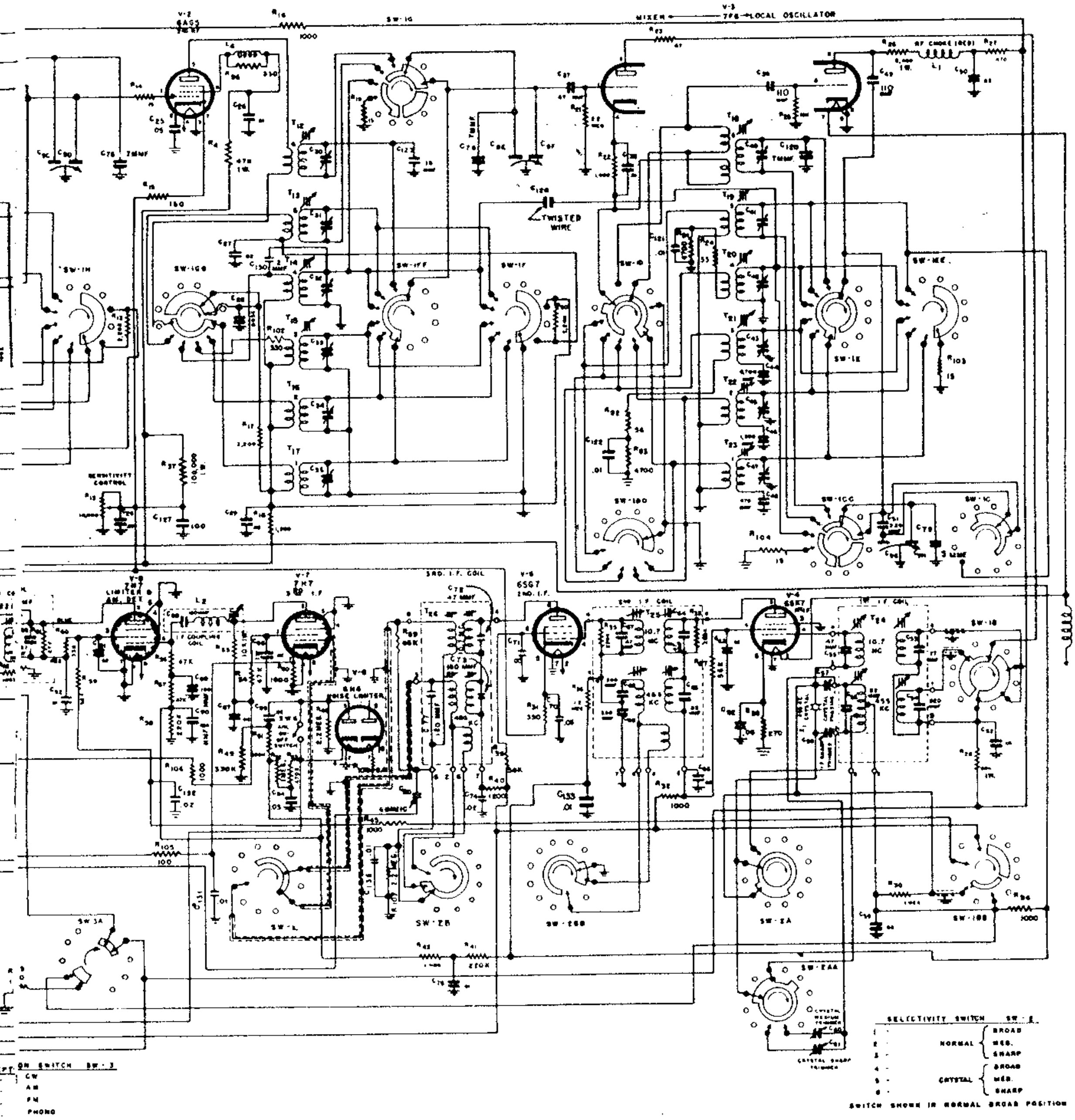
Model: SX-62	Chassis:	Year: Pre 1951
Power:	Circuit:	IF:
Tubes:		
Bands:		

Resources
Riders Volume 20 - HALLICRAFTERS 20-41
Riders Volume 20 - HALLICRAFTERS 20-42
Riders Volume 20 - HALLICRAFTERS 20-43
Riders Volume 20 - HALLICRAFTERS 20-44
Riders Volume 20 - HALLICRAFTERS 20-45
Riders Volume 20 - HALLICRAFTERS 20-46
Riders Volume 20 - HALLICRAFTERS 20-47
Riders Volume 20 - HALLICRAFTERS 20-48
Riders Volume 20 - HALLICRAFTERS 20-49
Riders Volume 20 - HALLICRAFTERS 20-50
Riders Volume 20 - HALLICRAFTERS 20-51

MODELS SX-62



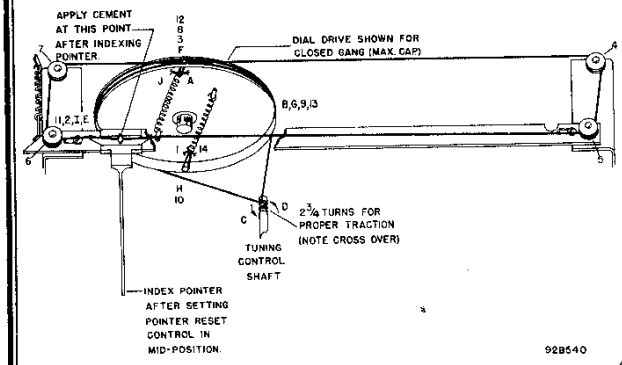
20-41,42



NOTE–
RESISTOR VALUES ARE IN OHMS.
ALL RESISTORS ARE 1/2 WATT, UNLESS OTHERWISE SPECIFIED.
CONDENSER VALUES ARE IN MFD. UNLESS OTHERWISE SPECIFIED

