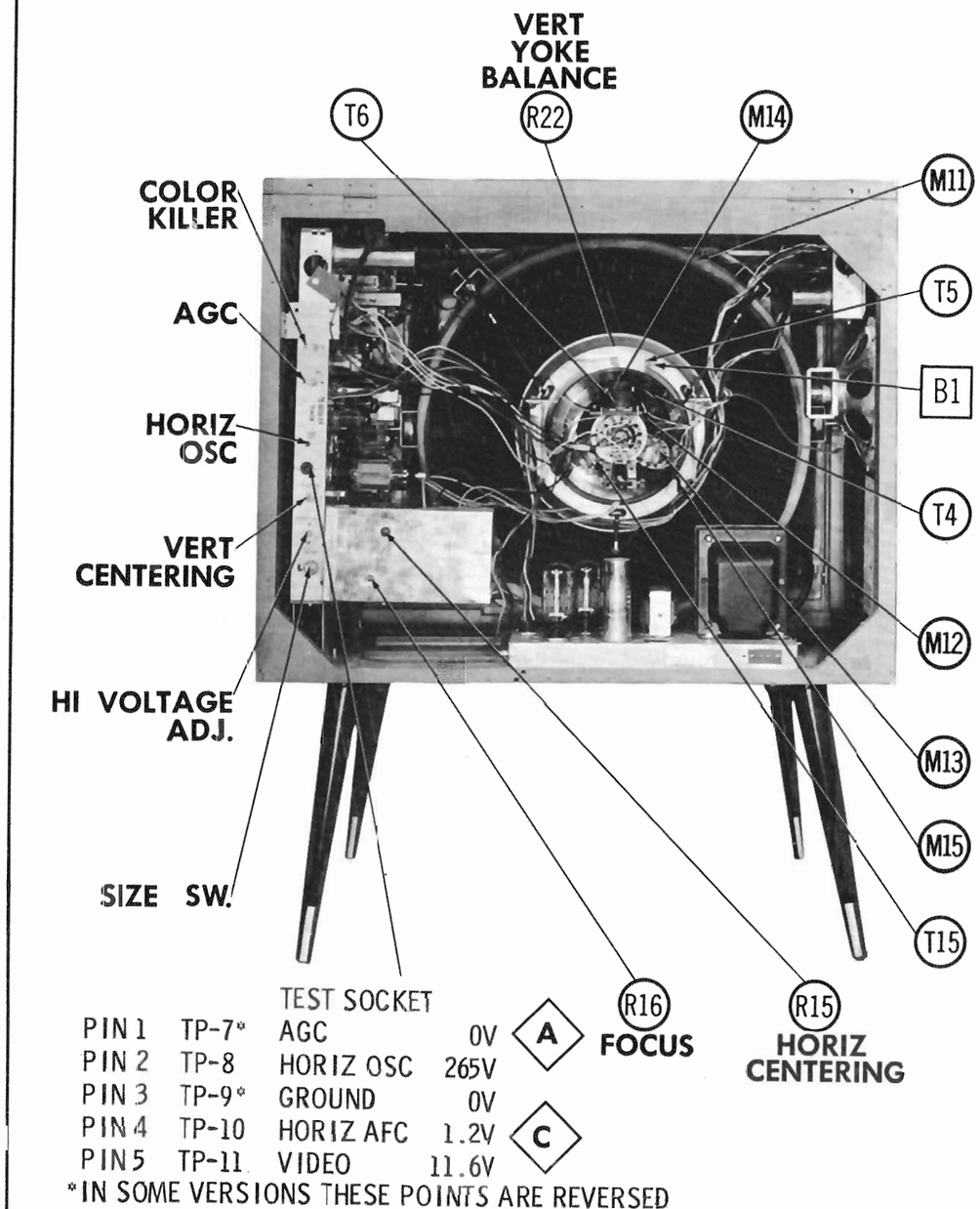


CABINET REAR VIEW

PHOTOFACT* Folder

MOTOROLA MODELS Y21CT2B, M, 21CT2B, M (Ch. TS-905, Y)

MODEL 21CT2M (Ch. TS-905)

TRADE NAME	Motorola	MODELS	CHASSIS
		Y21CT2B, Y21CT2M	TS-905Y
		21CT2B, 21CT2M	TS-905
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois		
TYPE SET	Color Television Receiver		
TUBES	Thirty		
POWER SUPPLY	110-120 Volts AC, 60 Cycle	RATING 430 Watts, 4.2 Amp. @ 117 Volts AC	
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

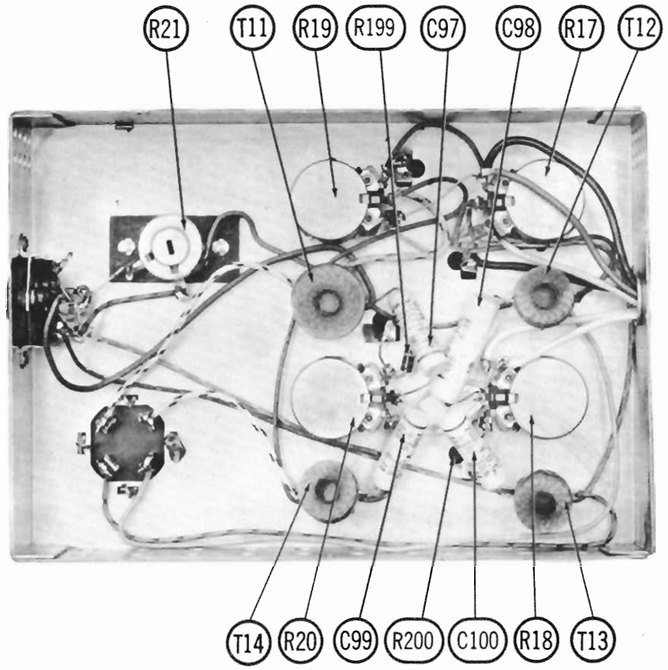
INDEX

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

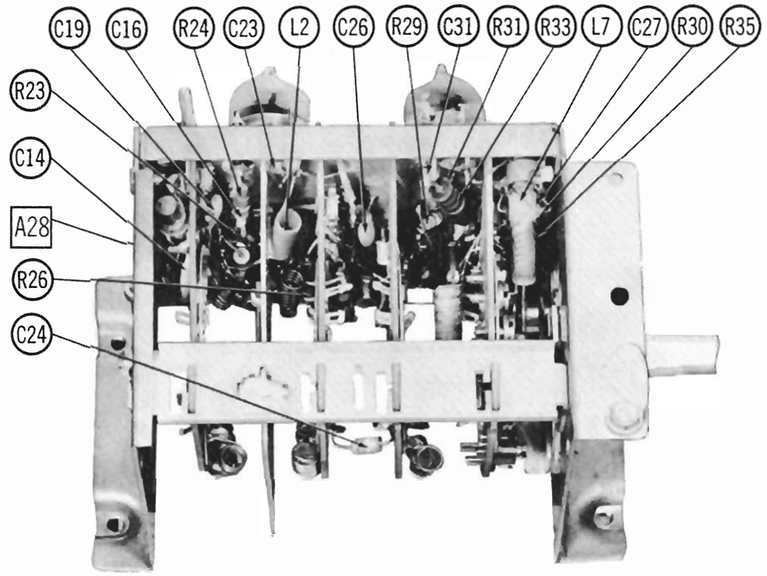
G954

DATE 9-57 SET 371 FOLDER 5

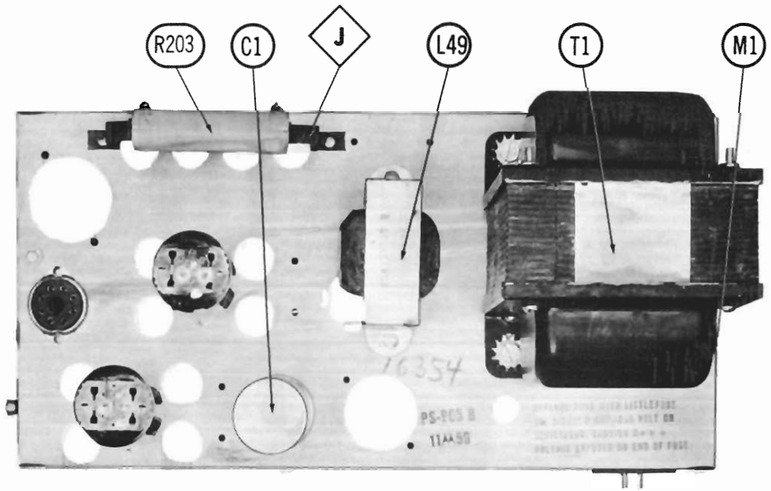
MOTOROLA MODELS Y21CT2B, M, 21CT2B, M (Ch. TS-905, Y)



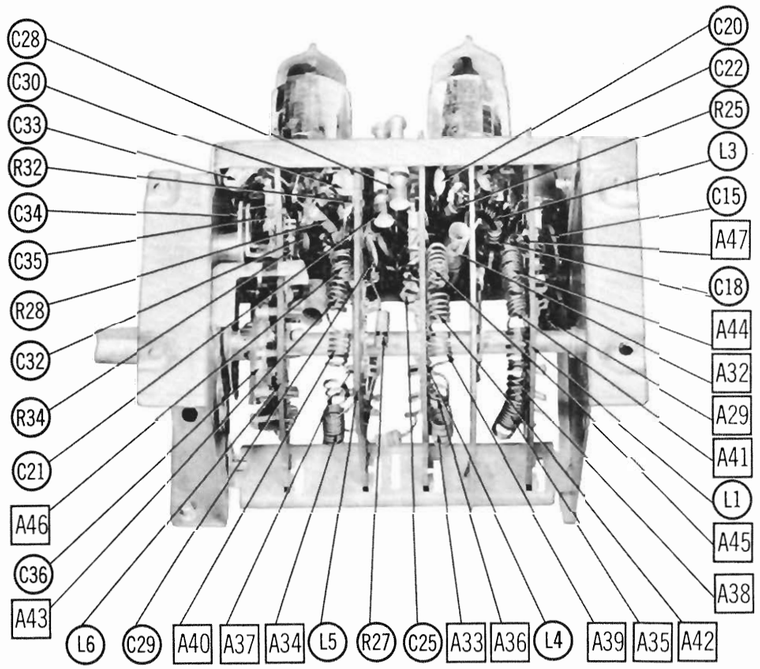
CONVERGENCE CHASSIS BOTTOM VIEW



RF TUNER-LEFT SIDE



POWER CHASSIS



RF TUNER-RIGHT SIDE

COLOR KILLER

AGC

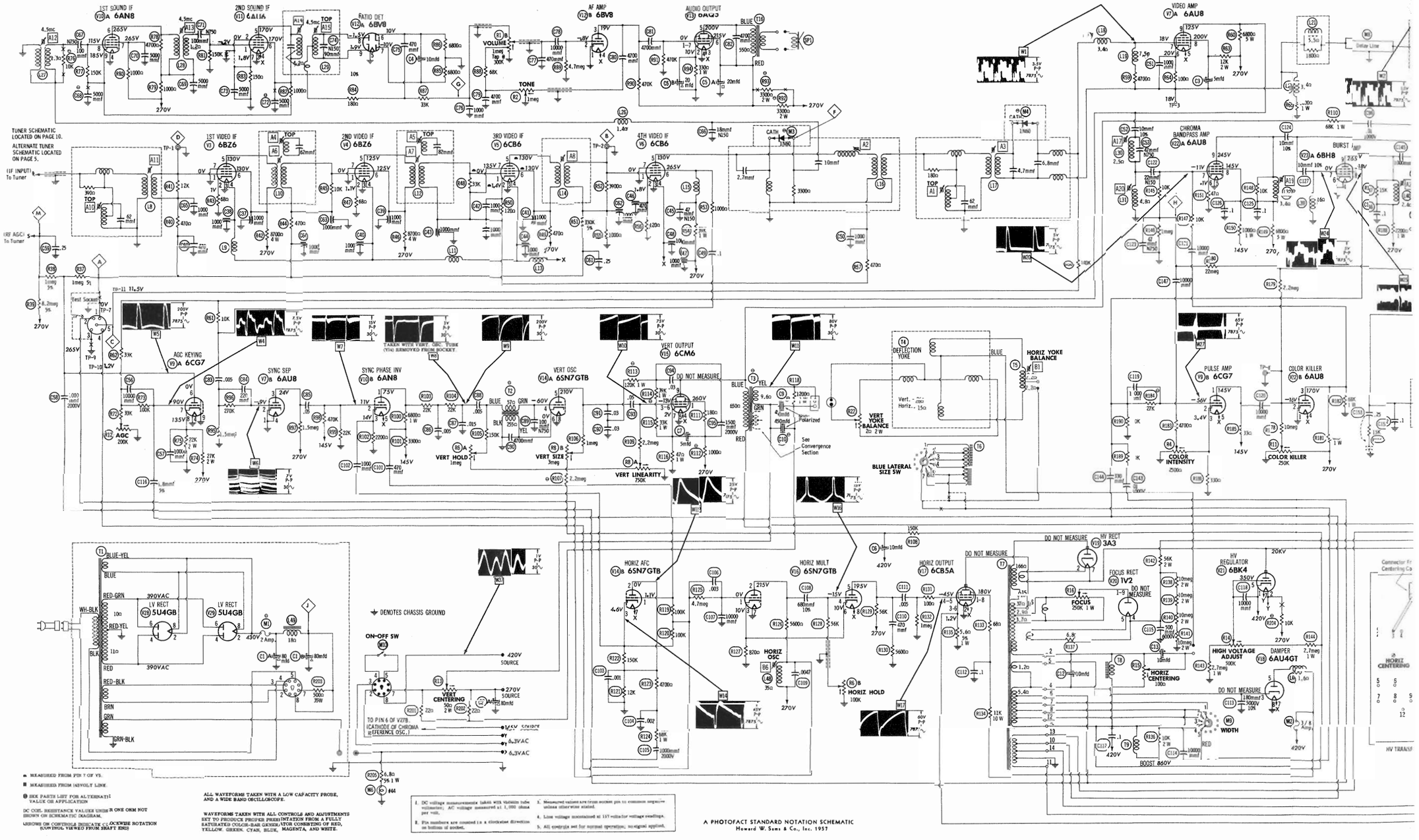
HORIZ OSC

VERT CENTERING

HI VOLTAGE ADJ.

SIZE SW.

PIN 1 TP-7*
PIN 2 TP-8
PIN 3 TP-9*
PIN 4 TP-10
PIN 5 TP-11
*IN SOME VERSIO



- MEASURED FROM PIN 7 OF V5.
- MEASURED FROM 145VOLT LINE.
- SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM.

