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Page 6
Foreign Tuning

INFORMATION
for the
OWNER

RCA VICTOR RADIO RECEIVER
Model 811K

CONGRATULATIONS! In the RCA Victor Radio Receiver Model 811K you have a splendid instrument of which you may well be proud. To obtain the best performance from the 811K it must be installed and operated properly. Please read the following simple instructions which will serve to familiarize you with the receiver and help you to enjoy to the full the entertainment that the instrument is capable of bringing you.

THE DEALER who sold you the receiver will in most cases unpack and install it and be glad to instruct you in its use. If the owner makes the installation he should first read carefully appendices "A," "B," and "C" covering Power Rating, Unpacking and Assembling, and Antenna, and also the section on ADJUSTMENTS FOR ELECTRIC TUNING.

FEATURES AND ACCESSORIES

Model 811K is a handsome console style three-band radio receiver including in its range all standard broadcasts and most of the medium and short-wave broadcasts. The most recent advances in radio design are incorporated in this novel instrument which includes the remarkable new RCA Victor Electric Tuning for automatic push button operation as well as the three famous RCA Victor "Magic" features—Improved Magic Brain superheterodyne circuit, Magic Eye tuning indicator, and the unexcelled new "Sonic Arc" Magic Voice for superlative tone.

You can electrically tune-in any one of your eight favorite Standard Broadcast stations by simply pushing a button. All other stations are obtained by manual tuning.

Antenna

Don't handicap your Radio with an inefficient antenna. A scientific antenna is especially important for short-wave reception and for standard broadcast reception in noisy locations.

Interference from electrical storms and atmospheric conditions cannot be entirely eliminated but will be less noticeable on short-waves than on standard broadcasts. On the other hand man-made "static"—the noises caused by household electrical appliances, automobiles, power lines and telephone circuits—more noticeable on short-waves, can be greatly reduced by a good antenna. See Appendix "C" for instructions on selecting and installing antennas.

Armchair Control

The new RCA Victor Armchair Control attachment enables you to tune electrically at any distance from the radio up to the length of the attachment cord (Standard 25 feet). The control is housed in a small ornamental box which may be placed on the arm of a chair or an end table, and has push buttons corresponding to the Electric Tuning Buttons on the front panel. It is obtainable from your RCA Victor Dealer.

Record Player

A terminal board is provided at the rear of the chassis for connection of an RCA Victor Record Player. This inexpensive attachment converts your new radio to a modern all-electric phonograph-radio, playing Victor "Higher Fidelity" Records through your radio loudspeaker. You can thus enjoy "the music you want when you want it."

RCA Hearing Aids

Hard-of-hearing listeners will get added pleasure from their radios with an RCA Hearing Aid. This accessory can be attached to the model 811K at small cost. It enables the hard-of-hearing to enjoy radio programs without turning the volume of sound from the loudspeaker so high that it might be objectionable to other persons. The device may also be used when the loudspeaker is not operating at all. If your dealer cannot supply you, write to RCA Victor, Camden, N. J. for further information.

In the following instructions, when the name of a part of the instrument is printed in *italics* it indicates that the part is shown on one of the illustrations and labeled with the same name.

OPERATION

Range

A wide variety of radio programs is available with the model 811K, as shown by the following chart:

TYPE OF PROGRAM	KILOCYCLES
On *Broadcast* Scale	
Standard American Broadcast	540 to 1,500
Police Calls	1,600 to 1,720
On *Medium* Scale	
Police Calls	2,300 to 2,500
Aircraft Calls	2,700 to 3,500
Amateur Communications	3,900 to 4,000
World-Wide Broadcasts	4,000 to 5,400
Aircraft Calls	5,400 to 5,900
World-Wide Broadcasts	5,700 to 6,300
49-Meter Band	6,000 to 6,250
On *Short-Wave* Scale	
Short-Wave Broadcasts—	
World-Wide	6,300 to 23,500
31-Meter Band	9,400 to 9,700
25-Meter Band	11,700 to 11,900
Amateur Band	14,000 to 14,400
19-Meter Band	15,000 to 15,500
16-Meter Band	17,700 to 17,800
13-Meter Band	21,400 to 21,600

When to Tune for Foreign Stations

All the thrills of foreign reception can be had with the RCA Victor Model 811K. Experience is the best guide as to the most likely time to tune for foreign short-wave stations. Radio magazines and daily newspapers also publish helpful information.

