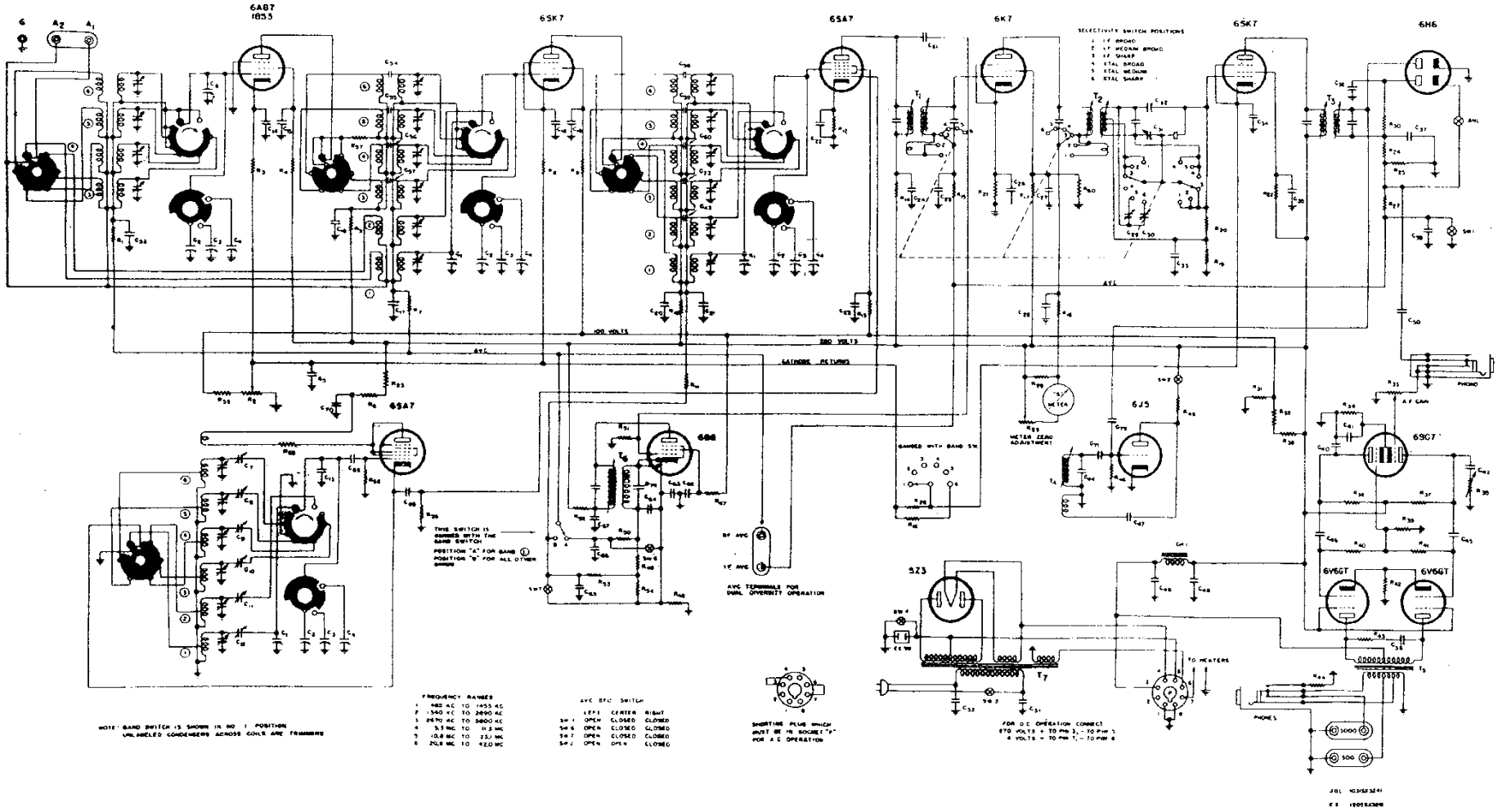
Hallicrafters, Inc.

Model: SX-32	Chassis:	Year: Pre March 1942
Power:	Circuit:	IF:
Tubes:		
Bands:		

Resources
Riders Volume 13 - HALLICRAFTERS 13-7, 8
Riders Volume 13 - HALLICRAFTERS 13-9
Riders Volume 13 - HALLICRAFTERS 13-10
Riders Volume 13 - HALLICRAFTERS 13-11
Riders Volume 13 - HALLICRAFTERS 13-12
Riders Volume 13 - HALLICRAFTERS 13-13
Riders Volume 13 - HALLICRAFTERS 13-14

Courtesy Nostalgia Air



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THE HALLICRAFTERS INC.

