

MODELS 5000 TV, 5050 CTV, 5200 TV,  
5250 CTV, 5600 TV, 5650 CTV

SERVICE INSTRUCTIONS FOR 10" & 12"  
TV SET

High Voltage Warning

Operation of this receiver outside its cabinet involves a shock hazard from the power supplies. No work should be attempted on this receiver by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment.

Cathode Ray Tube Handling Precautions

Care should be exercised not to strike or scratch the large end of the tube against any object or lift it by the neck. Do not subject the tube to any more than moderate pressure.

A F C Adjustment

The horizontal sync control should lock at the mid point of its rotation, and the picture should "run" in both directions as the control is turned to either side of this point. If this is not the case, set the horizontal hold control to the middle of its range and rotate the core of the AFC coil until the picture locks.

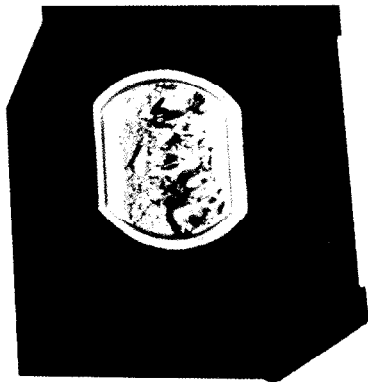
R.F. Alignment

No adjustment should be made on tuner except Osc. tuning. To realign the R. F. section on certain stations only, remove plug button from the front panel of the set, set the tuner to the station in question and insert a non-metallic screwdriver into the hole in the front of the tuner. Rotate brass screw for the best picture. Caution: Running screw in too far will cause it to become disengaged from spring clip which holds it in place. Should this happen it is necessary to remove chassis from cabinet, remove coil section, lift spring and shake screw out. Reassemble and retune. To realign on all channels, or in the case air signals are not available it will be necessary to use an RF sweep generator covering the television channels (RCA - WR-59A, etc.), an oscilloscope and an AM generator whose range extends to 215 Mc.

Model  
5200 TV



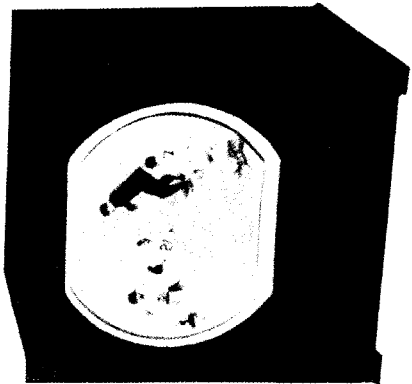
Model  
5000 TV



Model  
5050 CTV



Model  
5600 TV



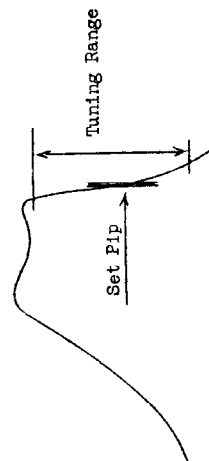
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The sweep generator should be fed into the antenna terminals and the AM generator should be loosely coupled to the antenna by clipping the "hot" lead to the twin lead. Connect the scope from the junction of L2 and L3 to ground, shunt the scope from with a .01MFD condenser as an RF bypass. Set the tuner to the same channel as the sweep generator and the response curve should appear on the scope. Set the AM generator to the picture frequency of the selected channel, reduce its output until the "pip" is just discernible. Rotate the brass screw until the pip representing the picture carrier rides at the 2X point on the high side of the response curve.

Picture Freq.

Channel 2	55.25 MC
3	61.25 MC
4	67.25 "
5	77.25 "
6	83.25 "
7	175.25 "
8	181.25 "
9	187.25 "
10	193.25 "
11	199.25 "
12	205.25 "
13	211.25 "

The pip should run from the bottom to the top of the curve as the fine tuning is rotated.

