

*How to operate  
your new*

**GENERAL  ELECTRIC**

**TELEVISION-RADIO  
RECEIVER**

**MODEL 802**

**THIRTEEN CHANNEL  
TELEVISION RECEIVER,  
BC-FM RADIO,  
AND  
AUTOMATIC PHONOGRAPH**

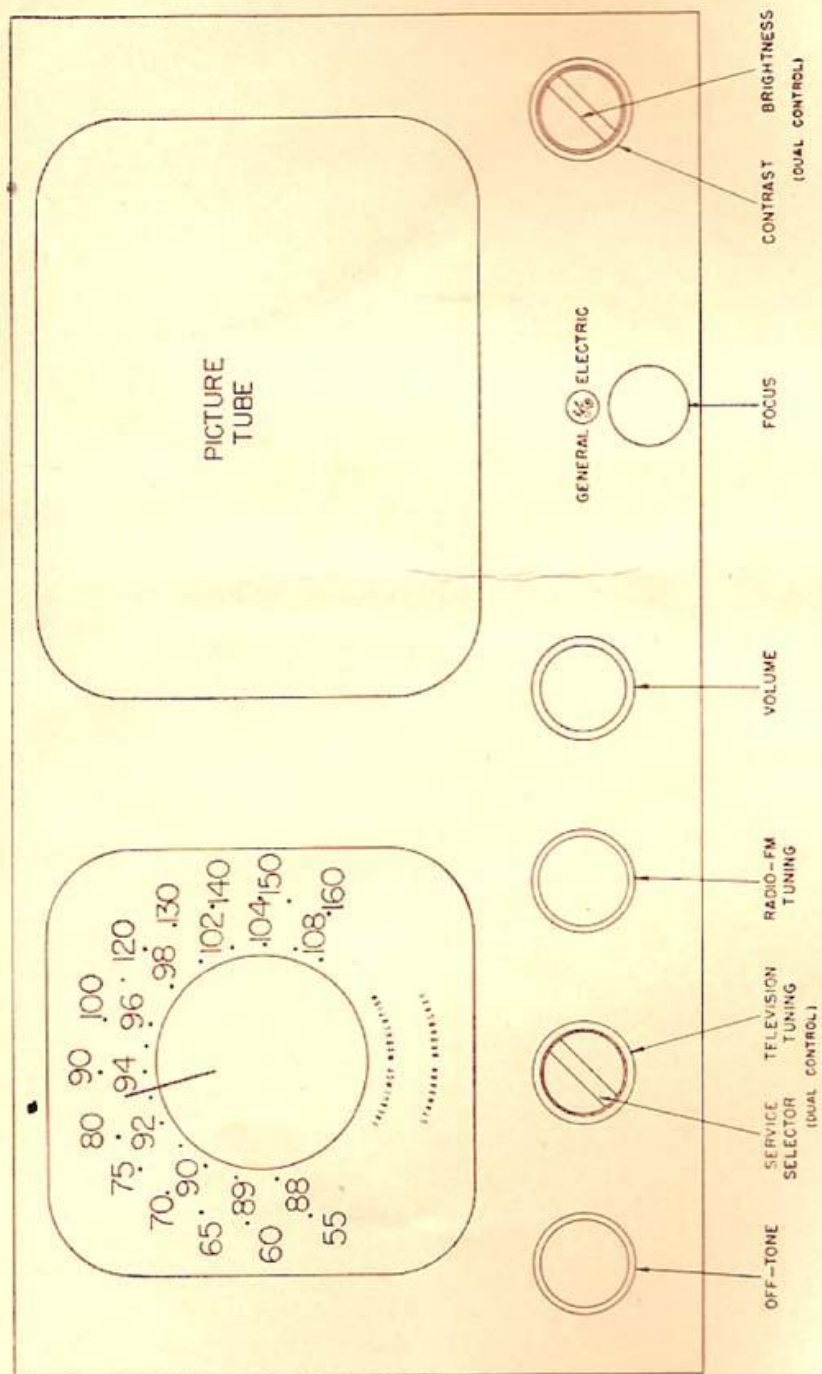


Fig.1. Operating Controls



## YOUR NEW GENERAL ELECTRIC TELEVISION, RADIO AND PHONOGRAPH MODEL 802

Your new General Electric combination television-radio receiver and phonograph is designed to provide you with a complete coverage of all thirteen commercial television channels and, in addition, tunes the Broadcast band of 540-1600 kc and the FM band of 88-108 mc. An automatic record changer is incorporated, permitting faithful reproduction of your favorite recordings. This service is made possible through the following sections in your instrument: (1) a Broadcast and FM receiver section; (2) an automatic record changer and pick-up device; (3) a sound channel for television; (4) a vision receiver section for television.

