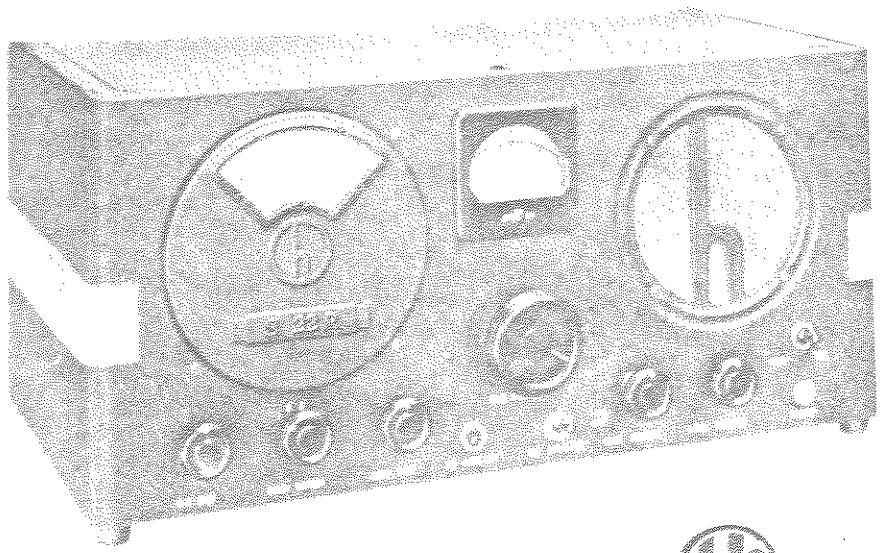
OPERATING ALIGNMENT and SERVICING INSTRUCTIONS for the

SKYRIDER MARINE

MODEL S-22-R



COUNCIL BLUFFS, IOWA

the hallicrafters co.

CHICAGO U.S.A.

JANUARY, 1951

94X017

OPERATING AND ALIGNMENT INSTRUCTIONS
SKYRIDER MARINE MODEL S22R

INSTALLATION: - It is recommended that, upon receipt, the carton and then the receiver be carefully examined for any damage which might have occurred in transit. File claim with the Carrier immediately should any sign of damage be apparent.

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.

Cabinet Dimensions: Length 18½" Depth 9¼" Height 8½". The receiver can be placed in any location convenient to its power source and antenna. Inasmuch as the Model S22R chassis is at the same ground potential as the cabinet the possibility of a short between chassis and cabinet is removed.

ANTENNA: - On the rear chassis apron will be found the Antenna Strip. A conventional Marconi, inverted "L", antenna should be connected to the A_1 terminal and the jumper between A_2 and G left connected. In order to get the most satisfactory pickup throughout the low frequency tuning range of the receiver, it is advisable to use the longest piece of wire for an antenna that it is possible to install. This same antenna will also perform satisfactorily on the higher frequencies. Should a commercially available "all wave" doublet antenna be used, the two wire transmission line from the flat top or matching transformer should be connected to terminals A_1 and A_2 with the jumper removed from A_2 and G. Should you wish to have a separate antenna for some one short wave frequency or band, a half wave antenna cut for that frequency will be an excellent performer. The following formula will give the length of the 1/2 wavelength antenna depending on the desired frequency.

Length in feet $\frac{468}{\text{frequency in megacycles}}$ or for example, a half wave 40 meter antenna would be $\frac{468}{7} = 66.8$ feet long. A good ground, if it aids reception, should be connected at the G terminal.

OPERATION: - After connecting an aerial to the receiver, plug the power cord into the power socket. Now turn the control marked "Tone" to the right. Power is now connected to the receiver as will be indicated by the dial light behind the translucent dials. Allow a few moments for the tubes in the receiver to reach operating temperature.

Place the band switch in position #2 for standard broadcast coverage. The frequency range of the receiver by bands is as follows:

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)

The sensitivity of the receiver is adjusted by the "RF Gain" control.

The "AF Gain" control adjusts the volume of both the loud speaker and headphone circuits. **NOTE:** When receiving telephone signals, the AVC or automatic volume control switch should preferably be ON. The "RF Gain" is then rotated clockwise as far as it will go, or the position of maximum sensitivity. The signal is then adjusted for a level of volume to suit your particular requirements with the A.F. Gain control. With the AVC switch OFF, the sensitivity of the receiver should be manually controlled by suitable adjustment of the RF Gain control or the receiver will block or overload. After you have familiarized yourself with the operation of the receiver you will determine the proper settings of these controls for the most favorable signal to noise ratio.

The BFO switch places the beat frequency oscillator in operation when snapped to the ON position. Adjustment of the knob

marked "Pitch Control" will enable you to change the pitch of the beat note to one most pleasing to you. The "Send Receive" switch, in the SEND position, removes plate voltage from the tubes in the receiver which makes it inoperative during a transmission or stand-by period.