MODEL SX-32, Sky Rider

MODEL SX-32 SKYRIDER CONDENSERS

No.	Value	Voltage or Purpose	Type
C 1	Band No. 1	tuning condenser	....
C 2	Main	tuning condenser	....
C 3	3 plate	band spread cond.	....
C 4	5 plate	band spread cond.	....
C 5	.25 mfd	200	tubular
C 6	50 mmf	condenser	Variable Air
C 7	1550 mmf	Band No. 6 pad	mica
C 8	3160 mmf	Band No. 5 pad	mica
C 9	2830 mmf	Band No. 4 pad	mica
C10	1430 mmf	Band No. 3 pad	mica
C11	790 mmf	Band No. 2 pad	mica
C12	380 mmf	Band No. 1 pad	mica
C13	temperature	Compensated condenser	....
C14	.02 mfd	400	tubular
C15	.02 mfd	400	tubular
C16	.02 mfd	400	tubular
C17	.05 mfd	200	tubular
C18	.02 mfd	400	tubular
C19	.02 mfd	400	tubular
C20	.02 mfd	400	tubular
C21	.05 mfd	200	tubular
C22	.02 mfd	400	tubular
C23	.02 mfd	400	tubular
C24	.02 mfd	400	tubular
C25	2000 mmf	....	mica
C26	.02 mfd	400	tubular
C27	.02 mfd	400	tubular
C28	.02 mfd	400	tubular
C29	20 mmf	trimming condenser	....
C30	20 mmf	trimming condenser	....
C31	20 mmf	trimming condenser	....
C32	20 mmf	crystal phasing	air
C33	.02 mfd	400	tubular
C34	.02 mfd	400	tubular
C35	.05 mfd	200	tubular
C36	2000 mmf	....	mica
C37	50 mmf	....	mica
C38	.05 mfd	200	tubular
C39	.01 mfd	400	tubular
C40	500 mmf	....	mica
C41	30 mfd	25	electrolytic
C42	.02 mfd	400	tubular
C43	2 mmf	....	twisted leads
C44	500 mmf	10%	mica
C45	.05 mfd	400	tubular
C46	.05 mfd	400	tubular
C47	2000 mmf	....	mica
C48	30 mfd	450	electrolytic
C49	30 mfd	450	electrolytic
C50	.02 mfd	400	tubular
C51	.01 mfd	600	tubular
C52	.01 mfd	600	tubular
C53	.05 mfd	200	tubular
C54	10 mmf	....	ceramic
C55	5 mmf	....	ceramic
C56	5 mmf	....	ceramic
C57	2 mmf	twisted leads	....
C58	10 mmf	....	ceramic
C59	5 mmf	....	ceramic
C60	2 mmf	twisted leads	....
C61	250 mmf	....	mica IN-TI
C62	.02 mfd	400	tubular
C63	.05 mfd	200	tubular
C64	100 mmf	....	mica
C65	.02 mfd	400	tubular
C66	.05 mfd	200	tubular
C67	.02 mfd	400	tubular
C68	50 mmf	....	mica
C69	50 mmf	....	mica
C70	2000 mmf	....	mica
C71	100 mmf	....	mica
C72	2 mmf	twisted leads	....
C73	2 mmf	twisted leads	....
C74	25 mmf	....	mica

MODEL SX-32 SKYRIDER RESISTORS

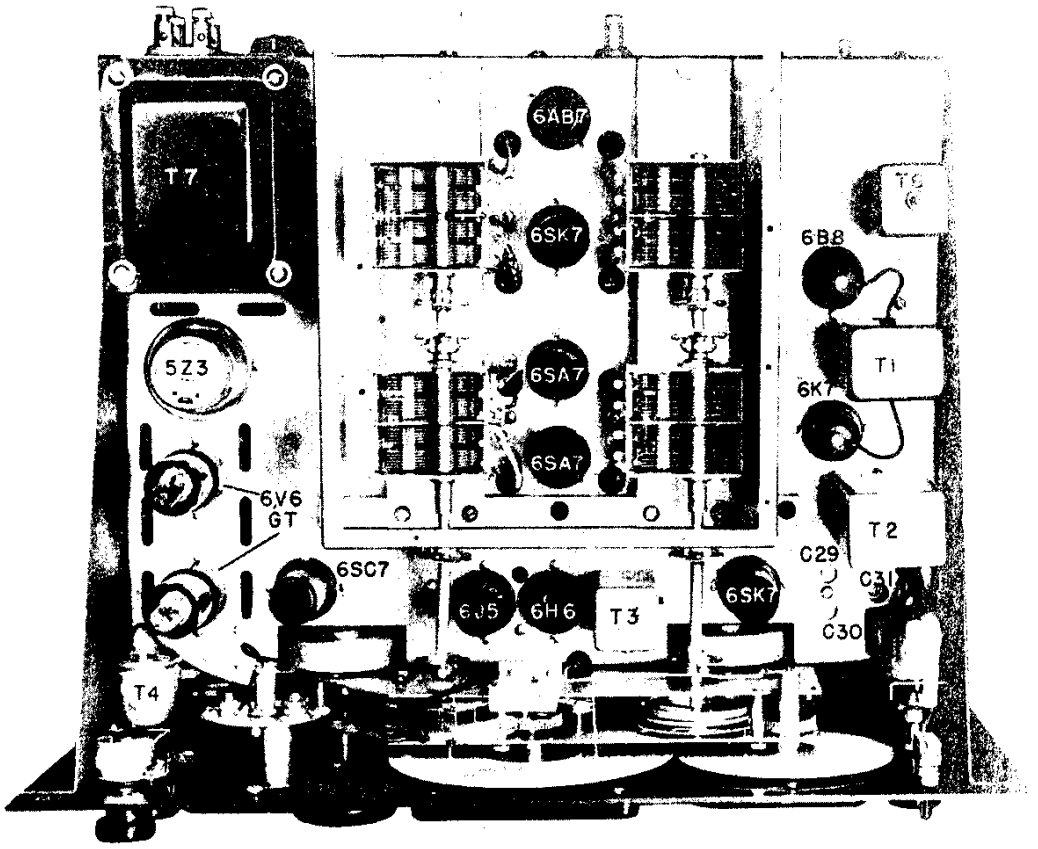
No.	Value in Ohms	Wattage or Purpose
R 1	100,000	1/3
R 2	10,000	RF Gain
R 3	300	1/3
R 4	25,000	1/2
R 5	1,000	1/3
R 6	7,000	2
R 7	100,000	1/3
R 8	300	1/3
R 9	1,000	1/3
R10	3,000	1/3
R11	100,000	1/3
R12	400	1/3
R13	1,000	1/3
R14	3,000	1/3
R15	100,000	1/3
R16	3,000	1/3
R17	30,000	—1 watt
R18	3,000	1/3
R19	100,000	1/3
R20	500,000	1/3
R21	250	1/3
R22	60,000	1/2
R23	5,000	1/2
R24	100,000	1/3
R25	250,000	1/3
R26	5,000	1/3
R27	2. meg	1/3
R28	100	1/3
R29	500	S Meter Control
R30	1. meg	1/3
R31	11,000	Candohm 1-1/2 Watts
R32	4,000	Candohm 7 Watts
R33	500,000	Audio Gain
R34	1,000	1/3
R35	500,000	Tone Control
R36	100,000	1/3
R37	100,000	1/3
R38	2,500	2
R39	200,000	1/3
R40	250,000	1/3
R41	250,000	1/3
R42	200	2 10%
R43	20,000	1
R44	5,000	10
R45	20,000	1
R46	50,000	1/3
R47	1,000	1/3
R48	200	1/3
R49	250,000	1/3
R50	500,000	1/3
R51	500,000	1/3 Inside of T1
R52	3,000	1/3
R53	500,000	1/3
R54	50,000	1/3
R55	50,000	1/3
R56	50,000	1/3
R57	500	1/3
R58	8	1/3
R59	15,000	1/2
R60	50,000	1/3