**Broadcast and FM Receiver**—A standard broadcast and frequency modulation receiver section of the latest type is incorporated so that it may be used for entertainment purposes when television programs are not available. This service is entirely separate from the television receiver, the operation being explained in a later section.

**Phonograph**—The phonograph section consists of an automatic record changer and the new G-E Electronic Reproducer. The recordings are reproduced with excellent fidelity through the audio system of the radio receiver.

**Television Sound Receiver**—The television sound receiver section reproduces the sound accompanying the television program and is similar to the broadcast receiver section except that all tuning is accomplished by means of a selector switch and a vernier tuning control. High fidelity reproduction is possible by special circuit treatment and an efficient audio reproducing system.

**Vision Receiver**—The vision receiver section operates in much the same manner as the broadcast receiver, that is, it picks up the signal from the antenna and amplifies it many times but instead of conveying the signal into a loudspeaker,



the signal is reproduced electrically as visioned on the picture tube. The television sound and vision channels are interlocked by the tuning system so that it is merely necessary to tune for best reproduction of the sound channel. This will automatically assure optimum picture detail.

A few minutes spent in reading the operating instructions of the following pages will be well repaid by a better understanding of your instrument and its operation.

**INSTALLATION**—Since the installation of your receiver requires several preset adjustments and a careful selection and orientation of the antenna, your instrument should be installed and tested by your authorized General Electric Service Unit. In general, the following precautions should be followed:

1. Do not place your instrument in such a position that the light from a window falls directly on the face of the picture tube. During the evening it helps, but is not necessary, to turn out the lights when viewing.
2. Do not place the receiver directly against a wall. Leave a two- or three-inch air space so that adequate ventilation will be assured. This will also improve the sound reproducing qualities.
3. A proper installation of the antenna system is a major factor in assuring good picture reception. Should you move the receiver from its original location, notify your authorized General Electric Service Units at both the original and new locations, as a change will possibly be necessary in the antenna lead-in.

**TELEVISION, RADIO AND PHONOGRAPH CONTROLS**—All operating controls for either radio or television reception are contained on the panel behind the front doors of the cabinet. Two of these control knobs are dual, making a total of eight adjustment knobs. The phonograph mechanism is controlled by a single button which is available when its drawer is pulled forward.

**For Television Reception**—The operating controls consist of four adjustment knobs and the Service Selector switch. The selector switch connects the television receiver section to operate in any one of thirteen channels.

**For Radio (B'cast or FM) Reception**—There are three



adjustment controls and the Service Selector switch. The switch, in this case, connects the receiver for either the regular broadcast band or the frequency modulation (FM) band. The Volume, Tone and Power controls are common for both television and radio reception.

The location and names of all operating controls are shown in Figure 1.

**For Phonograph Operation**—A single button control located in the phono drawer operates the phono mechanism. In addition, the Service Selector switch connects the phono mechanism output to the radio amplifier. This permits the radio Volume, Tone and Power controls to adjust the reproduction quality and volume of the phono output.

See Figure 2 for the location of the phono compartment controls.

**HOW TO OPERATE YOUR RADIO**—The radio section of the receiver may be used to tune the standard broadcast stations between 540 and 1600 kilocycles and the FM stations between 88 and 108 megacycles, in place of a television program. The radio section makes use of the Volume, Off-Tone, Radio and FM Tuning, and the Service Selector controls. The location of these is shown in Figure 1.

**NOTE**—The term "radio" as used in this pamphlet, is used collectively to denote operation in either the Standard Broadcast or FM bands. This should not be confused with the marking "Radio" at the Service Selector switch which indicates selection of the broadcast band only.

