RCC TELEVISION Service Manual

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1961 Supplement No. 43

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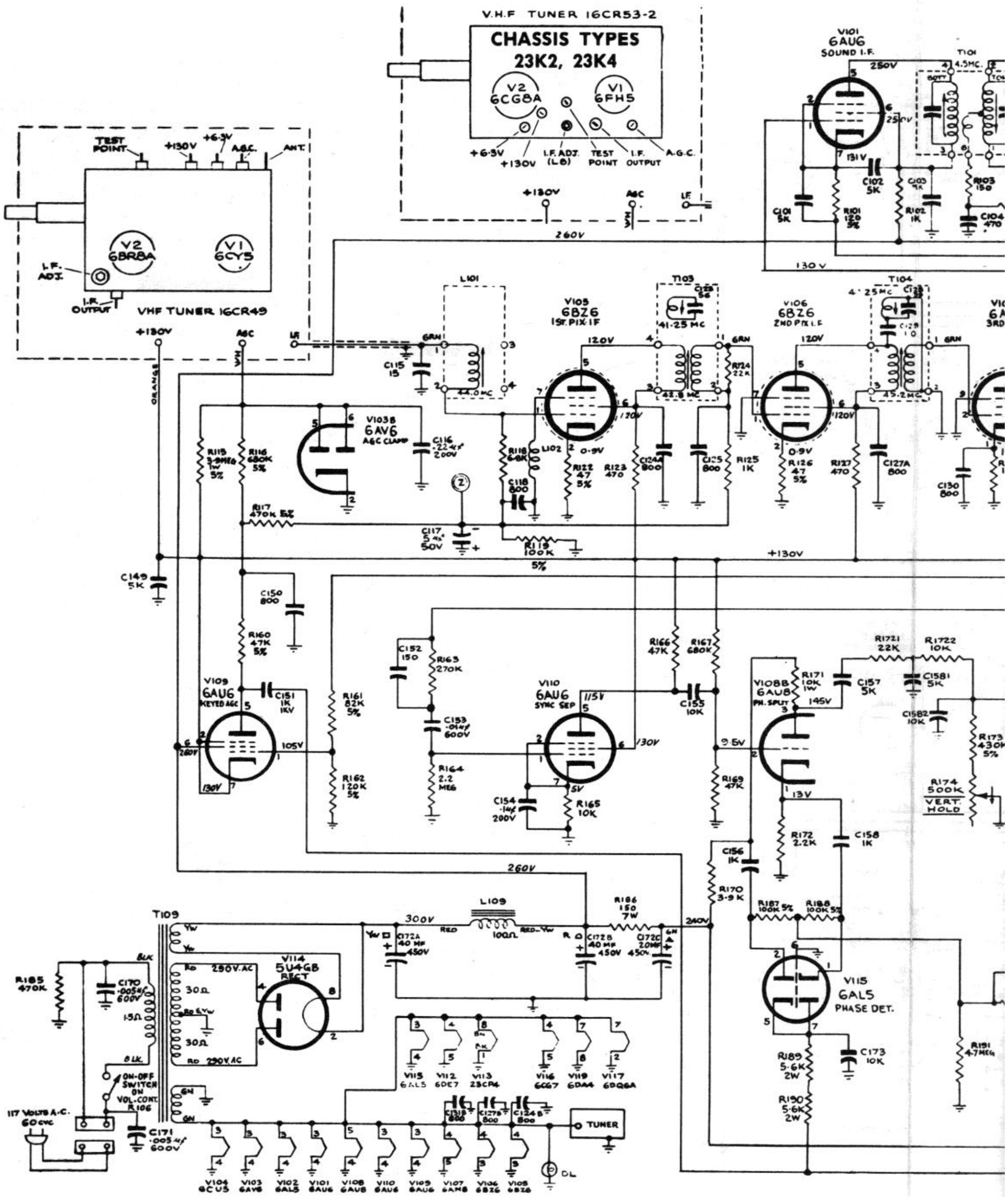
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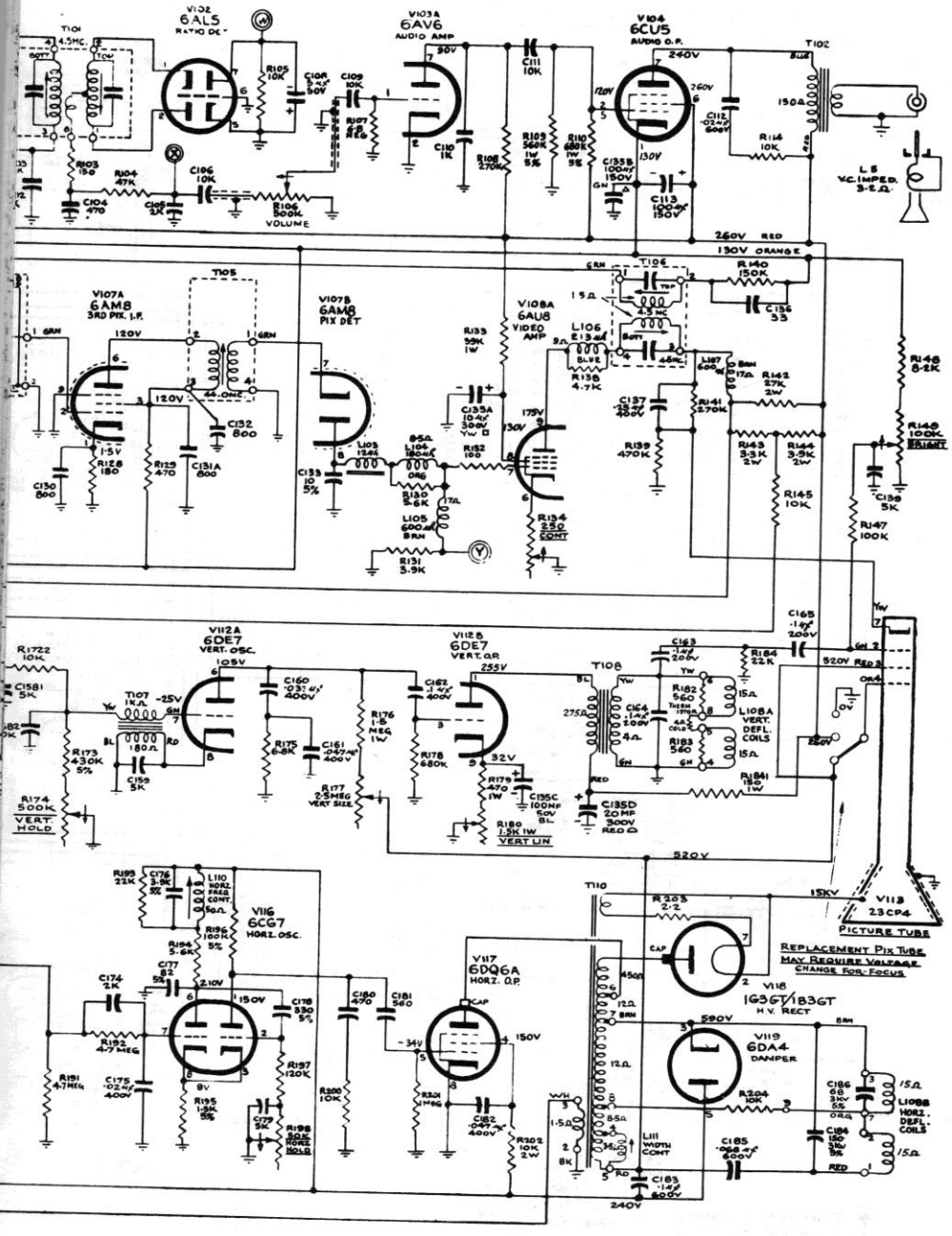
SPARTON
23K1



