

OPERATING INSTRUCTIONS

Sparton

TELEVISION RECEIVER

CHASSIS TYPE 17D1

19 Tubes incl. 17" Picture Tube

**Radio's Richest Voice
Since 1926**

SPARTON OF CANADA LTD.

LONDON, ONT., CANADA

SPARTON TELEVISION INSTRUCTIONS

DESCRIPTION

This Sparton Television Receiver, with its modern engineering and precise workmanship, was designed to give you the best in Television performance.

Its superheterodyne circuit, with 18 tubes and picture tube incorporates all of the latest advances in electronic science, and produces the best in HIGH DEFINITION pictures with FINE DETAIL and EXCELLENT BRILLIANCE.

It has a station coverage of twelve channels as allocated by the Department of Transport.

Automatic circuits increase receiver efficiency by compensating for human errors and reducing tuning operations to a minimum.

This receiver can easily be operated by following the step by step instructions found under the heading, CONTROLS and their FUNCTION, beginning on page 2.

POWER SUPPLY

POWER SUPPLY: The power supply unit in this Television Receiver is designed for operation on 110-120 volt (A.C.) 25 or 60 cycle, as marked on rear of cabinet.

A heavy 110-120 volt service designed for refrigerator, hot plate, iron or roaster is recommended for best results.

WARNING: Do not, under any circumstances, connect this Television Receiver to any power supply source other than that specified above, as it will be damaged.

If in doubt about your power supply call your power company.

INSTALLATION

Before your Sparton Television Receiver has been installed, consideration should be given as to properly locating the receiver within the room in which it is to be used.

It is not necessary to operate your Sparton Television Receiver in a room of total darkness, as some light in the room is desired, yet a bright direct light from nearby windows or floor lamps that may cast a direct light upon the screen will greatly affect the quality of the picture and it will lose its brightness and sharpness. Therefore, the receiver position should be planned to control room brightness.

This receiver will be installed by a certified Sparton Service Agency who will gladly assist you in selecting the proper location, keeping in mind the POWER receptacle and ANTENNA lead in wires.

ANTENNA: A good antenna should be properly installed for satisfactory reception.

IMPORTANT

VENTILATION: The cabinet for this receiver has been designed to provide adequate ventilation to relieve the heat dissipated by tubes and power supply systems. Good ventilation is necessary and care should be taken not to allow these openings to be covered or ventilation to be impeded in any way.

If the receiver is to be placed flat against a wall, spacing of ONE INCH or more is recommended for air passage. Ventilation openings in base of table model cabinets should not be covered.

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CONTROLS AND THEIR FUNCTION

This Sparton Television Receiver is operated with the control knobs on the front panel. With the exception of the channel selector, fine tuning and picture control, these controls are identified by the label on the knob itself.

A step by step procedure as described in the following paragraphs, will place this receiver in operation.

(A) OFF-ON SWITCH AND VOLUME CONTROL (See Fig. 1, Page 5)

The control labeled "Off-On Volume" is used to turn the receiver on and off and to control the volume of sound reception. The first clockwise rotation turns the power switch on. Further clockwise rotation increases sound, counter-clockwise decreases sound and the extreme counter-clockwise position turns the power switch and receiver off.

(B) CHANNEL SELECTOR AND FINE TUNING CONTROLS (See Fig. 1, Page 5)

Channel selection is accomplished by the indicator and knob on the right of the control panel. These controls are for channel selection and fine tuning. When the indicator knob has been turned until one of the numbers 2 to 13 is uppermost, the receiver is being tuned to that channel. When the picture appears on the picture tube, the larger knob should be turned slowly clockwise and counter-clockwise until the BEST PICTURE is obtained. When the BEST PICTURE has been tuned in, optimum sound will automatically be obtained in the speaker. In no area are there stations operating on all 12 channels.

For your convenience the channel numbers and their corresponding frequencies in megacycles are listed below:

| Channel No. | Freq. in Megacycles | Channel No. | Freq. in Megacycles |
|-------------|---------------------|-------------|---------------------|
| 2 | 54 to 60 | 8 | 180 to 186 |
| 3 | 60 to 66 | 9 | 186 to 192 |
| 4 | 66 to 72 | 10 | 192 to 198 |
| 5 | 76 to 82 | 11 | 198 to 204 |
| 6 | 82 to 88 | 12 | 204 to 210 |
| 7 | 174 to 180 | 13 | 210 to 216 |

NOTE: Your local SPARTON DEALER will gladly check the television stations operating in your area.

