

GENERAL

- Tubes Seven plus rectifier
- Speaker 5-inch PM
- Speaker V.C. Impedance 3.2 ohms
- Headset Output Low Impedance
- Antenna Provision for external antenna
- Tuning Manual
- Tuning Range Band Selector Position Frequency Range

Band Selector Position	Frequency Range
1.	540 kc - 1680 kc
2.	1680 kc - 5.4 mc
3.	5.3 mc - 15.5 mc
4.	15.5 mc - 44 mc

- Intermediate Frequency 455 kc.
- Power Supply Standard Model 105-125 V. 60 cycles AC
Universal Model 105-250 V. 25/135 cycles AC
- Power Consumption 75 Watts

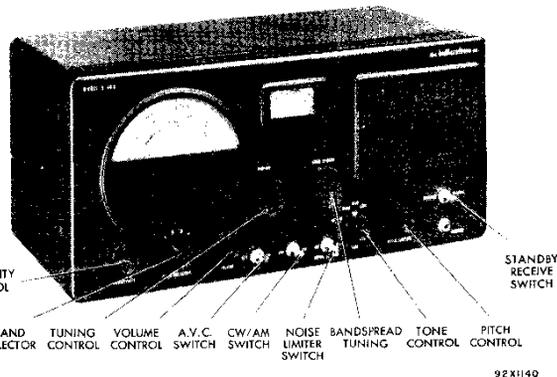
RESTRINGING DIAL CORD

To restring the general coverage tuning dial cord, cut an 18-inch length of 30 lb. test dial cord and tie one end to the tension spring of the main tuning capacitor drive pulley at position "1" on the diagram. Follow the numbers "1" through "4", and at position "4" stretch the tension spring and tie the cord securely.

To restring the band spread tuning dial cord cut a 36-inch length of dial cord and follow the procedure as above, starting at position "A" on the diagram. Note that the tuning drive shafts are wrapped with two and a fraction turns of dial cord for proper traction.

REPLACING LAMPS

Refer to Fig. 7 for the location of the two dial lamps used in the receiver. To gain access to defective lamps, reach in through cabinet cover and unclip the dial lamp sockets. The



sockets may then be brought out into the open to change the defective lamp. Replace lamps with 6-8 V. Mazda #44 (Blue bead) lamps or equivalent.

ALIGNMENT PROCEDURE

For I-F amplifier alignment it will be necessary to remove the receiver chassis from the cabinet. The chassis is held in the cabinet by three screws along both the bottom edge of the front panel and the rear of the cabinet, and two screws on either side of the front panel.

NOTE - R-F alignment should be accomplished through the holes provided in the cabinet bottom as the oscillator calibration will be effected slightly by changes in the capacity between the cabinet bottom and the r-f coils and wiring.

Before starting the alignment procedure, check the position of the general coverage dial index marker on the low frequency end of the range and the bandspread dial on zero position. The general coverage condenser should index at max. capacity, and the bandspread condenser at min. capacity.

The standard RMA dummy antenna mentioned 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.

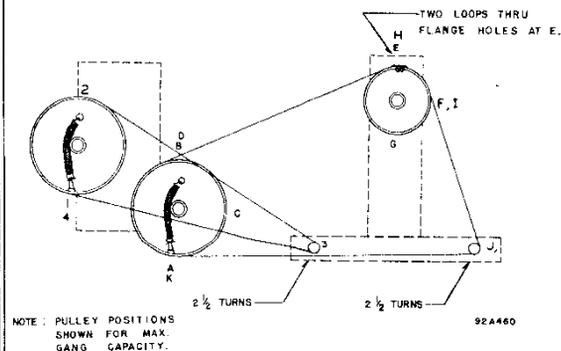


Fig. 1. Dial cable stringing procedure

Set the following controls before alignment.

- SENSITIVITY Set at maximum
- VOLUME Set at maximum
- AVC switch Set at OFF
- BAND SPREAD Set at zero
- CW/AM Set at AM (See Step 2)
- NOISE LIMITER Set at OFF
- STANDBY RECEIVE Set at RECEIVE
- TONE SWITCH Set at HIGH

For the settings of the remaining controls, see alignment chart.