89D282-0

LAST RESISTOR SYMBOL ASSIGNED – R108
LAST CAPACITOR SYMBOL ASSIGNED – C135



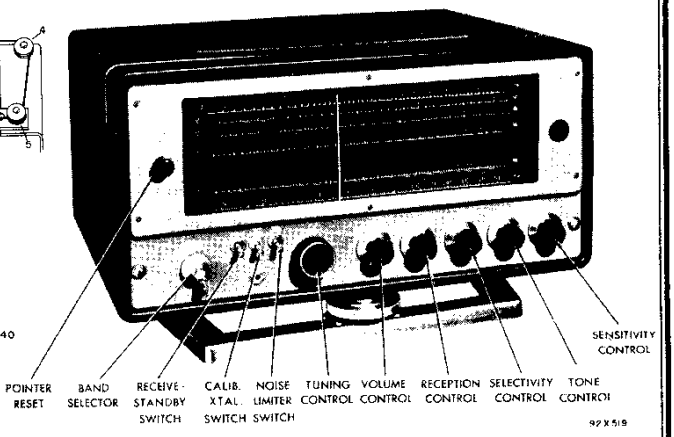


Figure 1. Dial cable stringing procedure

GENERAL

Tubes	Fourteen plus voltage regulator and rectifier
Speaker Output	500/5000 ohms
Headset Output	High impedance
Antenna Input	For 50 to 600 ohm line or single wire lead-in.
Phono Input	High impedance
External Power Connector	Std. octal socket

Tuning Range

Band	Frequency Range	Type of Reception
1	550 kc - 1620 kc	AM/CW
2	1.62 mc - 4.9 mc	AM/CW
3	4.9 mc - 15 mc	AM/CW
4	15 mc - 32 mc	AM/CW
5	27 mc - 56 mc	AM/FM/CW
6	54 mc - 109 mc	AM/FM/CW

Intermediate Frequency . . . . 455 kc/10.7 mc

Power Supply . . . . Standard Model 105-125 V. 60 Cycles AC

Universal Model 105-250 V. 25/60 cycles AC

Power Consumption . . . . . 120 Watts

POSITIONING CONTROL KNOBS

BAND SELECTOR	As required by flat on shaft
VOLUME	Set at 10 for full clockwise rotation
RECEPTION	As required by markings
SELECTIVITY	As required by markings
TONE	As required by markings
SENSITIVITY	Set at 10 for full clockwise rotation

RESTRINGING DIAL CORD

Restring the tuning condenser drive with a 45 - inch length of 30 lb. test dial cord. Tie one end of the cord to the tension spring at position "1" and follow the stringing sequence "1" "14" as shown. At position "14" stretch the tension spring and tie the cord securely to the spring. Note that the dial cord is wrapped around the tuning drive shaft two and three-quarters times for proper traction.

Restring the dial pointer drive with a 75 - inch length of 30 lb. test dial cord. Tie one end of the cord to the tension spring at position "A" and follow the stringing sequence "A" through "J" as illustrated. At position "J" stretch the tension spring and tie the cord securely.

Index the dial pointer by setting the tuning gang at maximum capacity, the RESET control in the middle of its range and aligning the pointer with the left hand dial index marker.

REPLACING LAMPS

Refer to Fig. 9. for the location of the twelve dial lamps used in the receiver. To gain access to defective lamps, reach in through the cabinet cover, remove the light shield (4 sheet metal screws), and unclip the dial lamp socket by compressing the side springs. The socket may then be brought out into the open to change the defective lamp. Replace defective lamps with 6-8 V. Mazda #44 (Blue bead) lamps, or equivalent.

ALIGNMENT PROCEDURE

IF AMP. ALIGNMENT (455 kc) - Set the controls as follows:

BAND SELECTOR	550/1620 kc range
RECEIVE/STANDBY switch	RECEIVE
CALIB. XTAL switch	OFF
NOISE LIMITER switch	OFF
VOLUME control	Near maximum
RECEPTION control	AM
SELECTIVITY control	NORMAL/SHARP
SENSITIVITY control	Near maximum

Set tuning dial pointer at approximately 1,000 kc.

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Connect high side of signal generator through an 0.1 mfd. capacitor to pin #1, of the 7F8 converter tube. With signal generator set at approximately 455 kc align slugs S-1,3,5,10,12 and 14 for maximum output.

Set RECEPTION control at CW and adjust slug S-8 for a 1,000 cycle note.

Set the SELECTIVITY control at CRYSTAL/BROAD. While slowly turning slug S-10 in one direction across the resonant setting obtained above, "rock" the signal generator tuning and observe the dip in the output meter reading as the adjustment passes through the response of the crystal filter. The correct setting of the slug S-10 is in the center of the observed dip. Set the signal generator at the weaker of the two responses obtained on either side of zero beat and adjust the crystal phasing trimmer C-57 for the null.

Set the SELECTIVITY control at CRYSTAL/SHARP and with trimmer C-61 set near minimum capacity, slowly increase its capacity while "rocking" the signal generator and adjust for maximum output. It may be necessary at this point to reduce the signal generator input and the receiver sensitivity to prevent overloading. After peaking the adjustment, turn the trimmer in until a drop in output of about 2 db. occurs. At this point the sharp crystal will have very good selectivity without sacrificing too much gain.

Tune the signal generator to exact crystal frequency and note output meter reading. Set the SELECTIVITY control at CRYSTAL/BROAD and note the drop in output, and output meter reading. Now switch to CRYSTAL/MEDIUM and with trimmer C-60 near minimum capacity, slowly increase its capacity, while "rocking" the signal generator, until the output meter indicates about midway between the output readings obtained in sharp crystal and broad crystal positions.

Set the SELECTIVITY control at CRYSTAL/SHARP and reset signal generator for the exact crystal frequency. Switch to NORMAL/SHARP and reset slugs S-1,3,5,12,14 and trimmer C-58 for maximum output.

Set the RECEPTION control at CW and adjust the BFO slug S-8 for zero beat.

