

92C2395

Fig. 15. Front View of Gear Drive Tuning Mechanism

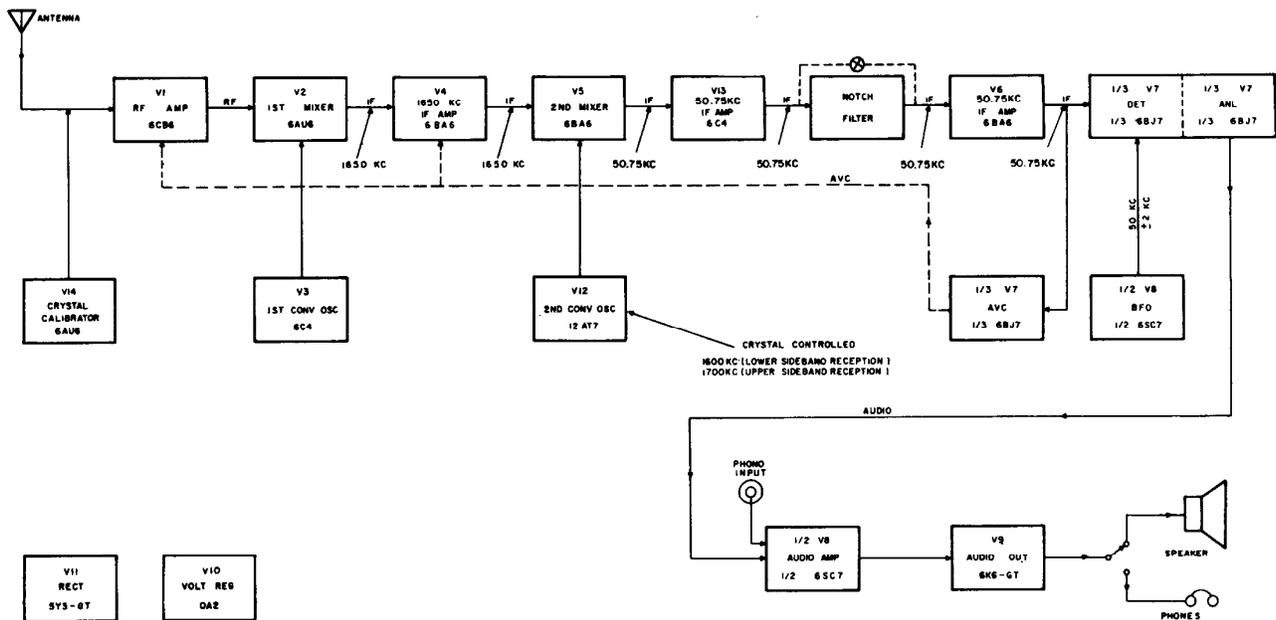


Figure 16. Block Diagram of Receiver

## NOTES

1. Resistor values in ohms and capacitor values in MMF unless otherwise specified.  $K=1000$ .
2. Resistors are  $\frac{1}{2}$  watt and 10% unless otherwise specified.
3. Band Selector switch S1 shown in ".538-1.58 MC" position (fully counterclockwise). Switch sections are shown as viewed from rear of set.
4. Selectivity switch S2 shown in "5 KC" position (fully counterclockwise). Switch sections are shown as viewed from front of set.
5. Response switch S3 shown in "Lower Sideband" position. Section S3B is open in the "Power Off" position and closed in all other positions.
6. See Fig. 11 for location of all switch sections.
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.

