

RCA VICTOR

# TELEVISION

INSTRUCTIONS MODEL 621TS



RADIO CORPORATION OF AMERICA  
RCA VICTOR DIVISION, CAMDEN, N. J., U. S. A.

## NOTICE

With authorized installation, the Model 621TS is a perfectly reliable instrument for your entertainment, and is listed under re-examination service of Underwriters' Laboratories, Inc.

No one but a trained television service technician should make any repairs or adjustments except for front panel tuning adjustments as instructed in this booklet.

The dealer who sold you this instrument will arrange for its unpacking and installation and the procurement and proper installation of a suitable antenna designed for use with your new model. He will arrange for you to receive instruction in the use of the receiver and an explanation of the controls to provide best reception.

If you experience any trouble or difficulty with its operation, tune in on a different station or turn off the power and tune in again at a later date, as the cause may have been in transmission, but if still present call your dealer who will arrange for service.

**DO NOT ATTEMPT TO MAKE ANY ADJUSTMENT  
INSIDE THE CABINET.**

# RCA VICTOR

## INSTRUCTIONS

### MODEL 621TS

#### TELEVISION RECEIVER FOR PICTURES AND ACCOMPANYING SOUND

The RCA Victor Model 621TS produces high definition pictures with fine detail and brilliance. Reception of these pictures is easily accomplished by following the instructions on pages 4, 5, 6 and 7.

