Hallicrafters, Inc.

Model: SX-23	Chassis:	Year: Pre August 1939
Power:	Circuit:	IF:
Tubes:		
Bands:		

Resources
Riders Volume 10 - HALLICRAFTERS 10-10
Riders Volume 10 - HALLICRAFTERS 10-11
Riders Volume 10 - HALLICRAFTERS 10-12
Riders Volume 10 - HALLICRAFTERS 10-13
Riders Volume 10 - HALLICRAFTERS 10-14

MODEL SX23
Super Skyrider
Operating Data
Antenna Notes

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MODEL SX24
Skyrider Defiant
Antenna Notes

control adjusts the sensitivity of the receiver by varying the cathode bias IF amplifiers. Maximum sensitivity will be obtained with this control rose as far as it will go. When this is done a switch will be operated, the hich will be described under S meter.

e receiver under varying local conditions of noise, it will be advisable to s "RF" and "AF" gain controls until the most favorable signal to noise ratio until such a time as you have become thoroughly familiar with the function of It is suggested that the R. F. gain be advanced until the white dot on the ing approximately at the "8" on SKYRIDER. Later experiment to find the best a given signal bearing in mind that with the selectivity switch in any of the

CRYSTAL OPERATION

se controls which must be properly adjusted for most satisfactory crystal fil-. Their operation shall be treated in the order in which they are called upon eir functions in the receiver.

witch -

se positions of selectivity with the Automatic Volume Control circuit operigh fidelity broadcast reception the selectivity switch should be rotated to s position.

ch placed in the "IF Sharp" position the selectivity is greatly increased at acrifice in tone reproduction.

/stal" position affords maximum selectivity with automatic volume control. will have to be accurately resonated on each desired signal because this step y greatly attenuates the side-bands of a modulated carrier. You will notice ple into which the signal falls, only in the exact center of which will in- of a good order be maintained. The "Phone Crystal" position is recommended ns of extreme interference where adjacent channel stations are causing objeodynes.

switch in a counter-clockwise position still farther allows the receiver to be hree selectivity positions with the A.V.C. circuit disconnected. When the witch is so adjusted it is then necessary to manually adjust the "RF Gain" to al under control.

ystal" position the maximum selectivity of the set is obtained. The drop in lse is immediately apparent. This position is recommended only for the receode signals because the selectivity is so great phone signals are practically To realize the maximum in performance from the SKYRIDER 23 crystal circuit, two controls should be adjusted as described. First tune in an extremely nal.

ntrol" should be turned until a beat note is audible. Then adjust the main l and go across the signal. Two distinct signals will be heard either side of r the null position in the center tuning through which no signal is audible. le low or the high frequency side of the signal (that which appears either beat) is the weaker. Leave the receiver set on whichever of the two signals . Now very carefully adjust the "Phasing Control" until you have eliminated s much as possible. As an additional step to see whether you have chosen the high frequency image to reject, rotate the "Pitch Control" through zero beat side so that a beat note of approximately the same pitch as before is obtained. s receiver and it will be apparent that the signal on the other side of zero arred to the markings on the dial at which this signal was first tuned in) is lume. Again carefully adjust the "Phasing Control" and compare the strength image when this side has been phased out, or rejected. When you have demothe phasing or rejection is better on either the low or high frequency audio sing control is left in that position and you then have the SKYRIDER 23 ad- s extremely selective crystal action for which it is noted.

and Phasing Controls" should be called upon frequently to demonstrate how, per adjustment, extreme conditions of interference can be coped with. Frequentht adjustment of the pitch control will place a desired signal in the clear when nals differ in frequency by only a few hundred cycles. Minute adjustment of the ntrol will frequently obliterate an interfering signal by dropping it in the t.