**Service Selector**—The smaller knob of the left-hand dual control selects the service in which it is desired to operate your receiver. There are thirteen television bands (channels), two radio positions, and the phonograph position. The television channels are labeled from 1 to 13, while the radio positions are labeled "RADIO" and "FM." The phono position is labeled "PHONO." For radio operation, turn the switch so that the pointer is adjacent to the "RADIO" or "FM" positions, dependent upon which band is desired.

**Power and Tone**—This control is to the extreme left and turns the power "on" or "off" and adjusts the tone quality of the amplifier for the most pleasing reproduction. In the extreme counterclockwise position the power is off. By turning this knob slightly clockwise a click will be heard and the dial scale will be illuminated by the dial lamps. **NOTE**—The dial



lamps and bezel lamp at the bottom of the cabinet are lighted only when operating in the RADIO, FM or PHONO positions. Allow a few seconds for the tubes to warm up and you are ready to tune in a station.

**Volume**—This control adjusts the volume to the desired listening level. At the extreme counterclockwise rotation, the volume is at a minimum and will progressively increase as this control is turned clockwise. The control may be set about half-way up when tuning in stations, then readjusted for the desired listening level.

**RADIO TUNING**—This control is connected with the dial scale pointer to give smooth tuning in either the broadcast or frequency modulation bands. Look up the frequency of the FM or broadcast station in your newspaper and then turn the Radio Tuning control until the dial pointer rests on the scale number corresponding to the station frequency. The outer scale calibration is for the standard broadcast stations and is made in figures which represent kilocycles. In order to make the scale easy to read, however, the last zero is left off. Thus, a broadcast station operating at 700 kilocycles will be found at 70 on your dial. The innermost scale is calibrated in megacycles, which corresponds directly with the way in which the station frequencies are listed in the newspapers. Thus, an FM station listed as operating at 92 megacycles will be found at 92 on the FM scale. Instead of tuning in a particular station, you may prefer to turn the volume up reasonably high and tune around the entire scale, and pick out the program you prefer.

The best tone is obtained only when your radio is tuned correctly. It is not enough simply to hear the station you desire. On the broadcast band turn the dial pointer slowly back and forth across the station, and the point where the volume is loudest will be the one that represents the correct tuning point. For the FM band, the tuning procedure is somewhat different. In general, the station should be tuned in so that the program is the loudest and the extraneous noise is the least. In many localities, three tuning peaks closely spaced may be heard. Tune to the center peak. Should the tuning adjustment produce excess sound volume, reduce the Volume control setting; *never reduce volume by detuning.*

**TO TURN POWER OFF**—Rotate the Off-Tone control to the extreme counterclockwise position.

## HOW TO OPERATE YOUR TELEVISION RECEIVER—

The television section of your receiver tunes in thirteen assigned commercial television channels. The controls requiring adjustment for the television sound and vision sections are: the Service Selector, Television Tuning, Contrast, Brightness, Focus, Off-Tone, and Volume. The location of these controls is shown in Figure 1.

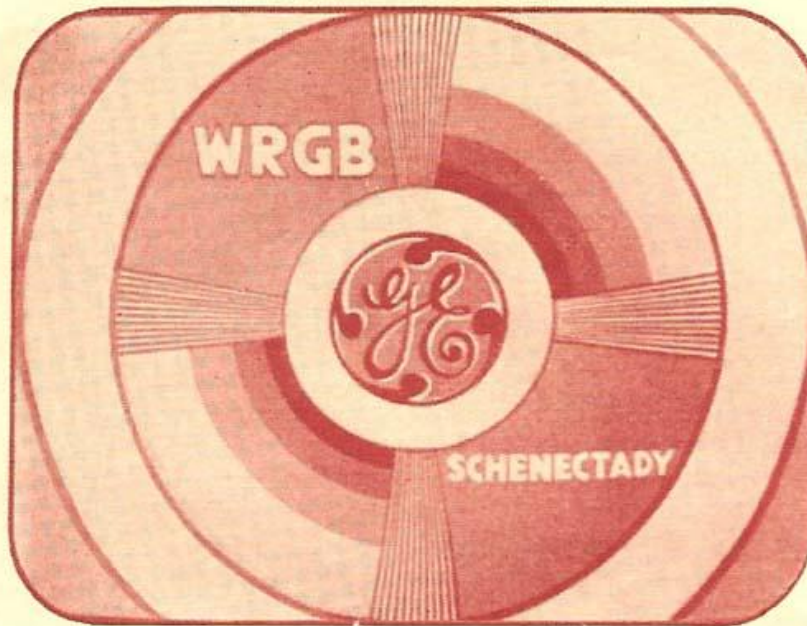
It is suggested that when a picture is being received, the new operator turn the various controls one at a time to familiarize himself with their effects.

