THE HALLICRAFTERS INC.

MODEL S-22R
Skyrider Marine

Band 1 - 110 Kc to 410 Kc
(2730 to 733 meters)

Band 2 - 400 Kc to 1500 Kc
(750 to 200 meters)

Band 3 - 1.7 Mc to 5.9 Mc
(177 to 51 meters)

Band 4 - 5.3 Mc to 18 Mc
(56 to 16.7 meters)

If an inverted "L" antenna is used, connect lead-in to A_1 and leave the jumper between A_2 and G. If an "all wave" doublet is used, connect the transmission line to A_1 and A_2 with the jumper removed from A_2 and G. A separate antenna may be used for one s-w band; use a half-wave antenna whose length can be calculated from

$$\text{Length in feet} = \frac{463}{\text{Frequency in megacycles}}$$

NOTE: The SKYRIDER MARINE Model S22R is an AC-DC receiver which operates on 110/125 volts only. Should operation be desired from a lower voltage DC source, an external converter delivering 110/125 volts should be used. A 220 volt DC Model S22R is available on order and uses a special line cord with dropping resistor.

ALIGNMENT PROCEDURE

ALIGNMENT INSTRUCTIONS:

Equipment needed for aligning:
1 - An all wave signal generator which will provide an accurately calibrated signal at the test frequencies indicated.
2 - Output indicating meter connected to a headphone plug, and inserted in the headphone jack.
3 - Non-metallic screw driver.
4 - Dummy antenna of .002 mfd. condenser and 400 ohm resistor.

SETTING OF CONTROLS PRIOR TO ALIGNMENT - IF AND RF.

1 - Tone control at maximum high frequency position.
2 - AVC switch OFF.
3 - BFO switch OFF.
4 - RF Gain at maximum.
5 - AF gain at maximum.

1600 Kc IF ALIGNMENT.

Tune receiver to 5,000 Kc with the band switch in #3 position.

Connect hot side of signal generator to 6K8 grid cap through 1 MFD condenser - ground of generator to the chassis. Signal generator output - 1,600 Kc.

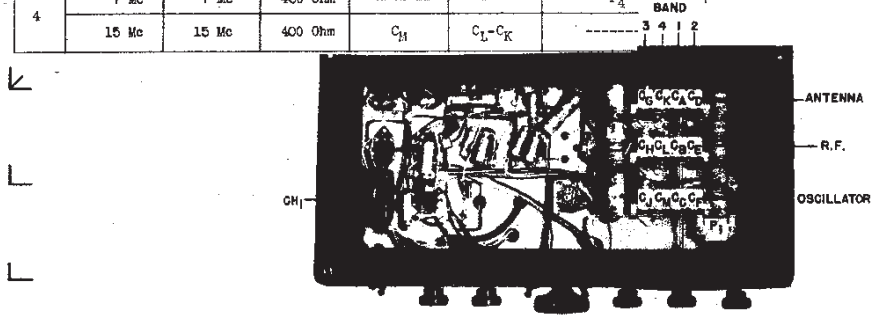
Adjust screws S1 to S6 inclusive on IF transformers T 1-2-3 for maximum gain.

BFO ADJUSTMENT - With a 1600 Kc signal being fed into the IF amplifier, and the BFO switch ON, place the Pitch Control with the white dot UP. Now adjust the screw S7 on the top of T5 for zero beat. Further adjustment of the Pitch Control from the front of the panel will enable you to vary the frequency of the beat note to your satisfaction.

R.F. ALIGNMENT

Connect hot Lead of Signal Generator to A_1 through dummy Antenna shown in Table. Leave Jumper connected between A_2 and G. Ground of Generator to Chassis.

