

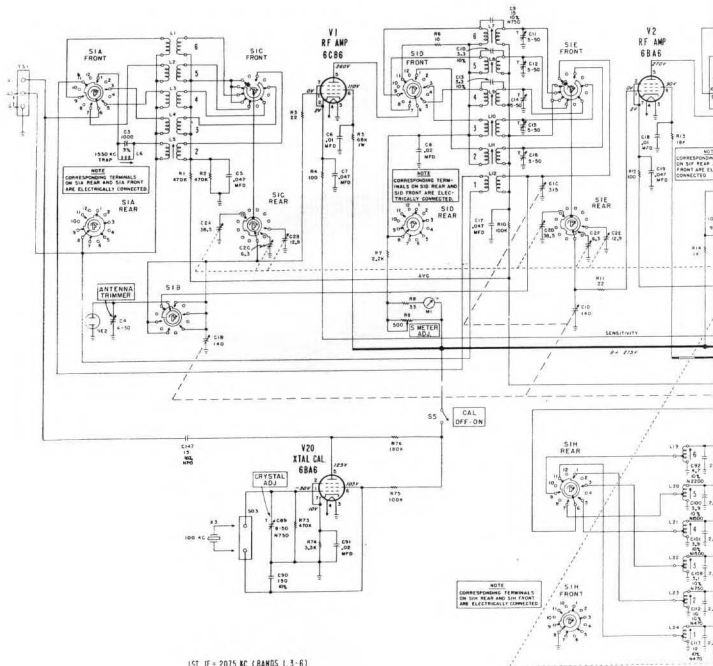
## VOLTAGES

Voltage readings taken under the following conditions:

1. Line voltage—117 volts, 60 cycles AC.
2. Antenna terminals shorted, Band Selector at Band 1 (535—1.7 MC), Sensitivity at "10", Ret-Standby at "Re", CW-AM-SSB at "AM", ANL and CAL at "OFF", AVC at "On", and Band Width at "10 KC".
3. All voltages measured between tube socket terminals and chassis unless otherwise specified.
4. DC voltages measured with VTVM; AC voltages with 1000 ohms per volt meter.
5. Voltage readings for V20 taken with CAL switch at "On".
6. Voltage readings for V15 and V16 taken with CW-AM-SSB switch at "CW" and "SSB".
7. Voltage readings shown for V5 are for Bands 1, 3, 4, 5, and 6. For Band 2, the readings of the two triode sections are reversed.

● Voltage varies depending on value of screen dropping resistor R30. Use upper value if R30 is 120K, lower value if R30 is 330K.

◆ Voltage varies with setting of tuning gang.



1ST IF = 2075 KC (BANDS 1, 3-6)  
1550 KC (BAND 2)