Inasmuch as no direct current flows in the headphone circuit, crystal type headphones can be used. When headphones are plugged into the headphone jack, the speaker is automatically disconnected.

NOTE: In keeping with the Underwriters recommendations the fuse block is mounted on the under side of the chassis. 250 volt 2 ampere replacement fuses can be installed only after the bottom plate has been removed from the receiver.

The Model S22R SKYRIDER Marine Receiver draws 50 watts at 117 volts 60 cycles A.C.

GUARANTEE

This receiver is guaranteed to be free from any defect in workmanship and material that may develop within a period of ninety (90) days from date of purchase, under the terms of the standard guarantee, as designated by the Radio Manufacturers Association. Any part or parts that prove defective within this period will be replaced without charge when subjected to examination at our factory, providing such defect, in our opinion, is due to faulty material or workmanship, and not caused by tampering, abuse or normal wear. All such adjustments to be made FOB the factory.

Should this receiver require any adjustments, your dealer or distributor has complete technical service information, or the factory will be glad to assist you in any problem direct.

Should it be necessary to return any part or parts to the factory, a "Return Material Permit" must be obtained in advance by first writing the Adjustment Department, who will issue due authorization under the terms of the guarantee.

The Hallicrafters Co., reserves the right to make changes in design or add improvements to instruments manufactured by them, without incurring any obligation to install the same in any instrument previously purchased.

All Hallicrafters receivers are built under patents of Radio Corporation of America and Hazeltine Corporation.

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 .0002 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 .01 mfd. condenser - ground of generator to the chassis. Signal generator output - 1,600 Kc.

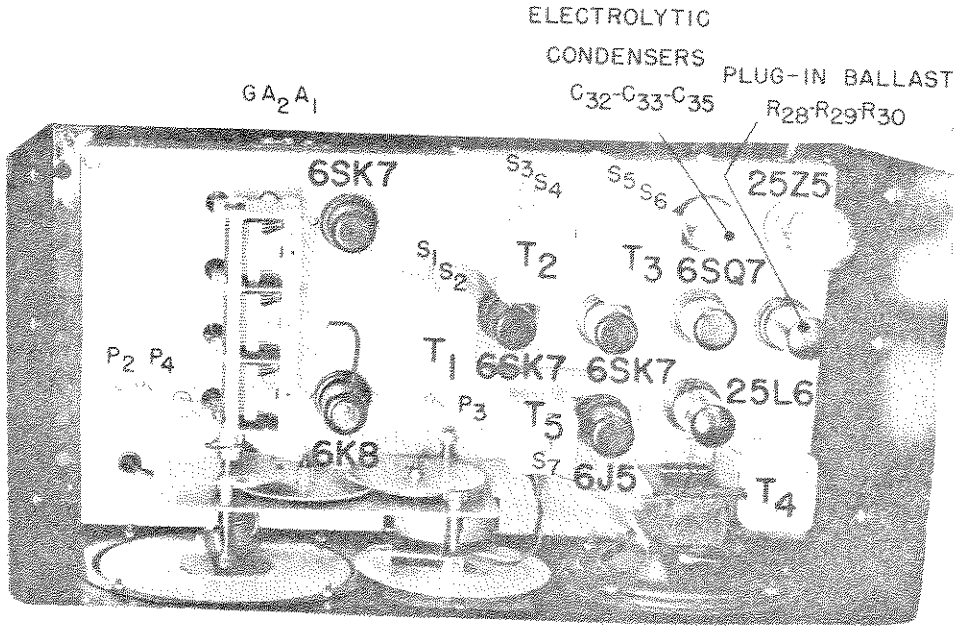
Adjust screws S1 to S6 inclusive on IF transformers T 1-2-3 for maximum gain.