$\perp$  Chassis

## VOLTAGES

Voltage readings taken under the following conditions:

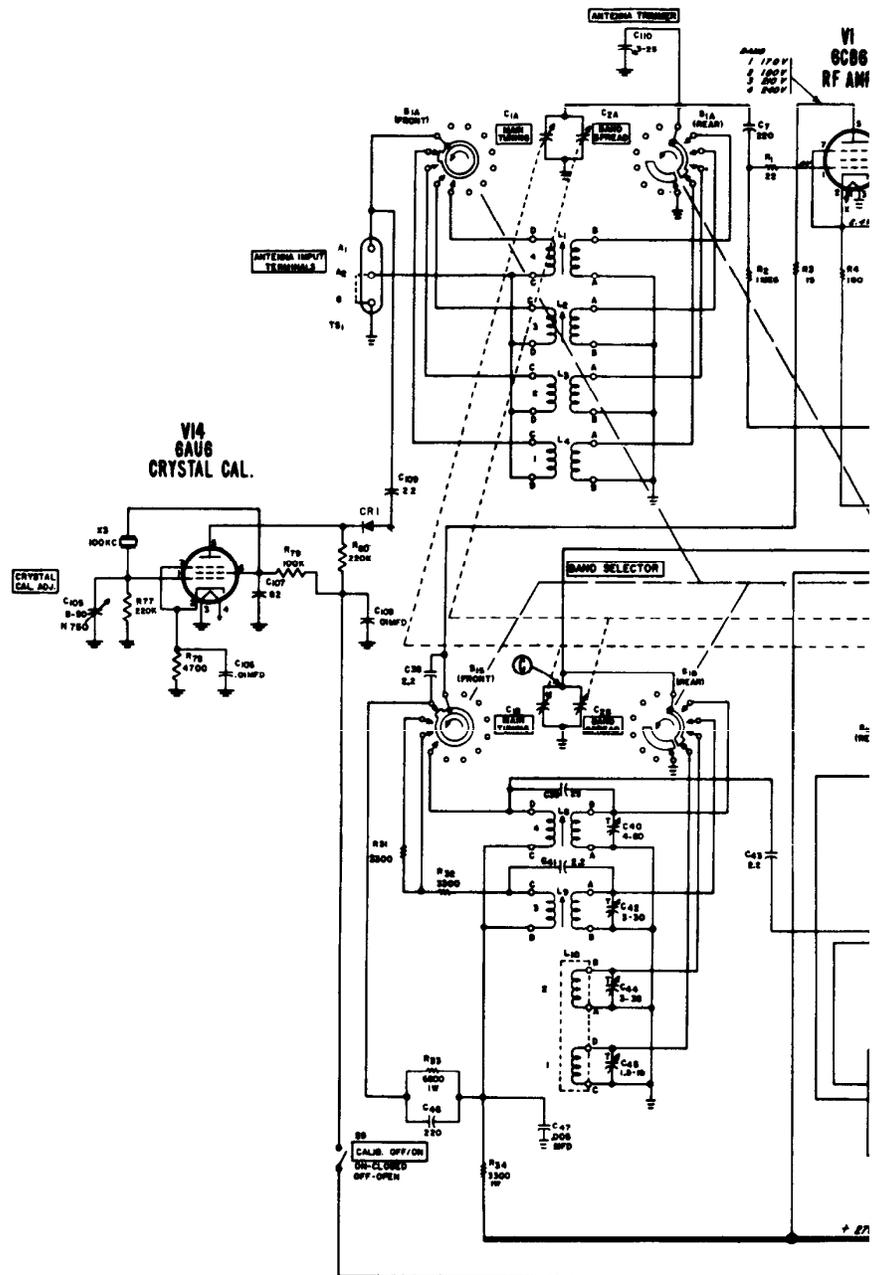
1. Line voltage—117 volts, 60 cycles AC.
  2. Antenna terminals shorted, Sensitivity at "10", Receive-Standby at "Receive", AM/CW-SSB switch at "AM", AVC at "On", Noise Limiter at "Off", Response at "Lower Sideband", and Selectivity at "5 KC".
  3. All voltages measured between tube socket terminals and chassis unless otherwise specified. See Fig. 11 for location of tubes.
  4. All voltages are DC and positive unless otherwise specified. DC voltages measured with VTVM; AC voltages with 1000 ohms-per-volt meter.
  5. Voltages shown for V12 are with Response control at "Lower Sideband". In the "Upper Sideband", "Treble Cut", and "Normal" positions, the voltages of the two triode sections are reversed. The grid voltage will vary with crystal activity.
  6. Voltages for pins 2 and 3 of V8 are taken with AM/CW-SSB switch at "CW-SSB".
- © Voltage varies with setting of tuning gang.

