

the hallicrafters co.

MANUFACTURERS OF RADIO AND ELECTRONIC EQUIPMENT, CHICAGO 16, U.S.A.

SERVICE DATA FOR THE SKYRIDER JUNIOR MODELS S-41G & S-41W



S-41G



S-41W

DESCRIPTION

The Sky rider Junior (models S-41G and S-41W) is a six tube, three band, A-C/D-C, semi-portable receiver covering the frequency range 550 kc. (kilocycles) to 30 mc. (megacycles). Domestic broadcast stations can be tuned in on BAND 1. Domestic or foreign short wave broadcast and code stations can be tuned in on the other two bands. Provision is made for either speaker or headset operation, the speaker being built into the cabinet. Finer or vernier tuning is provided for short wave stations (foreign and domestic broadcast and code) by means of the FINE TUNING dial.

INSTALLATION AND ADJUSTMENT

1. INSTALLATION.

- a. **Unpacking.** - Carefully unpack and inspect the receiver for any possible damage during shipment. In case of damages, a claim should be filed immediately with the transportation company.
- b. **Mounting.** - The receiver is designed for table top operation, hence is equipped with rubber feet. In your installation allow for adequate ventilation.
- c. **Aerial Recommendations.** - Three terminals are provided on the Aerial terminal strip at the rear apron of the receiver chassis. Terminals "A" and "A" are connected to the primaries of the first detector stage transformers and the "G" (ground) terminal is connected to the receiver ground system.

(1) **Single Wire Aerial.** - When using a single wire aerial installation, connect the jumper bar between the aerial terminals "A₂" and "G". A single wire aerial of about 50 to 75 feet (including lead-in) is then connected to terminal "A₁". Use a No. 14 (AWG) or heavier wire for best results. Erect the aerial as high and free from surrounding objects as possible. This type of aerial works well where the signal to noise ratio is relatively high and a more elaborate installation is not available.

(2) **Doublet Aerial.** - The doublet aerial is recommended where receiving conditions are relatively poor or where maximum sensitivity is required over a relatively narrow range of frequencies. The lead-in from the doublet aerial is connected to terminals "A₂" and "A₂" and the jumper bar is disconnected. If a lead-in with a grounded outer shield is used, connect the shielded conductor to terminal "A₁" and the shield to terminal "A₂", and connect the jumper bar between terminals "A₂" and "G". To determine the proper length in feet of the doublet aerial, divide 408 by the desired listening frequency in megacycles. Keep in mind that this type of aerial is directional broadside to its length and should be so positioned if maximum pick-up from a given direction is desired.

d. **Headset Connections.** - A phone tip jack is located on the rear apron for head set cord tips. When using phones the PHONES/SPEAKER switch must be set at PHONES.

2. PREPARATION FOR USE.

a. **A-C Operation.** - The receiver may be operated from a 115-volt, 60 cycle, single phase alternating current line. Check the line voltage with your utility company, if in doubt, as the receiver should not be operated from an outlet having a potential higher than 125 volts.

b. **D-C Operation.** - The receiver may be operated from a 115-volt direct current source. Do not operate the receiver from an outlet having a potential higher than 125 volts. If the receiver fails to respond to the power switch reverse the line plug in its receptacle to obtain the required polarity.

3. ADJUSTMENTS.

No preliminary adjustments are required on this equipment to put it into operation as the receiver has been properly aligned and tested at the factory before shipment.

OPERATION

1. CONTROLS AND THEIR FUNCTIONS.

Scanning across the front of the receiver from left to right, the controls and their functions are as follows:

a. **BROADCAST-Code.** - This switch is set at CODE for foreign and domestic code reception and at BROADCAST for foreign and domestic broadcast reception.

b. **MAIN TUNING Control.** - This control tunes the receiver to the desired radio station. The frequency is read directly from the dial when the FINE TUNING pointer is set at zero.

c. **ANTI NOISE-NORMAL Switch.** - This switch when set at ANTI NOISE helps to limit excessive background noise. It should be used only when background noise is troublesome.

d. **VOLUME Control.** - The volume control, as its name implies, controls the level of the signal. Also included as a part of this control is the receiver's power switch, turning the control all the way to the left shuts off the receiver.