#### WHAT THE CONTROLS ARE FOR

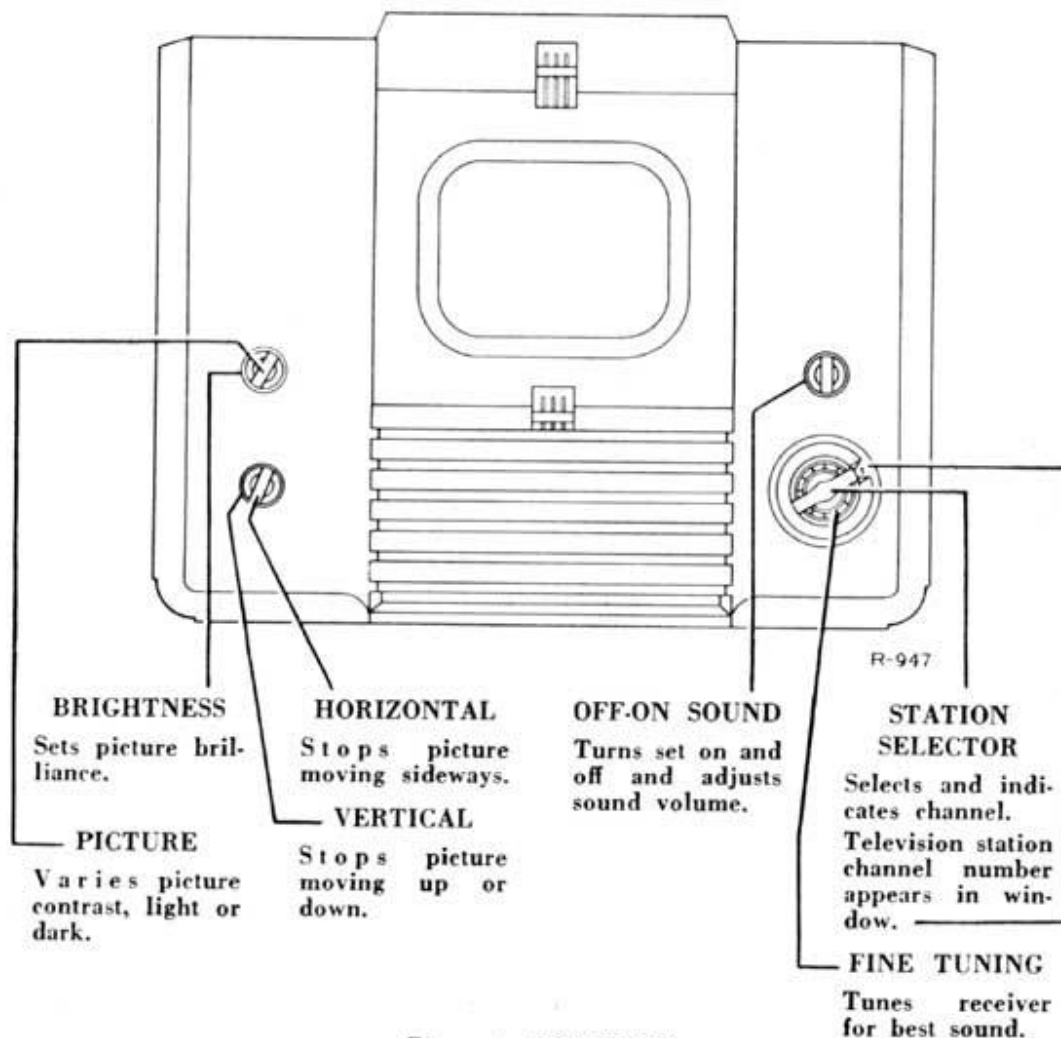


Figure 1—CONTROLS

## OPERATION

Reception of a picture with the accompanying sound from a Television Transmitting Station which is broadcasting in your area is a simple tuning process. The Model 621TS gives station coverage as given on page 12.

Check to see that the Television Station is on the air at the time you wish to tune in, and note the channel number of the station. This information is usually published in newspapers. Program schedules may also be obtained from the station on request.

## STATION LOG

Your dealer will be glad to fill in this log for the stations operating in your area.

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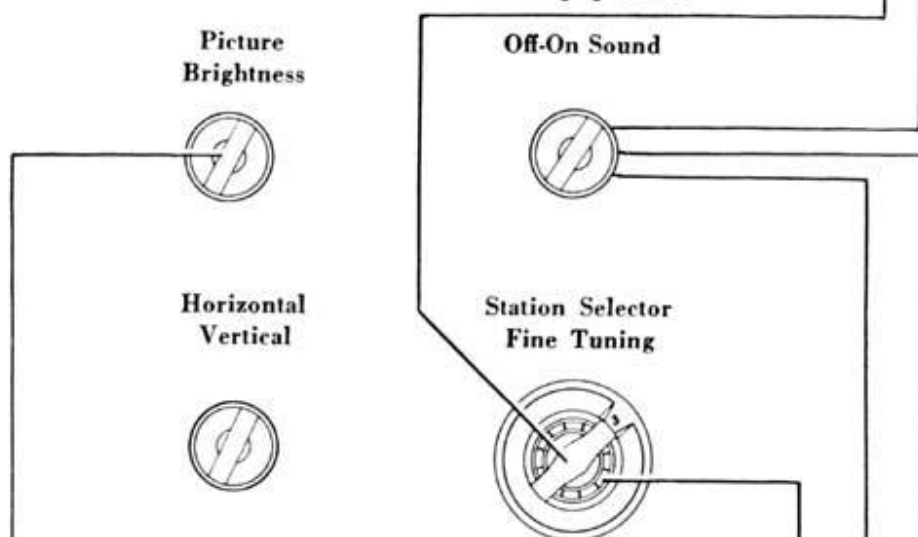
### STATION LOG

STATION	CHANNEL	OPERATING SCHEDULE

## TUNING

(a) *If the receiver was simply shut off and no other controls have been disturbed from previous operation:*

1. Turn OFF-ON SOUND control slightly clockwise to switch the receiver on. Then turn one-half turn clockwise for sound volume.
2. Set STATION SELECTOR so that the desired channel number is seen in the window.
3. Allow 15 to 20 seconds warm-up period.



4. If the desired station is broadcasting, music or speech should now be heard and the FINE TUNING control should be reset for best sound quality and elimination of sound bars in picture. See Figure 8. Adjust SOUND control for desired volume.