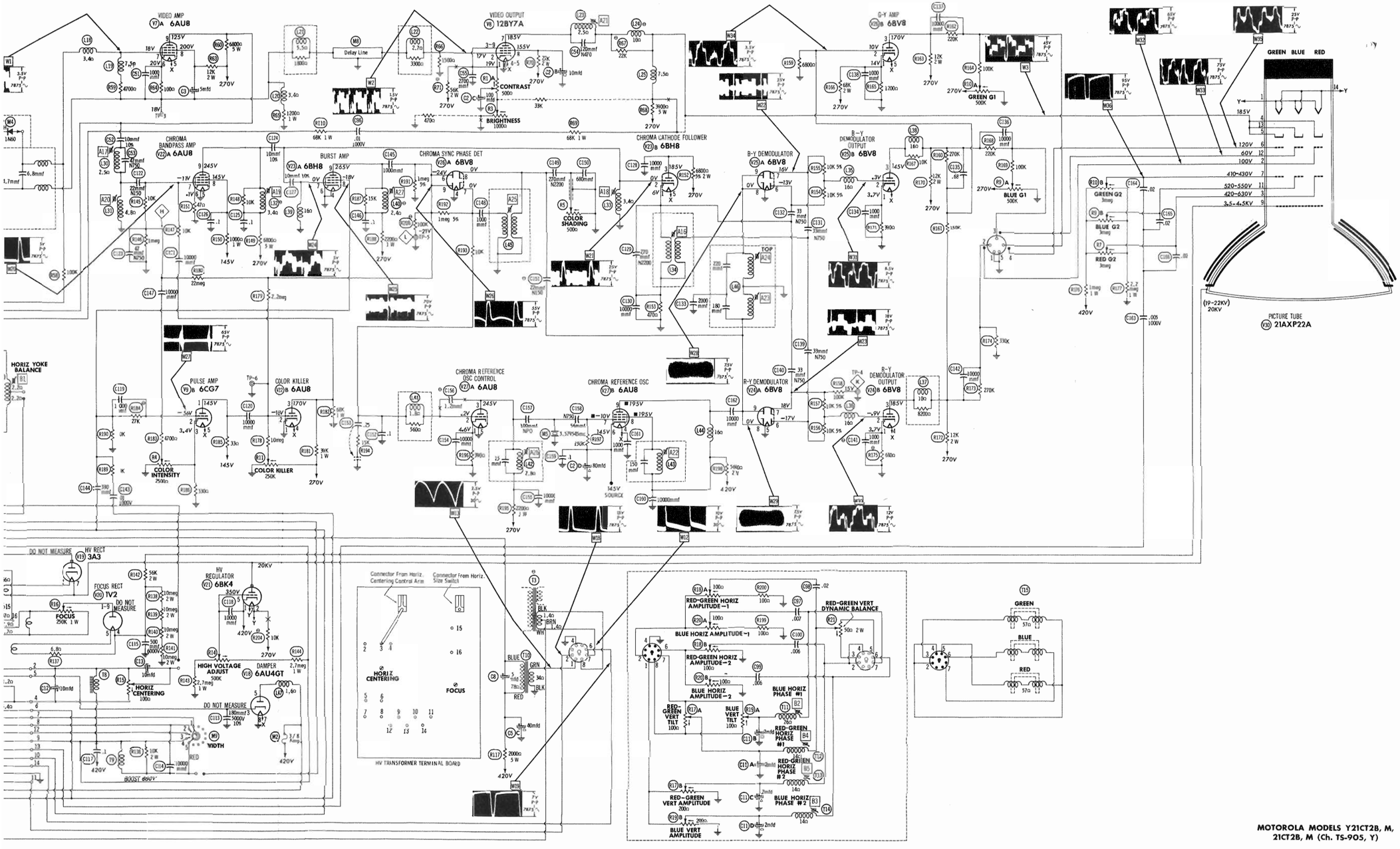
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

ALL WAVEFORMS TAKEN WITH A LOW CAPACITY PROBE, AND A WIDE BAND OSCILLOSCOPE.

WAVEFORMS TAKEN WITH ALL CONTROLS AND ADJUSTMENTS SET TO PRODUCE PROPER PRESENTATION FROM A FULLY SATURATED COLOR-BAR GENERATOR CONSISTING OF RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA, AND WHITE.

1. DC voltage measurements taken with VTVM (vacuum tube voltmeter). AC voltage measured at 1,000 ohms per volt.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation, no signal applied.

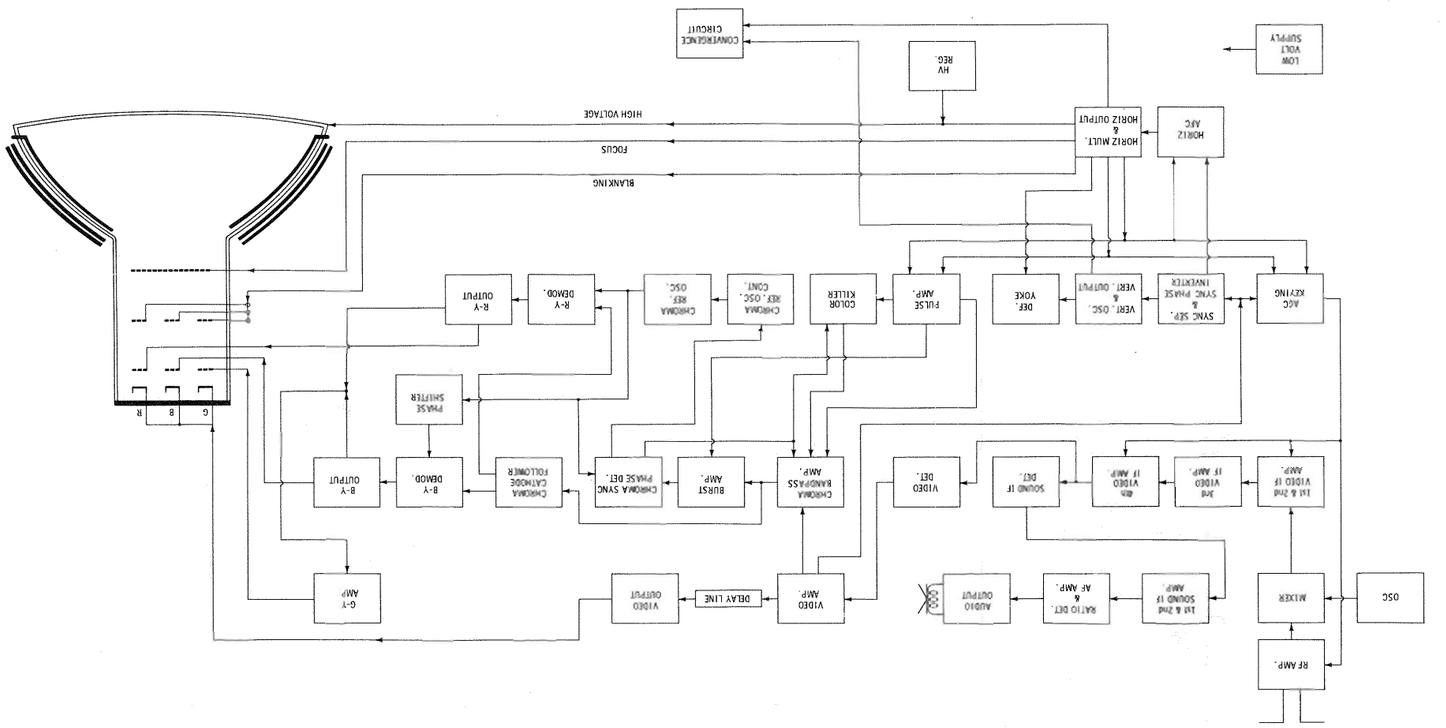
A PHOTOFACT STANDARD NOTATION SCHEMATIC
Howard W. Sams & Co., Inc. 1957



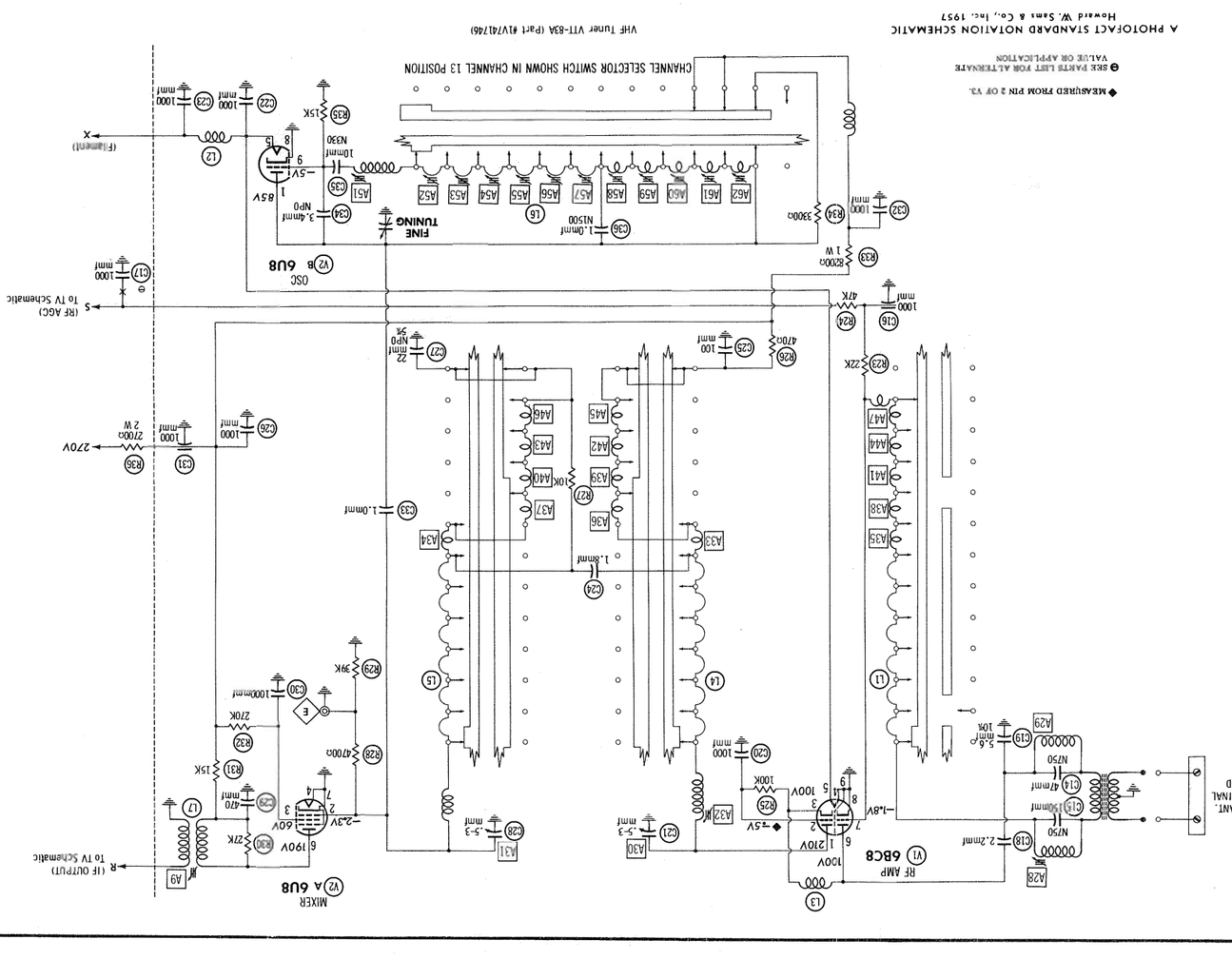
MOTOROLA MODELS Y21CT2B, M, 21CT2B, M (Ch. TS-905, Y)

MOTOROLA MODELS Y21CT2B, M, 21CT2B, M (Ch. TS-905, Y)

BLOCK DIAGRAM



TUNER SCHEMATIC



CHASSIS TOP VIEW

ALIGNMENT INSTRUCTIONS (cont)

VHF OSCILLATOR ALIGNMENT

The tuner cover must be in place.
Use a non-metallic alignment tool.
Connect the negative lead of a 4.5 volt bias supply to point Ⓐ. Positive to chassis.
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.
Use only enough sweep generator output to provide a usable pattern on scope.
Set the fine tuning control to the center of its range.
Use only enough sweep generator output to provide a usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
28.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC	13	Vert. Amp. thru 47K to point Ⓒ. Low side to chassis.	A51	Adjust to place sound marker in trap notch as in Fig. 14.
			207MC (10MC Swp)	205.25MC	12		A52	
			201MC (10MC Swp)	199.25MC	11		A53	
			195MC (10MC Swp)	193.25MC	10		A54	
			189MC (10MC Swp)	187.25MC	9		A55	
			183MC (10MC Swp)	181.25MC	8		A56	
			177MC (10MC Swp)	175.25MC	7		A57	
			85MC (10MC Swp)	83.25MC	6		A58	
			79MC (10MC Swp)	77.25MC	5		A59	
			69MC (10MC Swp)	67.25MC	4		A60	
			63MC (10MC Swp)	61.25MC	3		A61	
			57MC (10MC Swp)	55.25MC	2		A62	

44MC TRAP ALIGNMENT

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
29.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	44.0MC (10MC Swp)	44.0MC	2	Vert. Amp. thru 47K to point Ⓒ. Low side to chassis.	A28	Readjust A28 for MINIMUM amplitude at 44.0MC.

