

OPERATING
ALIGNMENT & SERVICING
INSTRUCTIONS FOR
SKY BUDDY RECEIVER
MODEL S-19R



the hallicrafters *co.*
CHICAGO

01253919R

OPERATING INSTRUCTIONS

Sky Buddy

Model S19-R

The model S19-R Sky Buddy is a 6 tube 4 band superheterodyne receiver covering the following frequencies:

Band 1	-	540	KC	to	1700	KC
2	-	1.7	MC	to	5.5	MC
3	-	5.5	MC	to	17.0	MC
4	-	16.0	MC	to	46.0	MC

ANTENNA

For successful operation of the receiver throughout its tuning range very satisfactory results can be obtained with an inverted "L" type antenna 75 feet long overall. When this type of antenna is used the jumper should remain connected between A2 and G.

If the operator should wish to obtain the maximum in performance from the receiver on any one frequency, it is suggested that a half wave doublet antenna cut for that frequency be installed.

The formula for calculating the overall length of this antenna is:

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

The antenna is cut in the center and connected to a twisted pair transmission line having a characteristic impedance of 75 ohms. The other end of this line is connected to the A1 and A2 antenna posts.

This antenna will not perform well at harmonic frequencies but should be better than the inverted "L" on the frequency for which it has been designed. Performance on the #4 band, even with a suitable antenna, is subject to varying conditions of the time of the day and year.

A ground is usually not necessary for satisfactory performance of the model S19-R Sky Buddy receiver. If a ground does prove helpful it is connected to the "G" post of the antenna terminal strip. A cold water pipe or a 6 foot rod driven into moist soil are good ground suggestions. Connections to radiators and gas piping are not advised.

CONTROLS AND OPERATION

The model S19-R Sky Buddy is equipped with conveniently arranged controls to enable the operator to realize the maximum in performance from the receiver.

MAIN TUNING

This control rotates the large calibrated dial so that the desired frequency can be easily located. The accuracy of calibration is held to close tolerances. This calibration will be correct, however, only if the "Bandspread" dial is set at "0" or minimum capacity.

"BANDSPREAD"

In no other similar receiver but the S19-R Sky Buddy can be found such extremely smooth and satisfactory electrical bandspread action. The stator plates are an integral part of the main condenser and the separate rotor sections are driven by a gearless mechanism through the separate bandspread knob.

The controls along the bottom edge of the receiver are:

SEND-RECEIVE SWITCH which, when in the "send" position, removes plate voltage from the tubes.

The BAND SWITCH allows selection of any one of the four ranges covered by the receiver. The newly incorporated 10 meter band will prove to be most interesting when conditions are favorable for reception on that range.

The B.F.O. "ON-OFF" SWITCH allows optional use of the Beat Frequency Oscillator and is used when the operator is copying code signals. It will be of additional help in locating weak fone signals by first locating their carrier. Once located, the B.F.O. may then be turned off to eliminate the whistle.

The PITCH-CONTROL Knob allows the operator to vary the pitch of the beat note when the BFO switch is in the "on" position. Selection of the pitch of the beat note most pleasing to the operator will be of help in copying through interference. The A.V.C. "OFF" and "ON" Switch is for optional use of automatic volume control. Should the strength of the telephone signal be so strong as to block the receiver the A.V.C. switch should be "on". For maximum sensitivity leave the AVC switch "off" and manually adjust the gain of the receiver with the audio gain control.

The receiver is turned on and off with this control and additionally provides variation of the volume delivered by the receiver to suit the requirements of the listener.

