

**INSTRUCTIONS FOR  
INSTALLING AND OPERATING  
AIR KING  
MODEL No. 4700  
SUPERHETERODYNE RADIO RECEIVER  
WITH WIRE RECORDER**

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**Save This Instruction Sheet  
For Future Reference**

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THIS MODEL is a seven tube superheterodyne receiver with wire recorder. It covers the frequency range of 540 to 1600 kilocycles and incorporates the features of beam power output, high efficiency permanent magnet dynamic speaker, automatic volume control, built-in loop antenna, permanent needle, and numerous other features producing improved performance.

The AIR KING Wire Recorder Radio Phonograph Combination makes possible the instantaneous recording on wire of radio programs, phonograph records or microphone up to one hour in length. The receiver in addition can be used for playing phonograph records and listening to radio programs.

## INSTALLATION

### PREPARING THE RECEIVER FOR INSTALLATION:

Do not connect this unit to an electric outlet until all of these instructions have been followed and rechecked.

This unit is rigidly mounted for shipping purposes.

Remove the packing material which is at the rear of the set underneath the recorder motor, and remove all cardboard fittings which were used for shipping.

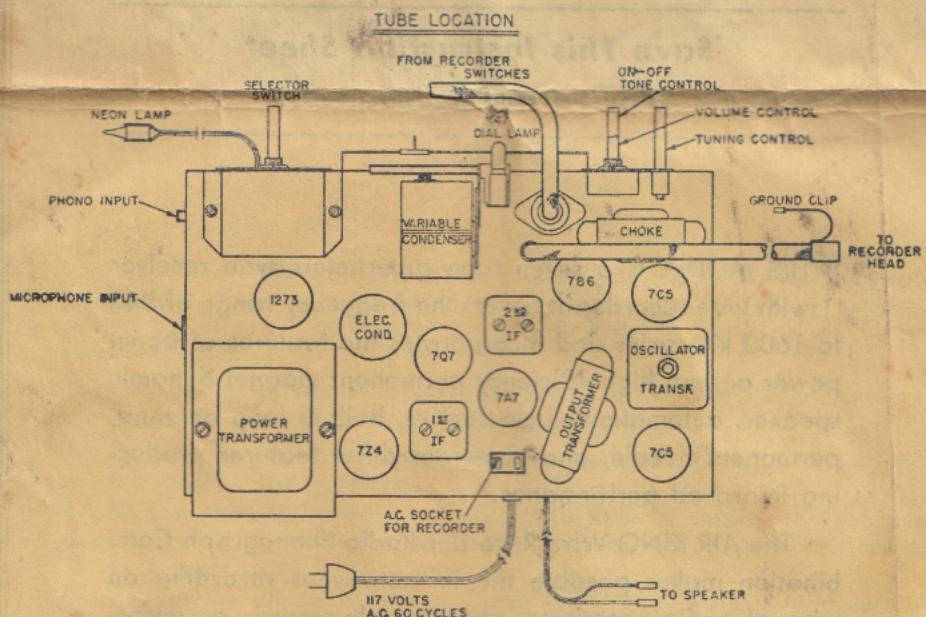
Remove the tape which is used to hold the pick-up arm during shipment.

The microphone is located in a compartment at the rear of the cabinet; remove the wrapping and replace the microphone in its compartment until ready for use.

After removing all shipping material connect the line cord into the 117-volt 60-cycle alternating current (AC) electric outlet. Never connect to a different frequency or voltage than that specified on the label. Never place this set near a radiator or heating device. Either of the above practices will cause overheating and damage to the parts and possible damage to the cabinet.

