

Hallicrafters, Inc.

Model: **S17**

Chassis:

Year: **Pre October 1938**

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

Riders Volume 12 - HALLICRAFTERS 12-6

Riders Volume 9 - HALLICRAFTERS 9-8

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MODELS S-17,
SX-17 (1939)

THE HALLICRAFTERS INC.

NOTE: 6H6 Silencer
voltages; pins 3, 4, 5,
and 8 are -2 volts;
pin 7, 6.3 volts. See
chart VOL. IX.

2 " " " " " 1

400
10,000
60,000
2,000
10,000
1,500
1,280

29 31 32 38 40 41 42

400 200 200 450 400 41 42
WATTAGE
R.F. Gain
1/3
1/3

.1 mfd
.1 " mfd
.1 " mfd
.0005 " mfd
.25 " OHMS
10,000 95
100,000
10,000

78 79 86 87 88
200 400 400 400
No.

200 400 450

Mica
25 " "

8

69

36 38 39 42 45 46 48 69

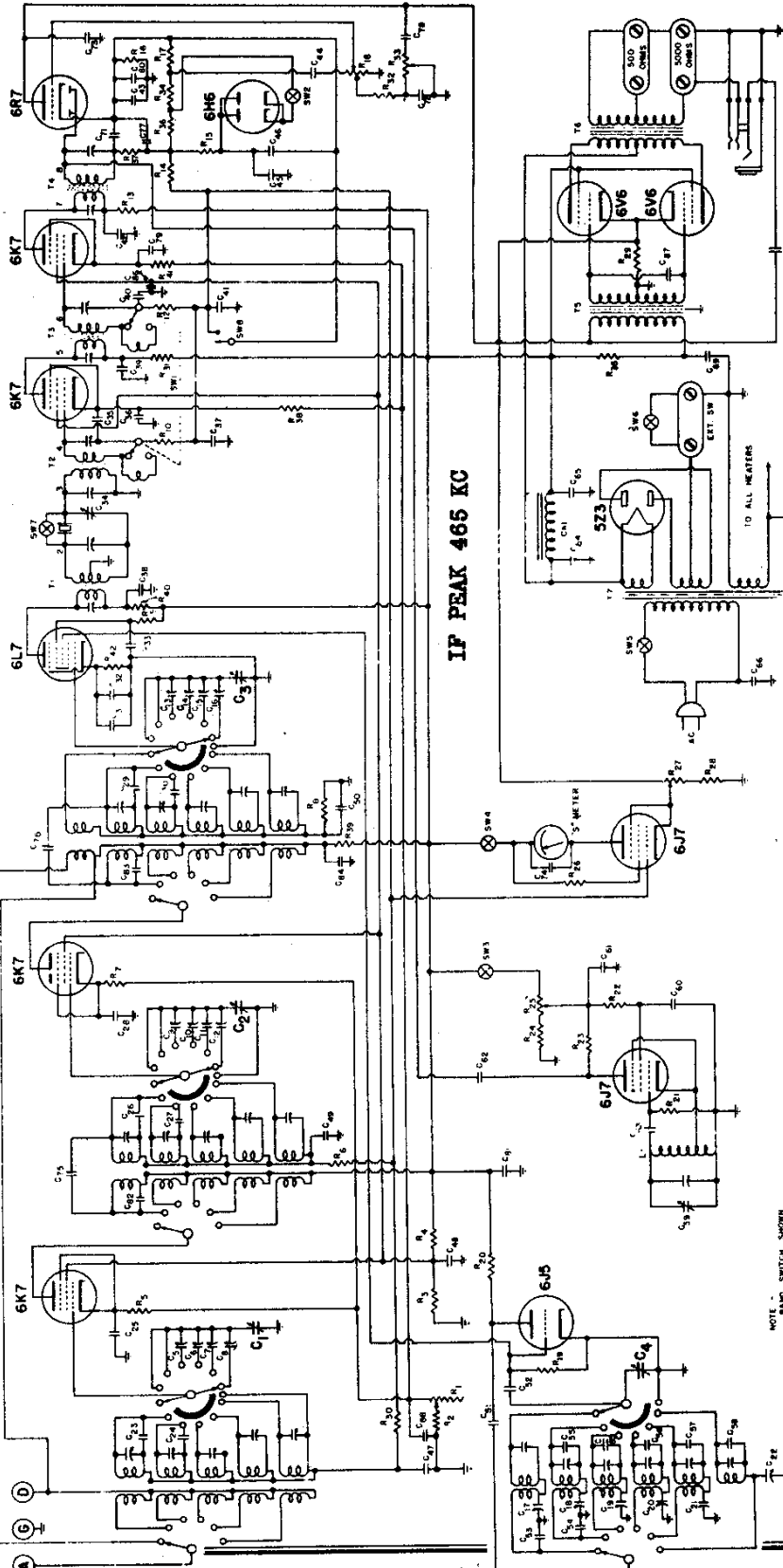
For other parts see S-17, VOL. IX

TYPE Air

CAPACITY

NO.