IF AMP. ALIGNMENT (10.7 mc) - Set the mc controls as follows:

BAND SELECTOR - - - - - - 27/56 mc range
RECEIVE/STANDBY switch - RECEIVE
CALIB. XTAL switch - - - - OFF
NOISE LIMITER switch - - - OFF
VOLUME - - - - - - - - - - - Near maximum
RECEPTION control - - - - - AM
SELECTIVITY control - - - - NORMAL/SHARP
SENSITIVITY control - - - - Near Maximum
Set tuning dial pointer at approx. midscale.

Connect the high side of the signal generator through an 0.1 mfd. capacitor to pin #1 of the 7F8 converter tube. Set signal generator at 10.7 mc and adjust slugs S-4, 6, 9, 13 and 15 for maximum output. Now set slugs S-2 and S-11 for maximum output, but do not readjust slugs S-4,6,9,13 and 15.

Set RECEPTION control at CW and adjust slug S-17 for zero beat.

Set RECEPTION control at FM and adjust slug S-16 for maximum output. Now set Slug S-7 for the null or minimum output as indicated on the output meter. Check the discriminator by slowly tuning the signal generator through 10.7 mc and observe the two maximum audio level readings on the output meter. If the two peaks are equal the job is done; if not, it may be necessary to reset Slug S-16 until a reasonable balance is obtained.

RF AMP ALIGNMENT

After completing the alignment of the IF amplifier stages, the RF amplifier stages may be aligned according to the following alignment chart. Connect the high side of the signal generator to terminal A-1 through the dummy antenna specified and connect a jumper between antenna terminal A-2 and GND. Use just enough signal generator output to obtain a 500 milliwatt audio output level for best results.

ALIGNMENT CHART

Dummy Antenna	Signal Generator Frequency	Band Selector Range	Radio Dial Setting	Adjust	Remarks
RMA	1500 kc	550-1600 kc	1500 kc	C-47*, 6, 21, 35	Adjust for max. output
	600 kc		600 kc	S-36*	
RMA	4.5 mc	1.62-4.9 mc	4.5 mc	C-45*, 20, 34	Adjust for max. output
	2.0 mc		2.0 mc	S-35*	
RMA	14.0 mc	4.9-15 mc	14.0 mc	C-43*, 4, 19, 33	Adjust for max. output
	7.0 mc		7.0 mc	S-34*, 22, 26, 30	
RMA	28 mc	15-32 mc	28 mc	C-42*, 3, 18, 32	Adjust for max. output
	18 mc		18 mc	S-33*, 21, 25, 29	
300-ohm non-inductive resistor	50 mc	27-56 mc	50 mc	C-41*, 2, 17, 31	Adjust for max. output
	30 mc		30 mc	S-32*, 20, 24, 28	
300-ohm non-inductive resistor	105 mc	54-109 mc	105 mc	C-40*, 1, 16, 30	Adjust for max. output
	60 mc		60 mc	S-31*, 19, 23, 27	

* Note - Calibration adjustment
Note - The standard RMA dummy antenna mention in the alignment chart consists of a 200 mmf condenser in series with a 20 uh r-f choke which is shunted by a 400 mmf condenser in series with a 400 ohm carbon resistor.