## ▲ "S" METER ZERO ADJUSTMENT

Alternate values of resistance were used in some receivers for R-17 ("S" meter zero adjustment) and R-18 (The associated current limiting resistor). The alternate values were as follows:

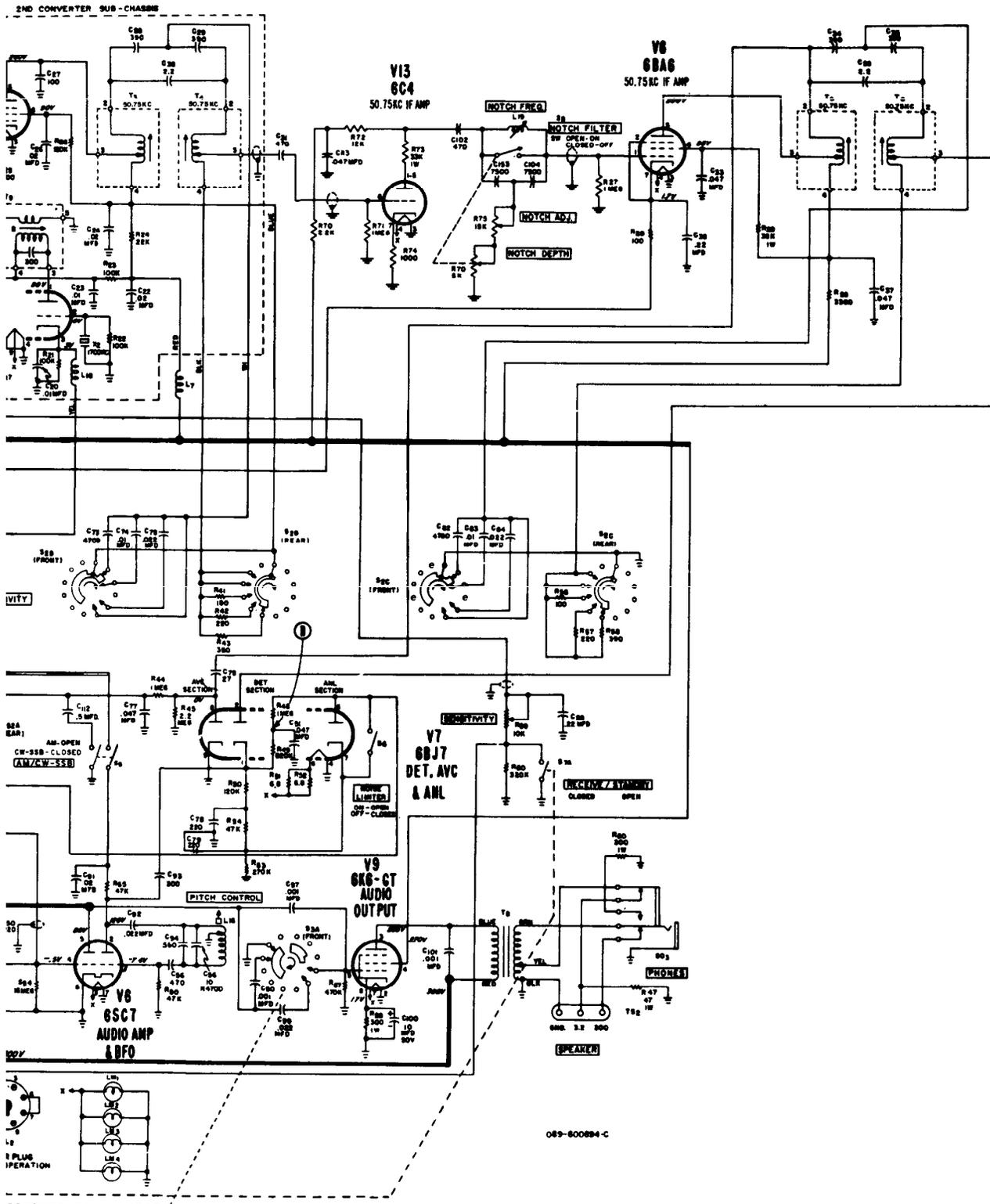
SYMBOL	VALUE	HALLICRAFTERS PART NUMBER
R-17	200 ohms	25B714
R-18	56 ohms	23X20X560K