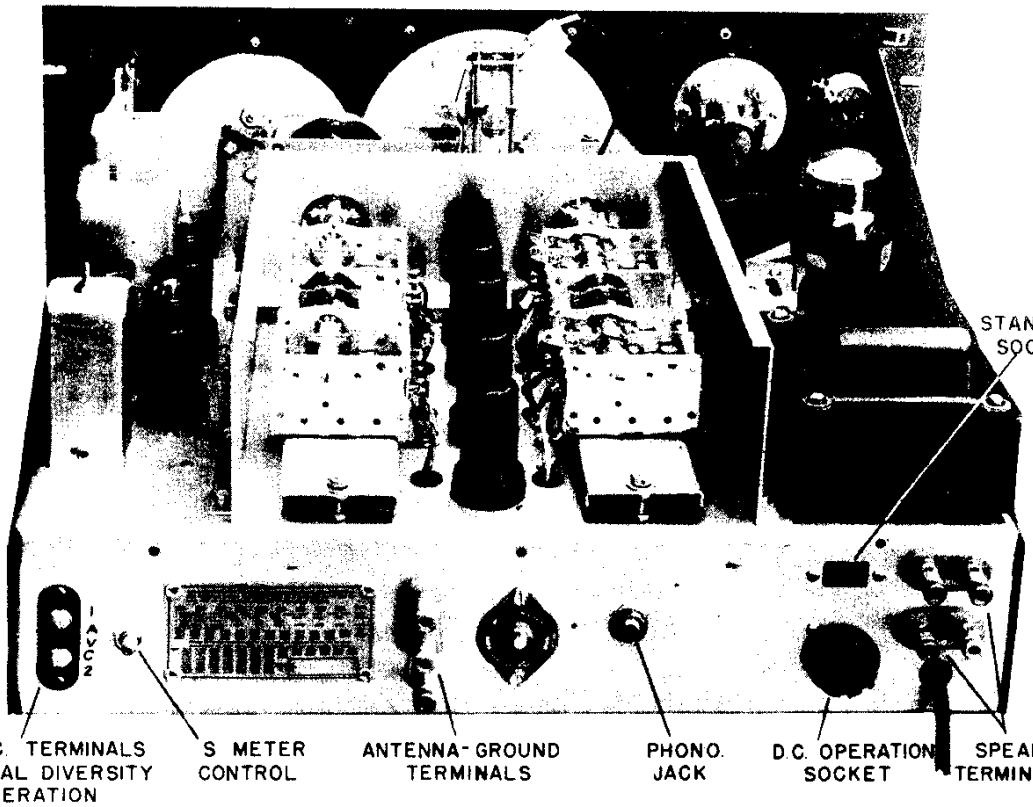
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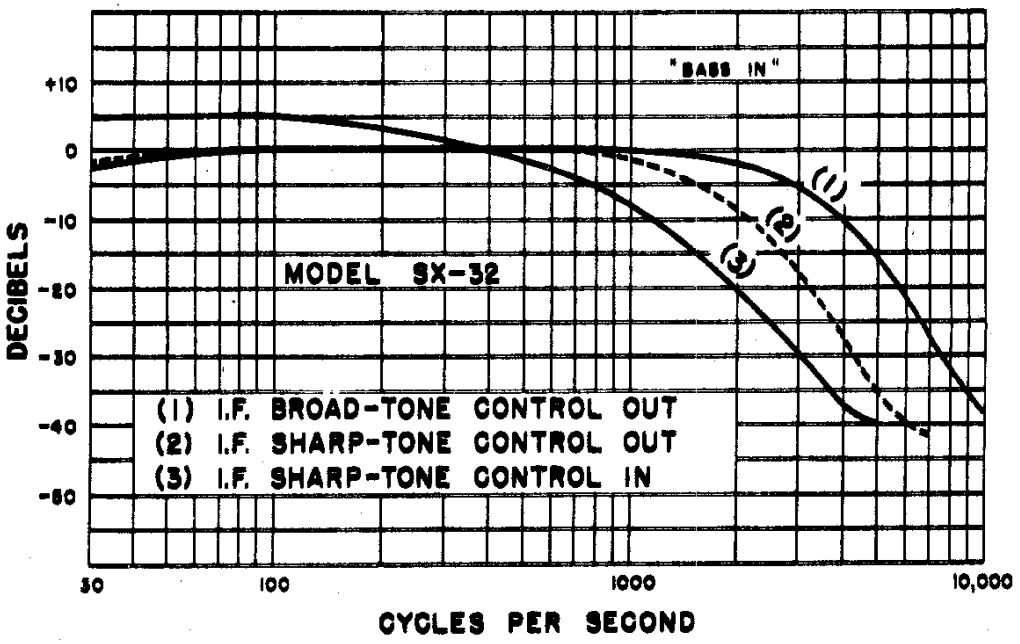


