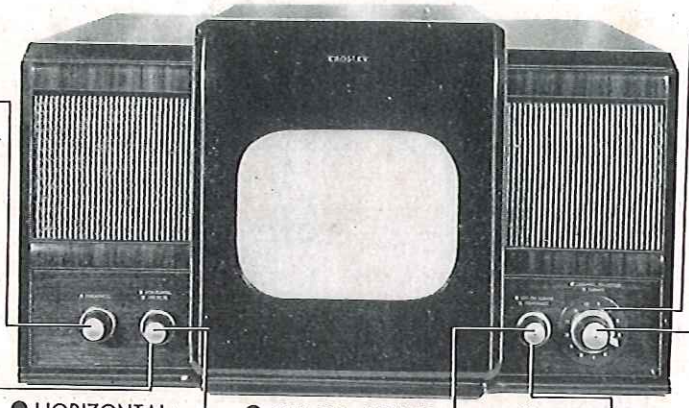
CROSLEY

TELEVISION RECEIVER INFORMATION

August, 1947 | MODELS 307TA, 307TA-50 | No. 345



DESCRIPTION

Models 307TA and 307TA-50 are thirty-tube, direct-viewing, 10" table model, Television Receivers. The receiver is complete in one unit and is operated by the use of seven front-panel controls. Features of the receiver include: A-F-C horizontal hold: Stabilized vertical hold: Two stages of video amplification: Noise saturation circuits: Three stage sync separator and clipper: Four mc. band width for picture channel, and Reduced hazard high voltage supply.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

PICTURE SIZE: 6 3/16 x 8 1/4 x 1 3/4 radius at corner.

R-F FREQUENCY RANGES

Channel Number	Channel Freq. Mc.	Picture Carrier Freq. Mc.	Sound Carrier Freq. Mc.	Receiver R-F Osc. Freq. Mc.
1	44–50	45.25	49.75	71
2	54–60	55.25	59.75	81
3	60–66	61.25	65.75	87
4	66–72	67.25	71.75	93
5	76–82	77.25	81.75	103
6	82–88	83.25	87.75	109
7	174–180	175.25	179.75	201
8	180–186	181.25	185.75	207
9	186–192	187.25	191.75	213
10	192–198	193.25	197.75	219
11	198–204	199.25	203.75	225
12	204–210	205.25	209.75	231
13	210–216	211.25	215.75	237

POWER SUPPLY RATING

115 volts, 60 cycles, 320 watts (Model 307TA).
115 volts, 50 cycles, 320 watts (Model 307TA-50).

AUDIO POWER OUTPUT RATING

Undistorted, 2.5 watts. Maximum, 4 watts

SPEAKER

Type—5-inch Electro Magnet Dynamic
Voice Coil Impedance—3.2 ohms at 400 cycles.

RECEIVER ANTENNA INPUT IMPEDANCE, 300 ohms balanced

Dimensions (Inches)	Length	Height	Depth
Cabinet (Outside)	25 1/2	14 3/8	19
Chassis Base (Outside)	19 1/4	3 3/4	15 1/2
Chassis Overall	21 3/4	11 3/4	16 1/8

ELECTRICAL AND MECHANICAL SPECIFICATIONS (Continued)

TUBE COMPLEMENT

Tube Used	Function
(1) 6J6	R-F Amplifier
(2) 6J6	R-F Oscillator
(3) 6J6	Converter
(4) 6BA6	1st Sound I-F Amplifier
(5) 6BA6	2nd Sound I-F Amplifier
(6) 6AU6	3rd Sound I-F Amplifier
(7) 6AL5	Sound Discriminator
(8) 6AT6	1st Audio Amplifier
(9) 6K6GT	Audio Output
(10) 6AG5	1st Picture I-F Amplifier
(11) 6AG5	2nd Picture I-F Amplifier
(12) 6AG5	3rd Picture I-F Amplifier
(13) 6AG5	4th Picture I-F Amplifier
(14) 6AL5	Picture 2nd Detector and D-C Restorer
(15) 6AU6	1st Video Amplifier
(16) 6K6GT	2nd Video Amplifier
(17) 6SK7	1st Sync Amplifier
(18) 6SH7	Sync Separator
(19) 6SN7GT	2nd Sync Amplifier and Horizontal Discharge
(20) 6J5	Vertical Sweep Oscillator and Discharge
(21) 6K6GT	Vertical Sweep Output
(22) 6AL5	Horizontal Sync Discriminator
(23) 6K6GT	Horizontal Sweep Oscillator
(24) 6AC7	Horizontal Sweep Oscillator Control
(25) 6BG6G	Horizontal Sweep Output
(26) 5V4G	Horizontal Reaction Scanning
(27) 1B3-GT/8016	High Voltage Rectifier
(28) 5U4G	Power Supply Rectifiers (2 tubes)
(29) 10BP4	Picture Tube

PICTURE I-F FREQUENCIES

Picture Carrier Frequency	25.75 Mc.
Adjacent Channel Sound Trap	27.25 Mc.
Accompanying Sound Traps	21.25 Mc.
Adjacent Channel Picture Carrier Trap	19.75 Mc.

SOUND I-F FREQUENCIES

Sound Carrier Frequency	21.25 Mc.
Sound Discriminator Band Width (between peaks)	350 kc.

VIDEO RESPONSE ..... To 4 Mc.

FOCUS ..... Magnetic

SWEEP DEFLECTION ..... Magnetic

SCANNING ..... Interlaced, 525 line

HORIZONTAL SCANNING FREQUENCY ..... 15,750 cps.

VERTICAL SCANNING FREQUENCY ..... 60 cps.

FRAME FREQUENCY (Picture Repitition Rate) ..... 30 cps.

OPERATING CONTROLS (front Panel)

Channel Selector Fine Tuning	Dual Control Knobs
Picture Sound Volume and On-Off Switch	Dual Control Knobs
Picture Horizontal Hold Picture Vertical Hold	Dual Control Knobs
Brightness	Single Control Knob

NON-OPERATING CONTROLS

(not including r-f and i-f adjustments)

Horizontal Centering	rear chassis adjustment
Vertical Centering	rear chassis adjustment
Width	rear chassis screwdriver adjustment
Height	rear chassis adjustment
Horizontal Linearity	top chassis screwdriver adjustment
Vertical Linearity	rear chassis adjustment
Horizontal Drive	rear chassis adjustment
Horizontal Oscillator Frequency	rear chassis adjustment
Horizontal Oscillator Phase	bottom chassis adjustment
Focus	rear chassis adjustment
Focus Coil	top chassis wing nut adjustment
Ion Trap Coil	top chassis thumb screw adjustment
Deflection Coil	top chassis wing nut adjustment

FOR RECEIVER OPERATING INSTRUCTIONS—SEE USERS BOOKLET

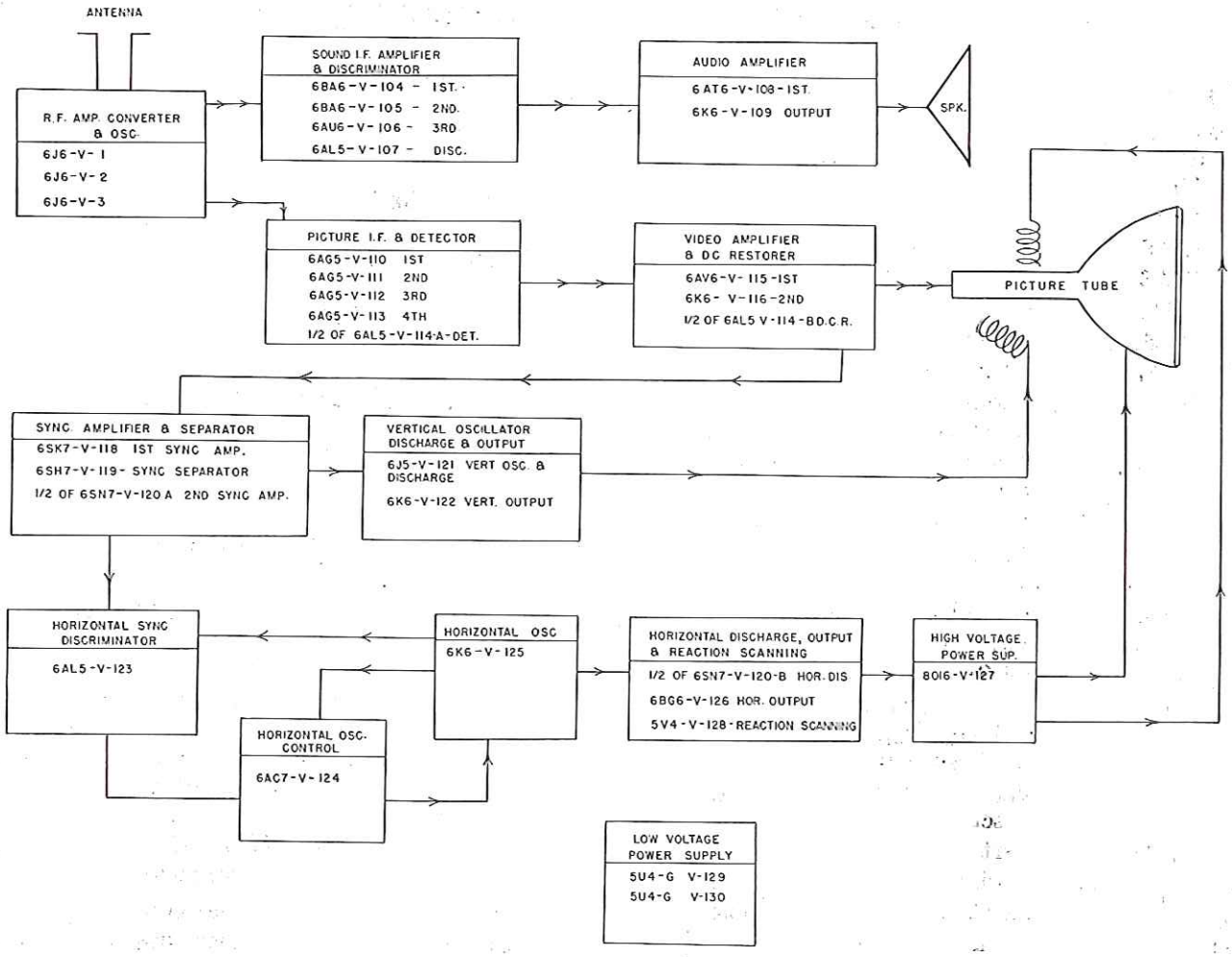


Fig. 1—Receiver Block Diagram

INSTRUCTIONS FOR UNPACKING ASSEMBLY AND ADJUSTMENT OF THE 307TA, 307TA-50 TELEVISION RECEIVERS

HIGH VOLTAGE WARNING

When handling the high voltage lead to the cathode-ray, the receiver power plug should be disconnected from the power line receptical.

CATHODE-RAY (PICTURE TUBE)

Do not open the picture tube shipping carton, install, remove or handle the picture tube in any manner unless safety goggles and heavy gloves are worn. The glass bulb encloses a high vacuum, and due to its large surface area, is subjected to considerable air pressure. For these reasons picture tubes must be handled with more care than ordinary receiving tubes. The large end of the glass bulb must not be struck, scratched, or subjected to more than moderate pressure at any time. The neck of the tube must slide smoothly through the deflection yoke and focus coil. If it does not the coil may not be lined up properly, or the openings may be obstructed in some way. Remove the tube and investigate the trouble. Do not force tube.

All picture tubes are shipped in special cartons and should remain in cartons until ready for installation. Keep the picture tube carton for future use.

LOCATION OF THE RECEIVER

The model 307TA receiver weighs approximately 85 pounds. Due to this weight only a very sturdy table or other object should be used to support the receiver. The receiver should be located to permit viewing from the proper distance. For best results in detail, the picture should be observed from a distance of six to ten feet. When picking up the receiver never lift by the top of the cabinet as this would tend to pull the cabinet apart.

Caution: When placing the receiver, care should be taken not to block the ventilating openings in the bottom, back or top of the cabinet, as this may cause the receiver to overheat.

INTERFERENCE

Under some conditions, interference may be present

in the picture. Interference is not the fault of the receiver. See users instruction book for pictures on interference.

UNPACKING

The 307TA receiver is shipped complete in one carton except for the picture tube. The picture tube is shipped in a special carton and should not be opened until ready for installation.

