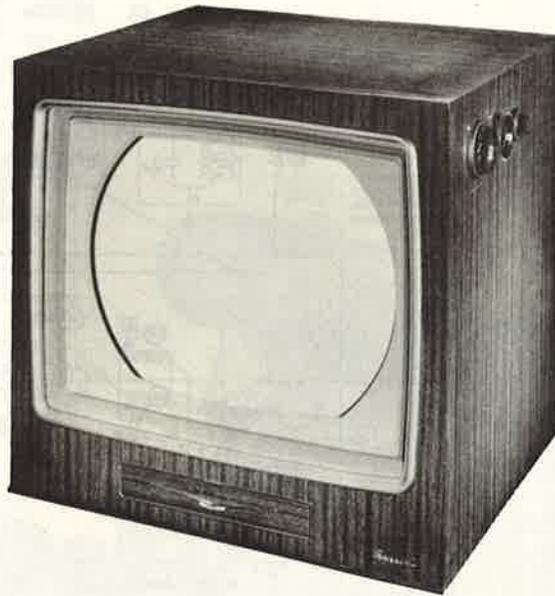




*John McKinney*  
*Master file*



*This is not a R.C.G. master copy*

**RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CT-7835, U, 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U, 21-CT-7866, U, 21-CT-7867, U, (Ch. CTC5, A, B, C, D, E)**

<b>MODEL</b>	<b>CHASSIS</b>
21-CS-7815U .....	CTC5A

**RCA VICTOR MODEL 21-CS-7815U (Ch. CTC5A)**

TRADE NAME	RCA Victor	MODELS	CHASSIS
		21-CS-7815, 21-CS-7817 .....	CTC5
		21-CS-7815U, 21-CS-7817U .....	CTC5A
		21-CT-7835, 21-CT-7837 .....	CTC5B
		21-CT-7835U, 21-CT-7837U .....	CTC5C
		21-CT-7855, 21-CT-7857, 21-CT-7865, 21-CT-7866, 21-CT-7867 .....	CTC5D
		21-CT-7855U, 21-CT-7857U, 21-CT-7865U, 21-CT-7866U, 21-CT-7867U .....	CTC5E
<b>MANUFACTURER</b>	Radio Corporation of America, RCA Victor Tele. Div., Camden 8, N. J.		
<b>TYPE SET</b>	Color Television Receiver		
<b>TUBES</b>	Twenty-eight		
<b>POWER SUPPLY</b>	110-120 Volts AC - 60 Cycles	<b>RATING</b>	3.55 Amp. @ 117 Volts AC
<b>TUNING RANGE</b>	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

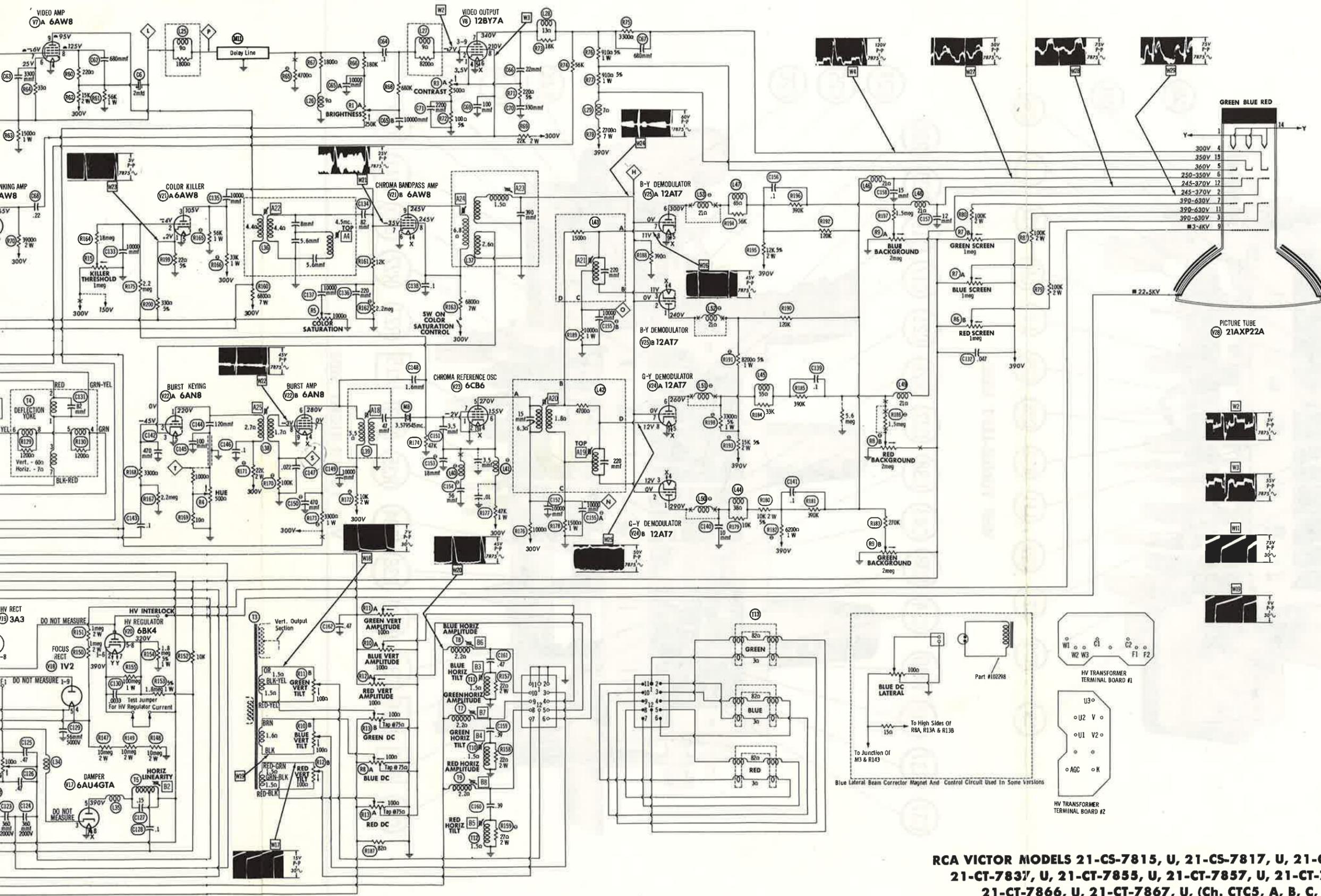
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GREEN BLUE RED

300V	4
350V	13
360V	5
250-350V	6
245-370V	12
245-370V	2
390-630V	7
390-630V	11
390-630V	3
3-4KV	9

PICTURE TUBE (V20) 21AX22A

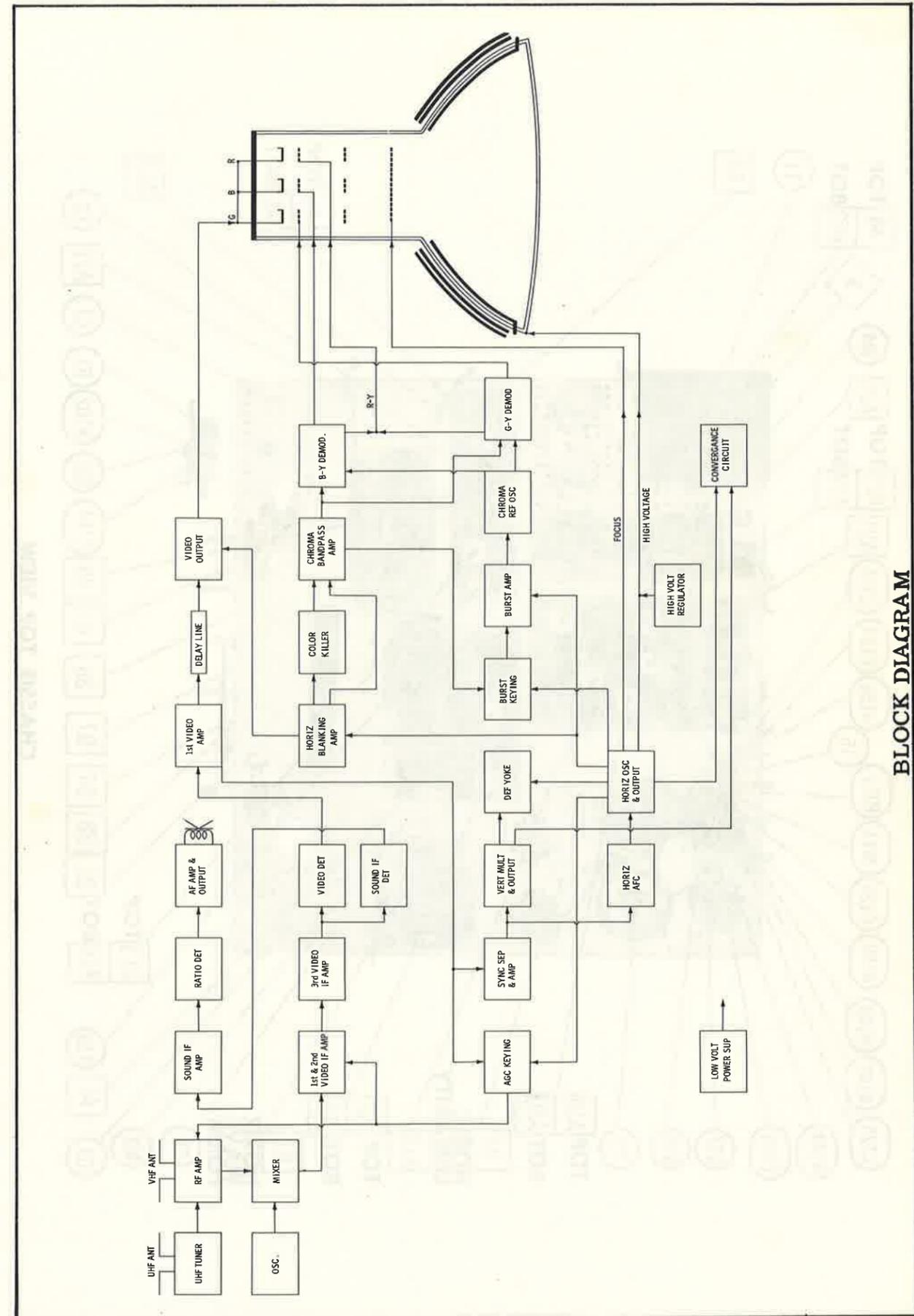
RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CT-7835, U, 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U, 21-CT-7866, U, 21-CT-7867, U, (Ch. CTC5, A, B, C, D, E)

RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CT-7835, U, 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U, 21-CT-7866, U, 21-CT-7867, U, (Ch. CTC5, A, B, C, D, E)

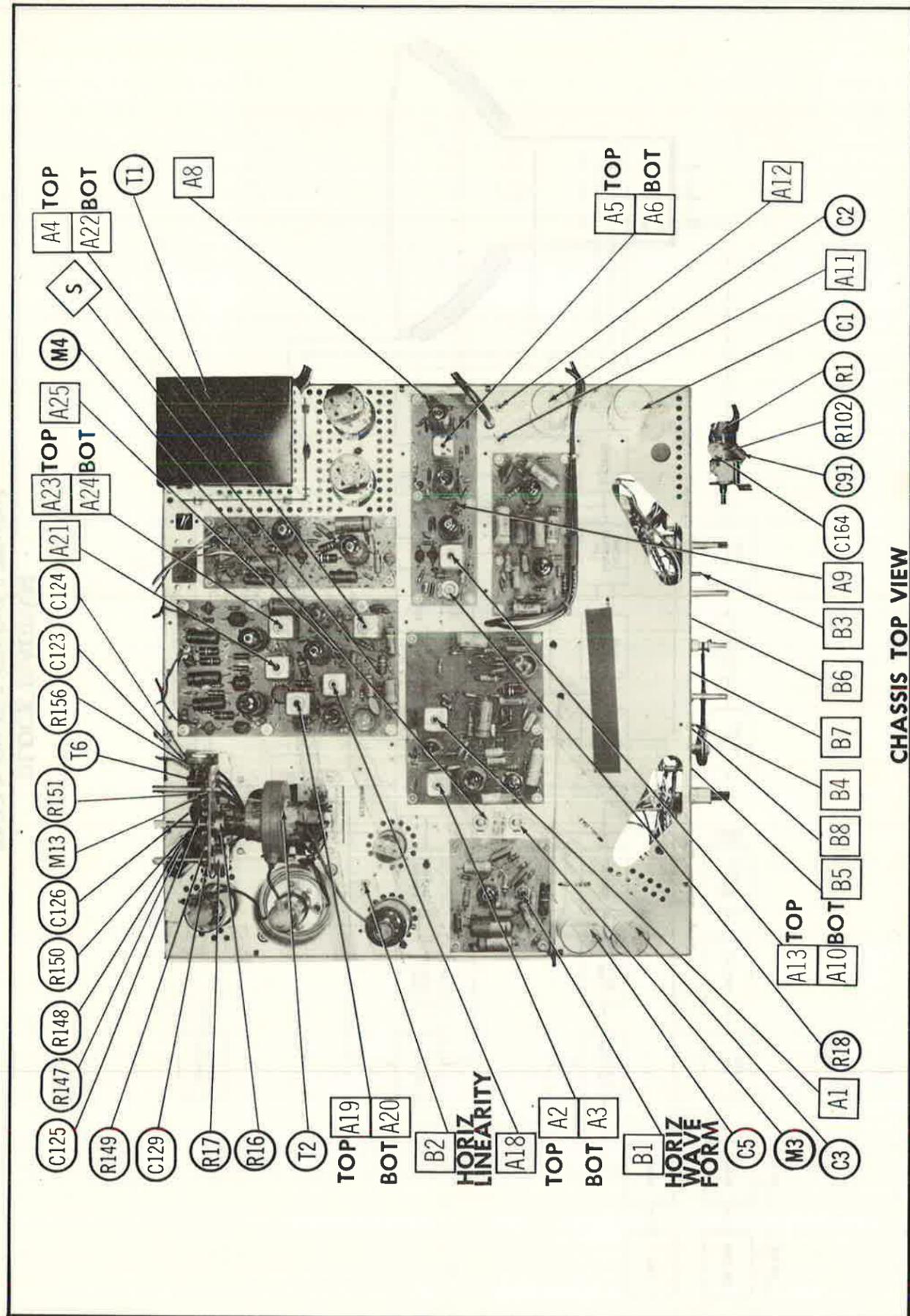
### RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6AF4A	*†17K	*8300Ω	0Ω	.1Ω	*0Ω	*8300Ω	*†17K		
V2	6BQ7A	†2800Ω	†480K	†570K	0Ω	.1Ω	†570K	230K	120Ω	0Ω
V3	6X8	0Ω	100K	†14K	.1Ω	0Ω	0Ω	100K	†18K	†18K
V4	6DE6	33K	68Ω	0Ω	.1Ω	†5600Ω	†5600Ω	0Ω		
V5	6DE6	34K	68Ω	0Ω	.1Ω	†5600Ω	†5600Ω	0Ω		
V6	6CB6	.2Ω	180Ω	.1Ω	0Ω	■470Ω	■470Ω	0Ω		
V7	6AW8	●250Ω	27K	†4500Ω	0Ω	.1Ω	700Ω	2500Ω	†15K	†7500Ω
V8	12BY7A	●180Ω	950K	0Ω	0Ω	0Ω	.1Ω	†4500Ω	†22K	0Ω
V9	6U8	■1Meg	†33K	†5400Ω	0Ω	.1Ω	280K	60K	0Ω	2.2Meg
V10	6AU6	47K	0Ω	.1Ω	0Ω	■1800Ω	■1800Ω	120Ω		
V11	6T8	INF	27K	INF	.1Ω	0Ω	220K	0Ω	10Meg	†330K
V12	6AQ5	550K	■82Ω	.1Ω	0Ω	†800Ω	†490Ω	550K		
V13	6CG7	■9500Ω	33K	0Ω	.1Ω	0Ω	●†2.4Meg	2.2Meg	0Ω	0Ω
V14	6AQ5	●1.7Meg	●33Ω	.1Ω	0Ω	†3300Ω	†2700Ω	●1.7Meg		
V15	6CG7	†700Ω	1.2Meg	230K	.1Ω	0Ω	†28K	250K	0Ω	0Ω
V16	6CB5A	†10K	0Ω	●25Ω	450K	450K	●25Ω	.1Ω	†10K	TOP CAP †36Ω
V17	6AU4GT	NC	NC	180K	NC	†40Ω	NC	0Ω	.1Ω	
V18	1V2	INF	INF	INF	30Meg	30Meg	INF	INF	INF	†38K
V19	3A3		PINS 1 THRU 8	HAVE	INFINITE	RESISTANCE				TOP CAP 480Ω
V20	6BK4	40Ω	†11K	NC	NC	†900K	NC	†11K	NC	TOP CAP INF
V21	6AW8	22Ω	1.8Meg	†22K	.1Ω	0Ω	0Ω	2.2Meg	†7500Ω	†7500Ω
V22	6AN8	†22K	2.2Meg	2.6Ω	.1Ω	0Ω	†11K	3300Ω	100K	0Ω
V23	6CB6	47K	0Ω	0Ω	.1Ω	†1700Ω	†47K	0Ω		
V24	12A7	†16K	1.5Ω	1000Ω	.1Ω	.1Ω	†17K	1.5Ω	1000Ω	0Ω
V25	12A7	†23K	1.5Ω	1000Ω	.1Ω	.1Ω	†12K	1.5Ω	1000Ω	0Ω
V26	5U4GB	NC	20K	NC	14Ω	NC	13Ω	NC	20K	
V27	5U4GB	NC	20K	NC	14Ω	NC	13Ω	NC	20K	
V28	21AXP22A	†11K	320K	●†330K	†7800Ω	†3600Ω	60K	●†250K	NC	30Meg
		Pin 10 NC	Pin 11 ●†330K	Pin 12 320K	Pin 13 †2700Ω	Pin 14 †11K				

