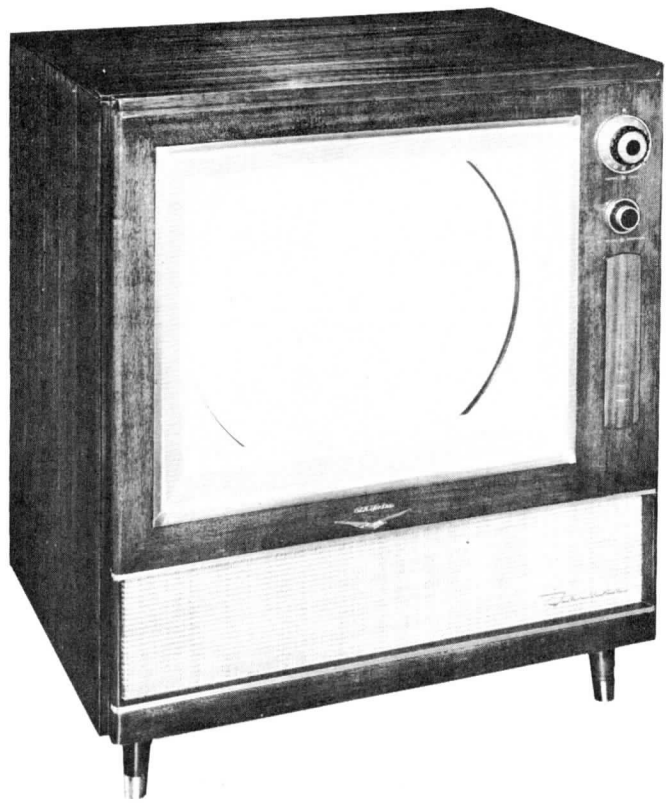
PHOTOFACT* Folder

RCA VICTOR MODELS 21-CT-660U, 21-CT-661U, 21-CT-662U, 21-CT-663U, 21-CT-664U (Ch. CTC4, CTC4A)



RCA Victor Model 21-CT-662U (Ch. CTC4A)

TRADE NAME	RCA Victor Models 21-CT-660U, 21-CT-661U, 21-CT-662U, 21-CT-663U, 21-CT-664U (Ch. CTC4 or CTC4A)
MANUFACTURER	Radio Corporation of America, RCA Victor Television Division, Camden, N. J.
TYPE SET	Color Television Receiver
TUBES	Twenty-six
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING 3.6 Amp. @ 117 Volts AC
TUNING RANGE—	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