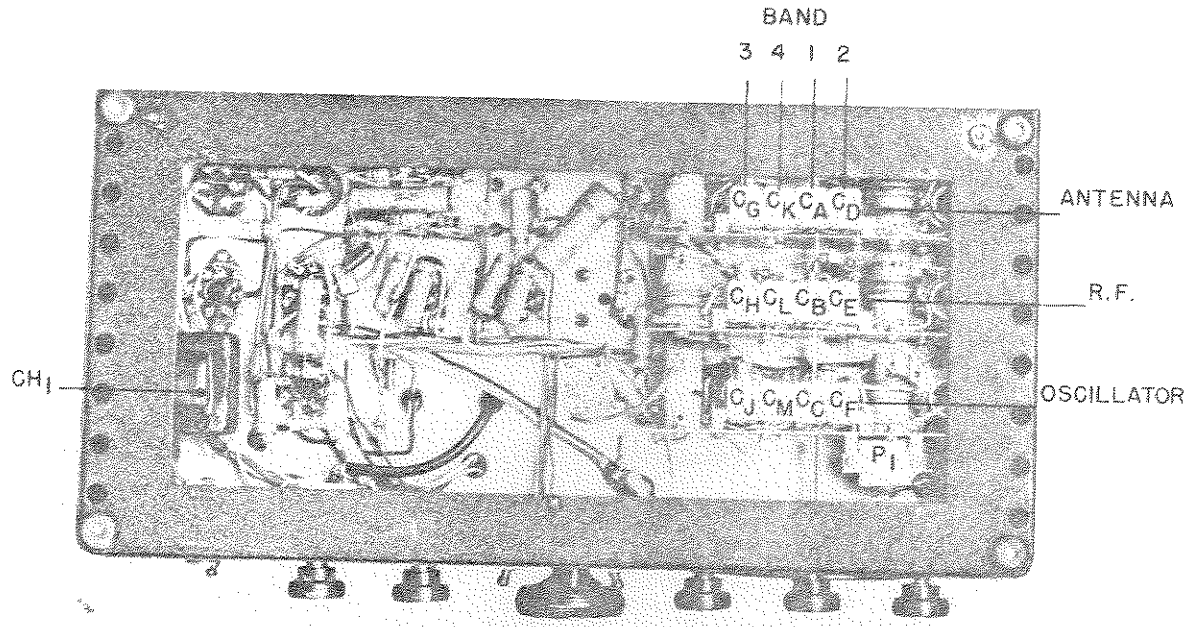
BFO ADJUSTMENT - With a 1600 Kc signal being fed into the IF amplifier, and the BFO switch ON, place the Pitch Control with the white dot UP. Now adjust the screw S7 on the top of T5 for zero beat. Further adjustment of the Pitch Control from the front of the panel will enable you to vary the frequency 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	.0002 mfd	--------	--------	P_1
	350 Kc	350 Kc	.0002 mfd	C_C	C_A-C_B	--------
2	450 Kc	450 Kc	.0002 mfd	--------	--------	P_2
	1400 Kc	1400 Kc	.0002 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	--------


ELECTROLYTIC
CONDENSERS
C_{32}-C_{33}-C_{35}
PLUG-IN BALLAST
R_{28}-R_{29}-R_{30}
GA_2A_1
6SK7
S_3 S_4
S_5 S_6
25Z5
S_1 S_2
T_2
T_3 6SQ7
P_2 P_4
T_1 6SK7 6SK7
25L6
P_3
T_5
6K8
S_7 6J5
T_4


BAND
3 4 1 2
C_G C_K C_A C_D
ANTENNA
C_H C_L C_B C_E
R.F.
CH1
C_J C_M C_C C_F
OSCILLATOR
P_1

REPLACEABLE PARTS LIST FOR S-22R RECEIVER

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
R_1	Resistor, fixed, 100,000 ohm ± 20%, ½ watt, carbon	A-V-C decoupling	ASA	RC21AE104M
R_2	Resistor, fixed, 330 ohm ± 10%, ½ watt, carbon	Cathode bias for tube V_1	ASA	RC21AE331K
R_3	Resistor, variable, 10,000 ohm ± 20%, carbon	R.F. GAIN control	CT	25C039
R_4	Resistor, fixed, 470 ohm ± 10%, ½ watt, carbon	Voltage drop in plate of tube V_1 for Band 2	ASA	RC21AE471K
R_5	Resistor, fixed 1000 ohm ± 20%, ½ watt, carbon	Plate and screen decoupling for tube V_1	ASA	RC21AE102M
R_6	Same as R_1	Overload bias		
R_7	Same as R_1	Secondary loading in transformer T_{10}		
R_8	Resistor, fixed, 47,000 ohm ± 10%, ½ watt, carbon	Grid return for oscillator section of tube V_2	ASA	RC21AE473K
R_9	Resistor, fixed, 390 ohm ± 10%, ½ watt, carbon	Cathode bias for tube V_2	ASA	RC21AE391K
R_{10}	Same as R_1	A-V-C decoupling for tube V_3		
R_{11}	Resistor, fixed, 220 ohm ± 10%, ½ watt, carbon	Cathode bias for tube V_3	ASA	RC21AE221K
R_{12}	Same as R_5	Plate and screen decoupling for tube V_3		
R_{13}	Same as R_1	A-V-C decoupling for tube V_4		
R_{14}	Same as R_9	Cathode bias for tube V_4		
R_{15}	Same as R_5	Plate and screen decoupling for tube V_4		
R_{16}	Same as R_1	Diode load for tube V_5		
R_{17}	Resistor, fixed, 274,000 ohm ± 10%, ½ watt, carbon	Diode load for tube V_5	ASA	RC21AE274K
R_{18}	Resistor, fixed, 1 megohm ± 20%, ½ watt, carbon	A-V-C decoupling	ASA	RC21AE105M
R_{19}	Resistor, variable, 500,000 ohm ± 20%, carbon	AUDIO GAIN control	CT	25C041
R_{20}	Resistor, fixed, 6,800 ohm ± 10%, ½ watt, carbon	Cathode bias for tube V_5	ASA	RC21AE682K
R_{21}	Same as R_1	Plate decoupling for tube V_5		
R_{22}	Same as R_{17}	Plate load for tube V_5		
R_{23}	Resistor, variable, 500,000 ohm ± 20%, carbon, includes SPST switch on rear	TONE CONTROL	CT	25C040
R_{24}	Resistor, fixed 130 ohm ± 5%, 1 watt, carbon	Cathode bias for tube V_7	ASA	RC31AE131J
R_{25}	Resistor, fixed, 100 ohm ± 10%, ½ watt, carbon	Impedance matching for headset operation	ASA	RC21AE101K
R_{26}	Resistor, fixed, 4700 ohm ± 10%, ½ watt, carbon	Plate load for tube V_6	ASA	RC21AE472K
R_{27}	Resistor, fixed, 50,000 ohm, ½ watt, carbon, part of transformer T_5. Shown for reference only	Grid bias for tube V_6		