- MEASURED IN UHF POSITION.
- † MEASURED FROM PIN 2 OF V26.
- THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
- MEASURED FROM PIN 2 OF V12.
- † MEASURED FROM 150V SOURCE.
- NC NO CONNECTION



**BLOCK DIAGRAM**  
 RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CT-7835, U,  
 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U,  
 21-CT-7866, U, 21-CT-7867, U, (CH. CTCS, A, B, C, DE)



### MISCELLANEOUS ADJUSTMENTS (cont.)

With the blue DC control, move the blue bar near the other two and if necessary, retouch the above adjustments SLIGHTLY until all three bars are equally displaced along the entire center line of the screen.

Turn the generator to dot pattern and converge the dot pattern with the blue, red and green DC controls and the blue lateral correction magnet. The dot pattern should show maximum convergence over the entire area of the screen.

#### GRAY SCALE ADJUSTMENTS

Turn all screen, background, contrast and brightness controls fully counter clockwise.

Connect the VTVM between grid and cathode of the red gun and adjust the red background control for a reading of -130 volts.

Turn the contrast up until a dim red picture can be seen. If necessary, turn up the brightness control to make this condition.

Observing the normally white area of the picture, adjust the blue and green background controls for a grayish white picture.

Turn the contrast control fully counter clockwise. Adjust the brightness control so that the meter reads -90 volts. Remove the VTVM from the circuit.

Turn the contrast control up until a picture is visible and then down until the picture just goes out.

Adjust the red screen clockwise until low light areas are just visible. Adjust the green and blue screens until the low light areas are dark gray. (Note: The screen controls are adjusted to make dark areas dark gray. The backgrounds are adjusted to make the light areas white.)

#### COMPONENT CHANGES

ITEM#	INITIAL PRODUCTION	INTERMEDIATE PRODUCTION	LATE PRODUCTION	ITEM#	INITIAL PRODUCTION	INTERMEDIATE PRODUCTION	LATE PRODUCTION
C47	5.6 mmf		8 mmf	R125	3.9 Meg	Not used.	2.7 Meg
C48	10 mmf		8 mmf	R127	500K	2.7Meg	820K
C116	270 mmf		350 mmf	R138	100K, 1W	120K, 1W, 150K, 1W	82K, 1W
C150	10000 mmf		470 mmf	R159	220, 2W		270, 2W
C153	18 mmf	120 mmf	22 mmf	R162	390K		2.2 Meg
C155A	10 mfd @ 25 V		10000 mmf	R165	33K, 1W		56K, 1W
B	10 mfd @ 25 V		10000 mmf	R168	56K, 1W		33K, 1W
L4	12 Microhenries #100441		33 Microhenries #103388	R170	47K	100K, 1 Meg	56K
R45	100Ω	1000Ω	68Ω	R171	10K, 2W		22K, 2W
R46	33K		100K	R172	22K, 2W		10K, 2W
R49	56Ω		68Ω	R173	82K, 1W		3300Ω, 1W
R54	56Ω		68Ω	R182	5000Ω 1W		6200Ω, 1W
R65	4700Ω	Not used.	4700Ω	R191	10K, 1W		6200Ω, 1W
R119	18K		15K	R193	10K, 2W		15K, 2W
				R198	5800Ω, 1W		3300Ω, 1W

#### WIRING CHANGES

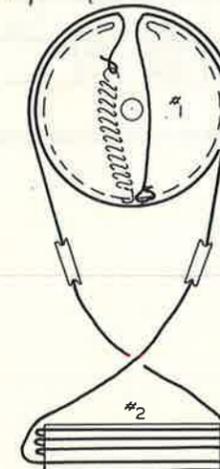
In later production, the 47MMF internal capacitor in series with the secondary of the burst amplifier transformer (L39) is removed and replaced by an external 120MMF capacitor. A resistor of either 470Ω or 680Ω is added between the junction of the 2.2Meg resistor (R175), 1.0MMF capacitor (C148) and 3.579545MC crystal (M8) and junction of 47K resistor (R174), 3.5MMF capacitor (C151) and grid, pin 2, of 6CB6 chroma reference oscillator V23.

In later production a 1Meg burst gain control is added (part #102152). The low end of this control is jumpered to the arm and connected to the grid, pin 2, of 6AW8 horizontal blanking amplifier (V7B). The high end of the control is connected to point (S) at junction of 56K resistor (R170), .022 capacitor (C147) and secondary of burst plate transformer (L38). This connection of the control may be direct or through a series resistor of 180K, 390K or 270K with 270K as latest value. A 390K resistor is also added from point (S) to the grid, pin 3, of 6AW8 color killer tube (V21A).

In early production the junction of a .1 capacitor (C128) and a 1.8Meg resistor (R153) was connected to terminal W2 of the horizontal output transformer (T2). In later production this junction was moved to terminal W1 of T2.

*a 100K resistor  
must be  
connected  
across the  
control*

*Adjust Burst Gain control after adjustment A23 + A24 on page 7.*  
 1. Ground terminal of L37 connecting to pin 3 (coll) of V22 (Burst Keying)  
 2. Turn Killer Threshold (R15) fully ccw  
 3. Adjust Burst Gain Control for -75v at S



FINE TUNING SHAFT & PULLEY #1 SHOWN IN MAXIMUM CLOCKWISE POSITION.

### VHF FINE TUNING DRIVE CORD STRINGING

RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CS-7835, U,  
 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U,  
 21-CT-7866, U, 21-CT-7867, U, (Ch. CTC5, A, B, C, D, E)

## MISCELLANEOUS ADJUSTMENTS

### HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Connect a 0-500MA meter across the horizontal output fuse holder (M3). Remove the fuse (M3).

Loosen the cover of the high voltage cage and slide it back. Connect the VTVM thru the high voltage probe to the cup at the base of the high voltage rectifier tube (V19). Connect the common lead of the VTVM to chassis.

Turn the set on and tune in a TV station.

Set the width switch (M13) on the rear of the high voltage cage to its center position.

If necessary, adjust the vertical hold control to synchronize the picture vertically.

Adjust the horizontal hold to synchronize the picture horizontally. Using a low capacity probe, connect the vertical amplifier of the scope to point  $\diamond$ . Low side to chassis. Adjust the horizontal waveform slug (B1) until the sharp peaks and the round peaks of the waveform of the scope are of equal heights as in Fig. 12. Keep the picture in sync during this adjustment with the horizontal hold.

Rotation of the horizontal hold should cause the picture to lose sync at either end of its rotation. From counter clockwise position, the picture should pull into sync with between 1 and 3 bars present. The picture should remain in sync for three complete turns of the knob clockwise from the pull-in point.

The proper setting for the horizontal hold is 1 turn counter clockwise from point of pull-in at the clockwise position of the knob. Adjust the horizontal linearity slug (B2) for a MINIMUM current reading on the MA meter. This will give the best horizontal linearity. Adjust the height and vertical linearity controls for a 1 inch over scan, at the top and bottom of the screen, with 117 volts line voltage. Adjust the focus control for proper focus.

### COLOR AFC ALIGNMENT

Connect the color bar generator to the antenna terminals. Turn the channel selector to channel 3 and tune the signal in on the receiver. Adjust the horizontal control on the generator (if one is used, if not, use the one on the receiver) until the bars synchronize horizontally on the picture tube.

Adjust the fine tuning control until the picture shows no sound interference. Adjust the color saturation control (R5) until color appears in the bar pattern. Set the color saturation and the contrast controls to their mid-positions.

To be sure that the chroma reference oscillator is running, check the output at one of the demodulator tube cathodes as under "Video and Band-pass Alignment". Retouch A18 if necessary to start the oscillator. Connect the DC probe of the VTVM to point  $\diamond$  (common to chassis) and retouch A19 and A20 for maximum indication on the VTVM.

Move the DC probe of the VTVM to point  $\diamond$  and retouch A21 for maximum meter indication.

Turn the color saturation control fully clockwise.

Connect a very short clip lead from pin 3 (cathode) of 6AN8 (V22) to chassis.

Adjust A18 for zero beat as indicated on the picture tube. Remove the clip lead.

Return the color control to the center of its range.

Connect the DC probe of the VTVM to point  $\diamond$ . Common to chassis. Connect the vertical amplifier of the scope to pin 12 (the blue grid) of the picture tube.

Connect a 150MMF capacitor from point  $\diamond$  to chassis.

Set the hue control fully counter clockwise.

Adjust A25 for maximum deflection of the meter.

Remove the capacitor from point  $\diamond$  and return the hue control to the mid-position.

Move the DC probe of the meter to point  $\diamond$  and observe the voltage reading obtained.

Switch the bar pattern generator to R-Y position. Observe the bar pattern obtained on the scope from the blue grid (Pin 12 of V28) and rock the hue control back and forth from one extreme to the other while adjusting A20 for equal swing of the R-Y bar about the zero axis. Return the hue control to the point where the R-Y bar is cancelled out. If A20 requires much adjustment, recheck for zero beat at A18 and repeat above adjustment.

Again note the voltage reading on the VTVM. It should not have decreased more than  $\frac{1}{2}$  volts with adjustment of A20. Reconnect the DC probe of the VTVM to point  $\diamond$  and note the voltage reading. Move the vertical amplifier of the scope to the green grid (pin 6) of the picture tube. Switch the color bar generator back to the color bar position and if necessary, retouch A20 for G-Y signal as in Fig. 13. Move the vertical amplifier of the scope to the red grid (pin 2) of the picture tube. Check for R-Y signal as in Fig. 13. If necessary, retouch A19 for proper R-Y waveform. The voltage reading on the VTVM should be within  $\frac{1}{2}$  volts of the reading obtained before retouching A19. Recheck the waveforms on the blue, red and green grids to see that they have the proper amplitude with respect to one another as indicated in Fig. 13. If they do not, it may be necessary to repeat adjustments of A19 and A20 as just outlined.

### KILLER THRESHOLD CONTROL ADJUSTMENT

Set the channel selector to any unused channel. Set the contrast control so noise is visible on the picture tube. Set the color saturation control to maximum. Color should be present in the noise pattern on the screen. Adjust the killer threshold control (R15) until the color visible in the noise just disappears.

### COMPLETE SET-UP PROCEDURE

Make sure that the AGC is properly adjusted and that the horizontal sweep circuits have been adjusted as per instructions.

### PRELIMINARY CONVERGENCE ADJUSTMENT

Connect the RF output of a white dot generator to the antenna terminals. Preset the red, blue and green horizontal and vertical amplitude controls fully counter clockwise. The controls are located on the front of the set below the picture tube. Preset the red, blue and green vertical tilt controls to mid-range. Adjust the red, blue and green DC controls and the blue lateral correction magnet (M5, located on the neck of the picture tube) to produce a white dot in the center of the screen. Keep the focus in adjustment while making these adjustments.

Switch the generator to "Standby" position.

### COLOR PURITY ADJUSTMENTS

Switch the channel selector to an unused channel and turn the contrast control fully counter clockwise.

Set the red tabs on the purity magnet together.

Turn the six field neutralizing magnets fully counter clockwise. These adjustments are accessible from the front of the set after the front trim is removed. Loosen the wing nuts at each side of the deflection yoke and slide the yoke as far to the rear as possible. Turn the blue and green screen controls fully counter clockwise. The controls are located on the front apron of the chassis behind the control case, which should be removed.

Rotate the purity magnet around the neck of the picture tube and at the same time adjust the tabs with respect to each other to produce a uniform red area at about 8 o'clock position on the screen and displaced from the center by a distance of approximately one-half the area itself. Move the yoke forward until the most uniform red screen without neck shadow is obtained. When the best position is found with a MINIMUM of purity error at the edges of the screen, tighten the wing nuts holding the yoke in place.

Tune in a station broadcasting a black and white picture and adjust the blue and green screen controls to produce a black and white picture. Adjust the neutralizing magnets for best white uniformity in the areas of each magnet. Some areas will require adjustment of more than one magnet. Check each color field by turning the other two screen controls down in turn, to insure that screen purity has not been sacrificed at the expense of uniformity.

### VERTICAL DYNAMIC CONVERGENCE ADJUSTMENTS

Recheck "Preliminary Convergence Adjustment" for correct setting of the three DC convergence controls and the blue lateral magnet to produce a white dot at the center of the screen.

Switch dot generator to vertical bars. Referring to the center vertical bar nearest the center of the screen, turn the red vertical amplitude control fully clockwise and adjust the red vertical tilt control for maximum displacement of the red bar at the center of the screen. Turn the green vertical amplitude control fully clockwise and adjust the green vertical tilt control for maximum displacement of the green vertical bar at the center of the screen. The direction of displacement of the green bar should be opposite to that of the red bar.