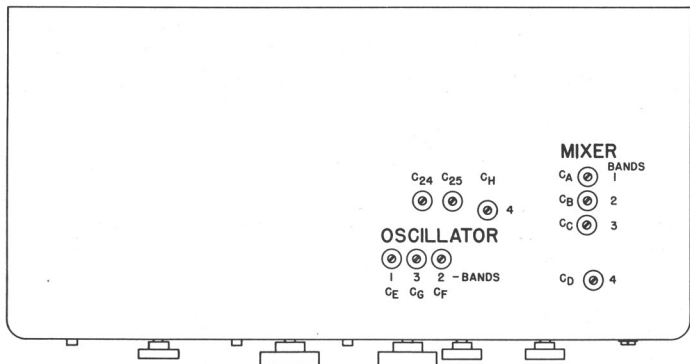
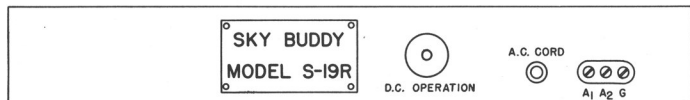
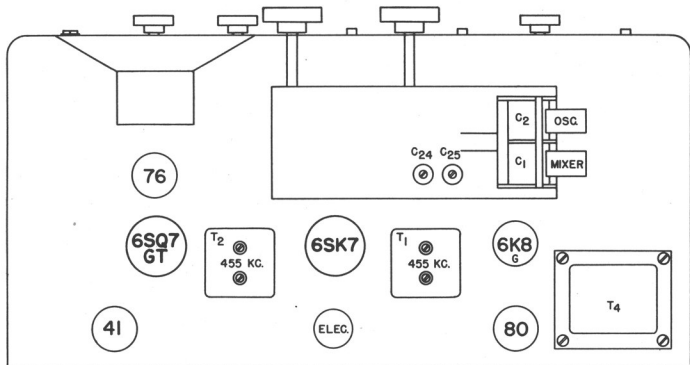
A Headphone Jack is mounted on the panel to the right of the Pitch Control Knob. When headphones are used, inserting the phone plug in the jack automatically disconnects the speaker.

The tube lineup of the S19-R Sky Buddy is as follows:

- 6K8G 1st Detector - mixer
- 6SK7 IF Amplifier
- 6SQ7GT 2nd Detector - 1st stage of audio
- 41 2nd Audio Amplifier
- 76 BFO
- 80 Rectifier

The Sky Buddy, model S19-R draws 50 watts at 117 volts, 60 cycles A.C.

The Hallioncrafters, Inc., reserve the right to make changes in design or to add improvements to instruments of their manufacture without incurring any obligation to install the same in any instrument previously purchased.



S19R CONDENSER PARTS LIST

NO.	CAPACITY	TYPE	VOLTAGE
C1	.000375 mfd.		
2	"	Maintaining	
3	.05	"	200
4	.01	"	400
5	.05	"	200
6	.05	"	200
7	10	"	300
8	.05	"	200
9	.0001	Mica	
10	.0001	"	
11	.02	"	200
12	.1	"	200
13	.02	"	200
14	10	"	25
15	.01	"	600
16	.1	"	400
17	.01	"	400
18	.0001	Mica	
19	.0005	"	
20	10	"	300
21	10	"	350
22	.01	"	600
23	.0001	Ceramic	
24	.000375	Pad	
25	.001	"	
26	.0043	"	
27	.0001	Mica	
28	.01	"	600

S19R RESISTOR PARTS LIST

NO.	OHMS	WATTAGE
R1	300	1/3
2	50000	"
3	10000	1
4	500	1/3
5	3500	"
6	25000	1
7	50000	1/3
8	300	"
9	1000000	Variable
10	500000	1/3
11	250000	"
12	1000000	"
13	600	1/2
14	50000	1/3
15	50000	"
16	3000	1/2
17	10000	1/2