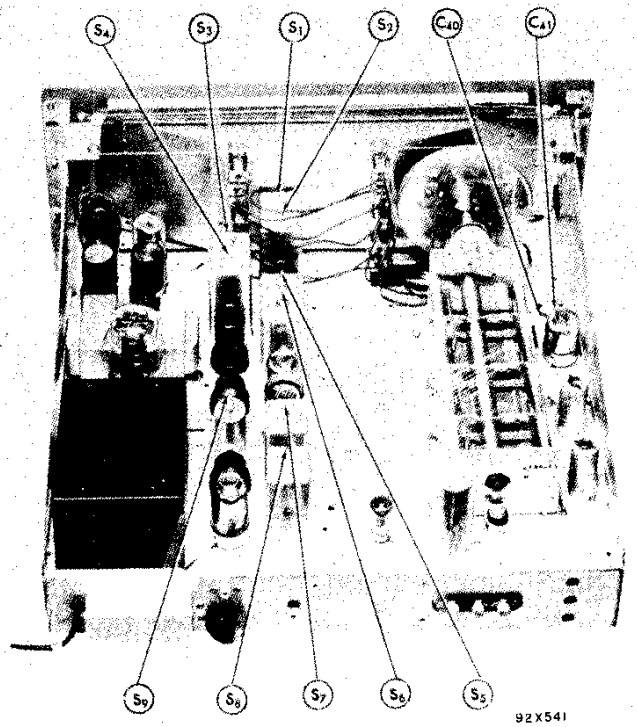

Fig. 2. Alignment adjustments, top view

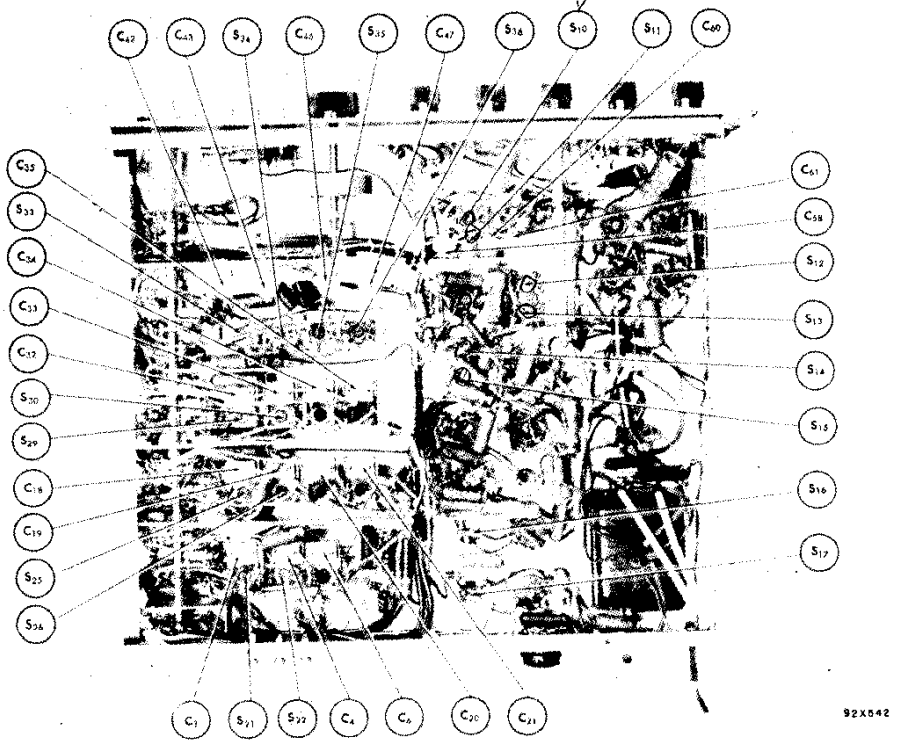

Fig. 3. Alignment adjustments, bottom view

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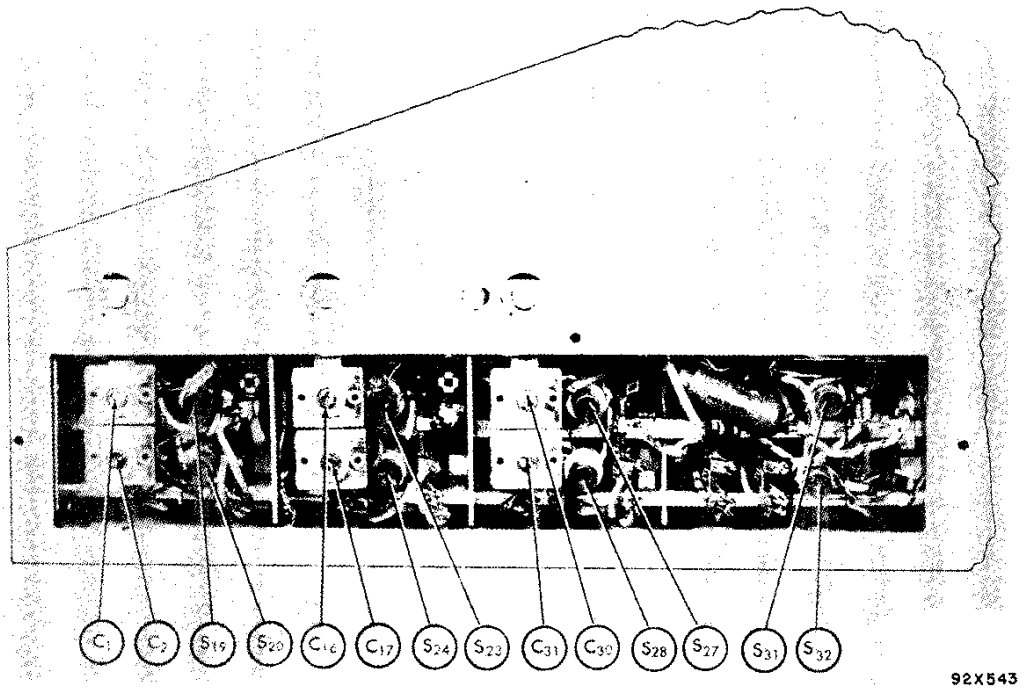