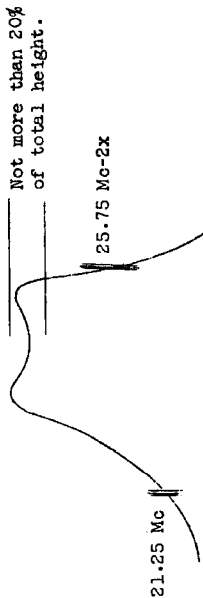


IF Alignment

The IF may be aligned by DC alignment methods. To do this,

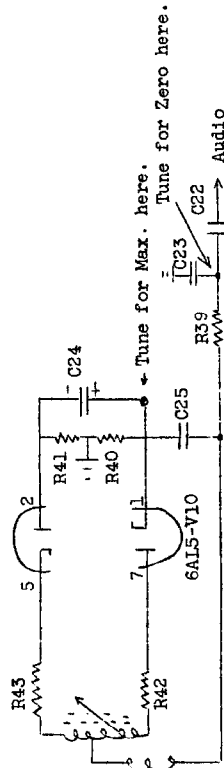
connect a VTVM from the junction of L2 and L3 to ground. Couple the AM signal generator to the 6J6 in the tuner by removing the tube shield, connecting the "hot" side of the generator to it. Place the shield back over the tube taking care not to ground it. Set tuner to blank channel, align sound trap at 21.25 for minimum output. Then set the generator to 25.7 MC-CW and tune the 1st & 3rd IF's for maximum, repeat this procedure on the 2nd & 4th at a frequency of 23.1 Mc.

A better job can be with a sweep generator and a scope. The generator must be capable of sweeping from 20 Mc to 30 Mc and should be coupled into 6J6 as described previously. The scope should be connected as discussed under RF alignment. The IF's should be set by DC alignment and then touched up with the sweep generator. A marker generator should also be loosely coupled to the tube shield. The IF should then be adjusted for the following curve. Always check sound trap after adjusting slug of 4th IF.



Sound Alignment

This may be accomplished with an accurate 4.5 Mc signal generator and a VTVM. Feed the 4.5 Mc signal into the grid of the video amplifier using a blocking condenser.



Connect the VTVM from the junction of R40, C24, and C25 to

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ground. Tune both slugs of the sound take-off coil for maximum. The top should peak sharply, the bottom will tune broadly. Reduce the output of the signal generator as the circuits peak up. Tune the primary of the ratio detector for maximum. Remove the VTVM probe and reconnect it to the junction of R39, C23, and C22. Tune the secondary of the ratio detector for 0.

Sound alignment can be done more easily by use of an air signal, the same procedure is followed, omitting the signal generator connection.

#### Ion Trap, Focus and Yoke Adjustment

To properly adjust the Ion Trap, Focusing coil and the Deflection Yoke the following procedure should be followed.

The Deflection Yoke should be placed in position closest to the "bell" of the Cathode Ray Tube as far forward on the neck of the tube as is possible. The Focus Coil is next in line and Ion Trap last.

The antenna should NOT be connected to the receiver, the set should be turned on, the brilliance control turned to MAXIMUM and the contrast control at MINIMUM.

The Ion Trap should be moved forward and backward and at the same time rotated to achieve the brightest raster on the face of the CRT.

Reduce the brilliance control to a point slightly over normal brightness and adjust the Focus Control on the rear of the chassis for clearest and sharpest horizontal sweep lines. The Ion Trap should then be readjusted slightly for the brightest response on the face of the tube.

The Focus Coil itself should be moved to secure a complete raster centered and with no corners cut off.

Finally the Deflection Yoke should be rotated to "square" the raster with the chassis as a reference. The screws on the yoke brackets should then be set.

#### Height, Width and Linearity

To adjust the overall size and linearity of the picture it is almost mandatory that a pattern transmitted from a local station be used. Linearity adjustments, particularly, cannot be accurately made on moving transmissions. It should also be remembered that in areas where more than one station is being received, that pictures transmitted from different stations will vary slightly in size. The smallest transmitted picture should be made to fill the area delineated by the mask.

The first step in linearity and size adjustment is to turn the Width control (rear of chassis) all the way in. (clockwise)