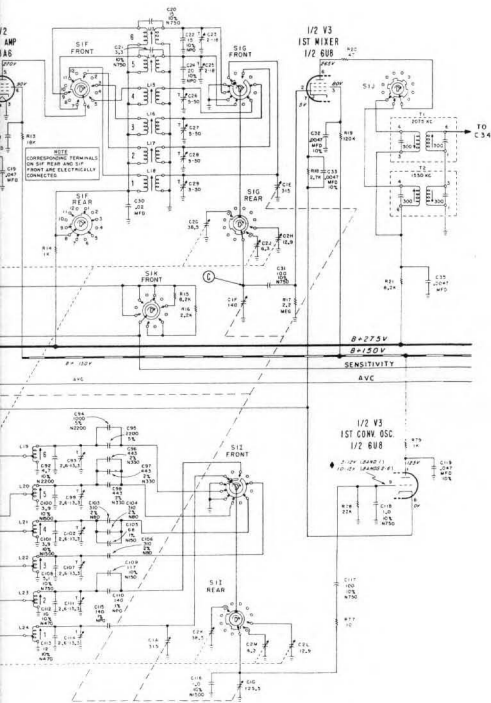
2ND IF = 50KC

**NOTES**

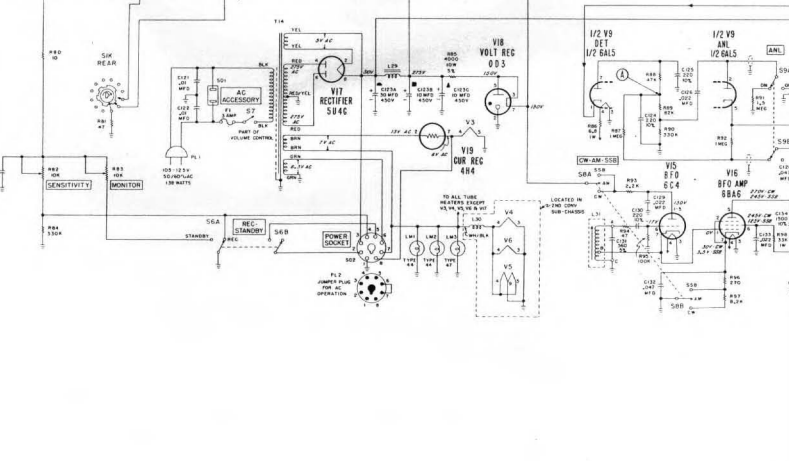
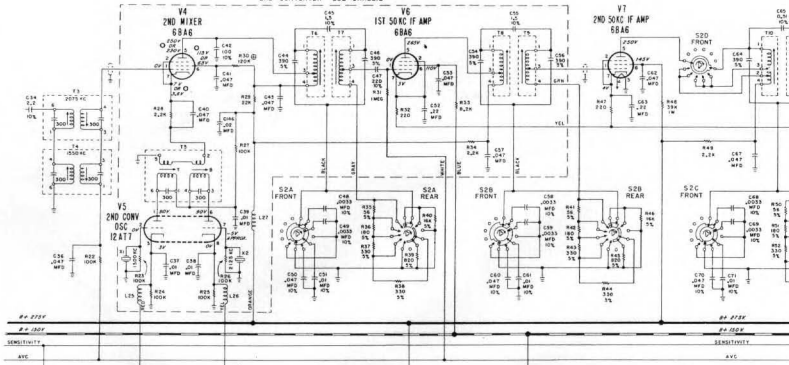
1. Resistor values in ohms and capacitor values in MMF unless otherwise specified.
2. Unless otherwise specified, resistors are 1/2 watt and 10%, paper tubular; capacitors are 50%, ceramic disc capacitors are R-80-70%,
3. Terminal arrangement shown for switches S1, S2, and S3 is as viewed from front of set.
4. Band Selector switch S1 shown in Band 1 position (.535-1.7 MC).
5. Band Width switch S2 shown in "10 KC" position.
6. Response switch S3 shown in "Bass Boost" position.
7. Values and tolerances 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.

⊕ 330K on early production sets. When servicing 2nd converter sub-chassis, check value of R30. If 330K, remove and replace with 120K resistor.

⊥ Chassis.