Adjust the red and green vertical amplitude and tilt controls to produce straight vertical red and green bars parallel to the blue bar. Converge the three bars using the red and green DC controls to form a single white vertical bar at the center of the screen. SLIGHT readjustment of the red and green vertical amplitude and tilt controls may be required to produce this condition. Recheck the focus.

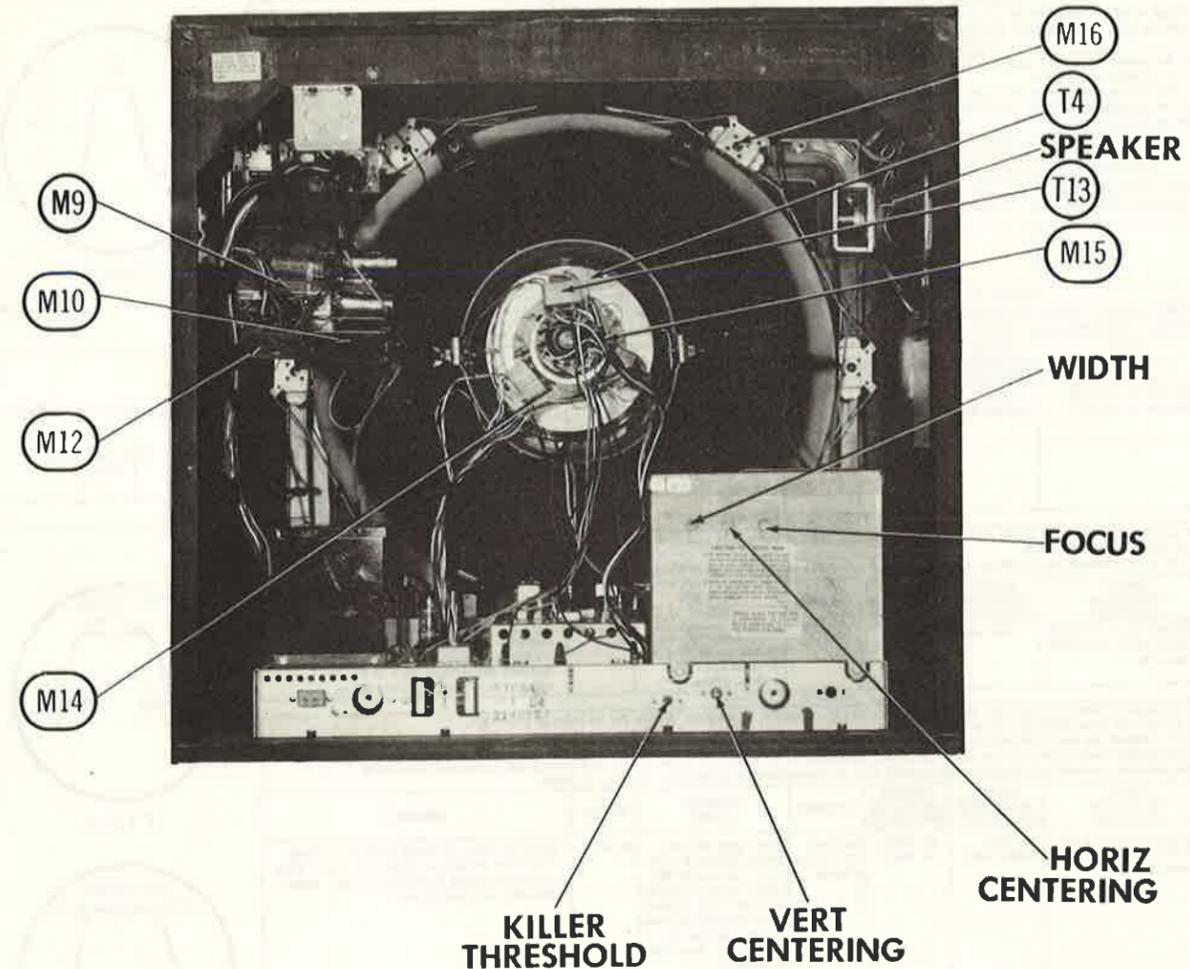
Turn the generator to horizontal bars and using the blue DC control displace the blue bar SLIGHTLY away from the others. Adjust the blue vertical amplitude and tilt controls for equal displacement of the blue bars with respect to the others from top of the screen to the bottom near the center of the screen (horizontally).

### HORIZONTAL DYNAMIC CONVERGENCE ADJUSTMENTS

Referring to the center horizontal bars, turn the blue horizontal amplitude (B6) clockwise until the blue bar appears in the center of the screen. The blue bar will be below the red and green bars. Alternately adjust the horizontal tilt (B3) and amplitude (B6) to produce a straight blue horizontal bar across the center of the screen.

Shunt the red grid of the picture tube to chassis through a 100K resistor. (Red wire at the rear edge of the chroma printed board.) Alternately adjust the green horizontal amplitude (B7) and tilt (B4) to produce a green bar parallel to the blue bar over its entire length at the center of the screen.

Remove the shunt from the red grid of the picture tube and place it on the green grid. Alternately adjust the red horizontal amplitude (B8) and tilt (B5) to produce a red bar parallel to the blue bar over its entire length at the center of the screen. Remove the 100K shunt from the green grid.



CABINET-REAR VIEW

## DISASSEMBLY INSTRUCTIONS

### CHASSIS REMOVAL

1. Remove 4 push-on type control knobs from front, 6 from side.
2. Remove 4 wood screws, remove rear cover.
3. Remove HV lead (inside HV compartment), yoke plug, 2 speaker leads, convergence yoke plug, picture tube socket, tuner power cable, and tuner output cable.
4. Loosen metal screw holding on-off-volume control to tuner bracket, lift up and remove.
5. Remove 4 chassis bolts.
6. Remove chassis.
7. Remove 1 hex nut exposed by removal of channel selector knob, and 2 hex nuts inside the cabinet holding tuner assembly.
8. Remove tuner assembly.
9. Remove 4 speaker nuts. Remove speaker.

### PICTURE TUBE REMOVAL

1. Remove chassis and tuner as outlined in "Chassis Removal".
2. Lay cabinet face down on a pad.

3. Remove blue beam lateral correction magnet, color purity magnet and convergence yoke assembly.
  4. Remove 4 hex nuts. Slide mounting brackets upward and out.
  5. Remove springs and rubber cushions.
  6. Remove yoke and HV insulator.
  7. Remove picture tube, remove flange insulator and HV lead.
- ### SAFETY GLASS REMOVAL
1. Remove 4 push-on type knobs from front.
  2. Remove 2 screws holding control panel and remove panel.
  3. Pull down on 2 round hooks at top of control panel and pull out on bottom edge of trim (about 6 inches). Pull trim down to remove.
  4. Remove 4 wood screws and rear cover.
  5. Four clips holding safety glass may be removed by depressing at rear and removing from front.
  6. Using extreme caution, remove clips and safety glass.

RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CS-7833, U, 21-CS-7837, U, 21-CS-7839, U, 21-CS-7857, U, 21-CS-7865, U, 21-CS-7866, U, 21-CS-7867, U, (Ch. CT-5, A, B, C, D, E)

**ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT**

The high voltage should be disabled by removing the fuse (M4). Connect at 2500 ohm 100 watt resistor from the B+ side of C2A (filter capacitor) to chassis. Turn the AGC control fully clockwise and the focus control fully counter clockwise.

**SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM**  
 Connect the negative lead of a variable bias supply to pin 7 (grid) of 6AW8 chroma bandpass amp. (V21A). Positive to chassis. Adjust for -8 volts at the grid.  
 Remove the bottom shield from the video IF printed board.  
 Connect two matched 100K (1%) resistors in series from point  $\diamond$  to chassis. The junction of these two resistors is alignment point  $\diamond$  as shown on the schematic.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. .01MFD	High side to point $\diamond$ . Low side to chassis.	4.5MC (unmod)	Any	DC probe to point $\diamond$ . Low side to chassis.	A1, A2, A3	Adjust for maximum deflection. Adjust the signal generator for -15 volts on VTVM when finally peaked.
2. "	"	"	"	DC probe to point $\diamond$ . Low side to point $\diamond$ .	A3	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Remove the resistors and test equipment.

**SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE**  
 Connect bias as under "Sound IF Alignment Using AM Signal Generator and VTVM".  
 Use frequency modulated signal with 80% modulation and 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .01MFD	High side to point $\diamond$ . Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. amp. to point $\diamond$ . Low side to chassis.	A1, A2	Disconnect stabilizing capacitor (C4). Adjust for curve of maximum amplitude and symmetry as in Fig. 1. Reconnect C4.
2. "	"	"	"	"	Vert. amp. to point $\diamond$ . Low side to chassis.	A3	Adjust so that 4.5MC marker occurs at center of crossover lines as in Fig. 2. SLIGHTLY retouch A2 for maximum amplitude and straightness of crossover lines.

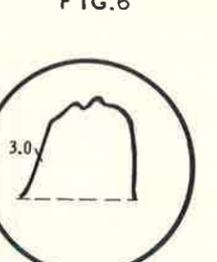
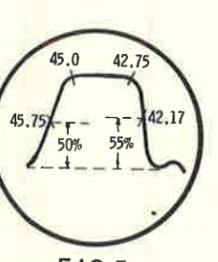
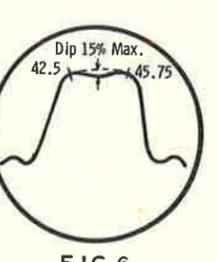
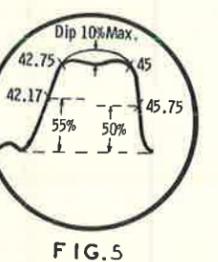
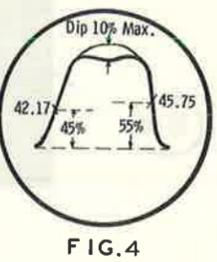
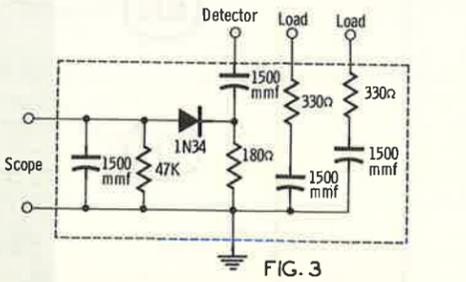
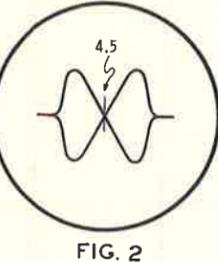
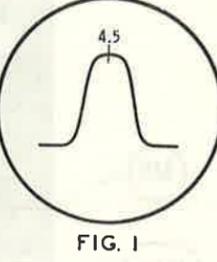
**VIDEO TRAP ALIGNMENT**  
 Connect a clip lead from pin 1 (grid) of 6CB6 (V6) to chassis. The -8 volts bias inserted at the grid of V21 may have to be lowered to obtain sufficient indication on the scope.  
 Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3. .01MFD	High side to point $\diamond$ of 6AW8 (V7). Low side to chassis.	Not used.	4.5MC (400% Mod)	Any	Vert. amp. thru detector probe (Fig. 3) to point $\diamond$ . Low side to chassis.	A4	Use high signal generator output. Adjust A4 for MINIMUM 400% indication on scope. Remove short from pin 1 of V6. Replace shield on video IF printed board.

**VIDEO IF ALIGNMENT**  
 Connect the negative lead of a variable bias supply to point  $\diamond$ . Positive to chassis. Adjust for -9 volts at point  $\diamond$ .  
 For step 11, connect the negative lead of a second variable bias supply to point  $\diamond$ . Positive to chassis. Adjust for -4 volts at point  $\diamond$ .  
 Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. 1500MMF	High side to pin 1 (grid) of 6DB8 (V4). Low side to chassis.	43.5MC (10MC Swp)	42.17MC 45.75MC	Any non-interfering channel.	Vert. amp. thru detector probe (Fig. 3). One lead lead of detector to pin 5 (plate) of 6CB6 (V6). Connect detector lead of probe to pin 5 (plate) of 6DB8 (V4). Low side to chassis.	A5, A6	Shield of video IF board must be in place. Adjust for response similar to Fig. 4. (Use sufficient signal to produce .1 volt peak to peak for this adjustment.)
5. "	High side to point $\diamond$ . Low side to chassis.	Not used.	45.75MC (400% Mod)	"	Vert. amp. thru 10K to point $\diamond$ . Low side to chassis.	A7, A8	Preset sound reject control (R18) at mid-range. Adjust for maximum 400% indication on scope.
6. "	"	"	42.5MC (400% Mod)	"	"	A9	"
7. "	"	"	43.8MC (400% Mod)	"	"	A10	"
8. "	"	"	41.25MC (400% Mod)	"	"	A11	Adjust for MINIMUM 400% indication on scope.
9. "	"	"	47.25MC (400% Mod)	"	"	A12	"
10. "	"	"	41.25MC (400% Mod)	"	"	A13, R18	Adjust for MINIMUM 400% indication on scope. Repeat step 7.
11. "	High side to point $\diamond$ . Low side to chassis. Use very short exposed ends on leads.	43.5MC (10MC Swp)	42.17MC 45.0MC 45.75MC	4	"	"	Check for response curve similar to Fig. 5 with markers as indicated. Retouch A7, A9, A10 to obtain proper response if necessary. (Use 3 volts peak to peak on scope.) Repeat step 10.

