RCC TELEVISION Service Manual

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1955 Supplement No. 15

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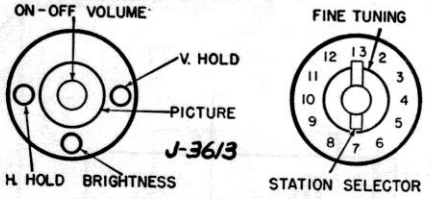
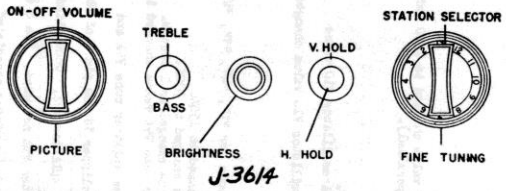


"Mantel Models"



"Console Models"

Figure 1. Top Controls

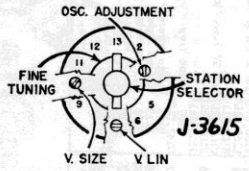


Figure 2. Service Controls

L1		P-2738	I.F Coil Assembly, 1st
L2		P-2739-1	I.F Coil Assembly 2nd
L3		P-2733	Quadrature Coil Assembly
L4		P-2734	Stabilizer Coil Assembly
L5		P-2732	Horizontal Blocking Osc. Trans.
L6	60 Cycle	LK-566	Filter Choke
	25 Cycle	LK-551	Filter Choke
L7			Mixer Plate Coil (in tuner)
L8		P-2330-2.2	R.F Choke 2.2 uh
L9		P-2742	Peaking Coil 35.2 uh
L10,L11		P-2746	Peaking Coil 22 uh (Green)
L12		P-2741-2	Peaking Coil 410 uh (Red)
L13		P-2744	Peaking Coil 305 uh (Orange)
L14		P-2743	Peaking Coil 270 uh (Yellow)
L15		P-2747	Choke Assembly
L16		P-2745	Peaking Coil 8 uh

ION TRAP MAGNET

The position of the ion trap magnet MUST be over the screen grid of the picture tube (second cylinder from the base identified by a flared forward lip). If the adjustment is necessary, rotate and slide along the neck of the picture tube until the position which gives maximum illumination is found. Adjustment should be made with brightness and picture controls set for normal viewing.

CENTERING CONTROL

The centering tabs should be rotated until the picture is properly framed, keeping in mind that the effect of the control is governed by the position of the tabs in relation to one another. After proper centering, recheck the position of the ion trap magnet.

DEFLECTION YOKE

The correct position for the deflection yoke is as far forward on the neck of the picture tube as the shape of the tube will allow. Tube shadow or a tilted raster may result from an incorrectly positioned yoke. If a positioning adjustment is necessary, loosen the yoke positioning hex head nut located near the top of the yoke housing assembly.

REPLACING SELENIUM RECTIFIERS

Replacement of selenium rectifiers may be accomplished without removing chassis from cabinet. Loosen one hex nut (each rectifier) and move recifiers to one side. The terminals may then be unsoldered.

WARNING:

High voltage on the plate caps of the 1X2B high voltage rectifier and the 25BQ6 horizontal pulse amplifier DO NOT MEASURE this voltage.