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AUDIO FIDELITY CURVE



The following measurements made with a 20,000 ohms per volt meter and taken from the socket terminal indicated to ground or receiver chassis. Antenna and ground were disconnected from the receiver when these measurements were taken and the RF and AF gain controls set at maximum. "DL" means Dead Lug but will indicate voltage when used as a tie. Normal tolerance allows a variation of ±10% from the indicated values.

TUBE	FUNCTION	SOCKET TERMINALS								
		1	2	3	4	5	6	7	8	Cap.
6AB7	RF Amp. (1)	...	...	...	...	4.5	180	6.3	245	...
6SK7	RF Amp. (2)	...	...	4.35	0.1	4.35	120	6.3	230	...
6SA7	Mixer	...	...	250	100	...	3.7	6.3	...	...
6SA7	HF Osc.	...	...	120	120	0.3	...	6.3	120	...
6K7	IF Amp. (1)	...	...	280	120	...	...	6.3	4	=.075
6SK7	IF Amp. 2	...	...	4	...	4	120	6.3	280	...
6B8	AVC Amp.	...	...	230	0.2	0.2	120	6.3	2	...
6H6	ANL and DET.	...	...	...	...	...	...	6.3	...	...
6J5	Beat Osc.	...	...	130	...	—7	...	6.3	...	BFO ON ONLY FOR TEST
6SC7	1st Audio Amp.	...	140	...	...	137	1.4	6.3	...	...
6V6GT	P.P. Audio Amp.	...	...	290	265	...	...	6.3	17	...
6V6GT	P.P. Audio Amp.	...	...	290	265	...	...	6.3	17	...
5Z3	Rectifier	320	340 AC	340 AC	320	...	...	...	...	...

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THE 1942 MODEL SX-32 SKYRIDER RECEIVER

INSTRUCTIONS FOR INSTALLATION, OPERATION AND SERVICE

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. Should any sign of damage be apparent immediately file claim with the carrier stating the extent of the damage.

Important: Unless otherwise marked, this receiver is to be operated from 110-125 volts of 50/60 cycle alternating current. A universal 110-220 volt model is obtainable on order. This model can be operated at either of those two voltages with 25/60 cycle current. If the voltages are higher than indicated an external stepdown transformer must be used. A switch, mounted on the top of the universal transformer case, will allow convenient 110-220 voltage change.

The standard model SX-32 receiver comes equipped with a cabinet for table mounting. The standard 8¾" x 19" panel dimension with holes suitably spaced make it possible for the chassis to be mounted in a standard relay rack. Maximum overall chassis length is 17⅞" and depth 13½". When the model SX-32 is so mounted the table cabinet is replaced with a dust cover. The maximum over-all length of the receiver will then allow it to be mounted in a rack with upright channel clearance of 17½"

TERMINALS AND CONNECTIONS ON REAR OF RECEIVER

SPEAKER

On the rear apron of the receiver's chassis appear two terminal strips for connecting either a 500 or 5000 ohm speaker to the receiver. Should a matching HALLICRAFTERS Bass-Reflex speaker be used with the receiver, it should be connected to the 5000 ohm terminals. The 500 ohm terminals can be connected to a speaker or other load of that impedance value.

ANTENNA

To the terminals marked A1-A2 and G should be connected the antenna you have chosen to use with the model SX-32 receiver.

Very satisfactory results throughout the tuning range of the SX-32 will be obtained with a conventional inverted "L" Marconi type of antenna 75 to 100 feet long including lead-in. This antenna should be erected as high as possible and removed from surrounding objects. Be sure that the antenna is insulated from the ground at all points. When this type of antenna is used it is connected to terminal A-1. The Jumper between A-2 and G should remain connected.

In the event a doublet antenna is used with the model SX-32 SKYRIDER receiver, the two wires of the doublet lead-in should be connected to terminals A1 and A2. The Jumper between A2 and G can remain connected or removed, depending upon its effect on favorable reception.

A ground can be used if desired and should be connected to the G terminal. Connecting the receiver to a good ground (cold water pipe or 6 foot rod driven in moist soil) might improve reception and reduce noise. Under normal conditions no noticeable difference will exist so a ground is suggested only if it aids reception.

Should you wish to have a separate antenna for some one short wave frequency or band, a half-wave antenna cut to the proper length for the desired frequency will prove very effective. The following formula will give the length of the ½ wavelength antenna depending on the desired frequency.