Fig. 4. Alignment adjustments, left side view

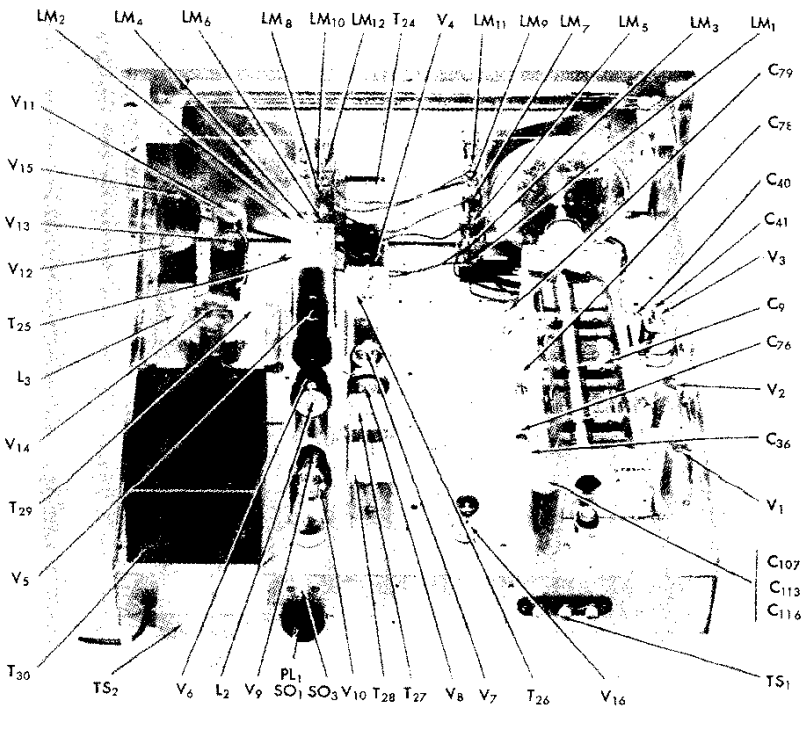

Fig. 5. Component locations, top view

MODELS SX-62

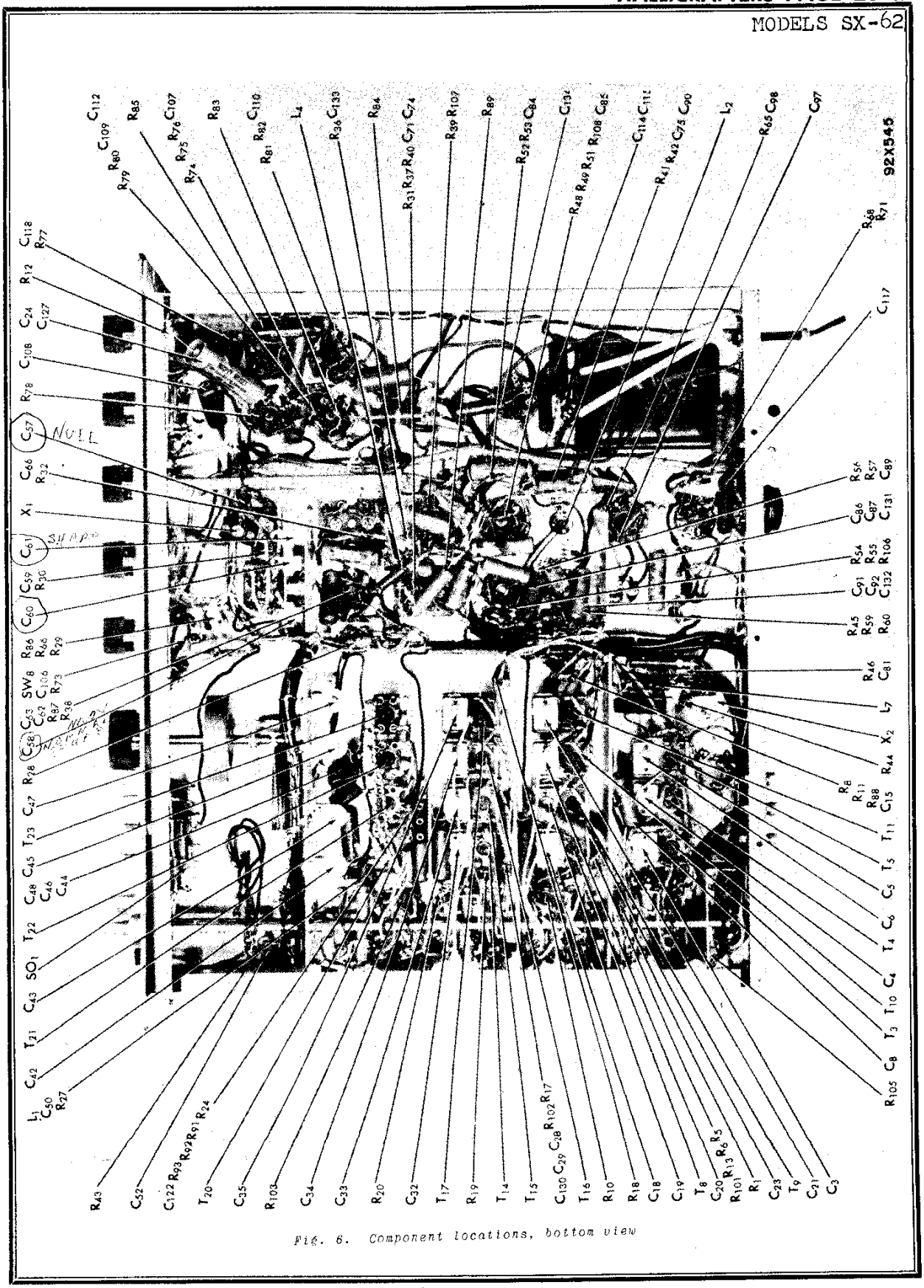

Fig. 6. Component locations, bottom view

MODELS SX-62

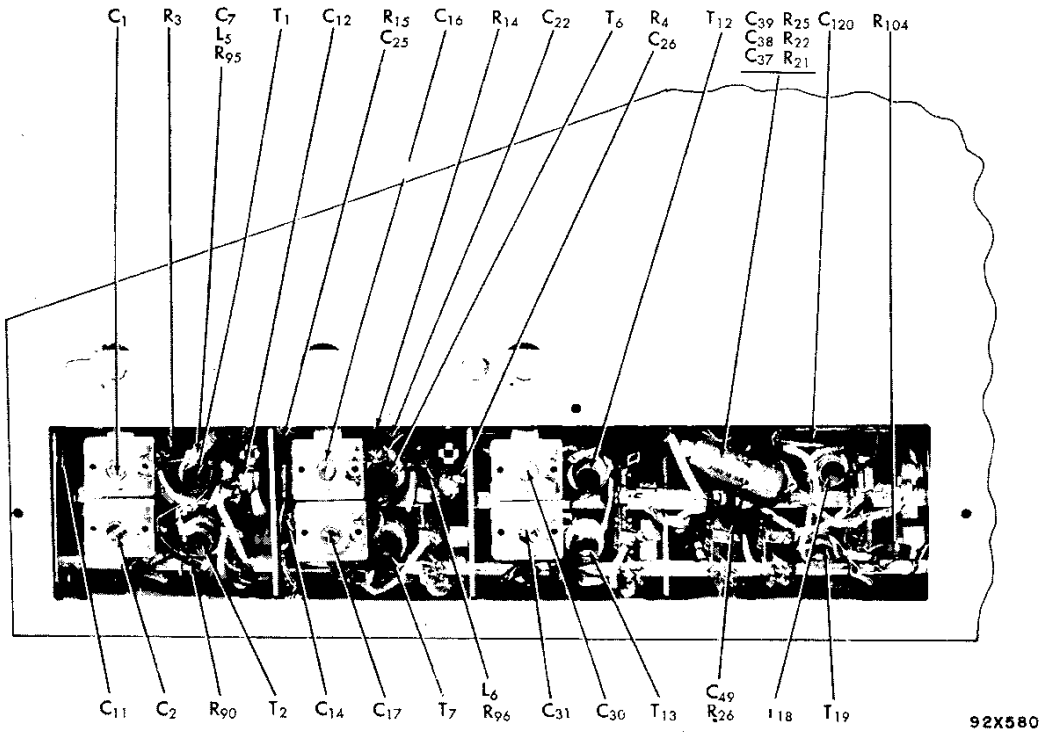

Fig. 7. Component locations, left side view.