Either the alternate values or the original values as shown in your service parts list may be used for replacement. It is important however that if one of the alternate values is used the other must also be used.



1 ST IF = 1650 KC  
2 ND IF = 50.75KC





**SX-100**  
**MARK 2**

# SERVICE PARTS LIST

Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number
CAPACITORS			CAPACITORS (CONT.)			SWITCHES (CONT.)		
C1	Main Tuning, 3 Section (Inc. Gears), Variable	048-400389	C95	10 mmf, ±0.5 mmf, N4700, 500V; Ceramic	479-042100	S4,6	Switch, SPST Toggle; AVC and Noise Limiter switch, DPST Toggle; AM/CW-SSB	060-100138
C2	Bandspread Tuning, 3 Section (Inc. Gears), Variable	048-300347	C97,98,101	0.001 mfd, 20%, 500V; Molded Paper	499-034102	S5	Switch, DPST Toggle; Receive-Standby Part of R76	060-100265
C7,48,76,79,86	220 mmf, 10%, 500V; Ceramic	478-026221	C100	10 mfd, 50V; Elect.	045-200211	S7	Switch, DPST Toggle; Receive-Standby Part of R76	060-100192
C8,22,24,25,26	0.02 mfd, +60-20%, 500V; Ceramic Disc.	047-100242	C103,104	7500 mmf, 5%, 500V; Mica	470-422752	S8	Switch, Rotary, Calib. On-Off	060-100742
C9,14,15,16,17,47	0.005 mfd, 500V, GMV; Ceramic Disc.	047-100168	C105	8-50 mmf, N750, Trimmer	044-200437	***COILS AND TRANSFORMERS		
C10,27,46,70,111	100 mmf, 10%, 500V; Ceramic	491-026101-94	C107	62 mmf, 10%, 500V; Mica	470-213820	L1	Coil, Antenna Band 4	051-202027
C11,12,13,72	0.005 mfd, 20%, 1000V; Ceramic Disc.	047-200523	C110	3-25 mmf, Antenna Trimmer	046-000388	L2	Band 3	051-202026
C19,20,23,106,108	0.01 mfd, +60-20%, 450V; Ceramic	047-100224	C112	0.5 mfd, 20%, 200V; Molded Paper	499-014504	L3	Band 2	051-202026
C28,29,34,35	390 mmf, 5%, 500V; Mica	470-232391	C114	0.01 mfd, Fixed, GMV; 1400 W.V.D.C.	047-200752	L4	Band 1	051-202024
C30,36,38,41,43,109	2.2 mmf, 10%, 500V; Ceramic	047-200403-04	N: Negative Temp. Coefficient NPO: Zero Temp. Coefficient GMV: Guaranteed Minimum Value			L7	Choke, RF; 540 mh; 10 ohms DC	053-100107
C31,96,102	470 mmf, 10%, 500V; Mica	470-213471	*RESISTORS			** L6, C40	Coil, Mixer Band 4	051-201327
C32,85	0.22 mfd, 20%, 200V; Molded Paper	499-014224	R1	22 ohms	451-252220	** L9, C42	Band 3	051-201326
C33,37,113	0.047 mfd, 20%, 600V; Molded Paper	499-034473	R2,27,44	1 megohm	451-252105	** L10, C44	Bands 1 and 2	051-201319
C39,64	25 mmf, 10%, 500V; Ceramic	491-006250-95	R3,7,13	15 ohms	451-252150	L11	Coil, Oscillator Band 4	051-201321