**Service Selector**—Positions 1 through 13 of this switch permit selection of the television program channels. Satisfactory reception at each channel position is dependent upon a number of factors, including the location of the receiver from the transmitter and receiving conditions. Program listings in most newspapers will probably give the channel number and frequency. The assigned channel numbers and their frequency coverage are given below.

Selector Switch Position	Channel	Frequency Band
PHONO	—	—
RADIO	BROADCAST	540-1600 kc
FM	FM	88-108 mc
1	1	44-50 mc
2	2	54-60 mc
3	3	60-66 mc
4	4	66-72 mc
5	5	76-82 mc
6	6	82-88 mc
7	7	174-180 mc
8	8	180-186 mc
9	9	186-192 mc
10	10	192-198 mc
11	11	198-204 mc
12	12	204-210 mc
13	13	210-216 mc

Although your receiver is designed to operate in all of the above television channels, it should be noted that station



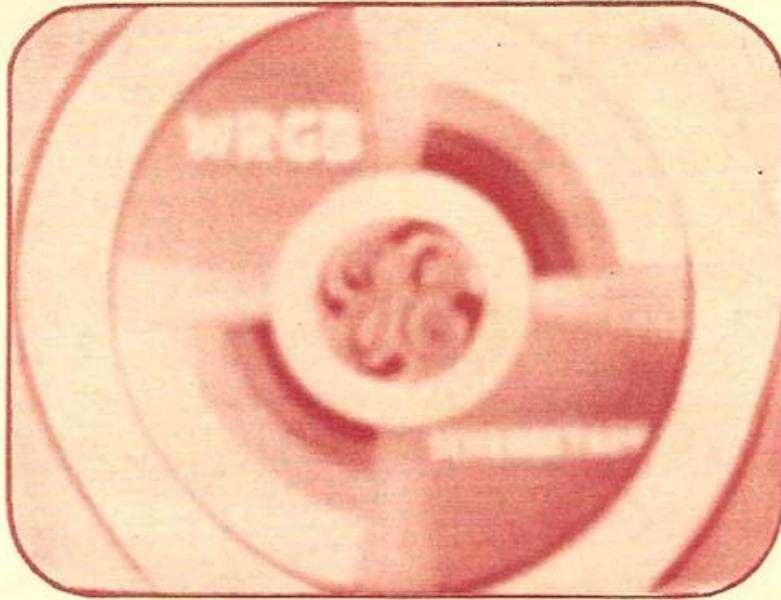


Proper Picture Adjustment



Reduce Contrast—Increase Brightness





Adjust Focus



Increase Contrast—Reduce Brightness

assignments may not be made on all the channels in your locality.

To tune for a particular television channel, merely turn the Service Selector until the index on the knob is opposite the channel number desired. This selection of the channel adjusts the tuning circuits approximately. For fine adjustment, the Television Tuning control, described in the following paragraph, must be properly adjusted.

**Television Tuning**—This tuning control is the larger knob of a dual control and adjusts the frequency to the television band being received. Correct adjustment is essential for optimum picture detail and satisfactory sound reception.

Turn the Volume control about half-way up; then adjust the Television Tuning control to that point where the sound reproduction of the program is the clearest. In general, this is the point where the program is the loudest and the extraneous noise is the least. This tuning point for the sound automatically insures the proper adjustment of the vision channel. In many localities, three tuning peaks closely spaced may be heard. Tune to the center peak. Should this adjustment produce excess sound volume, reduce the Volume control setting; *never reduce volume by detuning.*

**Contrast Control**—This is the larger knob of the right-hand dual control and its adjustment is dependent upon your location in respect to the television transmitter. For a weak signal, this control may have to be operated nearly fully clockwise, while for a strong local station the control may be operated almost fully counterclockwise or at minimum. As the name suggests, this control adjusts the black and white contrast between the various picture elements. Turn this control until the picture remains stationary on the screen but not so high that the gradation between black and white is lost. Too much contrast is apparent when the picture is lacking in gradations between black and whites or the picture loses form. Too little contrast causes the picture to appear faded so that it seems composed entirely of greys. A properly adjusted picture is shown in an accompanying photograph facing the preceding page.