TO UNPACK THE RECEIVER

Open the top of the carton.
Remove the cardboard covering from the top of the receiver.
Remove the cardboard carton liners from along the side of the receiver.
Remove the protective paper covering.
Remove receiver safety glass front panel, which is packed in a separate carton and placed in front of the receiver.
Remove the receiver from the carton.
Remove the cabinet top by removing the two screws at rear of cabinet top, sliding the top back and then lifting up.
Do not turn any of the controls on the rear of the chassis at this time. These controls have been set to approximately the correct position at the factory and any misadjustment at this point will require additional readjustments when setting up.
Remove all packing material from inside the cabinet.
Make sure that all tubes are firmly seated in the sockets. To seat the miniature tubes in their sockets, press straight down. Do not wiggle them from side to side as this may result in bent tube prongs.
Place knobs on shafts. See that the knobs turn freely and do not bind in the cabinet. Allow clearance between the inner and outer knob to prevent binding. If binding does occur, slide the offending knob backward or forward on shaft as necessary until it turns freely.
Loosen the two thumbscrews (A) and slide the picture tube cushion toward the rear of the cabinet. (See Fig. 2).
Loosen the thumbscrew (B) and slide the deflection yoke towards the rear of the cabinet and tighten.
In order to insure that the picture tube can be inserted with a minimum of strain placed on the glass neck, the opening in the focus coil must be lined up with the opening in the deflection coil.
To check the alignment of the focus coil with the yoke, look through the front of the cabinet. If the opening is blocked by the focus coil, loosen the thumbscrews (C & D). Raise, lower or rotate the focus coil until a clear opening is obtained. Tighten the thumbscrews at (C & D) in this position.
Loosen the screws that hold the two lower picture tube centering brackets, raise the brackets to approximately mid position, and tighten.

Do not open the picture tube shipping carton, install, remove or handle the picture tube in any manner unless safety goggles and heavy gloves are worn.
The tube is packed so that the screen is down and the neck of the tube is up when the carton is in the normal shipping position.
To unpack the picture tube, turn the carton upside down, cut the paper tape along the edges and tear open the carton flaps. Remove the cardboard covering from the face of the tube.
Grasp the sides of the tube and carefully remove from the carton. Hold the tube in a position that will allow the anode connector to be at the top, when inserting in receiver.
Note: It is good practice to have the receiver prepared, so that when the picture tube is removed from the carton, it can be placed immediately in the receiver. If it is necessary to set the tube down, it should always be placed face down, on a clean piece of paper or cloth to prevent scratching of the face. It should also be placed in a position where it will not be accidentally upset or jarred.
Never handle the tube by the fragile neck.
Insert the neck of the picture tube through the deflection and focus coils until the tube base protrudes approximately 2 inches beyond the focus coil. If the tube sticks or fails to slip into place smoothly, investigate and remove the cause of the trouble. Do not force the tube.
Loosen the thumbscrews on the ion trap magnet and slip the magnet over the neck of the tube with the coils to the bottom and the large coil towards the rear of the cabinet.
Attach the picture tube socket to the tube base.
Carefully push the picture tube back until the face of the tube protrudes approximately one-quarter of an inch outside the front of the cabinet.
Adjust the four centering brackets until the face of the picture tube is in the center of the cabinet opening.
Tighten the four centering bracket screws securely.
Clean the picture tube screen surface and front panel safety glass with a good window cleaner.
Install the cabinet front panel by placing the tongue (which is on the bottom of the front panel) in the groove in the ledge of the cabinet, and "hinging" the panel towards the front of the cabinet.
Check to see if the picture tube is centered in front panel. If not, remove panel and adjust picture tube centering brackets accordingly.
Caution: Do not apply pressure on the picture tube while installing the front panel. If the panel does not fit smoothly into place, investigate and remove the cause of the trouble.
Insert the screws (from small envelope supplied in front panel carton) in the holes at top front of cabinet. Run these screws into the front panel.

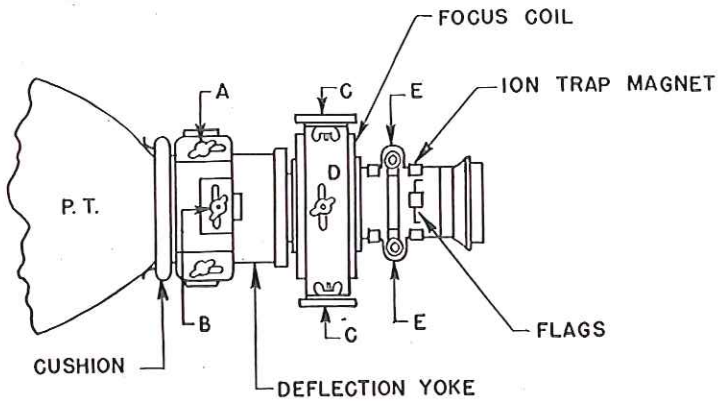


Fig. 2

Slide the picture tube forward against rubber gasket as far as possible.

Slide the picture tube cushion firmly up against the flare of the tube and tighten the adjustment wingscrews at (A). Loosen the thumbscrews at (B), slide the deflection yoke as far foward as possible and tighten.

Insert the clip of the high voltage lead into the picture tube second anode connector.

Caution: Only a small amount of pressure should be applied to the connector when inserting the clip. If appreciable pressure is applied, the seal may be broken, permitting air to leak in the tube, thus ruining the picture tube.

Plug the receiver power cord into a 115 volt, 60 cycle power supply outlet. Turn the POWER SWITCH to the "ON" position, the BRIGHTNESS CONTROL fully clockwise, and CONTRAST CONTROL counter-clockwise.

Figure 2 shows a sketch of the neck of the picture tube, the deflection yoke, the focus coil, and ion trap magnet as seen when looking down on the receiver chassis.

Place the rear ion trap magnet poles approximately over the picture tube flags as shown. Starting from this position, adjust the magnet by moving it forward or backward and at the same time rotating it slightly around the neck of the tube for maximum brightness on the screen of the picture tube. Tighten the magnet thumbscrews (E) sufficiently to hold the magnet in this position but still free enough to permit further adjustment.

Turn the brightness control on the front of the receiver counter-clockwise slightly until the illumination on the screen of the picture tube begins to decrease.

Adjust the focus control on the rear of the chassis (see Fig. 3) until the horizontal lines on the screen of the picture tube are clear and distinct.

Readjust the ion trap magnet for maximum brilliance on the picture tube screen. If, in making this adjustment, the lines on the screen become blurred, reduce the illumination by turning the brightness control slightly counter-clockwise and readjust the focus control on the rear of the chassis until the lines are again clear. Readjust the ion trap magnet for maximum screen illumination.

It may be necessary to repeat the above procedure several times. The final adjustments on the magnet should be made with the maximum amount of illumination on the screen with which the lines still remain clear.

Tighten the magnet thumbscrews firmly enough to prevent the magnet from slipping on the neck of the tube.

Turn the vertical and horizontal centering controls to the center of their range.

If the illumination on the screen is dark in one of the corners, it is due to misadjustment of the focus coil. To adjust, loosen the three wingnuts (C & D) and raise, lower or rotate the focus coil until the shadow is removed. When the focus coil is correctly adjusted, the entire screen should be illuminated. If the illumination does not cover the screen, the edges of the illuminated area should be straight and the illuminated area should be approximately centered on the screen.

When the above condition is obtained, tighten the wingnuts with the focus coil in this position.

The lines on the screen of the receiver should be horizontal or squared with the picture mask. If the lines are not horizontal loosen the wingscrews at (B), rotate the yoke around the neck of the tube, until the lines are horizontal, and tighten the wingscrew.

It will now be necessary to obtain a picture in order to make further adjustments.

Although it is possible to make these adjustments on a program picture, it is recommended that whenever possible these adjustments be made on a test pattern. Connect the leads from the antenna to the receiver antenna terminals.

Tune in a television station as follows:

1. Set the STATION SELECTOR to the desired channel.
2. Turn the SOUND VOLUME to approximately mid-position.
3. Turn the CONTRAST control fully counter-clockwise.

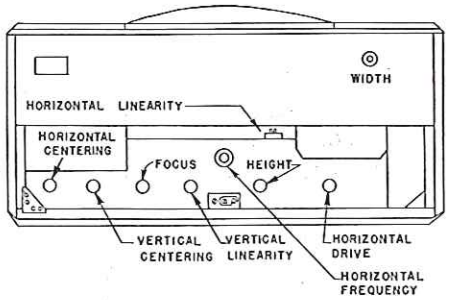


Fig. 3

4. Turn the BRIGHTNESS control clockwise until a glow appears on the screen then counterclockwise until the glow just disappears.
5. Turn the CONTRAST control clockwise until a glow or pattern appears on the screen.
6. Adjust the FINE TUNING control for best sound fidelity. (Middle of center peak).
7. Adjust the VERTICAL hold control until the pattern stops vertical movement.
8. Adjust the HORIZONTAL hold control until a picture is obtained and centered.
9. Adjust the CONTRAST control for suitable picture contrast.

If the CONTRAST control is set for proper picture contrast, and the horizontal frequency adjustment is correctly set, it should be possible in step 8 to obtain a picture regardless of the position of the horizontal hold control.

To check horizontal hold control:

1. Turn the HORIZONTAL hold control to the extreme counter-clockwise position.
2. Turn the CONTRAST control fully counterclockwise and return to original position. The picture should return on the screen.
3. Turn the HORIZONTAL hold control to the extreme clockwise position.
4. Repeat step No. 2.

Again the picture should return to the screen. If the picture tears out when the control is at either extreme, turn the control to that extreme and adjust the horizontal frequency adjustment on the rear of the chassis until the picture reappears. If adjustment was necessary, repeat steps 1 to 4.

If the picture on the screen is off center vertically adjust the vertical centering control on the rear of the chassis.

If the picture is off center horizontally, adjust the horizontal centering control on the rear of the chassis. If the horizontal blanking bar appears in the picture, the T108 phase adjustment is misaligned. To correct, see complete realignment of horizontal oscillator.

At this point a good picture should be obtained on the screen.

If the small vertical detail in the pattern is indistinct, adjust the focus control on the rear of the chassis until maximum clarity is obtained.

If the picture is too tall or too short, too wide or too narrow, or if the circles are not round, it will be necessary to adjust the height, width or linearity controls on the rear of the chassis.

DO NOT MAKE ADJUSTMENTS ON ANY CONTROL UNLESS THAT ADJUSTMENT IS SPECIFICALLY DIRECTED IN THESE INSTRUCTIONS. ADJUSTMENT OF OTHER CONTROLS REQUIRES THE USE OF SPECIAL TEST EQUIPMENT.

CORNER OF PICTURE SHADOWED
To correct, adjust the focus coil on top of the chassis (Fig. 2) until the corners of the picture are clear. It may then be necessary to readjust the centering controls in the back of the receiver. It may also be necessary to readjust the focus control to provide the clearest picture.

PICTURE BLURRED AND INDISTINCT
To clear the picture, adjust the focus control in the back of the receiver.

PICTURE AT AN ANGLE
To correct, rotate the deflection yoke. (Fig. 2).

PICTURE OFF-CENTER HORIZONTALLY
To correct, adjust the horizontal centering control in the back of the receiver.

PICTURE OFF-CENTER VERTICALLY
To correct, adjust the vertical centering control in the back of the receiver.

PICTURE CROWDED (Or Stretched) AT TOP
To correct, adjust the vertical linearity control in the back of the receiver. It may also be necessary to readjust the height control.

PICTURE TOO TALL OR TOO SHORT
To correct, adjust the height control in back of the receiver. It may also be necessary to readjust the vertical linearity control.

PICTURE TOO WIDE OR TOO NARROW
To correct, adjust the width control at the back of the receiver.

PICTURE CRAMPED (Or Stretched) IN MIDDLE
To correct, adjust the horizontal linearity control on top of the chassis. It may also be necessary to readjust the width control and horizontal drive control.

PICTURE CRAMPED (Or Stretched) ON RIGHT
To correct, adjust the horizontal drive control in the back of the receiver. It may also be necessary to readjust the width control and horizontal linearity control.

PICTURE CANNOT BE SYNCED IN HORIZONTAL DIRECTION
To correct, adjust the horizontal frequency control in the back of the receiver. See steps 1 to 4 on horizontal frequency adjustment.

HORIZONTAL BLANKING BAR IN PICTURE
Align T108 phase adjustment as described in horizontal oscillator alignment, pages 6, 7.

ALIGNMENT OF HORIZONTAL OSCILLATOR
Slight Retouching Adjustments—Tune in a Television Station and adjust the fine tuning control for best sound quality. Sync the picture and adjust the picture control for slightly less than normal contrast.