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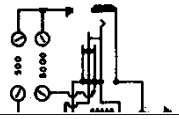
MODEL SX23
Super Skyrider
Schematic,Notes

23

TUBE LINE-UP



6SK7 R.F. Amplifier

MODEL SX23, Super Skyrider
R-F Switching Schematic
Notes

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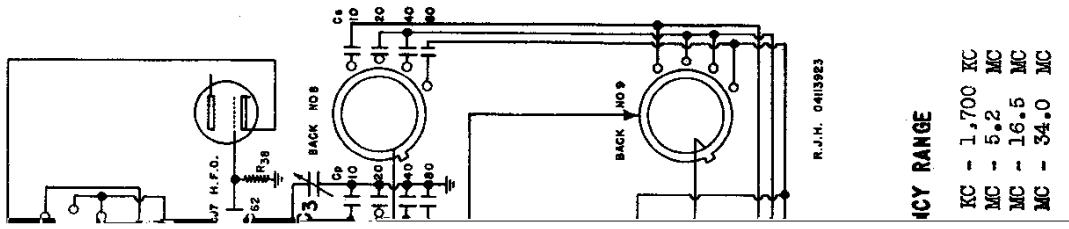

MODEL SX23, Super Skyrider

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Socket, Trimmers, Parts

LIST OF CONDENSERS SKYRIDER 23

NO.	VALUE	VOLTAGE	TYPE
1			
2	437 mmfd.	Main tuning gang	
3			
4	1.2-12.0 "	R.F. Circuit trimmer	
5	Series padding for Band Spread		
	See detailed Schematic.		
	.05 mfd.	200	Paper
6	Parallel padding for Band Spread		
7	See detailed Schematic.		
8	.05 mfd.	200	Paper
9	.01 "	400	"
10	.05 "	"	"
11	1.2-12 mmfd.	R.F. Circuit trimmer	
12	Series padding for Band Spread		
13	.05 mfd.	200	Paper
14	Parallel Padding for Band Spread		
15	.05 mfd.	200	Paper
16	.002 "		Mica
17	50 mmfd.		Ceramic
18	.01 mfd.	400	Paper
19	.002 "		Mica
20	250 mmfd.		Ceramic
21	200 "		"
22	.05 mfd.	400	Paper
23	100 mmfd.		Ceramic
24	100 "		"
25	2-25 "	Variable	
26	5-50 "	"	Mica
27	250 "		Ceramic
28	.05 mfd.	200	Paper
29	.01 "	"	"
30	.05 "	"	"
31	250 mmfd.		Ceramic
32	250 "		"
33	250 "		Mica
34	.05 mfd.	200	Paper
35	.05 mfd.	400	Paper
36	250 mmfd.		Ceramic
37	3 "		Glmmick
38	100 "		Ceramic
39	50 "		Ceramic
40	.05 mfd.	200	Paper
41	.05 "	400	"
42	.01 "	"	"
43	.01 "	"	"
44	20 "	25	Electrolytic
45	.002 "		Mica
46	.01 "	400	Paper
47	250 mmfd.		Mica
48	500 "		Ceramic
49	2-25 "		Variable
50	.05 mfd.	400	Paper
51	150 mmfd.		Ceramic
52	.1 mfd.	200	Paper
53	250 mmfd.		Mica
54	.05 mfd.	"	Paper
55	.05 "	"	"
56	.05 "	"	"
57	16 "	475	Electrolytic
58	16 "	"	"
59	.25 "	200	Paper
60	.002 "		Mica
61	.002 "	"	"
62	50 mmfd.		Ceramic
63	Parallel padding for Band Spread		
64	Series " "		
65	1.2-12 mmfd.		O & C trimmer
66	.002 mfd.	in 3rd Band OSC Series	
		tracking pad	
67	.01 "	400	Paper
68	.02 "	200	"
69	.1 "	"	"