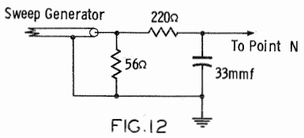


FIG. 12

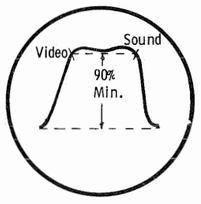


FIG. 13

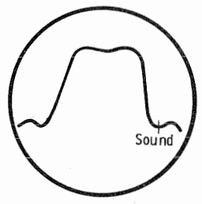


FIG. 14

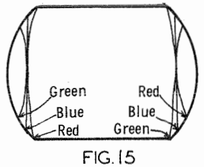


FIG. 15

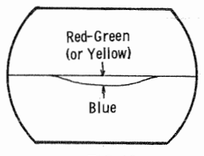


FIG. 16

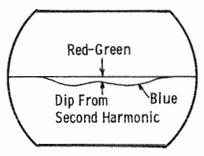


FIG. 17

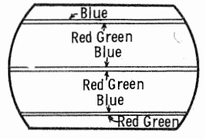


FIG. 18

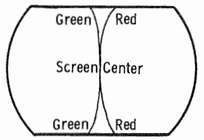
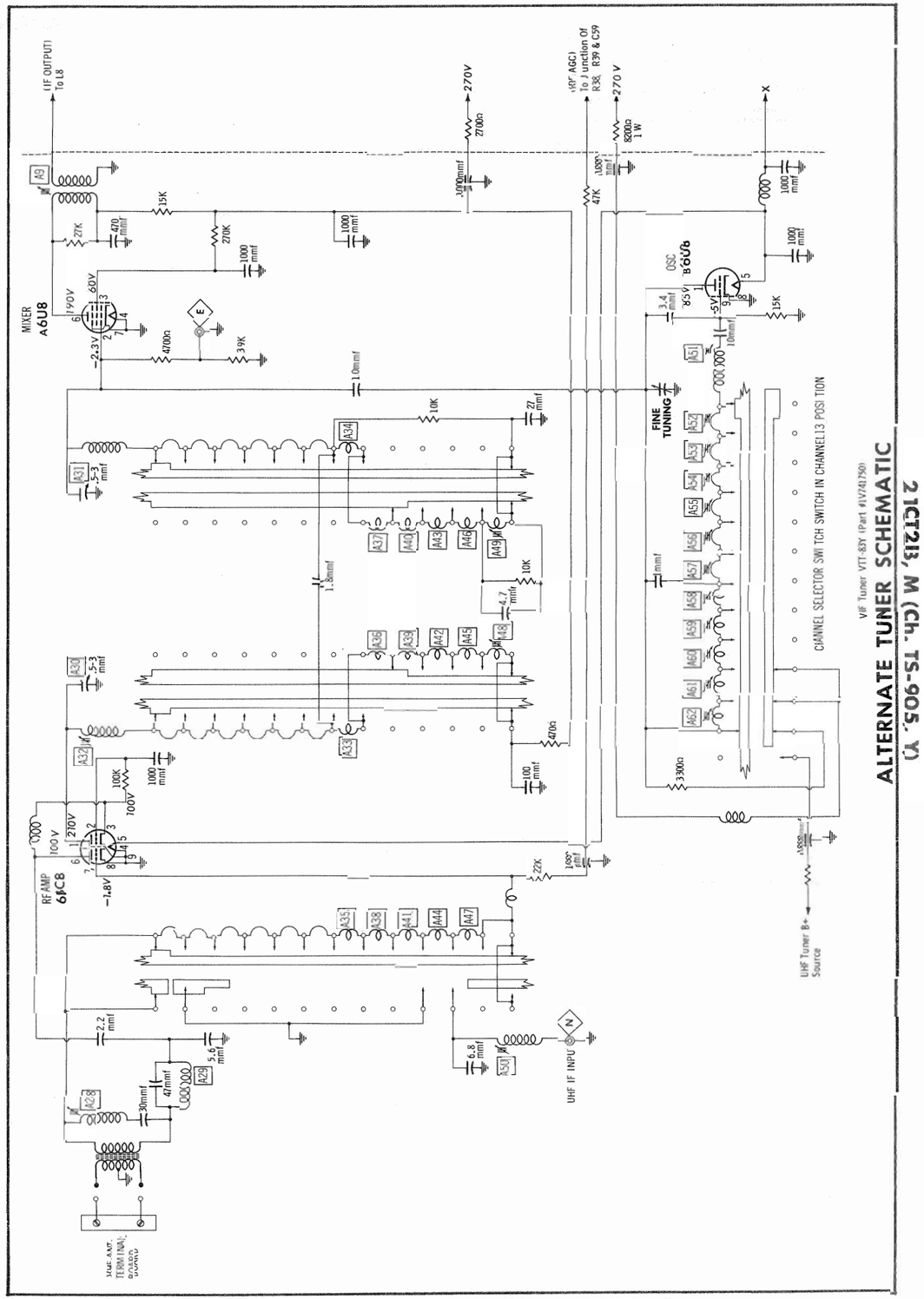


FIG. 19



MOTOROLA MODELS Y21CT2B, M, 21CT13, M (Ch. TS-905, Y)

ALTERNATE TUNER SCHEMATIC

VHF Tuner VTT-83Y (Part #LVN41750)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Maintain line voltage at 117 volts.
Remove the horizontal output tube (V17) and connect a 2000Ω 100W resistor from point Ⓙ to chassis.

VIDEO IF ALIGNMENT

Connect the negative lead of 6 volt bias supply to point Ⓐ. Positive to chassis.
Disable the tuner oscillator by grounding pin 9 (grid) of mixer oscillator tube (V2) thru a hole provided in the tuner base.
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.
Use only enough sweep generator output to provide a usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	.001MFD	High side to point Ⓑ. Low side to chassis.	44.0MC	41.25MC	Any non-interfering channel	Vert. Amp. to point Ⓒ. Low side to chassis.	A1, A2, A3	Adjust A1 to place 41.25MC marker in trap notch, A2 to place 45.75MC marker at 90% on curve and A3 to place 41.85MC marker at knee of curve. (See Fig. 1).
2.	"	High side to point Ⓓ. Low side to chassis.	"	39.75MC 41.85MC 45.75MC 47.25MC	"	"	A4, A5, A6, A7, A8	Adjust A4 to place 47.25MC in trap notch, A5 to place 39.75MC marker in proper trap notch, A6 to place 45.75MC at 70% on curve and A7 to place 41.85MC marker at not less than 90% on knee of curve. (See Fig. 2). Adjust A8 for flat response. (10% maximum tilt).
3.	"	High side to point Ⓔ. Low side to chassis.	"	41.25MC 43.5MC 45.75MC	"	"	A9, A10, A11	Adjust A9 to place 45.75MC marker at 50% on curve, A10 to place 41.25MC marker in trap notch, A11 to place 43.5MC marker in center of response curve and touch-up A8 if necessary to correct for excessive tilt. (See Fig. 3). If necessary, retouch any of adjustments (A1 thru A11) for proper response.

SOUND IF ALIGNMENT

Connect bias as under "Video IF Alignment".
Use only enough generator output to provide a usable indication on VTVM.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
4.	.001MFD	High side to point Ⓕ. Low side to chassis.	4.5MC (Unmod.)	Any non-interfering channel	DC probe to pin 7 (plate) of 6BV8 (V12). Common to chassis.	A12, A13, A14	Adjust for maximum deflection.
5.	"	"	"	"	DC probe to point Ⓖ. Common to chassis.	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

CHROMA BANDPASS ALIGNMENT

Connect the negative lead of a 6 volt bias supply to point Ⓗ. Positive to chassis.
Remove the chroma reference oscillator crystal (M5) and connect a short across the crystal socket terminals.
Remove the video detector crystal (M4).
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
6.	.001MFD	High side to pin 2 (grid) of 6BH8 (V23). Low side to chassis.	5.0MC (Unmod)	3.58MC	Any non-interfering channel	Vert. Amp. to point Ⓘ. Low side to chassis.	A16	Adjust for maximum amplitude at 3.58MC as in Fig. 4.
7.	Fig. 5	Construct isolating transformer and connect as shown in Fig. 5.	"	2.8MC 4.1MC 4.5MC	"	"	A17, A18, A19, A20	Adjust A17 to place 4.5MC in trap notch, A18 to place 2.8MC at knee of curve, A19 for MINIMUM tilt at high end of curve and A20 for flat response. (See Fig. 6).
8.	"	"	"	3.58MC	"	Vert. Amp. thru detector (Fig. 7) to pin 4, 5 or 13 (cathodes) of picture tube. Low side to chassis.	A21	Turn contrast control fully counter clockwise and adjust A21 for MINIMUM amplitude at 3.58MC (See Fig. 8).

CHROMA AFC ALIGNMENT

Allow a 20 minute warm-up period for the receiver and test equipment.
Set the color intensity control fully counter clockwise and the color shading control at the center of its range.
Set the color killer control fully clockwise.
Remove the burst amplifier tube (V23) from its socket.
Careful adjustment of A22 imperative since incorrect tuning can render the oscillator unstable or completely inoperative.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
9.	Direct	Color bar generator across antenna terminals or connect antenna and tune in color broadcast.	Not used	Any non-interfering channel	DC probe to point Ⓚ. Common to chassis.	A22	Adjust A22 for maximum deflection starting with slug near bottom of can.
10.	"	"	"	"	"	A23	"
11.	"	"	"	"	"	A24	Adjust for MINIMUM deflection starting with slug near top of can. Repeat step 8. Turn A22 one turn toward bottom of can.
12.	"	"	"	"	"		Repeat adjustment of A24. VTVM should read at least 15 volts at this time.
13.	"	"	"	"	DC probe to point Ⓒ. Common to chassis.	A25	Adjust for maximum deflection with color shading control (R5) at center of its range. Then readjust for equal readings at either extreme settings of R5.
	Set shading control (R5) at position that produces MINIMUM deflection of VTVM at point Ⓛ. Advance Chroma and Color Killer Controls (R4 and R11) until video is visible on picture tube. Reinsert burst amplifier tube (V23) in its socket. Adjust A26 to bring color picture into sync. Reduce signal input and retouch A26 for best color sync.						
14.	Direct	Color bar generator across antenna terminals.	Not used	Any non-interfering channel	DC probe to point Ⓚ. Common to chassis. Vert. Amp. of scope to pin 3 of picture tube. Low side to chassis.	A27	Adjust for maximum deflection on VTVM, then for proper bar amplitude percentages as shown in Fig. 9 on scope.
15.	"	"	"	"	USE SCOPE. Vert. Amp. to pin 11 of picture tube. Low side to chassis.		Readjust A24 for proper bar percentages as in Fig. 9.

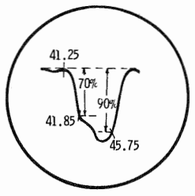


FIG. 1

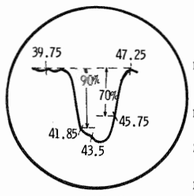


FIG. 2

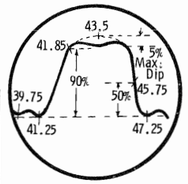


FIG. 3

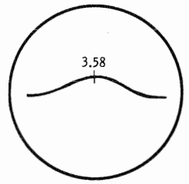


FIG. 4

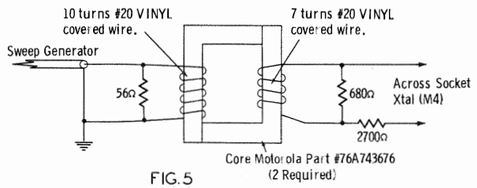


FIG. 5

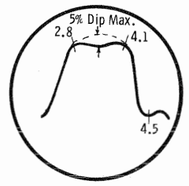


FIG. 6

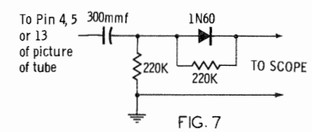


FIG. 7

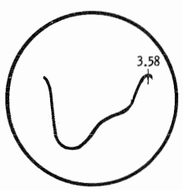


FIG. 8

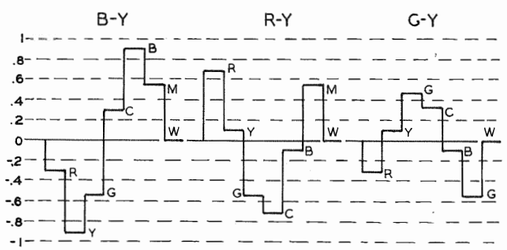


FIG. 9

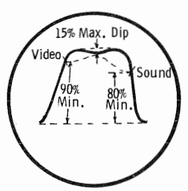


FIG. 10

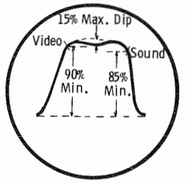


FIG. 11

VHF RF AND MIXER ALIGNMENT

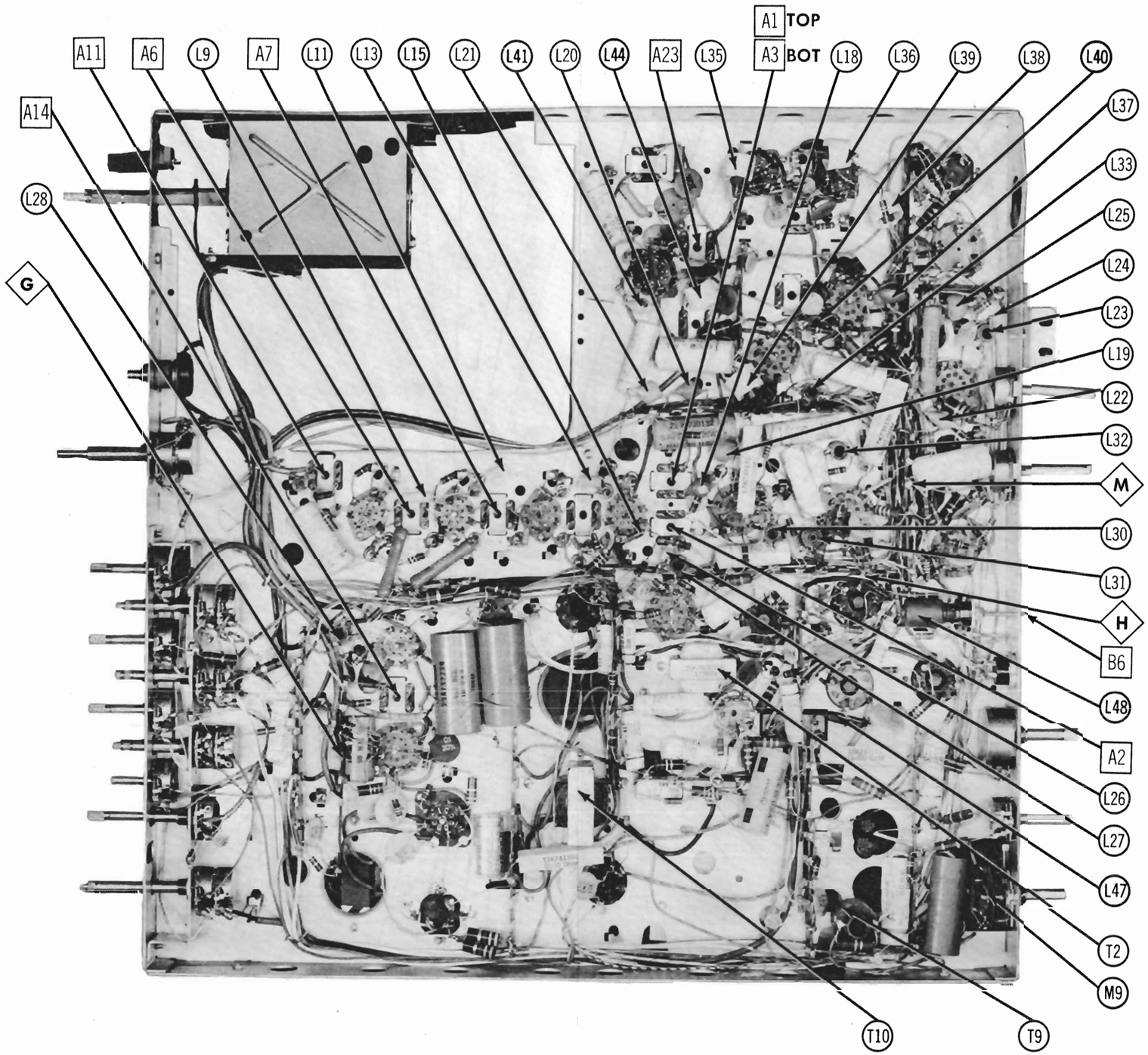
Connect a clip lead from point Ⓜ to chassis.
Remove the tuner cover.
Attenuate sweep generator to maintain approximately 1.5 volt peak to peak during alignment.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep 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
16.	Two 120Ω Carbon Resistors	Across VHF antenna terminals with 120Ω in each lead.	57.0MC (15MC Swp)	55.25MC 59.75MC	2	Vert. Amp. thru 47K to point Ⓑ. Low side to chassis.	A28	Adjust clockwise until its effect is below channel 2.
17.	"	"	85.0MC (15MC Swp)	83.25MC 87.75MC	6	"	A29	Expand coil turns until its effect is above channel 6.
18.	"	"	"	"	"	"	A30, A31	Set to mid-range position.
19.	"	"	213.0MC (15MC Swp)	211.25MC 215.75MC	13	"	A32	Starting with slug half-way in coil, adjust for maximum amplitude of response similar to Fig. 10.
20.	"	"	177MC (15MC Swp)	175.25MC 179.75MC	7	"	A30, A31	Adjust for maximum gain and symmetry of response similar to Fig. 10 with markers as shown.
21.	"	"	85MC (15MC Swp)	83.25MC 87.75MC	6	"	*A33, *A34, A35	Adjust coils whose "A" numbers are preceded by (*) first for proper marker positions. Adjust others for maximum gain and proper tilt. (See Fig. 11).
22.	"	"	"	"	"	"	A29	Adjust by expanding or compressing coil turns until the sound marker just begins to pull down.
23.	"	"	79MC (15MC Swp)	77.25MC 81.75MC	5	"	*A36, *A37, A38	Adjust coils whose "A" numbers are preceded by (*) first for proper marker positions. Adjust others for maximum gain and proper tilt. (See Fig. 11).
24.	"	"	69MC (15MC Swp)	67.25MC 71.75MC	4	"	*A39, *A40, A41	"
25.	"	"	63MC (15MC Swp)	61.25MC 65.75MC	3	"	*A42, *A43, A44	"
26.	"	"	57MC (15MC Swp)	55.25MC 59.75MC	2	"	*A45, *A46, A47	"