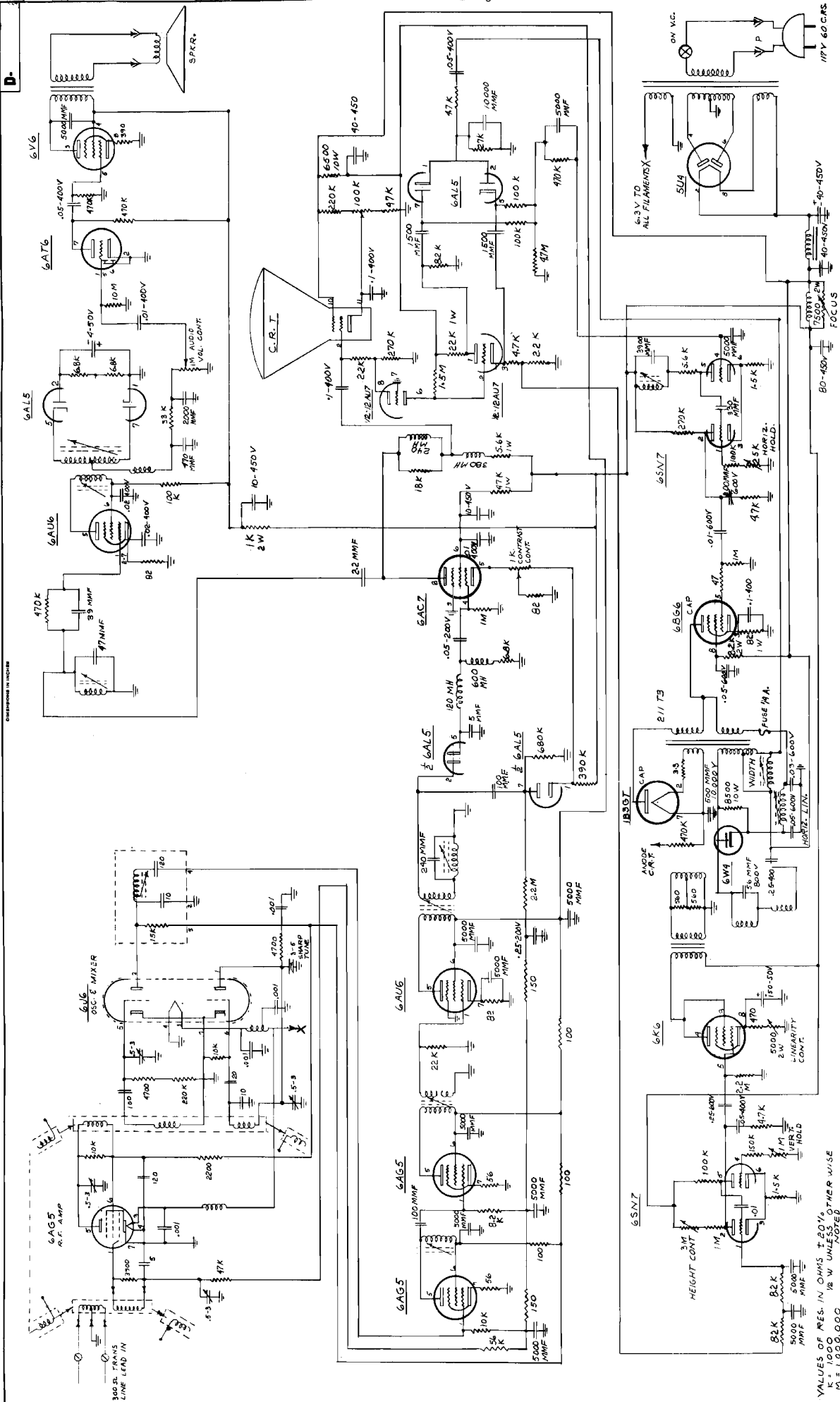
The Horizontal Drive trimmer should then be adjusted for the best compromise between maximum brightness and good horizontal linearity. Misadjustment of the Horizontal drive condenser will show as bright vertical bars on the left hand side of the picture. Check to see that picture locks after this adjustment. If not, follow procedure outlined under AFC adjustment. This control will affect the left side of the picture primarily. The Horizontal Linearity control (top rear of chassis) should then be adjusted for linearity of the right side of the picture.

The Width Control should now be readjusted to fill the mask.

The Height and Vertical Linearity controls (both rear of chassis) should then be adjusted for a linear picture filling the mask.

NOTE: These controls interact.

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5250 CTW, 5600 TV, 5650 CTW



VALUES OF RES. IN OHMS ± 20% UNLESS OTHERWISE NOTED  
M = 1,000,000  
Mμ = MICRO-HENRYS  
MMF = MICRO-FARADS (MμF)  
UNLESS OTHERWISE NOTED  
MH = MICRO-HENRYS

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