**ALIGNMENT INSTRUCTIONS**



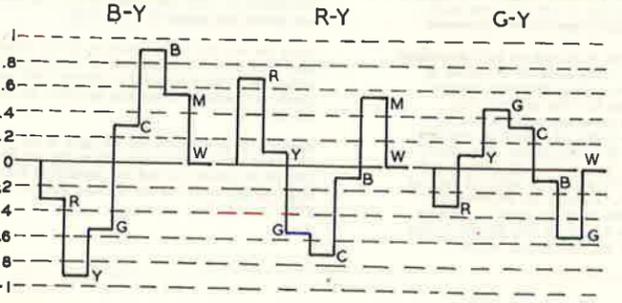
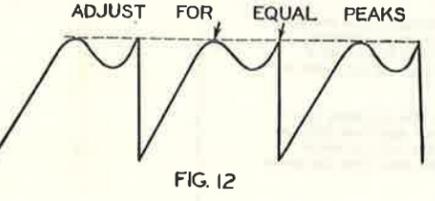
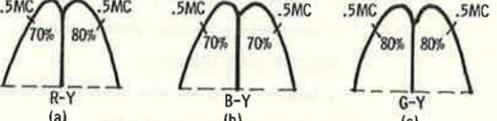
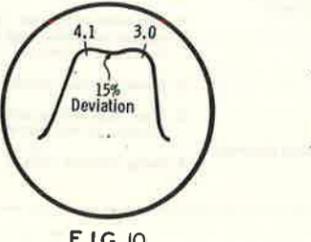
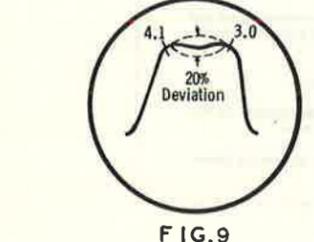
**ADDITIONAL VIDEO IF ALIGNMENT FOR UHF MODELS**

Remove the crystal cover of the UHF tuner to make sweep connection to front terminal of crystal holder. Leave both bias supplies connected as under "Video IF Alignment". Keep the RF bias set at -4 volts and the IF bias at -9 volts. Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
12. 10000 carbon resistor in series with 1500MMF ceramic capacitor	High side to front terminal of IN82 crystal holder. Low side to chassis. (Use very short leads.)	850MC (10MC Swp)	42.5MC 45.75MC	Between channels 43 and 44.	Connect a 180 ohm carbon resistor in series with a 1500MMF capacitor from point $\diamond$ to chassis with the resistor next to chassis. Connect the vert. amp. of scope to high side of 180 ohm resistor thru detector probe (Fig. 3). Low side to chassis.	A14, A15, A16, A17	Couple the marker generator loosely to detector probe (Fig. 3) to provide markers. Set sweep generator to provide .5 volts (or less) peak to peak on scope. Adjust A14 for maximum gain with markers as indicated in Fig. 6. If necessary, adjust A15 to place 45.75MC marker at peak of curve. Adjust A16 for MINIMUM tilt of curve. If necessary, adjust A17 for proper bandwidth. Remove the 180 ohm resistor and 1500MMF capacitor.
13. Two 1200 carbon resistors	Across VHF antenna terminals with 1200 in each lead.	43.5MC (10MC Swp)	42.17MC 45.0MC 45.75MC	Check on all VHF channels.	Vert. amp. thru 10K to point $\diamond$ . Low side to chassis.	A8, A10	Couple marker generator loosely to first video IF amplifier grid. Check for response similar to Fig. 7 on all VHF channels. SLIGHTLY retouch A8 and A10 if necessary for any overall tilt.
14. "	Across UHF antenna terminals with 1200 in each lead.	See freq. chart.	"	Check on all UHF channels.	"	A14, A15, A16	Leave marker as in step 13. Check for response similar to Fig. 7 on all UHF channels. SLIGHTLY retouch A14, A15 and A16 if necessary to correct any overall tilt. Remove test equipment and bias supplies.

**VIDEO AND BANDPASS ALIGNMENT**

Set receiver to channel 4. Leave the two bias supplies connected as under "Video IF Alignment". Adjust the RF bias supply for -4 volts and the IF bias supply for -9 volts. Connect the negative lead of a 100 volt bias supply to pin 2 (grid) of the 6AN8 burst keyer (V22A). If a 100 volt bias is not available, remove V22 and connect a .8MMF capacitor from cathode (pin 3) to ground. Keep the chroma bias at pin 7 of V21 set for -8 volts. Turn the killer threshold control (R15) fully counter clockwise. Be sure that the video amplifier tube (V7) is in its socket. Connect the VTVM thru the detector probe (Fig. 3) to pin 3 or 8 (cathode) of the 12AT7 G-Y demodulator (V24). Connect the common lead of the VTVM to chassis. A reading up to 20 volts should be obtained on the meter. The absence of a voltage reading is an indication that the VTVM oscillator is not operating. If this is the case, adjust A18 to obtain a reading. Connect the DC probe of the VTVM to point  $\diamond$ . Common to chassis. Adjust A19 and A20 for maximum indication on the VTVM. Connect the vertical amplifier of the oscilloscope thru detector probe (Fig. 3) to point  $\diamond$ . Low side to chassis. Loosely couple marker generator to scope lead. Set the signal generator to 113MC. Connect an insulated wire to the "RF. IN" terminal of the generator and insert the free end into the tuner near the oscillator. Adjust the fine tuning for an audible beat with the signal generator. This will insure that the oscillator is set to exact frequency. Connect the sweep and signal generator to the antenna terminals using the RF modulator and set the sweep generator for video sweep. Set the signal generator to 67.25MC. Connect the VTVM thru the detector probe (Fig. 3) between points  $\diamond$  and  $\diamond$ . Adjust the output of the generators to produce 1.5 volts on the VTVM. The response on the scope should conform to the response curve in Fig. 8. Disconnect the scope and diode probe from point  $\diamond$  and reconnect to pin 9 (plate) of the 6AW8 chroma bandpass amp. (V21). Load the bandpass transformer (L37) by connecting a 330 ohm 1 watt resistor from pin 8 (screen) to pin 9 (plate) of the 6AW8 (V21). Adjust A22 for the response shown in Fig. 9. Remove the 330 ohm resistor and connect the scope and diode probe to point  $\diamond$ , low side to chassis. Adjust A23 and A24 for response curve similar to Fig. 10 with markers as indicated. (Note: If the proper response cannot be obtained, run the top core, A23 thru the coil and approach the coil from the opposite direction to obtain the correct response.) Leaving the generators connected as is, check the demodulator circuits by connecting the scope to each of the picture tube grids (pins 2, 12 and 6 in that order) and check for response curves similar to Fig. 11A, B and C. Any excessive deviation from these curves indicate improper operation of the demodulator circuits. Remove all bias sources, the 2500 ohm resistor loading the B+ line and the oscilloscope. Replace the fuse (M4) back in the circuit and V22, if removed.



**TELEVISION CHANNEL FREQUENCIES**

Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier	Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier	Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier	Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier
2	54-60	55.25	59.75	23	524-530	525.25	529.75	44	650-656	651.25	655.75	64	770-776	771.25	775.75
3	60-66	61.25	65.75	24	530-536	531.25	535.75	45	656-662	657.25	661.75	65	776-782	777.25	781.75
4	66-72	67.25	71.75	25	536-542	537.25	541.75	46	662-668	663.25	667.75	66	782-788	783.25	787.75
5	76-82	77.25	81.75	26	542-548	543.25	547.75	47	668-674	669.25	673.75	67	788-794	789.25	793.75
6	82-88	83.25	87.75	27	548-554	549.25	553.75	48	674-680	675.25	679.75	68	794-800	795.25	799.75
7	174-180	175.25	179.75	28	554-560	555.25	559.75	49	680-686	681.25	685.75	69	800-806	801.25	805.75
8	180-186	181.25	185.75	29	560-566	561.25	565.75	50	686-692	687.25	691.75	70	806-812	807.25	811.75
9	186-192	187.25	191.75	30	566-572	567.25	571.75	51	692-698	693.25	697.75	71	812-818	813.25	817.75
10	192-198	193.25	197.75	31	572-578	573.25	577.75	52	698-704	699.25	703.75	72	818-824	819.25	823.75
11	198-204	199.25	203.75	32	578-584	579.25	583.75	53	704-710	705.25	709.75	73	824-830	825.25	829.75
12	204-210	205.25	209.75	33	584-590	585.25	589.75	54	710-716	711.25	715.75	74	830-836	831.25	835.75
13	210-216	211.25	215.75	34	590-596	591.25	595.75	55	716-722	717.25	721.75	75	836-842	837.25	841.75
14	470-476	471.25	475.75	35	596-602	597.25	601.75	56	722-728	723.25	727.75	76	842-848	843.25	847.75
15	476-482	477.25	481.75	36	602-608	603.25	607.75	57	728-734	729.25	733.75	77	848-854	849.25	853.75
16	482-488	483.25	487.75	37	608-614	609.25	613.75	58	734-740	735.25	739.75	78	854-860	855.25	859.75
17	488-494	489.25	493.75	38	614-620	615.25	619.75	59	740-746	741.25	745.75	79	860-866	861.25	865.75
18	494-500	495.25	499.75	39	620-626	621.25	625.75	60	746-752	747.25	751.75	80	866-872	867.25	871.75
19	500-506	501.25	505.75	40	626-632	627.25	631.75	61	752-758	753.25	757.75	81	872-878	873.25	877.75
20	506-512	507.25	511.75	41	632-638	633.25	637.75	62	758-764	759.25	763.75	82	878-884	879.25	883.75
21	512-518	513.25	517.75	42	638-644	639.25	643.75	63	764-770	765.25	769.75	83	884-890	885.25	889.75
22	518-524	519.25	523.75	43	644-650	645.25	649.75								

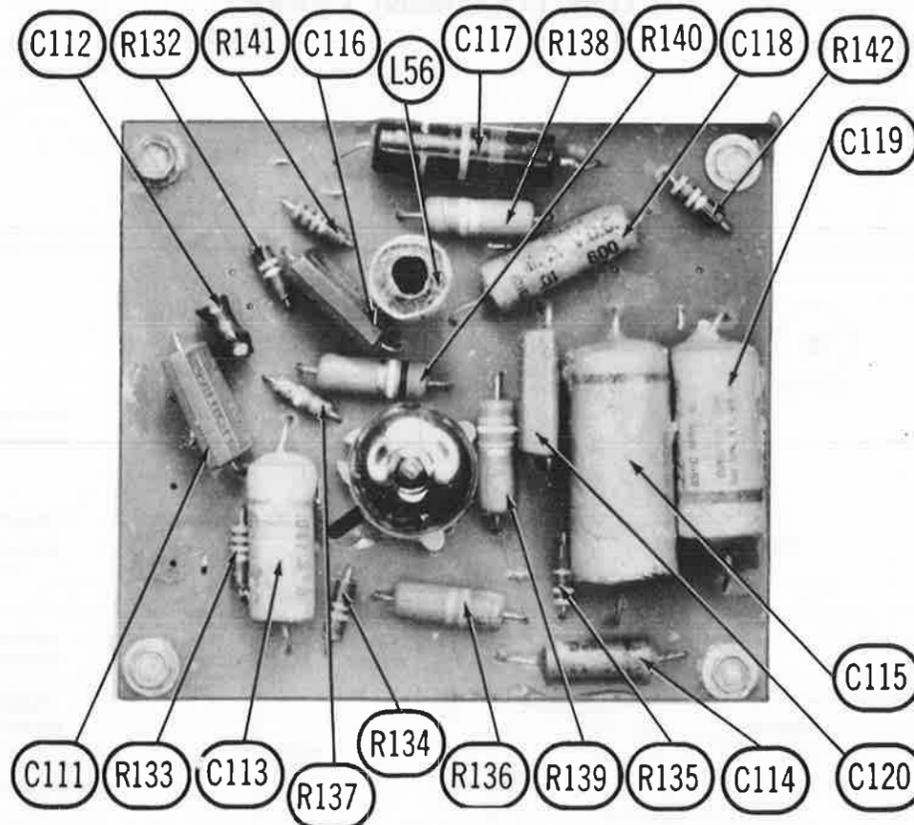
RCA VICTOR MODELS 21-CS-7815, U. 21-CS-7817, U. 21-CT-7835, U. 21-CT-7837, U. 21-CT-7855, U. 21-CT-7857, U. 21-CT-7865, U. 21-CT-7866, U. 21-CT-7867, U. (Ch. CTS, A, B, C, D, E)



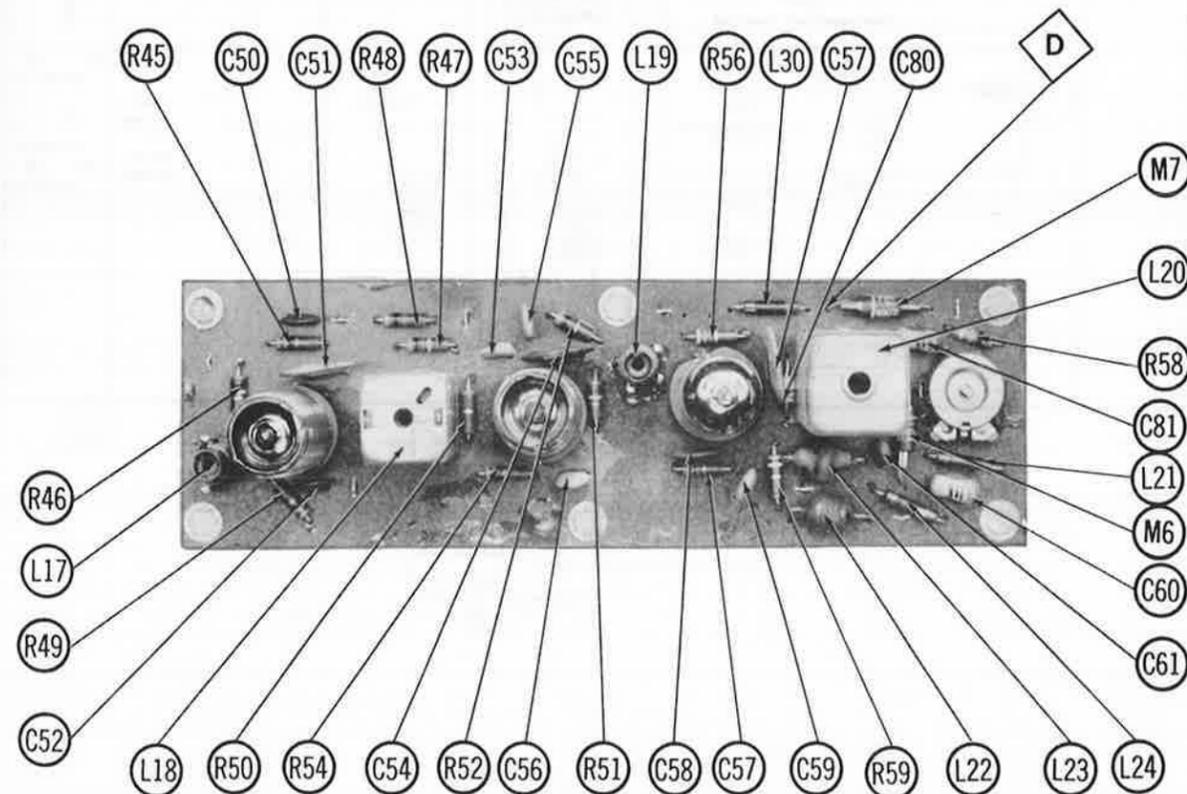
## PARTS LIST AND DESCRIPTIONS (Continued)