C40	4-80 mmf, Mica	044-100395	R4,41,56	180 ohms	451-252161	L12	Band 3	051-201833
C42,44,50	3-30 mmf, Mica Trimmer	044-100396	R6,29	39K ohms, 1 watt	451-352393	** L13, C56, C57	Band 2	051-201821
C45	1.5-15 mmf, Mica Trimmer	044-200399	R8,45	2.2 megohms	451-252225	** L14, C50	Band 1	051-201326
C49,60	5 mmf, ±0.25 mmf, N3300, 500V; Ceramic	478-031050	R9,25,70	2.2K ohms	451-252222	L15	Choke, Filter; 6 HY 85 MA; 310 ohms DC	056-100218
C51	10 mmf, ±0.5 mmf, N3300, 500V; Ceramic	478-032100	R10,63	220K ohms	451-252224	L16	Coil, BFO	054-200053
C52	120-220 mmf, Mica Padder	044-200396	R11,30	3.3K ohms	451-252232	L17,16	Choke, RF	053-200008
C53	10 mmf, 10%, NPO, 500V; Ceramic	491-006100-22	R12,18,20	100K ohms	451-252104	L19	Coil, T-Bridge	051-202026
C54	220 mmf, 5%, N330, 500V; Ceramic	491-065221-73	R13,26,36	100 ohms	451-252101	T1,2	Transformer, 1st and 2nd IF (1650 KC)	050-200488
C55	240 mmf, 5%, 500V; Mica	047-232241	R15	6.2K ohms	451-252622	T3,4,5,6	Transformer, 1F (50.75 KC)	050-200489
C56	4.5-25 mmf, NPO; Ceramic Trimmer	044-200451	R16,34	3.3K ohms	451-352332	T7	Transformer, Power	052-300221
C57	11 mmf, ±0.25 mmf, N1500, 500V; Ceramic	479-015110	R17	500 ohms (Variable), "S" Meter Adj.	025-200022	T8	Transformer, Audio Output	055-000264
C59	2.5-15 mmf, Ceramic Trimmer	044-200452	R18	270 ohms	451-252271	T9	Transformer, 2nd Conversion Oscillator	050-300669
C61	320 mmf, 5%, N750, 500V; Ceramic	491-065321-94	R24,35	22K ohms	451-252223	** Trimmers and Capacitors indicated above are supplied with the coils but may also be ordered separately if desired. See "Capacitors" section.		
C62	660 mmf, 5%, 500V; Mica	470-232601	R26,50	120K ohms	451-252124	*** Coils are supplied less tuning slug. See "Miscellaneous" section for part numbers of slugs.		
C63	100 mmf, 10%, NPO, 500V; Ceramic	491-056101-22	R33	6.6K ohms, 1 watt	451-352662	TUBES AND LAMPS		
C65	7 mmf, ±0.25 mmf, N1500, 500V; Ceramic	470-011070	R36	10K ohms, 1 watt	451-352103	V1	6CB6; RF Amplifier	090-901115
C66	4.5-25 mmf, Ceramic Trimmer	044-200453	R37	4.5K ohms, 10 watts wire-wound	455-002452	V2,14	6AU6; 1st Mixer Crystal Calibrator	090-900806
C67	1300 mmf, 5%, 500V; Mica	470-442132	R39	470 ohms	451-252471	V3,13	6CA; 1st Conversion Oscillator 50.5 KC IF Amplifier	090-900830
C68	1000 mmf, 5%, N2200, 500V; Ceramic	047-200441	R40,67	470K ohms	451-252471	V4,5,6	6BA6; 1650 KC IF Amplifier; 2nd Mixer; and 50.5 KC IF Amplifier	090-901112