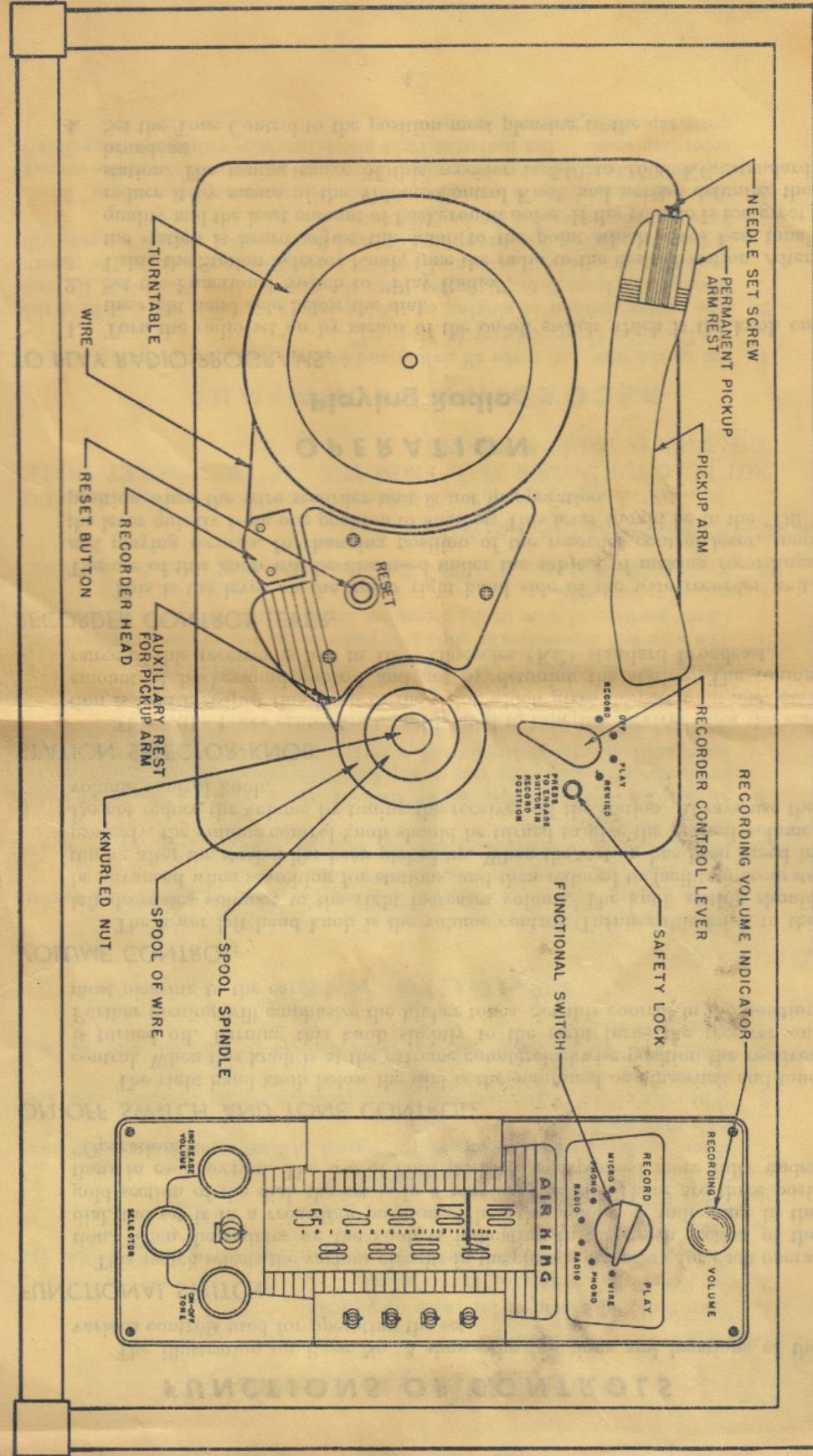
### TUBES:

The receiver is shipped complete with tubes. Be sure that each tube is pushed all the way down in its socket. Check all plug-in connections to see that they have not worked loose during shipment. The location of the tubes is shown in illustration below.



### ANTENNA:

This receiver is equipped with a built-in noise reducing loop aerial assuring excellent reception from near-by stations. The reception from stations a hundred or more miles distant may require the use of an outside aerial wire some 50 or 75 feet in length. This aerial should be attached to the wire located on the loop for this purpose.



## **FUNCTIONS OF CONTROLS**

The illustration on Page No. 3 shows the functions and locations of the various controls used for operating the set.

### **FUNCTIONAL SWITCH:**

This switch selects the various circuits in the chassis necessary for each operation. When the pointer on the knob is indicating in the green section of the dial, the set is in a *recording* position. When the pointer is indicating in the gold section of the dial, the set is in a *playing* position. There are three positions in each section. The use of each position is explained more fully under "Operation."