Turn the horizontal hold control to the extreme position in which the oscillator fails to hold or to pull in. Momentarily remove the signal. Turn the T108 frequency adjustment on the chassis rear apron until the oscillator pulls into sync. Check hold and pull-in for the other extreme position of the hold control.

Complete Realignment—Tune in a Television Station and adjust the fine tuning control for best sound quality.

With the sync link in the normal position (2-3), turn the T108 frequency adjustment (on rear apron), until the picture is synchronized. (If the picture is not synchronized vertically, adjust the vertical hold.) Adjust the picture control so that the picture is somewhat below average contrast level.

Turn the T108 phase adjustment screw (under chassis, see chassis bottom view page 16) until the blanking bar, which may appear in the picture, moves to the right and off the raster. The range of this adjustment is such that it is possible to hit an unstable condition (ripples in the raster). The screw must be turned clockwise from the unstable position. The length of stud beyond the bushing in its correct position is usually about ½ inch.

Turn horizontal hold to extreme counter-clockwise position. Turn T108 frequency adjustment clockwise until the picture falls out of sync. Then turn it slowly counter-clockwise to the point where the picture falls in sync. again.

Readjust T108 phase adjustment so that the left side of the picture is close to the left side of the raster, but does not begin to fold over.

Turn horizontal hold to the extreme clockwise position. The right side of the picture should be close to the right side of the raster, but should not begin to fold over. If it does, readjust the phase.

Momentarily remove the signal. When the signal is restored, the picture should fall in sync. If it does not, turn the T108 frequency adjustment counter-clockwise, until the picture falls in sync.

Turn horizontal hold to extreme counter-clockwise position. Remove the signal momentarily. When signal is restored, the picture should fall in sync.

Note: If the picture does not pull in sync after momentary removals of signal in both extreme positions of horizontal hold, the pull-in range may be (though not necessarily) inadequate. A pull-in through ¾ of the hold control range may still be satisfactory.

TEST EQUIPMENT

To properly service this receiver, it is recommended that the following test equipment be available:

R-F SWEEP GENERATOR meeting the following requirements:

(a) **Frequency Ranges**

18 to 30 mc., 1 mc. sweep width
40 to 90 mc., 10 mc. sweep width
170 to 225 mc., 10 mc. sweep width

(b) Output adjustable with at least 1 volt maximum.

(c) Output constant on all ranges and on all attenuator positions.

CATHODE-RAY OSCILLOSCOPE, preferably one with a wide band vertical deflection, an input calibrating source, and a low capacity probe.

SIGNAL GENERATOR to provide the following frequencies:

(a) **I-F frequencies**

19.75 mc. adjacent channel picture trap.
21.25 mc. sound i-f and sound traps
21.8 mc. converter transformer
22.3 mc. second picture i-f transformer
23.4 mc. fourth picture i-f coil
25.2 third picture i-f coil
25.3 first picture i-f transformer
25.75 mc. picture carrier
27.25 mc. adjacent channel sound trap

(b) **R-F frequencies**

Channel Number	Picture Carrier Freq. Mc.	Sound Carrier Freq. Mc.	Channel Number	Picture Carrier Freq. Mc.	Sound Carrier Freq. Mc.
1	45.25	49.75	8	181.25	185.75
2	55.25	59.75	9	187.25	191.75
3	61.25	65.75	10	193.25	197.75
4	67.25	71.75	11	199.25	203.75
5	77.25	81.75	12	205.25	209.75
6	83.25	87.75	13	211.25	215.75
7	175.25	179.75			

(c) Output on these ranges should be adjustable and at least 1 volt maximum.

HETERODYNE FREQUENCY METER with crystal calibrator if the signal generator is not crystal controlled.

V. T. VOLTMETER and a high voltage multiplier probe for use with this meter to permit measurements up to 10 kv.

By turning the chassis on end with the power transformer down, all adjustments will be made conveniently available.

When replacing the oscillator tube, it is good practice to select a tube that does not require oscillator readjustment.

Tubes, which cannot be used as oscillator, will work satisfactorily as r-f amplifier or converter.

All the information necessary for alignment is given in the table. However, alignment by the table should not be attempted before reading the detailed instructions.

ORDER OF ALIGNMENT—When a complete alignment is necessary, it can be most conveniently performed in the following order:

Picture i-f traps
Picture i-f transformers
Sound discriminator
Sound i-f transformers
R-F and converter lines
R-F oscillator line
Converter grid trap
Retouch picture i-f transformers
Sensitivity check

PICTURE I-F TRAP ADJUSTMENT

Turn contrast control on full and set the channel switch to channel 9. Connect the V. T. voltmeter across the picture second detector load resistor R137.

Connect the output of the signal generator to the receiver antenna terminals. (If the receiver is badly out of alignment, it may be necessary to apply the signal through a small capacitor directly to the converter grid—either end of R5 to ground.)

Set the generator to each of the following frequencies and tune the specified adjustment for minimum indication on the V. T. Voltmeter. In each instance the generator should be checked against a crystal calibrator to insure that the generator is exactly on frequency.

Note—If i-f oscillation is encountered, the contrast control should be turned back until oscillation stops. If this does not stop the oscillation, it may be necessary to pre-align the picture i-f transformers before adjusting the traps. (See **picture i-f oscillation.**)

19.75 mc.—T104 (top)	21.25 mc.—T105 (top)
21.25 mc.—T2 (top)	27.25 mc.—T103 (top)

PICTURE I-F TRANSFORMER ADJUSTMENTS

Set the voltage on the i-f bias bus to —3 volts. Set the signal generator to each of the following frequencies and peak the specified adjustment for maximum indication on the V. T. voltmeter.

21.8 mc.—T2 (bottom)
25.3 mc.—T103 (bottom)
22.3 mc.—T104 (bottom)
25.2 mc.—L183 (top of chassis)
23.4 mc.—L185 (top of chassis)

If T104 (bottom) required adjustment, it will be necessary to reset T104 (top) for minimum response at 19.75 mc.

PICTURE I-F OSCILLATION—If the receiver is badly misaligned and two or more of the i-f transformers are tuned to the same frequency, the receiver may fall into i-f oscillation. I-F oscillation shows up as a voltage in excess of 3 volts at the picture detector load resistor. This voltage is unaffected by r-f signal input and sometimes is independent of picture control setting.

If such a condition is encountered, it is sometimes possible to stop oscillation by adjusting the transformers approximately to frequency by setting the adjustment stud extensions of T2, T103, T104, T105, L183, and L185 to be approximately equal to those of another receiver known to be in proper alignment. If this does not have the desired effect, it may now be possible to stop oscillation by increasing the grid bias with the picture control. If so, it should then be possible to align the transformers by the usual method. Once aligned in this manner, the i-f should be stable with reduced bias.

If the oscillation cannot be stopped in the above manner, shunt the grids of the first three i-f amplifiers to ground with 1000 mmf. capacitors.

Connect the signal generator to the fourth i-f grid and adjust L185 to frequency.

Remove the shunting capacitor from the third i-f grid, connect the signal generator to this grid and align L183.

Remove the shunting capacitor from the second i-f grid, connect the signal generator and align T104.

Remove the shunt from the first i-f grid, connect the signal generator to the receiver antenna terminals, and align T2 to frequency. If this does not stop the oscillation, the difficulty is not due to i-f misalignment as the i-f section is very stable when properly aligned. Check all i-f by-pass condensers, transformer shunting resistors, tubes, socket voltages, etc.

SOUND DISCRIMINATOR ALIGNMENT

Set the signal generator for approximately 1 volt output at 21.25 mc. and connect it to the third sound i-f grid.

Detune T113 secondary (bottom).

Connect the V. T. voltmeter in series with a one megohm resistor to the junction of diode resistors R219 and R220. Do not remove the discriminator shield to make connection to R219 and R220. Connection can be easily made by fashioning a hook on the 1 meg resistor lead and making connection to the transformer lug "C" through the hole provided for the adjusting tool.

Adjust the primary of T113 (top) for maximum output on the meter. Connect the V. T. voltmeter to the junction of R236 and C205.

Adjust T113 secondary (bottom). It will be found that it is possible to produce a positive or negative voltage on the meter dependent upon this adjustment. Obviously to pass from a positive to a negative voltage, the voltage must go through zero. T113 (bottom) should be adjusted so that the meter indicates zero output as the voltage swings from positive to negative. This point will be called discriminator zero output.

Connect the sweep oscillator to the grid of the third sound i-f amplifier.

Adjust the sweep band width to approximately 1 mc. with the center frequency at approximately 21.25 and with an output of approximately 1 volt.

Connect the oscilloscope between R236 and C205.

The pattern obtained should be similar to that shown in Step 14 of the alignment table. If it is not, adjust the T113 (top) until the wave form is symmetrical. The peak to peak band width of the discriminator should be approximately 350 kc. and it should be linear from 21.175 mc. to 21.325 mc.

SOUND I-F ALIGNMENT

Connect the sweep oscillator to the second sound i-f amplifier grid. Connect the oscilloscope to the third sound i-f grid return (terminal A T112) in series with a 33,000 ohm isolating resistor. Insert a 21.25 mc. marker signal from the signal generator into the second sound i-f grid.

Adjust T112 (top and bottom) for maximum gain and symmetry about the 21.25 mc. marker. The pattern should be similar to that shown in Step 14 of the alignment table.

The output level from the sweep should be set to produce approximately .3 volt peak-to-peak at the third sound i-f grid return when the final touches on the above adjustment are made. It is necessary that the sweep output voltage should not exceed the specified values, otherwise the response curve will be broadened, permitting slight misadjustment to pass unnoticed and possibly cause distortion on weak signals. Connect the sweep and signal generator to the top end of the trap winding of T2 (on top of the chassis). Adjust T111 (top and bottom), for maximum gain and symmetry at 21.25 mc.

Reduce the sweep output for the final adjustments so that approximately .3 volt peak-to-peak is present at the third sound i-f grid return.

The band width at 70% response from the first sound i-f grid to the third i-f grid should be approximately 200 kc.

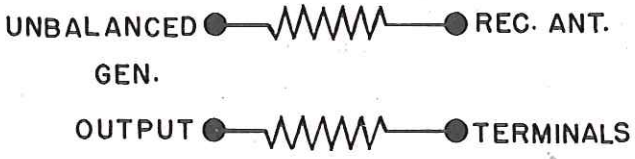
Note—For a simple check of the sound i-f and discriminator adjustments, and where only a slight touchup is necessary, the following procedure may be used.

After aligning the 21.25 mc. traps (T2 & T105 top), in the trap adjustment procedure, transfer the V. T. voltmeter from the second detector load resistor R137 to the junction of R236 and C205. Without changing the signal generator connections or frequency setting, adjust T113 disc secondary (bottom) for zero output. Return V. T. voltmeter to the second detector load resistor R137 and complete the picture trap and i-f alignment.

Connect scope to junction of R236 and C205 and sweep generator to the grid of the 3rd sound i-f amplifier. Adjust sweep band width to approximately 1 mc. with the center frequency at approximately 21.25 mc. Adjust the T113 disc primary (top) for a symmetrical pattern. Transfer the sweep generator to the grid of the 1st sound I-F (V104). Reduce generator output and adjust T112 (top and bottom) and T111 (top and bottom) for maximum amplitude of a symmetrical pattern.

R-F AND CONVERTER ADJUSTMENT

Connect the r-f sweep oscillator to the receiver antenna terminals, J103. If the sweep oscillator has a 50 ohm single-ended output, it will be necessary to obtain balanced output by properly terminating the sweep output cable and connecting a 120 ohm non-inductive resistor in series between the sweep output cable and each receiver antenna terminal as shown.



Connect the oscilloscope to the junction of L80 and R6 (in the r-f tuning unit) through a 10,000 ohm resistor. This connection is available on a terminal lug through a hole in the side apron of the chassis, beside the r-f unit. This hole is normally down when the chassis is in the recommended position. Connection can be easily made, however, by allowing the receiver to hang over the edge of the test bench by a few inches.

By-pass the first picture i-f grid to ground through a 1000 mmfd. capacitor. Keep the leads to this by-pass as short as possible. If this is not done, lead resonance may fall in the r-f range and cause an incorrect picture of the r-f response.

Set the picture control for approximately —1.5 volts bias on the r-f stage. (For convenience check this voltage at the diodes of V108, pins 5 and 6.)

Connect the signal generator loosely to the receiver antenna terminals. Since channel 7 has the narrowest response of any of the high frequency channels, it should be adjusted first.

Set the receiver channel switch to channel 7.

Set the sweep oscillator to cover channel 7.

Insert markers of channel 7 picture carrier and sound carrier 175.25 mc. and 179.75 mc.