5. If necessary adjust the PICTURE control so that the picture is clear on the screen.

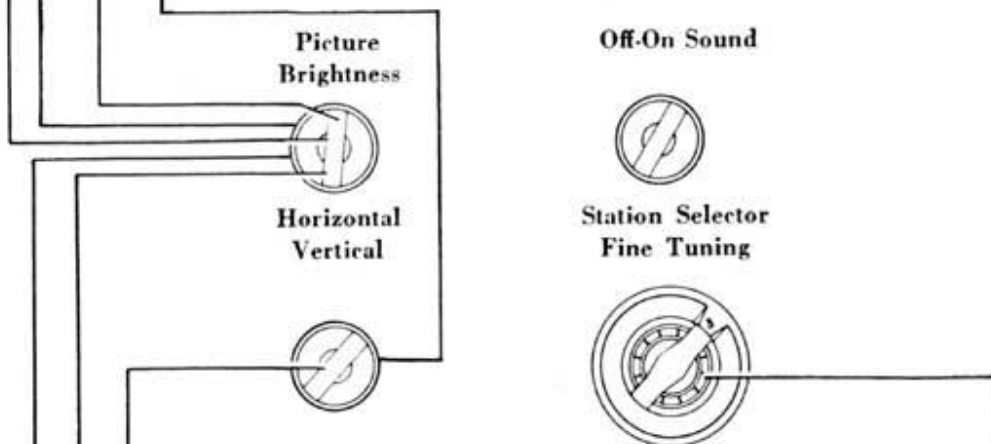
The other controls, being undisturbed from previous operation, no further adjustments should be necessary.

When shutting off, turn only OFF-ON-SOUND control to OFF (counter-clockwise).

- (b) *When other controls have been disturbed and require adjustment, the following additional steps should be taken. Do not hesitate to turn the knobs, but do not force them beyond their stops.*

After switching on and setting for channel and volume as explained in “(a)”, 1 to 4, proceed as follows:

5. Turn the PICTURE control fully counterclockwise.
6. Turn the BRIGHTNESS control fully counterclockwise and then slowly clockwise until light is just visible on screen.
7. Turn the PICTURE control clockwise until activity or definite form is noted on the screen.
8. Turn the VERTICAL control until the pattern stops moving up or down, or the moving horizontal black bar disappears.



9. Turn the HORIZONTAL control until a single stationary image of the pattern or picture appears on the screen. Then make careful adjustment to eliminate bend, distortion or “tear away” at top of picture.
10. Adjust the PICTURE control until the picture is suitable and if necessary make slight readjustment of BRIGHTNESS at the same time.
11. Adjust FINE TUNING. It is possible to obtain sound at three adjacent positions of the control. The middle of the three is the correct tuning position and eliminates any sound bars appearing in the picture. See Figure 8. After the receiver has been on for some time, it may be necessary to readjust FINE TUNING for improved sound quality.

(c) *To change from one station to another broadcasting in your area.*

1. Turn STATION SELECTOR so that the desired channel number is seen in the window.
2. Adjust the FINE TUNING control, if necessary, as explained in paragraph (b) II.
3. Adjust the PICTURE control until picture is at its best.
4. Adjust the OFF-ON SOUND control to give the required volume.

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The clarity, brightness and contrast of the picture are controlled by the BRIGHTNESS and PICTURE knobs.

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## DETAIL ADJUSTMENT OF PICTURE CONTROLS

The following illustrations and instructions indicate most of the picture effects likely to occur during tuning and advise the picture corrections.

### CORRECT PICTURE



Figure 2—CORRECTLY ADJUSTED

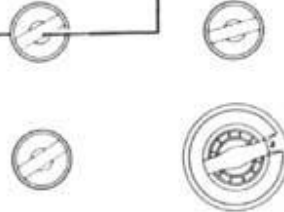
A test pattern of this type is usually broadcast for about fifteen minutes before the program commences. When the receiver is correctly adjusted, the pattern is clear and steady and five distinct shades (black, dark gray, medium gray, light gray and white) are discernible on the central circles.

## PICTURE TOO LIGHT



Figure 3—TOO LIGHT

To make the picture darker and show more contrast, adjust the **BRIGHTNESS** control by turning in a counterclockwise direction. A slight adjustment of the **PICTURE** control may also be necessary.

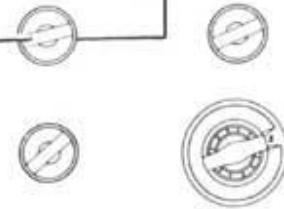


## PICTURE SHOWS TOO MUCH CONTRAST



Figure 4—TOO MUCH CONTRAST

To make the picture lighter and show less contrast, adjust the **PICTURE** control by turning in a counterclockwise direction. A slight readjustment of the **BRIGHTNESS** control may also be necessary.

