

TELEVISION Service Manual

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T. V. RADIO SERVICE
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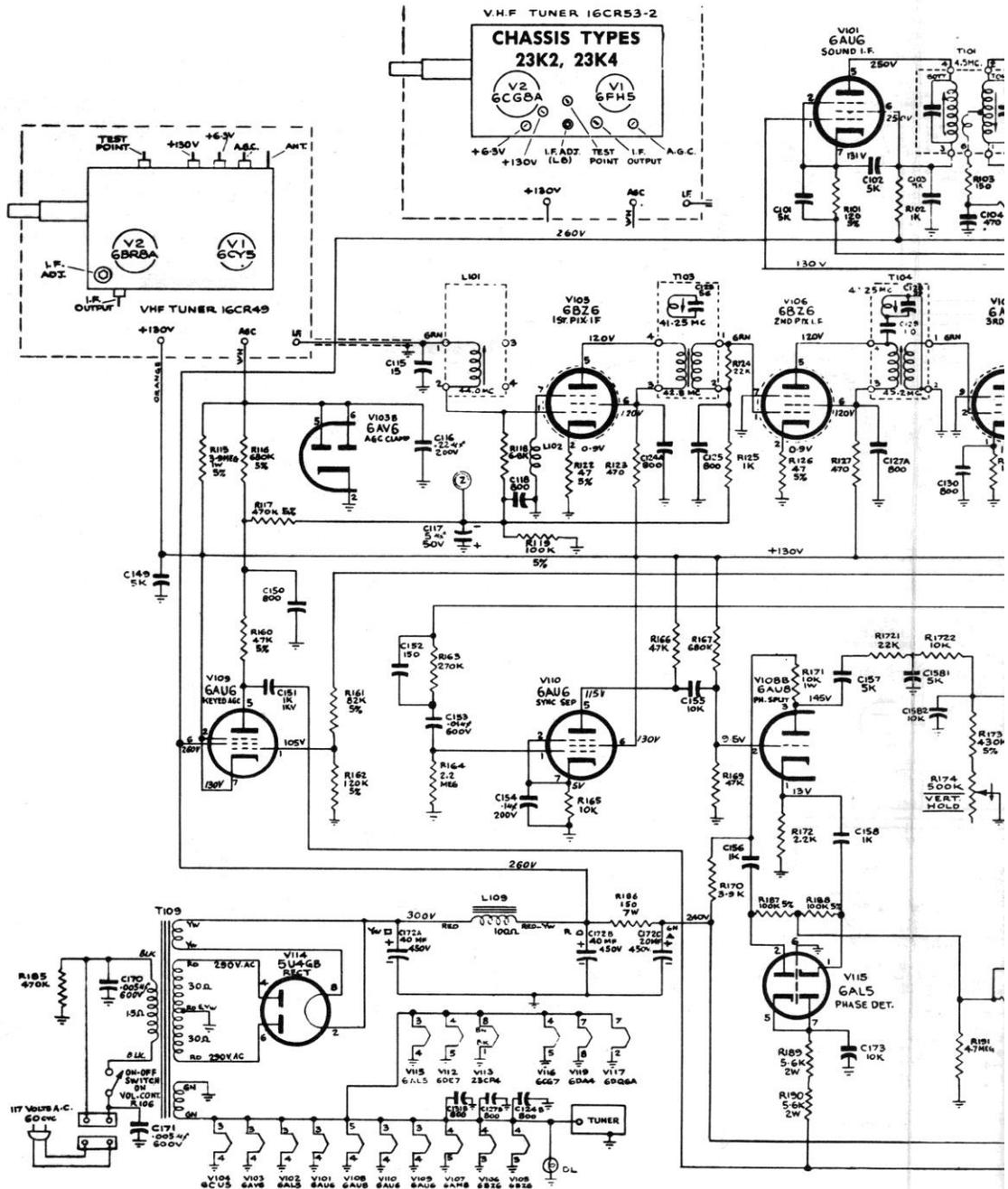