MODEL S-40B

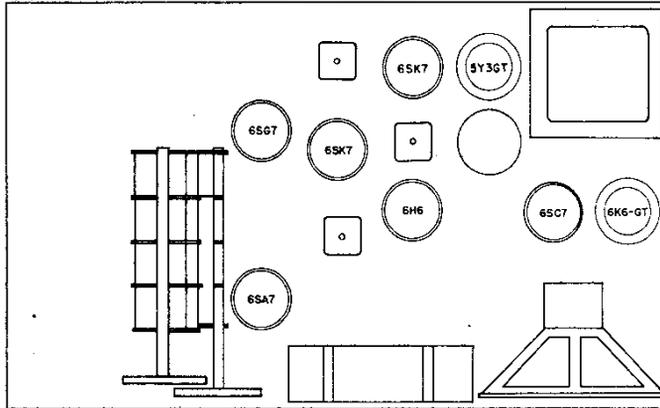


Fig. 7. Top view, location of tubes and dial lamps

92D1131-A

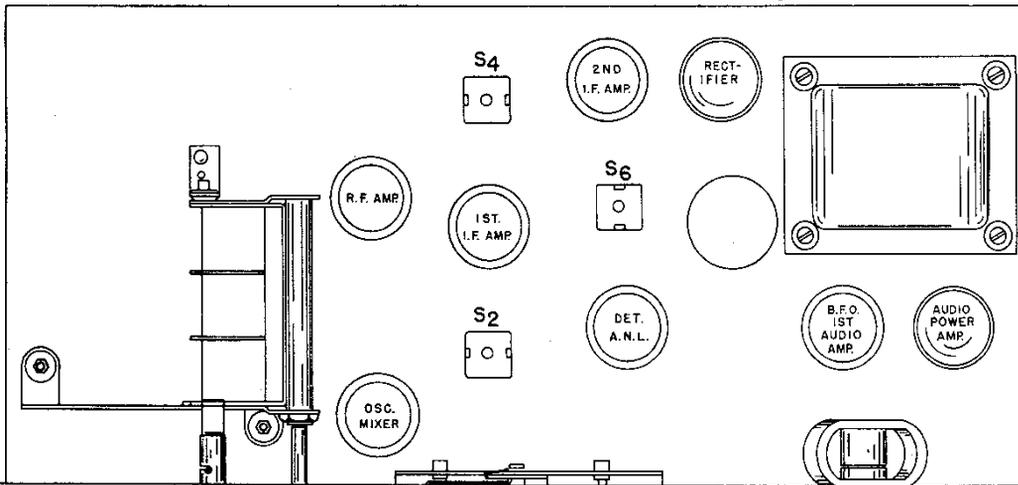


Fig. 2. Top view, alignment points

92D1132

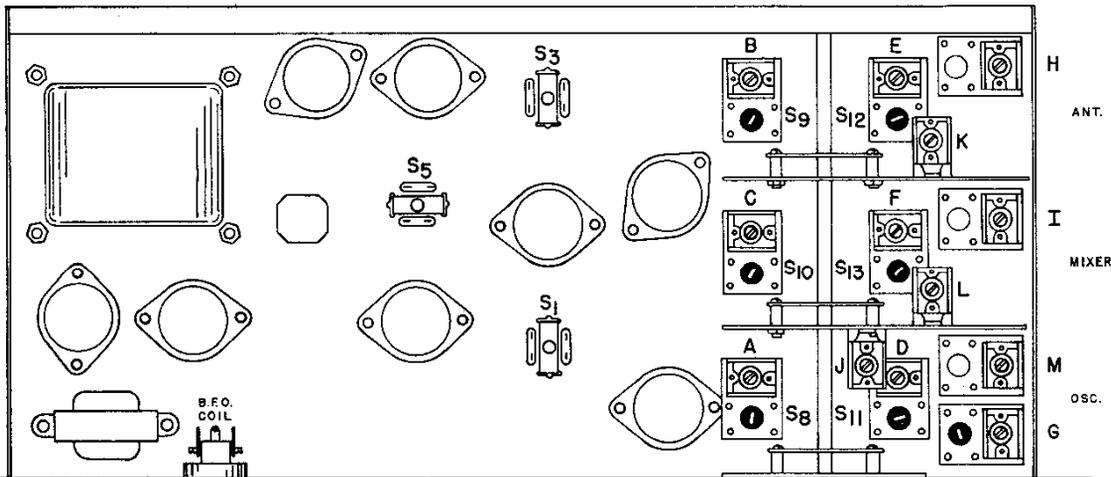


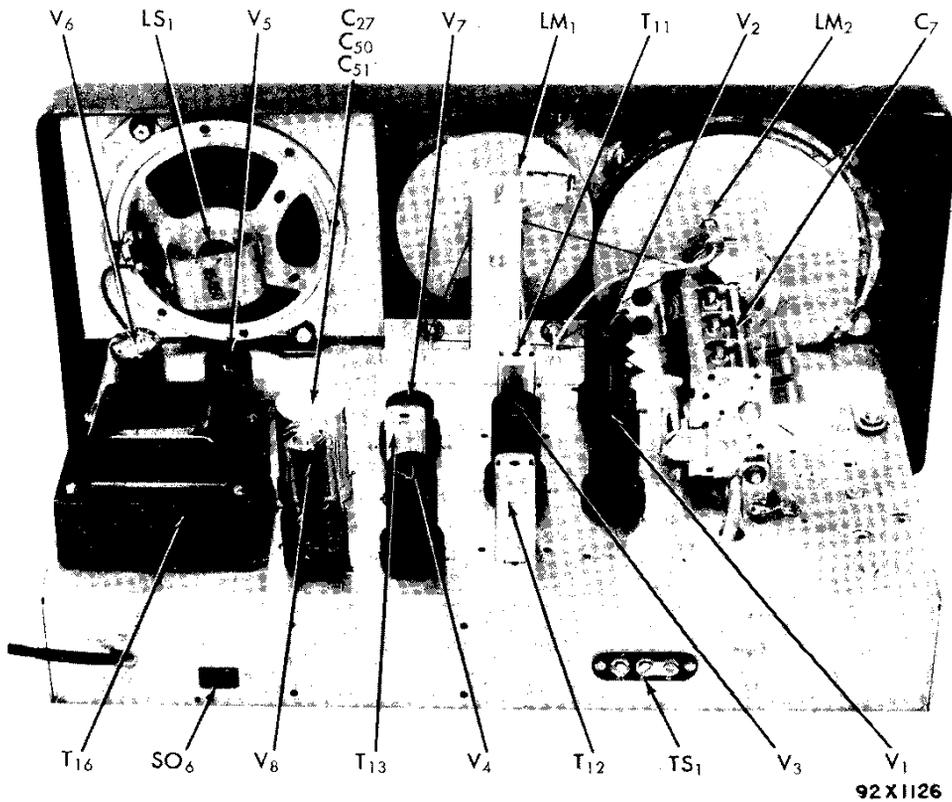
Fig. 3. Bottom view, alignment points

92D1133

ALIGNMENT CHART

Step	Dummy Antenna	Signal Generator Coupling	Signal Generator Frequency	Band Switch Setting	Receiver Dial Setting	Adjust	Remarks
1	None	Stator plates in center section of tuning gang.	455 kc	"1"	1000 kc	S1,S2,S3 S4,S5,S6	Maximum audio output at speaker voice coil. Use just enough signal generator output to obtain a 50 MW signal level.
2	None	See step 1	455 kc (No modulation)	"1"	1000 kc	S7	With the CW/AM switch set at CW, remove the pitch control knob and adjust S1 for zero beat. Replace the knob with the dot in the center position.
3	Std RMA dummy	"A1" on antenna strip. Jumper connected between "A2" and "G".	36 mc	"4"	36 mc	*A, B, C	Maximum output as in step 1
			18 mc		18 mc	*S8,S9,S10	
4	Std RMA dummy	See step 3	14 mc	"3"	14 mc	*D, E, F	Maximum output as in step 1
			10 mc		10 mc	*S11,S12,S13	
5	Std RMA dummy	See step 3	5 mc	"2"	5 mc	*G, H, I	Maximum output as in step 1
			1.8 mc		1.8 mc	*S14	
6	Std RMA dummy	See step 3	1500 kc	"1"	1500 kc	*J, K, L	Maximum output as in step 1
			600 kc		600 kc	*M	

*Note - Calibration adjustments.