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
R_{28}, R_{29}, R_{30}	Resistor, plug-in ballast tube, resistance across pins 2 and 3 is 500 ohms, across pins 2 and 8 is 240 ohms and across pins 7 and 8 is 120 ohms, type BK29D	Line voltage dropping; Pilot lamp shunt; Pilot lamp shunt	MT	24A816
R_{31}	Resistor, fixed, 27 ohm ± 10%, 1 watt, carbon	Rectifier peak current limiter	ASA	RC31AE270K
R_{32}	Resistor, fixed, 3900 ohm ± 10%, 1 watt, carbon	Plate and screen decoupling for tube V_2	ASA	RC31AE392K
R_{33}	Same as R_1	Bleeder		
C_{1A}, C_{1B}, C_{1C}	Capacitor, variable, 3 section ganged, min. cap. 12.5 mmfd. max. cap. 562.8 mmfd. per section, 3 mtg. spade bolts 7/16" long, 2 at front with 1 at rear, air dielectric, steel frame, special	Main tuning, antenna stage; Main tuning, converter stage; Main tuning, oscillator stage	OM	48B059
C_2	Capacitor, fixed, 0.01 mfd. -10 + 40%, 400 V. D-C working, paper dielectric	D-C blocking capacitor for chassis ground	SP	46AW103J
C_3	Capacitor, fixed, 0.05 mfd. -10 + 40%, 400 V. D-C working, paper dielectric	A-V-C by pass	SP	46AW503J
C_4	Same as C_3	Cathode by-pass for tube V_1		
C_5	Not used			
C_6	Capacitor, fixed, 5.75 ± 0.75 mmfd., 500 V. D-C working, temp. coeff. -0.00075 mmfd./mmfd./ degree C., ceramic dielectric	Additional coupling between tubes V_1 and V_2 on Band 4	CRL	47A005
C_7	Capacitor, fixed, 0.25 mfd. -10 + 40%, 400 V. D-C working, paper dielectric	Screen by-pass for tube V_1	SP	46AW254J
C_8	Same as C_3	Over-load bias by-pass		
C_9	Same as C_3	Cathode by-pass for tube V_2		
C_{10}	Capacitor, fixed, 0.1 mfd. -10 + 40%, 400 V. D-C working, paper dielectric	Screen by-pass for tube V_2	SP	46AW104J
C_{11}	Capacitor, fixed, 0.02 mfd. -10 + 40%, 400 V. D-C working, paper dielectric	A-V-C by-pass for tube V_2	SP	46AW203J
C_{12}	Same as C_{11}	Cathode by-pass for tube V_3		
C_{13}	Same as C_2	Screen by-pass for tube V_3		
C_{14}	Same as C_3	D-C blocking capacitor between electrical ground and chassis		
C_{15}	Same as C_{11}	A-V-C by-pass for tube V_4		
C_{16}	Same as C_{11}	Cathode by-pass for tube V_4		
C_{17}	Same as C_2	Screen by-pass for tube V_4		