The great majority of short-wave broadcasts of an entertaining type will be found in the 49, 31, 25, 19, 16 and 13 meter bands, which are indicated on the dial of the 811K. Stations in the 49-meter band are best heard after nightfall; those in the 19, 16, and 13 meter bands are best heard during the day. Stations in the 31 and 25 meter bands can usually be heard equally well day or night. Between the short-wave broadcast bands will be found code, ship, amateur communications and telephone signals.

The Dial

There are three scales on the new RCA Victor Straight Line dial. A sliding pointer moves backwards and forwards across the three scales and indicates the frequency of the stations. Scale names are individually lighted as they are used.

The four windows and push buttons on the panel at each side of the dial are for "Electric Tuning."

A light in one of the two windows to the right at the top of the dial indicates the type of tuning, "Electric" or "Manual," for which the radio is set; and a light in one of the two windows to the left indicates the tone values.

Magic Eye

At the top of the dial is the Magic Eye. When the receiver is turned on, the Magic Eye becomes a green light on a circular screen with a sector at the bottom darker than the rest. Stations are tuned in most accurately when the sector at the bottom of the Magic Eye is at its narrowest possible width for the station being tuned in. The Magic Eye is used for *Manual* tuning.

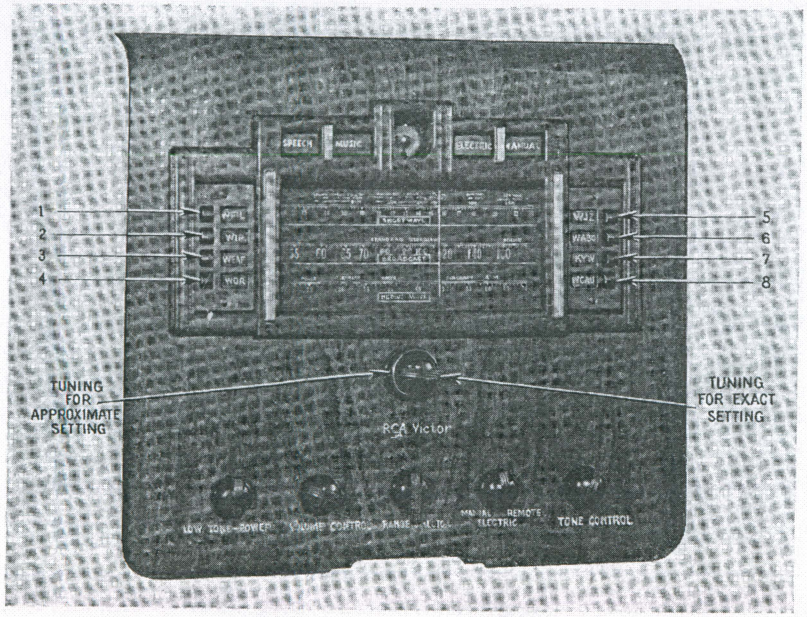


Figure 1—Operating Panel

Reading the Scales

The dial scales are marked off in frequencies, the Broadcast scale in kilocycles (K.C.) with the final "0" omitted (read 76 as 760 kilocycles) and the Medium and Short-Wave scales in megacycles (M.C.). Multiply megacycle readings by 1,000 to obtain kilocycles. Thus 9.58 M.C. = 9,580 K.C.

Note that the important short-wave bands and short-wave stations are named in their positions on the dial.

Controls

The Tuning Control.—The large dual knob directly beneath the dial operates the sliding pointer and is for use on "Manual Tuning" only. It should not be touched when reception is obtained by "Electric Tuning." The large outside section of this knob is for quick approximate station selection and the small inner section for precision tuning in conjunction with the Magic Eye.

The Low Tone-Power Control.—A twist of the three-position *Tone-Power* knob to the right (clockwise) turns on the current. The dial should light up, the Magic Eye gradually become green, and one of the two windows in each of the panels at the top of the dial should be lighted. Turning this knob further in the same direction varies the tone, as indicated by the lights that appear in the panel at the top left of the dial. "Hum" is reduced in the mid-position.

The Volume Control.—The second knob from the left is the *Volume Control.* Turning it to the right (clockwise) increases the volume.

The Range Selector is the knob in the middle of the row. This knob selects the major frequency band as indicated by the lights below the scales—"Short-Wave," "Broadcast" or "Medium Wave."