### MISCELLANEOUS

ITEM No.	PART NAME	RCA Victor PART No.	NOTES
M8 M9	Crystal Tuner	102249 KRK40-A  KRK40 KRK40-B KRK40-C	3.579545MC Oscillator UHF/VHF, Includes VHF Tuner KRK35-A & UHF Tuner KRK36B Used With Chassis CTC5A. VHF, (KRK35-C) Used With Chassis CTC5. VHF, KRK36-C Used With Chassis CTC5B, And CTC5D. UHF/VHF, Includes VHF Tuner KRK35-A & UHF Tuner KRK36-B Used With Chassis CTC5C, And CTC5E
M10	Ant. Matching Network	100454	Includes Coils And Caps.
M11	Delay Line	102184	Luminance Channel
M12	Switch	102844	Ant. Changeover (Slide Type)
M13	Switch	102160	Width (Rotary, Wafer Type)
M14	Magnet	79604	Color Purity
M15	Magnet	103172	Blue Beam Lateral Corrector
	Magnet	102298	Blue Beam Lateral Corrector Electromagnetic, Used In Early Production.
M16	Magnet Assembly	102495	Rim Purity (8 Reqd.)
	Printed Board	102123	Sound (Less Tubes) Chassis CTC5B And C Only.
	Printed Board	102590	Sound (Less Tubes) Chassis CTC5D And E Only.
	Printed Board	102121	Picture (Less Tubes)
	Printed Board	102125	Video (Less Tubes)
	Printed Board	102120	Vertical (Less Tubes)
	Printed Board	102122	Synchroguide (Less Tubes)
	Printed Board	102127	Chroma Plate (Less Tubes)
	Safety Glass	102278	All Models
	Bezel	102288	All Models
	Knob	100407	Horizontal Centering, Focus, Width Switch
	Knob	79533	Horizontal Frequency
	Knob	101124-B	Brightness, All Models
	Knob	102274	Color Contrast, Horizontal Hold, Hue, Tone (All Models)
	Knob	102497	Fine Tuning (All Models). Alternate Part #101276-B
	Knob	101138-B	On-Off Volume, Mahogany Grain Models 21-CS-7815, U, 21-CT-7835, U, 21-CT-7855, U, 21-CT-7865, U.
	Knob	101621-B	On-Off Volume, Walnut And Oak Grain Models 21-CT-7817, U, 21-CT-7837, U, 21-CT-7857, U, 21-CT-7866, U, 21-CT-7867, U
	Knob	101806	UHF Tuning, Model 21-CS-7815U
	Knob	101807	UHF Tuning, Model 21-CS-7817U
	Knob	102653	UHF Tuning, Models 21-CS-7835U, 21-CT-7855U, 21-CT-7865U
	Knob	102578	UHF Tuning, Models 21-CT-7837U, 21-CT-7857U, 21-CT-7866U, 21-CT-7867U
	Knob	100944-B	VHF Channel Selector, Model 21-CS-7815
	Knob	100945-B	VHF Channel Selector, Model 21-CS-7817
	Knob	100946-B	VHF/UHF Channel Selector, Model 21-CS-7815U
	Knob	100947-B	VHF/UHF Channel Selector, Model 21-CS-7817U
	Knob	102502	VHF Channel Selector, Models 21-CT-7835, 21-CT-7855, 21-CT-7865
	Knob	102503	VHF Channel Selector, Models 21-CT-7837, 21-CT-7857, 21-CT-7866, 21-CT-7867
	Knob	102500	VHF/UHF Channel Selector Models 21-CT-7835U, 21-CT-7855U, 21-CT-7865U
	Knob	102501	VHF/UHF Channel Selector, Models 21-CT-7837U, 21-CT-7857U, 21-CT-7866U, 21-CT-7867U



**HORIZONTAL OSC. PRINTED BOARD**



**VIDEO IF PRINTED BOARD**

**RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CT-7835, U, 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U, 21-CT-7866, U, 21-CT-7867, U, (Ch. CTC5, A, B, C, D, E)**

## PARTS LIST AND DESCRIPTIONS (Continued)

### COILS (cont)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L15	41.25MC Trap	102135				
L16	47.25MC Trap	102136				
L17	1st Video IF	102227				
L18	2nd Video IF	102262				
L19	3rd Video IF	102258				
L20	4th Video IF	102265				
L21	RF Choke	100441				
L22	Series Peaking Coil	102201	19-2864	TV-184	6110	12 Microhenries
L23	Shunt Peaking Coil	102351	19-4080		6180	62 Microhenries
L24	RF Choke	100441	19-3180			180 Microhenries
L25	Series Peaking Coil	102196	19-2864	TV-184*	6180*	12 Microhenries
L26	Shunt Peaking Coil	102198	19-3180	TV-184	6180	180 Microhenries Wound on 18000 Resistor
L27	Series Peaking Coil	102197	19-3180	TV-184	6180	180 Microhenries Wound on 82000 Resistor
L28	Series Peaking Coil	102200	19-3300		6155	300 Microhenries
L29	Shunt Peaking Coil	102199	19-3125		6153	120 Microhenries
L30	RF Choke	100441	19-2864			12 Microhenries
L31	RF Choke	100441	19-2864			12 Microhenries
L32	Sound IF	102258				Tertiary Winding .3Ω
L33	Ratio Det.	102253				12 Microhenries
L34	RF Choke	100441	19-2864			12 Microhenries
L35	RF Choke	100441	19-2864			12 Microhenries
L36	Chroma Takeoff Trans.	102280				Includes 4.5MC Trap
L37	Bandpass Trans.	102283				Tertiary Winding - 2.0Ω
L38	Burst Keyer Plate Trans.	102251				
L39	Burst Amplifier Trans.	102250				
L40	RF Choke	100441	19-2864			12 Microhenries, Note #2.
L41	RF Choke	100441	19-2864			12 Microhenries, Note #1.
L42	Demod. Driver Pri. Trans.	102268				Tertiary Winding - .7Ω CT
L43	Demod. Driver Sec. Trans.	102266				
L44	Series Peaking Coil	102244				4.7
L45	Series Peaking Coil	102243				3.3
L46	Series Peaking Coil	102202			6156	750
L47	Series Peaking Coil	102245				9.6
L48	Series Peaking Coil	102202			6156	750 Microhenries
L49	Series Peaking Coil	102202			6156	750 Microhenries
L50	RF Choke	100441	19-2864			12 Microhenries Note #2.
L51	RF Choke	100441	19-2864			12 Microhenries Note #2.
L52	RF Choke	100441	19-2864			12 Microhenries Note #2.
L53	RF Choke	100441	19-2864			12 Microhenries Note #2.
L54	RF Choke	100441	19-2864			12 Microhenries Note #2.

\* Parallel with 18000 resistor.  
 # Parallel with 82000 resistor.  
 Note #1. See Production Changes page 9.  
 Note #2. Not used in some versions.

### TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.	REPLACEMENT DATA							NOTES
		RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	
L55	88Ω	79866							Tapped at 63Ω Horiz. Osc.
L56	50Ω	102195							Horiz. Waveform

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (1000 ~)	RCA Victor PART No.	Halldorsen PART No.	Merit PART No.	Slancor PART No.	Thordarson PART No.	Triad PART No.
L57	.480A	18.5Ω	.54 Hy.	102134					C-40X

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			RCA Victor PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M-1	3" piece #26 wire 3AG	2A 250V	102792						
M-2	C	3/10 250V	102182		318002, (3AG pigtail 2A)		GJV2		
M-3	C	3/10 250V	102184	102182	332-300 (C 3/10A)	346001	C 3/10	HC 0 to 3/10	
M-4	C	3/4A 250V	102165	102163	332, 750 (C 3/4A)	346003	C 3/4	HC 1/2 to 3/4	

### CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		RCA Victor PART No.	SYLVANIA PART No.	
M5	1N82 *	77489	1N82A	UHF Mixer (Clip In)
M6	1N84 *	76675	1N80	Video Detector (Pigtail)
M7	1N84 *	76675	1N80	Audio Detector (Pigtail)

\* Some Versions May Use a K3D In This Application.  
 \* Some Versions May Use a 1N60 In This Application.

## PARTS LIST AND DESCRIPTIONS

### TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	UHF Osc.	6AF4A		V15	Horiz. AFC-Horiz. Osc.	6CG7	
V2	RF Amplifier	6BQ7A		V16	Horiz. Output	6CB5A	
V3	Mixer Osc.	6X8		V17	Damper	6AU4GTA	
V4	1st Video IF Amplifier	6DE6		V18	Focus Rectifier	1V2	
V5	2nd Video IF Amplifier	6DE6		V19	HV Rectifier	3A3	
V6	3rd Video IF Amplifier	6CB6		V20	HV Regulator	6BK4	
V7	Video Amp.-Horiz. Blanking Amp.	6AW8		V21	Chroma Bandpass Amp.-Color Killer	6AW8	
V8	Video Output	12BY7A		V22	Burst Keyer - Burst Amp.	6AN8	
V9	AGC Keying-Sync Separator	6U8		V23	Chroma Ref. Osc.	6CB6	
V10	Sound IF Amplifier	6AU6		V24	G-Y Demodulator	12AT7	
V11	Ratio Det.-AGC Clamper-AF Amplifier	6T8		V25	B-Y Demodulator	12AT7	
V12	Audio Output	6AQ5		V26	LV Rectifier	5U4GB	
V13	Sync Amp.-Vert. Mult.	6CG7		V27	LV Rectifier	5U4GB	
V14	Vert. Mult.-Vert. Output	6AQ5					

### PICTURE TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	RCA Victor PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V28	21AXP22A			21AXP22A	

### ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	RCA Victor PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	.80	450	102786	AFH2-04-45	BO480	FP264.5	TMD-58	D-255	TVL-2720
C2A	.80	450	102786	AFH2-04-45	BO480	FP264.5	TMD-58	D-255	TVL-2720
C3A	.50	450	102161	AFH3-154-40		FP240 IC70		Q-320	TVL-4739.5
C4	.5	50	78943	SRE50V5	BR550	TC30	TD-5-50	MMT-0505	TVA-1303
C5A	.80	450	102786	AFH2-04-45	BO480	FP264.5	TMD-58	D-255	TVL-2720
C6	2	350	78920	PRS450V2	BR245	TC60	TD-2-450	MT-4502	TVA-1701

### FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA								NOTES
	CAP.	VOLT.	RCA Victor PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.		
C7	1-4				829-4		3115-E	CT551			
C8	1000		79559	EF-001	MFT-1000				503C-D1		
C9	1000		79559	EF-001	MFT-1000				503C-D1		
C10	1000		79559	EF-001	MFT-1000				503C-D1		
C11	18				DD-050	G011	ED-5	ZT-555	5GA-V5		
C12	5				DD-250	G027	ED-27	UC-5427	5GA-Q27		
C13	27			BPD-000025	D6-330	G029	ED-33	UC-5433	5GA-Q33		
C14	33			SI 33	D6-271	G054	ED-270	UC-5327	5GA-T27		
C15	270		77838	SI 270	829-4		3115-E	CT551			
C16	1-4		76532		DD-102	K069	ED-1000	DC521	5HK-D1		
C17	1000		77262	BPD-001	DD-221	G051	ED-220	UC-5322	5GA-T22		
C18	220		100672	BPD-0002	MFT-1000				503C-D1		
C19	1000		77084	EF-001					2TM-P47		
C20	.47	200		P268N-47	DD-221	G051	ED-220	UC-5322	5GA-T22		
C21	220		100672	BPD-0002	DD-221	G051	ED-220	UC-5322	5GA-T22		
C22	220		100672	BPD-0002	DD-102	BYA6D1	ED-1000	DC521	5HK-D1		
C23	1000		77252	BPD-001	DD-103	K082	ED-01	DC511	5HK-S1		
C24	10000		73960	BPD-01	DD-471	K060	ED-470	UC-5347	5GA-T47		
C25	470		79293	BPD-00047	829-3		532-A	CT565A			
C26	.8-3		77161		DD-102	K069	ED-1000	DC521	5HK-D1		
C27	1000		77252	BPD-001	TCZ-R88	TZ02	TCO-.68				
C28	.68		71504		TCZ-R88	TZ02	TCO-.68				
C29	.68		71504		D6-271	G054	ED-270	UC-5327	5GA-T27		
C30	270		77838	SI 270	DD-102	K069	ED-1000	DC521	5HK-D1		
C31	1000		77252	BPD-001	D6-100	G018	ED-10	UC-541	5GA-Q1		
C32	10		102305	SI 10	DD-470	G033	ED-47	UC-5447	5GA-Q47		
C33	47		102882	BPD-000047	829-3		532-A	CT565A			
C34	.8-3		77161		D6-100	G018	ED-10	UC-541	5GA-Q1		
C35	10		102882	SI 10							
C36	1.2		78532		829-3		532-A	CT565A			
C37	.8-3		77813		MFT-1000				503C-D1		
C38	1000		77084	EF-001	TCZ-R88	TZ02	TCO-.68				
C39	.68		71504		829-4		3115-E	CT551			
C40	1-4		100671		D6-580	G036	ED-56	UC-5456	5GA-Q56		
C41	56		77084	SI 56	MFT-1000				503C-D1		
C42	1000		77084	EF-001	MFT-1000				503C-D1		
C43	1000		77084	EF-001	MFT-1000				503C-D1		
C44	470		79293	BPD-00047	DD-471	K060	ED-470	UC-5347	5GA-T47		
C45	12			BPD-00001	DD-100	G019	ED-12	UC-5412	5GA-Q12		
C46	2										
C47	6										
C48	10		55326								
C49	22		100924								
C50	1000		78823	BPD-001	DD-102	K069	ED-1000	DC521	5HK-D1		
C51	680		102237								
C52	1000		78823	BPD-001	DD-102	K069	ED-1000	DC521	5HK-D1		
C53	1000		78823	BPD-001	DD-102	K069	ED-1000	DC521	5HK-D1		
C54	880		102237								

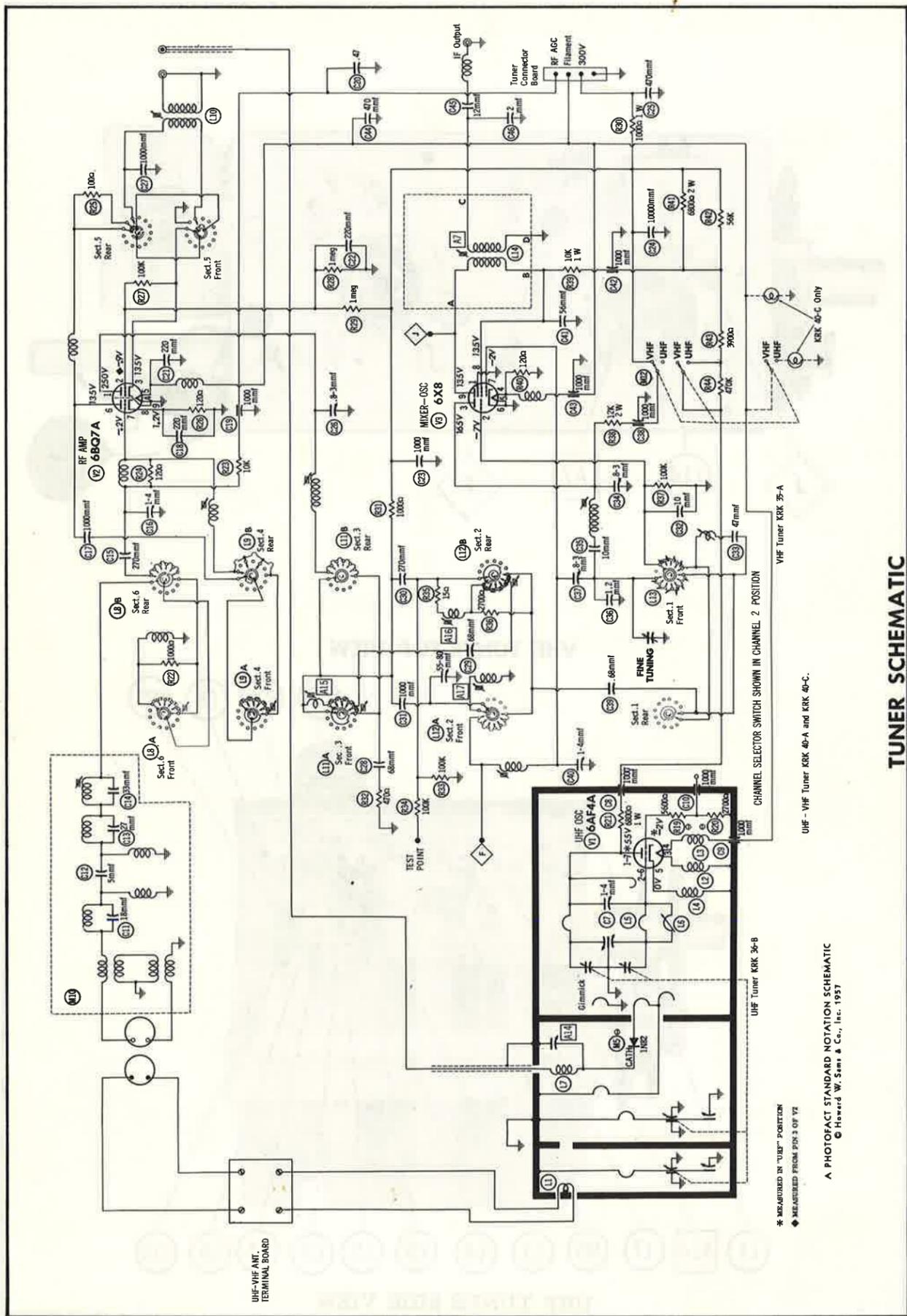
CAPACITORS (cont)