### **ON-OFF SWITCH AND TONE CONTROL:**

The right hand knob below the dial is the combined on-off switch and tone control. When this knob is at the extreme counterclockwise position the receiver is turned off. Turning this knob slightly to the right turns the receiver on. Further turning will emphasize the higher tones. Set this control in the position most pleasing to the ear.

### **VOLUME CONTROL:**

The lower left hand knob is the volume control. Turning this knob to the left decreases volume; to the right increases volume. The knob setting should be advanced when searching for stations, and then reduced to facilitate accurate tuning after the station has been picked up. When the station has been tuned in properly, the volume control knob should be turned to give the desired volume. Do not reduce the volume by tuning the receiver off the station. Always use the volume control knob.

### **STATION SELECTOR KNOB:**

This is the lower center knob and is used to tune the receiver after the station is heard. Adjust this knob to the point which gives deepest tone and least amount of background control and not by detuning the station. The tuning range of this receiver is 540 to 1600 kilocycles (KC) standard broadcast.

### **RECORDER CONTROL LEVER:**

This is the lever on the upper right hand side of the wire recorder unit. The use of this knob will be discussed under the subject of making recordings and playing records. In changing position of the recorder control lever, snap the lever quickly from one position to another. This lever should be in the "Off" position when the wire recorder unit is not in operation.

## **OPERATION**

### **Playing Radio**

#### **TO PLAY RADIO PROGRAMS:**

1. Turn the radio set on by means of the on-off switch which is the knob on the right hand side below the dial.
2. Set the Functional Switch to "Play Radio".
3. Using the Station Selector Knob, tune the radio to the desired station. After the station is heard adjust this knob to the point which gives best tonal quality and the least amount of background noise. If the volume is too great, reduce it by means of the Volume Control Knob and not by detuning the station. The tuning range of this receiver is 540 to 1600 KC, standard broadcast.
4. Set the Tone Control to the position most pleasing to the ear.

## **Playing Disc Type Records**

### **TO PLAY DISC TYPE RECORDS:**

1. Turn radio on (same as for radio operation).
2. Set Functional Switch to "Play Phono".
3. Place pick-up arm, on the auxiliary rest (see Illustration on Page No. 3).
4. Press reset button down.
5. Place record on turntable.
6. Set Recorder Control Lever to "Play".
7. Place needle on starting grooves of record. Adjust volume and tone controls as desired.
8. When the record is finished, replace the pick-up arm on auxilliary rest, and set recorder control lever to "Off".
9. When you are finished playing records, replace pick-up arm on the permanent rest.

## **LOADING WIRE**

### **TO LOAD WIRE:**

1. Press Reset Button.
2. Turn Recorder Lever to "Rewind". When the recording head approaches the top position, turn Recorder Control Lever to "Off".
3. Place the spool of wire, label side up, over the spindle and press the spool until it is firmly seated.
4. Loosen the end of the tape leader from the spool. Pull it past the recorder head. Place it under the rim of the turntable and rotate the turntable by hand until two complete turns of wire are in the channel. (See illustration on Page No. 6.)

### **CAUTION:**

Press the full length of the leader into the rim of the turntable.

5. The wire will automatically slide into place in the slot of the recorder head. Check position of wire in the recording head. It must be in the groove, and not off to one side.
6. Press the Reset Button. The Wire Recorder is now in position for operation.