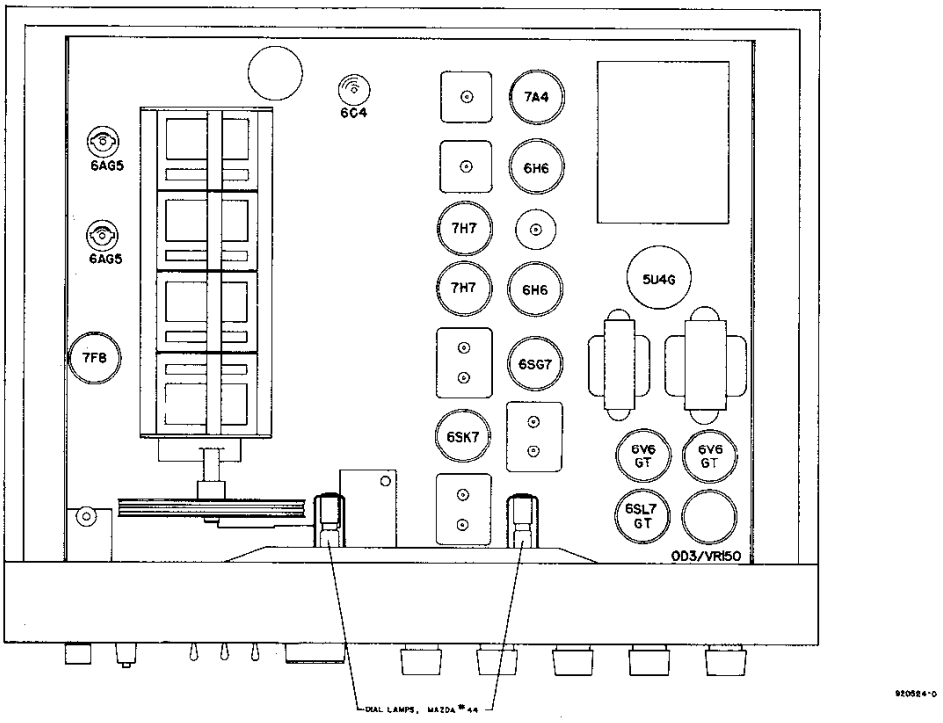

Fig. 8. Top view, location of tubes and dial lamps

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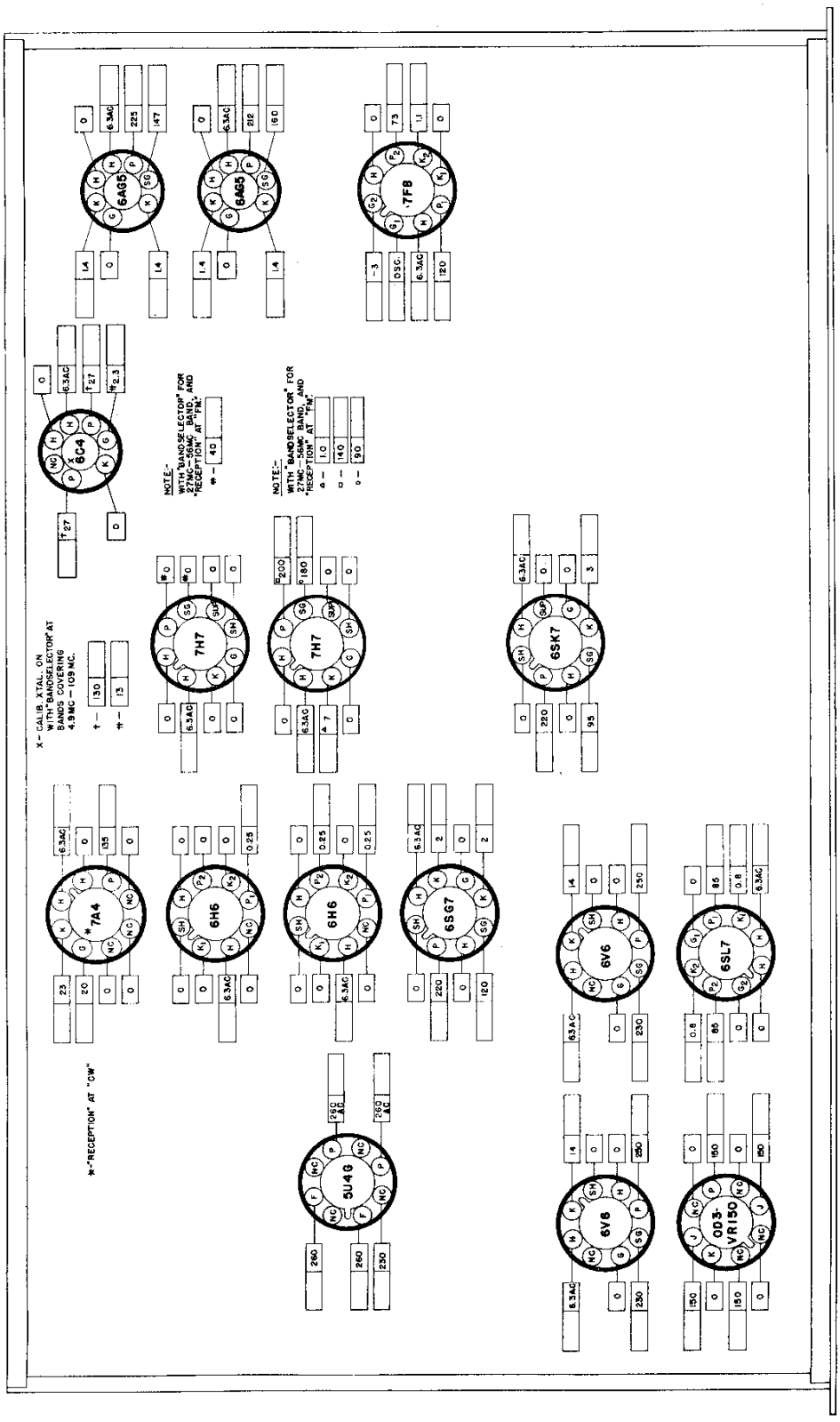

