

Hallicrafters, Inc.

Model: S17

Chassis:

Year: Pre October 1938

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

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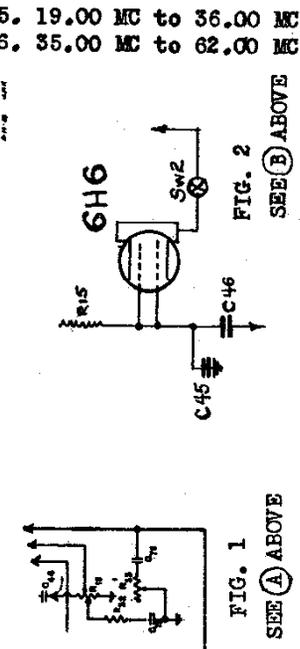
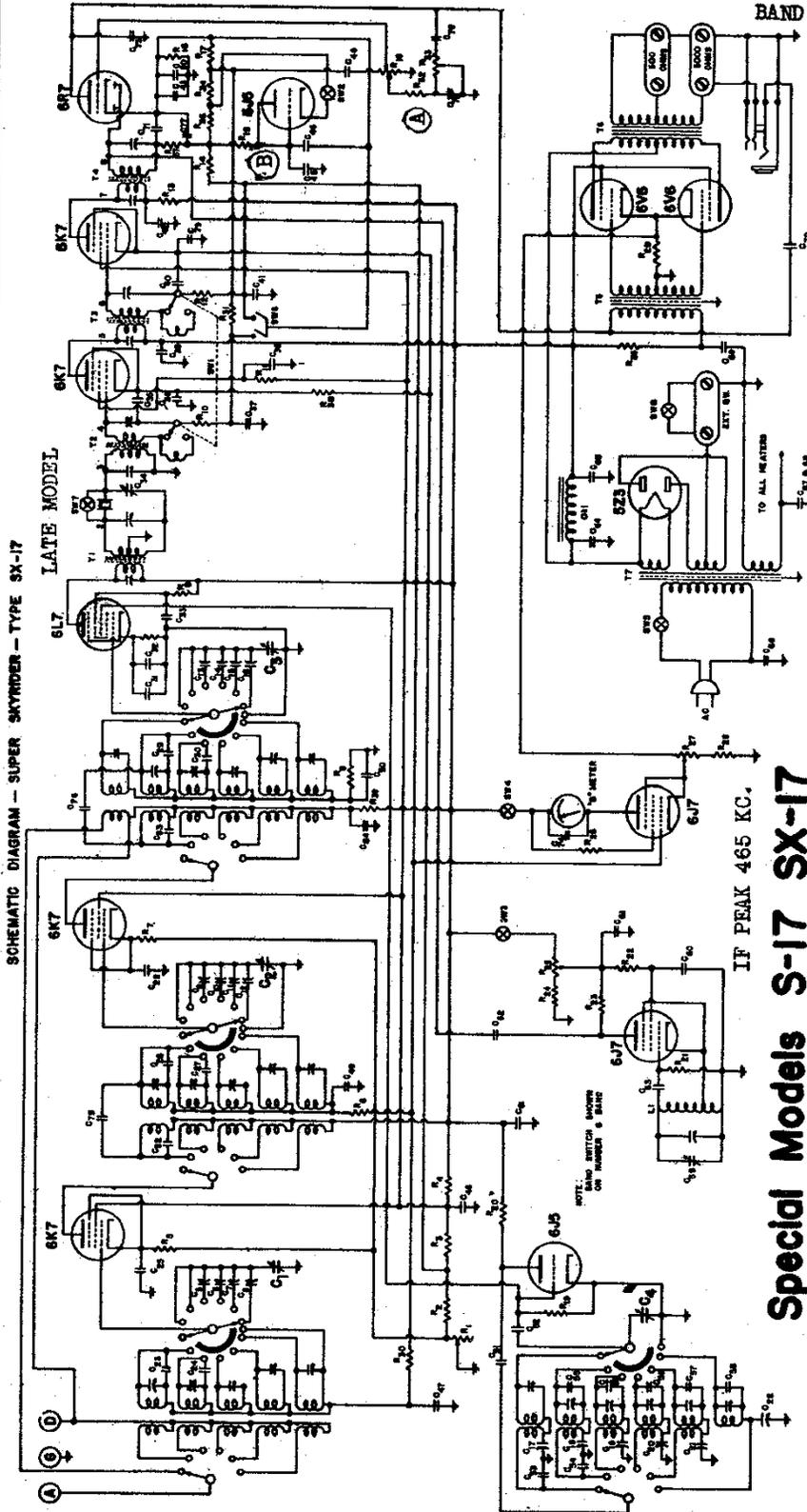
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MODELS S-17, SX-17 Late
Super Skyrider
Schematic Changes

HALLICRAFTERS, INC.