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(C) PICTURE CONTROL (See Fig. 1, Page 5)

The control labeled "Picture" (larger knob—left side) is used to control the light or dark contrast of the picture. Rotate this control clockwise until activity or definite form is visible. The clarity, brightness and contrast of the picture are controlled by the picture control, therefore this control should be adjusted until the picture is at its best.

(D) VERTICAL HOLD CONTROL (See Fig. 1, Page 5)

The Vertical Hold Control, indicated by the marking on the knob, is used to control the up and down movement of the picture. When the picture or activity is moving up or down, after the picture tube has had sufficient time to warm up, adjust the control slowly until the picture is moving down slowly, then turn the control slightly counter-clockwise until the picture snaps up and locks into position.

(E) HORIZONTAL HOLD CONTROL (See Fig. 1, Page 5)

The Horizontal Hold Control, indicated by the marking on the knob, is used to stop the picture moving from side to side. This control, once set correctly, should require little attention unless disturbed. The picture will usually pull itself into synchronism in less than a minute after the set is turned on, and will stay in synchronism for the duration of the program.

This control may be misadjusted either clockwise or counter-clockwise. This adjustment is critical and only slight movement of the knob is necessary.

If the horizontal control is misadjusted from its correct position, the picture may remain synchronized for a short time only, then some disturbance throws it out. The picture will then be sliced diagonally into segments running upwards from left to right. To correct, turn the horizontal control slowly until the picture snaps into synchronism then turn VERY SLIGHTLY beyond.

(F) BRIGHTNESS CONTROL

The Brightness Control is located on the rear of the chassis and may be used to darken or brighten the picture to suit the individual taste. Clockwise rotation increases the brilliance, counter-clockwise rotation darkens the picture.

NOTE:

The Brightness Control is the only control on the back with a knob and is marked on the back cover. OTHER CONTROLS ON THE BACK SHOULD BE TOUCHED ONLY BY A COMPETENT SERVICE MAN.

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OPERATION AND TUNING SEQUENCE

STEP BY STEP

1. Turn control labeled "Off-On-Volume" clockwise and allow approximately 45 seconds for tubes to warm up. Advance control until sound or noise is heard in speaker.
2. Turn Picture Control full clockwise.
3. Turn the Channel Selector until the desired channel is indicated. Adjust Fine Tuning Control (larger knob) until a picture is obtained.
4. Re-adjust sound volume if necessary.
5. Adjust the control labeled Vertical if necessary.
6. Adjust the control labeled Horizontal if necessary.
7. Turn Picture Control counter-clockwise until desired contrast of picture is obtained.
8. Re-adjust Fine Tuning Control until BEST PICTURE is obtained.

TO CHANGE STATIONS

1. Turn the Channel Selector until the desired channel is indicated.
2. Re-adjust Sound Volume if necessary.
3. Re-adjust Fine Tuning and Picture Controls if necessary.
4. The other controls, unless disturbed from previous settings, should need no further adjusting.

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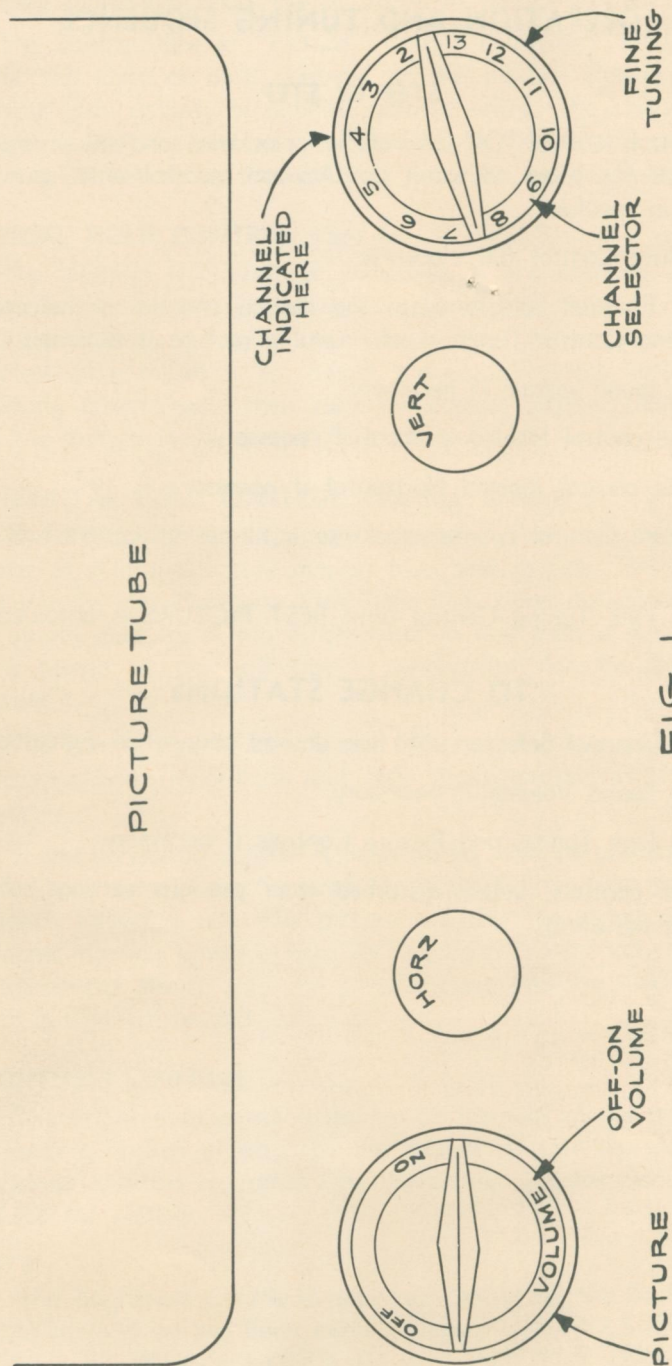


