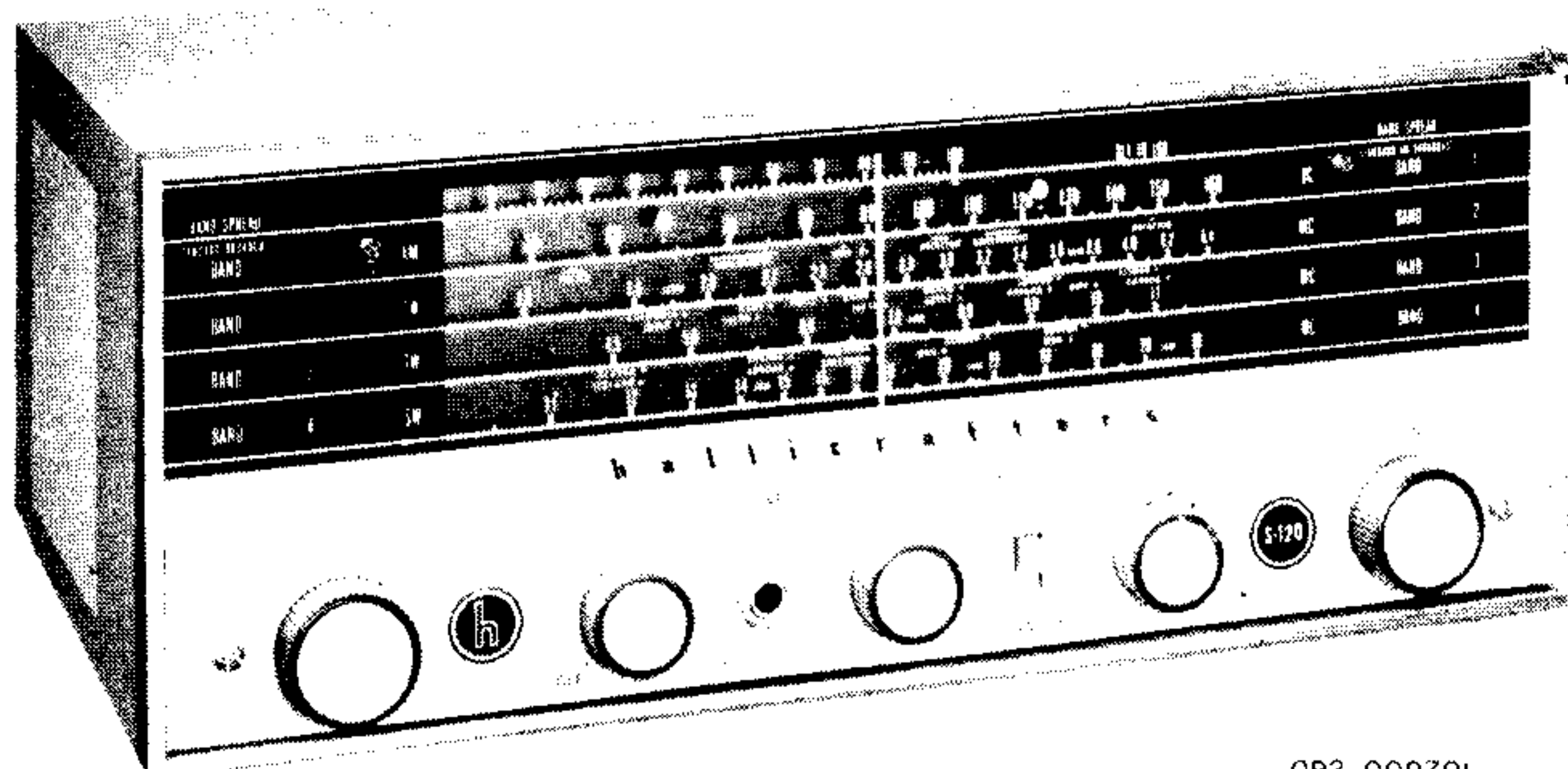


Owner's Guide

MODEL S-120



092-009701

GENERAL DESCRIPTION

Your new Hallicrafters Receiver Model S-120 tunes from 540 kilocycles to 31 megacycles to bring you the finest in world-wide radio reception. You'll hear foreign and domestic shortwave broadcasts, amateurs, police, aircraft, ships, and countless other exciting, distant stations...as well as all your favorite programs on standard broadcast. The receiver employs the latest type superheterodyne circuit and provides for reception of AM (voice) and CW (code) signals over its entire tuning range. Special features in your receiver include; a high sensitivity built-in ferrite antenna for broadcast band reception...a 45 inch collapsible whip antenna for shortwave reception...an electrical bandspread dial for fine tuning of the amateur and shortwave bands...a BFO control (beat