Adjust L25, L26, L51 and L52, for an approximately flat topped response curve located symmetrically between the markers. Nornally this curve appears somewhat overcoupled or double humped with a 10 or 15% peak to valley excursion, and the markers occur at approximately 90% response. In making these adjustments, the stud extension of all cores should be kept approximately equal.

Check the response of channels 8 through 13 by switching the receiver channel switch, sweep oscillator and marker oscillator to each of these channels and observe the response obtained. It should be found that all these channels have the proper shaped response with the markers above 70% response. If the markers do not fall within this requirement on one or more high frequency channels, since there are no individual channel adjustments, it will be necessary to readjust L25, L26, L51 and L52, and possibly compromise some channel slightly in order to get the markers up on other channels. Normally however, no difficulty of this type should be experienced since the higher frequency channels become comparatively broad and the markers easily fall within the required range.

Channel 6 is next aligned in the same manner.

Set the receiver to channel 6.

Set the sweep oscillator to cover channel 6.

Set the marker oscillator to channel 6 picture and sound carrier frequencies.

Adjust L11, L12, L37 and L38, for an approximately flat-topped response curve located symmetically between the markers. Check channels 5 down through channel 1 by switching the receiver, sweep oscillator and marker oscillator to each channel and observing the response obtained. In all cases, the markers should be above the 70% response point. If this is not the case, L11, L12, L37 and L38 should be retouched. On final adjustment, all channels must be within the 70% specification.

Coupling between r-f and converter lines is augmented by a link between L12 and L37. This link is adjusted in the factory and should not require adjustment in the field. On channel 6 with the link in the minimum coupling position, the response is slightly overcoupled with approximately a 10% excursion from peak-to-valley. With the coupling at maximum, the response is somewhat broader and the peak-to-valley excursion is approximately 40%. The amount of coupling permissible is limited by the peak-to-valley excursion which should not be greater than 30% on any channel.

R-F OSCILLATOR ADJUSTMENT

The r-f oscillator line may be aligned by adjusting it to beat with a crystal calibrated heterodyne frequency meter, or by feeding a signal into the receiver at the r-f sound carrier frequency and adjusting the oscillator for zero output from the sound discriminator. In this latter case the sound discriminator must first have been aligned to exact frequency. Either method of adjustment will produce the same results. The method used will depend upon the type of test equipment available.

Regardless of which method of oscillator alignment is used, the frequency standard must be crystal controlled or calibrated.

If the receiver oscillator is to be adjusted by the heterodyne frequency meter method, the following calibration points must be established for the 307TA.

Channel Number	Receiver R-F Osc. Freq. Mc.	Channel Number	Receiver R-F Osc. Freq. Mc.
1	71	8	207
2	81	9	213
3	87	10	219
4	93	11	225
5	103	12	231
6	109	13	237
7	201		

If the receiver oscillator is adjusted by feeding in the r-f sound carrier frequency, the following signals must be available:

Channel Number	R-F Sound Carrier Freq. Mc.	Channel Number	R-F Sound Carrier Freq. Mc.
1	49.75	8	185.75
2	59.75	9	191.75
3	65.75	10	197.75
4	71.75	11	203.75
5	81.75	12	209.75
6	87.75	13	215.75
7	179.75		

If the heterodyne frequency meter method is used, couple the meter probe loosely to the receiver oscillator.

If the r-f sound carrier method is used, connect the V. T. voltmeter to the sound discriminator output (junction of R236 and C205). Connect the signal generator to the receiver antenna terminals. The order of alignment remains the same regardless of which method is used.

Since lower frequencies are obtained by adding steps of inductance, it is necessary to align channel 13 first and continue in reverse numerical order.

Set the receiver channel switch to channel 13.

Adjust the frequency standard to the correct frequency (237 megacycles for heterodyne frequency meter or 215.75 megacycles for the signal generator).

Set the fine tuning control to the middle of its range while making the adjustment.

Adjust L77 and L78 for an audible beat on the heterodyne frequency meter or zero voltage from sound discriminator. The core stud extensions should be maintained equal by visual inspection.

Switch the receiver to channel 12.

Set the frequency standard to the proper frequency as listed in the alignment table.

Adjust L76 for results as above.

Adjust the oscillator to frequency on all channels by switching the receiver and the frequency standard to each channel and adjusting the corresponding oscillator trimmer for the specified results. It should be possible to adjust the oscillator to the correct frequency on all channels with the fine tuning control in the middle third of its range.

After the oscillator has been set on all channels, start back at channel 13 and recheck to make sure that all adjustments are correct.

CONVERTER GRID TRAP CHECK

Connect the sweep generator to the receiver antenna terminals. Observe the precaution for single-ended output generators mentioned in the r-f alignment section.

Connect the oscilloscope to R6 through 10,000 ohms.

Shunt the first picture i-f grid to ground with a 1,000 mmf. capacitor, keeping the leads as short as possible.

Couple the signal generator loosely to the receiver antenna terminals. Switch the channel switch and signal generator through the low frequency channels and observe the response on each range.

Select a channel which is essentially flat over the operating range with the sound and picture carrier markers at 90% or higher on the response curve.

Remove the capacitor from the first picture i-f grid and shunt it from the second picture i-f grid to ground.

The r-f response curve should be similar to the one obtained with the 1st i-f grid shunted. If the curve changes considerably, C14 or L80 may be defective.

Remove the shunting capacitor from the second picture i-f grid.

RETOUCHING OF PICTURE I-F ADJUSTMENTS

Connect the sweep generator to the receiver antenna terminals. Set channel selector and sweep generator to channel with the best r-f response curve.

Connect the signal generator to the antenna terminals and feed in the 25.75 mc. i-f picture carrier marker and a 22.3 mc. marker.

Connect the oscilloscope across the picture detector load resistor. Set the i-f grid bias to —3 volts.

Set the sweep output to produce approximately .3 volt peak-to-peak across the picture detector load resistor.

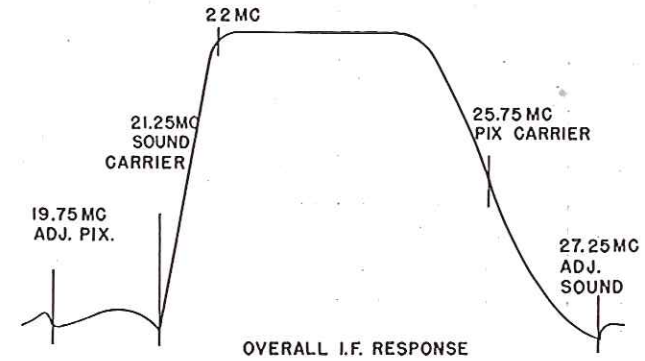
Observe and analyze the response curve obtained. The response will not be ideal and the i-f adjustments must be retouched in order to obtain the desired curve.

If T104 (bottom) required any adjustment, it will be necessary to reset T104 (top) for minimum response at 19.75 mc.

On final adjustment the picture carrier marker must be at approximately 60% response. The curve must be approximately flat topped and with the 22.3 mc. marker at approximately 100% response.

The most important consideration in making the i-f adjustments is to get the picture carrier at the 60% response point. If the picture carrier operates too low on the response curve, loss of low frequency video response, of picture brilliance, of blanking, and of sync may occur. If the picture carrier operates too high on the response curve, the picture definition is impaired by loss of high frequency video response.

In making these adjustments, care should be taken that no two transformers are tuned to the same frequency as i-f oscillation may result.



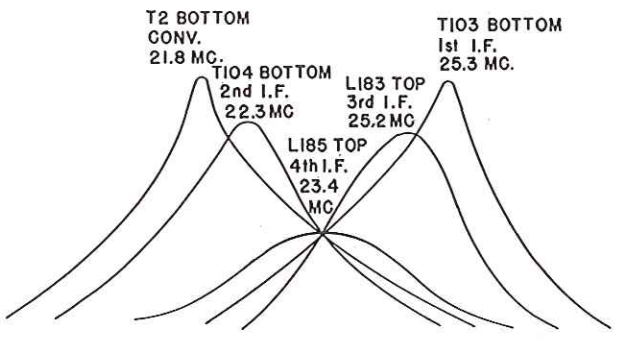


Fig. 4

VOLTAGE CHART - - MODELS 307 TA, 307 TA-50

Measurements made with receiver operating on 117 volts and with no signal input except where otherwise indicated. Voltages shown are as read with V. T. Voltmeter between indicated terminal and chassis ground except where otherwise noted. Symbol < means "less than."

Tube No.	Tube Type	Function	Operating Condition **	Plate		Screen		Cathode		Grid		I Plate (ma.)	I Screen (ma.)	Notes on Measurements
				Pin No.	Volts	Pin No.	Volts	Pin No.	Volts	Pin No.	Volts			
V1	6J6	R-F Amplifier	Pictr. Min.	1 & 2	130	—	—	7	0	5 & 6	-9.2	<.1*	—	*Per Plate
			Pictr. Max.	1 & 2	55	—	—	7	0	5 & 6	+.05	7.0*	—	*Per Plate
V2	6J6	Converter	Pictr. Min.	1 & 2	125	—	—	7	0	5 & 6	-3 to -6.	.5 to 4*	—	* Per Plate
			Pictr. Max.	1 & 2	100	—	—	7	0	5 & 6	-2 to -5.	.2 to 3*	—	*Per Plate
V3	6J6	R-F Oscillator	Pictr. Min.	1 & 2	108	—	—	7	.25	5 & 6	-4.5 to -6.5	2.5	—	
			Pictr. Max.	1 & 2	90	—	—	7	.15	5 & 6	-3.5 to -5.	1.7	—	
V104	6BA6	1st Sound IF Amplifier	Pictr. Min.	5	120	6	120	7	1.9	1	0	12.0	5.0	
			Pictr. Max.	5	110	6	110	7	1.6	1	0	10.5	4.5	
V105	6BA6	2d Sound I-F Amplifier	Pictr. Min.	5	122	6	118	7	1.9	1	0	12.5	4.9	
			Pictr. Max.	5	113	6	108	7	1.6	1	0	10.5	4.2	
V106	6AU6	3d Sound I-F Amplifier	Pictr. Min.	5	48	6	48	7	0	1	-.5	3.3	1.4	
			Pictr. Max.	5	41	6	41	7	0	1	-.5	2.8	1.2	
V107	6AL5	Sound Discrim.	Pictr. Min.	2 & 7	-.35	—	—	4 & 5	—	—	—	—	—	
			Pictr. Max.	2 & 7	-.45	—	—	4 & 5	—	—	—	—	—	
V108	6AT6	1st Audio Amplifier	Pictr. Min.	7	80	—	—	2	0	1	-.75	.5	—	
V109	6K6-GT	Audio Output	Pictr. Min.	3	253	4	265	8	0	5	-18	27.5	4.0	
V110	6AG5	1st Pix. I.F. Amplifier	Pictr. Min.	5	135	6	135	2 & 7	0	1	-5.0	<.1	<.1	
			Pictr. Max.	5	109	6	109	2 & 7	.26	1	-1.0	5.5	.9	
V111	6AG5	2d Pix. I-F. Amplifier	Pictr. Min.	5	135	6	135	2 & 7	0	1	-5.0	<.1	<.1	
			Pictr. Max.	5	113	6	113	2 & 7	.26	1	-1.0	5.6	.9	
V112	6AG5	3d Pix. I-F. Amplifier	Pictr. Min.	5	135	6	135	2 & 7	0	1	-5.0	<.1	<.1	
			Pictr. Max.	5	98	6	117	2 & 7	.26	1	-1.0	5.7	.9	
V113	6AG5	4th Pix. I-F. Amplifier	Pictr. Min.	5	99	6	127	2 & 7	1.2	1	0	6.8	1.7	
			Pictr. Max.	5	89	6	117	2 & 7	1.1	1	0	6.8	.7	
V114-A	6AL5	Picture 2d Det.	Pictr. Min.	7	-.1	—	—	1	0	—	—	—	—	
V114-B	6AL5	DC Restorer	Brightness Min.	2	-100	—	—	5	-90	—	—	—	—	
			Brightness Max.	2	-1	—	—	5	-.9	—	—	—	—	
V115	6AU6	1st Video Amplifier	Pictr. Min.	5	240	6	135	7	0	1	-2.15	4.0	1.55	
			Pictr. Max.	5	255	6	125	7	0	1	-2.2	2.8	1.05	
V116	6K6-GT	2d Video Amplifier	Pictr. Min.	3	105	4	135	8	3.7	5	-7.5	9.6	1.6	
			Pictr. Max.	3	95	4	125	8	2.9	5	-7.5	7.5	1.3	

**Where separate readings are not listed for max. and min. gain settings of the picture control, the effect of the control is slight and readings are given for "Picture Min."