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

or, for example, a half wave 40 meter antenna would be $\frac{463}{7} = 66.14$ feet long.

The antenna should preferably be of solid soft drawn enameled copper wire for ease in handling. The center of the wire is cut and an insulator inserted at that point. The twisted pair, or open wire transmission line, is then soldered to each 33 foot length, after the enamel has been scraped off, directly on either side of this center insulator. The other end of the transmission line should be connected to A1 and A2 on the receiver. It should be remembered that such an antenna has directional properties broadside to its length and should be so oriented if maximum pickup from a certain direction is to be expected.

In designing transmission line systems for a more accurate match of the line to the antenna input circuit, it will be helpful to know that the approximate antenna input impedance of the receiver is 400 ohms.

STAND-BY SOCKET

The Send-Receive switch on the front panel makes the receiver inoperative by removing the plate voltage from the tubes when the switch is in the SEND position. Connected in parallel with this switch is the standard 110 volt receptacle on the rear chassis edge. Should you wish to make the receiver inoperative by using a remote relay or switch, connect the contacts of the relay to a standard plug, insert it in the STAND-BY switch socket and the external relay or switch will close and open the circuit so long as the SEND-RECEIVE switch on the front panel is in the SEND position.

PHONO JACK

The Phono-Jack enables you to use the high fidelity audio amplifier of the receiver for phonograph record or transcription play-back purposes. A high impedance crystal or magnetic pick-up arm should be used for this purpose and connected to a standard headphone plug. This plug is then inserted in the PHONO-JACK when record playing is desired. The receiver is inoperative to radio signals, when the plug is in the phono-jack.

The volume of the audio amplifier is varied by rotating the AF Gain control until the proper level is obtained. Removal of the plug from the Phono-Jack once more places the RF and IF portions of the receiver in operation.

6 VOLT DC SOCKET

The DC Operation Socket can be used when it is necessary to furnish power to the receiver from a direct current source. For conventional AC operation, the shorting plug must remain in the DC Operation socket. This plug should be removed for battery or vibrapack operation. A similar plug to the shorting plug should be wired as shown on the Schematic diagram and connected to the external source of DC power. The DC operation plug is then inserted in the socket and operation from batteries or a vibrapack is secured.

270 volts of plate voltage, or B supply, at 150 milliamperes current are necessary for successful operation of the receiver, should it be operated in this manner.

"S" METER ZERO SET

"S" METER CONTROL is obtained by varying the knurled knob appearing on the left hand chassis apron edge. This control enables you to properly set the "S" Meter to zero. In order to make the adjustment correctly, the RF GAIN CONTROL must be advanced clockwise as far as it will go. In addition, the switch directly below the bandspread hand-wheel must be in the AVC—ON Position. When these conditions have been complied with, remove the antenna from the Receiver and then adjust the S meter control until the S meter reads zero. Reconnecting the antenna to the receiver will then make the meter indicate the relative carrier strength of each incoming signal as various signals are tuned in.

The large calibrated main dial shows the frequencies covered throughout the 6 band, 500 K.C. to 42 m.c. frequency range of the reciever. They are as follows:

Band 1—	500	to	1400	kilocycles
Band 2—	1.4	to	2.7	megacycles
Band 3—	2.7	to	5.3	megacycles
Band 4—	5.3	to	11	megacycles
Band 5—	11	to	21	megacycles
Band 6—	21	to	42	megacycles

ALIGNMENT PROCEDURE MODEL SX-32 SKYRIDER

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 5000 ohm output terminals.

3—Non-metallic screw driver.

4—Dummy antenna of 200 mmf and also 400 ohm carbon resistor.

Setting of controls prior to alignment—IF and RF.

Tone control at maximum high frequency position (#9)—BFO at 0—AF Gain at #9—RF Gain at #9—Band switch—IF alignment position ..5 to 1.4 band. |—RF alignment depending on band aligned.

Selectivity control sharp IF, Send-Receive switch in Receive, Crystal phasing at #3 on left side, ANL—OFF,—AVC OFF.

Important: Have bandspread control so logging scale reads 100.

Antenna trimmer adjusted for Maximum gain at each RF alignment point on Bands 3-4-5-6.

Note: Antenna trimmer not in circuit on bands 1 and 2.

455 KC—IF Alignment: Tune main dial to 1400 kc on .5 to 1.4 m.c. band. Connect the hot lead from the signal generator to 6SA7 mixer terminal #8—Ground to chassis. Roughly adjust the aligning screws of T1, the lower screw of which is accessible through hole in right mounting bracket, for maximum gain. Now adjust lower screw on T2 (do not adjust upper screw). Also adjust C31 and the trimmer screws at the top of T3 for maximum gain.

Switch to Crystal Broad Position—Turn on BFO and adjust to a tone of about 1000 cycles. Vary the frequency of the signal generator while adjusting the top screw on T2 until the output goes through a maximum, dips down and starts going up again. Adjust the phasing control for maximum selectivity and then back off the top screw on T2 until the output reaches a minimum value between the two maximum values first noted. The frequency of the signal generator should be varied over a small range while adjusting the top screw of T2. A swishing note, in contrast to the usual sharp crystal tone will be apparent when the correct adjustment has been reached.

Switch to "Xtal Sharp" and adjust C_{30} for maximum output while varying signal generator frequency. Two points of maximum output will be noted corresponding to two adjustments of C_{30}. Either one of these points may be used at which to leave C_{30}. A sharply peaked tone will result at the correct adjustment.