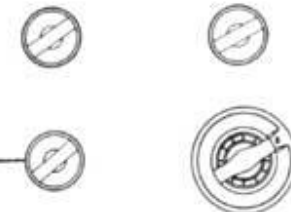


## PICTURE, OR ACTIVITY MOVING UP OR DOWN



Figure 5—VERTICAL MOVEMENT

When the picture is moving up or down on the screen or when scrambled or multiple images with vertical movement occur, adjust the **VERTICAL** control to bring it to its correctly centered vertical position but allowing horizontal movement.





## PICTURE, OR ACTIVITY MOVING SIDWAYS OR OFF CENTER

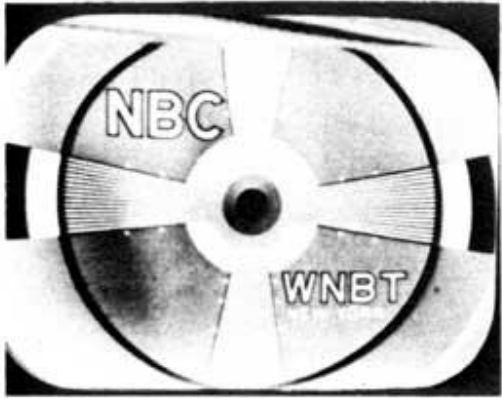


Figure 6—TEAR AWAY AT TOP

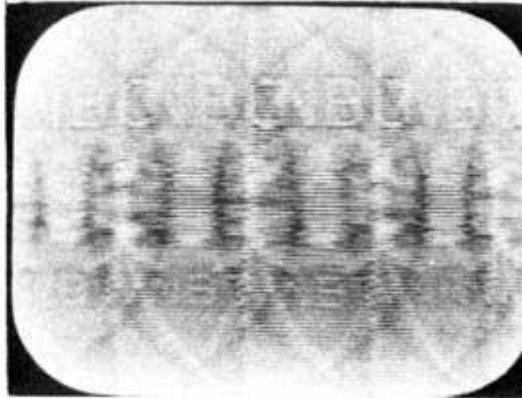
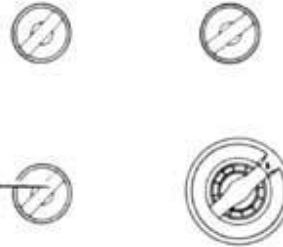


Figure 7—HORIZONTAL MOVEMENT

When the picture shows a scrambled maze of constantly moving or stationary lines across the screen, or if stationary or moving multiple overlapping images of picture or pattern occur, or if bend in picture or "tear away" at top appears, adjust the **HORIZONTAL** control to bring the picture to its correctly centered stationary position on the screen and free from the above defects.

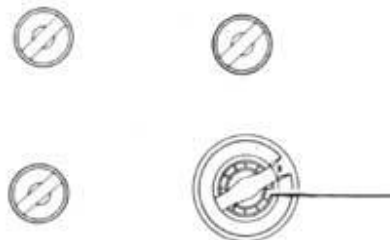


## BARS IN PICTURE—DISTORTED SOUND



Figure 8—SOUND BARS

When the sound is distorted, or if bars flicker across the picture in step with the speech or music, adjust the **FINE TUNING** control so that the bars disappear and the sound is clear.



## INTERFERENCE

While every known means of suppressing interference has been engineered in this RCA Victor Television Receiver, we would like to call your attention to the fact that in radio reception static and man-made interference are audible whereas in television they may be both audible and visible. This means that in television reception there are problems of reflection and interference, all of which affect the reproduction of the picture.

Interference may be caused by arcing electrical contacts as used for flashing signs, electric razors, automobile ignition systems and by electrical machinery such as motors in elevators, refrigerators, fans, street cars, etc. Such interference is apt to cause spots in the picture or up and down movement. Medical short-wave diathermy may cause speckled or herring-bone bands across the picture. Aircraft in the vicinity may cause fluctuations in picture brightness and sound volume. Reflections from buildings, mountains, etc., may cause a double image on the screen. Interference from nearby short-wave radio stations may cause diagonal streaking.