VOLTAGE CHART - - MODELS 307 TA, 307 TA-50

Tube No.	Tube Type	Function	Operating Condition **	Plate		Screen		Cathode		Grid		I Plate (ma.)	I Screen (ma.)	Notes on Measurements
				Pin No.	Volts	Pin No.	Volts	Pin No.	Volts	Pin No.	Volts			
V117	10-BP4	Picture-Tube	Brightness Min.	H. V. Connector	9200	10	275	11	0	2	–100	0	0	
			Brightness Max.	H. V. Connector	6000	10	275	11	0	2	0	.7	—	
			Brightness Average	H. V. Connector	9000	10	275	—	—	—	—	.05	—	
V118	6SK7	1st Sync. Amplifier	Pictr. Min.	8	163	6	129	5	0	4	–4.3	11.5	3.8	
			Pictr. Max.	8	185	6	115	5	0	4	–4.4	9.2	2.9	
V119	6SH7	Sync. Separator	Pictr. Min.	8	134	6	135	5	0	4	–5.2	.1	.05	
			Pictr. Max.	8	123	6	125	5	0	4	–9*	.3	.1	*Depends on noise
V120-A	6SN7 GT	2d Sync. Amplifier	Pictr. Min.	2	88	—	—	3	0	1	–.5	9.0	—	
			Pictr. Max.	2	80	—	—	3	0	1	–9*	7.9	—	*Depends on noise
V120-B	6SN7 GT	Horizontal Discharge	Pictr. Min.	5	–37	—	—	6	–100	4	–140	.5	—	
V121	6J5	Vertical Oscillator	Pictr. Min.	3	70*	—	—	8	–100	5	–150	.15	—	*Height, linearity and hold effect readings 2 to 1
V122	6K6-GT	Vertical Output	Pictr. Min.	3	180	4	180	8	–70	5	–100	9.0	*	
V123	6AL5	Horizontal Sync. Discr.	Pictr. Min.	2 & 7	–6.5	—	—	1 & 5	–2.1	—	—	—	—	
V124	6AC7	Horizontal Osc. Control	Pictr. Min.	8	194	6	105	5	.05	4	–2.0	3.8	1.1	
V125	6K6-GT	Horizontal Oscillator	Hold Max. Resistance	3	190	4	208	8	0	5	–30	17.0	6.7	
			Hold Min. Resistance	3	180	4	194	8	0	5	–23.5	19.5	8.2	
V126	6BG6-G	Horizontal Output	Pictr. Min.	Cap	333	8	134	3	–95	5	–113	77.0	11.5	
V127	8016	H. V. Rectifier	Brightness Min.	Cap	*	—	—	2 & 7	9200	—	—	0	—	*9200 volt pulse present
			Brightness Max.	Cap	*	—	—	2 & 7	6700	—	—	.7	—	*9200 volt pulse present
V128	5V4G	Reaction Scanning	Pictr. Min.	4 & 6	275	—	—	8	350	—	—	90	—	
V129	5U4G	Rectifier	Pictr. Min.	4 & 6	390*	—	—	2 & 8	300	—	—	146	—	*A-C measured from plate to trans center tap
V130	5U4G	Rectifier	Pictr. Min.	4 & 6	390*	—	—	2 & 8	300	—	—	146	—	

**Where separate readings are not listed for max. and min. gain settings of the picture control, the effect of the control is slight and readings are given for "Picture Min."

Following readings taken with video signal applied through video amplifiers to produce 25 volts peak to peak on grid of picture tube.

V114-B	6AL5	DC Restorer		2	–41	—	—	5	–27	—	—	—	—	
V119	6SH7	Sync. Separator		8	136	6	142	5	0	4	–21.5	.9	.8	
V120-A	6SN-7GT	2d Sync. Amplifier		2	88	—	—	3	0	1	–5.4	9.0	—	
V123	6AL5	Horizontal Sync. Discr.		2 & 7	–20	—	—	1 & 5	K_1* K_5–2.1	—	—	—	—	*See grid voltage of V124
V124	6AC7	Horizontal Osc. Control	Pull-in*	8	200(a)	6	100(b)	5	<.1	4	–1.5 to –3	<8.	<2.5	*Varying Hor. Osc. tuning
			Hold*	8	200(c)	6	100(d)	5	<.1	4	(e)	<8.	<2.5	

(a) Pull-in range varies with tubes from 110-210 to 195-270.
(b) Pull-in range varies with tubes from 80-100 to 100-115.
(c) Hold range varies with tubes from 110-270 to 140-270.
(d) Hold range varies with tubes from 80-115 to 90-115.
(e) Hold range varies with tubes from 1.5-7.0 to 1.-4.5.

ALIGNMENT TABLE - - MODELS 307 TA, 307 TA-50

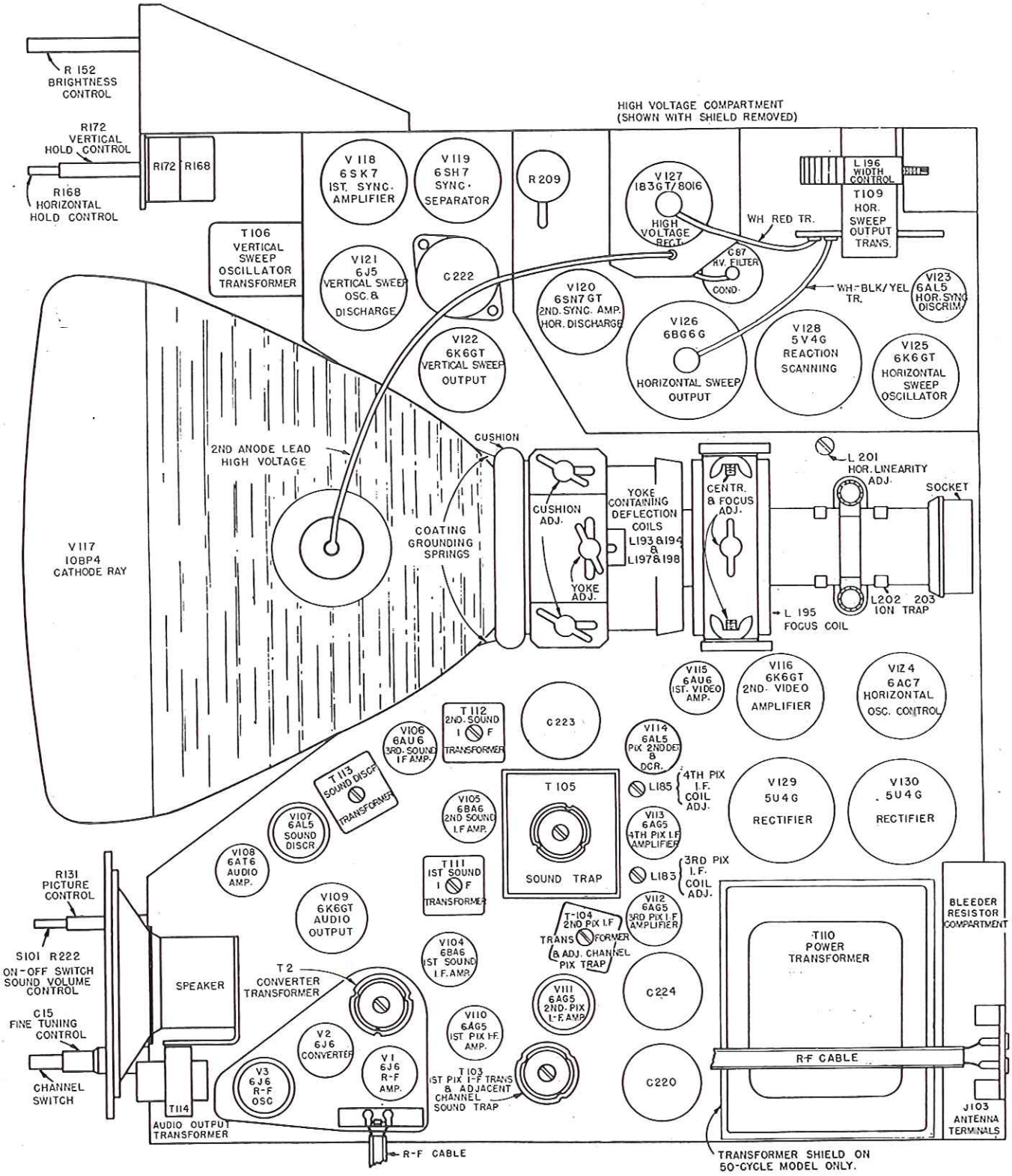
The detailed alignment procedure should be read before alignment by use of the table is attempted.

Step No.	Connect Signal Generator To	Signal Gen. Freq. Mc.	Connect Sweep Generator To	Sweep Gen. Freq. Mc.	Connect Oscilloscope To	Connect V. T. Voltmeter To	Miscellaneous Connections and Instructions	Adjust	Remarks
PICTURE I-F AND TRAP ADJUSTMENT									
1	Not used		Not used		Not used	Junction of R189 & R190		Picture control for 3 volts on meter	
2	Antenna terminal	19.75	"		"	Junction of L188 & R137	Meter on Low scale	T104 (top) for min. on meter	
3	"	21.25	"		"	"	"	T2 (top) for min.	
4	"	21.25	"		"	"	"	T105 (top) for min.	
5	"	27.25	"		"	"	"	T103 (top) for min.	
6	"	21.8	"		"	"	"	T2 (bottom) for max.	
7	"	25.3	"		"	"	"	T103 (bottom) for max.	
8	"	22.3	"		"	"	"	T104 (bottom) for max.	
9	"	25.2	"		"	"	"	L183 (top chassis) for max.	
10	"	23.4	"		"	"	"	L185 (top chaassis) for max.	
11	If T104 (bottom) required adjustment in step 8, repeat step 2.								
DISCRIMINATOR AND SOUND I-F ALIGNMENT									
12	3rd sound i-f grid (pin 1, V106)	21.25 1 volt output	Not used		Not used	In series with 1 meg. to junction of R219 & R220		Detune T113 (bottom) Adjust T113 (top) for max. on meter	
13	"	"	"		"	Junction of R236 & C205	Meter on Low scale	T113 (bottom) for zero on meter	
14	"	"	3rd sound i-f grid (pin 1, V106)	21.25 center 1 mc. wide 1 v. out	Junction of R236 & C205	Not used	Check for symmetrical response waveform (positive & negative). If not equal adjust T113 (top) until they are equal		
15	2nd sound i-f grid (pin 1, V105	21.25 reduced output	2nd sound i-f grid	21.25 reduced output	Terminal A T112 in series with 33,000 ohms	"	Sweep output reduced to provide 3 volt p-to-p on scope	T112 (top & bottom) for max. gain and symmetry at 21.25 mc.	
16	Trap winding on T2 (top of chassis)	21.25 reduced output	Trap winding on T2	21.25 reduced output	"	"	"	T111 (top & bottom) for max. gain and symmetry at 21.25 mc.	
R-F AND CONVERTER LINE ALIGNMENT									
17	Not used		Not used		Not used	Pin 5 or 6 V108		Picture control for 1.5 volts on meter	
18	Antenna terminal (loosely)	175.25 & 179.75	Antenna terminals (see text for precaution)	Sweeping channel 7	Junction L80 and R6 through 10,000 ohm series resistor.	Not used	1st i-f grid bypass to gnd. with 1000 mmf. Receiver on channel 7.	L25, L26, L51 & L52 for approx. flat top response between markers. Markers above 70%.	
19	"	181.25 185.75	"	channel 8	"	"	Receiver on channel 8	Check to see that response is as above	
20	"	187.25 191.75	"	channel 9	"	"	Receiver on channel 9	"	
21	"	193.25 197.75	"	channel 10	"	"	Receiver on channel 10	"	
22	"	199.25 203.75	"	channel 11	"	"	Receiver on channel 11	"	
23	"	205.25 209.75	"	channel 12	"	"	Receiver on channel 12	"	
24	"	211.25 215.75	"	channel 13	"	"	Receiver on channel 13	"	
25	If the response on any channel (steps 19 through 24) is below 70% at either marker switch to that channel and adjust L25, L26, L51, & L52 to pull response up on that channel. Then recheck steps 18 through 24.								