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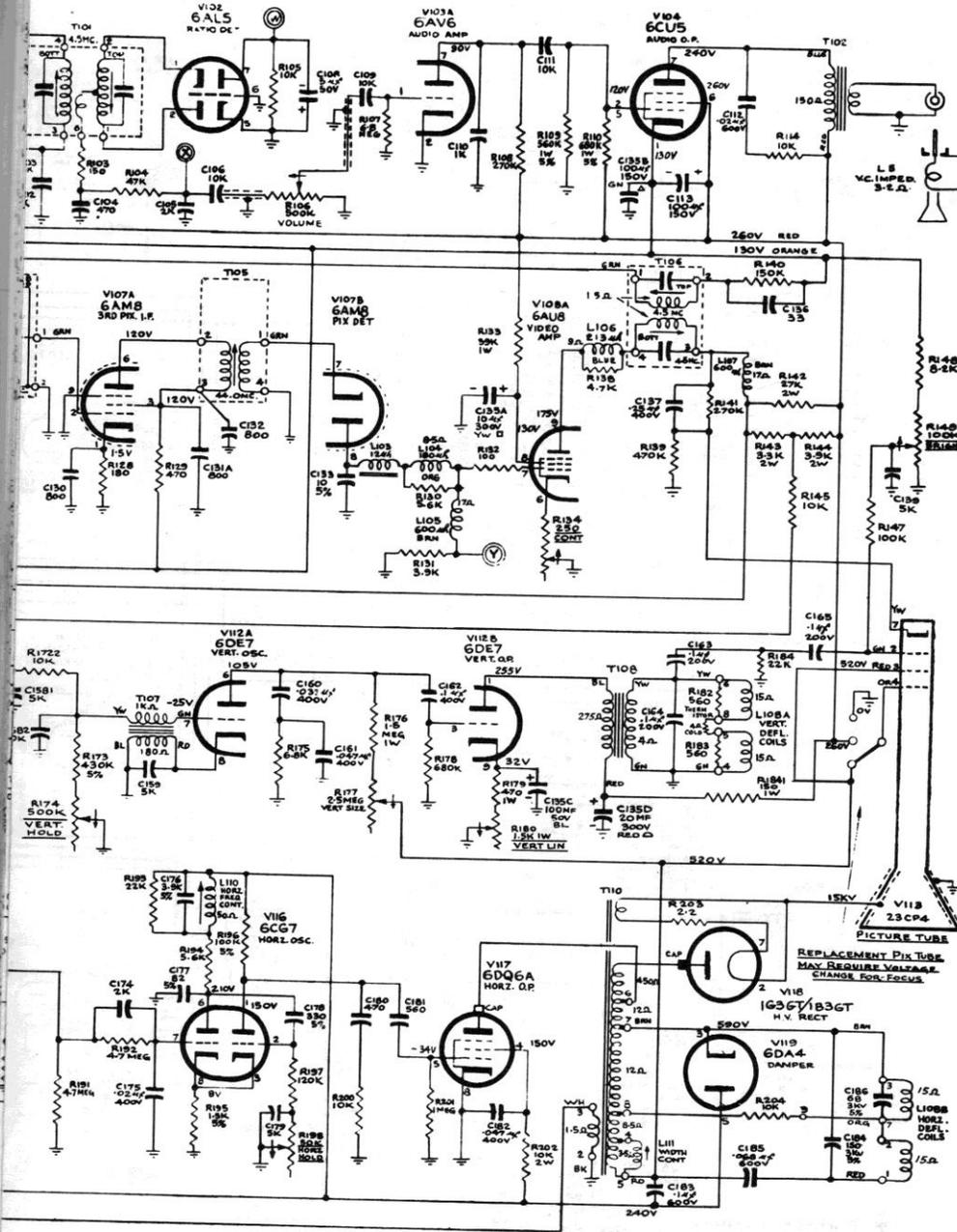
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RCC
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**CHASSIS TYPES 23K1, 23K2, 23K4
ALIGNMENT PROCEDURE**