ITEM No.	RATING CAP. VOLT	REPLACEMENT DATA										NOTES
		RCA Victor PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.				
C62	680	102231	BPD-00048	DD-681	K065	ED-860	UC-5368	5GA-T88				
C63	3300	102233										
C64	.1	79251	P288N-1	DF-104	CUB2P1	ED-01	GEM-201	2TM-P1				
C65A	10000	75877	BPD-2X01	DD3-103	DK082	ED-01	DC511	5HK-2S1				
C66	22	102174	SI 22	D6-220	G024	ED-22	UC-5422	5GA-Q22				
C67	680	102231	BPD-00068	DD-580	K065	ED-680	UC-5368	5GA-T88				
C68	.22	102206	P288N-22	DF-104	CUB2P22	ED-100	GEM-2022	2TM-P22				
C69	100	102206	SI 100	D6-101	G042	ED-100	UC-531	5GA-T1				
C70	330	102229										
C71	2200	102173	BPD-0022	DD-202	K073	GP-2200	DC522	5HK-D22				
C72	56	102207	SI 56	D6-560	G038	ED-56	UC-5456	5GA-Q56				
C73	470	78622	BPD-00047	DD-471	K080	ED-470	UC-5347	5GA-T47				
C74	.047	78821-A	P288N-047	DF-503	CUB2S47	ED-100	GEM-2147	2TM-P47				
C75	.0022	102233	P688N-0022	D6-222	CUB2D22	ED-0022	GEM-6222	6TM-D22				
C76	.47	102029	P288N-47	DF-104	CUB2P47	ED-100	GEM-2047	2TM-P47				
C77	10000	73980	BPD-01	DD-103	K082	ED-01	DC511	5HK-S1				
C78	10000	73980	BPD-01	DD-103	K082	ED-01	DC511	5HK-S1				
C79	10000	73980	BPD-01	DD-103	K082	ED-01	DC511	5HK-S1				
C80	1.5	71600	NFO-SI 1.5	TCZ-1R5	G018	ED-10	UC-541	5GA-T1				
C81	10	102205	SI 10	D6-100	G018	ED-10	UC-541	5GA-T1				
C82	4.7	102207	NFO-SI 4.7	TCZ-4R7	T207	TCO-4.7	ZT-5547	5TCCB-V15				
C83	56	102207	SI 56	D6-560	G038	ED-56	UC-5456	5GA-Q56				
C84	3300	102233										
C85	10000	73980	BPD-01	DD-103	K082	ED-01	DC511	5HK-S1				
C86	10000	73980	BPD-01	DD-103	K082	ED-01	DC511	5HK-S1				
C87	1200	102232										
C88	2200	102173										
C89	.0018	400	P488N-0018	D6-182	CUB4D18	ED-0018	GEM-4218	4TM-D18				
C90	.01	200	P288N-01	D6-103	CUB2S1	ED-01	GEM-211	2TM-S1				
C91	.022	200	P288N-022	DF-203	CUB2S22	ED-01	GEM-2122	2TM-S22				
C92	1000	102234										
C93	.0033	600	P688N-0033	D6-332	CUB2D33	ED-0033	GEM-6233	6TM-D33				Note 2
C94	.0033	1800	P1688N-0033	D6-332	CUB4D33	ED-0033	GEM-16233	16TM-D33				
C95	330	39640	1468-00033	DF-104	CUB4P1	ED-100	GEM-4133	4TM-S33				
C96	.1	400	P488N-1	DF-301	G056	ED-330	UC-5333	5GA-T33				
C97	330	102229	BPD-00033	DD-301	CUB4S33	ED-330	UC-5333	5GA-T33				
C98	.033	400	P488N-033	DF-301	CUB4S33	ED-330	UC-5333	5GA-T33				
C99	1000	78623	BPD-001	DD-102	K069	ED-1000	DC521	5HK-D1				
C100	220	102220	BPD-002	DD-221	G051	ED-220	UC-5322	5GA-T22				
C101	.21	400	P488N-01	D6-103	CUB4S1	ED-01	GEM-411	4TM-S1				
C102	.0039	400	P488N-0039	D6-402	CUB4S39	ED-004	GEM-4139	4TM-S39				
C103	.033	200	P288N-033	D6-303	CUB2S33	ED-004	GEM-2133	2TM-P33				
C104	.33	200	P288N-33	D6-303	CUB2P33	ED-004	GEM-2133	2TM-P33				
C105	.056	400	P488N-056	DF-503	CUB4S56	ED-0027	GEM-4156	4TM-S56				
C106	.0027	1800	P1688N-0027	DD30-272	CUB4D27	ED-0027	GEM-16272	16TM-D27				
C107	.12	600	P688N-12	D6-120	CUB6P12	ED-12	GEM-6012	6TM-P12				
C108	.0015	400	P488N-0015	D6-152	CUB4D15	ED-0015	GEM-4215	4TM-D15				
C109	.01	200	P288N-01	D6-103	CUB2S1	ED-01	GEM-211	2TM-S1				
C110	.1	200	P288N-1	DF-104	CUB2P1	ED-100	GEM-201	2TM-P1				
C111	.82	78474	1468-00082	SI 82	G040	ED-82	GEM-4147	4TM-S47				
C112	.82	102203	SI 82	DF-820	CUB4S47	ED-01	GEM-4147	4TM-S47				
C113	.047	400	P488N-047	DF-104	CUB4P1	ED-100	GEM-2047	2TM-P47				
C114	.01	200	P288N-01	D6-103	CUB2S1	ED-01	GEM-211	2TM-S1				
C115	.47	200	P288N-47	DF-104	CUB2P47	ED-100	GEM-2047	2TM-P47				
C116	330	1468-00033										
C117	.01	600	P688N-01	D6-103	CUB6S1	ED-01	GEM-601	6TM-S1				Note 1
C118	.01	600	P688N-01	D6-103	CUB6S1	ED-01	GEM-601	6TM-S1				
C119	.22	200	P288N-22	D6-103	CUB2P22	ED-100	GEM-2022	2TM-P22				
C120	1000	39652	1467-001				MC-255					
C121	.1	600	P688N-1	DF-104	CUB6P1	ED-100	GEM-601	6TM-P1				
C122	.22	600	P688N-22	DF-104	CUB6P22	ED-100	GEM-6022	6TM-P22				
C123	360	2000										
C124	360	2000										
C125	.47	200	P288N-47	DF-104	CUB2P47	ED-100	GEM-2047	2TM-P47				
C126	.47	200	P288N-47	DF-104	CUB2P47	ED-100	GEM-2047	2TM-P47				
C127	.15	600	P688N-15	DF-104	CUB6P15	ED-100	GEM-6015	6TM-P15				
C128	.1	600	P688N-1	DF-104	CUB6P1	ED-100	GEM-601	6TM-P1				
C129	56	5000	102170									
C130	.0033	600	P688N-0033	D6-332	CUB6D33	ED-0033	GEM-6233	6TM-D33				
C131	.82	960154										
C132	.047	600	P688N-047	DF-503	CUB6S47	ED-01	GEM-6147	6TM-S47				
C133	10000	73980	BPD-01	DD-103	K082	ED-01	DC521	5HK-S1				
C134	.82	102203	SI 82	D6-820	G040	ED-82	UC-5422	5GA-Q82				
C135	10000	73980	BPD-01	DD-103	K082	ED-01	DC521	5HK-S1				
C136	220	102228	BPD-0002	DD-221	G051	ED-220	UC-5322	5GA-T22				
C137	10000	73980	BPD-01	DD-103	K082	ED-01	DC521	5HK-S1				
C138	.1	600	P688N-1	DF-104	CUB6P1	ED-100	GEM-601	6TM-P1				Note 3
C139	.1	400	P488N-1	DF-104	CUB4P1	ED-100	GEM-401	4TM-P1				
C140	10	102210	SI 10	D6-100	G018	ED-10	UC-541	5GA-T1				
C141	.1	400	P488N-1	DF-104	CUB4P1	ED-100	GEM-401	4TM-P1				
C142	470	102230	BPD-00047	DD-471	K080	ED-470	UC-5347	5GA-T47				
C143	.1	200	P488N-1	DF-104	CUB4P1	ED-100	GEM-401	4TM-P1				
C144	120	102206	SI 120	D6-121	G044	ED-120	UC-5312	5GA-T12				
C145	100	102206	SI 100	D6-101	G042	ED-100	UC-531	5GA-T1				
C146	.1	400	P288N-1	DF-104	CUB2P1	ED-100	GEM-201	2TM-P1				
C147	.022	200	P288N-022	DF-203	CUB2S22	ED-01	GEM-2122	2TM-S22				
C148	1.6	102236										
C149	10000	73980	BPD-01	DD-104	K082	ED-01	DC521	5HK-S1				Note 1
C150	470	102230	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47				Note 1
C151	3.5	102204										Note 3
C152	10000	73980	BPD-01	DD-103	K082	ED-01	DC521	5HK-S1				Note 1
C153	18	102209	SI 18	D6-180	G022	ED-18	UC-5418	5GA-Q18				Note 3
C154	56	102206	SI 56	D6-560	G036	ED-56	UC-5456	5GA-Q56				Note 3
C155A	10000		BPD-2X01	DD-103	DK082	ED-01	DC511	5HK-2S1				Note 1
C156	.1	400	P488N-1	DF-104	CUB4P1	ED-100	GEM-401	4TM-P1				
C157	12	102211	SI 12	D6-120	G019	ED-12	UC-5412	5GA-Q12				
C158	15	102212	SI 15	D6-160	G021	ED-15	UC-5416	5GA-Q15				
C159	.39	200	P288N-39	DF-104	CUB2P39	ED-100	GEM-2039	2TM-P39				
C160	.39	200	P288N-39	DF-104	CUB2P39	ED-100	GEM-2039	2TM-P39				
C161	.47	200	P288N-47	DF-104	CUB2P47	ED-100	GEM-2047	2TM-P47				
C162	.47	200	P288N-47	DF-104	CUB2P47	ED-100	GEM-2047	2TM-P47				
C163	.047	600	P688N-047	DF-503	CUB6S47	ED-01	GEM-6147	6TM-S47				
C164	10000	73980	BPD-01	DD-103	BYA6S1	GP-10000	DC511	5HK-S1				Note 3

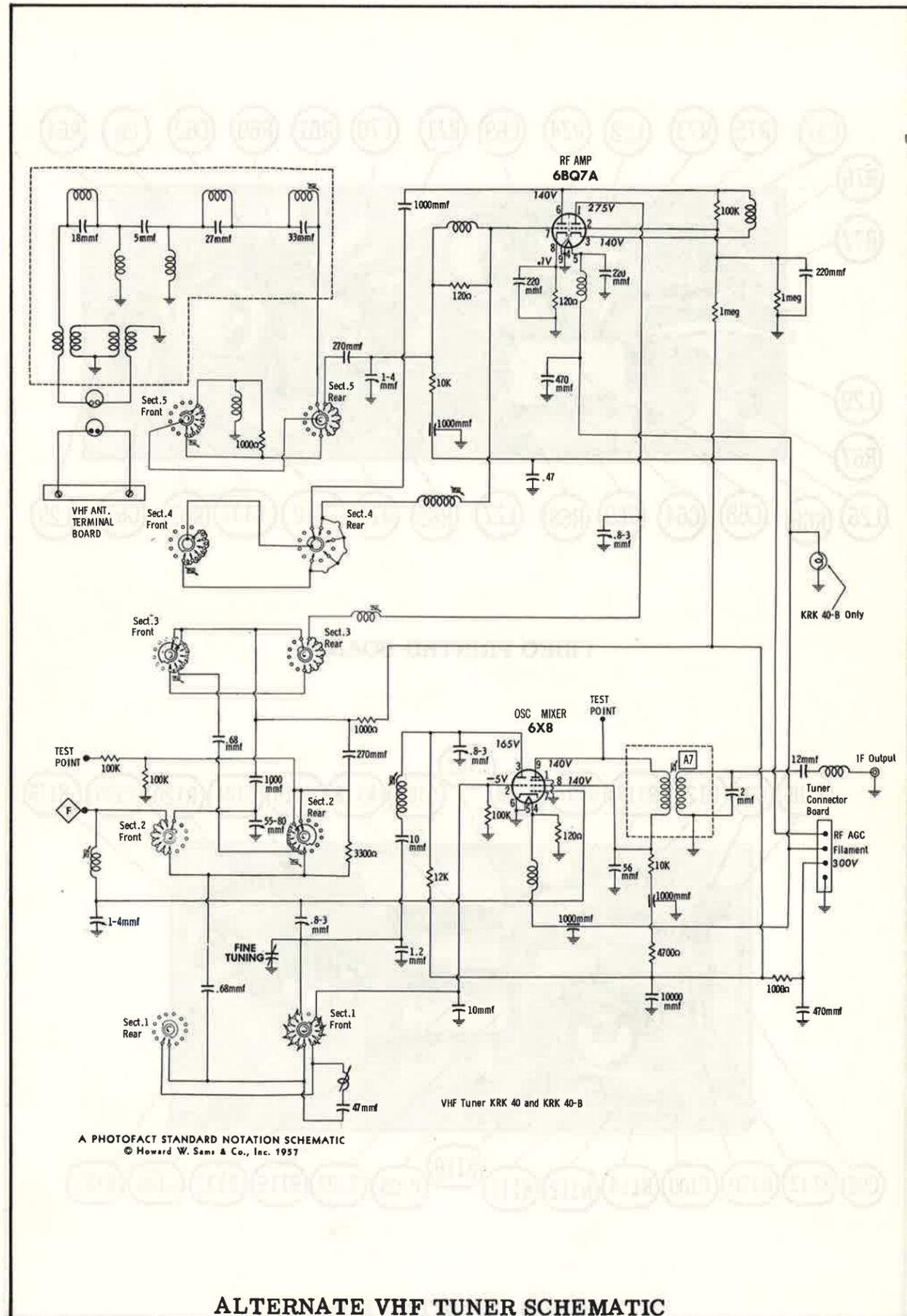
Note 1: See production changes page 9.  
 Note 2: An .0089 used in chassis CTC-5D and CTC-5E only.  
 Note 3: Not used in some versions.