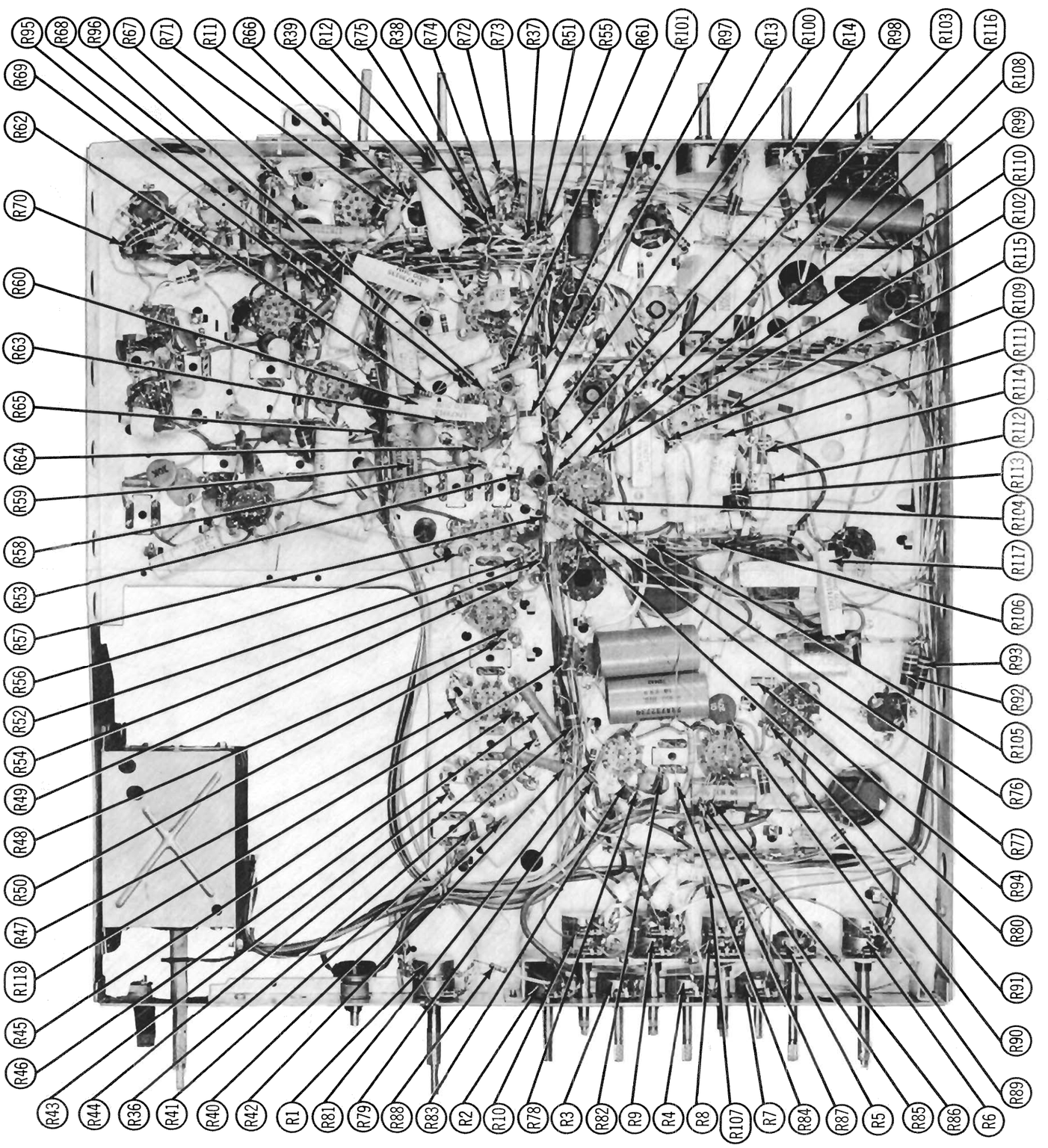
UHF IF ALIGNMENT

Unplug the UHF cable from the VHF tuner.
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.
Use only enough sweep generator output to provide a usable pattern on scope.

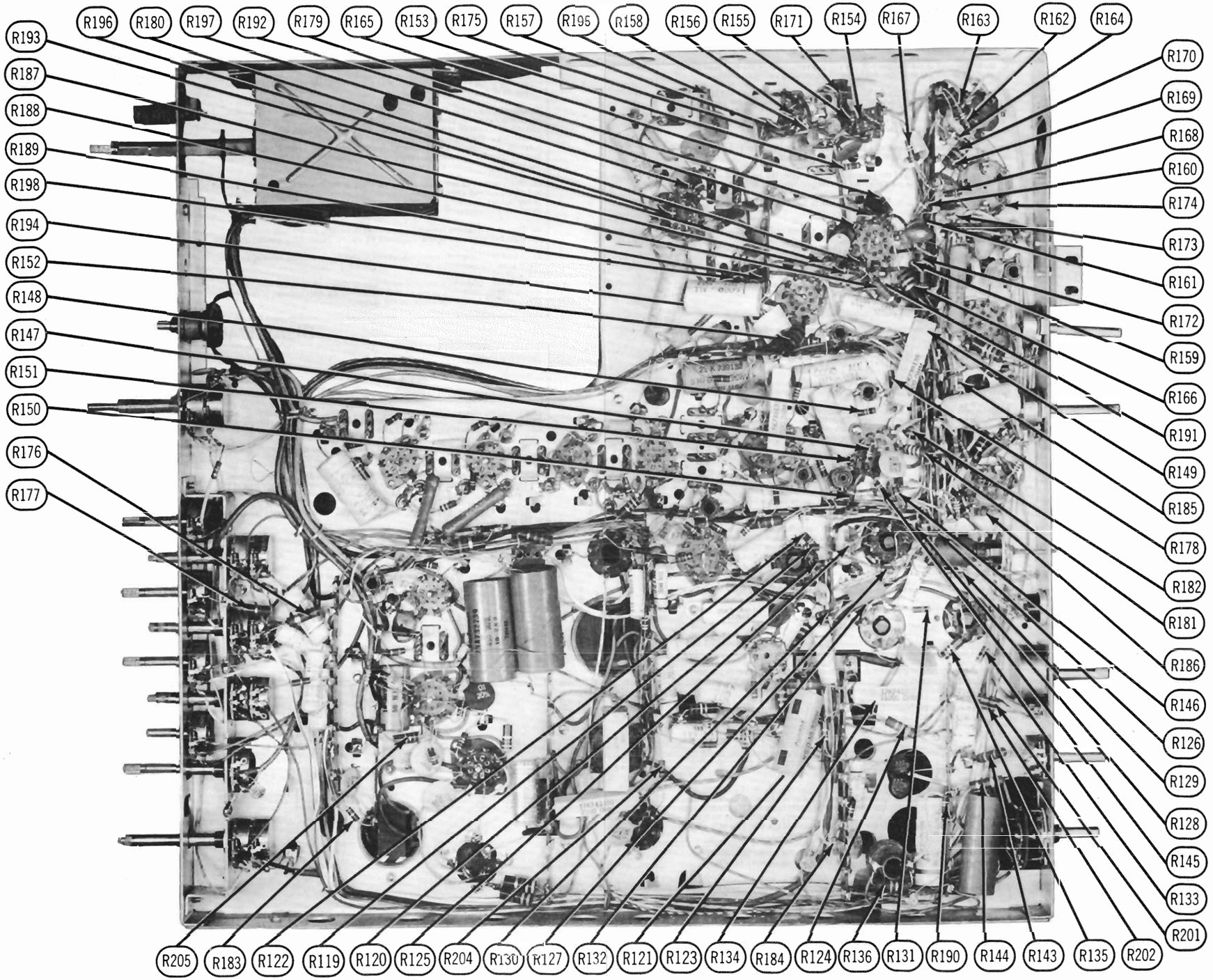
	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
27.	Fig. 12	High side thru network (Fig. 12) to point Ⓝ. Low side to chassis.	44MC (10MC Swp)	41.25MC 45.75MC	UHF	Vert. Amp. thru 47K to point Ⓑ. Low side to chassis.	A48, A49, A50	Adjust A48 and A49 for proper marker positions. Adjust A50 for maximum gain and proper tilt. (See Fig. 13).



CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION



CHASSIS BOTTOM VIEW - RESISTOR IDENTIFICATION R1 THRU R118



CHASSIS BOTTOM VIEW - RESISTOR IDENTIFICATION R119 THRU R 205

MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

The horizontal hold control should have a sync range of approximately 30 degrees. If the control is too critical, adjust the horizontal oscillator slug (B6) as follows:

1. Set all controls for a normal picture after tuning in a TV station, preferably with a test pattern.

2. Short the horizontal AFC circuit to chassis by connecting a short piece of wire from TP-10 (pin 4 of the service test receptacle) to chassis.

3. Connect a .1MFD 600 volt capacitor between TP-8 and ground of TP-9 (pins 2 and 3 of the service test receptacle) to short out the horizontal oscillator coil.

4. Adjust the horizontal hold control to the point where the picture almost maintains sync.

5. Remove the .1MFD capacitor shunting the horizontal oscillator coil and without changing the setting of the horizontal hold control, adjust the horizontal oscillator slug (B6) to the center of the range in which the picture almost remains stationary horizontally.

6. Remove the shorting wire from TP-10 and chassis, and adjust the horizontal hold control so that no foldover occurs at either side of the screen.

HIGH VOLTAGE ADJUSTMENT

This adjustment sets the proper operating point of the high voltage regulator tube to supply the proper voltage to the picture tube. After adjustment, check the focus, horizontal and vertical size and convergence. USE EXTREME CAUTION DUE TO SHOCK HAZARD.

1. Set the brightness and contrast controls fully counter clockwise and the horizontal size switch for maximum width. Turn the receiver off and allow sufficient time for the high voltage to discharge.

2. Connect the meter between the high voltage anode lead of the picture tube and chassis in any convenient manner. Leave the high voltage lead connected to the picture tube.

3. Turn the set on and allow time for the voltages to reach operating levels and adjust the high voltage regulator control for a reading of 20,000 volts. After adjusting, return all other controls to normal operating positions.

STATIC CONVERGENCE PROCEDURE

1. Remove the back cover and open the top of the cabinet.

2. Remove the octal plug from the small chassis located in the upper right hand side of the cabinet (looking from the rear). This will remove the effect of the dynamic convergence circuits while making static convergence adjustments.

3. Apply power to the receiver and allow a few minutes warm-up period.

4. Connect a white cross hatch pattern to the receiver and adjust the fine tuning for best definition of the pattern.

5. Adjust the brightness and contrast control for a normal picture.

6. Adjust the focus control for best focus.

7. Turn the AGC control clockwise until the receiver overloads and then back off 1/8th turn.

8. Observing the horizontal bars of the cross hatch pattern, de-center the raster vertically and note which color field is off convergence. Any one field may be displaced by as much as one whole line either vertically or horizontally and be very difficult to detect unless this procedure is used. If one field is found to be out of convergence in this manner, roughly converge using the convergence magnets and the blue beam positiong magnets.

9. Turn the receiver off and allow time for the high voltage to discharge. Check and adjust the high voltage as under "High Voltage Adjustments".

10. Adjust the vertical size and linearity controls and the horizontal size switch for proper cross hatch pattern.

11. Adjust the horizontal centering and the vertical centering for proper positioning of the raster.

12. Turn the receiver off and loosen the two screws that hold the deflection yoke in place. Pull the yoke toward the rear of the set as far as possible.

13. Remove the green and blue grid leads from the socket on the main chassis and plug them into the ground receptacles located on the same socket.

14. Turn the receiver on and rotate the red G2 control (R7) fully clockwise. Keep the contrast control as low as possible and the brightness control at normal brightness level.

15. Turn the channel selector to a blank channel so that no pattern is visible on the screen.

16. Position the purity magnet rings so that the tabs are together and produce no effect on the purity of the raster when the two rings are rotated together as a unit.

17. Separate the red tabs of the purity device a small amount so that a weak magnetic field is produced. Now rotate the purity device as a unit until the greatest amount of red area is obtained at the center of the raster. Continue to separate the tabs of the purity device rotating as a unit until the maximum red area is obtained at the center of the raster.

18. Move the yoke forward until the best location is found that will produce the best purity around the edges of the raster. After locating this position, tighten the screws that hold the yoke in place.

19. Adjust the rim magnets located along the outer rim of the picture tube for best red purity along the outer edges of the screen.

20. When the red purity has been adjusted for the best red purity throughout the screen, check the green field by replacing the green lead back in the correct pin receptacle and unplugging the red grid lead and plugging it in the ground receptacle. Do the same with the blue grid lead. Make any necessary compromise adjustments of the purity device to give best purity for all three color fields.

21. Insert the lead of the red gun into the red gun receptacle of the grid lead socket and plug the green and blue gun leads into the grounding receptacle holes.

22. Loosen the screws holding the yoke and slide the yoke backward and forward along the neck of the picture tube to find the best possible position for edge purity and overall purity.

23. Adjust the rim magnets for best edge purity.

24. Check the blue and green fields individually for best purity by grounding the two unwanted guns and sliding the yoke along the tube neck.

25. In the final positioning of the yoke and edge magnets, the individual red, blue and green fields should be pure over the largest possible area of the screen.

26. Reinsert the red, blue and green (G1) leads in their respective receptacle holes, for normal operation.

27. Turn the contrast control to near maximum and the brightness control for a low brightness raster.

28. Adjust the red, green and blue (G2) controls for a gray raster.

29. Retouch the rim magnets to remove any color shading that appears around the edges of the raster. Upon completion of this adjustment, the raster should be a uniform gray over the entire screen.

DEFLECTION FIELD CORRECTION ADJUSTMENTS

1. Disconnect the convergence assembly by unplugging the cable from the convergence chassis.

2. Set all receiver controls for a normal picture with optimum resolution of the cross hatch pattern.

3. Converge the pattern at the center of the screen with the red, blue and green beam positioning magnets and the blue lateral corrector magnet.