2ND CONVERTER SUB-CHASSIS



# MODELS SX-88 & SX-88U RUN 1

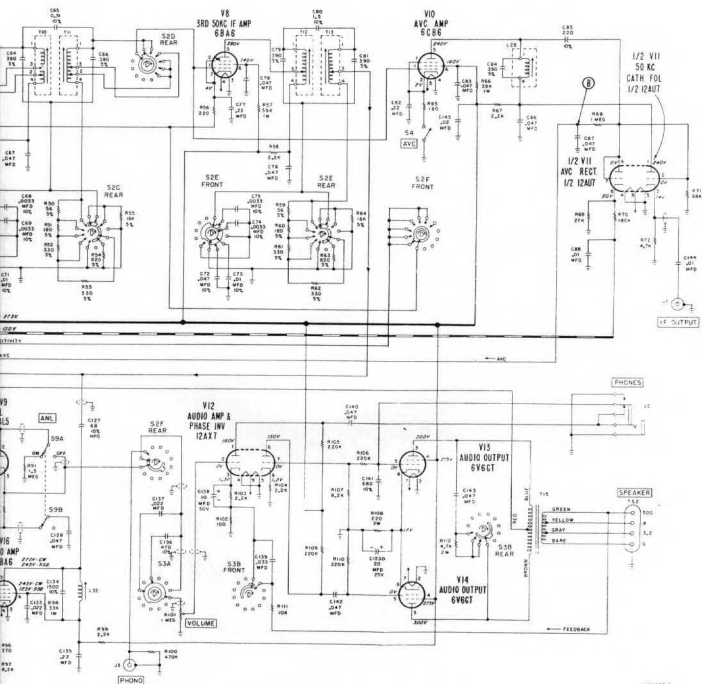


Fig. 20. Schematic Diagram

# SERVICE PARTS LISTS

Schematic Symbol	Description	HeliCrafters Part Number	Schematic Symbol	Description	HeliCrafters Part Number
<b>CAPACITORS</b>			<b>CAPACITORS (Cont)</b>		
C-1	Tuning gang, 7 section (Main Tuning)	48D314	C-94	1000 mmfd. 5%, N2200 ± 500 PPM, ceramic	47B441
C-2	Tuning gang, 12 section (Bandspread Tuning)	48D315	C-95	2200 mmfd. 5%, 500 V., silver mica	47X30E222J
C-3	1000 mmfd. 5%, 500 V., silver mica	47X20D102J	C-96,97,98	443 mmfd. 2%, N330, 500 V., ceramic	47B407
C-4	4-50 mmfd., variable air (Antenna Trimmer)	48B313	C-100,101	3.9 mmfd. 10%, N1500 ± 250 PPM; ceramic	47D20V039C
RT	C-5,17,36,87, 128,132	047 mfd. 20%, 200 V.; molded paper	C-103,104, 106	310 mmfd. 2%, N80, 500 V.; ceramic	47X45L3G11G
RB3-C	C-6	.01 mfd. 20%, 600 V.; molded paper	C-105	68 mmfd. 1%, N150, 500 V.; ceramic	47X32PG680F
f	C-7,19,40,41, 43,53,57,62, 67,76,78,83, 86,140,142,143	047 mfd. 20%, 600 V., molded paper	C-108	5.1 mmfd. ± .5 mmfd., N750, 500 V.; ceramic	47X20U051D
C125 F	C-8,30,91,145, 146	.02 mfd. +80 -20%, 500 V., ceramic disc	C-109	117 mmfd. 10%, N150 ± 30 PPM, 500 V.; ceramic	47B440
C124-F	C-9	15 mmfd. 10%, N750, 500 V., ceramic	C-110,115	140 mmfd. 1%, NPO, 500 V.; ceramic	47X35CG141F
	C-10,13	3.3 mmfd. 10%, 500 V., bakelite	C-112	10 mmfd. 10%, N470, 500 V., ceramic	47X20TH100F
	C-11-12	Trimmer assembly, two section, 5-50 mmfd. each section	C-113	12 mmfd. 10%, N470, 500 V.; ceramic	47X20TR120K
	C-14-15-16, 26-27-28	Trimmer assembly, three section; 5-50 mmfd. each section	C-116	1.0 mmfd. 10%, N1500 ± 250 PPM, 500 V.; ceramic	47D20V010B
	C-18,37,38, 39,88,121, 122,144	.01 mfd. +80-20%, 450 V.; ceramic disc	C-118	1.0 mmfd. 10%, N750, 500 V., ceramic	47X20U010B
	C-20	15 mmfd. 10%, N750, 500 V., ceramic	C-119	.047 mfd. 10%, 600 V.; molded paper	46BR473E6
	C-21	3.3 mmfd. ± .25 mmfd., N750, 500 V., ceramic	C-120	10 mfd. 10%, 150 V., electrolytic	45A097
	C-22,147	15 mmfd. 10%, NPO, 500 V.; ceramic	C-123A-B- C-D	30 mfd. 450 V., 10 mfd. 450 V., 10 mfd. 450 V., 20 mfd. 25 V., electrolytic	45A041