WARNING: Before any attempt is made to re-align this model please read the following: Under most conditions the PICTURE I. F. will not require complete re-alignment. The circuit design is such that tube and component part changes do not seriously affect proper functioning of the circuit.

If re-alignment is felt necessary, the following procedure must be followed:

- Check overall band pass using STEP TWO, VISUAL ALIGNMENT.
- NOTE: Since most equipment set-ups will differ considerably in results, it will be necessary to check a receiver that is known to be good; variations in curve should be noted and re-alignment made to this response curve. Only slight adjustments are usually necessary.

- In the case of a tuner change it is usually only necessary to adjust the input I. F. circuit, that is, L8 or L34 (the coil in the tuner) and L101.
- In cases where the I. F.'s have been seriously maladjusted, it will be necessary to follow the complete I. F. alignment procedure. This must be kept in mind that the spot frequency alignment, STEP ONE, is only a guide and must necessarily produce the required results. A visual alignment check is required in order to produce optimum operation.

NOTE: Alignment may be done from the bottom of chassis with Hexagon tool.

STEP ONE: POINT BY POINT ALIGNMENT OF PICTURE I. F.

- Adjust all controls to normal operating position.
- Connect VTVM across R131, (Point "Y" to chassis). Use low DC scale.
- Connect a 3 volt bias battery between point "Z" (AGC) and chassis. (Positive terminal to chassis).
- Connect Signal Generator to the grid of 6AM8, pin 2 of V107A.
- With generator set at 44.0 mcs adjust T105 for maximum indication on VTVM.
- Connect Signal Generator to the grid of 6BZ6, pin 1 of V106.
- Set generator at 45.2 mcs and adjust T104 bottom for maximum indication. Reset Signal Generator to 47.25 mcs and adjust top of T104 for minimum indication.
- Connect Signal Generator to grid of 6BZ6, pin 1 of V105.
- Set Signal Generator to 42.8 mcs and adjust T103 bottom for maximum indication. Reset Signal Generator to 41.25 mcs and adjust T103 top for minimum indication.
- Lower tube shield on V2 (8CG8A). Make coupling device by cutting extra tube shield so 1/2" length remains. Place over V2. Connect Signal Generator between shield and chassis.
- With Signal Generator set at 44.0 mcs adjust L8 or L34 (tuner I. F. adjust) and L101 for maximum indication.

COILS

- L101 1st Picture I. F. Coil
- L102 Neutralizing Coil
- L103 Video Peaking Coil
- L104 Video Peaking Coil
- L105, 107 Video Peaking Coil
- L106 Video Peaking Coil
- L108 Deductor Coil (incl. R162, 163)
- L109 Filter Choke (incl. R162, 163)
- L110 Horizontal Oscillator Coil
- L111 Width Control Coil

- 22AR28
- 25AR106
- 25AR112-120K
- 25AR104
- 25AR71
- 25AR88
- 24BR6-1
- 23AR9
- 25AR79
- 25AR119

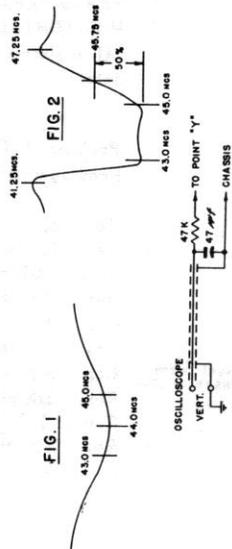
- T101 Ratio Detector Transformer
- T102 Audio Output Transformer
- T103 2nd Picture I. F. Transformer
- T104 3rd Picture I. F. Transformer
- T105 4th Picture I. F. Transformer
- T106 5th Picture I. F. Transformer
- T107 Vertical Oscillator Transformer
- T108 Vertical Output Transformer
- T109 Power Transformer
- T110 Horizontal Output Transformer

- 22BR32
- 21AR81
- 22AR39
- 22AR40
- 22AR41
- 22AR35
- 21AR25-8
- 21BR90-2
- 21BR65
- 21BR62

STEP TWO: VISUAL ALIGNMENT OF PICTURE I. F.

- Connect Oscilloscope across diode load R131 (Point "Y" and chassis) using shielded cable and filter system shown.
- Connect 3 volt bias battery, positive to chassis and negative to point "Z" (AGC).
- Connect Sweep Generator to grid of 6AM8, pin 2 of V107A. Generator set at centre frequency of 44.0 mc and 10 mc sweep. Adjust T105 for response curve shown in Fig. 1.
- Connect Sweep Generator to grid of first picture I. F. pin 1 of V105 and adjust T103 and T104 for response curve shown in Fig. 2.
- Connect Sweep Generator to coupling shield on V2 (see J, Step One) and adjust L8 or L34 and L101 for response curve shown in Fig. 2.