4. Observing only the red and green horizontal bars at the center of the picture, adjust the horizontal yoke balance slug (B1) until the red and green horizontal bars or lines are either superimposed upon each other or equally spaced with respect to each other over the entire length of the lines.

5. Again, observing only the red and green lines at the top of the screen, adjust the top horizontal keystone corrector (M15) by twisting both clockwise and counter clockwise until the red and green line are either superimposed or equally spaced from each other over the length of the lines.

6. Repeat procedure of step 5 observing the red and green horizontal lines at the bottom of the screen and adjusting the bottom horizontal keystone corrector.

7. Observing the red and green lines at the top and bottom of the screen, adjust the vertical yoke balance control (R22) so that the lines are either superimposed or equally spaced with respect to each other. Make sure that the red line is either above the green line at both top and bottom or below the green line at both top and bottom.

8. While observing the vertical lines at the left and right hand side of the screen, adjust the blue lateral size switch (M14), so that the blue vertical lines at both edges are spaced between the red and green lines at both edges of the screen. (See Fig. 15).

DYNAMIC CONVERGENCE PROCEDURE

1. Turn the receiver off and plug the convergence assembly octal socket into its receptacle on the convergence subchassis. Turn the receiver back on.

2. Turn the blue horizontal amplitude #1 control (R20A) fully clockwise and the blue horizontal amplitude #2 control (R20B) fully counter clockwise. Maintain focus throughout the convergence procedure.

3. Observe one blue horizontal line at the center of the screen and adjust the blue horizontal phase #1 (B2) for maximum displacement (separation) of the blue line with respect to the red and green lines over the center area of the screen. (See Fig. 16).

4. Turn the blue horizontal amplitude #2 control fully clockwise, then adjust the blue horizontal phase #2 (B3) for MINIMUM displacement of the center blue line with respect to the red and green lines. (See Fig. 17).

5. Turn the blue horizontal amplitude #2 control fully counter clockwise until the center horizontal blue line is parallel to the red and green lines. Reconverge the pattern at the center of the screen using the beam positioning and blue lateral corrector magnets. Recheck the setting of the blue horizontal amplitude #1 control and blue horizontal phase #1 (B2) for best convergence of the blue line with respect to the red and green lines across the center of the screen.

7. If any point along the center blue horizontal line is not converged, adjust the blue horizontal amplitude #2 control and the blue horizontal phase #2 (B3) for optimum convergence.

8. Turn the blue vertical amplitude control (R19B) fully counter clockwise and adjust the blue vertical tilt control (R19A) until the blue line is either superimposed or has equal separation from the red and green lines at the top and bottom of the screen.

9. Observe the blue horizontal line at the center of the screen and adjust the blue vertical amplitude control until the blue line is either superimposed on the red and green lines or is equally spaced with respect to the red and green lines from the top to the bottom of the screen as in Fig. 18.

MISCELLANEOUS ADJUSTMENTS (cont.)

10. Remove the blue grid lead from its receptacle on the main chassis and plug it into the ground pin of the receptacle.

11. Turn the red-green vertical amplitude control (R17B) fully counter clockwise. Converge the red and green rasters at the center of the screen by adjusting the red and green beam positioning magnets. Observe the center vertical red and green lines and adjust the red-green vertical tilt control (R17A) for symmetrical separation of the red line with respect to the green at the top and bottom of the screen as in Fig. 19.

12. Observe the red and green vertical lines thru the center of the screen and adjust the red-green vertical amplitude control until the red and green lines are either superimposed or are equally spaced in relation to each other. Reconverge the pattern at the center of the screen with the red and green beam positioning magnets. Recheck, and if necessary, readjust red-green vertical tilt and amplitude controls for optimum convergence of the center red and green lines from top to bottom.

13. Observe the red and green horizontal lines at the top and bottom of the screen and adjust the red-green vertical dynamic balance control (R21) with a screwdriver and the red and green lines at the top and bottom of the raster are superimposed. Reconverge the center, if necessary.

14. Turn the red-green horizontal amplitude #1 control (R18A) fully clockwise. Turn the red-green horizontal amplitude #2 control (R18B) fully counter clockwise.

15. Adjust the red-green horizontal phase #1 (B4) for maximum separation of the vertical bars at the center of the screen. (See Fig. 19).

16. Turn the red-green horizontal amplitude #2 control fully clockwise. Adjust the red-green horizontal phase #2 (B5) for MINIMUM displacement of the red and green vertical bars at the center of the screen.

17. Turn the red-green horizontal amplitude #2 control fully counter clockwise.

18. Turn the red-green horizontal amplitude #1 control counter clockwise until the red and green vertical bars across the center of the screen are equally spaced with respect to each other across the entire screen. Converge the red and green at the center of the screen using the red and green beam positioning magnets and recheck the adjustment of the red-green horizontal amplitude control (R6) and the red-green horizontal phase #1 (B4) for optimum convergence of the red and green vertical bars across the entire screen. Reconverge the center of the screen using the red and green beam positioning magnets.

19. If the bars are not converged at all points across the center of the screen, rotate the red-green horizontal amplitude #2 control clockwise for optimum convergence of all the bars. The red-green horizontal amplitude #2 control affects the same area of the screen as did the blue horizontal amplitude #2 control. However, the direction of movement is at a different angle for red and green than for blue.

20. Reinsert the blue grid lead into its proper receptacle. If the blue pattern is not converged with the red and green, readjust the proper blue controls as outlined previously for optimum convergence of the blue raster with respect to the red and green.

21. Recheck the center convergence and very carefully adjust the beam positioning magnets and the blue lateral corrector magnet for optimum convergence in the center of the raster. Study the screen carefully and if there are any areas which are not in convergence, a compromise adjustment should be made of the proper controls or slugs for optimum convergence of the areas around the center of the screen.

If the blue field appears to be tilted with respect to the others, rotate the rear cover of the yoke (NOT THE YOKE itself) as required to correct it.

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 8 push-on type control knobs from the front.

2. Remove 8 wood screws and the rear cover.

3. Remove the picture tube socket, power supply plug, filament lead plug, yoke plugs, blue size switch plug, high voltage connector, convergence chassis plug, convergence yoke assembly plug and chassis to power supply ground lead.

4. Remove 2 metal screws holding the chassis to the "U" shaped bracket at the bottom.

5. Push the 2 long rods, at the rear of the cabinet top near the hinges, toward the rear of the cabinet and raise the top, support it by the arm on the side of the cabinet.

6. Remove 4 wood screws holding the 2 "L" shaped brackets holding the chassis to the side of the cabinet.

7. Remove 1 metal screw holding the top "L" bracket to the chassis.

8. Remove the chassis.

9. Remove the convergence chassis by lifting it out of the top.

10. Remove 4 chassis bolts from the power supply and remove the power supply chassis.

PICTURE TUBE REMOVAL

1. Remove the chassis.

2. Place cabinet face down on a pad.

3. Remove the 3 rods holding the picture tube to the front of the cabinet.

4. Open the lid and loosen the bolt in the metal band which supports the rim purity magnets.

5. Remove the blue lateral positioning magnet, purity ring and convergence yoke assembly.

6. Remove the tube, yoke bracket assembly and tube shield.

SAFETY GLASS REMOVAL

NOTE: Before removing the safety glass make sure the set has been off long enough for the high voltage to have discharged.

1. Remove the channel selector and fine tuning knobs.

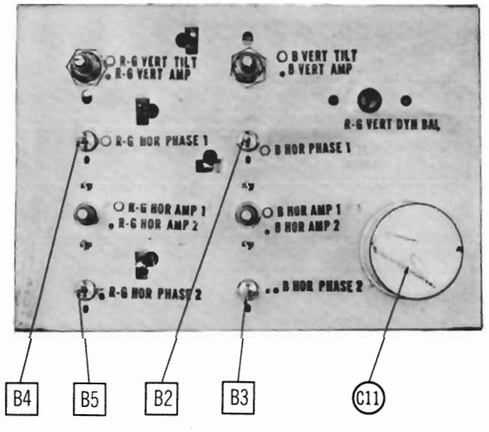
2. Remove 2 phillips head screws and the circular insert exposed by knob removal.

3. Remove 5 metal screws holding the metal trim at the bottom of the safety glass.

4. Remove 4 metal screws and the bottom glass retainer.

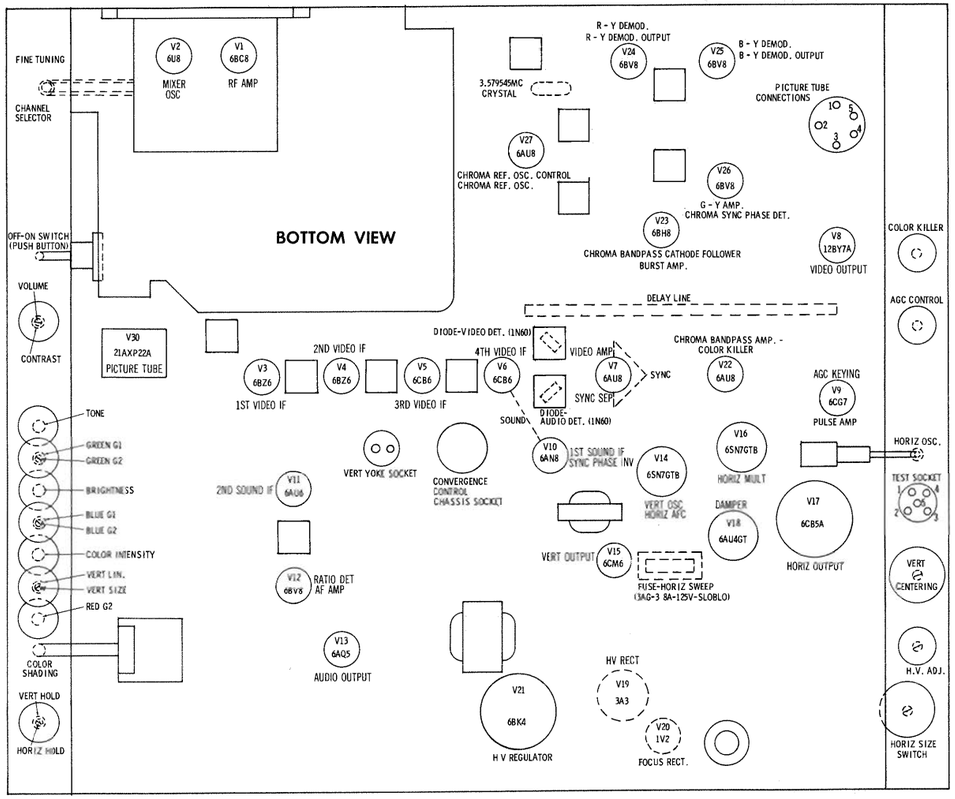
5. Remove 5 wood screws holding the metal trim at the top of the safety glass.

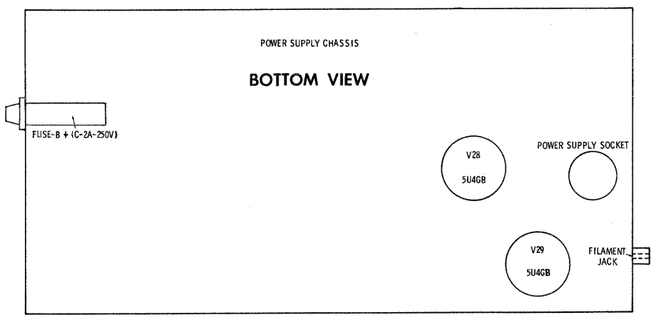
6. Pull the right side of the glass forward and to the right until it clears the channel on the left side, then remove the glass.