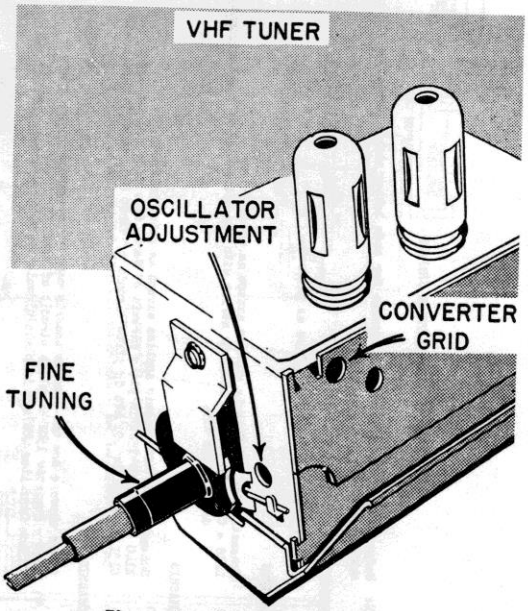


Figure 4. VHF Tuner View

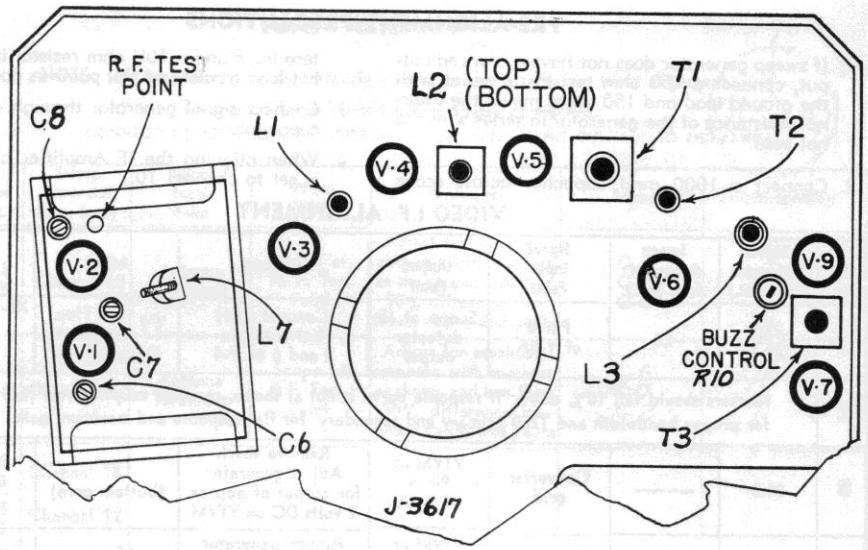


Figure 3. Top Chassis View

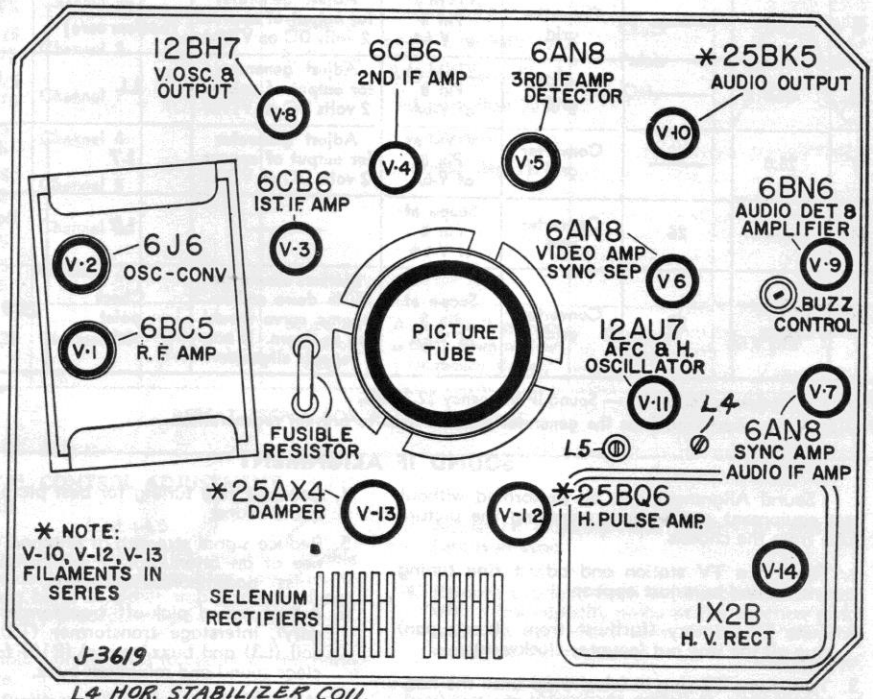


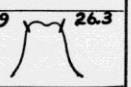
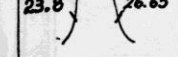
Figure 6. Tube Layout

PRE-ALIGNMENT PRECAUTIONS

1 If sweep generator does not have a blanced output, connect a 150 ohm resistor in series with the ground lead and 150 ohms minus the internal resistance of the generator in series with the hot lead.

2. Connect a 1000 mmf capacitor across scope terminals and a 10K ohm resistor in series with hot lead as close to test point as possible.
3. Connect signal generator through a 1000 mmf capacitor
4. When aligning the IF Amplifier be sure tuner is set to channel 10.