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
C_{18}	Capacitor, fixed, 10 mmfd. ± 10%, 500 V. D-C working, temp. coeff. - 0.00055 mmfd./mmfd./ degree C, ceramic dielectric	Coupling between tubes V_6 and V_5	CRL	47A006
C_{19}	Capacitor, fixed, 100 mmfd., ± 20%, 500 V. D-C working, mica dielectric	R-F by-pass at diode load	ASA	CM20A101M
C_{20}	Same as C_{19}	R-F by-pass at diode load		
C_{21}	Same as C_{11}	Audio coupling between diode load and triode section of tube V_5		
C_{22}	Capacitor, fixed, 10 mfd. -10 ± 65%, 25 V. D-C working, electrolytic, type PR-25	Cathode by-pass tube V_5	A	42A033
C_{23}	Same as C_3	Plate decoupling for tube V_5		
C_{24}	Capacitor, fixed, 270 mmfd. ± 10%, 500 V. D-C working, mica dielectric	R-F by-pass in plate circuit of tube V_5	ASA	CM20A271K
C_{25}	Same as C_3	Audio coupling between tubes V_5 and V_7		
C_{26}	Same as C_2	High frequency audio shunt in TONE CONTROL circuit		
C_{27}	Capacitor, fixed, 0.005 mfd. -10 + 40%, 600 V. D-C working, paper dielectric	Plate by-pass for tube V_7	SP	46AZ502J
C_{28}	Capacitor, fixed, 0.01 mfd. -10 + 40%, 400 V. D-C working, paper dielectric, type 484	Feed back coupling for tube V_6	A	46AW103J
C_{29}	Capacitor, fixed, 250 mmfd. ± 10%, mica dielectric, part of transformer T_5. Shown for reference only	Grid bias by-pass for tube V_6		
C_{30}	Capacitor, fixed, 200 mmfd. ± 10%, silver mica dielectric, part of transformer T_5. Shown for reference only	Fixed capacitor to tune transformer T_5		
C_{31}	Capacitor, variable, min. cap. 3 mmfd., max. cap. 8.3 mmfd., air dielectric, ceramic insulation, type series 22.	Variable capacitor tuning transformer T_5	RC	48A108
C_{32}	Capacitor, fixed, 3 unit assembly; units #1 and #2 each 40 mfd. 150 V. D-C working, electrolytic (C_{32} and C_{33}); unit #3 is 30 mfd. 150 V. D-C working (C_{35}), type D8388	Output filter capacitor for plate voltage supply	SP	42A038
C_{33}		Input filter capacitor for plate voltage supply		
C_{34}	Same as C_3	Power line filter by-pass		
C_{35}	Capacitor, unit #3 of 3 unit assembly, refer to description for C_{32} and C_{33}	Output filter capacitor for plate and screen voltage supply for tube V_2		

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
C_{36}	Same as C_{19}	Oscillator grid coupling		
C_{37}	Capacitor, fixed, 2200 mmfd. ± 10%, 500 V. D-C working, mica dielectric	D-C blocking capacitor in oscillator plate circuit	ASA	CM30A202K
C_{38}	Capacitor, adjustable, min. cap. 1 mmfd., max. cap. 12 mmfd., air dielectric, mica filled bakelite insulation, type 22-5230	Padding capacitor for secondary of transformer T_{14}	MN	48A031
C_{39}	Capacitor, adjustable, part of dual unit, nominal capacity 1300 mmfd., 500 V. D-C working, mica dielectric, compression type adjustment, ceramic insulation, refer to C_{41}	Padding capacitor for secondary of transformer T_{15}	UE	44A069
C_{40}	Capacitor, adjustable, min. cap. 183 mmfd., max. cap. 846 mmfd., 500 V. D-C working, mica dielectric, compression type adjustment, ceramic insulation, special	Padding capacitor for secondary of transformer T_{16}	UE	44A070
C_{41}	Capacitor part of dual unit, nominal capacity 110 mmfd., 500 V. D-C working, refer to C_{39}	Padding capacitor for secondary of transformer T_{17}	UE	44A069
C_{42}	Capacitor, fixed, 0.1 mfd. -10 + 40%, 200 V. D-C working, paper dielectric	R-F gain by-pass	SP	46AT104J
C_{43}	Not used			
C_{44}	Not used			
C_{45}	Capacitor, fixed, 26 mmfd. ± 10%. 500 V. D-C working, temp. coeff. -0.00075 mmfd./mmfd./ degree C., ceramic dielectric	Fixed padding capacitor for secondary of transformer T_{14}	CRL	47A036
C_{46A} C_{46B} C_{46C} C_{46D}	Capacitor, adjustable; 4 unit assembly; unit #1 effective capacity 6 mmfd. (C_{46C}), unit #2 effective capacity 6 mmfd. (C_{46D}), unit #3 effective capacity 10 mmfd. (C_{46A}), unit #4 effective capacity 10 mmfd. (C_{46B}), mica dielectric, ceramic insulation, heavy copper bracket, special	Trimmer for secondary of transformer T_6 Trimmer for secondary of transformer T_7 Trimmer for secondary of transformer T_8 Trimmer for secondary of transformer T_9	UE	44A071
C_{47A} C_{47B} C_{47C} C_{47D}	Same as C_{46}; C_{47A} same as C_{46A}; C_{47B} same as C_{46B}; C_{47C} same as C_{46C}; C_{47D} same as C_{46D}	Trimmer for secondary of transformer T_{10} Trimmer for secondary of transformer T_{11} Trimmer for secondary of transformer T_{12} Trimmer for secondary of transformer T_{13}		