Fig. 9. Tube socket voltage chart

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SERVICE PARTS LIST

Ref. No.	Description	Hallicrafters Part Number
	CONDENSERS	
C-1,2,16,17, 30,31	Trimmers, adjustable: 2 section; antenna, RF amp. and mixer stages	44B165
C-3,4,6,18,19, 20,21,32,33, 34,35	Part of transformers T-3,4, 5,8,9,10,11,14,15,16 & 17 respectively	
C-5,129,130	2 mmf. 500 V., bakelite	47A160-4
C-7,79	5 mmf. 500 V., ceramic	CC20UK050D
C-8,11,25	.05 mfd. 200 V., tubular	49A091
C-9	Capacitor, main tuning	48C204
C-12,26,38,75, 81,92,106, 117,121,122, 131,133,134, 135	.01 mfd. 600 V., tubular	46AZ103J
C-13,15,27,29, 50,59,63,74, 86,87,91,109, 112,132	.02 mfd. 600 V., tubular	46AY203J
C-14,28	5600 mmf. 500 V., mica	CM35A562M
C-22,123	15 mmf. 500 V., ceramic	CC20UK150K
C-23,62,70, 84,85	.05 mfd. 200 V., tubular	46AU503J
C-24	.25 mfd. 200 V., tubular	46AT254J
C-36,76,78,120	7 mmf. 500 V., ceramic	CC20UK070K
C-37,97	47 mmf. 500 V., mica	CM20A470K
C-39,49	110 mmf. 500 V., ceramic	CC25UK111J
C-40,41,57	Trimmer, adjustable, oscillator section, bands 5 & 6; and crystal phasing	44A078
C-42	Trimmer, adjustable, oscillator section, band 4	44A347
C-43,45	Trimmers, adjustable, oscillator section, bands 2 & 3	44A047
C-44	4700 mmf. 2% 500 V., silver mica	CM35C472G
C-46	1500 mmf. 2% 500 V., silver mica	CM30C152G
C-47	Trimmer, adjustable, oscillator section, band 1	44A076
C-48	470 mmf. 2% 500 V., mica	CM20A471G
C-51	220 mmf. 2% 500 V., mica	CM25E221G
C-52,66,71, 99,108,118	.05 mfd. 600 V., tubular	46AY503J
C-58,60,61	Trimmer, adjustable, crystal phasing	44B164
C-89,90	180 mmf. 500 V., mica	CM20A181K
C-98	560 mmf. 500 V., mica	CM25A561K
C-107	10 mfd. 25 V., electrolytic	45A121
C-110	680 mmf. 500 V., mica	CM25A681K
C-111,113,116	20 mfd. 25 V., 30-20 mfd. 450 V., electrolytic	45A041
C-114,115	.01 mfd. 600 V., moulded paper	46BR103J
C-127	100 mfd. 25 V., electrolytic	45A116
	RESISTORS	
R-1,10,51	100,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE104M
R-2	12 ohms $\frac{1}{2}$ watt, carbon	RC20AE120K
R-3,15	150 ohms $\frac{1}{2}$ watt, carbon	RC20AE151K
R-4,54	47,000 ohms 1 watt, carbon	RC30AE473K
R-5,9,14,19, 90,103,104	15 ohms $\frac{1}{2}$ watt, carbon	RC20AE150M
R-6,13,17,20	2200 ohms $\frac{1}{2}$ watt, carbon	RC20AE222M
R-7,18,40,67, 74,78	1200 ohms $\frac{1}{2}$ watt, carbon	RC20AE122K
R-8,43,53	470,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE474M
R-11	5.6 megohms $\frac{1}{2}$ watt, carbon	RC20AE565K
R-12	Resistor, variable, SENSITIVITY control	25A548
R-16,22,32, 45,86,106	1000 ohms $\frac{1}{2}$ watt, carbon	RC20AE102M
R-21,48,107	2.2 megohms $\frac{1}{2}$ watt, carbon	RC20AE225M
R-23	47 ohms $\frac{1}{2}$ watt, carbon	RC20AE470M
R-24	33 ohms $\frac{1}{2}$ watt, carbon	RC20AE330M
R-25,75	10,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE103K
R-26	5600 ohms 1 watt, carbon	RC30AE562K
R-27	470 ohms $\frac{1}{2}$ watt, carbon	RC20AE471M
R-28	68,000 ohms 1 watt, carbon	RC30AE683K
R-29	120 ohms $\frac{1}{2}$ watt, carbon	RC20AE121K
R-30,42,52	1 megohm $\frac{1}{2}$ watt, carbon	RC20AE105M
R-31,60	330 ohms $\frac{1}{2}$ watt, carbon	RC20AE331K
R-36	1.2 megohms $\frac{1}{2}$ watt, carbon	RC20AE125K
R-37	100,000 ohms 1 watt, carbon	RC30AE104K
R-38	270 ohms $\frac{1}{2}$ watt, carbon	RC20AE271K
R-39,59,87	56,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE563
R-41,58,79,80, 81,83	220,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE224K
R-44	4.7 megohms $\frac{1}{2}$ watt, carbon	RC20AE475K
R-46	27,000 ohms 2 watt, carbon	RC40AE273K
R-49	330,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE334K
R-50	1800 ohms $\frac{1}{2}$ watt, carbon	RC20AE182K
R-55	10,000 ohms 1 watt, carbon	RC30AE103K
R-56,57,71,94	47,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE473K
R-65	150,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE154K
R-66	1 megohm $\frac{1}{2}$ watt, carbon	RC20AE155K
R-68	5100 ohms 5% $\frac{1}{2}$ watt, carbon	RC20AE512J
R-73	Resistor, variable, VOLUME control	25A549
R-76,92	56 ohms $\frac{1}{2}$ watt, carbon	RC20AE560K
R-77	1000 ohms 2 watts, carbon	RC40AE102K
R-82	8200 ohms $\frac{1}{2}$ watt, carbon	RC20AE822K
R-84	220 ohms 2 watts, carbon	RC40AE221K
R-85	2000 ohms 10 watts, WW	24BG202D
R-88	2.2 megohms $\frac{1}{2}$ watt, carbon	RC20AE225K
R-89	68,000 ohms $\frac{1}{2}$ watt, carbon	RC20AE683K
R-91,93	4700 ohms $\frac{1}{2}$ watt, carbon	RC20AE472K
R-101,102	330 ohms $\frac{1}{2}$ watt, carbon	RC20AE331M
R-105	100 ohms $\frac{1}{2}$ watt, carbon	RC20AE101K
R-108	6.8 ohms 1 watt, carbon	RC30AE068K
	TRANSFORMERS AND COILS	
T-1	Transformer, antenna stage, band 6	51B829
T-2	Transformer, antenna stage, band 5	51B828
T-3	Transformer, antenna stage, band 4	51B990
T-4	Transformer, antenna stage, band 3	51B826
T-5	Transformer, antenna stage, band 1	51B823
T-6,12	Transformer, RF and converter stages, band 6	51B833
T-7	Transformer, RF stage, band 5	51B832
T-8,14	Transformer, RF and converter stages, band 4	51B989
T-9	Transformer, RF stage, band 3	51B987
T-10	Transformer, antenna stage, band 2	51B825
T-11	Transformer, RF stage, band 1	51B824
T-13	Transformer, converter stage, band 5	51B844
T-15	Transformer, converter stage, band 3	51B988
T-16	Transformer, converter stage, band 2	51B986