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:

(1) 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 first 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.

(2) 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.

(3) In cases where the I. F.'s have been seriously maladjusted, it will be necessary to follow the complete I. F. alignment procedure. It must be kept in mind that the spot frequency alignment, STEP ONE, is only a guide and will not 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.

A. Adjust all controls to normal operating position.

B. Connect VTVM across R131, (Point "Y" to chassis). Use low DC scale.

C. Connect a 3 volt bias battery between point "Z" (AGC) and chassis. (Positive terminal to chassis).

D. Connect Signal Generator to the grid of 6AM8, pin 2 of V107A.

E. With generator set at 44.0 mcs adjust T105 for maximum indication on VTVM.

F. Connect Signal Generator to the grid of 6BZ6, pin 1 of V106.

G. 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.

H Connect Signal Generator to grid of 6BZ6, pin 1 of V105.

I. 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.

J. Lower tube shield on V2 (6CG8A). Make coupling device by cutting extra tube shield so 1/2" length remains. Place over V2. Connect Signal Generator between shield and chassis.

K. 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		22AR38
L102	Neutralizing Coil		25AR106
L103	Tweet Coil	12 uh	25AR112-120K
L104	Video Peaking Coil	180 uh Orange	25AR104
L105, 107	Video Peaking Coil	600 uh Brown	25AR71
L106	Video Peaking Coil	213 uh Blue	25AR88
L108	Deflection Yoke (Incl. R182, 183)		24BR6-1
L109	Filter Choke		23AR9
L110	Horizontal Oscillator Coil		25AR73
L111	Width Control Coil		25AR119

STEP TWO: VISUAL ALIGNMENT OF PICTURE I. F.

A. Connect Oscilloscope across diode load R131 (Point "Y" and chassis) using shielded cable and filter system shown.

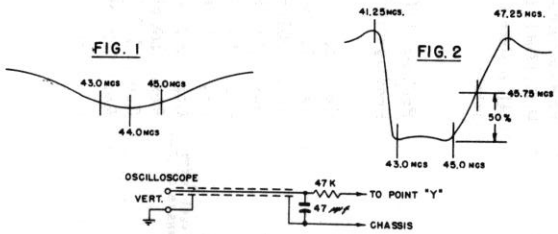
B. Connect 3 volt bias battery, positive to chassis and negative to point "Z" (AGC).

C. 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.

D. 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.

E. 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.



FILTER SYSTEM FOR OSCILLOSCOPE

STEP THREE: SOUND I. F. ALIGNMENT

A. Connect RF Signal Generator to grid of 6AU8, pin 7 of V108. Inject 4.5 mc Signal (Frequency accuracy important).

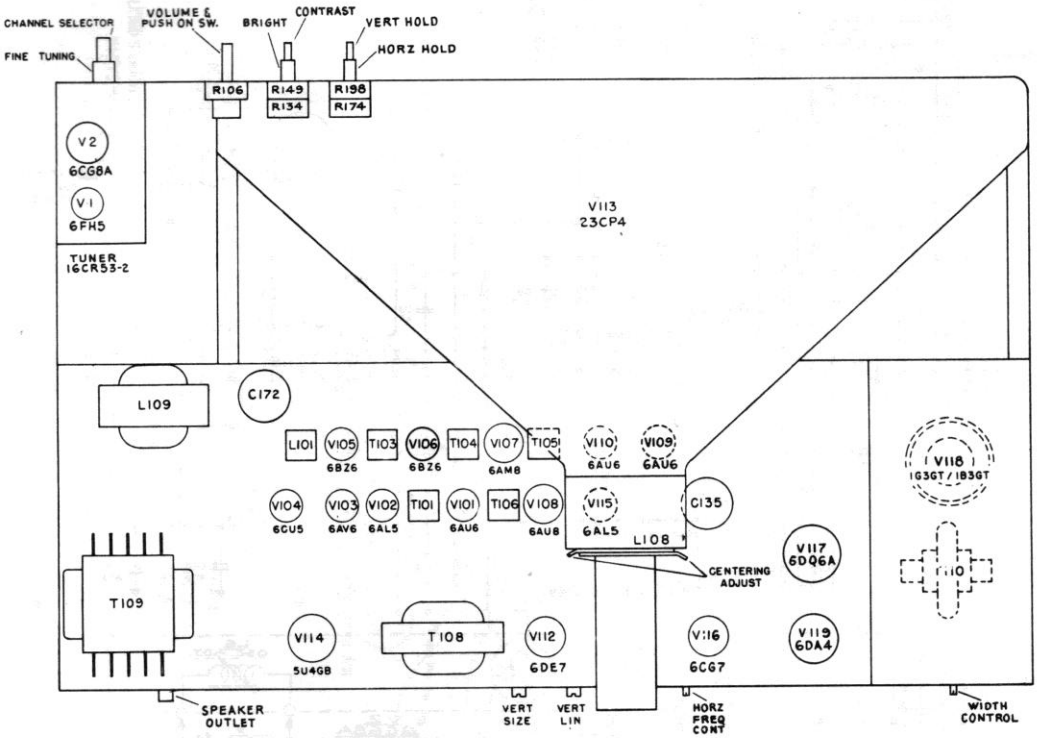
B. Connect VTVM across C108 (point "W" to chassis).

C. Adjust T106 (top and bottom) and T101 (bottom) for maximum indication on VTVM, using minimum signal necessary for indication.