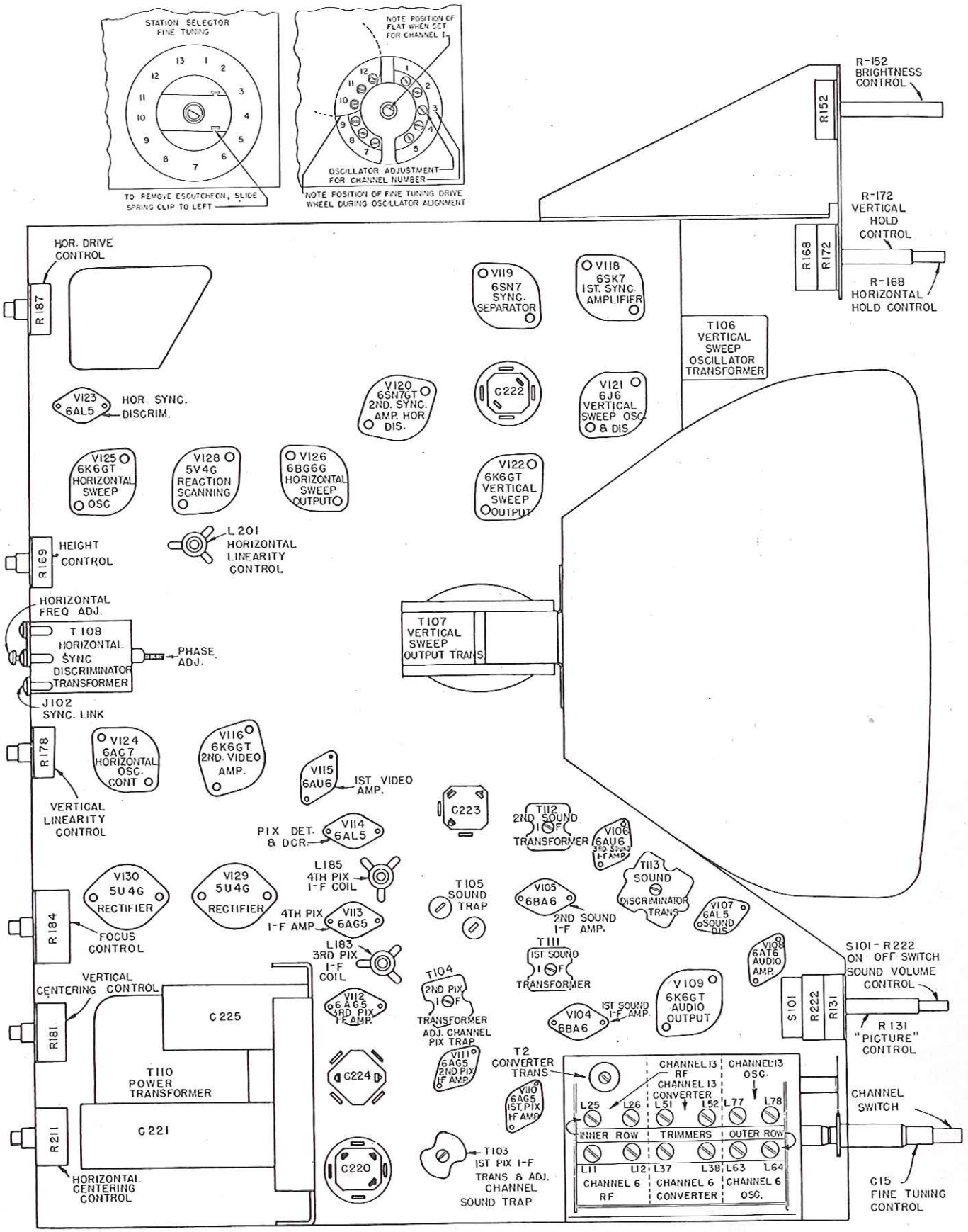
ALIGNMENT TABLE - - MODELS 307 TA, 307 TA-50

Step No.	Connect Signal Generator To	Signal Gen. Freq. Mc.	Connect Sweep Generator To	Sweep Gen. Freq. Mc.	Connect Oscilloscope To	Connect V. T. Voltmeter To	Miscellaneous Connections and Instructions	Adjust	Remarks
				R-F AND CONVERTER LINE ALIGNMENT (Cont'd)					
26	Antenna terminal (loosely)	83.25 87.75	Antenna terminals (see text for precaution)	Sweeping channel 6	Junction L80 and R6 through 10,000 ohm series resistor	Not used	Receiver on channel 6	L11, L12, L37 & L38 for response as above	
27	"	77.25 81.75	"	channel 5	"	"	Receiver on channel 5	Check to see that response is as above	
28	"	67.25 71.75	"	channel 4	"	"	Receiver on channel 4	"	
29	"	61.25 65.75	"	channel 3	"	"	Receiver on channel 3	"	
30	"	55.25 59.75	"	channel 2	"	"	Receiver on channel 2	"	
31	"	45.25 49.75	"	channel 1	"	"	Receiver on channel 1	"	
32	If the response on any channel (steps 27 through 31) is below 70% at either marker, switch to that channel and adjust L11, L12, L37 & L38 to pull response up on that channel. Then recheck steps 26 through 31.								
				R-F OSCILLATOR ALIGNMENT					
Step No.	Connect Signal Generator To	Signal Gen. Freq. Mc.	Connect Heterodyne Freq. Meter To	Het. Meter Freq. Mc.	Connect Oscilloscope To	Connect V. T. Voltmeter To	Miscellaneous Connections and Instructions	Adjust	Refer To
33	Antenna terminals	215.75		237	Not used	Junction of R236 & C205 for sig. gen. method only	Fine tuning centered for all adjustments Receiver on channel 13	L77 & L78 for zero on meter or beat on het. freq. meter	Page 16
34	"	209.75		231	"	"	Receiver on channel 12	L76 as above	
35	"	203.75		225	"	"	Receiver on channel 11	L74 as above	"
36	"	197.75		219	"	"	Receiver on channel 10	L72 as above	"
37	"	191.75		213	"	"	Receiver on channel 9	L70 as above	"
38	"	185.75		207	"	"	Receiver on channel 8	L68 as above	"
39	"	179.75		201	"	"	Receiver on channel 7	L66 as above	"
40	"	87.75		109	"	"	Receiver on channel 6	L63 & L64 as above	"
41	"	81.75		103	"	"	Receiver on channel 5	L62 as above	"
42	"	71.75		93	"	"	Receiver on channel 4	L60 as above	"
43	"	65.75		87	"	"	Receiver on channel 3	L58 as above	"
44	"	59.75		81	"	"	Receiver on channel 2	L56 as above	"
45	"	49.75		71	"	"	Receiver on channel 1	L54 as above	"
46	Repeat steps 33 through 45 as a check.								
				RETOUCHING PICTURE I-F TRANSFORMERS					
49			Not used		Not used	Junction of R189 & R190	Receiver and sweep on same channel with best response	Adjust picture control for 3 volts on meter	
50	Antenna terminals (loosely)	22.3 25.75	"		Junction L188 and R137	not used	*Retouch pix i-f adjustments (T2, T103, T104 bottoms L183 & L185) as necessary to provide proper response		See Response Curve
51	If T104 (bottom) was adjusted in step 50, repeat step 2 and step 50.								
				SENSITIVITY CHECK					
52	Connect antenna to receiver through attenuator pad to provide weak signal. Compare picture and sound obtained to that obtained on other receivers under the same conditions.								

CHASSIS—TOP VIEW



CHASSIS—BOTTOM VIEW



SERVICE SUGGESTIONS

Following is a list of symptoms of possible failures and an indication of some of the possible faults.

NO RASTER ON PICTURE TUBE

(1) Incorrect adjustment of ion trap—Coils reversed, ion trap coil open or shorted.
(2) No high voltage—If horizontal deflection is operating as evidenced by the correct waveform on terminal 4 of horizontal output transformer, the trouble can be isolated to the 8016 circuit. Either the T109 high voltage winding is open, (points 2 to 3), the 8016 tube is defective, C187 is shorted or R239 open.
(3) V126 or V127 inoperative—check voltage and waveform on grids and plates.
(4) V125 and V120-B circuits inoperative—check for sine wave on V125 grid, pulse on V120-B, and sawtooth on V126 grid. Refer to schematic.
(5) Reaction scanning tube (V128) inoperative.
(6) Defective picture tube.
(7) Brightness control open, (terminal 3 to ground).
(8) No receiver "B" voltage—negative bleeder or speaker field open.
(9) L176 shorted or high leakage.

NO VERTICAL DEFLECTION:

(1) V125, V120B, V126 or V128 inoperative—check voltage and wave forms on grids and plate.
(2) T109 open.
(3) Horizontal deflection coil defective.

NO HORIZONTAL DEFLECTION:

(1) V121 or V122 inoperative. Check voltage and wave forms on grids and plates.
(2) T107 open.
(3) Vertical deflection coils defective.

SMALL RASTER:

(1) Low Plus B or low line voltage.

POOR VERTICAL LINEARITY:

(1) If adjustments cannot correct, change V122.
(2) T107 defective.
(3) V121 inoperative—check voltage and wave forms on grid and plate.
(4) R174, C158, C221-C or C222-B defective.
(5) Low bias or plate voltage—check rectifiers and capacitors in supply circuits.

POOR HORIZONTAL LINEARITY:

(1) If adjustments do not correct, change V128 or V126.
(2) T109 or L201 defective.
(3) C186 or C188 or R209 defective.
(4) C179, R187 or R210 defective.

PICTURE OUT OF PHASE HORIZONTALLY:
(Horizontal Blanking Bar in Picture)

(1) T108 winding D to F incorrectly tuned or connected in reverse.
(2) R200 or R202 defective.

NON-SYMMETRICAL RASTER:

(1) Improper adjustment of focus coil or ion trap magnets.
(2) Defective yoke.

PICTURE BUT NO SOUND:

(1) R-F oscillator off frequency.
(2) Sound i-f, discriminator or audio amplifier inoperative—check V104, V105, V106, V107, V108, V109 and their socket voltages.
(3) T111, T112 or T113 defective.
(4) T114 or C209 defective.
(5) Speaker defective.

SIGNAL AT PICTURE TUBE GRID BUT NO SYNC:
(Horizontal or Vertical)

(1) Picture control advanced too far.
(2) V114B, V118, V119, or V120-A inoperative. Check voltage and wave-forms at their grids and plates.
(3) C142 defective.

NO HORIZONTAL SYNC:

(1) T108 misadjusted—readjust as instructed on page 7 under Complete Realignment.
(2) V123 or V124 inoperative—check socket voltages and waveforms.
(3) T108 defective.
(4) C166, C167, C170 or C171 defective.
(5) R191, R192, R193 or R229 defective.
(6) If horizontal speed is completely off and cannot be adjusted, check C168, C169, R168 and R196.

NO VERTICAL SYNC:

(1) Defective V121—check associated circuit and voltages.
(2) Check intergrating network—R162, R163, R164, R165, C-149, C151, C152.

SOUND AND RASTER BUT NO PICTURE:

(1) Picture i-f, detector or video amplifier inoperative—check V110, V111, V112, V113, V114, V115 and V116—check socket voltages.
(2) No contact to picture tube grid.

POOR RESOLUTION:

(1) Close reflections.
(2) V114, V115 or V116 defective.
(3) Peaking coils L187, L188, L189, L190, L191 or L192 defective—check for specified resistance.
(4) C138, C140, C141 or C142 defective.
(5) Make sure that the focus control operates on both sides of proper focus.
(6) R-F and I-F circuits misaligned.

PICTURE SMEAR:

(1) Video amplifier overloaded by excessive input—reduce picture control setting.
(2) Insufficient bias on V115 and V116 resulting in grid current on video signal. Check bias and possible grid current.
(3) Defective coupling condenser or grid load resistor—check C138, C140, C141, C223B, R138, R142, R143, R148, etc.
(4) R140 or R141—low value (carbonized).

INSUFFICIENT VERTICAL DEFLECTION:

(1) V121—V122 defective. Check voltages and wave forms on grids and plates.
(2) Shorted turns in T107.
(3) C-221C open.
(4) Defective yoke.

PICTURE JITTER:

(1) Picture control operated at excessive level.
(2) If regular sections at the left picture are displaced change V126.
(3) Vertical instability may be due to loose connections or noise. Check antenna for loose connections or shorts.
(4) Horizontal instability may be due to unstable transmitted sync. Connect sync link to terminal 1 and 2.

RASTER BUT NO SOUND OR PICTURE:

(1) Defective antenna or transmission line.
(2) R-F oscillator off frequency.
(3) R-F unit inoperative—Check V1, V2, V3 and their socket voltages.
(4) Microphonic tubes.

DARK VERTICAL LINE ON LEFT OF PICTURE:

(1) Reduce horizontal drive and readjust width and horizontal linearity.
(2) Replace V126.