FIG. 1

SPARTON TELEVISION INSTRUCTIONS

TUBE COMPLEMENT: The following tubes are included as regular equipment in your Television Receiver.

| TUBE | TYPE | FUNCTION |
|-------|--------|---|
| V 101 | 6BZ7 | RF Amplifier |
| V 102 | 6J6 | Oscillator & Mixer |
| V 201 | 6AU6 | Sound IF Amplifier |
| V 202 | 6AL5 | Ratio Detector |
| V 203 | 6SN7GT | Phase Detector & Audio Amplifier |
| V 204 | 6AS5 | Audio OP Amplifier |
| V 301 | 6CB6 | 1st Picture IF Amplifier |
| V 302 | 6CB6 | 2nd Picture IF Amplifier |
| V 303 | 6AG5 | 3rd Picture IF Amplifier |
| V 304 | 6AL5 | Picture 2nd Detector |
| V 305 | 6CB6 | Video Amplifier |
| V 401 | 6SN7GT | Sync. Separator, Clipper & Phase Splitter |
| V 402 | 12BH7 | Vertical Oscillator & Output |
| V 501 | 5U4G | Power Rectifier |
| V 601 | 6SN7GT | Horizontal Oscillator |
| V 602 | 6BQ6GT | Horizontal Output |
| V 603 | 1X2B | H.V. Rectifier |
| V 604 | 6AX4GT | Damper |
| V 605 | 17BP4A | 17" Picture Tube |

INTERFERENCE

To eliminate interference, every known means of suppressing interference has been built into your Sparton Television Receiver.

When interference is picked up by your radio receiver it is only audible in the speaker, but in television the problem of reflection and interference together in some locations may disturb television reception. This means that static and man-made interference will affect both the picture and the sound.

The sources of man-made interference in your location may be numerous and all such problems must be given consideration at the time of the antenna installation.

Interference may be caused by arcing electrical contacts, street cars, automobile ignition systems, elevators, carpet sweepers, electric razors, and neon signs. This type of interference usually causes spots in the picture or up and down movement.

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Medical short-wave diathermy may cause speckled or herring-bone bands across the picture.

Aircraft in the vicinity may cause fluctuations in the picture brightness and sound volume.

Mountains, tall buildings or steel towers may cause reflections which will produce multiple images on the television screen.

In adverse locations these are some of the problems that will have to be considered.

In most cases local interference can be eliminated by using filters at the source and a proper antenna installation.

PICTURE CONTROL ADJUSTMENTS

The following instructions and illustrations will explain and show most of the picture effects likely to occur during television reception. Where possible advice on corrections is given.

NORMAL PICTURE

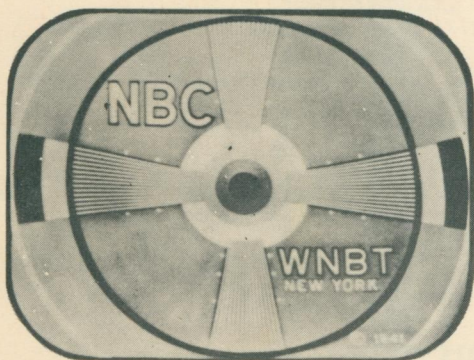


Fig. 2—Normal Picture

A picture, or test pattern is usually telecast by the station for about fifteen minutes before the regular program begins. Fig. 2 is a good illustration of a picture correctly adjusted. The picture is clear and steady and five distinct shades (Black, Dark Gray, Medium Gray, Light Gray and White) are discernible. There are no extra lines or central circles visible within or on the border of the picture.