frequency oscillator) for CW reception...a powerful built-in Alnico V permanent magnet speaker...provisions for headphone operation...a RECEIVE-STANDBY switch on the front panel that permits you to silence the receiver without turning it off.

POWER SOURCE

The receiver is designed to operate on 105 to 125 volt 50/60 cycle, AC or DC current. It may also be operated on 210 to 250 volt AC or DC current using Line Cord Adapter 087-201566, available as an accessory from your Hallicrafters dealer. Power consumption is 30 watts.

HEADPHONES

A phone jack is provided on the front panel for connecting headphones. Any commercial headphones ranging from 50 to 10,000 ohms may be used. Insertion of the headphone plug into the PHONES jack automatically disconnects the internal speaker.

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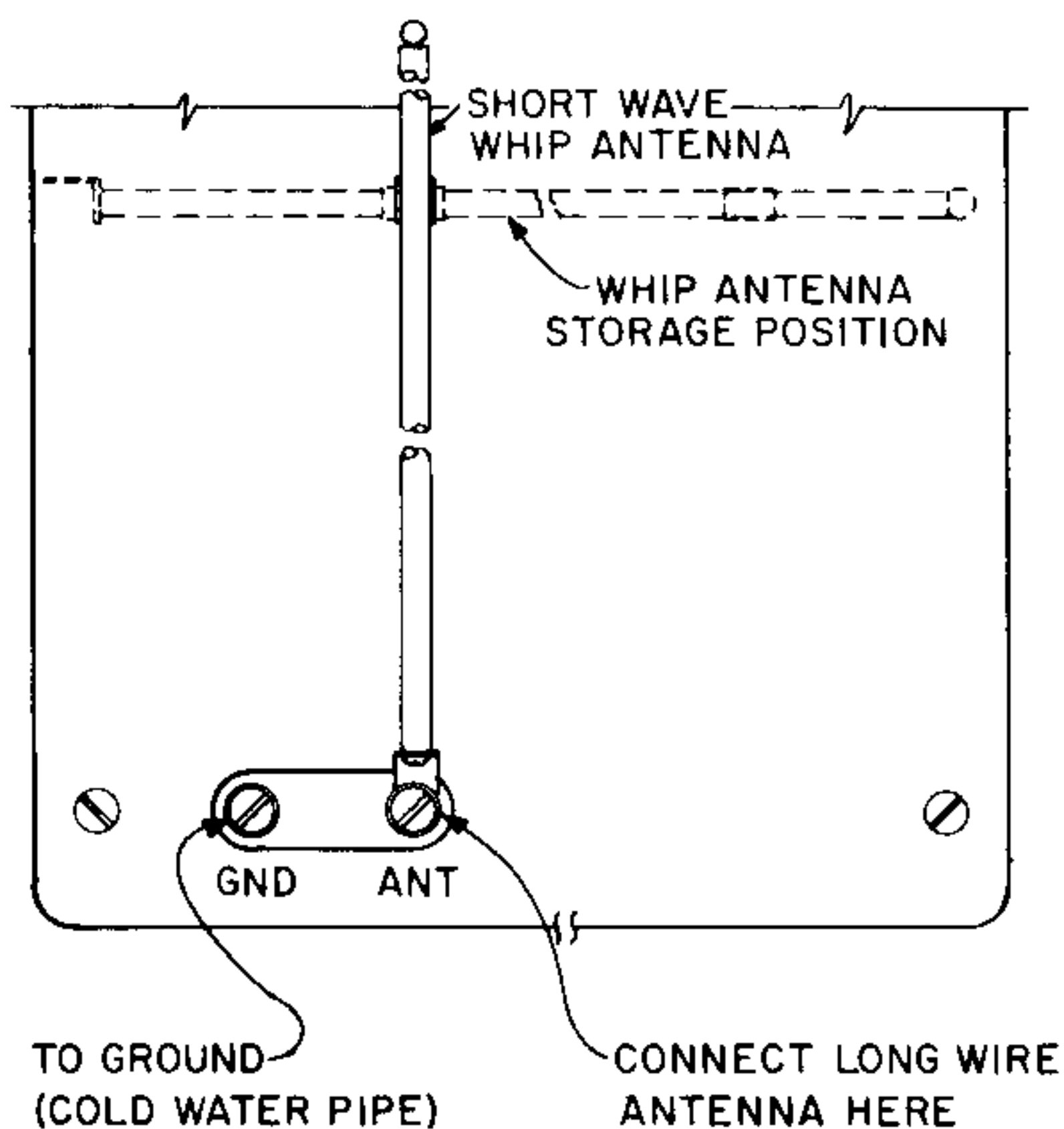