LIGHT VERTICAL LINE ON LEFT OF PICTURE:

(1) C181 (in yoke) defective.
(2) V128 defective.
(3) Change tap on R209.

WRINKLES ON LEFT SIDE OF RASTER:

(1) R180, R201 or C181 defective.
(2) Defective yoke.

PARTS LIST FOR MODELS 307 TA, 307 TA-50 TELEVISION RECEIVER

Item No.	Ref. No.	Crosley Part No.	Description
1	C-112	W-139153-1	Condenser—1500 mmfCeramic 350 V
2	C-113	W-139153-1	Condenser—1500 mmf Ceramic 350 V
3	C-114	W-139153-1	Condenser—1500 mmf Ceramic 350 V
4	C-115	W-139153-1	Condenser—1500 mmf Ceramic 350 V
5	C-116	137498-25	Condenser—270 mmf Mica 500 V 10%
	C-117		Condenser—Part of T103
6	C-118	W-139153-1	Condenser—1500 mmf Ceramic 350V
7	C-119	W-139153-1	Condenser—1500 mmf Ceramic 350 V
8	C-120	W-139153-1	Condenser—1500 mmf Ceramic 350 V
9	C-121	W-139153-1	Condenser—1500 mmf Ceramic 350 V
10	C-122	W-139153-1	Condenser—1500 mmf Ceramic 350 V
11	C-123	137498-25	Condenser—270 mmf Mica 500 V 10%
	C-124		Condenser—Part of T104
12	C-125	39001-87	Condenser—0.25 MFD Paper 600 V
13	C-126	W-139153-1	Condenser—1500 mmf Ceramic 350 V
14	C-127	W-139153-1	Condenser—1500 mmf Ceramic 350 V
15	C-128	137498-25	Condenser—270 mmf Mica 500 V 10%
16	C-129	W-139153-1	Condenser—1500 mmf Ceramic 350 V
17	C-130	W-139153-1	Condenser—1500 mmf Ceramic 350 V
18	C-131	W-139151-2	Condenser—82 mmf Ceramic 500 V 10%
	C-132		Condenser—Part of T105
19	C-133	W-139153-1	Condenser—1500 mmf Ceramic 350 V
20	C-134	137498-25	Condenser—270 mmf Mica 500 V 10%
21	C-135	W-139153-1	Condenser—1500 mmf Ceramic 350 V
22	C-136	W-139153-1	Condenser—1500 mmf Ceramic 350 V
23	C-137	137498-26	Condenser—10 mmf Mica 500 V 10%
24	C-138	39001-17	Condenser—.05 MFD Paper 600 V
25	C-140	39001-17	Condenser—.05 MFD Paper 600 V
26	C-141	39001-17	Condenser—.05 MFD Paper 00 V
27	C-142	39001-17	Condenser—.05 MFD Paper 600 V
28	C-143	39001-87	Condenser—0.25 MFD Paper 600 V
29	C-144	39001-17	Condenser—.05 MFD Paper 600 V
30	C-145	137498-25	Condenser—270 mmf Mica 500 V 10%
31	C-146	39001-43	Condenser—0.1 MFD Paper 400 V
32	C-147	137498-26	Condenser—270 mmf Mica 500 V 10%
33	C-148	39001-17	Condenser—.05 MFD Paper 600 V
34	C-149	39001-13	Condenser—.01 MFD Paper 600 V
35	C-151	39001-74	Condenser—.002 MFD Paper 600 V
36	C-152	39001-11	Condenser—.005 MFD Paper 600 V
37	C-153	39001-11	Condenser—.005 MFD Paper 600 V
38	C-154	W-139154-2	Condenser—4700 mmf Mica 500 V 5%
39	C-157	B-139155-5	Condenser—0.1 MFD Paper 400 V 10%
40	C-158	B-139156-2	Condenser—.05 MFD Paper Imp. 600 V 5%
	C-161	137499	Condenser—470 mmf Mica
41	C-166	GC-210685-142	Condenser—82 mmf Mica 500 V 10%
42	C-167	B-139155-1	Condenser—.004 MFD Paper 600 V 10%
43	C-168	B-139156-1	Condenser—.015 MFD Paper Imp 400 V 5%
44	C-169	B-139156-1	Condenser—.015 MFD Paper Imp 400 V 5%
45	C-170	39001-17	Condenser—.05 MFD Paper 600 V
46	C-171	B-139155-4	Condenser—.01 MFD Paper 400 V 10%
47	C-172	B-139155-2	Condenser—.004 MFD Paper 400 V 10%
48	C-173	B-139155-2	Condenser—.004 MFD Paper 400 V 10%
49	C-174	39001-17	Condenser—.05 MFD Paper 600 V
50	C-175	39001-17	Condenser—.05 MFD Paper 600 V
51	C-176	137498-28	Condenser—390 mmf Mica 500 V 10%
52	C-177	39001-13	Condenser—.01 MFD Paper 600 V
53	C-178	39001-7	Condenser—.001 MFD Paper 400 V
54	C-179	W-139154-1	Condenser—680 mmf Mica 300 V 5%
55	C-180	39001-17	Condenser—.05 MFD Paper 600 V
	C-181		Condenser—Part of Yoke
56	C-182	39001-43	Condenser—0.1 MFD Paper 400 V
57	C-183	W-139201	Condenser—.01 MFD Molded Paper 400 V.
58	C-184	W-139201	Condenser—.01 MFD Molded Paper 400 V.
59	C-185	W-139153-1	Condenser—1500 mmf Ceramic 350 V
60	C-186	B-139156-2	Condenser—.05 MFD Paper Imp. 600 V 5%
61	C-187	W-139152	Condenser—500 mmf Ceramic 10,000 V
62	C-188	B-139156-3	Condenser—.035 MFD Paper Imp 600 V 5%
63	C-189	W-139153-1	Condenser—1500 mmf Ceramic 350 V
	C-190		Condenser—Part of T111
64	C-191	W-139153-1	Condenser—1500 mmf Ceramic 350 V
65	C-192	39001-13	Condenser—.01 MFD Paper 600 V
	C-193		Condenser—Part of T111
66	C-194	W-139153-1	Condenser—1500 mmf Ceramic 350 V
	C-195		Condenser—Part of T112
67	C-196	W-139153-1	Condenser—1500 mmf Ceramic 350 V
68	C-197	W-139151-1	Condenser—51 mmf Ceramic 500 V 5%
	C-198		Condenser—Part of T112
	C-199		Condenser—Part of T113
69	C-200	W-139153-2	Condenser—6500 mmf Ceramic 300 V
	C-201		Condenser—Part of T113
	C-202		Condenser—Part of T113
70	C-203	137498-25	Condenser—270 mmf Mica 500 V 10%
71	C-204	39001-13	Condenser—.01 MFD Paper 600 V
72	C-205	B-139155-3	Condenser—.0025 MFD Paper 400 V 10%
73	C-206	39001-13	Condenser—.01 MFD Paper 600 V
74	C-207	B-139155-3	Condenser—.0025 MFD Paper 400 V 10%
75	C-208	39001-11	Condenser—.005 MFD Paper 600 V
76	C-209	39001-11	Condenser—.005 MFD Paper 400 V
	C-220A		Condenser—40 MFD Electrolytic 450 V
77	C-220B	W-139157	Condenser—10 MFD Electrolytic 450 V
	C-220C		Condenser—80 MFD Electrolytic 150 V
	C-221A		Condenser—40 MFD Electrolytic 450 V
78	C-221B	W-139158	Condenser—40 MFD Electrolytic 450 V
	C-221C		Condenser—10 MFD Electrolytic 450 V
79	C-222A	W-139159	Condenser—80 MFD Electrolytic 450 V
	C-222B		Condenser—50 MFD Electrolytic 50 V
	C-223A		Condenser—40 MFD Electrolytic 450 V
80	C-223B	W-139160	Condenser—10 MFD Electrolytic 450 V
	C-223C		Condenser—10 MFD Electrolytic 350 V
81	C-224A	W-139161	Condenser—20 MFD Electrolytic 450 V
	C-224B		Condenser—80 MFD Electrolytic 350 V
82	C-225A	W-139162	Condenser—250 MFD Electrolytic 10 V
	C-225B		Condenser—1000 MFD Electrolytic 6 V
83	83		Listed under RF Unit Assembly
84	R-114	39374-15	Resistor—150 ohms ½ Watt 10%
85	R-115	B-139164-6	Resistor—10,000 ohms ½ watt 5%
86	R-116	39374-8	Resistor—39 ohms ½ Watt 10%
87	R-117	39373-33	Resistor—1000 ohms ½ Watt
88	R-118	39373-33	Resistor—1000 ohms ½ Watt
89	R-119	39374-15	Resistor—150 ohms ½ Watt 10%
90	R-120	B-139164-6	Resistor—10,000 ohms ½ Watt 5%
91	R-121	39374-8	Resistor—39 ohms ½ Watt 10%
92	R-122	39373-33	Resistor—1000 ohms ½ Watt
93	R-123	39373-33	Resistor—1000 ohms ½ Watt
94	R-124	39374-15	Resistor—150 ohms ½ Watt 10%
95	R-125	B-139164-2	Resistor—4700 ohms ½ Watt 5%
96	R-126	39374-8	Resistor—39 ohms ½ Watt 10%
97	R-127	B-139164-1	Resistor—2700 ohms ½ Watt 5%
98	R-128	39373-33	Resistor—1000 ohms ½ Watt
99	R-129	39374-30	Resistor—2700 ohms ½ Watt 5%
100	R-130	39374-15	Resistor—150 ohms ½ Watt 10%
101	R-132	39374-23	Resistor—680 ohms ½ Watt 10%
102	R-133	39374-15	Resistor—150 ohms ½ Watt 10%
103	R-134	B-139164-4	Resistor—5600 ohms ½ Watt 5%
104	R-135	39373-33	Resistor—1000 ohms ½ Watt
	R-136		Resistor—Part of L187
105	R-137	B-139164-3	Resistor—3900 ohms ½ Watt 5%
106	R-138	39373-87	Resistor—470,000 ohms ½ Watt
	R-139		Resistor—Part of L189
107	R-140	39374-31	Resistor—3300 ohms ½ Watt 10%
108	R-141	39374-35	Resistor—6800 ohms ½ Watt 10%
109	R-142	B-139164-8	Resistor—820,000 ohms ½ Watt 5%
110	R-143	B-139164-9	Resistor—1.2 Meg ohms ½ Watt 5%
111	R-144	39374-19	Resistor—330 ohms ½ Watt 10%
	R-145		Resistor—Part of L191
112	R-146	B-139164-6	Resistor—10,000 ohms ½ Watt 5%
113	R-147	39374-119	Resistor—3300 ohms 1 Watt 10%
114	R-148	39373-74	Resistor—100,000 ohms ½ Watt
115	R-149	39373-92	Resistor—1 Meg ½ Watt
116	R-150	39374-45	Resistor—47,000 ohms ½ Watt 10%
117	R-151	39374-51	Resistor—150,000 ohms ½ Watt 10%
	R-152		Resistor—Listed under Controls
118	R-153	39373-92	Resistor—1 Meg ohms ½ Watt
119	R-154	39374-121	Resistor—4700 ohms 1 Watt 10%
120	R-155	39374-121	Resistor—4700 ohms 1 Watt 10%
121	R-156	39374-77	Resistor—4.7 Meg ohms ½ Watt 10%
122	R-157	39374-61	Resistor—1 Meg ohms ½ Watt 10%
123	R-158	39374-35	Resistor—6800 ohms ½ Watt 10%
124	R-159	39373-92	Resistor—1 Meg ohms ½ Watt
125	R-160	39374-33	Resistor—4700 ohms ½ Watt 10%
126	R-161	39374-25	Resistor—1000 ohms ½ Watt 10%
127	R-162	39373-60	Resistor—22,000 ohms ½ Watt
128	R-163	39373-60	Resistor—22,000 ohms ½ Watt
129	R-164	39374-36	Resistor—8200 ohms ½ Watt 10%
130	R-165	39374-36	Resistor—8200 ohms ½ Watt 10%
131	R-166	39374-49	Resistor—100,000 ohms ½ Watt 10%
132	R-167	39374-69	Resistor—2.2 Meg ohms ½ Watt 10%
	R-168		Resistor—Listed Under Controls
	R-169		Resistor—Listed Under Controls
133	R-170	39374-53	Resistor—220,000 ohms ½ Watt 10%
134	R-171	B-139164-10	Resistor—1.5 Meg ohms ½ Watt 5%
	R-172		Resistor—Listed Under Controls
135	R-173	39374-46	Resistor—56,000 ohms ½ Watt 10%
136	R-174	B-139164-5	Resistor—8,200 ohms ½ Watt 5%
137	R-175	B-139164-6	Resistor—10,000 ohms ½ Watt 5%
138	R-176	39374-69	Resistor—2.2 Meg ohms ½ Watt 10%
139	R-177	39374-30	Resistor—2700 ohms ½ Watt 10%
	R-178		Resistor—Listed Under Controls
140	R-179	39374-125	Resistor—10,000 ohms 1 Watt 10%
	R-180		Resistor—Part of Vertical Yoke Coil Assem.
	R-181		Resistor—Listed Under Controls
141	R-182	B-139165-4	Resistor—W. W. 270 ohms 2 Watt 10%
142	R-183	B-139165-3	Resistor—W. W. 1800 ohms 1 Watt 10%
	R-184		Resistor—Listed Under Controls
143A	R-185A	W-139169	Resistor—Wire Wound 230 ohms 10 Watt
143B	R-185B	W-139169	Resistor—Wire Wound 1360 ohms 17 Watt
144A	R-186A	W-139167	Resistor—Voltage Divider 93 ohms 4 Watt
144B	R-186B	W-139167	Resistor—Voltage Divider 12 ohms .5 Watt
144C	R-186C	W-139167	Resistor—6750 ohm 3.2 Watt
	R-187		Resistor—Listed Under Controls
145	R-188	39374-130	Resistor—27,000 ohms 1 Watt 10%
146	R-189	39374-40	Resistor—18,000 ohms ½ Watt 10%
147	R-190	39374-36	Resistor—8,200 ohms ½ Watt 10%
148	R-191	39374-57	Resistor—470,000 ohms ½ Watt 10%
149	R-192	39374-57	Resistor—470,000 ohms ½ Watt 10%
150	R-193	39374-57	Resistor—470,000 ohms ½ Watt 10%
151	R-194	B-139164-15	Resistor—10 ohms ½ Watt 5%
152	R-195	39374-22	Resistor—560 ohms ½ Watt 10%
153	R-196	39374-42	Resistor—27,000 ohms ½ Watt 10%
154	R-197	39374-132	Resistor—39,000 ohms 1 Watt 10%
155	R-198	B-139164-11	Resistor—47,000 ohms 1 Watt 5%
156	R-199	39374-125	Resistor—10,000 ohms 1 Watt 10%
157	R-200	W-139166	Resistor—W. W. 5,000 ohms 5 Watt 10%
	R-201		Resistor—Part of Vertical Yoke
158	R-202	39374-35	Resistor—6800 ohms ½ Watt 10%
159	R-203	39373-80	Resistor—220,000 ohms ½ Watt
160	R-204	B-139164-7	Resistor—680,000 ohms ½ Watt 5%
161	R-205	39374-57	Resistor—470,000 ohms ½ Watt 10%
162	R-206	39374-101	Resistor—100 ohms 1 Watt 10%
163	R-207	39374-129	Resistor—22,000 ohms 1 Watt 10%
164	R-208	39374-128	Resistor—18,000 ohms 1 Watt 10%
165	R-209	W-139168	Resistor—W.W. Taped (5300 20W)(500 2W) (500 2W.)
166	R-210	39374-35	Resistor—6800 ohms ½ Watt 10%
	R-211		Resistor—Listed Under Controls
167	R-212	39373-14	Resistor—100 ohms ½ Watt
168	R-213	39373-33	Resistor—1000 ohms ½ Watt
169	R-214	39373-87	Resistor—470,000 ohms ½ Watt
170	R-215	39373-14	Resistor—100 ohms ½ Watt
171	R-216	39373-33	Resistor—1000 ohms ½ Watt
172	R-217	39374-41	Resistor—22,000 ohms ½ Watt 10%