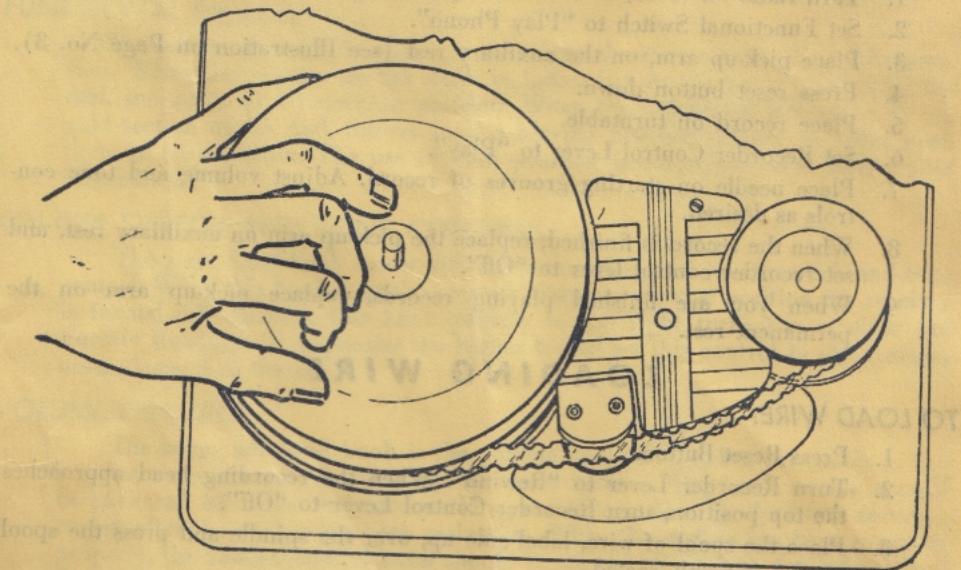
### **NOTE—DO NOT HANDLE THE WIRE:**

It is not necessary nor is it advisable to touch the wire at any time. DO NOT PULL THE POWER PLUG FROM THE ELECTRIC SOCKET WHILE THE WIRE IS BEING REWOUND.

## **RECORDING TECHNIQUE**

1. Set up the wire and make all switch and control adjustments before turning the Recorder Control Lever to "Record".
2. The proper method of singing or talking into a microphone is to hold the microphone from 6 to 12 inches from the mouth. This will avoid lip and breathing sounds. A distance of twelve to eighteen inches from the mouth is best for singing. For group singing and instrumental recordings you will have to experiment for the best distance.
3. The important thing to remember is that you must *not over-record*. When the neon indicator flashes intermittently on loud passages it shows the correct recording level. If the indicator light glows brightly without flashing intermittently, distortion will occur.

4. The safety lock was incorporated into the circuit design in order to prevent an accidental erasure of previously recorded material. To turn the Recorder Control Lever to "Record" it is necessary to press down the safety lock and at the same time turn the Recorder Control Lever to "Record."



5. If a program has extreme variations in volume, it will be necessary to re-adjust the Volume Control while recording in order to maintain the proper recording level.
6. When you have finished recording, turn the Recorder Control Lever to "Off". To rewind the wire simply turn the Recorder Control Lever to "Rewind". At the end of rewind the tape leader will automatically trip the reset button, turning the mechanism off. Turn the Recorder Control Lever to "Off" after the spool is rewound.

## RECORDING RADIO PROGRAMS

### TO RECORD RADIO PROGRAM:

1. Place wire on recorder (as described in the paragraph on Loading wire).
2. Turn the Functional Switch to "Play Radio".
3. Tune in the program as you would for normal listening.
4. Then set Functional Switch to "Record Radio".
5. Adjust the recording level by use of the volume control so that the indicator lamp just flashes on loud passages.
6. Turn recorder control lever to "Record Wire" as described in the above paragraph on recording technique.

## PLAYING WIRE RECORDINGS

### TO PLAY WIRE RECORDINGS:

1. Place wire on recorder (as described in the paragraph on loading wire).
2. Turn functional switch to "Play Wire".
3. Turn recorder control lever to "Play".
4. Adjust volume and tone controls to desired position.

5. To play back your recording immediately after it is made, place the Functional Switch to "Play Wire". Turn Recorder Control Lever to "Rewind" and adjust the volume so that you can hear the sound played back. It will sound jumbled but this is because the wire is being run backwards and at a high speed. When you recognize the part where the recording started, either by a break in the program or a change from one type of recording to another, such as voice to music, turn the Recorder Control Lever to "Play". The recording on the wire will then be played back in the usual manner.

To erase a part of the recording such as commercial announcements from radio programs, set the Control to 'Play Wire', determine the approximate time it will take to erase any one portion by playing this portion through; then rewind. Replay this portion of the wire and stop the recorder at the point where you want to start erasing. Set the Master Selector Switch to a recording position and turn the volume control to minimum. Turn the Recorder Control Lever to "Record" for the approximate time of erasure. Then to stop erasing, turn the Recorder Control Lever to "Off". If instead of erasing you wish to dub in your voice in place of a commercial announcement or in place of anything else which may have been recorded, determine the starting position and approximate length of the announcement which you wish to delete similar to the above method of ascertaining the point to start erasing. Stop the mechanism when the new recording is to start. Set the Master Selector Switch to "Record Micro" and adjust the volume as for a regular recording. Then turn the Recorder Control Lever to "Record Wire" and dub in your voice. Turn the Recorder Control Lever to "Off" when the recording time is completed.