VIDEO I.F. ALIGNMENT

Step No.	Signal Generator Freq. (mc.)	Sweep Generator Freq (mc.)	Signal Input Point	Output Point	Remarks	Adjust	Response
1	23.9 26.3	25	Pin 8 of V-5A	Scope at IF detector output	Connect short between pin 5 and 6 of V-4	T1 pri. (top) sec. (bot.) Coupling rod	
2	Markers should fall 10% down. If response curve is not as shown, readjust coupling rod (bottom T1) for proper bandwidth and T200 primary and secondary for flat response and maximum gain.						
3	21.3	——	Converter grid	VTVM at Pin 8 of V-6A	Remove short. Adjust generator for output of approx. 2 volts DC on VTVM	L2 (bottom core)	Maximum reading
4	26.5	——	Converter grid	VTVM at Pin 8 of V-6A	Adjust generator for output of approx. 2 volts DC on VTVM	L2 (top core)	Maximum reading
5	21.3	——	Converter grid	VTVM at Pin 8 of V-6A	Adjust generator for output of approx. 2 volts DC on VTVM	L2 (bottom core)	Maximum reading
6	24.0	——	Converter grid	VTVM at Pin 8 of V-6A	Adjust generator for output of approx. 2 volts DC on VTVM	L1	Maximum reading
7	25.0	——	Converter grid	VTVM at Pin 8 of V-6A	Adjust generator for output of approx. 2 volts DC on VTVM	L7	Maximum reading
8	——	25	Converter grid	Scope at Pin 8 of V-6A	——	L7	Rock for flat response
9	23.8 26.65	25	Converter grid	Scope at Pin 8 of V-6A	Markers should be 50% down and response curve should be as shown. If not, repeat alignment	Check point only	

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Picture IF frequency 26.75 MC — Sound IF frequency 22.25MC.
NOTE: A very short lead from the generator must be used to prevent regeneration.

SOUND IF ALIGNMENT

Sound Alignment can be performed without test equipment and without removing the picture tube from the chassis.

1 Tune in a TV station and adjust fine tuning until sound bars just appear

2. Turn T2 primary (furthest from chassis pan) slug all the way out (counter-clockwise).
3. Turn same T2 slug in (clockwise) until the horizontal scanning lines are smooth and continuous.
4. Readjust fine tuning for best picture with adequate sound.
5. Reduce signal strength at antenna terminals by use of an attenuator or similar device until a "hiss" accompanies the sound.
6. Adjust sound pick-off transformer (T2 secondary), interstage transformer (T3) quadrature coil (L3) and buzz control (R10) for maximum clear sound and minimum buzz.
7. If "hiss" disappears during step 3, further reduce signal strength.

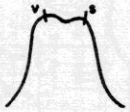
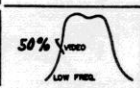
TUNER ALIGNMENT

NOTE: I F Amplifiers must be correctly aligned before attempting tuner alignment.

V-Video
S-Sound

Tuner must be in chassis and properly connected.

CONNECT -1.5 VOLTS BIAS TO TUNER A.G.C. SET FINE-TUNING CONTROL TO MID-RANGE.

Step No.	Signal Generator Freq. (mc.)	Sweep Generator Freq. (mc.)	Signal Input Point	Output Point	Remarks	Adjust	Response
1	V-193.25 S-197.75	Channel 10	Antenna Terminals	Scope at R. F. Test Point	Adjust for maximum response with markers as shown and less than 30% difference between valley and peaks	C-6 C-7 C-8	
2	V-67.25 S-71.75	Channel 4	Antenna Terminals	Scope at R.F. Test Point	Adjust for maximum response with markers as shown and less than 30% difference between valley and peaks	C-6 C-7 C-8	
3	V-211.25 S-215.75 V-205.25 S-209.75 V-199.25 S-203.75 V-187.25 S-191.75 V-181.25 S-185.75 V-175.25 S-179.75 V-83.25 S-87.75 V-77.25 S-81.75 V-61.25 S-65.75 V-55.25 S-59.75	Channel 13 Channel 12 Channel 11 Channel 9 Channel 8 Channel 7 Channel 6 Channel 5 Channel 3 Channel 2	Antenna Terminals	Scope at R. F. Test Point	Set Tuner to various channels. Response curve and markers should be as indicated. Response curve tilt of not more than 30% is permissible. (If not, repeat step 1).	Check Points Only	
4	V-193.25	Channel 10	Antenna Terminals	Scope at Pin 8 of V-6A	Adjust until marker is 50% down on low frequency slope.	Oscillator Slug	
5	REPEAT STEP 4 FOR EACH CHANNEL						