	C-23-25-29	Trimmer assembly, three section; 2-18 mmfd., 2-18 mmfd., 3-30 mmfd.	C-126,137	.022 mfd. 20%, 200 V., molded paper	46BR223L2
	C-24	20 mmfd. 10%, NPO, 500 V., ceramic	C-127	68 mmfd. 10%, NPO, 500 V.; ceramic	47X25CK680K
SI	C-31,117	100 mmfd. 10%, N750, 500 V.; ceramic	C-129,133	.022 mfd. 20%, 600 V., molded paper	46BR223L6
PI	C-32,33,35	4700 mmfd 10%, 500 V.; mica	44C440	220 mmfd. 10%, 500 V., silver mica	47X20D221K
	C-34	2.2 mmfd. 10%, 500 V.; bakelite	47X20CG200K	560 mmfd. 5%, 500 V., silver mica	47X20E561J
	C-42	100 mmfd. 10%, 450 V.; ceramic	47X20UJ101K	1500 mmfd. 10%, 500 V.; silver mica	47X30D152K
	C-44,46,54, 56,64,66,79, 81,84	390 mmfd. 5%, 500 V.; silver mica	47X30B472K	22 mfd. 20%, 600 V., molded paper	46BR224L6
	C-45,55,80	1.5 mmfd. 10%, 500 V., bakelite	47B403-4	470 mmfd. 10%, 500 V., mica	47X20A471K
	C-47,85,124, 125	220 mmfd. 10%, 500 V.; ceramic	47CA20A101K	10 mfd 50 V., electrolytic	45B211
	C-48,49,58, 59,68,69, 74,75	.0033 mfd 10%, 400 V.; molded paper	47X20E391J	.033 mfd. 20%, 600 V.; molded paper	46BR333L6
	C-50,60,70,72	.047 mfd. 10%, 200 V., molded paper	47B403-3	680 mmfd. 10%, 500 V.; mica	47X20A681K
	C-51,61,71,73	.01 mfd. 10%, 400 V., molded paper	47CA20A221K		
	C-52,63,77, 82	.22 mfd. 20%, 200 V., molded paper	46BR332E4		
	C-85	.51 mmfd. 10%, 500 V.; bakelite	46BR473E2	R-1,2,73,100	470,000 ohms 10%, 1/2 W.
	C-89	8-50 mmfd. N750, ceramic trimmer (Crystal Adj)	46BR103E4	R-3,11	22 ohms 10%, 1/2 W.
	C-90	150 mmfd 10%, 500 V., mica	46BR224L2	R-4,12,102	100 ohms 10%, 1/2 W.
	C-92	4.7 mmfd. ± .25 mmfd., N2200 ± 500 PPM, ceramic	47B403-0	R-5	68,000 ohms 10%, 1 W.
	C-93,99,102, 107,111,114	2.6-13.3 mmfd., variable air	47X20B151K	R-6,77,80	10 ohms 10%, 1/2 W.
			47D20W047C	R-7,16,28, 34,49,58, 67,93,99, 103,104	2200 ohms 10%, 1/2 W.
			48B316	R-8	33 ohms 10%, 1/2 W.
				R-9	500 ohms, variable ("S" Meter Adj.)
				R-10,22,23, 24,25,26,27, 75,95	100,000 ohms 10%, 1/2 W.
				R-13	18,000 ohms 10%, 1/2W
				R-14,79	1000 ohms 10%, 1/2W
					PPM parts/million ° C
	N neg temp coef	NPO - zero temp. coef			