- BAND 1. 545 KC to 1,555 KC BAND 3. 4.2 MC to 10.2 MC
2. 1,545 KC to 4,300 KC 4. 9.8 MC to 20.5 MC
5. 19.00 MC to 36.00 MC
6. 35.00 MC to 62.00 MC



Special Models S-17 SX-17

CHANGES FOUND IN SOME LATE MODELS SUPERCEDING THE ABOVE SCHEMATIC DIAGRAM.

An .0005 600v condenser connected across the 6V6 grids with connection between the end and R33 and the junction of R 32 - C72 as shown, FIG.1. Also the use of 6H6 tube as shown in Fig. 2, instead of 6J5 as Noise Limiter. Also capacitor and Resistor values as follows:
C78 .1 mfd. 600v. R 32 60M ohms.
R29 400 ohms 2watts. R 33 200 M ohms.

HALLICRAFTERS, INC.

MODELS S-17, SX-17
Super Skyrider
Alignment, Voltage

R. F. ALIGNMENT PROCEDURE

ON BAND #1, OR BROADCAST, USE A .0002 MFD CONDENSER IN SERIES WITH THE OUTPUT LEAD FROM GENERATOR TO RECEIVER. ON THE OTHER BANDS USE A 400 OHM RESISTOR. BE SURE JUMPER FROM DOUBLET POST TO GND. REMAINS CONNECTED WHEN ALIGNING THE RECEIVER.
ALL PAD ADJUSTMENTS (LOCATED ON THE TOP OF THE CHASSIS) ARE FOR THE LOW FREQUENCY ENDS OF THE BANDS.
ALL TRIMMER ADJUSTMENTS (LOCATED ON THE BOTTOM OF THE CHASSIS) ARE FOR THE HIGH FREQUENCY ENDS OF THE BANDS.
REDUCE THE R.F. GAIN CONTROL BELOW THE POINT OF BLOCKING OR OVERLOADING; ALSO BE SURE THAT THE CRYSTAL SWITCH IS IN THE "OUT" POSITION AS WELL AS THE A.V.C. SWITCH IN THE "OFF" POSITION.
BE SURE TO CHECK IMAGES - IMAGES WILL FALL A LITTLE LESS THAN 1,000 KC LOWER IN FREQUENCY THAN THE FUNDAMENTAL OR HARMONIC OF THE SIGNAL FROM THE GENERATOR. BECAUSE OF THE TWO RF STAGES IMAGES WILL BE GREATLY ATTENUATED IN COMPARISON TO A UNIT WITH ONE STAGE OF RF.
THE TUNING GANG MUST BE ROCKED WHEN MAKING THESE ADJUSTMENTS.

NOTE#1 HARMONICS OF SUITABLE FREQUENCIES MAY BE USED IF THE FOLLOWING SUGGESTED FREQUENCIES ARE NOT AVAILABLE.

- " 2 IT IS NECESSARY TO REPEAT EACH PAIR OF OPERATIONS SEVERAL TIMES UNTIL NO CHANGE IS NOTED.
- " 3 GREAT CARE SHOULD BE EXERCISED IN ALIGNING AND ACCURATELY RENOVATING EACH CIRCUIT IN THE SPECIAL SUPER SKYRIDER; OTHERWISE YOUR ERRORS WILL BE CUMULATIVE AND THE SET WILL FUNCTION POORLY.

CRYSTAL OPERATION

TO PROPERLY ADJUST THE CRYSTAL CIRCUIT FOR BEST PERFORMANCE THE FOLLOWING PROCEDURE SHOULD BE CAREFULLY FOLLOWED:

HAVE THE AVC SWITCH IN THE "OFF" POSITION. TUNE IN SOME STATION TRANSMITTING CONTINUOUSLY. BE VERY CAREFUL TO GET THE SIGNAL RIGHT ON THE NOISE. AFTER YOU ARE SURE THAT YOU HAVE THE SIGNAL RESONATED PERFECTLY, OPERATE THE "BFO INJECTOR" CONTROL AND LEAVE THE POINTER OF THAT KNOB IN A VERTICAL POSITION. YOU SHOULD HEAR A WHISTLE, OR BEAT NOTE. AFTER THE BFO IS ON ROTATION OF THE "PITCH CONTROL" WILL CHANGE THE TONE OF THE BEAT NOTE. PROPER OPERATION OF THIS CONTROL WILL BE INDICATED BY HEARING THE SIGNAL TWICE IN ONE COMPLETE ROTATION OF THE KNOB; THESE BEING TWO POSITIONS AT WHICH NO SIGNAL, OR WHISTLE, WILL BE HEARD. THESE TWO POSITIONS ARE KNOWN AS THE "ZERO BEAT" POSITIONS.