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
C_{48A} C_{48B} C_{48C} C_{48D}	Capacitor, adjustable, 4 unit assembly; unit #1 effective capacity 35 mmfd. (C_{48C}), unit #2 effective capacity 35 mmfd. (C_{48D}), unit #3 effective capacity 8 mmfd. (C_{48A}), unit #4 effective capacity, 25 mmfd. (C_{48B}); mica dielectric, ceramic insulation, heavy copper bracket, special	Trimmer for secondary of transformer T_{14} Trimmer for secondary of transformer T_{15} Trimmer for secondary of transformer T_{16} Trimmer for secondary of transformer T_{17}	UE	44A072
C_{49}	Capacitor, fixed, 100 mfd. ± 10%, 500 V. D-C working, mica dielectric	Resonating capacitor for primary of transformer T_1	ASA	CM25E101K
C_{50}	Same as C_{49}	Resonating capacitor for secondary of transformer T_1		
C_{51}	Not used			
C_{52}	Same as C_5	Plate return for tube V_2		
C_{53}	Same as C_7	D-C blocking capacitor between electrical ground and chassis		
C_{54}	Same as C_{49}	Resonating capacitor for primary of transformer T_2		
C_{55}	Same as C_{49}	Resonating capacitor for secondary of transformer T_2		
C_{56}	Same as C_{49}	Resonating capacitor for primary of transformer T_3		
C_{57}	Same as C_{49}	Resonating capacitor for secondary of transformer T_3		
T_1	Transformer, I-F, 1600 KC., primary and secondary tuned by adjustable iron core, fixed trimmers of 100 mmfd., secondary winding tapped for grid connection, special	Coupling between tubes V_2 and V_3	SWI	50B137
T_2	Same as T_1, except A-V-C lead is 1" longer	Coupling between tubes V_3 and V_4	SWI	50C090
T_3	Transformer, I-F, 1600 KC. primary and secondary tuned by adjustable iron core, fixed trimmers of 100 mmfd., special	Coupling between tubes V_4 and V_5	SWI	50C091
T_4	Transformer, A-F, primary impedance 2000 ohm, secondary impedance 50 ohm tapped at 4 ohm, potted, special	Coupling between audio amplifier tube V_7 and phones or speaker	QN	55B013

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
T_5	Transformer, R-F, 1600 KC, variable iron core adjustment, fixed 200 mmfd. trimmer, includes 250 mmfd. fixed capacitor in parallel with a 50,000 ohm resistor, connected in series with secondary start, secondary finish and primary start have common terminal, special	Beat frequency oscillator transformer	SWI	54B017
T_6	Transformer, R-F, range 110-418 KC., air core, special	Coupling between antenna and r-f stage for Band #1	SWI	51B313
T_7	Transformer, R-F, range 390-1500 KC, air core, special	Coupling between antenna and r-f stage for Band #2	SWI	51B316
T_8	Transformer, R-F, range 1.7-5.9 megacycles, air core, special	Coupling between antenna and r-f stage for Band #3	SWI	51B319
T_9	Transformer, R-F, range 5.1-19.4 megacycles, air core, special	Coupling between antenna and r-f stage for Band #4	SWI	51B322
T_{10}	Transformer, R-F, range 110-418 KC; air core, special	Coupling between r-f stage and converter stage for Band #1	SWI	51B314
T_{11}	Transformer, R-F, range 390-1500 KC, air core, special	Coupling between r-f stage and converter stage for Band #2	SWI	51B317
T_{12}	Transformer, R-F, range 1.7-5.9 megacycles, air core, special	Coupling between r-f stage and converter stage for Band #3	SWI	51B320
T_{13}	Transformer, R-F, range 5.1-19.4 megacycles, air core, special	Coupling between r-f and stage converter stage for Band #4	SWI	51B323
T_{14}	Transformer, R-F, range 110-418 KC, air core, special	Oscillator stage transformer for Band #1	SWI	51B315
T_{15}	Transformer, R-F, range 390-1500 KC, air core, special	Oscillator stage transformer for Band #2	SWI	51B318
T_{16}	Transformer, R-F, range 1.7-5.9 megacycles, air core, special	Oscillator stage transformer for Band #3	SWI	51B321
T_{17}	Transformer, R-F, range 5.1-19.4 megacycles, air core, special	Oscillator stage transformer for Band #4	SWI	51B324
L_1	Inductor, radio - frequency coil, air core, universal winding on bakelite base	Antenna loading coil for Band #1	SWI	53B011
L_2	Inductor, R-F, inductance 10 millihenries ± 10%, distributed capacity 7 mmfd., air core, universal winding on XXP bakelite base, special	R-F filter inductance for tube V_2	SWI	53A005