Fig. 1. Whip and Single-Wire Antenna

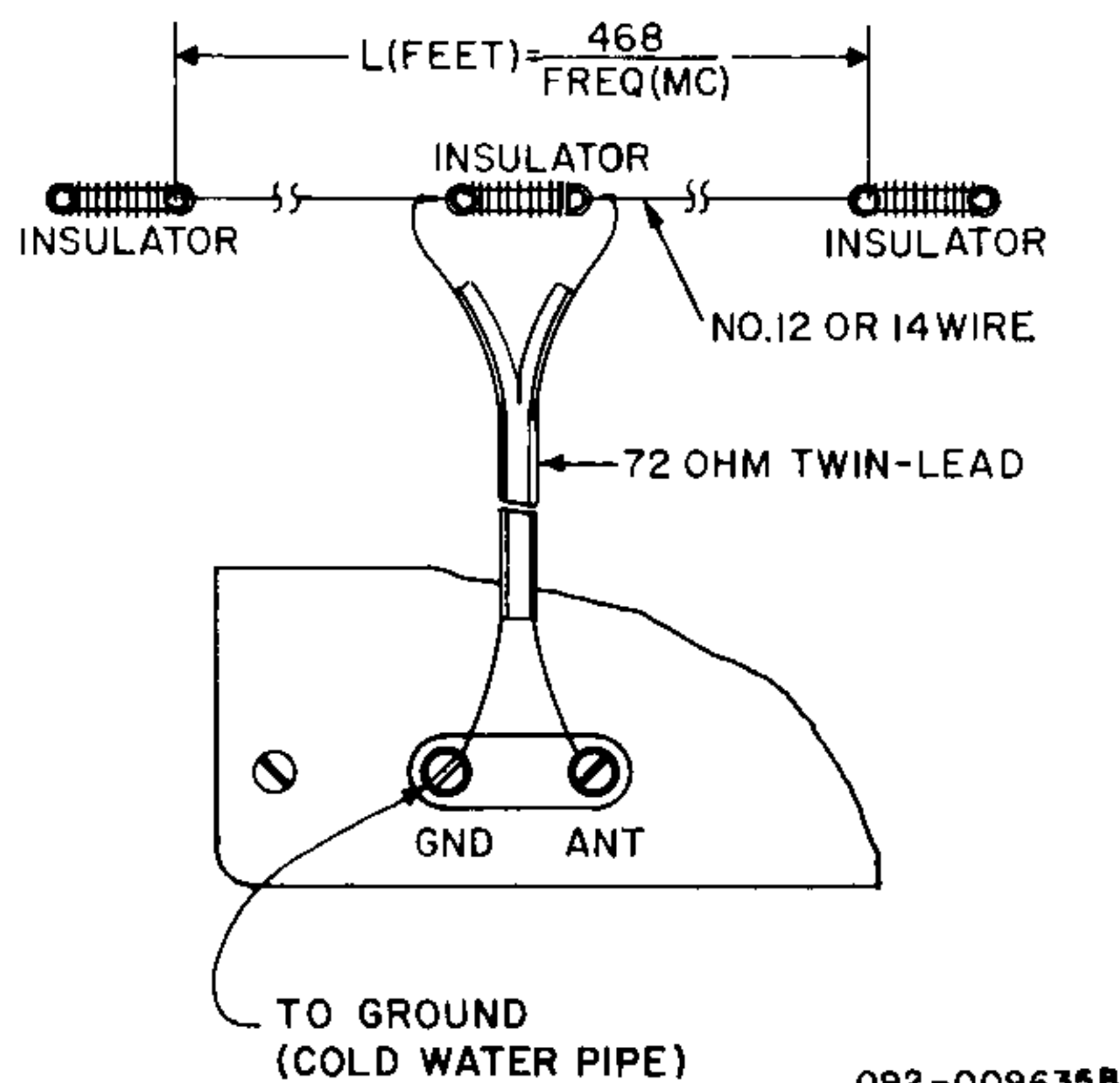


Fig. 2. Doublet Antenna

ANTENNAS

In most localities, satisfactory results throughout the entire tuning range can be obtained with the internal ferrite loop antenna and shortwave whip antenna supplied with the receiver.

The internal ferrite loop antenna is effective on the broadcast band only (Band 1) and does not require that the shortwave whip be in place. In some localities, it may be found that a slight orientation of the receiver will improve broadcast band reception. Further improvement in the reception of distant signals on the broadcast band may be obtained by the use of the whip antenna or a length of wire connected to the antenna terminal.

For short wave reception the whip antenna should be installed as shown in figure 1 and extended to its full length. In steel constructed buildings or where receiving conditions are exceptionally poor, an outside antenna 50 to 100 feet long may be necessary.

For top performance on the shortwave and amateur bands, the use of a half-wave doublet or other type of tuned antenna is recommended (see figure 2). The doublet antenna should be cut to the proper length for the most used frequency or band of frequencies. The overall length in feet of a doublet antenna is determined by the following formula:

$$\text{Length in feet} = \frac{468}{\text{frequency in megacycles}}$$

For maximum signal pick-up, the doublet antenna should be erected with its length at right angles to the desired station.

When using outside antennas we strongly recommend, as a protection against lightning, that the receiver be protected by the use of a lightning arrester in the antenna lead-in.