The Manual—Electric—Remote Control.—The fourth knob is the Automatic Frequency Control knob. Turned to the right (clockwise) sets the radio for "Manual" tuning, by use of the *Tuning* control; to the center, for "Electric" tuning by means of the push buttons on the control panel; and to the left (counterclockwise) for "Electric" tuning by means of the RCA Victor Armchair Control if this attachment is used. No light shows in the windows at the top right of the dial when the Armchair Control is being used with the knob on "Remote."

The Tone Control.—The knob on the right labeled *Tone Control* governs the quality of reception. Turned fully to the right (clockwise) it provides full tone range reproduction; turning it back (counterclockwise) modifies the higher tones and reduces the effect of interference.

Push Button Controls.—After adjustments for "Electric Tuning" are made as described later, pressing a button brings in the desired station.

If two or more buttons are pushed at the same time the Electric Tuning Motor will run continuously and the pointer will move to and fro across the dial until the *Manual-Electric-Remote* control is turned to "Manual" or the buttons released by pressing any other button, except in the case of all eight being pushed down simultaneously; then an extra push on the top left or bottom right button will release the other buttons. This will not in any way affect the receiver, neither will turning the Tuning knob during reception nor having Range Selector set for wrong band on Electric Tuning, care having been taken to make the design as foolproof as possible.

Tuning

The method of bringing in stations is extremely simple once you familiarize yourself with the controls. First turn *Tone-Power* control and *Volume Control* knobs to the "on" position. Then for **Electric Tuning** set *Range Selector* for "Broadcast" and *Manual-Electric-Remote* control at "Electric." Press the button for the desired station and regulate *Volume* and *Tone* controls to suit.

For **Manual Tuning**, turn *Manual-Electric-Remote* control to "Manual," select the desired scale on the dial by means of the *Range-Selector* and tune for approximate frequency of the station desired with the outer ring of the *Tuning* control. Then make exact setting by aid of the Magic Eye with the inner section of the knob. Regulate the *Volume Control* at the same time if necessary, and set *Tone Controls* for best reception.

Tune very slowly for short-wave stations; otherwise stations will be passed over without being heard. To bring in foreign stations, first turn the pointer to the station's "band" with the outer ring of the *Tuning* knob. Bands are indicated on the scale as 31M, 49M, etc. Then tune slowly through the band with the inside section of the knob. For silent tuning the volume may be turned low and the Magic Eye followed, turning volume up when the Magic Eye indicates that a station has been brought in.

Example of Short-Wave Manual Tuning

It is desired to tune in London during the early evening hours. Experience will indicate on which band London broadcasts will be heard best at the particular period of the year. In general, the 31-meter band stations will be found to give satisfactory reception at this time of day.

With power turned on, set *Manual-Electric-Remote* control to "Manual" and *Range Selector* for "Short-Wave."

Then rotate outside ring of *Tuning* knob to 31M—London. Turn up *Volume Control* and with inner section of *Tuning* knob make slow and careful adjustment until a London station is heard. Finally obtain the ideal tuning point by observing the Magic Eye and tune till darkened sector is at its narrowest for that station. Set *Volume* and *Tone Controls* for best reception.

ADJUSTMENTS FOR ELECTRIC TUNING

Any eight stations may be chosen for Electric Tuning. The stations are identified by means of labels in the indicator windows beside the push buttons. A sheet on which are printed the call letters of U. S., Canadian and Mexican Stations accompanies the set. Call letters of the eight stations selected should be cut out and arranged on a sheet of paper in the desired order. No particular order need be observed, although some listeners prefer to arrange the stations in order of their frequency in kilocycles. This order is used in the following example:

1. WFIL (560 K.C.)
2. WIP (610 K.C.)
3. WEAF (660 K.C.)
4. WOR (710 K.C.)
5. WJZ (760 K.C.)
6. WABC (860 K.C.)
7. KYW (1020 K.C.)
8. WCAU (1170 K.C.)