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
L_3	Same as L_2	R-F filter inductance for tube V_1		
CH_1	Inductor, filter, 4 henries @ 60 milliamperes, 200 ohm d-c resistance, wax dipped, type 1B51	Part of high-voltage low pass filter	GT	56B002
SW_1	Switch, SPST, toggle, bakelite insulation, mounts by 15/32-32 brass bushing 13/32" deep, type 20994BP	A.V.C. switch	HH	60A126
SW_2	Same as SW_1	B.F.O. switch		
SW_3	Same as SW_1	SEND-REC. switch		
SW_4	Switch, SPST, toggle action, on rear of resistor R_{23}	Power switch	CT	25C040
SW_{5A}	Switch, rotary selector, 3 section, 4 position, shorting type contacts, bakelite wafers individually mounted to coil shield partitions, type B-11196	Band selector for primaries of transformers T_6, T_7, T_8 and T_9	MA	62B004
SW_{5B}		Band selector for secondaries of transformers T_6, T_7, T_8 and T_9		
SW_{5C}		Band selector for primaries of transformers T_{10}, T_{11}, T_{12} and T_{13}		
SW_{5D}		Band selector for secondaries of transformers T_{10}, T_{11}, T_{12} and T_{13}		
SW_{5E}		Band selector for primaries of transformers T_{14}, T_{15}, T_{16} and T_{17}		
SW_{5F}		Band selector for secondaries of transformers T_{14}, T_{15}, T_{16} and T_{17}		
J_1	Jack, phone, switching action, one make-one break, bakelite insulation, 3/8-32 brass bushing $\frac{1}{2}$" long, type ST-687	Phone jack	U	36B004
F_1	Fuse, 2 amperes @ 250 V., glass enclosed, 3AG, type 1042	Line protection	LF	39A307
F_2	Same as F_1	Line protection		
PL_1	Plug and line cord assembly, 2 conductor #18 stranded copper, rubber covered, partially bonded to adjacent conductor jacket, 6 ft. long with molded rubber plug at one end, special	Connects receiver to source of power	E	87A078

REPLACEABLE PARTS LIST FOR S-22R RECEIVER - (Cont'd.)