Using this AIR KING WIRE RECORDER it is possible for you to make up a series of recordings using either one continuous spool, or cutting sections of the wire already recorded and tying them together. This process is similar to the manner in which motion picture films are edited. Tie the sections together using the knot as described in the paragraph on splicing wire.

## RECORDING DISC TYPE RECORDS ON WIRE

### TO RECORD DISC TYPE RECORDS ON WIRE:

1. Place wire on recorder (as described in the paragraph on loading wire).
2. Remove the pick-up arm from permanent rest and place on the auxiliary rest.
3. Place disc type record on turntable.
4. Turn the Functional Switch to "Record Phono".
5. Turn Record Control Lever to "Record".
6. Place pick-up on record as for normal playing.
7. Adjust the volume control for the correct recording volume. When the disc type record is finished, you may turn the recorder to "Off", place another disc type record on the turntable, and continue to record by simply repeating the above procedure. In this way you may put any number of records on wire to make up an hour's program. You may also change the Function Switch to "Record Radio" programs in between recording or to "Record Micro" and dub in voice announcements from the microphone.
8. At the end of the recording, place pick-up arm on auxiliary rest and set Recorder Control Lever to "Off".
9. When you have finished recording from disc type records replace pick-up arm on permanent rest and remove the last record from the turntable before rewinding the wire.

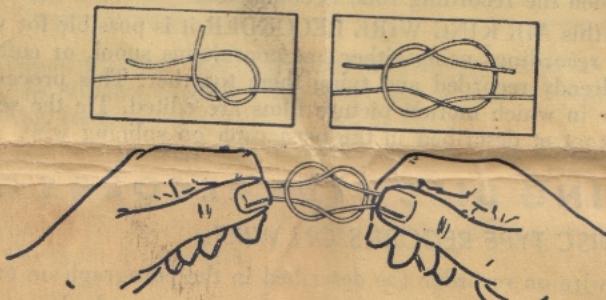
**NOTE:** You may have to adjust the volume control to the correct recording volume in changing over from the different types of recordings.

## **RECORDING ON WIRE FROM MICROPHONE**

1. Place wire on recorder (as described in the paragraph on loading wire).
2. Turn Functional Switch to "Record Micro".
3. Speak into the microphone in a normal speaking voice and turn volume control until the indicator lamp just flashes. When recording, it may be necessary to readjust the volume so that the indicator lamp flashes intermittently.
4. Turn Recorder Control Lever to "Record".
5. After recording rewind wire.
6. Play back in the usual manner.

## **TO SPLICING OR REPAIR BROKEN WIRE:**

To splice the end of broken wire or when tying together sections of recordings, tie the knot as close to the recorder head as possible so that the slack in the wire is minimum. Tie the ends together with a square knot as shown in the illustration below. After the ends of the wire have been looped into a square knot, hold both the wire and the free ends between the fingers and pull the knot tight. Cut the loose ends with pair of scissors about  $1/16$ th to  $1/8$ th of an inch from the knot. Turn the wire spool by hand to take up the slack in the wire. The knot will not affect the operation of the unit if it is tightly tied. Continue to use wire recorder in the usual manner.



Occasionally the wire may get under the spool spindle. This may be caused by touching the wire, turntable, or spool when re-winding, or by pulling the power plug from the outlet when rewinding. Removal of wire from the spool head is simple:

1. Cut the tangled section of the wire loose from the turntable and spool.
2. Splice the free ends of the wire as indicated above.
3. Remove the spool from the spindle. Take up any slack in the wire and place the spool on the turntable.
4. Remove the knurled nut from the spool spindle by turning to the left, and remove the spindle by lifting it off the shaft. The tangled wire can now be removed from the shaft.
5. Replace the spindle and knurled nut, being sure to tighten the nut.
6. Replace the wire spool on the spindle and continue to use the recorder as desired.

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