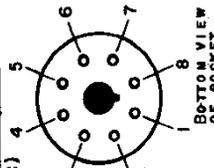
NOW SNAP THE "CRYSTAL" SWITCH TO THE "ON" POSITION. YOU WILL NOTICE A REDUCTION IN NOISE. CAREFULLY RETURN THE SIGNAL USING THE BAND SPREAD DIAL. NOTICE HOW SHARPLY THE SIGNAL PEAKS. NOW TUNE THROUGH THE SIGNAL AND FIND WHICH SIDE OF THE SIGNAL IS THE WEAKER. TUNE IN THE WEAKER SIDE AND THEN CAREFULLY ADJUST THE "CRYSTAL PHASING" CONTROL UNTIL THE SIGNAL IS UNDETECTABLE. GOING BACK TO THE OTHER SIDE OF THE SIGNAL SHOULD FIND NO CHANGE IN ITS ORIGINAL VOLUME, AND KNIFE-LIKE SELECTIVITY RESULTING. USE WHICHEVER SIDE OF ZERO-BEAT ADJUSTMENT OF THE "PITCH CONTROL" IN CONJUNCTION WITH CRITICAL ADJUSTMENT OF THE "PHASING CONTROL" GIVES THE GREATER REJECTION OF THE INTERFERING SIGNAL.

NOTE*** THE PHASING CONTROL AFFECTS THE SENSITIVITY AND SELECTIVITY OF THE RECEIVER WHETHER THE CRYSTAL IS IN THE CIRCUIT OR NOT.

ALIGNMENT PROCEDURE FOR SPECIAL SUPER SKYRIDER MODELS S-17, SX17

THE FOLLOWING MEASUREMENTS MADE WITH 1000 OHMS PER VOLT METER AND TAKEN FROM THE POINT INDICATED TO GROUND. ANTENNA AND GROUND DISCONNECTED AND R. F. AND A. F. GAIN CONTROLS SET AT MAXIMUM. LINE VOLTAGE OF 115 AT THE TIME MEASUREMENTS WERE TAKEN. NORMAL TOLERANCE ALLOWS VARIATION OF PLUS OR MINUS 10% FROM THE INDICATED VALUES. "DL" MEANS DEAD LUG BUT WILL INDICATE VOLTAGE WHEN USED AS A TIE.

TUBE	FUNCTION	1	2	3	4	5	6	7	8
6K7	RF AMP (1)		260	100	8	50 OFF	6.3	8	
6K7	RF AMP (2)		260	100	8	50 OFF	6.3	8	
6L7	MIXER		260	85	-13	DL	6.3	2.5	
6J5G	OSC		175	DL	-13	DL	6.3	0	
6K7	IF AMP (1)		260	100	11	100	6.3	10	
6K7	IF AMP (2)		260	100	10	50 OFF	6.3	10	
6RT6	2ND DET A.V.C.		175	1	1	0	6.3	-7	
6V6G	1ST AUDIO OUTPUT		300	250	0	DL	6.3	16	
6V6G	OUTPUT		300	250	0	DL	6.3	16	
6J7	BEAT OSC. (TUBE OUT)		250	240	0	250	6.3	0	
6J7B	WETTER AMP		260	120	10	250	6.3	10	
6J5	SILENCER (ON)		-2	-2	-2	-3.5	6.3	-2	



HAVE THE CONTROLS SET IN THE FOLLOWING POSITIONS:

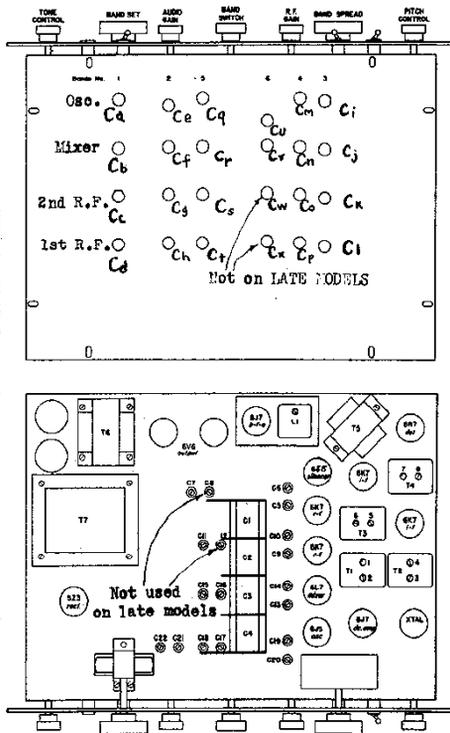
- NOISE SILENCER "OFF" (SWITCH TO THE LEFT)
- B.F.O. INJECTOR "OFF"
- A.F. AND R.F. GAIN CONTROLS ON FULL.
- SELECTIVITY SWITCH ON "SHARP" POSITION.
- CRYSTAL PHASING CONDENSER MIDWAY (POINTER STRAIGHT UP).
- A.V.C. SWITCH "OFF".
- CRYSTAL SWITCH "IN".
- BAND SWITCH ON #1 BAND - TUNING GANG OPEN.
- REMOVE OSCILLATOR TUBE.
- REMOVE 6L7 GRID CAP.
- CONNECT SIGNAL GENERATOR TO GRID OF 6L7 TUBE THROUGH A .1 MFD CONDENSER.
- TUNE SIGNAL GENERATOR TO 465 KC AND THEN ADJUST THE FOLLOWING TRIMMERS FOR MAXIMUM OUTPUT: T-4, 8; T3-5, 6; T2-3, 4; T1-1, 2; THROW CRYSTAL SWITCH TO OUT POSITION AND READJUST TRIMMERS #2, 3 FOR MAXIMUM OUTPUT.
- WHEN THE "SELECTIVITY" SWITCH IS SNAPPED INTO THE "BROAD" POSITION A SLIGHT DROP IN GAIN SHOULD BE INDICATED. A RECTIFIER TYPE OUTPUT METER IS SUBSTITUTED AS AN OUTPUT INDICATOR.
- ALIGNMENT USING A 465 KC CRYSTAL

SHOULD THE RECEIVER BE A CRYSTAL MODEL IT IS NECESSARY THAT THE CRYSTAL BE USED IN AN EXTERNAL OSCILLATOR IN PLACE OF A SIGNAL GENERATOR SUCH AS THE ABOVE. THE OUTPUT OF THIS CRYSTAL-CONTROLLED OSCILLATOR IS THEN FED TO THE GRID OF THE 6L7 TUBE AND THE ABOVE PROCEDURE FOLLOWED. WHEN THE 1 F AMPLIFIER HAS BEEN ALIGNED FROM THE CRYSTAL OSCILLATOR OUTPUT, RE-INSERTING THE CRYSTAL IN THE RECEIVER WILL SHOW VERY LITTLE DIFFERENCE IN OUTPUT WHETHER THE CRYSTAL IS "IN" OR "OUT" OF THE CIRCUIT AS INDICATED BY THE CRYSTAL SWITCH.

HALLICRAFTERS, INC.

MODELS S-17, SX-17
 Super Skyrider
 Socket, Trimmers
 Alignment, Parts

OPR.	BAND	RECEIVER DIAL SETTING	SIGNAL GENERATOR FREQUENCY WITH	ADJUST OSC. WITH	TRIMMERS ADJ. FOR MAX GAIN	ADJUST OSC. FOR MAX GAIN	PADDERS
1	1	600KC	600KC	CA	Cb Cc Cd	C22	
2	1	1400KC	1400KC	CA	Cb Cc Cd	C22	
3	2	1800KC	1800KC	CE	Cf Cg Ch	C21	
4	2	4000KC	4000KC	CE	Cf Cg Ch	C21	
5	3	5000KC	5000KC	Ci	Cj Ck Cl	C19	C5 C9 C13
6	3	9000KC	9000KC	Ci	Cj Ck Cl	C20	C6 C10 C14
7	4	10,000KC	10,000KC	Cm	Cn Co Cp	C18	C7 C11 C15
8	4	18,000KC	18,000KC	Cm	Cn Co Cp	C18	C7 C11 C15
9	5	20,000KC	10,000KC	Cq	Cr Cs Ct	C17	C16
10	5	30,000KC	10,000KC	Cq	Cr Cs Ct	C17	C16
11	6	40,000KC	20,000KC	Cu	Cv		
12	6	60,000KC	20,000KC	Cu	Cv		