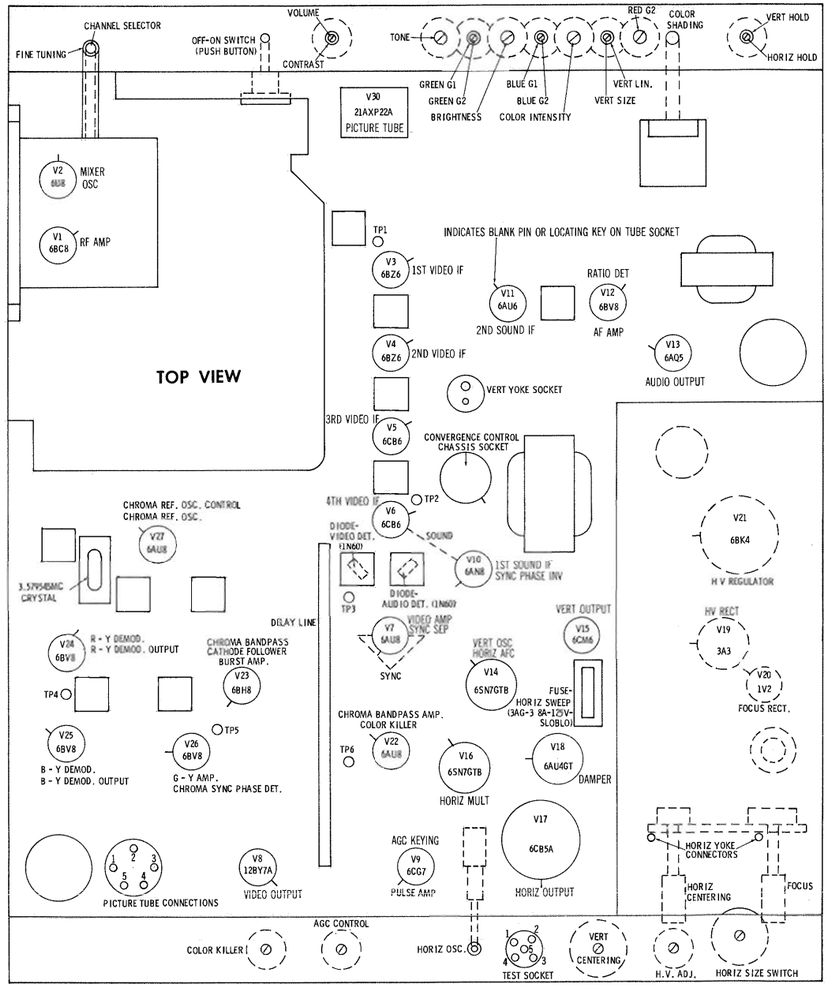


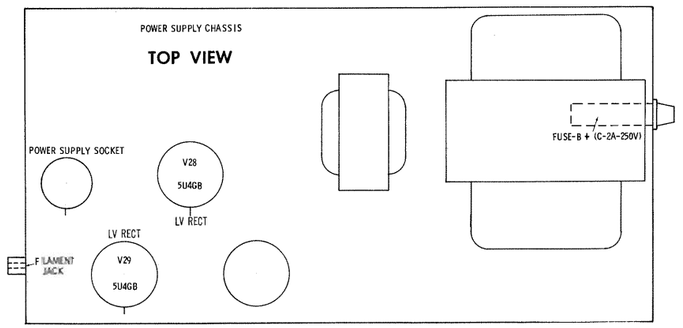
CONVERGENCE CHASSIS TOP VIEW

TUBE PLACEMENT CHART



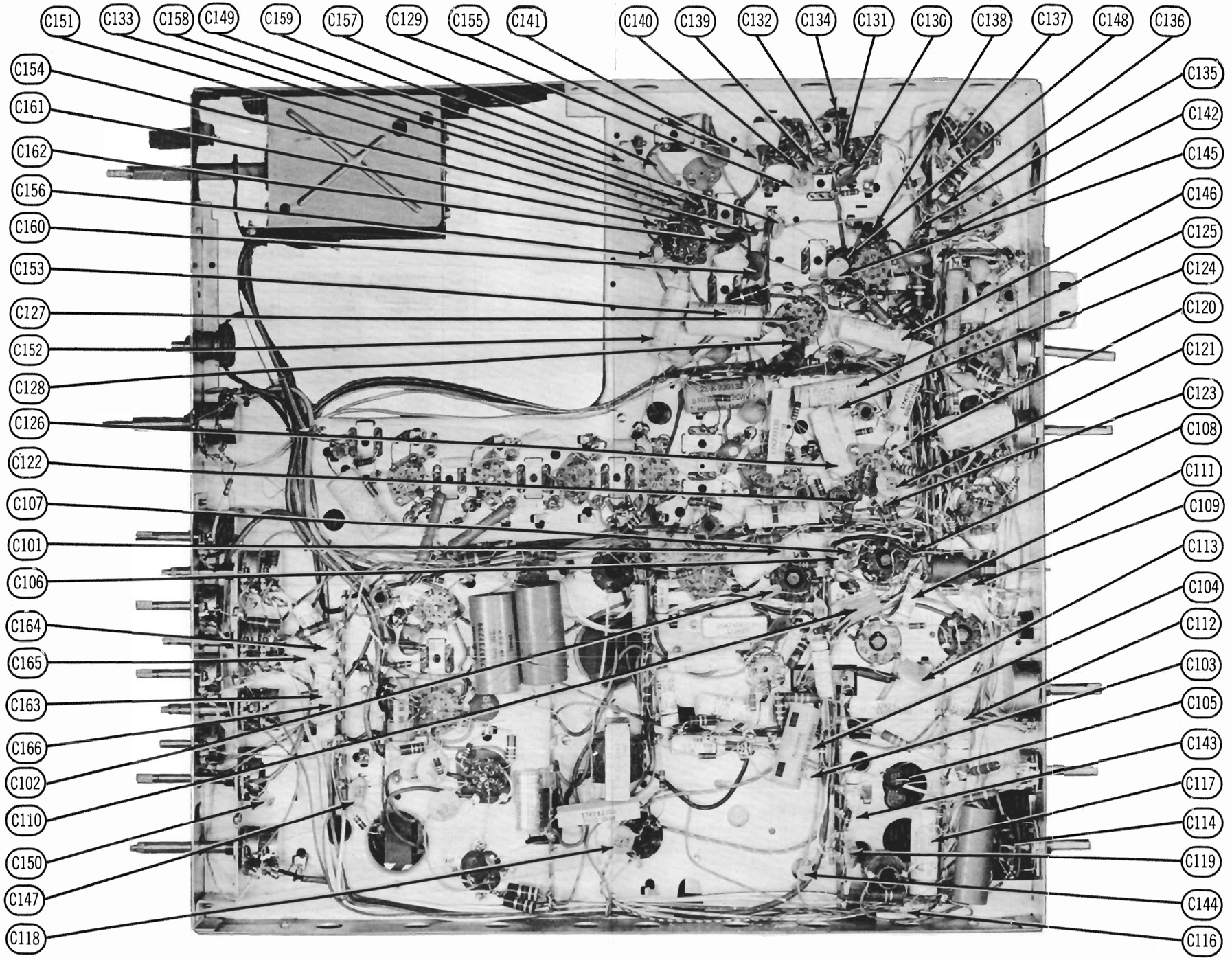






SET 371 FOLDER 5

CHASSIS BOTTOM VIEW - CAPACITOR IDENTIFICATION C2 THRU C96



CHASSIS BOTTOM VIEW - CAPACITOR IDENTIFICATION C101 THRU C166

RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BC8	†3800Ω	INF	INF	0Ω	.1Ω	INF	1.7Meg	0Ω	0Ω
V2	6U8	†14K	43K	†270K	0Ω	.1Ω	†18K	0Ω	0Ω	15K
V3	6BZ6	300K	68Ω	0Ω	.1Ω	†8800Ω	†8800Ω	0Ω		
V4	6BZ6	300K	68Ω	0Ω	.1Ω	†8800Ω	†8800Ω	0Ω		
V5	6CB6	▲0Ω	▲120Ω	0Ω	.1Ω	†1000Ω	†1000Ω	INF		
V6	6CB6	1000Ω	120Ω	0Ω	.1Ω	▲470Ω	†40K	0Ω		
V7	6AU8	0Ω	1.8Meg	†1.5Meg	.1Ω	0Ω	750Ω	3500Ω	†12K	†6800Ω
V8	12BY7A	500Ω	650Ω	500Ω	.1Ω	.1Ω	0Ω	†4400Ω	†22K	500Ω
V9	6CG7	■33Ω	37K	330Ω	0Ω	.1Ω	†1.1Meg	120K	14K	0Ω
V10	6AN8	■10K	22K	2200Ω	0Ω	.1Ω	†1600Ω	†1600Ω	INF	INF
V11	6AU6	150K	0Ω	0Ω	.1Ω	INF	INF	150Ω		
V12	6BV8	0Ω	4.7Meg	†470K	.1Ω	0Ω	6800Ω	6800Ω	•800K	•800K
V13	6AQ5	470K	330Ω	.1Ω	0Ω	†2200Ω	†1600Ω	470K		
V14	6SN7GTB	360K	12K	160K	•1.4Meg	•‡4Meg	255Ω	.1Ω	0Ω	
V15	6CM6	†1700Ω	TP	•2.3Meg	.1Ω	0Ω	•2.3Meg	47Ω	NC	†2700Ω
V16	6SN7GTB	5Meg	†56K	820Ω	•100K	†56K	820Ω	0Ω	.1Ω	
V17	6CB5A	†11K	0Ω	5.6Ω	1Meg	1Meg	5.6Ω	.1Ω	†11K	TOP CAP ‡17Ω
V18	6AU4GT	TP	NC	¶	NC	†20Ω	NC	.1Ω	0Ω	
V19	3A3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP ‡220Ω
V20	1V2	‡•40K	NC	NC	40Meg	40Meg	NC	NC	NC	•‡40K
V21	6BK4	†18Ω	†10K	NC	NC	•1.5Meg	NC	†10K	NC	TOP CAP INF
V22	6AU8	0Ω	•2Meg	†24K	.1Ω	0Ω	47Ω	1Meg	■1000Ω	†6800Ω
V23	6BH8	470Ω	3.4Ω	†6800Ω	0Ω	.1Ω	0Ω	16Ω	10K	†2200Ω
V24	6BV8	680Ω	INF	†11K	.1Ω	0Ω	INF	INF	.8Ω	.8Ω
V25	6BV8	390Ω	INF	†11K	0Ω	.1Ω	INF	INF	.7Ω	.7Ω
V26	6BV8	1200Ω	6800Ω	†11K	0Ω	.1Ω	800K	1.7Meg	.8Ω	800K
V27	6AU8	390Ω	1.7Meg	†2700Ω	.1Ω	0Ω	¶	■150K	†5600Ω	†5600Ω
V28	5U4GB	NC	¶	NC	11Ω	NC	10Ω	NC	¶	
V29	5U4GB	NC	¶	NC	11Ω	NC	10Ω	NC	¶	
V30	21AXP22A	†10K	•150K	•†1.6Meg	†4400Ω	†4400Ω	•120K	•†1.4Meg	NC	40Meg
						PIN 10 NC	PIN 11 •†1.5Meg	PIN 12 80K	PIN 13 †4400Ω	PIN 14 †10K

† MEASURED FROM PIN 2 OF V29.
‡ MEASURED FROM PIN 3 OF V18.
■ MEASURED FROM 145V SOURCE
• THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
▲ MEASURED FROM PIN 7 OF V5.
¶ THIS READING CAN VARY GREATLY, (10K MINIMUM), DUE TO THE CONDITION OF THE ELECTROLYTIC CAPACITOR CONNECTED IN THE ASSOCIATED CIRCUIT.
TP TIE POINT
NC NO CONNECTION

PARTS LIST AND DESCRIPTIONS (Continued)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	C *	2A 250V	65A742693	9B742694	332002 (C 2A)	346006	C2	HC 1 3/4 to 2 1/2
M2	3AG	3/8A 125V S/B	65K739192	31A737466	313.375 (3AG 3/8A S/B)	357001	MDL 3/8	4405

* Some versions may use 2A P/T.

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		MOTOROLA PART No.	CBS PART No.	SYLVANIA PART No.	
M3	1N60	48C739300 ①	1N60	1N60	Audio Det. (Clip-in)
M4	1N60	48C739300 ①	1N60	1N60	Video Det. (Clip-in)

① Some versions use part #48K741280 in this application.

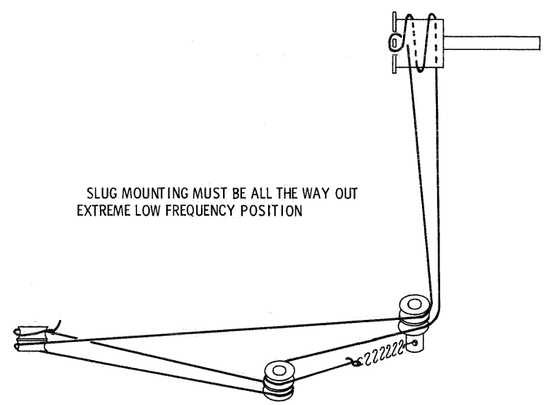
MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M5	Crystal	48B732230	3.579545MC
M6	Pilot Light	65X10867	Type #44
M7	Tuner	1V741746	VHF, VTT-83A (Ch. TS-905)
	Tuner	1V741750	VHF, VTT-83Y (Ch. TS-905Y)
	Tuner		UHF, TT-87 (Ch. TS-905Y)
M8	Delay Line	24B739071	
M9	Switch	40A740354	Horiz. Size
M10	Switch	40B739693	On-off (Pushbutton)
M11	Field Neutralizer	1D740647	Assy. (Includes Rim Purity Magnets)
M12	Magnet	59A734620	Purity
M13	Magnet	59K742713	Beam Position (Red, green, blue)
M14	Magnet	1C740556	Assy., Lateral (Includes blue size switch)
M15	Keystone Adjustment	1V740603	Includes yoke rear cover

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	61D740931	Clear
Mask	13F740677	
Knob	36K740976	VHF Channel Selector - Models 21CT2B, M
Knob	36C740975	VHF Channel Selector - Models Y21CT2B, M
Knob	36C740956	Fine Tuning
Knob	36B738678	Volume
Knob	36B738701	Contrast
Knob	36B730229	Tone, brightness, color intensity, color shading
Cabinet	16K741151	Oak - Models 21CT2B, Y21CT2B
Cabinet	16E741150	Mahogany - Models 21CT2M, Y21CT2M



UHF DRIVE CORD STRINGING

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	8"	PM	3-4Ω	50K740265	8A12R	

COILS (RF-IF)

ITEM No.	USE	MOTOROLA PART No.	NOTES
L1	VHF Ant. Coils	1C739266	Complete wafer assy., Includes C14, C15, C19
L2	Fil. Choke	24K730391	
L3	Neut. Coil	24A739397	
L4	VHF RF Coils	1C739264	Complete wafer assy., Includes C24, C25, R26
L5	Mixer Grid Coils	1C739265	Complete wafer assy., Includes C27, R27
L6	Osc. Coils	1K738928	Complete wafer assy., Includes C35, C36, R34
L7	Mixer Plate Coil	24B741732	

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L8	1st. Video IF	24B741417				Includes coupling coil, resistor and 41.25MC trap
L9	Fil. Choke	24A721274	19-1001	BC-562	4604	1.4 Microhenries
L10	2nd. Video IF	24B740980	17-5003	TV-128	6233	Includes 47.25MC Trap
L11	Fil. Choke	24A721274	19-1001	BC-562	4604	1.4 Microhenries
L12	3rd. Video IF	24B740982				Includes 39.75MC Trap
L13	Fil. Choke	24A721274	19-1001	BC-562	4604	1.4 Microhenries
L14	4th. Video IF	24B740984	17-5014	TV-126	6234	
L15	RF Choke	24K737829	19-1001	BC-562	4604	1.27 Microhenries
L16	5th. Video IF	24B741408				Includes caps., resistor, resonant coil (part #24R125367), and M3
L17	Video Det. Assy.	24B741410				Includes 41.25MC Trap, caps., resistor, two 10 microhenry coils (part #24R125367), and M4
L18	Series Peaking Coil	24K737447	19-3075	TV-186	6172	80 Microhenries
L19	Shunt Peaking Coil	24K736008	19-3250	TV-185	6130	270 Microhenries
L20	Shunt Peaking Coil	24K737447	19-3075	TV-186	6172	80 Microhenries
L21	Series Peaking Coil	24K740642	19-3180 *	TV-184 *	6180 *	180 Microhenries, wound on 1800Ω resistor
L22	Series Peaking Coil	24K740546	19-4060 ■		6110 ▲	56 Microhenries, wound on 3300Ω resistor
L23	3.58 MC Trap	24B740553	20-1004 ‡	TV-151 †		
L24	Series Peaking Coil	24K736963	19-3500	TV-188	6138	470 Microhenries - Note 1
L25	Shunt Peaking Coil	24K736008	19-3250	TV-185	6130	270 Microhenries
L26	RF Choke	24R119889	19-1005	BC-566	4612	10 Microhenries
L27	1st. Sound IF	24B739448	17-3402			
L29	2nd. Sound IF	24K739447				
L29	Ratio Det.	24B736673	17-3497	TV-115	6205	
L30	4.5MC Trap	24B740553	20-1004	TV-151	1469	
L31	Chroma Grid Coil	24K741610	17-6011			
L32	Chroma Plate Coil	24K741609				Note 2
L33	Bandpass Grid Coil	24K741609	17-6011			
L34	Bandpass Cathode Trans.	24B741402				
L35	Resonant Coil	24B738674				3.58MC, 825 Microhenries
L36	Resonant Coil	24B738674				3.58MC, 825 Microhenries
L37	Series Peaking Coil	24K741492	19-3500 ▲	TV-188 ▲	6138 ▲	470 Microhenries, wound on 8200Ω resistor
L38	Resonant Coil	24B738674				3.58MC, 825 Microhenries
L39	Resonant Coil	24B738674				3.58MC, 825 Microhenries
L40	Burst Amp. Plate Coil	24K742661	17-6011			Note 3
L41	Series Peaking Coil	24K740545				27 Microhenries, wound on 560Ω resistor
L42	Reactance Plate Coil	24B741405				Includes Cap.
L43	Osc. Screen Coil	24B741403				Includes Cap.
L44	Resonant Coil	24B738674				3.58MC, 825 Microhenries
L45	Color AFC Trans.	24B741402				
L46	Quadrature Trans.	24B741404				Includes Cap.
L47	RF Choke	24K740416	19-1005	BC-566	4612	10 Microhenries

* Parallel with 1800Ω resistor.
■ Parallel with 3600Ω resistor.
▲ Parallel with 3300Ω resistor.
▲ Parallel with 8200Ω resistor.
† Remove 47MMF and replace with 120MMF Cap.
‡ Parallel with 120MMF Cap.
Note 1. Some versions may use 270 microhenries wound 10K resistor (Part #24K740643) in this application.
Note 2. Some versions may use part #24K741610 in this application.
Note 3. Some versions may use part #24K741609 in this application.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.		REPLACEMENT DATA							NOTES
	PRI.	SEC.	MOTOROLA PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	
L48	35Ω		1V741392	19-1576 *	TV-163 *	6210 *			HS-5 *	11.8 - 60 Millihenries

* Fabricate mounting.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∿)	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L49	.530A	18Ω	.75 HY						C-40X ①

① Drill one new mounting hole.