All such problems must be given consideration at the time of the antenna installation. This means that both the antenna and its installation are of major importance, particularly under adverse conditions of reception, as indicated in Figures 9 to 14. This is why we recommend that only a qualified RCA Television Service Technician make your installation.

The following illustrations show effects of the type caused by local interference. It is often very difficult, and sometimes impossible, to prevent these effects in some installations.



Figure 9—AUTOMOBILE INTERFERENCE

### **Automobile Ignition and Similar Interference**

Automobiles in the vicinity are apt to cause speckles on the picture or, when their effect is severe, may cause vertical or horizontal picture movement. Electrical motor-driven appliances cause similar effects.



Figure 10—REFLECTIONS

### Reflections

Multiple images, sometimes known as echoes or ghosts, are caused by signals arriving at the receiver both direct and by other paths, including a reflection from a building, or mountain.

### Diathermy

Electrically operated medical equipment, such as diathermy apparatus, will produce a herring-bone pattern across the picture. When severe, due to close proximity, this effect is very marked and may even obliterate part of the picture.



Figure 11—WEAK DIATHERMY INTERFERENCE

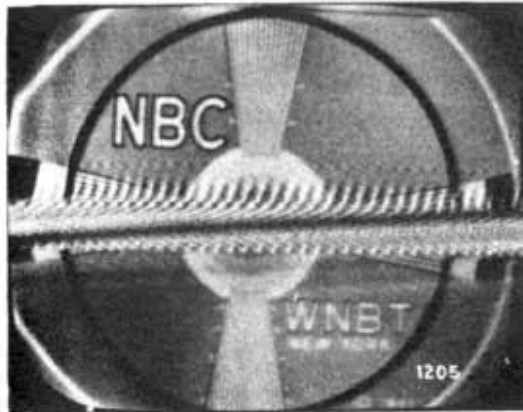


Figure 12—STRONG DIATHERMY INTERFERENCE



Figure 13—R-F INTERFERENCE

### Radio Frequency Signals

Transmitting and receiving short-wave radio equipment may cause interference in the picture in the form of moving ripples.

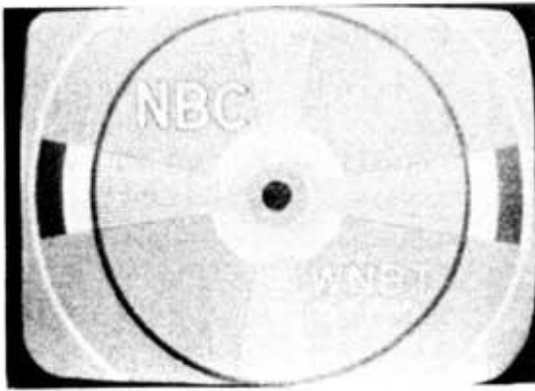


Figure 14—WEAK SIGNAL

### Weak Picture

When your installation is near the limit of the area served by the transmitting station, the picture may be speckled, having a "snow" effect, and may not hold steady on the screen. This is due to lack of signal strength from the transmitter.

## TELEVISION BROADCASTING CHANNELS

This Television Receiver is designed for operation on all thirteen Television Channels as allocated by the Federal Communications Commission in November, 1945. However, in no area are there stations operating on all channels.

Each of the thirteen channels is designated by a number from 1 to 13. The Channel Number to which the receiver is set may be seen in the small window in the Station Selector Control.

The Channel Number on which a station telecasts will be announced and published by that station.

When tuning the receiver, turn the Station Selector Control until the desired Channel Number is seen in the window. This control may be turned in either direction.