OHMS	WATTAGE	PARTS No.	SWITCHES
20,000	"	20-072	1 SELECTIVITY DPDT
1,000,000	"	25-013	2 NOISE SILENCER ON CONTROL
100,000	1/3	20-093	3 BFO (MOUNTED ON CONTROL)
10,000	"	20-063	4 "W" METER (MOUNTED ON R.F. GAIN CONTROL)
100,000	"	20-093	5 A.C. OFF AND ON (MOUNTED ON SEND RECEIVE SPST ON TONE CONTROL)
20,000	"	20-072	6 SEND RECEIVE SPST ON TONE CONTROL
150	"	22-011	7 CRYSTAL SPST
1,000	"	20-033	8 AVC DPST

NO.	SUPER-SKYRIDER CAPACITY	MODELS S-17, SX-17 TYPE MAIN	VOLTAGE	PARTS No.	NO.	CAPACITY	TYPE	VOLTAGE	PARTS No.	LIST OF RESISTORS	OHMS	WATTAGE
1	420	MMFD		48-018	60	.01	MFD	600	45-002	R. F. GAIN	5,000	
2					61	.01	"	600	45-002	1/3	500	
3					62	.0025	MFD		40-021	2.5	10,000	
4					63	.0025	MFD		40-021	1/3	10,000	
5	100	"	CANG PAD	44-019	64	.16	"	400	40-024	"	100,000	
6	100	"	"	44-019	65	.16	"	400	42-019	"	100,000	
7	310	"	"	44-020	66	.01	"	600	45-002	"	10,000	
8	880	"	"	44-020	67	.002	"	600	40-013	"	10,000	
9	1,400	"	"	44-018	68	.002	"	400	40-013	"	10,000	
10	590	"	"	44-018	69	.01	"	400	41-013	"	10,000	
11	1,000	"	"	44-017	70	.001	"	600	45-002	"	10,000	
12	350	"	"	44-017	71	.005	"	600	40-003	"	10,000	
13	1,400	"	"	44-018	72	.005	"	600	45-009	"	10,000	
14	590	"	"	44-017	73	.005	"	600	43-008	"	10,000	
15	1,000	"	"	44-017	74	.005	"	600	40-019	"	10,000	
16	350	"	"	44-017	75	.10	MMFD	600	40-021	"	10,000	
17	180	"	"	44-016	76	.10	"	600	40-002	"	10,000	
18	120	"	"	44-016	77	.02	MFD	400	45-010	"	10,000	
19	1,000	"	"	44-017	78	.05	"	400	41-005	"	10,000	
20	350	"	"	44-017	79	.05	"	400	41-005	"	10,000	
21	180	"	"	44-016	80	.1	"	400	41-007	"	10,000	
22	120	"	"	44-016	81	.002	"	600	40-013	"	10,000	
23	10	"	MICA	40-021	82	.10	MMFD	600	40-021	"	10,000	
24	10	"	"	40-021	83	.10	"	600	40-021	"	10,000	
25	.002	MFD	"	40-013	84	.05	MFD	600	45-007	"	10,000	
26	10	MMFD	"	40-021	85	.10	MMFD	600	40-021	"	10,000	
27	10	"	"	40-021					40-021			
28	.002	MFD	"	40-013					40-013			
29	10	MMFD	"	40-021					40-021			
30	10	"	"	40-021					40-021			
31	.002	MFD	"	40-013					40-013			
32	.05	"	"	41-005					41-005			
33	.05	"	"	45-007					45-007			
34	.25	MMFD	AIR	48-012					48-012			
35	.05	MFD	"	41-005					41-005			
36	.05	"	"	41-005					41-005			
37	.05	"	"	41-005					41-005			
38	.1	"	"	45-008					45-008			
39	.25	"	"	45-009					45-009			
40	.05	"	"	41-005					41-005			
41	.05	"	"	41-005					41-005			
42	.1	"	"	45-008					45-008			
43	10	"	"	42-002					42-002			
44	.05	MFD	"	41-005					41-005			
45	.002	"	MICA	40-013					40-013			
46	.1	"	"	41-007					41-007			
47	.05	"	"	41-008					41-008			
48	.1	"	"	45-008					45-008			
49	.05	"	"	41-005					41-005			
50	.05	"	"	41-005					41-005			
51	.002	"	"	40-013					40-013			
52	100	MMFD	"	40-007					40-007			
53	50	"	"	40-002					40-002			
54	50	"	"	40-021					40-021			
55	10	"	"	40-021					40-021			
56	15	"	"	40-022					40-022			
57	15	"	"	40-022					40-022			
58	25	"	"	40-024					40-024			
59	25	"	AIR	48-012					48-012			