92 X 1126

FIG. 4. Top view, component location

MODEL S-40B

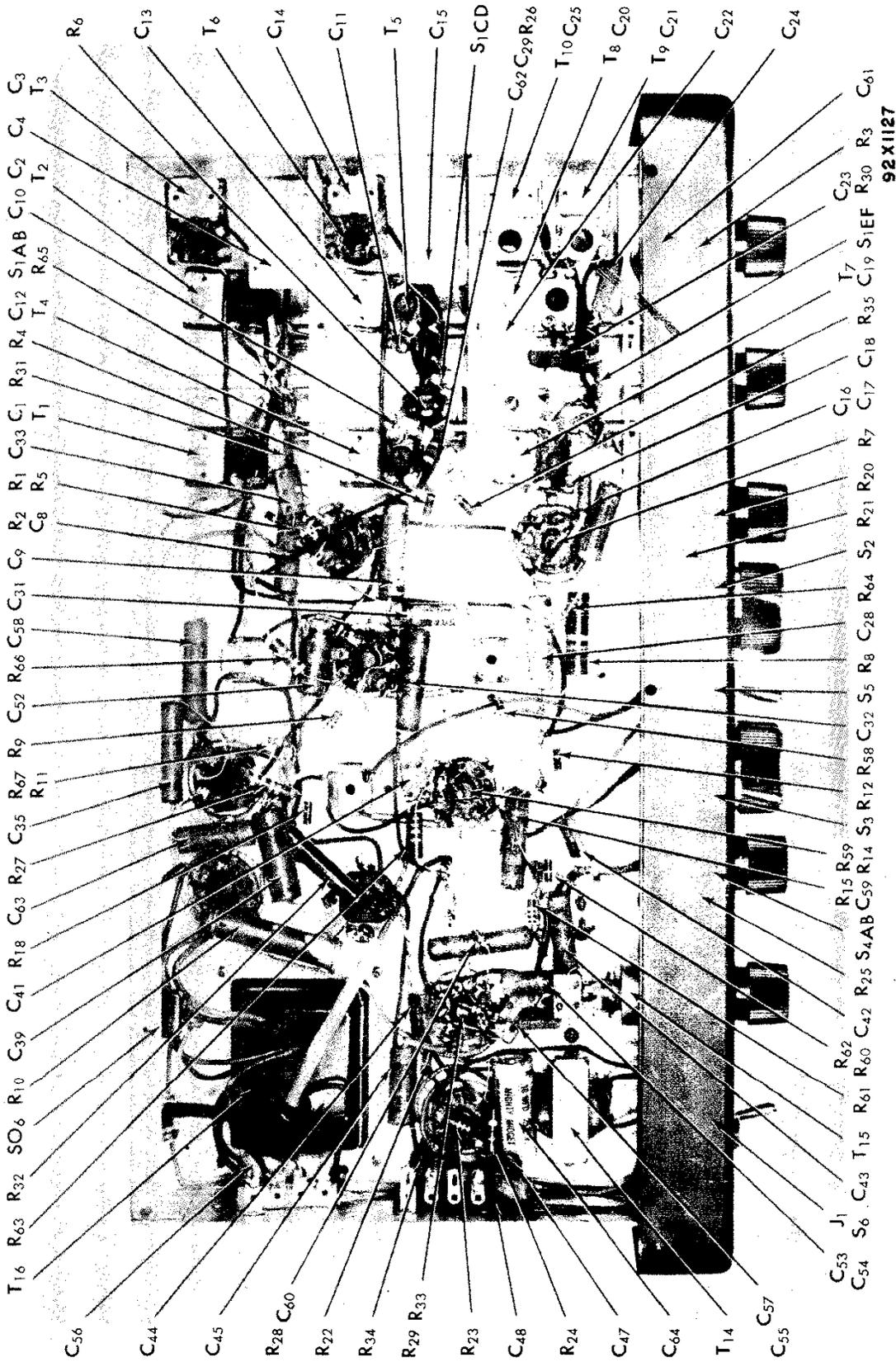


Fig. 5. Bottom view, component location

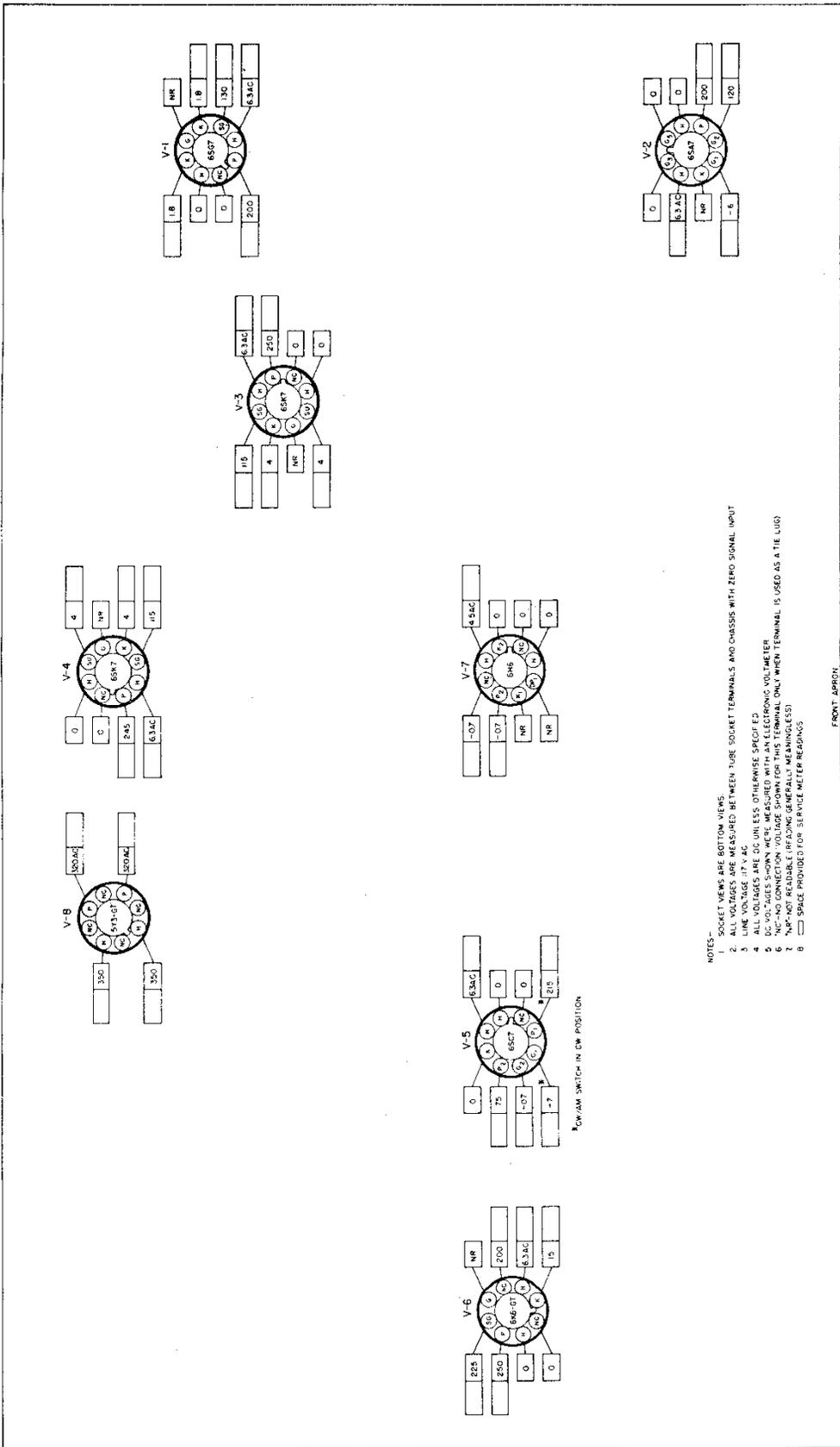


Fig. 6. Tube socket voltage chart

SERVICE PARTS LIST

Ref. No.	Description	Hallcrafters Part Number	Ref. No.	Description	Hallcrafters Part Number
CONDENSERS			TRANSFORMERS AND COILS		
C-1,2,12, 13,19	Trimmer, adjustable, part of transformers T-1,2,4,5 and 7	44A149	T-1	Transformer, antenna stage, band 4	51B783
C-3	Trimmer, adjustable, part of transformer T-3	44A389	T-2	Transformer, antenna stage, band 3	51B782
C-4,15,22	Trimmer, adjustable	44A191	T-3	Transformer, antenna stage, band 1 and 2	51B1241
C-7	Tuning capacitor, 3 sections ganged	48C240-B	T-4	Transformer, mixer stage, band 4	51B787
C-8,32,35, 58,59,60	.05 mfd. 200 V., tubular	46AU503J	T-5	Transformer, mixer stage, band 3	51B786
C-9,28	.05 mfd. 600 V., tubular	46AY503J	T-6	Transformer, mixer stage, band 1 and 2	51B1240
C-10	22 mmf. 500 V., ceramic	47X21UK220M	T-7	Transformer, oscillator stage, band 4	51B791
C-11	15 mmf. 500 V., ceramic	47X21UK150M	T-8	Transformer, oscillator stage, band 3	51B913
C-14,21	Trimmer, adjustable, part of transformers T-6 and 9	44A147	T-9	Transformer, oscillator stage, band 2	51B789