## SERVICE PARTS LISTS (Cont.)

Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number
<b>RESISTORS (Cont.)</b>					
R-15,21,33, 97,107	8200 ohms 10%, 1/2 W	23X20X822K	L-25,26,27	Choke, RF, red	53B008
R-17	2.2 megohms 10%, 1/2 W.	23X20X225K	L-28	Coil, AVC amplifier	50C612
R-18	2700 ohms 10%, 1/2 W.	23X20X272K	L-29	Choke, filter; 9H, 135 ma, 260 ohms DC	56C183
R-19	120,000 ohms 10%, 1/2 W.	23X20X124K	L-30	Choke, RF, blue	53B009
R-20,81,94	47 ohms 10%, 1/2 W.	23X20X470K	L-31	Coil, BFO (with shield)	54B050
R-29,78	22,000 ohms 10%, 1/2 W.	23X20X223K	L-32	Coil, BFO amplifier	51B1746
R-30	120,000 ohms 10%, 1/2 W. or 330,000 ohms 10%, 1/2 W. (see schematic)	23X20X124K	T-1,3	Transformer, IF; 2075 KC	50C611
R-31,68,87,92	1 megohm 10%, 1/2 W.	23X20X105K	T-2,4	Transformer, IF; 1550 KC	50C603
R-32,47,56	220 ohms 10%, 1/2 W.	23X20X221K	T-5	Transformer, 2nd conv. osc.	50C602
R-35,41,50,59	56 ohms 5%, 1/2 W.	23X20X560J	T-6,7,8,9	Transformer, IF; 50 KC (1st and 2nd interstage)	50C601
R-36,42,51,60	180 ohms 5%, 1/2 W.	23X20X181J	T-10	Transformer, IF; 50 KC (3rd interstage primary)	50C613
R-37,38,43, 44,52,53,61, 62	330 ohms 5%, 1/2 W.	23X20X331J	T-11	Transformer, IF; 50 KC (3rd interstage secondary)	50C614
R-39,45,54,63	820 ohms 5%, 1/2 W.	23X20X821J	T-12,13	Transformer, IF, 50 KC (detector)	50C615
R-40,46,55,64	16,000 ohms 5%, 1/2 W.	23X20X163J	T-14	Transformer, power, for Model SX-88	52C288
R-48,57,66	39,000 ohms 10%, 1 W	23X30X393K		for Model SX-88U	52D295
R-65	180 ohms 10%, 1/2 W.	23X20X181K	T-15	Transformer, audio output	55C213
R-69	27,000 ohms 10%, 1/2 W.	23X20X273K	<b>SWITCHES</b>		
R-70,76	180,000 ohms 10%, 1/2 W.	23X20X184K	S-1A-B-C	Switch assembly, Band Selector, antenna section and 1st RF amp. grid	62C076
R-71	68,000 ohms 10%, 1/2 W.	23X20X683K	S-1D-E	Switch assembly, Band Selector, 1st RF amp. plate and 2nd RF amp grid	62C077
R-72	4700 ohms 10%, 1/2 W.	23X20X472K	S-1F-G	Switch assembly, Band Selector, 2nd RF amp. plate and 1st mixer grid	62C077
R-74	3300 ohms 10%, 1/2 W.	23X20X332K	S-1H-I	Switch assembly, Band Selector, 1st conv. osc. grid and cathode	62C078
R-82	10,000 ohms, variable (Sensitivity)	25B1058	S-1J	Switch section, Band Selector; 1st mixer plate	62B075
R-83	10,000 ohms, variable (Monitor)	25B1062	S-1K	Switch assembly, Band Selector; 2nd conv. osc. cathode and 2nd RF amp. cathode	62B079
R-84,90	330,000 ohms 10%, 1/2 W.	23X20X334K	S-2	Switch assembly, BAND WIDTH	60D561
R-85	4000 ohms 5%, 10 W; wirewound	24B402D	S-3	Switch assembly, RESPONSE	60C565
R-86	6.8 ohms 10%, 1 W.	23X30X068K	S-4,5	Switch, spst toggle; AVC OFF-ON and CAL OFF-ON	60A138
R-88	47,000 ohms 10%, 1/2 W.	23X20X473K	S-6,9	Switch, dpdt toggle, REC-STANDBY and ANL OFF-ON	60B575
R-89	82,000 ohms 10%, 1/2 W.	23X20X823K	S-7	Switch, power off-on (part of Volume control R101)	-----
R-91	1.5 megohms 10%, 1/2 W.	23X20X155K	S-8	Switch, toggle, dpdt center off (CW-AM-SSB)	60B568
R-96	270 ohms 10%, 1/2 W.	23X20X271K	<b>JACKS, PLUGS AND SOCKETS</b>		
R-98	33,000 ohms 10%, 1 W.	23X30X333K	J-1,3	Jack, single pin, IF OUTPUT and PHONO	36A041
R-101	1 megohm, variable (Volume); includes on-off switch S7	25B606	J-2	Jack, PHONES	36B004
R-105,106, 109,110	220,000 ohms 10%, 1/2 W.	23X20X224K	PL-2	Plug, octal; AC jumper	35A003
R-108	220 ohms 10%, 2 W.	23X40X221K	SO-1	Socket, AC ACCESSORY	82B296
R-111	10,000 ohms 10%, 1/2 W.	23X20X103K	SO-2	Socket, octal; POWER SOCKET	6A482
R-112	4700 ohms 10%, 2 W.	23X40X472K	SO-3	Socket, crystal	6A262
<b>COILS AND TRANSFORMERS</b>					
L-1	Coil, antenna, band 6	51B1726		Socket, pilot lamp; for "S" meter (with leads)	6A262
L-2	Coil, antenna; band 5	51B1727		Socket, pilot lamp; for tuning dials (with leads)	86B157
L-3	Coil, antenna; band 4	51B1728		Socket, tube, octal	6B296
L-4	Coil, antenna; band 3	51B1729		Socket, tube; 9 pin miniature (ceramic)	6B499
L-5	Coil, antenna; band 2	51B1730		Socket, tube, 9 pin miniature (mica filled)	6B500
L-6	Coil, 1550 kc trap	51B1747		Socket, tube, 7 pin miniature	6B505
L-7	Coil, RF; band 6	51B1732			
L-8	Coil, RF; band 5	51B1733			
L-9	Coil, RF; band 4	51B1723			
L-10	Coil, RF; band 3	51B1724			
L-11	Coil, RF; band 2	51B1725			
L-12	Coil, antenna; band 1	51B1731			
L-13	Coil, mixer, band 6	51B1732			
L-14	Coil, mixer, band 5	51B1733			
L-15	Coil, mixer; band 4	51B1734			
L-16	Coil, mixer; band 3	51B1735			
L-17	Coil, mixer; band 2	51B1736			
L-18	Coil, mixer; band 1	51B1737			
L-19	Coil, oscillator, band 6	51B1717			
L-20	Coil, oscillator, band 5	51B1718			
L-21	Coil, oscillator, band 4	51B1719			
L-22	Coil, oscillator, band 3	51B1720			
L-23	Coil, oscillator; band 2	51B1721			
L-24	Coil, oscillator; band 1	51B1722			