e. **BAND SELECTOR Switch.** - The band switch selects one of the three bands or frequency ranges available to the listener. The frequencies covered by each band switch position are read directly from the main tuning dial.

f. **PHONES/SPEAKER Switch.** - This switch directs the audio signal to either the speaker or the headset plugged into the PHONES jack on the rear chassis apron.

g. **FINE TUNING Control.** - This control operates in conjunction with the MAIN TUNING control, spreading the tuning out over a wider arc, hence acting as a vernier adjustment. When this control is set at zero the main tuning dial calibration will be the frequency of the station.

h. **RECEIVE-STANDBY Switch.** - Use this switch for stand-by purposes when the receiver is to be disabled for short period of time. This switch disconnects the d-c plate voltage but leaves the tube heaters at operating temperature for instant use.

2. OPERATION.

Listed below are the receiver controls and their settings for the two types of reception provided by this receiver, namely, foreign and domestic broadcast and foreign and domestic code reception.

a. Foreign and Domestic Broadcast Reception. - To receive broadcast stations set the controls as follows:

- VOLUME control - Set at OFF when the receiver is not in use. Turn to the right until desired volume is obtained after tuning in the station.
- BAND SELECTOR switch - Set at band number corresponding to the range covering desired frequency of reception.
- BROADCAST-CODE switch - Set at Broadcast. This switch may be set at CODE to help tune in weak phone signals by tuning for zero beat and then switching back to BROADCAST.
- PHONE/SPEAKER switch - Set at PHONE for headset reception; set at SPEAKER for loud-speaker reception.
- RECEIVE-STANDBY switch - Set at RECEIVE when listening, set at STANDBY during short standby periods.
- FINE TUNING control - Set at zero when tuning in stations with the MAIN TUNING control. Tuning dial calibrations are true only when the FINE TUNING pointer is set at zero. Use the FINE TUNING control for amateur band reception or for vernier tuning in the short wave bands.
- MAIN TUNING control - Set main tuning pointer at frequency of desired station. FINE TUNING pointer must be set at zero for true calibration.
- ANTI NOISE-NORMAL switch - Set at NORMAL unless background noise is excessive.

b. Foreign and Domestic Code Reception. - To receive code stations set the BROADCAST-CODE switch at CODE. All other controls are to be handled as for foreign and domestic broadcast.

MAINTENANCE (For use by service man)

1. PREVENTIVE MAINTENANCE.

All components of the receiver should be given a thorough inspection at regular intervals. The time interval between inspections will be determined by the operating conditions of the individual installation. In general keep the components clean and dry. Dust should be blown out with dry air or brushed out carefully. Do not oil condenser wipers or switch contacts as noisy reception will result from intermittent electrical contact at these points. Check the tubes and make sure that all are held securely in their sockets.

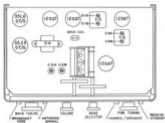
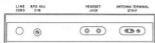
2. ALIGNMENT.

Listed below in table form, are the alignment frequencies and adjustments necessary to align the receiver. CAUTION - Do not connect signal generator ground directly to the chassis, connect it to the "0" terminal of the antenna terminal strip.

ALIGNMENT DATA*

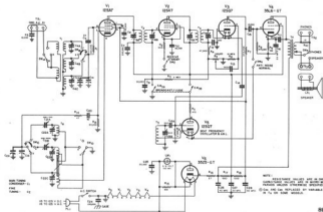
Band	Signal Generator Frequency	Dummy Antenna	Adjust Pads	Adjust Trimmers
I-F	455 kc.	None	None	C-8A, C-8B, C-11A, C-11B
BFO	455 kc.	None	Adjust capacitor C-19 for zero beat.	
1	800 kc. 1800 kc.	330 ohm 330 ohm	C-21A None	None C-22A, C-4A
2	2.4 mc. 7.0 mc.	330 ohm 330 ohm	C-21B None	None C-22B, C-4B
3	No low frequency adjustment on this band. 28 mc.	330 ohm	None	C-22C, C-4C

*Note: Always set bandspread scale indicator at "0" before making adjustments.



Tube locations and alignment points - Models S-410 & S-41W.

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Schematic Diagram - Skyriör Junior - Models S-410 & S-41W.