Switch to "Xtal Medium" and adjust C_{29} till the output is midway between the outputs reached while aligning the "Xtal Sharp" and "Xtal Broad" positions. The apparent sharpness of tone should be midway between the "Sharp" and "Broad" positions.

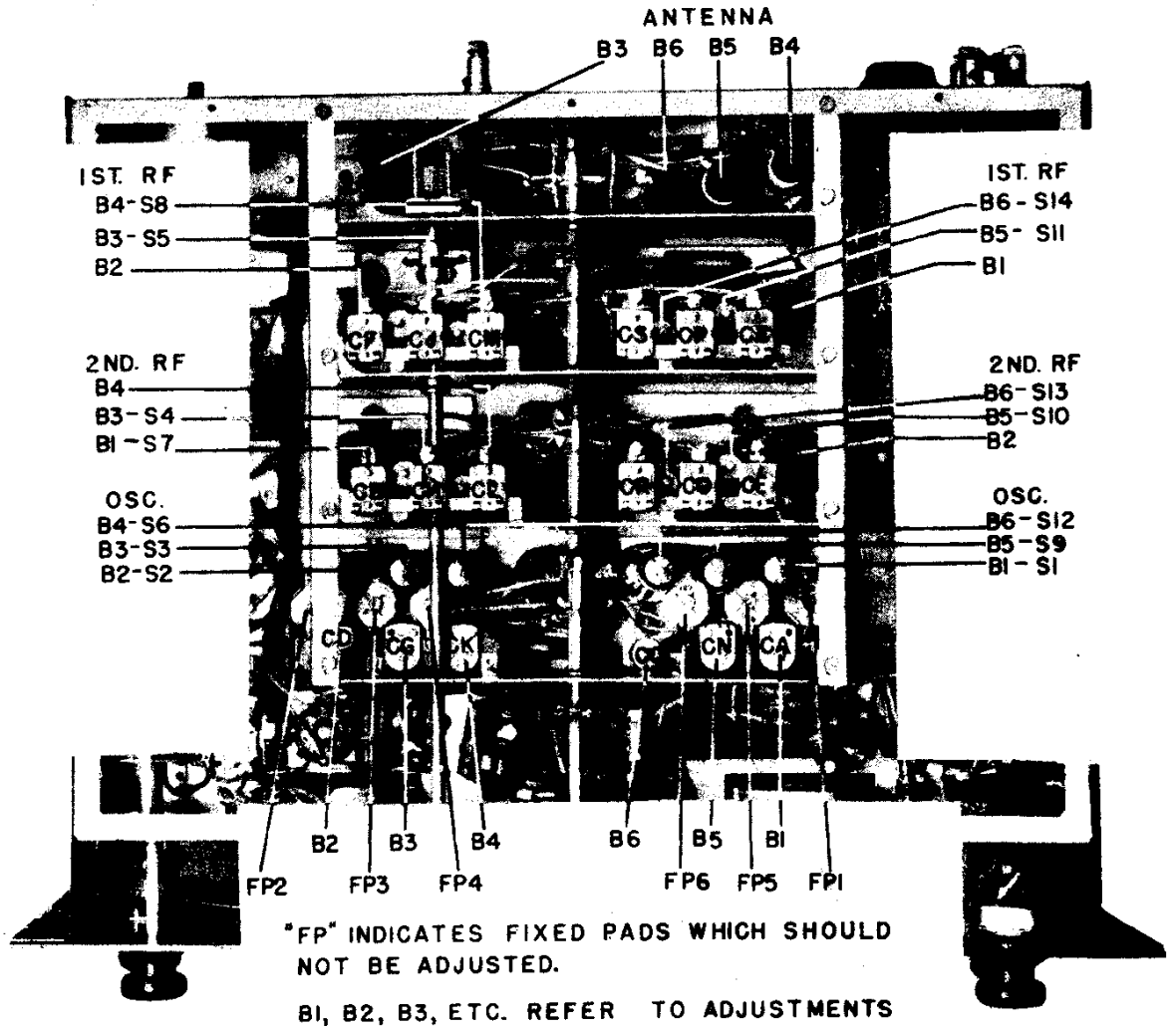
Switch again to "Xtal Sharp" and set the signal generator to exact crystal frequency. Set BFO front panel control to a tone of approximately 1000 cycles. Switch again to "Sharp IF" and carefully realign the IF transformers as earlier described in the first paragraph of these instructions.

Beat Frequency Oscillator Adjustment:—In the center of the "Pitch Control" shaft, after the knob has been removed, you will find a recessed screw for the adjustment of the Beat Frequency Oscillator. Before rotating this screw with a suitable screw driver, loosen the set screw on this shaft. This set screw can be reached with a spintite wrench from the top. With the signal generator connected to the 6SA7 mixer terminal #8 as above, the generator set to the frequency of the crystal, and the BFO switch on, adjust the screw in the center of the pitch control till zero beat is heard. Tighten the set screw and assemble the knob so that this zero beat position will occur in the center of the total angular rotation of the pitch control knob.

AVC Amplifier Adjustment:—Connect a high resistance voltmeter across resistors R-49 and R-54. With the signal generator tuned to the crystal frequency as above, adjust the trimming screw on top of T-6 till the voltmeter reads maximum.

THE HALLICRAFTERS INC.

MODEL SX-32, Sky Rider



"FP" INDICATES FIXED PADS WHICH SHOULD NOT BE ADJUSTED.