**Brightness Control**—This control must be adjusted simultaneously with contrast as it regulates the brilliance of the received picture. Too much brilliance will have the same effect as too little contrast, making it advisable to strike a proper balance between the Contrast control and Brilliance



control settings. Since the proper operation of the Contrast and Brightness control cannot be adequately described in words, the accompanying photographs show examples of maladjustments and their effects on the received picture.

**Focus Control**—As the name implies, this control focuses the received picture on the screen. It is merely necessary to adjust this control to the point which gives the sharpest definition in the picture. For normal conditions, this control seldom requires readjustment.

**Volume Control**—This control operates in the same manner as for broadcast reception. In the extreme counterclockwise position the volume of the sound receiver will be at a minimum. With clockwise rotation the volume may be increased to any degree until the full output of the sound receiver is obtained.

**Off-Tone Control**—This control operates in the same manner as for the broadcast receiver. Slight rotation from the extreme counterclockwise position turns on power and by further clockwise rotation the tone is varied from maximum treble to maximum bass.

## TELEVISION OPERATING NOTES

1. Prior to a scheduled program, most stations transmit a test pattern which will be found very helpful in adjusting the operating controls—Contrast, Brightness, Focus, and Tuning. Such a test pattern is shown in the photographs on the center sheet of this booklet, and it permits much finer adjustment than could be made with ordinary pictorial scenes.

2. It is desirable for the receiver to be turned "on" for a few minutes before the television program begins in order to allow all tubes and circuits to warm up and become stable.

3. Do not remove the back cover from the cabinet at any time. Do not attempt adjustment of the preset controls along the back of the chassis as their adjustment is critical and interact on each other. These were adjusted at the factory and readjusted for best performance during installation and should not be tampered with.

4. Call in your authorized General Electric Service Unit if the picture loses vertical or horizontal synchronization. Loss of vertical synchronization is indicated when the picture appears to move up or down the screen. Loss of horizontal synchronization is indicated when the picture



loses form with light and dark shaded areas running horizontally across the picture.

5. Ignition interference from motor cars and interference from electrical appliances are the most general sources of trouble when receiving pictures. These interferences are characterized by white specks or even white bands breaking up the picture. Some types of interference may also affect the picture but cause no crackle or harsh grating noise in the sound reproducing system. Diathermy interference will cause a line or band of interference across the picture which may travel up or down the picture or stand still. Unfortunately, these types of interferences cannot be eliminated by adjustment at the receiver.

6. The antenna lead-in should not be tampered with after installation. No wires or pipes should be installed close to it without consulting your General Electric Service Unit.

**HOW TO OPERATE YOUR PHONOGRAPH**—The phonograph section of your receiver is made available by pulling forward the drawer located at the front-center of the cabinet. Turn the radio ON as you do normally for radio reception. Then, turn the Service Selector to the PHONO position. The Volume, Tone and Power controls permit the adjustment of tone and volume just as they do for radio reception.

**To Play Records Manually (One at a time)**—Lift and turn the *selector arm knobs* so that the blades will permit a record to slip down the *spindle* onto the turntable. Move *switch plate* knob to the MANUAL position. Place *tone arm* on first groove of record and when finished playing return *tone arm* by hand to its rest position. Stop turntable rotation by moving *switch plate* knob to OFF position.

**To Play Records Automatically**—Lift and rotate the *selector knobs* and position them for 10- or 12-inch records, as desired. The arrow should point directly at the *spindle*. Place up to either twelve 10-inch or ten 12-inch records on *selector arm*. Do not intermix 10- and 12-inch records.

Move control knob on *switch plate* to REJECT position and release it. The changer will now play the entire stack and repeat the last record. To shut off phonograph before or after all records are played, move control knob to OFF and lift *tone arm* and move out to the rest position.