C69	1 mmf, ±0.1 mmf, N2200, 500V; Ceramic	478-220010	R42,57	220 ohms	451-252474	V7	6BJ7; Detector, AVC, and Noise Limiter	090-901113
C71	1 mmf, 10%, N750, 500V; Ceramic	491-060101-94	R43,56	390 ohms	451-252221	V6	6SC7; Audio Amplifier and BFO	090-900874
C73, 62	4700 mmf, 10%, 600V; Molded Paper	499-031472	R47	47 ohms, 1 watt	451-352470	V9	6K6GT; Audio Output	090-900656
C74,83	0.01 mfd, 10%, 600V; Molded Paper	499-031103	R49	820K ohms	451-252824	V10	OA2; Voltage Regulator	090-900001
C75,64	0.022 mfd, 10%, 600V; Molded Paper	499-031223	R51,52	6.6 ohms	451-252068	V11	5Y3GT; Rectifier	090-901111
C76	27 mmf, 10%, 500V; Ceramic	491-006270-94	R53	270K ohms	451-252274	V12	12AT7; 2nd Conversion Oscillator	090-900034
C77,81	0.047 mfd, 20%, 200V; Molded Paper	499-014473	R54,65,66	47K ohms	451-252473	LM1,2,3,4	Lamp, Pilot; Type 44	039-100003
C86	0.01 mfd, 20%, 600V; Molded Paper	499-034103	R59	10K ohms (Variable) "Sensitivity"	025-201160	CR1	1N295; Diode	019-201980
C87A,B,C	80 mfd, 450V; 20mfd, 450V; 20 mfd, 400V; Electrolytic	045-200113	R60	330K ohms	451-252334	JACKS, PLUGS, AND SOCKETS		
C89,90,91	0.022 mfd, 20%, 600V; Molded Paper	499-034223	R61	10K ohms	451-252103	S01	Jack, Phono	036-100041
C92,99	300 mmf, 10%, 500V; Mica	470-223301	R62	500K ohms (Variable), "Volume"	025-200534	S02	Socket, Octal	066-200296
C94	560 mmf, 5%, 500V; Mica	470-232561	R64	15 megohms	451-252156	S03	Jack, Phono	036-200046
			R68	390 ohms, 1 watt	451-352391	S04	Socket, 5-Pin	066-100186
			R69	560 ohms, 1 watt	451-352561	PL1	Line Cord and Plug	067-201669-02
			R72	12K ohms	451-252123	PL2	Plug, Octal; Jumper Plug, 5-Pin	035-100063-01
			R73	33K ohms, 1 watt	451-352333		Socket, Crystal	066-200673
			R74	1K ohm	451-252102		Socket, Dial Lamp	066-100226
			R75	15K ohms (Variable), "Notch Adj."	025-201231		Socket, Tube; Min. 7-Pin	066-100347
			R76	5K ohms (Variable), "Notch Depth", W/SW	025-201224			
			R77,60	220K ohms	451-252224			
			R76	4.7K ohms	451-252472			
			* All resistors are 10%, 1/2 watt, carbon type unless otherwise specified.					
			SWITCHES					
			S1A	Switch Wafers, Band Selector	062-200053			
			S1B	Antenna Section	062-200053			
			S1C	Mixer Section	062-200054			
			S1D	Oscillator Grid Section	062-200054			
			S2	Oscillator Plate Section	062-200055			
			S3	Detent and Shaft for Band Selector Switch	074-200172			
				Switch, Selectivity	060-200673			
				Switch, Response	060-00872			