PARTS LIST AND DESCRIPTIONS (Continued)

ITEM No.	RATING RESISTANCE WATTS	REPLACEMENT DATA					INSTALLATION NOTES
		RCA Victor PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
RIA	250K	102156				UF-254	Brightness
RIB	1Meg					UR6-T254	Volume Tap at 250K
R1C	Switch					US-26T	
R2A	2.5Meg	102146		F1-46		UE-3001	Vertical Hold
R2B	5Meg			R2-83			Vertical Height
R3A	500K	102151		F1-1			Contrast
R3B	500K			R2-40			AGC
R4	500K	102157					H

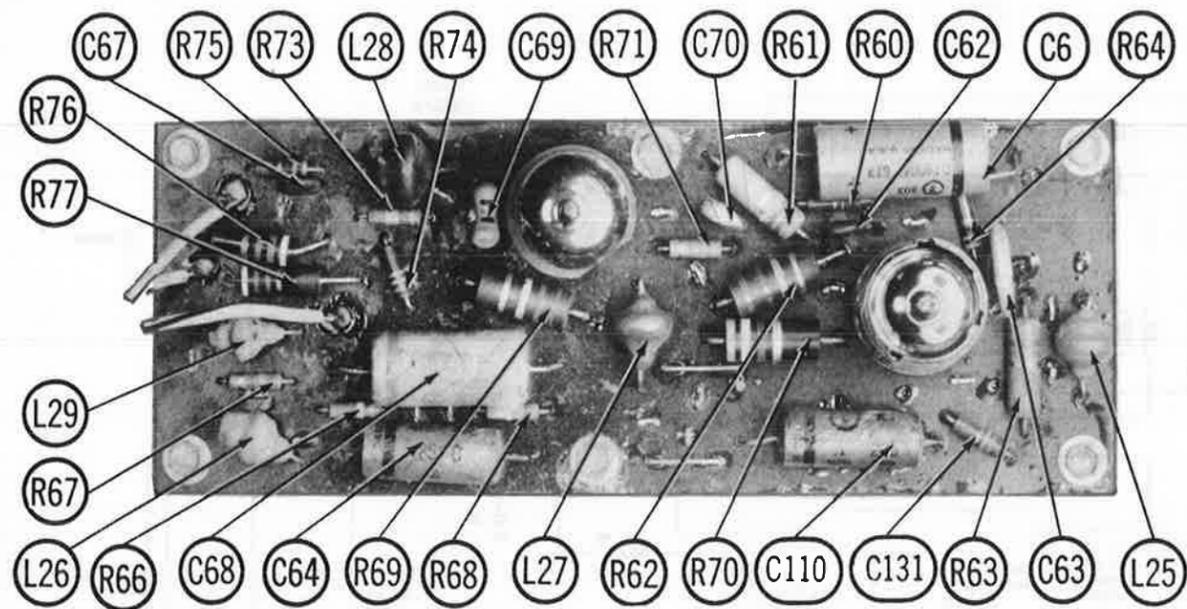


**TUNER SCHEMATIC**

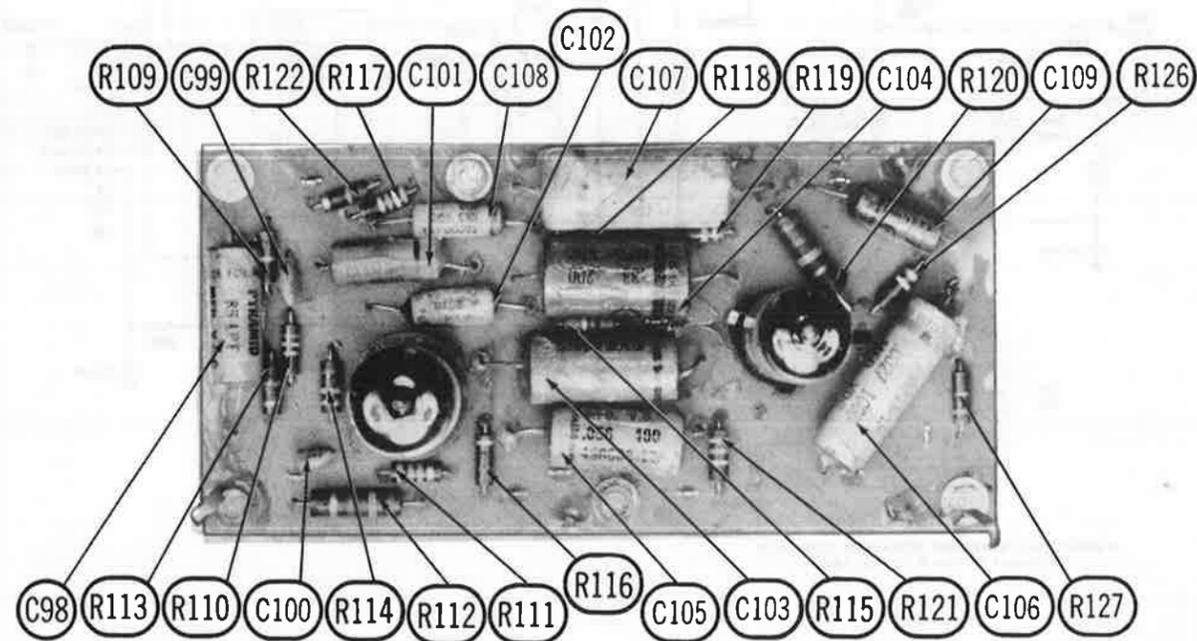


**ALTERNATE VHF TUNER SCHEMATIC  
 SET 353 FOLDER 11**

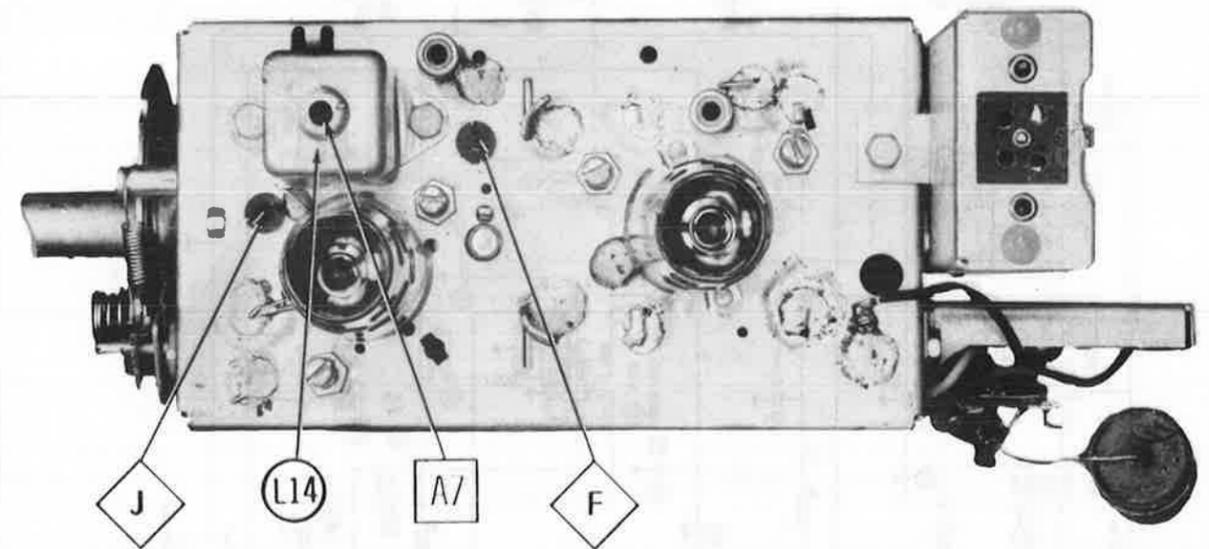
RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CI-7835, U,  
 21-CI-7837, U, 21-CI-7855, U, 21-CI-7857, U, 21-CI-7865, U,  
 21-CI-7866, U, 21-CI-7867, U, (Ch. CTCS, A, B, C, D, E)