IMPORTANT: When using outside antennas a safety ground wire (ordinary copper wire) is required between a cold water pipe (or other approved ground) and the GND terminal of the receiver.

TUNING DIAL

The top dial scale (Band 1) is the standard broadcast band. To convert the readings on this band to kilocycles simply add one zero. For example: 70 on the dial is 700 kilocycles. The shortwave bands are marked 2, 3, and 4. The reading on these bands are in megacycles. The standard broadcast band is marked with a "CD" emblem and a dot at 640 and 1240 kilocycles to indicate the two official civil defense frequencies. In a civil defense emergency, tune to either of these two frequencies for official civil defense news, instructions, and information.

RECEIVE-STANDBY SWITCH

This switch is normally set at RECEIVE. When set at STANDBY, the receiver is silenced but the tubes remain at operating temperature for instant use. To resume reception at any time, simply return the switch to RECEIVE position.

BAND SELECTOR CONTROL

Set this control for the band you wish to tune. The four positions of this control correspond to the band numbers at the left side of the dial.

OFF-VOLUME CONTROL

Turn this control clockwise to turn the receiver ON and to increase volume. Allow about one minute for the tubes to warm up. When operating on DC (direct current) reverse the power plug in the wall outlet if the receiver does not operate after the one minute warm up, as the receiver will operate ONLY with the plug in one position. When operating on AC (alternating current), try reversing the power plug for minimum hum after the receiver is in operation. To turn the receiver off, simply rotate the OFF-VOLUME control fully counter-clockwise, until a click is heard.