## SERVICE PARTS LISTS (Cont.)

Schematic Symbol	Description	Hollcrafters Part Number	Schematic Symbol	Description	Hollcrafters Part Number
<b>TUBES AND DIAL LAMPS</b>			<b>MISCELLANEOUS (Cont.)</b>		
V-1,10	6CB6: 1st RF Amp, AVC Amp	90X6CB6		Grommet, rubber, "S" meter	16B362
V-2,4,6,7,8 16,20	6BA6: 2nd RF Amp, 2nd Mixer, 1st 50 KC IF Amp, 2nd 50 KC IF Amp, 3rd 50 KC IF Amp, BFO Amp, Xtal Cal.	90X6BA6		Grommet, rubber, tuning gang rear support	16A180
V-3	6UB: 1st Oscillator-Mixer	90X6UB		Holder, fuse insugnia, "h"	6A451 7B485
V-5	12AT7: 2nd conv. oscillator	90X12AT7		Knob assembly, MAIN TUNING and BAND SPREAD TUNING	41B25314
V-9	6AL5: Detector and ANL	90X6AL5		Calibrated plate (0-100)	83B454
V-11	12AU7: AVC Rect. and 50 KC Cath. Fol.	90X12AU7		Knob, phenolic	15B693
V-12	12AX7: Audio Amp and Phase Inv.	90X12AX7		Spring	75B294
V-13,14	6V6GT: Audio Output	90X6V6GT		Button plug	17B138
V-15	6C4: BFO	90X6C4		Hub	77B717
V-17	5U4G Rectifier	90X5U4G		Knob, ANTENNA TRIMMER	15A061
V-18	OD3: Voltage Regulator	90XOD3		Knob, BAND SELECTOR	15C743
V-19	4H4: Current Regulator	90X4H4		Knob, BAND WIDTH	15B679
LM-1,2	Lamp, pilot; type 44	39A003		Knob, LOCK	15B699
LM-3	Lamp, pilot; type 47	39A004		Knob, PITCH	15B677
				Knob, pointer set	15B676
				Knob, RESPONSE	15B678
				Knob, SENSITIVITY and VOLUME	15A097
	<b>MISCELLANEOUS</b>		NE-2	Lamp, neon glow, GE type NE2, 1/25 W., 65V AC starting	39A012
	Belt, drive; Band Selector	14B374	PL-1	Line cord and plug	87A2644
	Cabinet, complete	41X25313		Loggug scale, tuning dial	83C475
	Clip, gang shield; top section	76B148	M-1	Lock, line cord	76A397
	Clip, gang shield; bottom section	76B149		Meter, "S", 0-5 ma	82C248
	Connplug flexible (for Band Selector shaft)			Panel, front	58D241
	3-5/8" overall	29B222		Retainer, tube, V-17	76A1032
	3-1/8" overall	29B224		Shaft, extension, Antenna Trimmer	74B635
X-1	Crystal, 1500 KC	19B1890		Shaft, Band Selector	74B636
X-2	Crystal, 2125 KC	19B1891		10-3/4" long	74B702
X-3	Crystal, 100 KC	19B1886		11-1/4" long	5A006
	Detent, Band Selector switch	62C073		Snap-in tri-mount	
	Dial, band spread tuning	83D466		Terminal board, slateite, 3 post type lugs (used as tie strip for oscillator padders)	41X25346
	Dial, main tuning	83D470		Terminal strip, antenna (A1-A2-G)	88B935
	Dial pointer assembly	41C25327		Terminal strip, speaker (G-3.2-8-500)	88B936
	Escutcheon, front panel	70M66			
	Foot, mtg.; rubber	16A029			
F-1	Fuse, 3 amp 250V; type 3AG	39A301			
	Gear drive assembly, complete	41X25311			
	Glass, band spread tuning dial	22B413			
	Glass, main tuning dial	22B412			