WEAK SIGNAL

When the picture is faded or speckled, having a "snow" effect and not holding steady on the screen, this indicates your installation is on the outer limits of the area being served by the television station. This is due to the lack of signal strength in your locality.



Fig. 3—Weak Signal

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PICTURE CONTROL MISADJUSTED



Fig. 4—Too Much Contrast

When the picture is dark as shown in Fig. 4 this indicates the **picture control** is not properly adjusted. This is too much contrast and the "**picture control**" should be readjusted to give the effect as shown in Fig. 2 which is a normal picture.

INTERFERENCE FROM ANOTHER SIGNAL

The presence of short-wave radio equipment operating in your locality, such as that used by commercial, amateur and police, or neighboring F.M. and television stations, may cause an R.F. interference in the picture. This will appear in the form of moving ripples as shown in Fig. 5.



Fig. 5—Interference

SOUND IN PICTURE



Fig. 6—Sound Bars

When bars appear and flicker across the picture in step with the speech or music, as shown in Fig. 6, the picture is not properly tuned. In all probability the speech or music will also be distorted.

Readjust the "Fine Tuning" control so that the sound bars disappear and the speech or music is free of distortion. Tune for optimum sound.

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DIATHERMY

Diathermy, such as used by the Medical Profession will produce what is known as a herring-bone effect pattern across the picture. This interference when severe may even obliterate part of the picture, see Fig. 7.

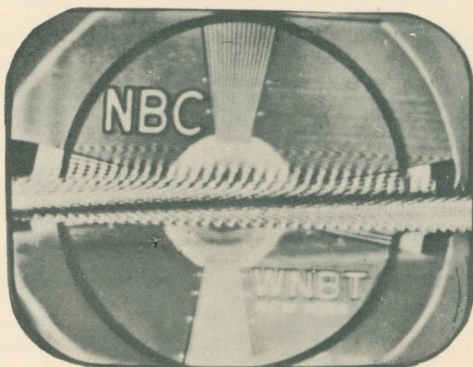


Fig. 7—Diathermy interference

REFLECTIONS



Fig. 8—Reflections

When multiple images appear in the picture as illustrated in Fig. 8 this indicates that signals are arriving at the receiver by more than one direct path from the station. These reflections are known as echoes or ghosts. Signals that have been reflected from mountains, steel towers or tall buildings will produce this effect on the television screen. This trouble can sometimes be corrected by adjusting the antenna.

AUTO IGNITION INTERFERENCE

As ignition systems on automobiles radiate an interference similar to that of signals being broadcast by regular television stations, this interference can be picked up and produced on the picture screen. Interference caused by ignition systems and motor driven appliances will appear on the picture as speckles. Cases where this type of interference is severe, may even cause vertical picture movement. See Fig. 9.



Fig. 9—Auto Ignition Interference

NOTE: The photographs shown in figures 2, 3, 4, 5, 6, 7, 8 and 9 are reproduced with special permission of: R.C.A. SERVICE COMPANY.

NOTICE TO PURCHASER

This new Sparton Television Receiver is a precisely built instrument, engineered to assure the owner a perfectly reliable source of entertainment.

The owner should not attempt to adjust this receiver, other than by the controls as described and illustrated in this booklet. Failure to observe this warning may require a service company with instruments to correct your mistakes.

Although this receiver contains units which generate high voltages, it is fully protected against fire and shock hazards and is listed under the re-examination service of the C.S.A.

THE WARNING STICKER ON THE BACK COVER WAS PLACED THERE FOR YOUR PROTECTION. PLEASE OBSERVE IT.

Under no circumstances should the back cover be removed by anyone except a certified Sparton Service Agency to replace tubes, make repairs or effect adjustments.

DEALER WARRANTY

Each new SPARTON set is warranted against defects in material and workmanship for ninety (90) days from date of original sale by an authorized SPARTON Dealer. Should trouble develop due to causes other than abuse or failure to follow instructions, the service required will be rendered by the Dealer in accordance with the terms of the manufacturer's warranty.

IMPORTANT The Dealer shall forward all parts claimed to be defective, transportation prepaid, to the distributor or manufacturer's branch from whom the receiver was purchased, within thirty days from expiry of the warranty period—the parts to be listed on convenient forms supplied by the manufacturer.

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