LIST OF RESISTORS SKYRIDER 23

NO.	OHMS	WATTAGE	TOLERANCE
R1	100,000	1/3	20%
2	1,000	"	10%
3	10,000	R.F. Gain Control	
4	5,000	1/3	20%
5	100,000	"	"
6	600	"	10%
7	20,000	"	20%
8	5,000	"	"
9	100,000	"	"
10	1,000	"	10%
11	5,000	"	20%
12	1,000	"	10%
13	5,000	"	20%
14	1,000,000	"	"
15	200,000	"	10%
16	400,000	"	"
17	500,000	"	20%
18	500,000	A.F. Gain Control	
19	400	1	10%
20	5,000	2	20%
21	50,000	1	"
22	50,000	1/3	"
R23	5,000	1/3	20%
24	500,000	"	"
25	250,000	"	10%
26	200,000	"	"
27	500	"	"
28	1,000,000	"	20%
29	25,000	"	"
30	5,000	2	
31	6,500	7	
32	500	1/3	10%
33	500	"S" Meter Adjustment	
34	15,000	1	20%
35	25,000	"	"
36	3,000	1/3	10%
37	500	"	"
38	50,000	"	20%
39	500,000	Tone Control	
40	1,000	1/3	10%
41	1,000	"	"
42	10,000	1/2	20%
43	100,000	1/3	"

MODEL SX23, Super Skyrider
Aligmment, Notes

THE HALLICRAFTERS INC.

wling condenser which should never need adjustment as it will not effect
set but only, vary the gain of the I. F. unit.

e AVC, turn the BFO pitch control to "off" position, the selectivity
. F. Sharp" position. Adjust the frequency of the modulated signal
nt frequency of the I. F. unit with the signal strength sufficient to
liwatts in output meter. Now adjust A9 until the output is reduced to
the point where the AVC is resonant and operating properly.

re of the 6BA7 to the switch section contact and replace the R.F. coil

R.F. ALIGNMENT

F Coil Box Cover" marked "F" as shown in the instruction book are to
of a "Wand" into the coil forms for checking of alignment. The "Wand"
ing material having a brass slug in one end and a powdered iron slug in
iron slug is placed in field of coil the inductance is increased, and
is used, the inductance is decreased.

g points of alignment the meter deflection should decrease when either
ed, if the set is properly aligned. If the meter deflection increases
of "Wand" is in the field then the trimmer capacity should be increased.
ter reading increases when the "Brass" end of "Wand" is used then the
l have to be reduced.

ing is fully closed be certain that the indicating line on the dial
th the zero mark on the band spread calibration and the small line be-
ration point. Place selectivity control in the "I. F. Sharp-AVC off"
Audio gain controls adjusted for maximum gain and signal of sufficient
receiver to give approximately 500 milliwatts output.

Band No. 1 - "545 KC to 1700 KC"

en A2 and ground terminal or "g" on the antenna strip. Connect the
ignal generator to the ground terminal of antenna strip and connect the
enerator to A1 thru a 200 mmfd condenser.
l and signal generator dial to 1500 KC - align trimmer indicated as
rith this signal frequency and then adjust RF trimmer and antenna
Band No. 1 to obtain maximum deflection on output meter. Next set the
receiver to 600 KC and while rocking the main tuning knob adjust low
usted as Pad BD1) until the output is maximum. Recheck alignment at
600 KC position again for precise alignment.

Band No. 2 - "1700 KC to 5.2 Megacycles"

0 mmfd condenser with a 400 ohm resistor for alignment of Bands Nos.

re as Band No. 1, align first at 4000 KC. using trimmers indicated
trimmers "Band 2". The low frequency end is checked at 1900 KC by
g while adjusting pad BD2 until maximum output is obtained.

Band No. 3 - "5.2 Megacycles to 16 Megacycles"

d of this band is aligned at 14 megacycles, using oscillator Trimmer
rs indicating Band 3. The low frequency end is padded at 7. megacycles
cated "Pad BD3".

Band No. 4 - "10 Megacycles to 34. Megacycles"

at 30 megacycles first by setting dial at 30 megacycles and adjust
s received, then by "rocking" condenser gang slightly and adjusting
r until maximum output is obtained. Antenna trimmer, Band 4, is not
illator and R. F. trimmers are first adjusted for maximum output. It
djust the oscillator for low frequency tracking as this is adjusted at
permanent.

tions do not require alignment as the alignment for band coverage
are of band spread alignment.