TUNING AND BANDSPREAD CONTROLS

Wide tuning is performed with the TUNING control and fine tuning with the BANDSPREAD control. To tune the receiver, set the Bandspread dial pointer at 100 and then slowly turn the TUNING control to the desired station. When trying to locate weak, distant stations, it is suggested that the OFF-VOLUME control be initially set near maximum and then readjusted for the desired level after the station has been tuned in. For CW (code) reception, adjust the TUNING control for the desired pitch when tuning in the station. The dial readings will correspond to the station frequencies only if the Bandspread dial pointer is set at 100.

The Bandspread control is an electrical fine tuning adjustment which permits you to accurately tune in stations on crowded bands by spreading them out. It may be used in two different ways. The first method of tuning is used when it is desired to tune in a single signal with precision accuracy. The Bandspread dial pointer is set at about 95 then the signal is located with the TUNING control, and finally the signal is accurately tuned in by rocking the BANDSPREAD control (turning it a few degrees to the left and right) until the signal is loudest and clearest. The second method of tuning is used when one wishes to tune through a range of frequencies, such as the amateur bands. Set the bandspread dial pointer at 100, set the TUNING control for the high end of the selected band or range of frequencies, and then tune through the range with the Bandspread control. Turning the BANDSPREAD control from 0 to 100 tunes the receiver progressively higher in frequency.

BFO CONTROL

This control is primarily used to provide the necessary beat frequency tone when receiving CW (code) signals. In addition to this function, however, the Model S-120 circuit is designed so that this control also acts as a sensitivity adjustment making reception of extremely weak signals possible.

Operation of the control is as follows:

To receive normal AM broadcasts: The control should be set in the OFF position (maximum counter-clockwise).

To increase sensitivity for weak signal reception: Turn the control ON and advance slowly in a clockwise direction to the point where maximum weak signal sensitivity is obtained.

To receive CW (code) signals: The control should be advanced fully clockwise and slowly turned counter-clockwise to the point that produces the clearest tone. The frequency of the tone may be adjusted with either the main tuning or bandspread control.

It will be found during the course of using this control that a point exists between the setting required for weak signal reception, and that required for CW reception where receiver noise will increase considerably. This is a normal condition. It is undesirable to operate the receiver with the control set at or very near this point as tuning will become extremely critical.

SERVICE OR OPERATING QUESTIONS

For any further information regarding operation or servicing of your unit, contact your Hallicrafters dealer. The Hallicrafters Co. maintains an extensive system of authorized service centers where any required service will be performed promptly and efficiently at a nominal charge. All Hallicrafters Authorized Service Centers display the sign shown at the right. For the location of the one nearest you, consult your dealer or telephone directory.

Make no service shipments to the factory unless instructed to do so by letter. The Hallicrafters Co. will not accept the responsibility for unauthorized shipments.

The Hallicrafters Company reserves the privilege of making revisions in current production of equipment, and assumes no obligation to incorporate these revisions in earlier models.

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Warranty

"The Hallicrafter's Company warrants each new radio product manufactured by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part in exchange for any part of any unit of its manufacture which under normal installation, use and service discloses such defect, provided the unit is delivered by the owner to our authorized radio dealer, wholesaler, from whom purchased, or, authorized service center, intact, for examination, with all transportation charges prepaid within ninety days from the date of sale to original purchaser and provided that such examination discloses in our judgment that it is thus defective.

This warranty does not extend to any of our radio products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, or to use in violation of instructions furnished by us, nor extend to units which have been repaired or altered outside of our factory or authorized service center, nor to cases where the serial number thereof has been removed, defaced or changed, nor to accessories used therewith not of our own manufacture.

Any part of a unit approved for remedy or exchange hereunder will be remedied or exchanged by the authorized radio dealer or wholesaler without charge to the owner.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our radio products.

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Form No. 94X622

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4-10 o'clock T.M.S.