Proceed now to remove the two escutcheon plates from the sides of the dial. Each plate is held by two screws. Take out the celluloid windows and the dummy labels, replacing the latter with the proper station call letters. Replace the celluloid windows and the escutcheons. Turn the power on and proceed to set-up the **Electric Tuning** as follows:

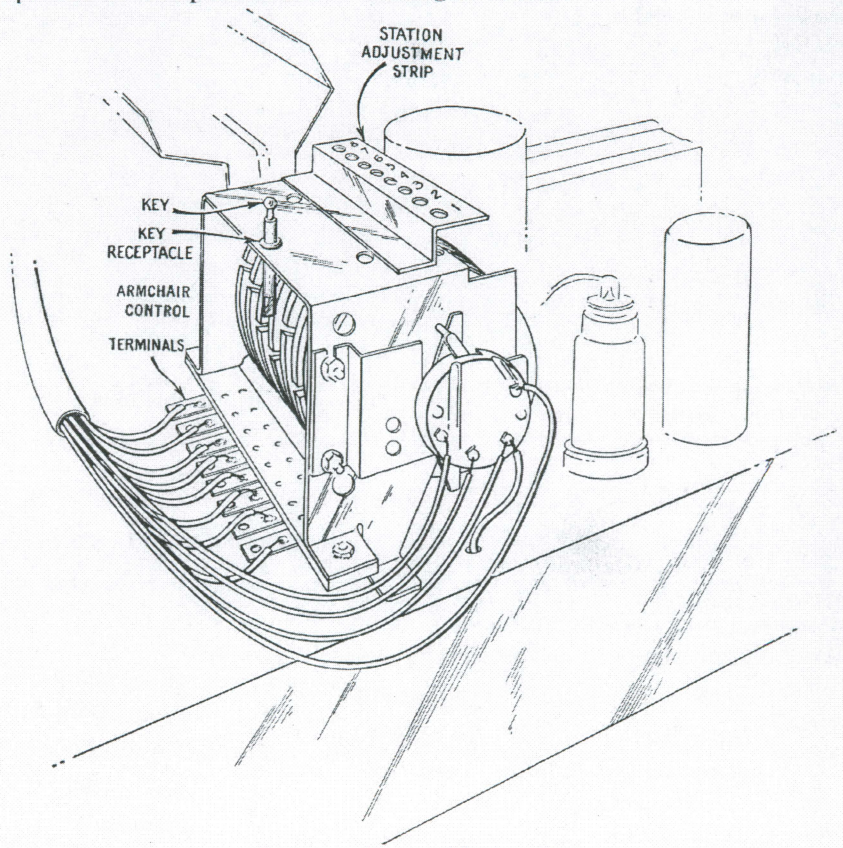


Figure 2—Electric Tuning Unit

1—Set *Range Selector* (third knob) to "Broadcast."

2—Turn the *Manual-Electric-Remote* control (fourth knob) to "Electric."

3—Press button No. 1 and wait till station pointer comes to rest.

4—Turn the *Manual-Electric-Remote* control to "Manual." Then allow three to five minutes warm-up period.

5—Look in back of cabinet and you will see the *Electric Tuning Unit* (Figure 2) in the center of the chassis. Remove the *key*.

6—Insert *key* in position marked "1" in *station adjustment strip* and push the *key* all the way down to properly fit in slot in disc.

7—Tune the receiver VERY CAREFULLY by means of the Tuning knob (Manual Tuning) and the Magic Eye, for station No. 1. (WFIL, 560 kilocycles, in above example.)

8—Remove *key* and place in *receptacle* hole.

9—Turn the *Manual-Electric-Remote* control to "Electric."

Button No. 1 is now properly set for Electric Tuning. Proceed similarly for the other seven push buttons, matching each station on the dial (see foregoing example of list of stations) with the same number on the *station adjustment strip*. Repeat the above steps but place the *key* respectively in positions 2, 3, 4, etc., and in each case tune to the proper station. Now when you press a button the desired station will be tuned in electrically. When substituting another station for any of the eight initially selected, repeat the procedure.

Armchair Control

When a Remote Control unit is attached to your receiver it duplicates the action of the Push Button stations on the front panel.

SERVICE

Every radio should be inspected occasionally by a competent radio service engineer. Tubes wear out and factory adjustments change so gradually that unless your instrument is checked over at least once a year you may find you are irritated by your radio without knowing exactly why. Have your dealer give this radio a Check-Up at least once every year and call him if any difficulty is encountered.

APPENDIX

A. Power Rating

Your new radio will not operate properly and it may be damaged if it is plugged into an incorrect current supply.