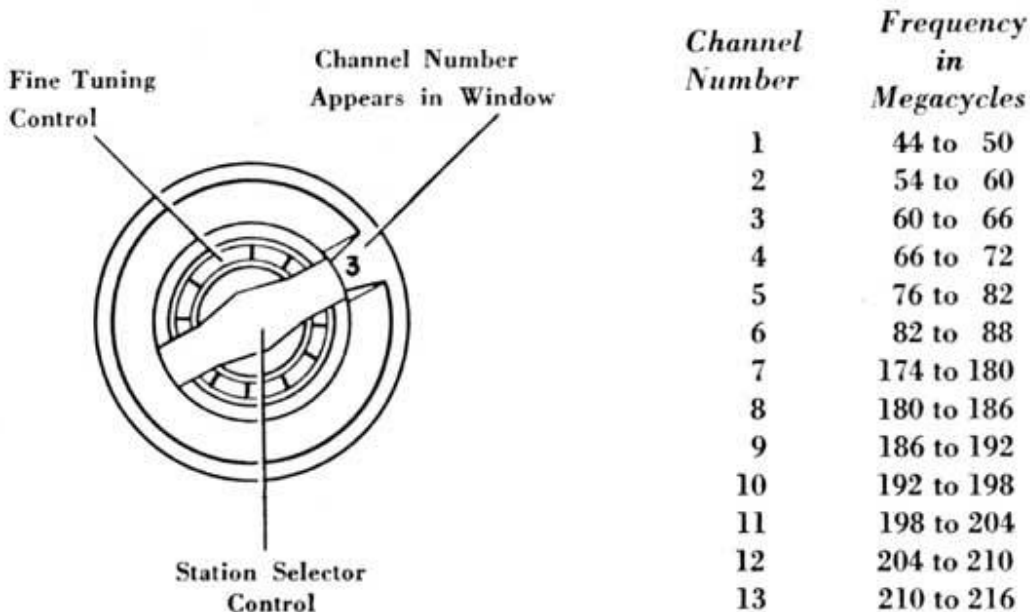


Figure 15—STATION SELECTION

## INSTALLATION

The complete installation of your new RCA Victor Television Receiver and the Television Antenna should be made by a qualified RCA Television Service Technician. The dealer from whom you purchased the receiver will advise you so that an RCA Service Technician will install it and demonstrate RCA Victor Television Reception.

For shipping purposes the RCA Kinescope (the tube on which the picture is seen) is packed in a separate carton from that of the receiver. Do not attempt to unpack the Kinescope or the receiver. Leave the equipment complete with all labels and tags in the two cartons for the technician who will install the receiver and explain its operation.

**Placement.**—The location in the room for your new Television Receiver should be given careful consideration.

Choose the location—Where no bright light will fall directly on the picture. (Some illumination in the room is desirable.)

- To give easy access for operation and comfortable viewing.
- To permit convenient connection to the antenna.
- Convenient to an a-c electrical outlet of the proper voltage and frequency.
- To allow adequate ventilation.

**Caution.**—The receiver is provided with adequate ventilation holes in the bottom, back and top of the cabinet. *Care should be taken not to allow these holes to be covered or ventilation impeded in any way.*

**Antenna.**—A correctly designed antenna, properly installed, is essential for good picture and sound reception. Only an RCA Television Antenna, which is designed to match the receiver circuits, should be used.

When making the installation, your RCA Service Technician will provide and install a suitable Television Antenna to give the best service in your location.

Reception up to and sometimes beyond the line of sight to the transmitter antenna may be obtained if local interference conditions permit.

A permanent ground connection and lightning arrester is provided.

**Power Supply.**—This receiver is designed to operate on 115 volts, a-c, 60-cycle power. If plugged into an incorrect power supply, damage to the receiver may result. If in doubt about your power supply, call your power company.

For operation on any other power supply, a converter will be necessary. See your dealer.

**Tube Data.**—The following is the complement of tubes and rectifiers on this new television receiver:

**Tubes.**—RCA-6AG5 (3), RCA-6H6 (1), RCA-6AU6 (1), RCA-6K6GT (1), RCA-6BA6 (1), RCA-6AT6 (2), RCA-6SN7GT (4), RCA-6BG6G (1), RCA-5V4G (1), RCA-6J6 (3) and Kinescope RCA-7DP4 (1).

**Rectifiers.**—RCA-8016 (1), RCA-5U4G (1).

## **RCA SERVICE AND REPAIR**

**Your RCA Victor Television Receiver is a rugged instrument designed and engineered for dependable long life service.**

Whenever trouble is experienced, call the dealer from whom you purchased the instrument. He will arrange for a competent RCA Service Company Television Technician to service the receiver.

*only*  
RCA VICTOR  
*makes the*  
VICTROLA  
T. M. REG. U. S. PAT. OFF.



*only RCA VICTOR has the*  
“*Golden Throat*”