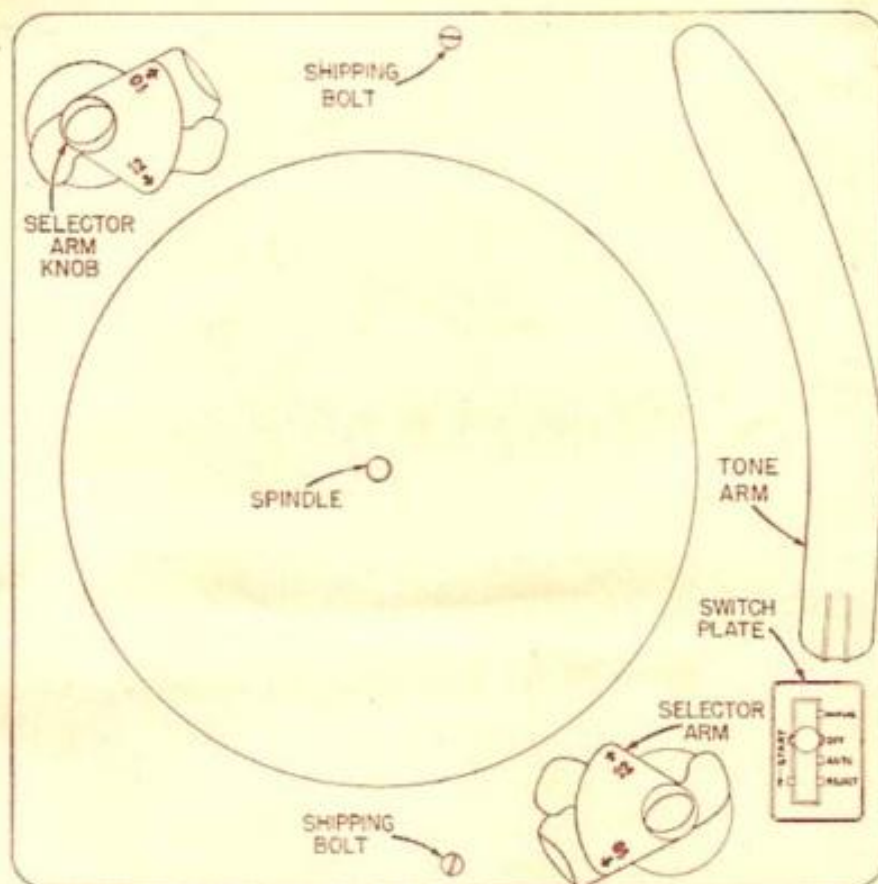


Fig. 2. Phono Compartment Controls

If you wish to reject a record before it has finished playing, move control knob to **REJECT** and release it. The changer will reject the record and then continue to play the remainder of the stack.

To unload records, push control knob to **OFF** position. Remove any remaining records on *selector arms*. Lift and turn *selector arm knobs* until arm clears the records. Remove records from turntable.

**Operating Pointers**—Do not try to play warped records automatically; they may be damaged or the player itself may be thrown out of adjustment. Play such records manually.

Do not permit records to remain in the loaded position for any great length of time—overnight, for example. This will

warp the records and preclude their further use in automatic operation.

Do not mistreat the tone arm. Handle it gently. It is a delicate precision device and, although it is designed to withstand a certain amount of accidental mishandling, it can be damaged if handled carelessly.

Do not force the tone arm or try to hold it while the player is in the process of changing a record. Wait until the cycle is completed; otherwise you may destroy the adjustment of the machine.

Do not overload the changer. It is designed to play up to ten 12-inch or twelve 10-inch records and no more. Do not mix sizes.

*Never* push the turntable by hand in the counterclockwise direction.

**MAINTENANCE**—Should your television-radio receiver and phonograph need maintenance or readjustment, call your authorized General Electric Service Unit. His "know-how" is your assurance of good economical service.

Like any other piece of fine furniture, your new cabinet should be preserved by the regular application of a good wax polish. Never store your instrument in a damp room for a prolonged period.

**SERVICE CONTRACT**—A service contract is available to provide continuing service beyond the ninety-day manufacturer's warranty. Details are available from your local General Electric Television Dealer.