Ref. No.	Description	Hallicrafters Part Number
	TRANSFORMERS AND COILS (Cont.)	
T-17	Transformer, converter stage, band 1	51B985
T-18	Transformer, oscillator stage, band 6	51B839
T-19	Transformer, oscillator stage, band 5	51B838
T-20	Transformer, oscillator stage, band 4	51B991
T-21	Transformer, oscillator stage, band 3	51B836
T-22	Transformer, oscillator stage, band 2	51B835
T-23	Transformer, oscillator stage, band 1	51B834
T-24	Transformer, 1st IF amp stage	50C198
T-25	Transformer, 2nd IF amp stage	50C190
T-26	Transformer, 3rd IF amp stage	50C373
T-27	Transformer, FM detector	50C191
T-28	Transformer, BFO	54C032
T-29	Transformer, audio output	55B077
T-30	Transformer, power (115 V. 50/60 cycles)	52C141
*T-30	Transformer, power (115/230 V. 25/60 cycles)	52C131
L-1	RF choke (coded red)	53B008
L-2	IF coupling coil	53B104
L-3	Choke, filter	56B067
L-4	RF choke, filament	53A009
L-5,6	RF choke, screen (wound on R-95 & R-96)	37A117
L-7	Plate coil (Tube V-16)	53A139
	SWITCHES	
SW-1	Switch, BAND SELECTOR	60B329
SW-2	Switch, SELECTIVITY	60A234
SW-3	Switch, RECEPTION	60C330
SW-4	Switch, TONE	60C236
SW-5,6,7	Switch, toggle, SPST	60A138
SW-8	Switch, power (Part of volume control R-73)	
	PLUGS AND SOCKETS	
PL-1	Plug, octal (with jumpers)	35A003
PL-2	Plug and cord, power	87A078
SO-1	Socket, octal (BATTERY POWER and tube)	6A035
SO-2	Connector, PHONES	36B030
SO-3	Connector, PHONO	36A029
	Socket, miniature (6AG5 tube)	6A268
	Socket, miniature (6C4 tube)	6A292
	Socket, loktal (7H7 & 7A4 tube)	6A213
	Socket, loktal (7F8 tube)	6A223
	Socket, dial light	86B073

Ref. No.	Description	Hallicrafters Part Number
	TUBES, RECTIFIERS AND LAMPS	
V-1,2	Type 6AG5, antenna & RF amplifier	90X6AG5
V-3	Type 7F8, oscillator/converter	90X7F8
V-4	Type 6SK7, 1st IF amplifier	90X6SK7
V-5	Type 6SG7, 2nd IF amplifier	90X6SG7
V-6,9	Type 6H6, noise limiter & discriminator	90X6H6
V-7,8	Type 7H7, 3rd IF amplifier & AM detector	90X7H7
V-10	Type 7A4, BFO	90X7A4
V-11	Type 6SL7GT, phase inverter	90X6SL7GT
V-12,13	Type 6V6GT, AF power amplifier	90X6V6GT
V-14	Type 5U4G, rectifier	90X5U4G
V-15	Type OD3/VR150, voltage regulator	90XVR150
V-16	Type 6C4, calibration oscillator	90X6C4
LM-1,2,3,4,5, 6,7,8,9,10, 11,12	Lamp, 6-8 V., Mazda #44 (Blue bead)	39A003
	MISCELLANEOUS	
TS-1,2	Terminal strip, antenna or speaker	88A567
	Screw, knurled head, for above terminal strip	3A1371
X-1	Crystal, 455 KC	19A123
X-2	Crystal, calibration, 500 KC	19A1211
	Lock, line cord	76A299
	Pulley, condenser drive	28B068
	Flywheel, dial drive	71A187
	Shaft, general coverage dial	74A252
	Dial cord	38A019
	Escutcheon	7D078
	Window, general coverage dial	22C214
	Dial scale (calibrated)	22D215
	Clip, dial scale & window mtg.	76A043
	Shaft, index control	74A013
	Washer, "C" type, index control shaft	4A333
	Spring, dial drive & pointer index	75A013
	Dial pointer	67B835
	Knob, BAND SELECTOR control	15A088-2
	Knob, RECEPTION control	15A045
	Knob, SELECTIVITY control	15A063
	Knob, TONE control	15A062
	Knob, SENSITIVITY control	15A064
	Knob, TUNING control	15A047
	Knob, POINTER RESET	15A074-1
	Knob, VOLUME	15A097
	Mounting foot, rubber	16A029

* Universal model only.