C-16	390 mmf. 500 V., mica	47X20B391K	T-10	Transformer, oscillator stage, band 1	51B912
C-17,53	.01 mfd. 600 V., tubular	46AY103J	T-11,12	Transformer, 1st and 2nd IF stages	50C243
C-18	68 mmf. 500 V., ceramic	47X25UK680K	T-13	Transformer, detector stage	50C242
C-20	Trimmer, adjustable, part of transformer T-8	44A148	T-14	Transformer, audio output	55B093
C-25	Padder, adjustable, part of transformer T-10	44A188	T-15	Transformer, BFO	54B044
C-23	3000 mmf. 500 V., mica	47X30C302K	T-16	Transformer, power	52A209
C-24	1500 mmf. 500 V., mica	47X30C152J	*T-16	Transformer, power (Universal)	52C210
C-27,50,51	30-10-10 mfd. 450 V., electrolytic	45A062	SWITCHES		
C-29,33	220 mmf. 500 V., mica	47X20B221K	S-1	Bandswitch, wafer, antenna stage	60B389
C-31,43	.02 mfd. 200 V., tubular	46AU203J		Bandswitch, wafer, mixer stage	62B039
C-38	2 mmf., twisted wire gimmick			Bandswitch, wafer, oscillator stage	62B044
C-39	.1 mfd. 600 V., tubular	46AY104J		Bandswitch, shaft	60B392
C-41,42	47 mmf. 500 V., mica	47X20B470M	S-2,3, 5,6	Switch, toggle, S.P.S.T., A.V.C., A.N.L., CW-AM, and STANDBY-RECEIVE	60A138
C-44,55	270 mmf. 500 V., mica	47X20B271K	S-4	Switch, PWR-TONE control	60A225
C-45,48,52, 63	.02 mfd. 600 V., tubular	46AY203J	PLUGS AND SOCKETS		
C-47	.002 mfd. 1000 V., tubular	46A104	J-1	Jack, headset	36A002
C-54	470 mmf. 500 V., mica	47X20B471J	PL-1	Line cord	87B1573