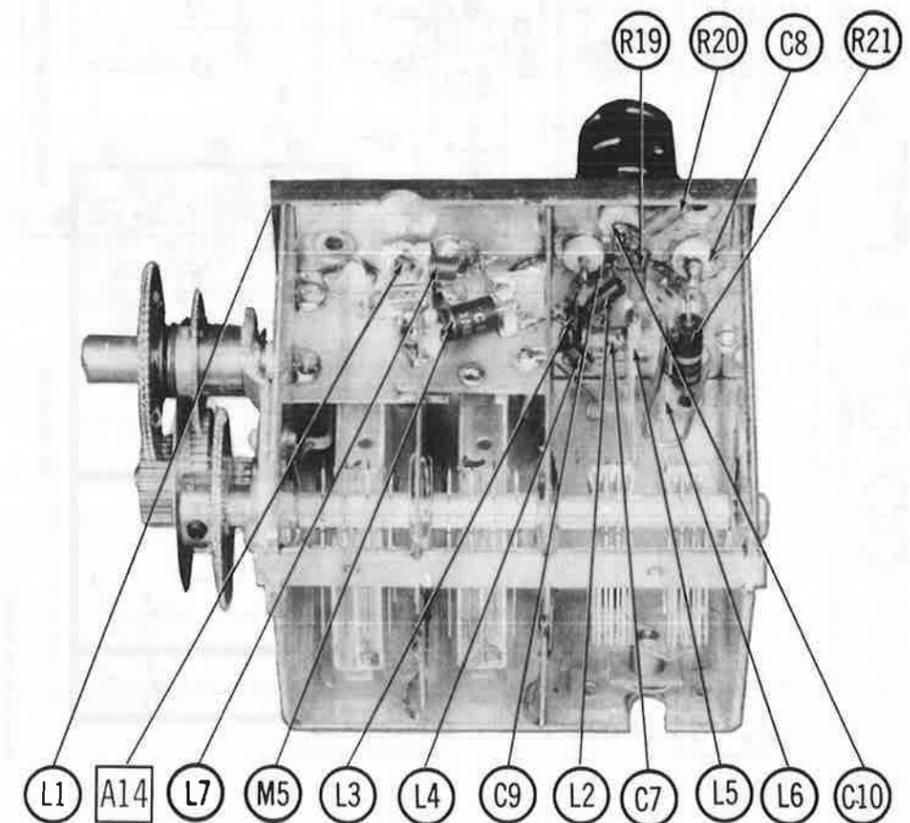
VIDEO PRINTED BOARD



VERTICAL PRINTED BOARD

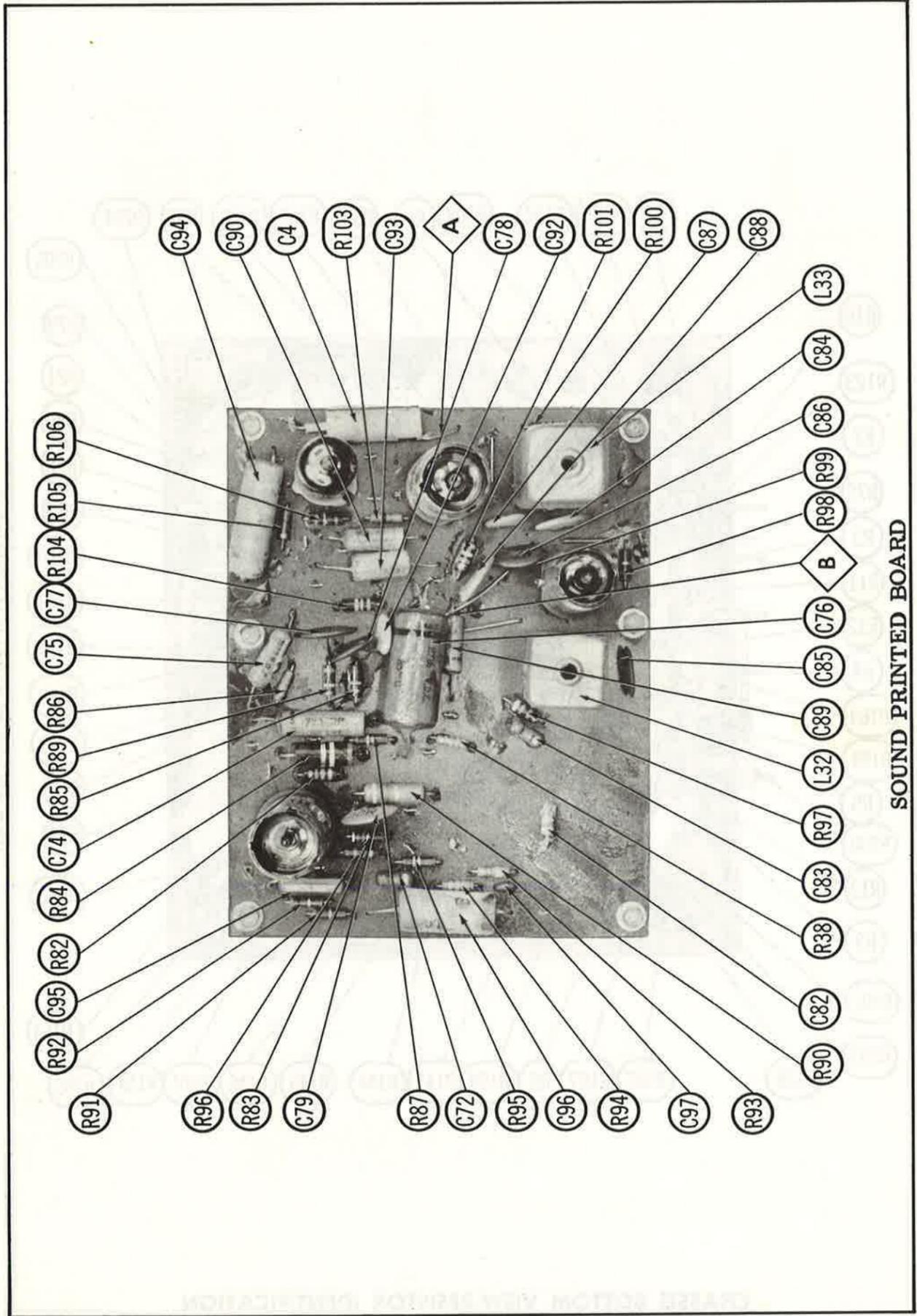


VHF TUNER-TOP VIEW

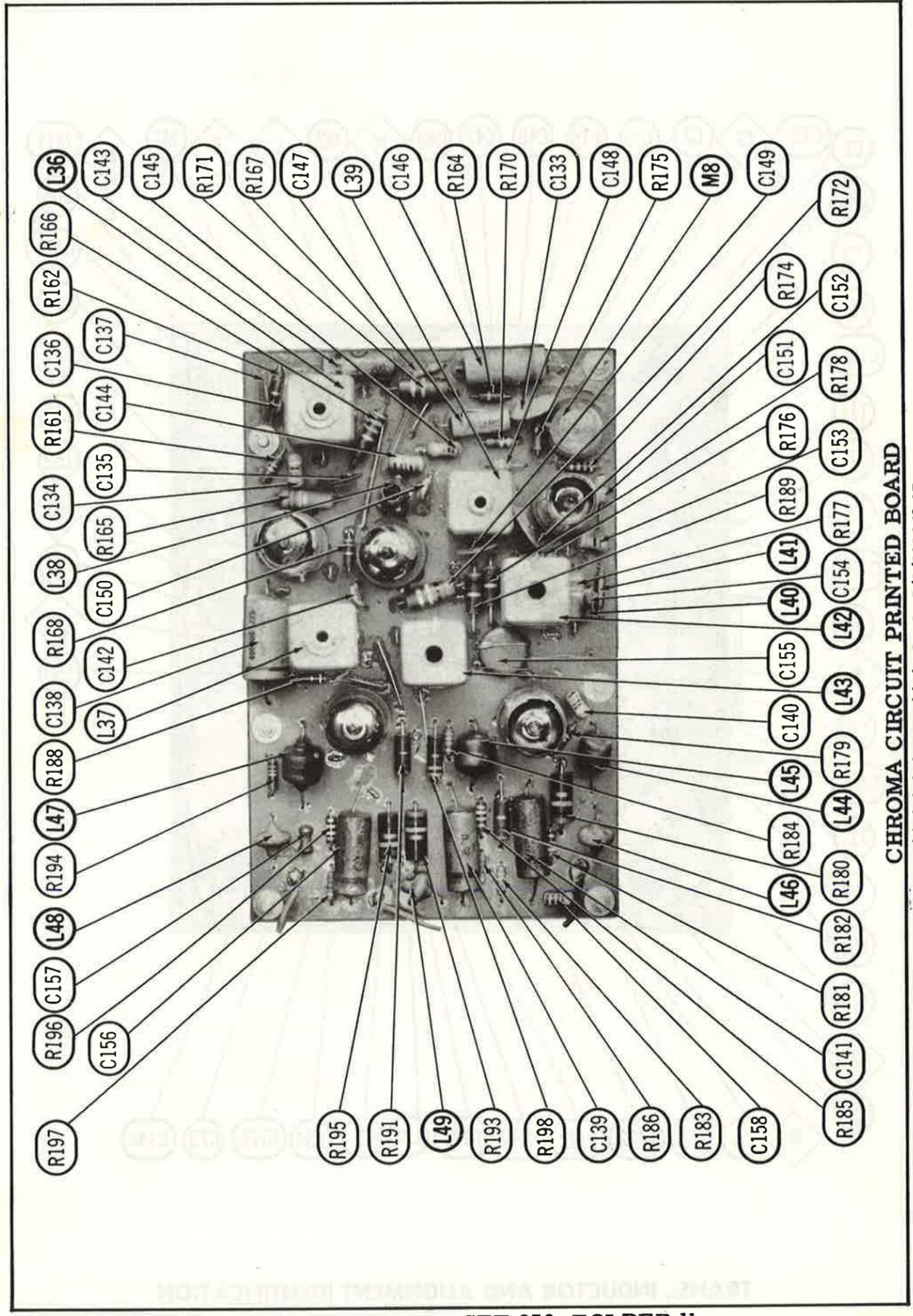


UHF TUNER SIDE VIEW

RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CS-7835, U, 21-CS-7837, U, 21-CS-7855, U, 21-CS-7857, U, 21-CS-7865, U, 21-CS-7866, U, 21-CS-7867, U, (Ch. CT65, A, B, C, D, E)

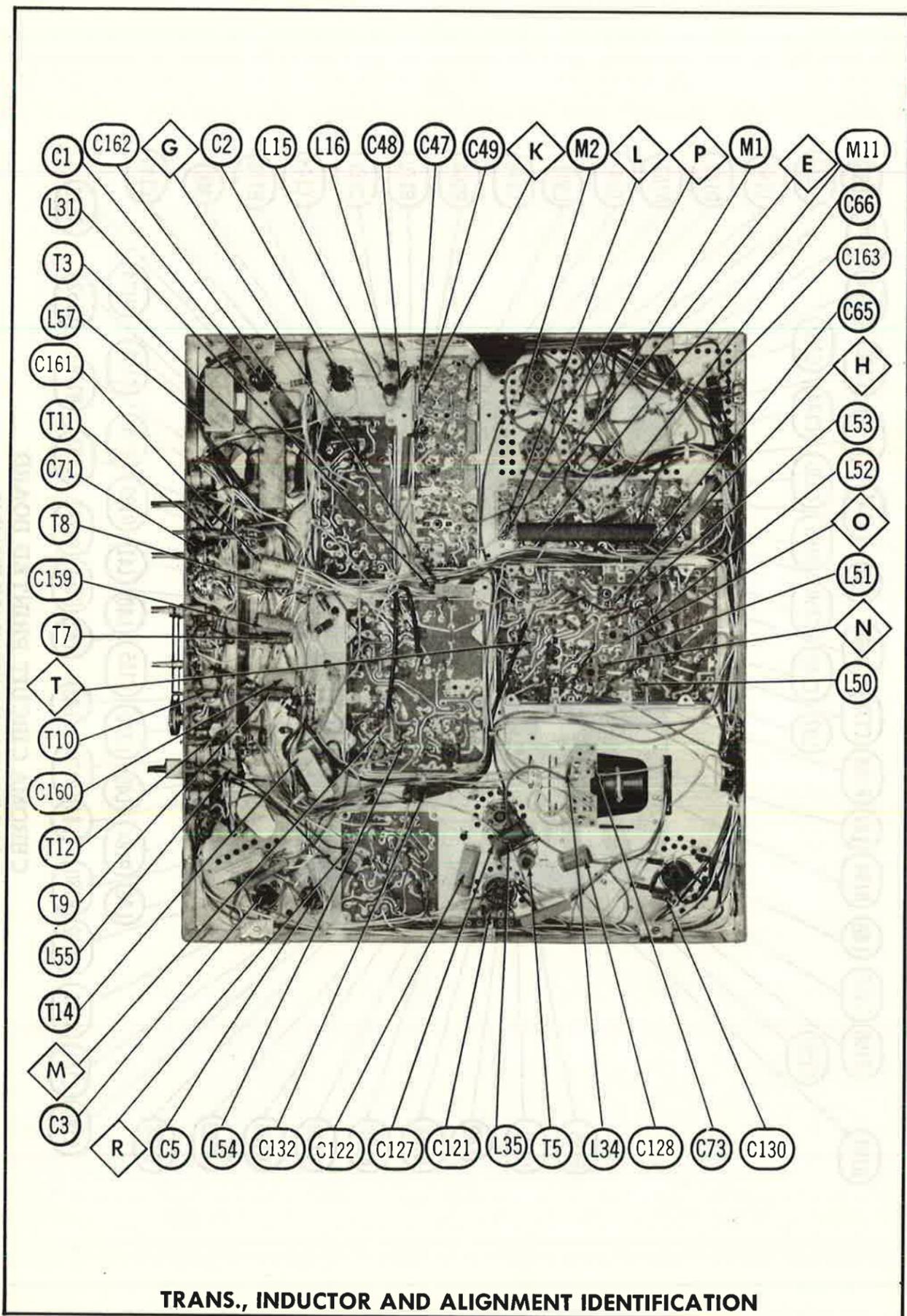


SOUND PRINTED BOARD

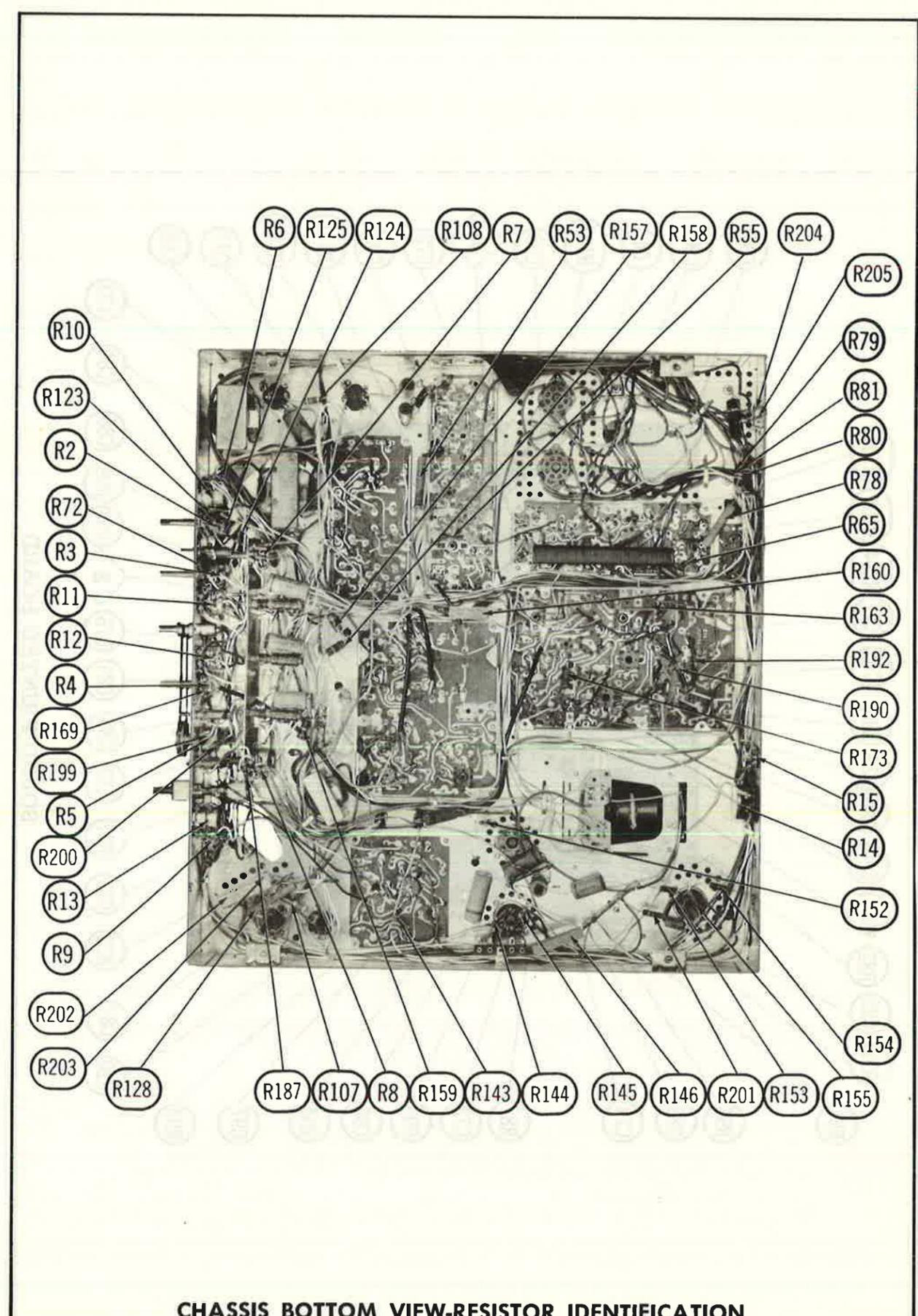


CHROMA CIRCUIT PRINTED BOARD

RCA VICTOR MODELS 21-C5-7815, U, 21-C5-7817, U, 21-C1-7835, U, 21-C1-7837, U, 21-C1-8855, U, 21-C1-8857, U, 21-C1-8858, U, 21-C1-7866, U, 21-C1-7868, U, 21-C1-7869, U, 21-C1-7870, U, 21-C1-7871, U, 21-C1-7872, U, 21-C1-7873, U, 21-C1-7874, U, 21-C1-7875, U, 21-C1-7876, U, 21-C1-7877, U, 21-C1-7878, U, 21-C1-7879, U, 21-C1-7880, U, 21-C1-7881, U, 21-C1-7882, U, 21-C1-7883, U, 21-C1-7884, U, 21-C1-7885, U, 21-C1-7886, U, 21-C1-7887, U, 21-C1-7888, U, 21-C1-7889, U, 21-C1-7890, U, 21-C1-7891, U, 21-C1-7892, U, 21-C1-7893, U, 21-C1-7894, U, 21-C1-7895, U, 21-C1-7896, U, 21-C1-7897, U, 21-C1-7898, U, 21-C1-7899, U, 21-C1-7900, U, 21-C1-7901, U, 21-C1-7902, U, 21-C1-7903, U, 21-C1-7904, U, 21-C1-7905, U, 21-C1-7906, U, 21-C1-7907, U, 21-C1-7908, U, 21-C1-7909, U, 21-C1-7910, U, 21-C1-7911, U, 21-C1-7912, U, 21-C1-7913, U, 21-C1-7914, U, 21-C1-7915, U, 21-C1-7916, U, 21-C1-7917, U, 21-C1-7918, U, 21-C1-7919, U, 21-C1-7920, U, 21-C1-7921, U, 21-C1-7922, U, 21-C1-7923, U, 21-C1-7924, U, 21-C1-7925, U, 21-C1-7926, U, 21-C1-7927, U, 21-C1-7928, U, 21-C1-7929, U, 21-C1-7930, U, 21-C1-7931, U, 21-C1-7932, U, 21-C1-7933, U, 21-C1-7934, U, 21-C1-7935, U, 21-C1-7936, U, 21-C1-7937, U, 21-C1-7938, U, 21-C1-7939, U, 21-C1-7940, U, 21-C1-7941, U, 21-C1-7942, U, 21-C1-7943, U, 21-C1-7944, U, 21-C1-7945, U, 21-C1-7946, U, 21-C1-7947, U, 21-C1-7948, U, 21-C1-7949, U, 21-C1-7950, U, 21-C1-7951, U, 21-C1-7952, U, 21-C1-7953, U, 21-C1-7954, U, 21-C1-7955, U, 21-C1-7956, U, 21-C1-7957, U, 21-C1-7958, U, 21-C1-7959, U, 21-C1-7960, U, 21-C1-7961, U, 21-C1-7962, U, 21-C1-7963, U, 21-C1-7964, U, 21-C1-7965, U, 21-C1-7966, U, 21-C1-7967, U, 21-C1-7968, U, 21-C1-7969, U, 21-C1-7970, U, 21-C1-7971, U, 21-C1-7972, U, 21-C1-7973, U, 21-C1-7974, U, 21-C1-7975, U, 21-C1-7976, U, 21-C1-7977, U, 21-C1-7978, U, 21-C1-7979, U, 21-C1-7980, U, 21-C1-7981, U, 21-C1-7982, U, 21-C1-7983, U, 21-C1-7984, U, 21-C1-7985, U, 21-C1-7986, U, 21-C1-7987, U, 21-C1-7988, U, 21-C1-7989, U, 21-C1-7990, U, 21-C1-7991, U, 21-C1-7992, U, 21-C1-7993, U, 21-C1-7994, U, 21-C1-7995, U, 21-C1-7996, U, 21-C1-7997, U, 21-C1-7998, U, 21-C1-7999, U, 21-C1-8000, U



TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

RCA VICTOR MODELS 21-CS-7815, U, 21-CS-7817, U, 21-CT-7835, U,  
 21-CT-7837, U, 21-CT-7855, U, 21-CT-7857, U, 21-CT-7865, U,  
 21-CT-7866, U, 21-CT-7867, U (Ch. CTC5, A, B, C, D, E)