B1, B2, B3, ETC. REFER TO ADJUSTMENTS ON BAND 1, BAND 2, BAND 3, ETC.

RF ALIGNMENT

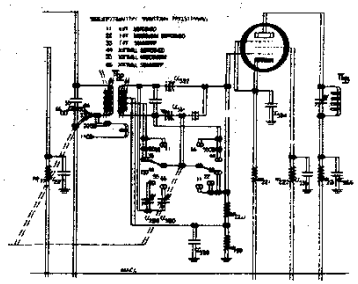
Connect hot lead of signal generator to A_1—through dummy antenna shown in table. Leave jumper connected between A_2 and G. Ground of Generator to Chassis.

Band	Rec. Dial Setting	Sig. Gen. Freq.	Dummy Antenna	HIGH FREQUENCY END		LOW FREQUENCY END	
				Adjust Osc. With	Adjust Trimmers for Max. Gain	Adjust Osc. With	Permeability Tuned By
1	1.2 mc	1.2 mc	200 mmf	C_A	C_B C_C	....	.....
1	.6	.6	200 mmf	....	.....	S_1	.....
2	2.6	2.6	400 ohms	C_D	C_E C_F	....	.....
2	1.5	1.5	400 ohms	....	.....	S_2	.....
3	5	5	400 ohms	C_G	C_H C_J	....	.....
3	3.0	3	400 ohms	....	.....	S_3	S_4 S_5
4	10	10	400 ohms	C_K	C_L C_M	....	.....
4	5.6	5.6	400 ohms	....	.....	S_6	S_7 S_8
5	20	20	400 ohms	C_N	C_O C_P	....	.....
5	11	11	400 ohms	....	.....	S_9	S_{10} S_{11}
6	38	38	400 ohms	C_Q	C_R C_S	....	.....
6	22	22	400 ohms	....	.....	S_{12}	S_{13} S_{14}

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CRYSTAL FILTER CIRCUIT

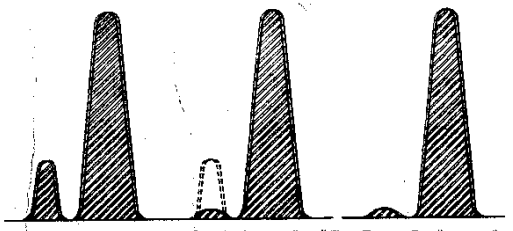
In positions 1, 2, 3 the crystal is shorted out of circuit. In position 4 the shorting bar across the crystal is opened and the iron core in the secondary of the transformer is adjusted for Broad Crystal Action and in this position is accurately tuned to the crystal frequency. Due to the close coupling of the secondary to the crystal, the sharply rising resistance curve of the crystal causes, in contrast, a sharply falling resistance curve in the secondary. The combined action of these two characteristics results in a relatively broad resonance curve for the CRYSTAL BROAD selectivity setting. In the MEDIUM CRYSTAL Sel. 3 position, C_{28} is adjusted for selectivity midway between the BROAD and CRYSTAL SHARP settings.

In position 6, or CRYSTAL SHARP, the trimmer C_{28} is adjusted for the sharpest crystal action. Under this condition, the secondary is slightly detuned from the resonant crystal frequency sufficiently so that its resonance curve is not greatly affected by the crystal but still coupled slightly enough so that it can transfer energy to the crystal circuit. When this point is reached it is indicated by a dip in the output. Two such points of increased output will normally occur—one for each adjustment of the secondary on either side of the resonant frequency of the crystal.

SINGLE SIGNAL ADJUSTMENT

It is extremely simple to obtain single signal reception with the SX-32. First, turn on the BFO to the desired pitch. Now, roll turn the selectivity switch to the XTAL SHARP position. Pick a good solid CW signal, preferably a commercial station because a commercial is likely to stay on long enough for you to complete the phasing adjustment for single signal reception.

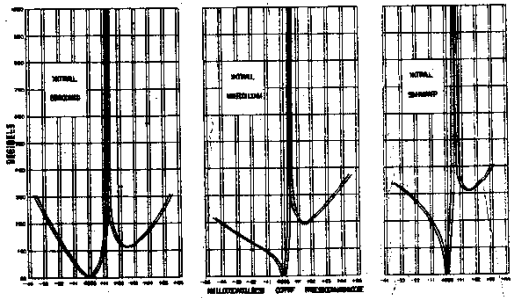
You will find on rotating across this signal that it has two amplitudes. There first to the weaker of these two amplitudes. Now, turn the PHASING control until this weaker of the two amplitudes is reduced to a minimum. (If the weaker amplitude appears on the right of the stronger, reverse the setting.) Then tune to stronger of the two amplitudes and adjust the BFO control to a tone most pleasing to you. This adjustment for single signal selectivity will hold with no further adjustment unless you change the phasing control.



With Selectivity Switch on XTAL Sharp position identify the weaker amplitude—Tune Receiver to the weaker.

Adjust phasing control carefully until this weaker amplitude is reduced to a minimum.

Retune Receiver to the stronger amplitude and then adjust pitch control until you get most pleasing tone.



CRYSTAL FILTER CURVES

NOTE: The CRYSTAL FILTER and builder are wired directly into the receiver and do not plug in as formerly. In this manner exceptional crystal filter action is obtained because of the elimination of the capacity and losses of a socket. In mounting the crystal, excessive possible change in pulsing which would occur if the crystal were improperly inserted in the circuit. The size of the crystal has been carefully determined to allow the BROAD CRYSTAL position to tune as broadly as possible. The capacity of the crystal holder has been reduced to a minimum through the use of a specially designed polystyrene holder.