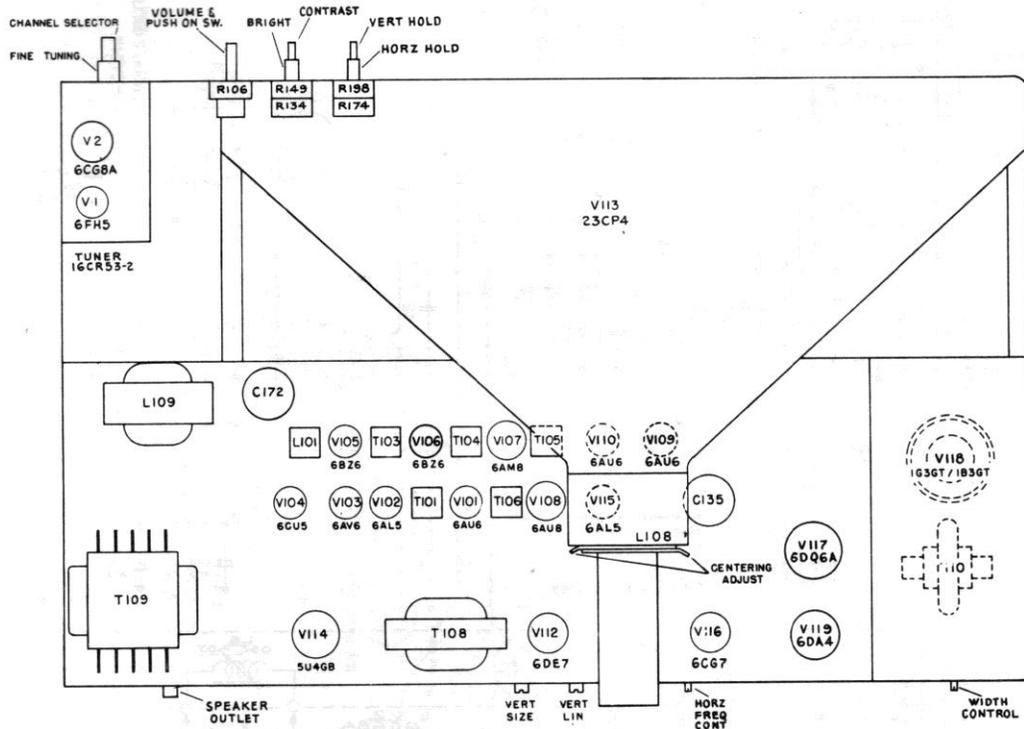
NOTE: Removing the bias battery from the AGC should not change the overall response appreciably. Abnormal changes of the response under these conditions indicate mis-alignment of the input I. F.



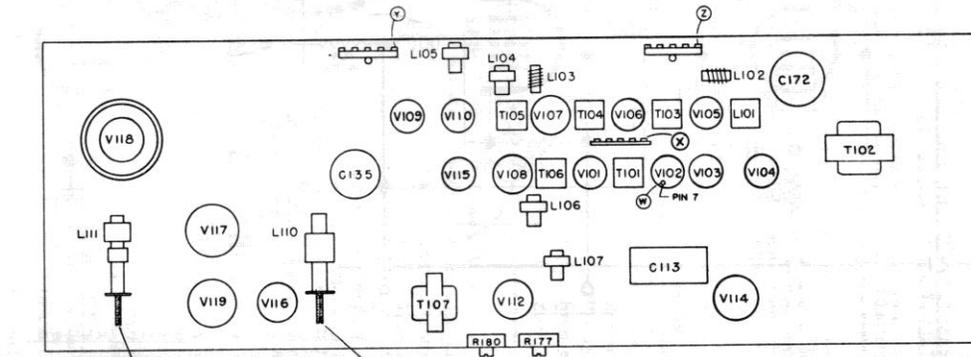
STEP THREE: SOUND I. F. ALIGNMENT

- Connect RF Signal Generator to grid of 6AU8, pin 7 of V108. Inject 4.5 mc Signal. (Frequency accuracy important).
- Connect VTVM across C108 (point "W" to chassis).
- Adjust T106 (top and bottom) and T101 (bottom) for maximum indication on VTVM, using minimum signal necessary for indication.
- Join two 10,000 Ohm Resistors in series and connect across C108. Connect VTVM between point "X" and joint of above resistors and adjust top of T101 for zero output, using maximum signal available.

NOTE: It is possible to produce positive or negative voltage by varying this adjustment. The point where the voltage swings from positive to negative is zero output and indicates correct alignment.



TOP VIEW OF CHASSIS



BOTTOM VIEW OF CHASSIS

