

# PHILCO



# SERVICE

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## *New Product News*

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### PHILCO FULL REMOTE CONTROL

Now, that Philco television receivers with *FULL REMOTE CONTROL* are in the field, every PHILCO SERVICE Member should know about this great new feature and its wonderful convenience and serviceability in completely controlling every function of the television set.

We are purposely dividing this special "New Product News Topic" into separate sections because every one of them is so important to a complete understanding of *PHILCO FULL REMOTE CONTROL FOR TELEVISION*:

- #1. The story of what goes into this new modern system to insure its quality, dependable operation and long, trouble-free life.
- #2. A non-technical discussion of just what happens inside the set when a button on the *PHILCO FULL REMOTE CONTROL* is pushed.
- #3. An outline of the proper steps in the operation of *PHILCO FULL REMOTE CONTROL*.
- #4. A review of all of the services of *PHILCO FULL REMOTE CONTROL*.

#### SECTION 1

##### THE BUILT-IN QUALITY OF PHILCO FULL REMOTE CONTROL

The development of *PHILCO FULL REMOTE CONTROL FOR TELEVISION* like all the great new advances of Philco in the television industry was accomplished only through many months of research and field testing to reach perfection. The idea was conceived by Philco scientists many years ago. In the intervening time they worked unceasingly to perfect this wonderful new service that would increase television enjoyment one hundred-fold.

It is interesting to observe some examples of the great care that goes into the manufacture of *PHILCO FULL REMOTE CONTROL FOR TELEVISION*. In the first experiments with existing and available cables intended for connecting *REMOTE CONTROL* to the receiver, none would withstand more than 60 flexings. These early cables were so unsatisfactory that Philco engineers were forced to develop a cord of their own which has proven to be practically inde-

structible. This new cord has been flexed 10's of 1,000's of times without breaking. It contains eight 16-strand wires, making a total of 128 strands of wire in a cord only  $\frac{3}{8}$ ths of an inch wide.

The belt, and there is only one, which connects the reversible motor to the gears is of very expensive material. But, this expense insures long life. The belt is made of nylon filled with neoprene, a synthetic rubber. This same combination of materials is used today in tires for our jet fighters which require a thin light-weight tire that is tremendously rugged, in order to stand terrific landing speed punishment. The use of nylon and neoprene makes the belt impervious to attack by oil or grease which is required for lubrication.

The *PHILCO FULL REMOTE CONTROL* is fool-proof and it has been operated under conditions which simulate fifteen years usage in the home. This illustrates the care and quality that goes into every product, insuring dependability and long life.

**SECTION 2**

**HOW PHILCO FULL**

**REMOTE CONTROL OPERATES**

The REMOTE CONTROL UNIT is made up of four major components, a control box and connecting cable, a self-winding reel assembly, a 24-volt transformer and AC motor, and a group of 4 solenoids (electro magnets) combined with a gear and clutch assembly.

To insure easy operation of remote control by the consumer, there is "clock face positioning" of the channel numbers. The channel selector knob is arranged so that the station numbers run clockwise, and assume the same relative position as hours on the face of the clock, except that Channel 13 is one o'clock, there being no Channel 1. A pilot light is used in conjunction with the channel selector knob, so that the channel selector is lit up, while the rest of the channels remain dark.

The major part of the remote control gear mechanism and the 24-volt AC motor are on the RF-IF chassis. The shaft of the motor can be made to move in a clockwise or counter-clockwise direction by controlling the phase of the current through the two fields contained in the two-phase motor. This voltage is applied when one of the switches on the control box is pushed in either of the 2 off-center positions. These are center-sprung so that when finger pressure is released, the switch returns to center-normal or open position. The AC power switch for power to the television chassis is connected to the volume control, but remote control unit power is independent of this switch. This makes it possible to turn the set on by pushing the Volume-ON switch in the remote control box.

Idle gears transfer the movement from one gear to the next. One gear is driven through a belt from the shaft of the motor. This driven gear, in turn, couples the rotary motion to the rest of the system.

There are four solenoid and clutch assemblies in the unit. The solenoid assembly for the channel selector performs an additional function in

that it operates an external double pole-single throw switch which cuts off power to the remote control motor when the set is being operated manually. The switch closes when the solenoid is activated and the armature is attracted towards the pole. An additional function of this switch is to mute or eliminate sound from the speaker while the channel selector is being operated.

The clutch and gear assembly is a one piece unit and revolves continuously as long as the motor shaft is turning. When a solenoid is activated (by pushing a switch on the remote control box), the armature moves inward, engaging a clutch tooth with the driver. The control shaft then starts to rotate. The armature is released and returned to its original position by a return spring when the voltage is removed from the solenoid by releasing the control switch on the control box.

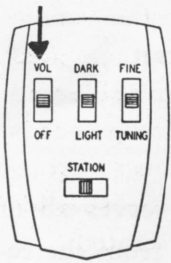
**SECTION 3**

**THE PROPER METHOD OF OPERATING PHILCO FULL REMOTE CONTROL FOR TELEVISION**

The unique PHILCO REMOTE CONTROL SYSTEM for television, as you now realize, rotates the control knobs on the control panel of the cabinet through a mechanical and electrical mechanism. The controlling operation itself is very simple, yet efficient and extremely functional. The proper method of working PHILCO FULL REMOTE CONTROL follows:

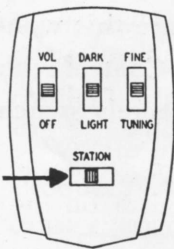
When a Philco television receiver is first set up, and before REMOTE CONTROL is used for the first time, adjustments should be made at the receiver itself for brightness and for vertical and horizontal synchronization. This is the only and last adjustment the user of PHILCO FULL REMOTE CONTROL must make to the actual receiver. After these minor initial adjustments, from here on, *PHILCO REMOTE CONTROL* will take over, and the station will be brought in as directed and desired.