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HORIZONTAL CONTROL ADJUSTMENT PROCEDURE

R3-L4-L5

The Horizontal Hold control (R3) must be capable of producing an out-of-sync condition (equal number of sloping bars) at either stop position. If not, follow alignment procedure below:

1 Set H. Hold Control (R3) to centre of mechanical range.

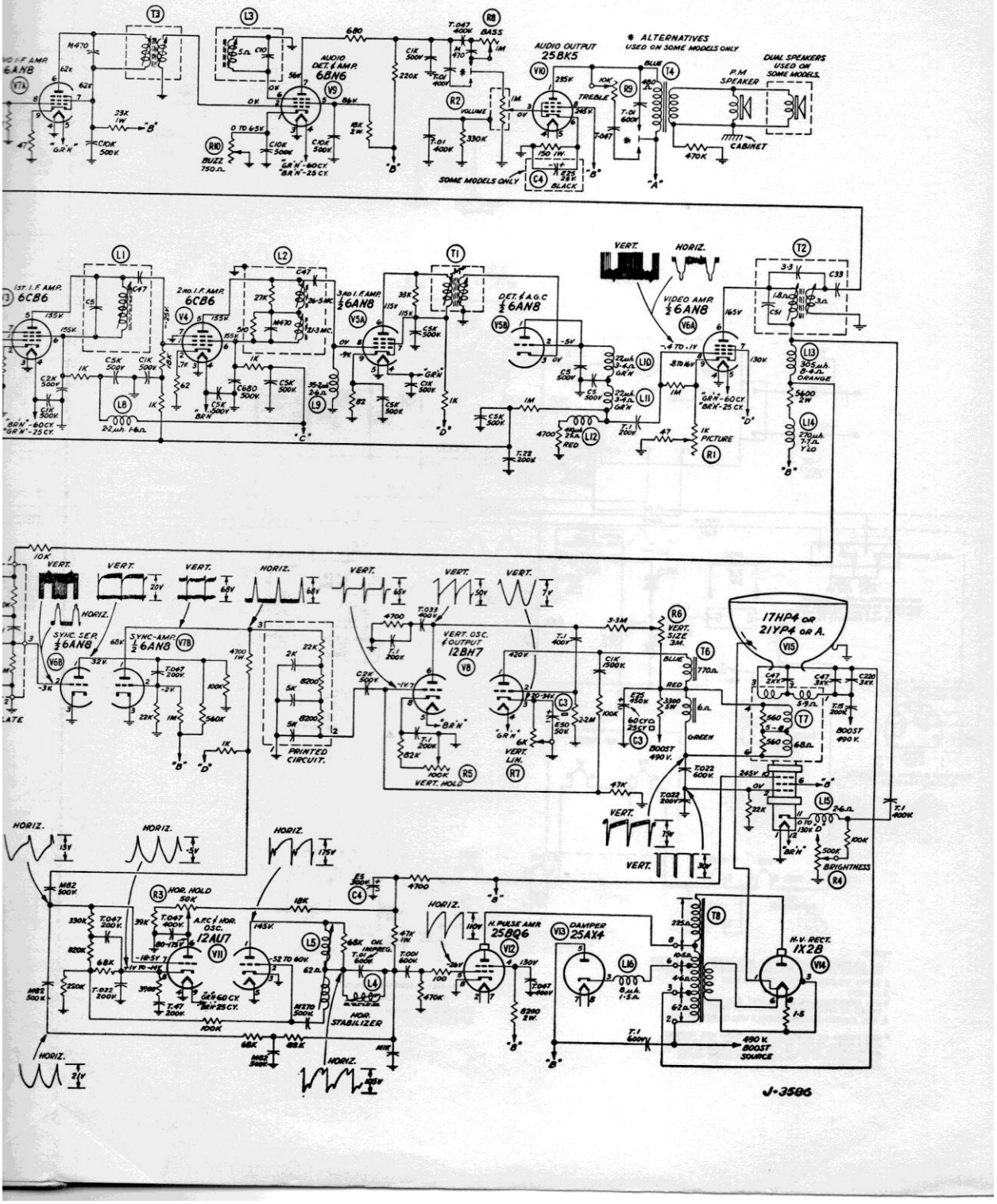
2. Short out H. Stabilizer coil (L4) with a clip lead.