Your power company can tell you what type of current you have. On the back of the chassis is stamped a symbol indicating the type of current for which your instrument was designed. Make sure that your instrument was designed for your current supply before you plug the instrument into the outlet.

POWER RATING SYMBOLS ON CHASSIS

Symbol	Voltages	Frequency (cycles)
"A"	105-125	50-60
"B"	105-125	25
"C"	105-130, 140-160, 195-250	50-60

As shipped from the factory, receivers carrying the symbol "C" are connected for 225-250 volts unless specified otherwise prominently on the chassis. Such instruments may be converted by your dealer for operation at 105-117, 117-130, 140-160 or 195-225 volts when required.

B. Unpacking and Assembling

Unpack carefully so as not to damage the beautiful finish of the cabinet. Lift instrument out of carton and remove shipping skids attached to bottom of cabinet and strip of wood (chassis cleat) attached to back of cabinet.

A small cylindrical spacer, with screw, holds the Electric Tuning Unit secure during shipment. This is at the back edge of chassis and easily seen when looking in the back of the cabinet. Remove the screw and spacer block and also any other similarly tagged devices used to prevent possible damage during shipment.

The control knobs will be found in an envelope tacked inside the back of the cabinet. They are simply pushed onto their shafts, the dual knob going on the shaft directly beneath the dial.

A sheet on which are printed the call letters of U. S., Canadian and Mexican broadcast stations is also included in the carton.

C. Antenna

Because short-wave signals are comparatively weak and are usually received from stations thousands rather than hundreds of miles away, a good antenna system is essential to good short-wave reception. Standard broadcast reception also will be greatly improved by a scientific antenna system, since the greater pickup of signals permits the radio to be operated at a lower volume level, thereby minimizing noise. In addition, some antennas have special noise-reducing devices. The antennas described below are especially recommended for use with the Model 811K.

RCA Magic Wave Antenna Kit

The latest development of RCA engineering. Since the length may vary in accordance with the available space and since only a single wire is required, the RCA Magic Wave Antenna is both easily installed and inconspicuous after it is installed. It covers the full frequency range of the instrument (530 to 23,500 kilocycles) and has remarkable noise reducing properties on both standard and short-wave broadcasts. By using extra transformers, which your dealer can supply, as many as four receivers may be operated from the same antenna. The Kit may be used with a single-wire antenna already installed.

RCA Spiderweb Antenna

This unique antenna, resembling a spiderweb, has a separate balanced doublet for each of the important broadcast bands, thus making it amazingly efficient on short-wave reception. Comes completely soldered and assembled, ready to erect. Reduces noise on standard broadcasts.

Single Wire Antenna

If an ordinary single wire antenna is used, it should not exceed 100 feet in length. If more than 100 feet of wire must be used, a 100-200 mmf. capacitor should be connected in series with the lead-in.

Antenna Location

Whatever type of antenna is used should be placed as far as possible from sources of local interference. If the antenna must be placed near power or telephone lines, electric signs, X-Ray machines, or other sources of noise, point the antenna at the interfering apparatus to minimize noise pickup.

Antenna Connections

On the back of the chassis is a terminal board with terminals marked "A" and "G" for connections to antenna and ground respectively. If a specially-designed antenna is used, connect it to the "A" terminal in accordance with the directions accompanying the antenna. Terminal "G" should be connected to a nearby ground such as a water pipe, a metallic stake driven at least four feet into the ground, or a few square feet of copper plate or screen buried at least six inches below the surface of the ground.

D. Electrical Specifications

Circuit.—Magic Brain Superheterodyne with Magic Eye tuning indicator, automatic frequency control, electric push button motor tuning, automatic volume control, and push-pull phase-inverter power supply.

Tubes.—RCA-6K7 (2), RCA-6L7 (1), RCA-6J7 (2), RCA-6H6 (1), RCA-6N7 (1), RCA-6F6 (2), RCA-5T4 (1), and Magic Eye tube 6G5 (1).

See diagram on label inside cabinet for location of tubes and grid cap wires.

Power Output.—Undistorted 10 watts, maximum 12½ watts, at 125 volts, 60 cycles.

Loudspeaker.—Electrodynamic dust-proof type, with cone of 12-inch diameter.

E. Wave Trap

Should a powerful nearby broadcasting station interfere with other stations, the RCA Universal Wave Trap is recommended to remedy the condition. Your dealer can install it at small cost.