C-56	.01 mfd. 600 V., molded paper	46AC103J	SO-6	Socket, standby	10A015
C-57	1000 mmf. 500 V., mica	47X25B102M		Socket, octal (tube)	6A035
C-61	.25 mfd. 200 V., tubular	46AT254J		Socket, dial light, general coverage dial	86A070
C-62	2.2 mmf. 500 V., bakelite	47A160-4		Socket, dial light, bandspread dial	86B049
C-64	10 mfd. 25 V., electrolytic	45A121	TUBES, RECTIFIERS AND LAMPS		
RESISTORS			V-1	Type 6SG7, r-f amplifier	90X6SG7
R-1,62	1 megohm 1/2 watt, carbon	23X20X105M	V-2	Type 6SA7, mixer	90X6SA7
R-2	120 ohms 1/2 watt, carbon	23X20X121K	V-3,4	Type 6SK7, 1st and 2nd i-f amplifiers	90X6SK7
R-3	10,000 ohms, SENSITIVITY control	25B590	V-5	Type 6SC7, B.F.O. and audio amplifier	90X6SC7
R-4,31	22 ohms 1/2 watt, carbon	23X20X220M	V-6	Type 6K6GT, audio power amplifier	90X6K6GT
R-5	39,000 ohms 1 watt, carbon	23X30X393K	V-7	Type 6H6, A.N.L. and detector	90X6H6
R-6,26	6800 ohms 1 watt, carbon	23X30X682K	V-8	Type 5Y3GT, rectifier	90X5Y3GT
R-7	18,000 ohms 1/2 watt, carbon	23X20X183K	LM-1,2	Lamp, dial light, Mazda #44	39A003
R-8	10,000 ohms 2 watts, carbon	23X40X103K	MISCELLANEOUS		
R-9	470 ohms 1/2 watt, carbon	23X20X471K	TS-1	Terminal strip, antenna	88A032
R-10	12,000 ohms 4 watts, carbon	23X65CE123K		Lock, line cord	76A397