AVC ACTION

A diuodide AVC system is used. The RF and mixer tubes are operated by the broadly tuned common coming through only three normal IF circuits. The final signal however passes through six-tuned IF circuits. As a result, when the signal is slightly detuned, the receiver output has dropped considerably while the AVC action has dropped but very little. Thus results in a reduction of between-station noise and a more sharply defined tuned coming action.

"S" OR SIGNAL INTENSITY METER

The approximate DB per S unit equivalent is 6 DB's. As is known, a DB, or decibel, is a unit of change in signal level and is defined as being the least detectable change the average ear can appreciate when listening to a single practical tone. DB is the least change the ear detects when listening to sounds varying in both amplitude and pitch. By comparison, a variation of one S unit on the meter will indicate a change of two detectable steps in signal level. Quantitatively, a DB gain or loss is equal to 20 log $\left(\frac{E_1}{E_2}\right)$ where E_1 = input voltage and E_2 = output voltage.

THE SECOND DETECTOR

As will be noted, a diode type of second detector is used in the Model SX-32. Its choice was prompted by the fact that such a detector is capable of handling large percentages of modulation with very little distortion. Thus is due to the output of the diode being easily filtered (IF Removed). In addition, the rectified output contains a DC component which can be used for AVC purposes.

THE BEAT FREQUENCY OSCILLATOR

The BFO is tuned on with the switch below the band-spread handwheel and adjusted by the shorted knob directly below the tone control. The BFO circuit, as well be seen by referring to the schematic, is the well known Hartley oscillator. It will be noticed that a plate dropping resistor is used to compensate for plate voltage variations. An increase in receiver voltage causes an increase in the plate current of the oscillator. This increase in turn causes the voltage drop across the resistor to increase, thus maintaining a more constant voltage at the plate of the beat oscillator tube. A favorable ratio of capacity to inductance is used. The fixed tank capacity has been artificially aged by alternately expanding it to very high and then low temperatures. In this manner new residual strains of the component parts are removed and the capacity of the condenser remains constant. The BFO unit is permeability tuned which further removes the possibility of drift which would occur should a compression variable be used to resonate the circuit.

Proper location of the Beat Oscillator tube and its associated components plus excellent shielding and mechanical rigidity do much to keep stray fields from being established. Little BFO leakage is to be expected in the Model SX-32 so "squeals" or BFO harmonics will not prove to be bothersome.

THE AUDIO AMPLIFIER

The second or output stage of the audio amplifier in the Model SX-32 receiver uses two 6V6GT tubes connected in push-pull. These tubes are driven by the 6SC7 diuodide triode. One of the triode sections of the 6SC7 tube is used as the inverter to the 6V6GT tubes. A portion of the signal from the plate circuit of the first 6SC7 triode is fed to the grid of the other 6SC7 triode section, thereby giving two output voltages in opposite phase suitable for exciting the push-pull 6V6GT output amplifier.

THE POWER SUPPLY

The power supply in the Model SX-32 is quite unusual except that it supplies voltage for the 6V6GT output tubes directly from the rectifier or before the filter system. Voltage fluctuations in the receiver are greatly reduced—increasing the audio output of the receiver and stabilizing the operation of all circuits.

The filter circuit consisting of a used of 60 mfds of capacity and a 12 henry choke keep the hum level of the receiver in excess of 60 DB below maximum output. The power transformer is built to withstand continuous operation at 250 degrees F but the hum designed to run at approximately 160 degrees F under normal conditions.

SPECIFICATIONS

Tubes:

1—6SK7	1st RF Amplifier
1—6SK7	2nd RF Amplifier
1—6SA7	Mixer
1—6SA7	HF Oscillator
1—6K7	1st IF Amplifier
2—6SK7	2nd IF Amplifier
1—6H6	AVC Amplifier
1—6H6	2nd Detector and A.N.L. Tube
1—6J5	Beat Oscillator
1—6SC7	1st Audio Amplifier
2—6V6GT	Push-Pull Output Amplifiers
1—5Z3	Rectifier

Power Consumption—at 117 volts—60 cycles—190 watts
Power Consumption—DC operation—105 amp. at 6 volts or 120 watts
Power Output —8 watts undistorted
Sensitivity—(for .05 watts output) Bands 1 to 5—2 MV and under, 6th band 4 MV

	2 x	1000 x
Selectivity—IF broad (high fidelity)	12 kc	35 kc
IF Sharp	4.1 kc	22 kc

Frequency Range RF—None: These are the usual frequencies covered corresponding to numerical figures as indicated on the front panel.

540	to 1450	kilocycles
1.4	to 2.8	megacycles
2.7	to 5.8	megacycles
5.2	to 11	megacycles
10.5	to 22	megacycles
21	to 42	megacycles

Frequency response AF (sound IF—none unusual high-70 to 3000 cycles = 2½ DB
Speaker Output Impedance—5000 and 500 ohms
Intermediate Frequency—455 kc
Table cabinet dimensions—20½" long x 10" high x 14¾" deep
Relay Rack dust cover dimensions—14¾" deep x 17¾" long x 10½" high
Panel dimensions—19" x 10½"
Chassis dimensions—17⅞" x 12½"
Weight—(unpacked)—75 lbs. —packed 87 lbs.