BAND	REC. DIAL SETTING	SIG. GEN. FREQ.	DUMMY ANTENNA	HIGH FREQUENCY END		LOW FREQUENCY END
				ADJUST OSC WITH	ADJUST TRIMMERS WITH	ADJUST OSCILLATOR WITH
1	125 Kc	125 Kc	.002 mfd	--------	--------	P_1
	350 Kc	350 Kc	.002 mfd	C_C	C_A-C_B	--------
2	450 Kc	450 Kc	.002 mfd	--------	--------	P_2
	1400 Kc	1400 Kc	.002 mfd	C_F	C_E-C_D	--------
3	2 Mc	2 Mc	400 Ohm	--------	--------	P_3
	4.5 Mc	4.5 Mc	400 Ohm	C_J	C_G-C_H	--------
4	7 Mc	7 Mc	400 Ohm	--------	--------	P_4
	15 Mc	15 Mc	400 Ohm	C_M	C_L-C_K	--------



NO.	VALUE	VOLTAGE OR PURPOSE	TYPE
C_1	Tuning Condenser	563 mmfd per section	
C_2	.01 mfd	400 V.	Paper
C_3	.05 mfd	400 V.	Paper
C_4	.05 mfd	400 V.	Paper
C_5	5 mmf		Ceramicon
C_6	5 mmf		Ceramicon
C_7	.25 mfd	400 V.	Paper
C_8	.05 mfd	400 V.	Paper
C_9	.05 mfd	400 V.	Paper
C_{10}	.1 mfd	400 V	Paper
C_{11}	.02 mfd	400 V.	Paper
C_{12}	.02 mfd	400 V.	Paper
C_{13}	.01 mfd	400 V.	Paper
C_{14}	.25 mfd	400 V.	Paper
C_{15}	.02 mfd	400 V.	Paper
C_{16}	.02 mfd	400 V.	Paper
C_{17}	.01 mfd	400 V.	Paper
C_{18}	10 mmf		Ceramicon
C_{19}	100 mmf		Mica
C_{20}	100 mmf		Mica
C_{21}	.02 mfd	400 V.	Paper
C_{22}	10 mf	25 V.	Electrolytic
C_{23}	.05 mfd	400 V.	Paper
C_{24}	250 mfd		Mica
C_{25}	.05 mfd	400 V.	Paper
C_{26}	.01 mfd	400 V.	Paper
C_{27}	.005 mfd	600 V.	Paper
C_{28}	.01 mfd	400 V.	Paper
C_{29}	250 mmfd		Mica
C_{30}	200 mmfd		Mica
C_{31}	5 mmf	BFO Pitch Con.	Air Variable
C_{32}	40 mfd	150 V.	Electrolytic
C_{33}	40 mfd	150 V.	Electrolytic
C_{34}	.05 mfd	400 V.	Paper
C_{35}	30 mfd	150 V.	Electrolytic
C_{36}	100 mmfd		Mica
C_{37}	2000 mmfd		Mica
C_{38}	32 mmfd	Band 1 Pad	
C_{39}	110 mmfd	Band 2 Pad	
C_{40}	480 mfd	Band 3 Pad	
C_{41}	1300 mfd	Band 4 Pad	
C_{42}	.1 mfd	200 V.	Paper

NO.		
SW1	A.V.C.	"ON-OFF"
SW2	B.F.O.	"ON-OFF"
SW3	Standby	
SW4	A.C.-D.C.	Line

NO.	VALUE IN OHMS	WATTAGE OR PURPOSE
R_1	100,000	1/3
R_2	300	1/3
R_3	25,000	R. F. Gain Control
R_4	400	1/3
R_5	1,000	1/3
R_6	100,000	1/3
R_7	100,000	1/3
R_8	50,000	1/3
R_9	400	1/3
R_{10}	100,000	1/3
R_{11}	500	1/3
R_{12}	1,000	1/3
R_{13}	100,000	1/3
R_{14}	400	1/3
R_{15}	1,000	1/3
R_{16}	100,000	1/3
R_{17}	250,000	1/3
R_{18}	1 Meg.	1/3
R_{19}	500,000	Audio Gain Control
R_{20}	7,500	1/3
R_{21}	100,000	1/3
R_{22}	250,000	1/3
R_{23}	500,000	Tone Control
R_{24}	140	1/2
R_{25}	100	1/2
R_{26}	5,000	1/3
R_{27}	250,000	1/3
R_{28}	Plug-in Ballast Tube	Muter-Type 8K29D
R_{29}	Plug-in Ballast Tube	Muter-Type 8K29D
R_{30}	Plug-in Ballast Tube	Muter-Type 8K29D
R_{31}	25	1 Watt
R_{32}	4,000	½ Watt