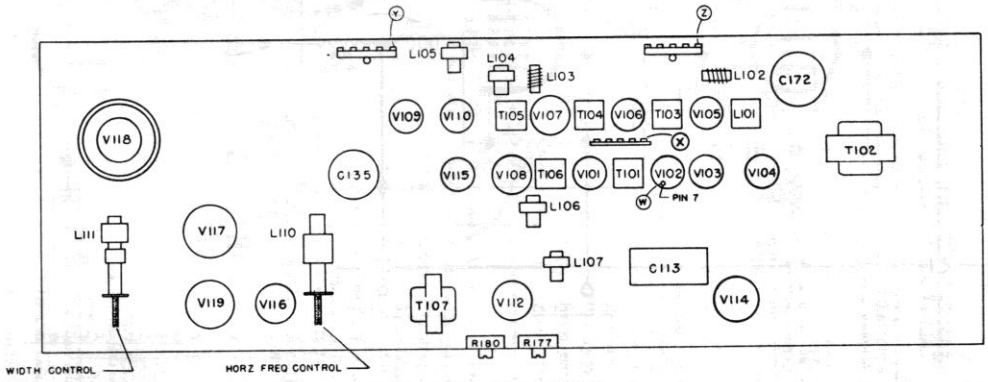
D. Join two 10,000 Ohm Resistors in series and connect across C108. Connect VTVM between point "X" and joint of above resistors and adjust top of T101 for zero output, using maximum signal available.

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.

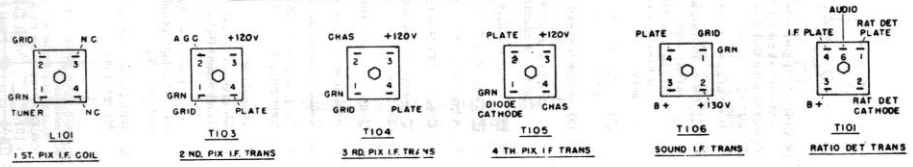
TRANSFORMERS			
T101	Ratio Detector Transformer		22BR32
T102	Audio Output Transformer		21AR81
T103	2nd Picture I. F. Transformer		22AR39
T104	3rd Picture I. F. Transformer		22AR40
T105	4th Picture I. F. Transformer		22AR41
T106	Sound I. F. Transformer		22AR35
T107	Vertical Oscillator Transformer		21AR25-8
T108	Vertical Output Transformer		21BR80-2
T109	Power Transformer	60 CYCLE	21BR68
T110	Horizontal Output Transformer		21BR82



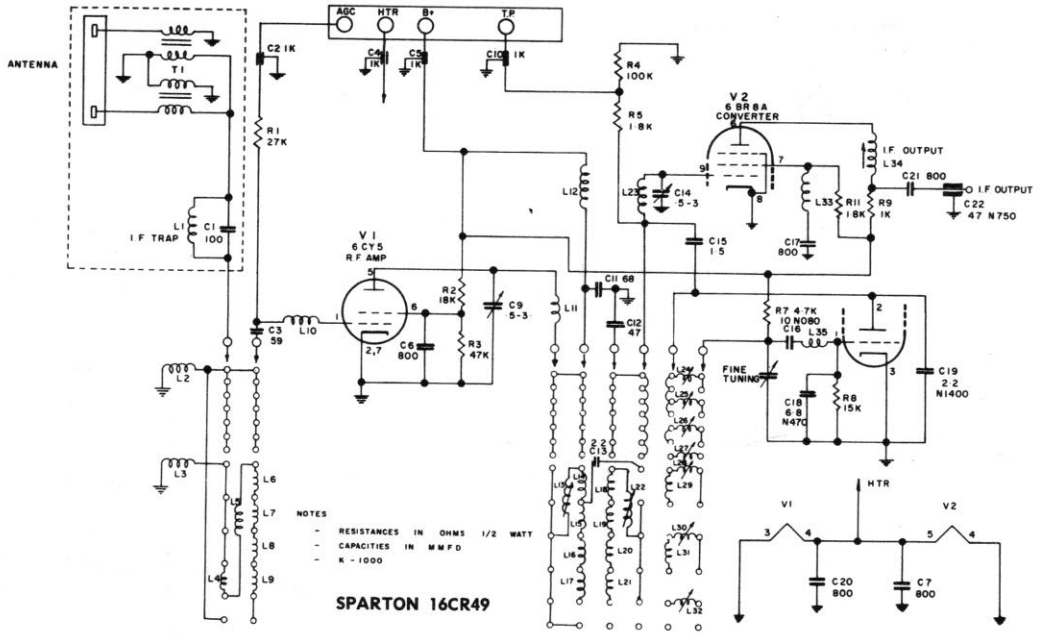
TOP VIEW OF CHASSIS



BOTTOM VIEW OF CHASSIS



SPARTON
23K1



TUNER SCHEMATIC DIAGRAM
SPARTON 16CR53