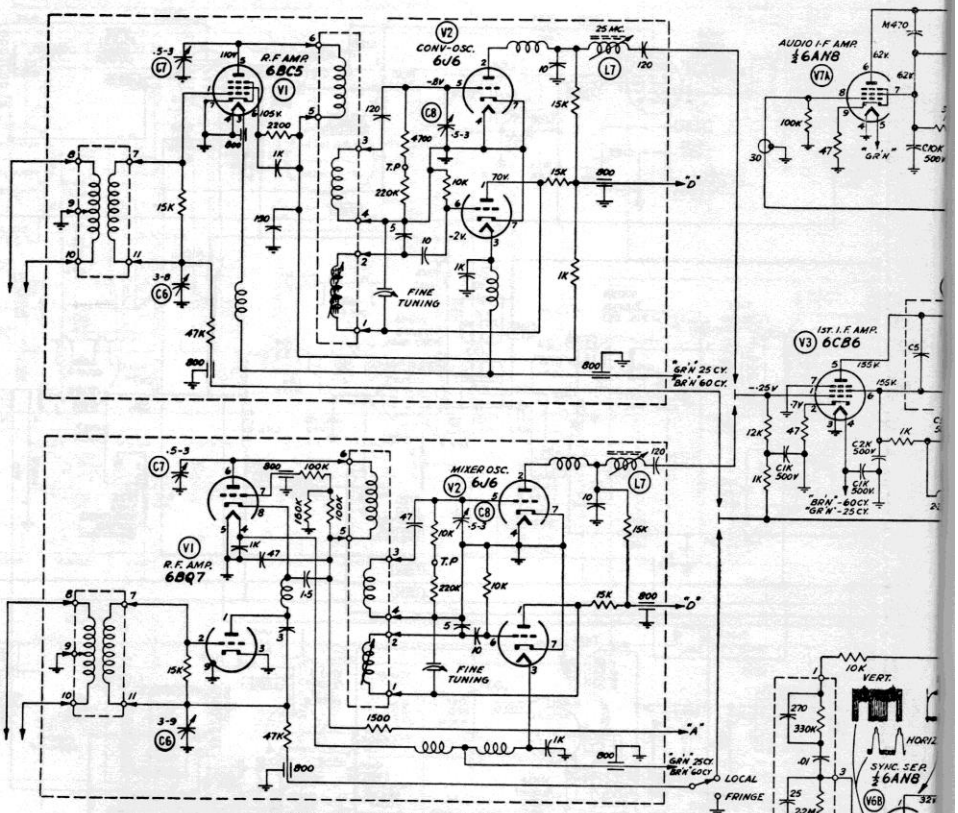
3. Adjust H. Blocking transformer (L5) until picture is in sync.

4. Remove clip lead from L4 and connect a scope with a low capacity probe at the junction of L4 and 68K res. Wave form illustrated on schematic must be obtained.

5. Adjust H. Stabilizer coil (L4) until peaks of wave form are equal in amplitude.

ELECTROHOME
T146,7 VIKING TMC 210,1,2,3





ALTERNATIVE TUNERS
USED ON DIFFERANT MODELS.

RESISTORS: HALF WATT, UNLESS OTHERWISE NOTED.
CONDENSERS: T = TUBULAR, E = ELECTROLYTIC, FOLLOWED BY CAPACITY IN MFD. AND D.C.W.V.
C = CERAMIC, M = MICA, FOLLOWED BY CAPACITY IN MMFD.

VOLTAGE READINGS TAKEN WITH A V.T.V.M BETWEEN POINTS INDICATED AND CHASSIS WITH LINE VOLTAGE AT 115 V. A.C. AND THE ANTENNA SHORTED TO CHASSIS.