PARTS LIST FOR MODELS 307 TA, 307 TA-50 TELEVISION RECEIVER

Item No.	Ref. No.	Crosley Part No.	Description
173	R-218	39374-125	Resistor—10,000 ohms 1 Watt 10%
174	R-219	39374-49	Resistor—100,000 ohms ½ Watt 10%
175	R-220	39374-49	Resistor—100,000 ohms ½ Watt 10%
176	R-221	39374-42	Resistor—27,000 ohms ½ Watt 10%
	R-222		Resistor—Listed Under Controls
177	R-223	39373-107	Resistor—10 Meg ohms ½ Watt
178	R-224	39373-84	Resistor—330,000 ohms ½ Watt
179	R-225	39374-54	Resistor—270,000 ohms ½ Watt 10%
180	R-226	39373-260	Resistor—2200 ohms 2 Watt 20%
181	R-227	39373-260	Resistor—2200 ohms 2 Watt 20%
182	R-228	39374-81	Resistor—6.8 Meg ohms ½ Watt 10%
183	R-229	39374-61	Resistor—1 Meg ½ Watt 10%
184	R-230	B-139165-2	Resistor—W. W. 2.2 ohms 1 Watt 10%
185	R-231	B-139164-12	Resistor—39,000 1 Watt 5%
186	R-232	39374-98	Resistor—56 ohms 1 Watt 10%
187	R-233	B-139165-1	Resistor—3.3 ohms ½ Watt 5%
188	R-234	39373-44	Resistor—3300 ohms ½ Watt
189	R-235	B-139164-13	Resistor—1 Meg ohm 1 Watt 10%
190	R-236	39373-60	Resistor—22,000 ohms ½ Watt
191	R-237	39374-37	Resistor—10,000 ohms ½ Watt 10%
192	R-238	B-139164-7	Resistor—680,000 ohms ½ Watt 5%
193	R-239	39374-51	Resistor—150,000 ohms ½ Watt
	R-131		Control—Contrast 10,000 ohms
194	R-222	W-139170	Volume Control Sound 1 Meg
	S-101		Power Switch
195	R-152	W-139171	Control—Brightness Control 50,000 ohms
196	R-169	W-139172	Control—Height Control 2.5 meg
197	R-168	W-139173	Control—Horizontal Control 50,000 ohms
	R-172		Control—Vertical Control 1 meg
198	R-178	W-139174	Control—Vertical Linearity Cont. 5000 ohms
199	R-181	W-139175	Control—Vertical Centering 20 ohms
200	R-211	W-139175	Control—Horizontal 20 ohms
201	R-184	W-139176	Control—Focus Control 1500 ohms
202	R-187	W-139177	Control—Horizontal Drive
203	L-180	W-139178	Coil—Choke Coil
204	L-181	W-139178	Coil—Choke Coil
205	L-182	W-139178	Coil—Choke Coil
206	L-183	W-139179	Coil—Third Picture I. F.
207	L-184	W-139178	Coil—Choke Coil
208	L-185	W-139179	Coil—Fourth Picture I. F.
209	L-186	W-139178	Coil—Choke Coil
210	L-187	W-139182	Coil—Peaking Coil 120 uh
	R-136		Resistor—22000 ohms Part of L187 L187 was W139180 180 uh—39000 ohms
211	L-188	W-139181	Coil—Peaking Coil 250 uh
212	L-189	W-139182	Coil—Peaking Coil 120 uh
	R-139		Resistor—22,000 ohms Part of L189
213	L-190	W-139183	Coil—Peaking Coil 93 uh
214	L-191	W-139182	Coil—Peaking Coil 120 uh
	R-145		Resistor—22,000 ohms Part of L191
215	L-192	W-139183	Coil—Peaking Coil 93 uh
	L-193		Coil—Part of Yoke
	L-194		Coil—Part of Yoke
216	L-195	W-139184	Coil—Focus Coil
217	L-196	W-139185	Coil—Width Control Coil
	L-197		Coil—Part of Yoke
	L-198		Coil—Part of Yoke
218	L-201	W-139186	Coil—Horizontal Linearity Cont.
219	L-202	W-139187	Coil—(ION Trap Magnet)
	L-203		Coil—(ION Trap Magnet)
220	T-103	W-139188	Transformer—First Pix I. F.
	C-117		Condenser—43 mmf Part of T103
221	T-104	W-139189	Transformer—Second Pix I. F.
	C-124		Condenser—56 mmf Part of T104
222	T-105	W-139190	Wave Trap
	C-132		Condenser—75 mmf Part of T105
223	T-106	W-139191	Transformer—Vertical Osc. Trans.
224	T-107	W-139192	Transformer—Vertical Output Trans.
225	T-108	W-139193	Tranformer—Sync. Discrim. Trans.
226	T-109	W-139194	Transformer—Horiz. Output & Hi Volt Trans.
227	T-110	W-139195	Transformer—Power Tran. 115 V 60 Cycle
227A	T-110	W-139476	Transformer—Power 115 Volts 50 Cycle
	T-111	W-139196	Transformer—First Sound I. F.
228	C-190		Condenser—10 mmf Part of T111
	C-193		Condenser—33 mmf Part of T111
	T-112	W-139196	Transformer—Second Sound I. F.

Item No.	Ref. No.	Crosley Part No.	Description
229	C-195		Condenser—10 mmf Part of T112
	C-198		Condenser—33 mmf Part of T112
	T-113	W-139197	Transformer—Sound Discriminator
230	C-199		Condenser—56 mmf Part of T113
	C-201		Condenser—47 mmf Part of T113
	C-202		Condenser—56 mmf Part of T113
231	T-114	W-139198	Transformer—Audio Output Trans.
232		W-139199	Speaker Assem.—5" E.M. (62 ohm field)
		W-139200	Yoke—Vertical & Horizontal Yoke Assem.
	R-201		Resistor—560 ohms
	R-180		Resistor—560 ohms
	L-193		Coil—Vertical Yoke
233	L-194		Coil—Vertical Yoke } Part of Yoke Assem.
	L-197		Coil—Horizontal Yoke
	L-198		Coil—Horizontal Yoke
	C-181	B-137498-15	Condenser—56 mmf.
234	C-164	137498-29	Condenser—1200 mmf
83	83	W-139163	RF Unit Assembly
	T-1	W-139502	Transformer (Antenna)
	T-2	W-139503	Transformer (Converter)
	C-16		Condenser (Part of T2)
		139431	Bearing (RF Unit Shaft)
		139452	Snap Spring (Fine Tuning)
		139447	Lead Shield Assem. (Osc. Tube)
		139432	Tube Shield Clamp (Osc. Tube)
		139439	Detent and Fibre Shaft
		139440	Friction Drive
		139444	Ring (Retainer)
		142694	Rotor and Disc for Fine Tuning Stator (Part of C15)
		142695	Stator—Oscillator Fine Tuning Stator and Bushing (Part of C15)
			Miscellaneous
		139430	Terminal Board (Antenna)
		139433	Connector (Cathode Ray Tube Anode)
		139434	Connector (Hi Voltage Capacitor)
		139441	Speed Nut (Hi Voltage Capacitor)
		139435	Power Cord
		139436	Cover (Elect Conds.)
		139437	Cushion (Deflection Yoke, Lower)
		139438	Cushion (Deflection Yoke, Upper)
		139442	Wing Nut
		139445	Wing Screw
		139443	Plug (Two Prong Male)
		139446	Tube Shield
		139448	Rubber Sleeve (Focus Coil)
		139449	Socket (C. R. Tube)
		139450	Socket (8016 Tube)
		139451	Spring (C.R.T. Coating Grounding)
		W-230578	Insulator (Elect. Cond. Mounting)
		W-131346	Socket (Miniature Tube)
		39204	Socket (Octal Tube)
		R-138502	Cabinet
		B-138503	Label—Tube Location
		W-138515	Decal—Brightness Cont.
		W-138516	Decal—Vert. & Hor. Cont.
		W-138517	Decal—Contrast, Vol. Off-On
		W-138518	Decal—Tuning & Channel Sel.
		W-138363	Decal—Crosley
		W-138541	Glass—Safety
		W-138542	Gasket—Safety Glass
		W-138660	Rubber Foot
		W-138524	Bracket—Lid Mounting
		W-138525	Bracket—Lid Mounting
		C-138771	Escutcheon—Channel Sel.
		B-138510	Knob—Fine Tuning
		B-138511	Knob—Small
		B-138513	Knob—Large
		B-138514	Knob—Channel Sel.
		B-138512	Knob—Combination
		W-138507	Clip—Glass Retainer
		W-138761	Spring—Escutcheon Retainer
		W-139475	Bracket & Pad Assem.—C.R.T. Centering
		R-139055	Table
		139493-2	Twin Lead Transmission Line 75 ohms—5000 ft. reels
		139327	Twin Lead Shielded Transmission Line—1000 ft. reels