SWITCHES

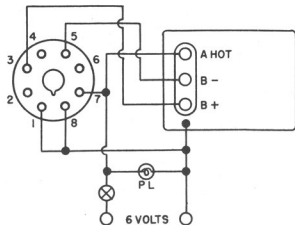
SW

- 1 A.V.C. on - off
- 2 Send - Receive
- 3 BFO on - off

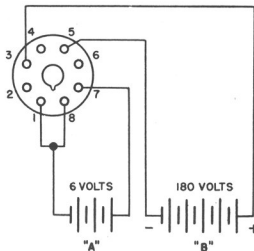
D C OPERATION

CONNECTIONS TO "PWR" SOCKET AFTER REMOVAL OF SHORTING PLUG

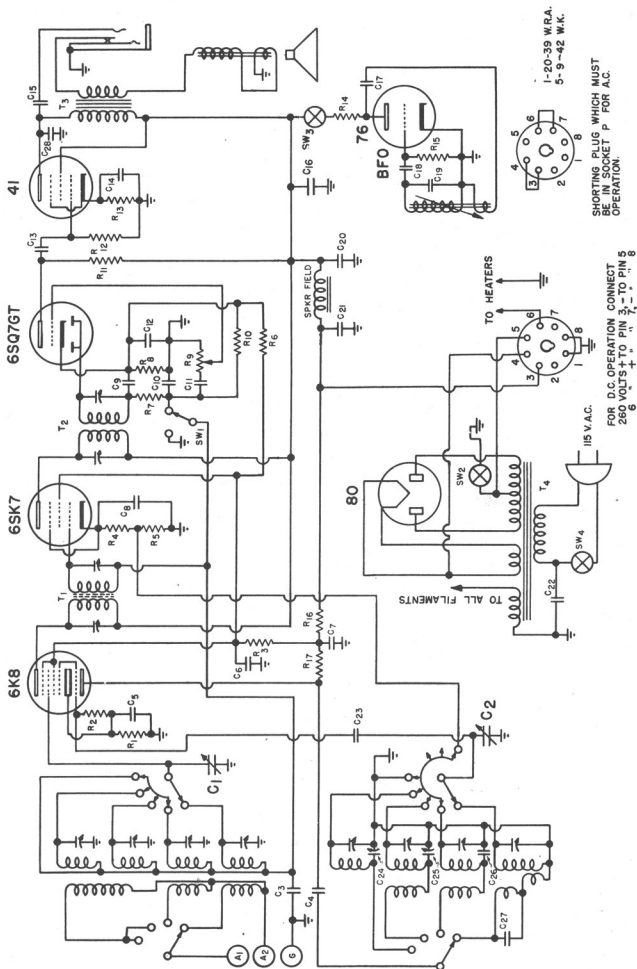
VIBRAPACK



BATTERIES



SCHEMATIC DIAGRAM—SKY BUDDY—MODEL S-19R

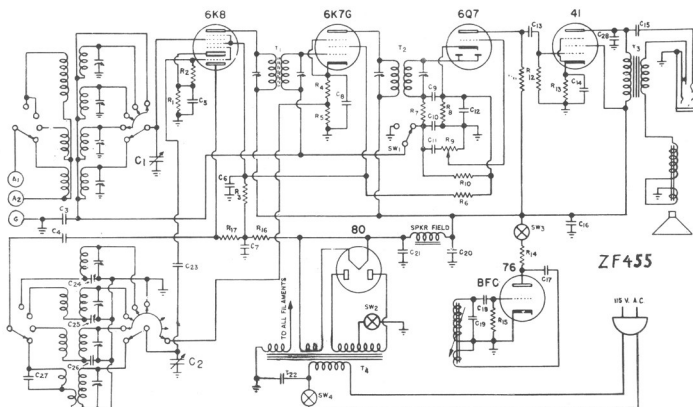


SHORTING PLUG WHICH MUST BE IN SOCKET P FOR A.C. OPERATION.

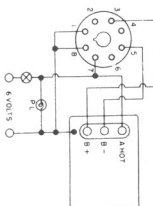
FOR D.C. OPERATION CONNECT 260 VOLTS + TO PIN 3, - TO PIN 5

S 19 R

HALLICRAFTERS



ZF455

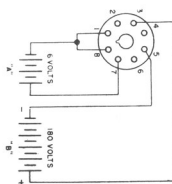


VIBRAPACK

CONNECTIONS TO "PWR" SOCKET AFTER REMOVAL OF SHORTING PLUG

D C OPERATION

BATTERIES



NO.	CAPACITY	TYPE	VOLTAGE	NO.	OHMS	WATTAGE
C1	.000375 mfd.	maintaining		R1	300	1/3
2	.05		200	2	50000	"
3	.01		400	3	10000	1/3
4	.01		200	4	500	1/3
5	.05		200	5	3500	"
6	.05		200	6	25000	1/3
7	.05		200	7	50000	"
8	.05		200	8	1000000	Variable
9	.0001		200	9	500000	1/3
10	.0001		200	10	2150000	"
11	.01		200	11	1000000	1/3
12	.01		200	12	600	1/2
13	.01		200	13	50000	1/3
14	.01		25	14	50000	1/2
15	.01		400	15	3000	1/2
16	.01		400	16	10000	1/2
17	.01		400	17	10000	1/2
18	.01		400	18	10000	1/2
19	.01		400	19	10000	1/2
20	.01		400	20	10000	1/2
21	.01		400	21	10000	1/2
22	.01		400	22	10000	1/2
23	.01		400	23	10000	1/2
24	.01		400	24	10000	1/2
25	.01		400	25	10000	1/2
26	.01		400	26	10000	1/2
27	.01		400	27	10000	1/2
28	.01		400	28	10000	1/2

SW
A.V.C. on - off
Send - Receive
BFO on - off

SWITCHES