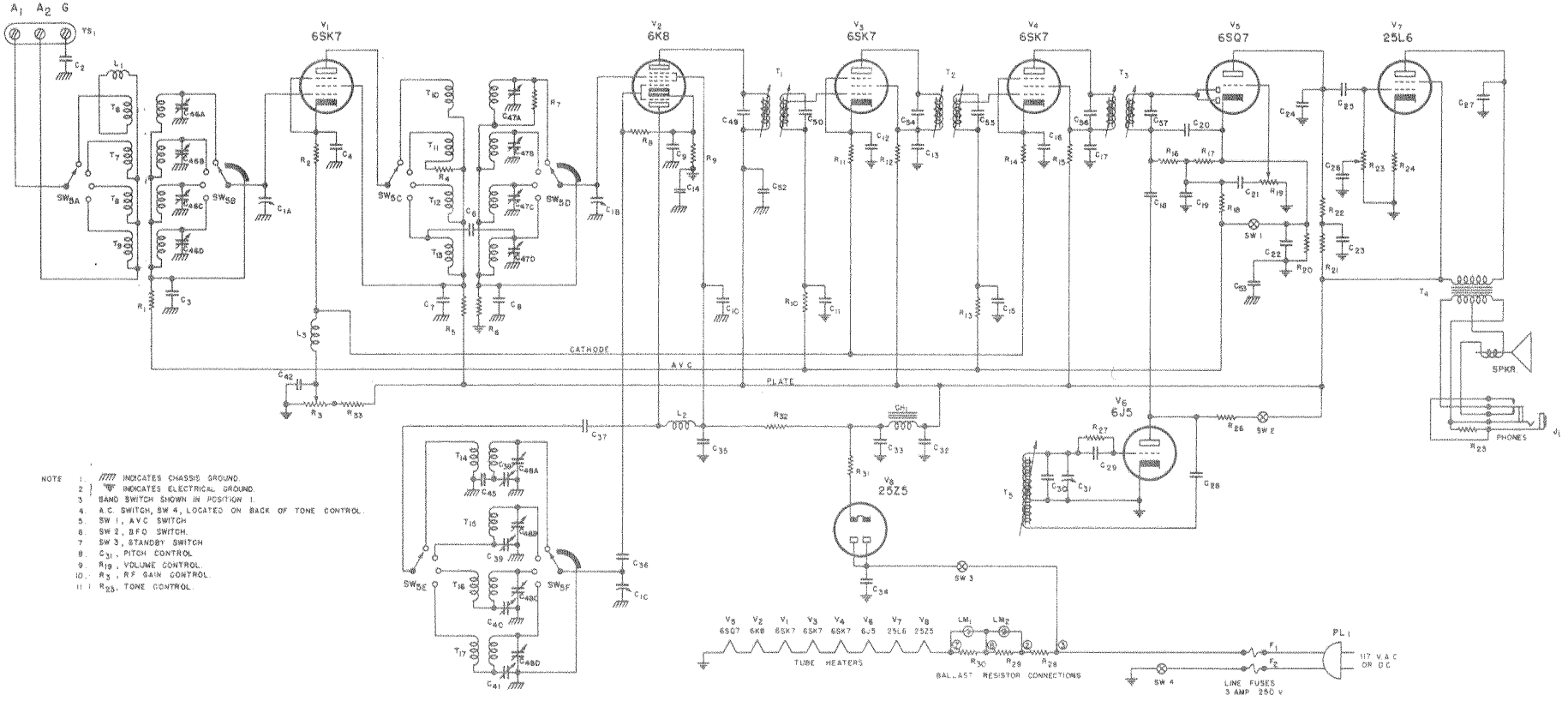
REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFR. CODE	CONTR'S. PART NO.
LM_1	Lamp, pilot, 6-8 volt @ 150 milliamperes, bayonet base, type 47	Bandspread dial illumination	GE	39A004
LM_2	Same as LM_1	Main tuning dial illumination		
V_1	Tube, triple-grid super control amplifier, type 6SK7	R-F amplifier	RCA	90X6SK7
V_2	Tube, triode-hexode converter, type 6K8	Converter and oscillator	RCA	90X6K8
V_3	Same as V_1	1st I-F amplifier		
V_4	Same as V_1	2nd I-F amplifier		
V_5	Tube, duplex-diode, high-mu triode, type 6SQ7	Detector, A-F amplifier	RCA	90X6SQ7
V_6	Tube, detector amplifier triode, type 6J5	Beat frequency oscillator	RCA	90X6J5
V_7	Tube, beam power amplifier, type 25L6	A-F power amplifier	RCA	90X25L6
V_8	Tube, rectifier-doubler, type 25Z5	Rectifier	RCA	90X25Z5

INDEX TO PARTS MANUFACTURERS

SYMBOL	MANUFACTURER
A	Aerovox Corp. New Bedford, Mass.
ASA	Any manufacturer meeting the applicable American Standard Association specification
CRL	Centralab Milwaukee, Wis.
CT	Chicago Telephone & Supply Co. Elkhart, Indiana
E	Essex Wire Co. Chicago, Illinois
GE	General Electric Co. Schenectady, N.Y.
GT	General Transformer Corp. Chicago, Illinois
HH	Hart & Hegeman Elec. & Co. Hartford, Conn.
LF	Littlefuse Inc. Chicago, Illinois
MA	P.R. Mallory & Co. Indianapolis, Indiana
MN	Meissner Mfg. Co. Mt. Carmel, Illinois
MT	The Muter Co. Chicago, Illinois
OM	Oak Mfg. Co. Chicago, Illinois
QN	Quam-Nichols Co. Chicago, Illinois
RC	Radio Condenser Corp. Camden, N.J.
RCA	R.C.A. Mfg. Co. Harrison, N.J.
SP	Sprague Specialties Co. North Adams, Mass.
SWI	S.W. Inductor Chicago, Illinois
U	Utah Radio Products Co. Chicago, Illinois
UE	Underwood Elec. Chicago, Illinois

the hallicrafters co.

SCHEMATIC DIAGRAM – SKYRIDER MARINE – MODEL S-22R



NOTE
1. ⏚ INDICATES CHASSIS GROUND.
2. ⏚ INDICATES ELECTRICAL GROUND.
3. BAND SWITCH SHOWN IN POSITION 1.
4. A.C. SWITCH, SW 4, LOCATED ON BACK OF TONE CONTROL.
5. SW 1, A.V.C. SWITCH.
6. SW 2, B.F.O. SWITCH.
7. SW 3, STANDBY SWITCH.
8. C_{31}, PITCH CONTROL.
9. R_{19}, VOLUME CONTROL.
10. R_X, R.F. GAIN CONTROL.
11. R_{23}, TONE CONTROL.