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES
V1	RF Amplifier	6BC8	
V2	Mixer-Oscillator	6U8	
V3	1st. Video IF Amp.	6BZ6	
V4	2nd. Video IF Amp.	6BZ6	
V5	3rd. Video IF Amp.	6CB6	
V6	4th. Video IF Amp.	6CB6	
V7	Video Amp.-Sync Sep.	6AU8	
V8	Video Output	12BY7A	
V9	AGC Keying-Pulse Amp.	6CG7	
V10	1st. Sound IF Amp.-Sync Phase Inv.	6AN8	
V11	2nd. Sound IF Amp.	6AU6	
V12	Ratio Det.-AF Amp.	6BV8	
V13	Audio Output	6AQ5	
V14	Horiz. AFC-Vert. Osc.	6SN7GTB	
V15	Vert. Output	6CM6	
V16	Horiz. Mult.	6SN7GTB	
V17	Horiz. Output	6CB5A	
V18	Damper	6AU4GT	

ITEM No.	USE	TYPE	NOTES
V19	HV Rectifier	3A3	
V20	Focus Rectifier	1V2	
V21	HV Regulator	6BK4	
V22	Chroma Bandpass Amp.-Color Killer	6AU8	
V23	Burst Amp.-Chroma Cathode Follower	6BH8	
V24	R-Y Demodulator - R-Y Demodulator Output	6BV8	
V25	B-Y Demodulator - B-Y Demodulator Output	6BV8	
V26	Chroma Sync Phase Det.-G-Y Amp.	6BV8	
V27	Chroma Reference Osc. Control - Chroma Reference Osc.	6AU8	
V28	LV Rectifier	5U4GB	
V29	LV Rectifier	5U4GB	

PICTURE TUBE

ITEM No.	REPLACEMENT DATA			NOTES
	MOTOROLA PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V30	21AXP22A		21AXP22A	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	▲80	450	23B741233	AFH4-18-45	DO177	FP245.3 TC79	TMD-59	Q-065	R2456 *
B	▲80	450							
C2A	▲80	400	23B740462			FP333.85 TC80			R2458 *
B	■10	400							
C	100	50							
D	▲80	250							
C3	5	300	23K739132	PRS350V4	BR435	TC60	TD-4-450	FM-4504	TVA-1601
C4	10	50	23A90205	PRS50V10	BBR10-50	TC32	TD-10-50	FM-0510	TVA-1304
C5A	■20	250	23B740457	AFH3-132	C1060	FP345.3	TMT-132	Q-370	TVL-3743.7
B	▲20	25							
C	▲40	450							
C6	10	450	23B702450	PRS450V10	BR1045	TC72	TD-10-450	FM-4510	TVA-1705
C7	5	300	23K739132	PRS350V4	BR435	TC60	TD-4-450	FM-4504	TVA-1601
C8	5	10	23A740568	XPP10V5	BBR5-50	TC30	TD-5-25	FM-1504	TVA-1203
C9	450	10	23A732739 ①	NP-PRS10V 450	BR1001 † BR1001	TC1501 † TC1501			R2461 *
C10	450	10	23A732739 ①	NP-PRS10V 450	BR1001 † BR1001	TC1501 † TC1501			R2461 *
C11A	2	10	23B740456	AFH4-09					R2457 *
B	■2	10							
C	▲2	10							
D	▲2	10							
C12	10	15	23K740554	PRS25V10	BBR10-25	TC22	TD-10-25	FM-0210	TVA-1204
C13	10	15	23K740554	PRS25V10	BBR10-25	TC22	TD-10-25	FM-0210	TVA-1204

① Non-polarized unit. Some versions may use a single 1000MFD @ 10V (part #23K741491) to replace C9 and C10.
* Non-catalog item.
† Connect negative leads together.

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	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C14	47		21R114207	N750-SI 47	TCN-47	C10Q47U	TC7-47	NT-5447	5TCU-Q47	N750
C15	150		21R124608	N750-SI 150	TCN-150	C10T15U	TC7-150		5TCU-T15	N750
C16	1000		21A739920	EF-001	MFT-1000				503C-D1	
C17	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	①
C18	2.2		21R115948	NPO-SI 2.2	TCZ-2R2	C10V22C	TCO-2.2		5TCCB-V22	
C19	5.6		21A732738							10%
C20	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C21	.5-3		21K735985		829-3		3115-E	CT565A		
C22	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C23	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C24	1.8		21R115961	NPO-SI 1.5		C10V15C	TCO-1.5	ZT-5515	5TCCB-V18	
C25	100		21R120577	SI 100	D6-101	LT6T1	ED-100	UC-531	5GA-T1	
C26	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C27	22		21R124554	NPO-SI 22	TCZ-22	C10Q22C	TCO-22		5TCC-Q22	NP0 5%
C28	.5-3		21K735985		829-3		3115-E	CT565A		
C29	470		21R114554	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C30	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C31	1000		21A739920	EF-001	MFT-1000				503C-D1	
C32	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C33	1.0		21R114071	NPO-SI 1.0	TCZ-1				5TCCB-V1	
C34	3.4		21R124489	NPO-SI 3.3	TCZ-3R3	C10V33C	TCO-3.3	ZT-5533	5TCCB-V33	NP0
C35	10		21R124710							N330
C36	1.0		21R124552							N1500
C37	1000		21A737426	EF-001	MFT-1000				503C-D1	
C38	1000		21A737426	EF-001	MFT-1000				503C-D1	
C39	1000		21A737426	EF-001	MFT-1000				503C-D1	
C40	1000		21A737426	EF-001	MFT-1000				503C-D1	
C41	1000		21A737426	EF-001	MFT-1000				503C-D1	
C42	1000		21A121678	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C43	1000		21R737426	EF-001	MFT-1000				503C-D1	
C44	1000		21A737426	EF-001	MFT-1000				503C-D1	
C45	47		21R122822							N150
C46	470									
C47	1000		21A737426	EF-001	MFT-1000				503C-D1	
C48	1000		21A737426	EF-001	MFT-1000				503C-D1	

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP.	VOLT	REPLACEMENT DATA MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C49	.1	200	8R121573	P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1	
C50	1000		21A121678	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C51	1000		21R410127	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C52	10		21R121114	NP0-SI 10	TCZ-10	C10Q1C	TCO-10	ZT-541	5TCC-Q1	10%
C53	47		21R114207	N750-SI 47	TCN-47	C10Q47U	TC7-47	NT-5447	5TCU-Q47	N750
C54	120		21R114167							N470
C55	2700			BPD-0025	D6-272	L10D27	ED-0027	UC-5227	5GA-D27	
C56	10000		21R121946	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C57	10000		21R121946	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C58	1000	2000	21R124456	HVD-30-1000	DD30-102	HVB20D1	HD3-1000	DC3021	20HKB-D1	
C59	.25	100	8K122045	P288N-25		CUB2P25		GEM-2025	2TM-P25	
C60	470		21R114554	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C61	.25	100	8K122045	P288N-25		CUB2P25		GEM-2025	2TM-P25	
C62	1000		21A737426	EF-001	MFT-1000				503C-D1	
C63	1000		21A737426	EF-001	MFT-1000				503C-D1	
C64	1000		21A737426	EF-001	MFT-1000				503C-D1	
C65	1000		21A121678	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C66	18		21R120578							N150
C67	100		21R410036	N750-SI 100	TCN-100	C10T1U	TC7-100	NT-531	5TCU-T1	N750
C68	5000		21R115312	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C69	5000		21R115312	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C70	5000		21R115312	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C71	100		21R410036	N750-SI 100	TCN-100	C10T1U	TC7-100	NT-531	5TCU-T1	N750
C72	5000		21R115312	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C73	5000		21R115312	BPD-005	DD-502	BYA10D5	ED-005	DC525	5HK-D5	
C74	90		21A122464							N150
C75	470		21K121797	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C76	1000		21A121678	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C77	470		21R410121	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C78	10000		21R121946	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C79	4700		21R120149	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C80	4700		21R120149	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C81	4700		21R120149	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C82	4700		21R120149	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C83	.005	400	8R121787	BPD-005	DD-502	CUB6D5	ED-5000	GEM-425	6TM-D5	
C84	220		21K122420	BPD-00022	DD-221	L10T22	ED-220	UC-5320	5GA-T22	
C85	.05	600	8R121005	BPD-05	DF-503	CUB6S5		GEM-615	6TM-S5	
C86	.005	400	8R121787	BPD-005	DD-502	CUB6D5	ED-5000	GEM-425	6TM-D5	
C87	.015	200	8R122256	BPD-015	DD16-153	CUB6S15		GEM-2115	6TM-S15	
C88	.005	400	8R121787	BPD-005	DD-502	CUB6D5	ED-5000	GEM-425	6TM-D5	
C89	100		21R410036	N750-SI 100	TCN-100	C10T1U	TC7-100	NT-531	5TCU-T1	N750
C90	4700		21R120149	BPD-0047	DD-472	BYA10D47	ED-0047	UC-5247	5HK-D47	
C91	.03	400	8R121574	BPD-03	DF-303	CUB4S3		GEM-413	4TM-S3	
C92	.03	400	8R121574	BPD-03	DF-303	CUB4S3		GEM-413	4TM-S3	
C93	.05	400	8R121567	BPD-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C94	.03	600	8R122262	BPD-03	DF-303	CUB6S3		GEM-613	6TM-S3	
C95	1500	2000	21R124121	HVD-30-1500	DD30-152	HVB20D15	HD3-1500	DC30215		
C96	.01	1000	8R121790	P1088N-01	DD1032	CUB10S1		GEM-1011	10TM-S1	
C97	.007	200	8K741231	P288N-007		CUB6D68		GEM-627	6TM-D68	
C98	.02	200	8K739257	P288N-02	DD-203	CUB2S2	ED-02	GEM-212	2TM-S2	
C99	.006	200	8K739258	P288N-006		CUB6D6	ED-6000	GEM-626	6TM-D6	
C100	.006	200	8K739258	P288N-006		CUB6D6	ED-6000	GEM-626	6TM-D6	
C101	470		21R410121	BPD-00047	DD-471	BYA10T47	ED-470	UC-5347	5GA-T47	
C102	1000		21R410127	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C103	.001	600	8R122103	BPD-001	DD-102	CUB6D1	ED-1000	GEM-621	6TM-D1	
C104	.002	600	8R121568	BPD-002	DD-202	CUB6D2	ED-2000	GEM-622	6TM-D2	
C105	1000	2000	21R124456	HVD-30-1000	DD30-102	HVB20D1	HD3-1000	DC3021	20HKB-D1	
C106	.003	600	8R121569	BPD-003	D6-302	CUB6D3	ED-3000	GEM-623	6TM-D3	
C107	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C108	680		21K736046	1467-00068	DD-681	1R5T68			MS-368	10%
C109	.0047	400	8K734634	BPD-0047	DD-472	CUB6D47	ED-4700	GEM-6247	6TM-D47	
C110	470		21R6673	1467-00047	DD-471	5W5T47	ED-470	UC-5347	5GA-T47	
C111	.005	400	8R121787	BPD-005	DD-502	CUB6D5	ED-5000	GEM-425	6TM-D5	
C112	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C113	180	5000	21R125513		DD60-181		HD6-180	DC60318		10%
C114	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C115	500	6000	21R125368	HVD-60-470	DD60-501		HD6-470		60HKB-T47	
C116	6.8		21R124609	NP0-SI 6.8	TCZ-6R8	C10V68C	TCO-6.8	ZT-5568	5TCCB-V68	5%
C117	.1	600	8R121869	P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	
C118	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C119	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C120	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C121	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C122	22		21R120539							N150
C123	47		21R114207	N750-SI 47	TCN-47	C10Q47U	TC7-47	NT-5447	5TCU-Q47	N750
C124	10		21R121114	NP0-SI 10	TCZ-10	C10Q1C	TCO-10	ZT-541	5TCC-Q1	10%
C125	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C126	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C127	10		21R121114	NP0-SI 10	TCZ-10	C10Q1C	TCO-10	ZT-541	5TCC-Q1	10%
C128	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C129	270		21R121481							N2200
C130	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C131	33		21R121548	N750-SI 33	TCN-33	C10Q33U	TC7-33		5TCU-Q33	N750
C132	33		21R121548	N750-SI 33	TCN-33	C10Q33U	TC7-33		5TCU-Q33	N750
C133	2000		21R121106	BPD-002	DD-202	BYA10D2	ED-2000	DC522	5HK-D2	
C134	1000		21R410127	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C135	.68		21R115965		TCZ-R68		TCO-.68			
C136	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C137	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C138	1000		21A121678	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C139	33		21R121548	N750-SI 33	TCN-33	C10Q33U	TC7-33		5TCU-Q33	N750
C140	33		21R121548	N750-SI 33	TCN-33	C10Q33U	TC7-33		5TCU-Q33	N750
C141	1000		21K121678	BPD-001	DD-102	BYA6D1		DC521	5HK-D1	②
C142	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C143	.01	1000	8R121790	P1088N-01		CUB10S1		GEM-1011	10TM-S1	
C144	330		21R410118	BPD-00033	DD-331	L10T33	ED-330	UC-5333	5GA-T33	
C145	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C146	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C147	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C148	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C149	270		21R121481							N220
C150	680		21K125371	BPD-00068	DD-681	BYA10T68	ED-680	UC-5368	5GA-T68	③
C151	22		21R120539							N150③
C152	.1	200	8R121573	P288N-1	DF-104	CUB2P1		GEM-201	2TM-P1	
C153	.25	100	8K122045	P288N-25		CUB2P25		GEM-2025	2TM-P25	
C154	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C155	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C156	1.2		21R115958							①
C157	100		21R120124	NP0-SI 100	TCZ-100	CTA6T1C	TCO-100	ZT-531	5TCC-T1	NP0
C158	56		21R115641	N750-SI 56	TCN-56	C10Q56U	TC7-56			N750
C159	.1	400	8R121006	P488N-1	DF-104	CUB4P1		GEM-401	4TM-P1	
C160	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C161	1000		21R115386	BPD-001	DD-102	BYA6D1	ED-1000	DC521	5HK-D1	
C162	10000		21R482726	BPD-01	DD-103	BYA6S1	ED-01	DC511	5HK-S1	
C163	.005	1000	8R121777	P1088N-005		CUB10D5		GEM-1025	10TM-D5	
C164	.02	600	8R122079	BPD-02	DF-203	CUB6S2	ED-02	GEM-612	6TM-S2	
C165	.02	600	8R122079	BPD-02	DF-203	CUB6S2	ED-02	GEM-612	6TM-S2	
C166	.02	600	8R122079	BPD-02	DF-203	CUB6S2	ED-02	GEM-612	6TM-S2	

① Not used in some versions.
② Some versions may use a 680MMF in this application (Part #21K125371).
③ Some versions may use a 10MMF in this application (Part #21R121114).