SKYRIDER MODELS S-17, SX-17



FOR OTHER SERVICE DATA SEE S-17, VOL. IX.

NOTE: 6H6 Silencer
voltage; pins 3, 4, 5,
and 8 are -2 volts;
pin 7, 6.3 volts.

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 REMONOTING 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 NOSE. 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; THERE 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 RETUNE 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 INADVISABLE. 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	
6V6G	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	15	
6V6G	OUTPUT		300	250	0	DL	6.3	15	
6J7	BEAT OSC. (TUBE OUT)		250	240	0	250	6.3	0	
6J7B	WATER AMP		250	120	10	250	6.3	10	
6J5	SILENCER (ON)		-2	-2	-2	-3.5	6.3	-2	

INTERMEDIATE FREQUENCY ALIGNMENT (465 KC)

HAVE THE CONTROLS SET IN THE FOLLOWING POSITIONS:

NOISE SILENCER "OFF" (SWITCH TO THE LEFT)

B.F.O. INJECTOR "OFF" (SWITCH TO THE LEFT)

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 6L7 GRID CAP.

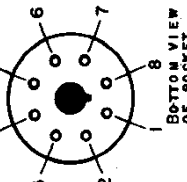
CONNECT SIGNAL GENERATOR TO GRID OF 6L7 TUBE THROUGH A .1 MFD CONDENSER.

TUNE SIGNAL GENERATOR TO 465 KC AND THEN ADJUST THE FOLLOWING TRIMMERS FOR MAXIMUM OUTPUT: T-4, T-5, T-6, T-7, T-8, T-9, T-10, T-11, T-12; THROW CRYSTAL SWITCH TO OUT POSITION AND READJUST TRIMMERS T-2, T-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.

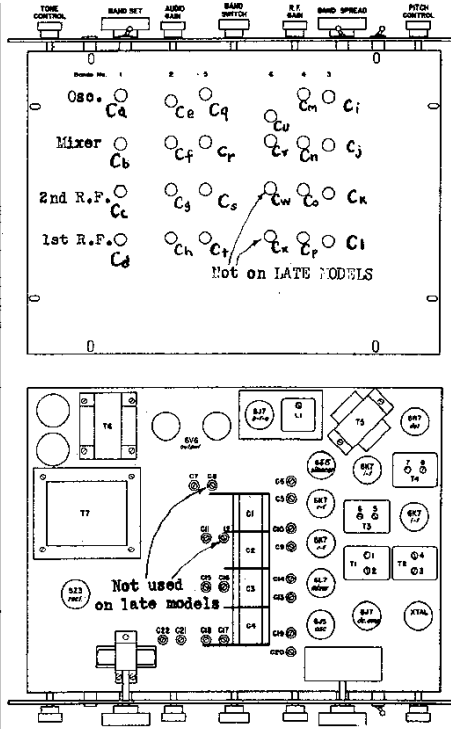


BOTTOM VIEW OF SOCKET

HALLICRAFTERS, INC.

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

OPR.	BAND	RECEIVER DIAL SETTING	SIGNAL GENERATOR FREQUENCY WITH	ADJUST OSC.	TRIMMERS ADJ. FOR MAX GAIN	ADJUST OSC.	PADDER ADJ. FOR MAX GAIN
1	1	600KC	600KC	CA	CB CC CD	C22	
2	2	1400KC	1400KC	CE	CF CG CH	C21	
3	3	1800KC	1800KC				
4	4	4000KC	4000KC				
5	5	5000KC	5000KC				
6	6	9000KC	9000KC				
7	7	10,000KC	10,000KC				
8	8	18,000KC	18,000KC				
9	9	20,000KC	20,000KC				
10	10	30,000KC	30,000KC				
11	11	40,000KC	40,000KC				
12	12	60,000KC	60,000KC				