Here are the steps of operation in sequence:



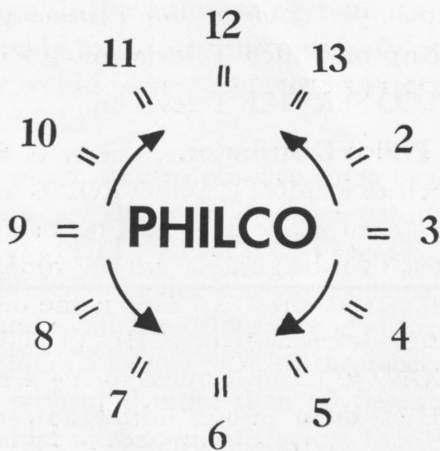
#1. The switch marked **VOL. -OFF** should be pushed toward VOL. until the indicator on the channel selector, easily visible on the receiver control panel, lights up. At this point, the switch should be released

for a period of about 60 seconds . . . allowing time for the tubes to heat up.

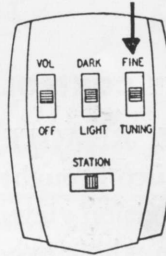


#2. The **STATION** switch should be pushed to right or left and held in either of these positions until just before the desired channel number appears in the rotating Illuminated Station Indicator of the Channel

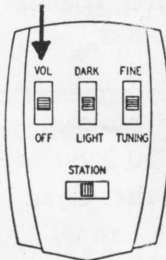
Selector on the control panel of the set itself. This Illuminated Channel Selector is easily visible from any part of the room in which the viewer chooses to sit. The *Station Switch* rotates the Illuminated Station Selector in accordance with the direction in which it is pushed. The numbers on this Illuminated Channel Selector are arranged like the numbers on a clock, which add to the simplicity of selecting the station desired.



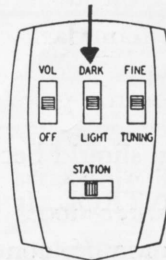
**ILLUMINATED CHANNEL SELECTOR**  
(Is operated by REMOTE CONTROL STATION Switch as indicated above)



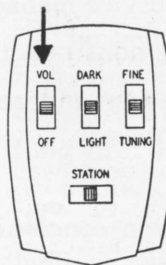
#3. Push the **NE TUNING** switch down until the picture shows a series of horizontal bars (sound bars), or has a pebbly texture. Then, push this switch up until a clear picture appears on the screen. Further tuning in the up position of the control will give a softer picture and will show less snow in low signal areas.



#4. Now, the **VOL-OFF** switch should be adjusted for the desired sound level. Volume is increased when the switch is pushed toward **VOL.** and decreased when pushed toward **OFF.**



#5. To achieve the best contrast, push the **DARK-LIGHT** switch in either direction. Hold in direction pushed until the black portions and shades of gray in the picture are the most pleasing. When this perfection has been reached, release the **DARK-LIGHT** switch.



#6. To turn the set off with **PHILCO REMOTE CONTROL**, push the **VOL-OFF** switch toward **OFF** and hold until the indicator light on the receiver's channel selector goes out.

**\*NOTE:** When the controls on the cabinet have been rotated to their limit, a clicking sound is produced by the drive mechanism, indicating that no farther adjustment can be made on that particular control in the direction indicated.



## SECTION 4

### THE SERVICES OF PHILCO

#### FULL REMOTE CONTROL

With the introduction of FULL REMOTE CONTROL FOR TELEVISION, Philco brought new convenience and comfort to television viewing. Today, the customer can enjoy a whole evening of programs on many stations without ever once leaving the chair. The set can be turned on or off as often as desired, stations may be changed, picture and sound adjusted without touching the set itself.

These are the important points to remember about *FULL REMOTE CONTROL* for this is what it will do:

1. Turn the set on
2. Select the channel

3. Adjust the volume
4. Adjust fine tuning
5. Adjust picture contrast
6. Change stations
7. Turn the set off

PHILCO REMOTE CONTROL serves all of these functions up to 30 feet away from the receiver itself. It is handy and easy-to-operate. When the customer is finished with it, the self-winding reel will store the cable, and the control box may be inserted in the receptacle provided at the rear of the cabinet. Just compare this wonderful new complete Philco Remote Control with the so-called remote controls that merely switch stations.

We believe that you should become personally familiar with PHILCO FULL REMOTE CONTROL. It is the only feature of its type on the market. It is the only remote control that handles all of the controls on the set. Take the opportunity to see it on your local dealer's sales floor or drop in to see the service manager of your Philco Distributor. He will be happy to further demonstrate and answer any questions you may have concerning the operation and servicing of PHILCO FULL REMOTE CONTROL.

Complete information concerning the servicing of Philco Television Remote Control Unit RC-1 is given in the PHILCO SERVICE Television Manual PR-1920 available through your local Philco Distributor.