CONTROLS

ITEM No.	RATING RESISTANCE	WATTS	REPLACEMENT DATA MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	500Ω	½	18K740997				UE83	Contrast
B	1Meg	½					Not Req.	Volume - Tap @ 300K
R2	1Meg	½	18K740990				TA16L	Tone
R3	1000Ω	½	18K740989				TA13L	Brightness
R4	2500Ω	½	18K740991				TA352L	Color Intensity
R5A	500Ω	½	18A741145	B-4	A47-500K-S	Q11-103	U2	Color Shading
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
R6A	1Meg	½	18B740986				UE1651	Vert. Hold
B	100K	½					Not Req.	Horiz. Hold
R7A	3Meg	½	18K740994			B11-140	TA36L	Red G2
B	Shaft					TM3-Kit	Not Req.	
R8A	750K	½	18K740987				UE1500	Vert. Lin.
B	3Meg	½					Not Req.	Vert. Size
R9A	500K	½	18K740988				UE1497	Blue G1
B	3Meg	½					Not Req.	Blue G2
R10A	500K	½	18K740988				UE1497	Green G1
B	3Meg	½					Not Req.	Green G2
R11A	250K	½	18K740996	B-50	A47-250K-S	Q11-130	TA254L	Color Killer
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
R12A	200K	½	18B740993	B-46	A47-200K-S	Q11-129	U43	AGC
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
R13A	50Ω	2	18B740992	WW-500	A43-50	WPK-50	R50L	Vert. Centering - Wire wound
B	Shaft			Not Req.	KSS-3	Not Req.	DS-36	
R14A	500K	½	18K740995	B-59	A47-500K-S	Q11-133	TA55L	High Voltage Adjustment
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
R15	100Ω	½	18A740961				U1	Horiz. Centering
R16	250K	½	18A740962					Focus
R17A	100Ω	½	18B741526				UE84	Red-green Vert. Tilt
B	200Ω	½					Not Req.	Red-green Vert. Amplitude
R18A	100Ω	½	18B741513				UE85	Red-green Horiz. Amplitude-1
B	100Ω	½					Not Req.	Red-green Horiz. Amplitude -2
R19A	100Ω	½	18B741526				UE84	Blue Vert. Tilt
B	200Ω	½					Not Req.	Blue Vert. Amplitude
R20A	100Ω	½	18B741513				UE85	Blue Horiz. Amplitude-1
B	100Ω	½					Not Req.	Blue Horiz. Amplitude-2
R21	50Ω	2	18A740530					Red-green Vert. Dynamic Balance - Wire Wound
R22	2Ω	2	18K740531					Vert. Yoke Balance - Wire wound

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING OHMS	WATT	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	NOTES
R23	22K		6R6028	BTS-22K	
R24	47K		6R6056	BTS-47K	
R25	100K		6R6075	BTS-100K	
R26	470Ω		6R3949	BTS-470	
R27	10K		6R6320	BTS-10K	
R28	4700Ω		6R6039	BTS-4700	
R29	39K		6R6487	BTS-39K	
R30	27K		6K121300	BTS-27K	
R31	15K		6R2119	BTS-15K	
R32	270K		6R6414	BTS-270K	
R33	8200Ω	1	6R5610	BTA-8200	
R34	3300Ω		6R5581	BTS-3300	
R35	15K		6R2119	BTS-15K	
R36	2700Ω	2	6K124681	BTB-2700	
R37	1Meg 5%		6R5587		
R38	1Meg 5%		6R5587		
R39	8.2Meg 5%		6R114114		
R40	470Ω		6R3949		
R41	12K		6K124680		
R42	8700Ω	4	17K740257		
R43	68Ω		6R2039	BTS-68	
R44	470Ω		6R3949		
R45	10K		6R6320		
R46	8700Ω	4	17K740257		
R47	68Ω		6R2039	BTS-68	
R48	33K		6R6410	BTS-33K	
R49	470Ω		6R3949	BTS-470	
R50	120Ω		6R5551	BTS-120	
R51	330K 5%		6R400057		
R52	3900Ω		6R5659		
R53	1000Ω		6R6229	BTS-1000	
R54	39K	1	6R5588	BTA-39K	
R55	1000Ω		6R6229		
R56	120Ω		6R6551	BTS-120	
R57	470Ω		6R3949	BTS-470	
R58	100K		6R6031	BTS-100K	
R59	4700Ω		6R6080	BTS-4700	
R60	6800Ω	5	17K739135		
R61	10K		6R6320	BTS-10K	
R62	33K		6R6410	BTS-33K	
R63	12K	2	6R5766	BTB-12K	
R64	100Ω		6R6326	BTS-100	
R65	1200Ω	1	6R5770	BTA-1200	
R66	1500Ω		6R6038	BTS-1500	
R67	22K		6R6028	BTS-22K	Note 1
R68	3900Ω	5	17K740259	PW7-3900	
R69	68K	1	6K124461	BTA-68K	
R70	22K	2	6R2098	BTB-22K	
R71	56K	2	5K124686	BTB-56K	Note 1
R72	33K		6R6410		
R73	100K		6R6077		
R74	27K	2	6R2033	BTB-27K	
R75	22K	2	6R2098	BTB-22K	
R76	10K		6R6320	BTS-10K	Note 1
R77	150K		6R6398	BTS-150K	
R78	4700Ω		6K121847	BTS-4700	

ITEM No.	RATING OHMS	WATT	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	NOTES
R79	1000Ω		6R6301	BTS-1000	
R80	1000Ω		6R6301	BTS-1000	
R81	150K		6R6398	BTS-150K	
R82	1000Ω		6R6301	BTS-1000	
R83	150Ω		6R6373	BTS-150	
R84	180Ω		6R5660	BTS-180	
R85	6800Ω		6R6428	BTS-6800	
R86	6800Ω		6R6428	BTS-6800	
R87	33K		6R6410	BTS-33K	
R88	68K		6R6074	BTS-68K	
R89	4.7Meg		6R6446	BTS-4.7Meg	
R90	470K		6R6377	BTS-470K	
R91	470K		6R6377	BTS-470K	
R92	3300Ω	2		BTB-3300	Note 2
R93	3300Ω	2		BTB-3300	Note 2
R94	330Ω	1	6R6254	BTA-330	
R95	1.5Meg		6R6460	BTS-1.5Meg	
R96	270K		6R6414	BTS-270K	
R97	1.5Meg		6R6460	BTS-1.5Meg	
R98	470K		6R6377	BTS-470K	
R99	22K		6R6397	BTS-22K	
R100	6800Ω	1	6R5691	BTA-6800	
R101	3300Ω		6R5581	BTS-3300	
R102	2200Ω		6R6061	BTS-2200	
R103	22K		6R6397	BTS-22K	
R104	22K		6R6397	BTS-22K	
R105	150K		6R6398	BTS-150K	
R106	1Meg		6R6046	BTS-1Meg	
R107	2.2Meg		6R6433	BTS-2.2Meg	Note 3
R108	150K		6R6398	BTS-150K	
R109	2.2Meg		6R6433	BTS-2.2Meg	
R110	68K	1	6R6236	BTA-68K	
R111	180Ω		6R5660	BTS-180	
R112	1000Ω		6R6229	BTS-1000	Note 4
R113	120K	1	6R5698	BTA-120K	Note 5
R114	39K	1	6R5698	BTA-39K	Note 6
R115	33K	1	6R6400	BTA-33K	
R116	47Ω	1	6R5583	BTA-47	
R117	2000Ω	5	17K741850	PW7-2000	
R118	1200Ω	1	6R5770		
R119	100K		6R6031		
R120	100K		6R6075		
R121	12K		6K124680	BTS-12K	
R122	150K		6R6398		
R123	4700Ω		6R6080		
R124	68K	1	6R6236	BTA-68K	
R125	4.7Meg		6R2122	BTS-4.7Meg	
R126	5600Ω		6R6117		
R127	820Ω		6R6269	BTS-820	
R128	56K		6R6378		
R129	56K		6R6378		
R130	5600Ω		6R6117	BTS-5600	
R131	100Ω		6R6018	BTS-100	
R132	1Meg		6R6046	BTS-1Meg	
R133	68Ω		6R6007	BTS-68	
R134	11K	10	17K741731	1 3/4A-11K	
R135	5.6Ω 5%	1	6A488139		

RESISTORS (cont)

ITEM No.	RATING OHMS	WATT	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	NOTES
R136	10K	2	6R6299		
R137	6.8Ω		17K484269	BW½-6.8	
R138	10Meg	2	6R125078	BTB-10Meg	
R139	10Meg	2	6R125078	BTB-10Meg	
R140	10Meg	2	6R125078	BTB-10Meg	
R141	10Meg	2	6R125078	BTB-10Meg	
R142	56K	2	6K124686	BTB-56K	
R143	2.7Meg	1	6R488057	BTA-2.7Meg	
R144	2.7Meg	1	6R488057	BTA-2.7Meg	
R145	10K		6R6320	BTS-10K	
R146	1Meg		6R6046	BTS-1Meg	
R147	10K		6R6320	BTS-10K	
R148	10K		6R6320	BTS-10K	
R149	6800Ω	5	17K739135		
R150	1000Ω	1	6R6327	BTA-1000	
R151	47Ω		6R5550	BTS-47	
R152	6800Ω 5%	2	6K122012	BTB-6800 5%	
R153	470Ω		6R6090	BTS-470	
R154	10K 5%		6R5556	BTS-10K 5%	
R155	10K 5%		6R5556	BTS-10K 5%	
R156	10K 5%		6R5556	BTS-10K 5%	
R157	10K 5%		6R5556	BTS-10K 5%	
R158	100K		6R6075	BTS-100K	
R159	6800Ω		6R6428	BTS-6800	
R160	270K		6R6414	BTS-270K	
R161	150K		6R6398	BTS-150K	
R162	220K		6R6407	BTS-220K	
R163	12K	2	6R5766	BTB-12K	
R164	100K		6R6075	BTS-100K	
R165	1200Ω		6R6393	BTS-1200	
R166	68K	2	6K125469	BTB-68K	
R167	10K		6R6320	BTS-10K	
R168	220K		6R6407	BTS-220K	
R169	100K		6R6075	BTS-100K	
R170	12K	2	6R5766	BTB-12K	
R171	390Ω		6R5554	BTS-390	

ITEM No.	RATING OHMS	WATT	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	NOTES
R172	12K	2	6R5766	BTB-12K	
R173	270K		6R6414	BTS-270K	
R174	330K		6R2096	BTS-330K	
R175	680Ω		6R6040	BTS-680	Note 7
R176	1Meg	1	6R5767	BTA-1Meg	
R177	2.2Meg	1	6R2011	BTA-2.2Meg	
R178	10Meg		6R2109	BTS-10Meg	
R179	2.2Meg		6R6433	BTS-2.2Meg	
R180	22Meg		6R488158	BTS-22Meg	
R181	39K	1	6R5588	BTA-39K	
R182	68K	1	6R6236	BTA-68K	
R183	4700Ω		6R6080	BTS-4700	
R184	27K		6R6434	BTS-27K	Note 8
R185	33Ω		6R2036	BTS-33	
R186	330Ω		6R6022	BTS-330	
R187	15K		6R6477	BTS-15K	
R188	2200Ω	1	6R6409	BTA-2200	
R189	10K		6R6320	BTS-10K	
R190	10K		6R6320	BTS-10K	
R191	1Meg 5%		6R5587	BTS-1Meg 5%	
R192	1Meg 5%		6R5587	BTS-1Meg 5%	
R193	10K		6R6054	BTS-10K	
R194	15K		6R6477	BTS-15K	
R195	2200Ω	1	6R6409	BTA-2200	
R196	390Ω		6R5554	BTS-390	
R197	150K		6R6398	BTS-150K	
R198	5600Ω	2	6K122361	BTB-5600	
R199	100Ω		6R6326	BTS-100	
R200	100Ω		6R6326	BTS-100	
R201	22Ω		6R118246	BTS-22	
R202	22Ω		6R118246	BTS-22	
R203	500Ω	35	17R124571		
R204	10K		6R6320	BTS-10K	Note 1
R205	6.8Ω 5%	1			
R206	100K		6R6031	BTS-100K	Note 1

Note 1. Not used in some versions.
Note 2. Some versions may use a single 1.5K,2 W in this application.
Note 3. Some versions may use a 1Meg in this application.
Note 4. Some versions may use a 6.8K in this application.
Note 5. Some versions may use a 100K, 1W in this application.
Note 6. Some versions may use a 33K, 1W in this application.
Note 7. Some versions may use a 1000Ω in this application.
Note 8. Some versions may use a 10K in this application.

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	SEC. 1	SEC. 2	SEC. 3 / SEC. 4	REPLACEMENT DATA MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @4.2A	760VCT @.530A	5V @ 6A	6.3V @14A; SEC. 4: 6.3V @1.8A	25C738671					

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Vert. Oscillator	25K740455-H	B6704	A-3006	209T1①	V406	A-8125	26A05	A-122Z①
	Alt. Vert. Oscillator	25B730179	B6704	A-3006	209T1①	V406	A-8125	26A05	A-122Z①
T3	Vert. Output	25C739256-A							
	Alt. Vert. Output	25C739256							
T4	Yoke: Horiz. (12MH) Vert. (30MH)	24K741467②							
	Yoke Rear Cover	1V740603④							
T5	Horiz. Yoke Balance Coil (.2-.8MH)	24B739269							
T6	Blue Horiz. Size Coil	24K742718							
T7	Horiz. Output	24D741542③							
	Primary Coil	24C741540							
	Secondary Coil	24B741361							
T8	Hor[illegible]	25B741323							
T9	Horiz. Size Coil (1.2MH)	24B741359							
T10	Vert. Convergence	25B740330							
T11	Blue Horiz. Phase #1 Coil (8-20MH)	24K741406							
T12	Red & Green Horiz. Phase #1 Coil (3-8.5MH)	24B738673							
T13	Red & Green Horiz. Phase #2 Coil (3-8.5MH)	24B738673							
T14	Blue Horiz. Phase #2 Coil (3-8.5MH)	24B738673							
T15	Conv. Yoke Assy.	24[illegible]740934⑤							
	Green Conv. Coil	24K74[illegible]715							
	Blue Conv. Coil	24K74[illegible]935							
	Red Conv. Coil	24K74[illegible]936							

① Drill new mounting hole(s).
② Includes yoke rear cover and control case assembly.
③ Complete assembly. Includes primary and secondary coils.
④ Includes ring and magnet plates.
⑤ Complete assembly. Includes green, blue and red convergence coils.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	SEC.	REPLACEMENT DATA MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T16	4800Ω	3-4Ω	25C738847	Z1107 ①	A-3019	A-3877 ①	26S49	S-5Z	① Drill one new mounting hole.