SWITCHES	PARTS No.	WATTAGE	OHMS	No.
1 SELECTIVITY DPDT	20-072	"	20,000	32
2 NOISE SILENCER SPST	25-013	"	1,000,000	33
3 BFO (MOUNTED ON CONTROL)	20-093	"	100,000	34
4 1/2" METER (MOUNTED ON R.F. GAIN CONTROL)	20-063	"	10,000	35
5 A.C. OFF AND ON (MOUNTED ON TONE CONTROL)	20-072	"	100,000	36
6 SEND RECEIVE SPST	22-011	"	20,000	37
7 CRYSTAL SPST	20-033	"	150	38
8 AVC DPST	20-033	"	1,000	39

NO.	MODELS S-17, SX-17	CAPACITY	TYPE	VOLTAGE	PARTS No.	LIST OF RESISTORS	WATTAGE	OHMS	NO.
1	48-018	400	MICA	600	45-002	R. F. GAIN	1/3	5,000	25-021
2	44-019	400	"	600	45-002	"	2.5	10,000	24-040
3	44-020	400	"	600	45-002	"	2.5	10,000	24-037
4	44-018	400	"	600	45-002	"	1/3	10,000	24-037
5	44-017	400	"	600	45-002	"	"	100,000	24-038
6	44-016	400	"	600	45-002	"	"	100,000	24-038
7	44-015	400	"	600	45-002	"	"	100,000	24-038
8	44-014	400	"	600	45-002	"	"	100,000	24-038
9	44-013	400	"	600	45-002	"	"	100,000	24-038
10	44-012	400	"	600	45-002	"	"	100,000	24-038
11	44-011	400	"	600	45-002	"	"	100,000	24-038
12	44-010	400	"	600	45-002	"	"	100,000	24-038
13	44-009	400	"	600	45-002	"	"	100,000	24-038
14	44-008	400	"	600	45-002	"	"	100,000	24-038
15	44-007	400	"	600	45-002	"	"	100,000	24-038
16	44-006	400	"	600	45-002	"	"	100,000	24-038
17	44-005	400	"	600	45-002	"	"	100,000	24-038
18	44-004	400	"	600	45-002	"	"	100,000	24-038
19	44-003	400	"	600	45-002	"	"	100,000	24-038
20	44-002	400	"	600	45-002	"	"	100,000	24-038
21	44-001	400	"	600	45-002	"	"	100,000	24-038
22	44-000	400	"	600	45-002	"	"	100,000	24-038
23	44-000	400	"	600	45-002	"	"	100,000	24-038
24	44-000	400	"	600	45-002	"	"	100,000	24-038
25	44-000	400	"	600	45-002	"	"	100,000	24-038
26	44-000	400	"	600	45-002	"	"	100,000	24-038
27	44-000	400	"	600	45-002	"	"	100,000	24-038
28	44-000	400	"	600	45-002	"	"	100,000	24-038
29	44-000	400	"	600	45-002	"	"	100,000	24-038
30	44-000	400	"	600	45-002	"	"	100,000	24-038
31	44-000	400	"	600	45-002	"	"	100,000	24-038
32	44-000	400	"	600	45-002	"	"	100,000	24-038
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35	44-000	400	"	600	45-002	"	"	100,000	24-038
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37	44-000	400	"	600	45-002	"	"	100,000	24-038
38	44-000	400	"	600	45-002	"	"	100,000	24-038
39	44-000	400	"	600	45-002	"	"	100,000	24-038
40	44-000	400	"	600	45-002	"	"	100,000	24-038
41	44-000	400	"	600	45-002	"	"	100,000	24-038
42	44-000	400	"	600	45-002	"	"	100,000	24-038
43	44-000	400	"	600	45-002	"	"	100,000	24-038
44	44-000	400	"	600	45-002	"	"	100,000	24-038
45	44-000	400	"	600	45-002	"	"	100,000	24-038
46	44-000	400	"	600	45-002	"	"	100,000	24-038
47	44-000	400	"	600	45-002	"	"	100,000	24-038
48	44-000	400	"	600	45-002	"	"	100,000	24-038
49	44-000	400	"	600	45-002	"	"	100,000	24-038
50	44-000	400	"	600	45-002	"	"	100,000	24-038
51	44-000	400	"	600	45-002	"	"	100,000	24-038
52	44-000	400	"	600	45-002	"	"	100,000	24-038
53	44-000	400	"	600	45-002	"	"	100,000	24-038
54	44-000	400	"	600	45-002	"	"	100,000	24-038
55	44-000	400	"	600	45-002	"	"	100,000	24-038
56	44-000	400	"	600	45-002	"	"	100,000	24-038
57	44-000	400	"	600	45-002	"	"	100,000	24-038
58	44-000	400	"	600	45-002	"	"	100,000	24-038
59	44-000	400	"	600	45-002	"	"	100,000	24-038