R-11,18,65	1000 ohms 1/2 watt, carbon	23X20X102K		Spring, retainer (Bandspread, and main tuning drive shaft)	75A062
R-12,59	2.2 megohms 1/2 watt, carbon	23X20X225M		Dial cord	38A001
R-14	47,000 ohms 1/2 watt, carbon	23X20X473M		Spring, dial cord	75A012
R-15,29,58	100,000 ohms 1/2 watt, carbon	23X20X104M		Dial, bandspread	83B372
R-20	1/2 megohm, VOLUME control	25A534		Dial, general coverage	83C240
R-21	150 ohms 1/2 watt, carbon	23X20X151M		Glass, general coverage dial	22B199
R-22	270,000 ohms 1/2 watt, carbon	23X20X274K		Window, bandspread	22A307
R-23,61	470,000 ohms 1/2 watt, carbon	23X20X474M	LS-1	Speaker, P.M. (5-inch)	85B050
R-24	680 ohms 1 watt, carbon	23X30X681K		Knob, PITCH CONTROL	12A058
R-25	15,000 ohms 1 watt, carbon	23X30X153M		Knob, SENSITIVITY, VOLUME and TONE	15A046
R-27,66	47,000 ohms 1 watt, carbon	23X30X473K		Knob, TUNING and BANDSPREAD	15A047
R-28	22,000 ohms 1/2 watt, carbon	23X20X223M		Knob, BAND SELECTOR	15A266
R-30	10 ohms 1/4 watt, carbon	23X10X100M		Foot, rubber	16A007
R-32	1500 ohms 10 watts, WW	24BG152E			
R-33	15 megohms 1/4 watt, carbon	23X10X156M			
R-34	10,000 ohms 1/2 watt, carbon	23X20X103M			
R-35	27 ohms 1/4 watt, carbon	23X10X270K			
R-60,67	330,000 ohms 1/2 watt, carbon	23X20X334K			
R-63	6.8 ohms 1 watt, carbon	23X30X068K			
R-64	330 ohms 1/2 watt, carbon	23X20X331K			

* Used on Universal Model S-40BU only.