## SERVICE PARTS LIST (Cont.)

Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number	Schematic Symbol	Description	Hallcrafters Part Number
JACKS, PLUGS, AND SOCKETS (CONT.)			MISCELLANEOUS (CONT.)			MISCELLANEOUS (CONT.)		
	Socket, Tube; Min. 8-Pin Mica	006-200500		Cam Assembly, Main Tuning	077-200914		Control Shaft)	
	Socket, Tube; Min. 7-Pin Mica	006-200505		Collar, Switch Shaft	077-100043		Pulley and Bushing Assembly (Band Spread Gang Shaft)	029 200203
	Socket, Tube, Min. 7-Pin, JAN type	006-100644		Core, Iron (RF Osc.)	003-101543		Rubber Channel (Escutcheon)	016-100118-02
	Socket, Tube, Min. 7-Pin, JAN type	006-200633		Core, Iron (For L1,2,6, 8 and 13)	077-100068		"S" Meter Assembly (Complete)	082-000280
	Socket, Min. 7-Pin, J type	006-100759		Core, Iron (For L16)	003-103289	M1	Front Cover, "S" Meter (Part of "S" Meter Assembly)	
KNOB AND KNOB SKIRT ASSEMBLIES				Coupler, Flexible	029-100051		Set Screw, 6-32 x 3/8"	003-103186
	Knob, Sensitivity or Volume	015-001474	X1,2	Coupler, Solid	029-000264		Bristol Head	
	Knob, Selectivity	015-001474		Coupler, T-Bridge Coil	029-100301		Set Screw, 10-32 x 21/64"	003-101712
	Knob, Pitch Control	015-001474		Shaft			Slotted Head	
	Knob, Response	015-001472	X3	Cover, Bottom	063-201752		Set Screw, 8-32 x 3/16"	003-103182
	Knob, Notch Frequency	015-000936		Matched Crystal Pair; consists of one 1600 KC crystal and one 1700 KC crystal	019-301902		Bristol Head	
	Knob, Notch Depth	015-000936		Crystal Marker, 100 KC	019-202351		Shaft, Notch Freq. and Notch Depth	074-101052
	Knob, Main Tuning or Band Spread	015-001499		Dial Cable Assembly	036-100029		Shaft, Band Spread	074-100835
	Knob, Antenna Trimmer or Callb. On/Off	015-000936		Dial Scale (Band Spread)	063-000602		Shaft, Pinion	074-200800
	Knob, Band Selector	015-001472		Dial Scale (Main Tuning)	063-000503		Medallion, "h" (Part of "S" Meter Assembly)	007-100592
MISCELLANEOUS				Foot, Mounting (Cabinet)	016-100007		Shield, Cover	069-200643
	Ball Bearing, 1/8" Dia.	077-100505		Flywheel	071-000210		Shield, Tube (7-Pin)	069-100306
	Ball Bearing, .083" Dia.	077-101099		Rubber Channel	016-101245		Shield, Tube (9-Pin)	069-100519
	Bracket, Gear Adj.	067-104315		Gear, Drive	026-200258		Shield, Tube (9-Pin Osc.)	069-100097
	Bushing, BFO Stop	077-101023		Gear, 99-Tooth 48-Pitch (Fixed)	026-200514		Spring, Anti-backlash	075-100231
	Bushing, Dial (Band Spread)	077-200906		Gear, 99-Tooth 48-Pitch (Loose)	026-200515		Spring, Dial Cord Tension	075-100139-00
	Cabinet, Bottom Section	066-401067		Gear, 55-Tooth 48-Pitch	026-200516		Spring, Compression	075-200332
	Cabinet, Front Panel	066-400426		Insulator, Bakelite; .156" id., .5" od, 1/4" th.	008-100723		Spring, Flywheel	075-100345
	Cabinet, Top Cover	066-401066		Lock, Ltne Cord (Male)	076-100397-01 TS1		Spring, Take-up	075-100326
	Cam Assembly, Band Spread	077-200916		Lock, Line Cord (Female)	076-100397-02 TS2		Terminal Strip, Antenna	066-100032
				Pad, Brake	008-102886		Terminal Strip, Speaker	086-100576
				Panel, Front	066-400429		Window, Band Spread	022-000500
				Pilot Light Assembly	086-100226		Dial	
				Post, Latch	011-100226		Window, Main Tuning	022-000499
				Pulley and Bushing Assembly (Band Spread)	028-200201		Dial	
							100 KC Marker Xtal Assembly	001-902508