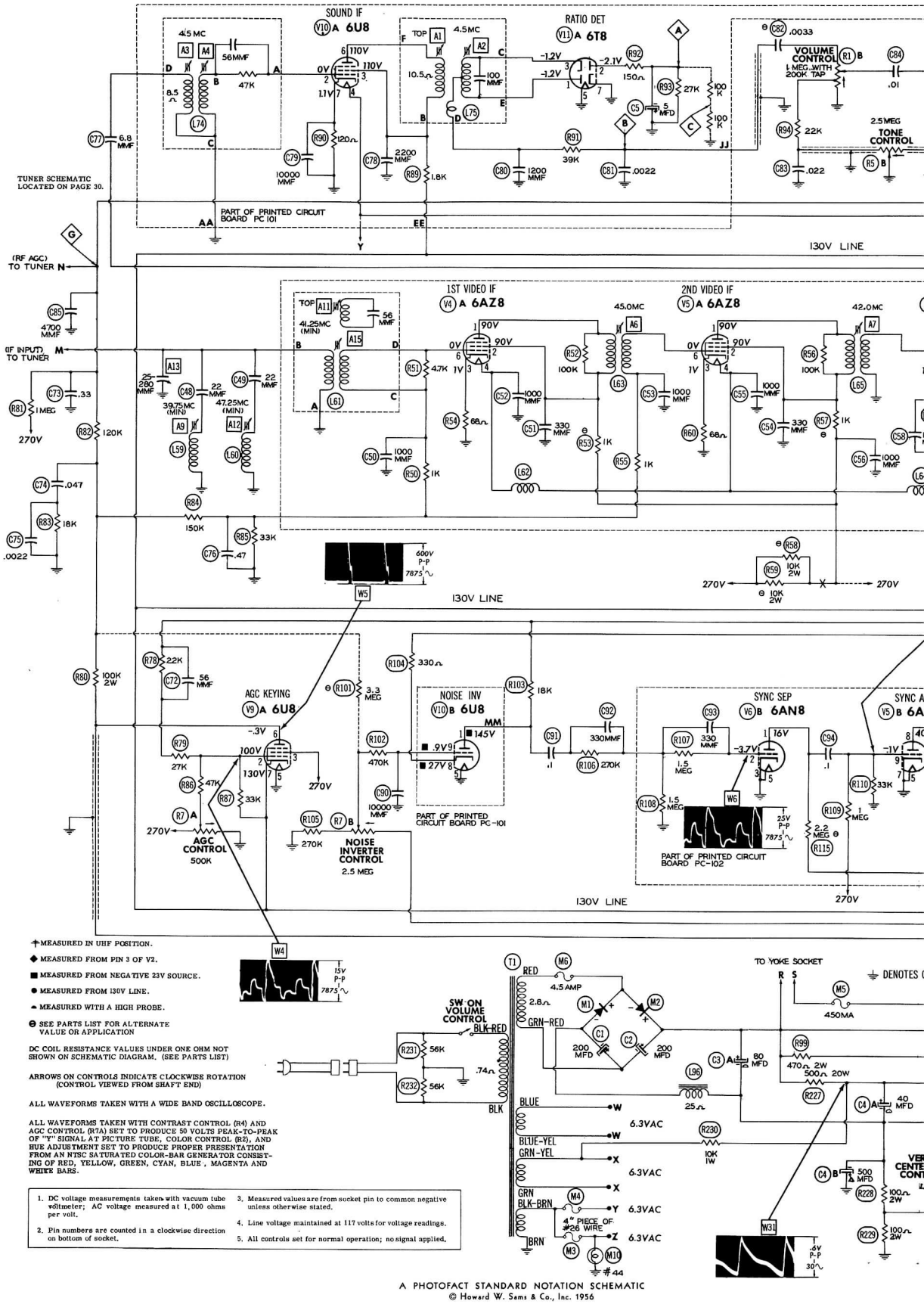
INDEX

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

G154

DATE 4-56 SET 314 FOLDER 9

RCA VICTOR MODELS 21-CT-660U, 21-CT-661U, 21-CT-662U, 21-CT-663U, 21-CT-664U (Ch. CTC4, CTC4A)



†MEASURED IN UHF POSITION.

◆ MEASURED FROM PIN 3 OF V2.

■ MEASURED FROM NEGATIVE 23V SOURCE.

● MEASURED FROM 130V LINE.

▲ MEASURED WITH A HIGH PROBE.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM. (SEE PARTS LIST)

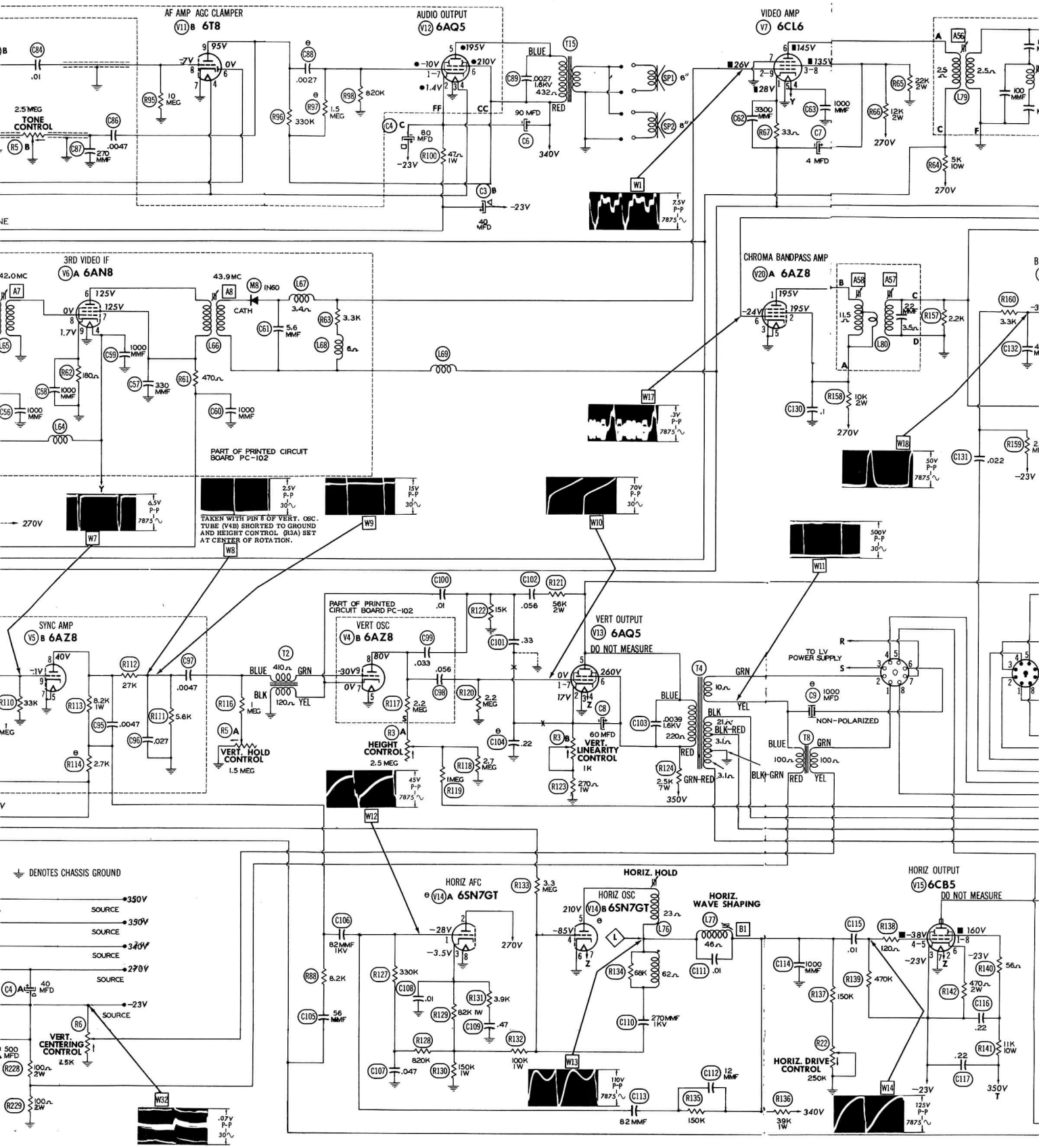
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

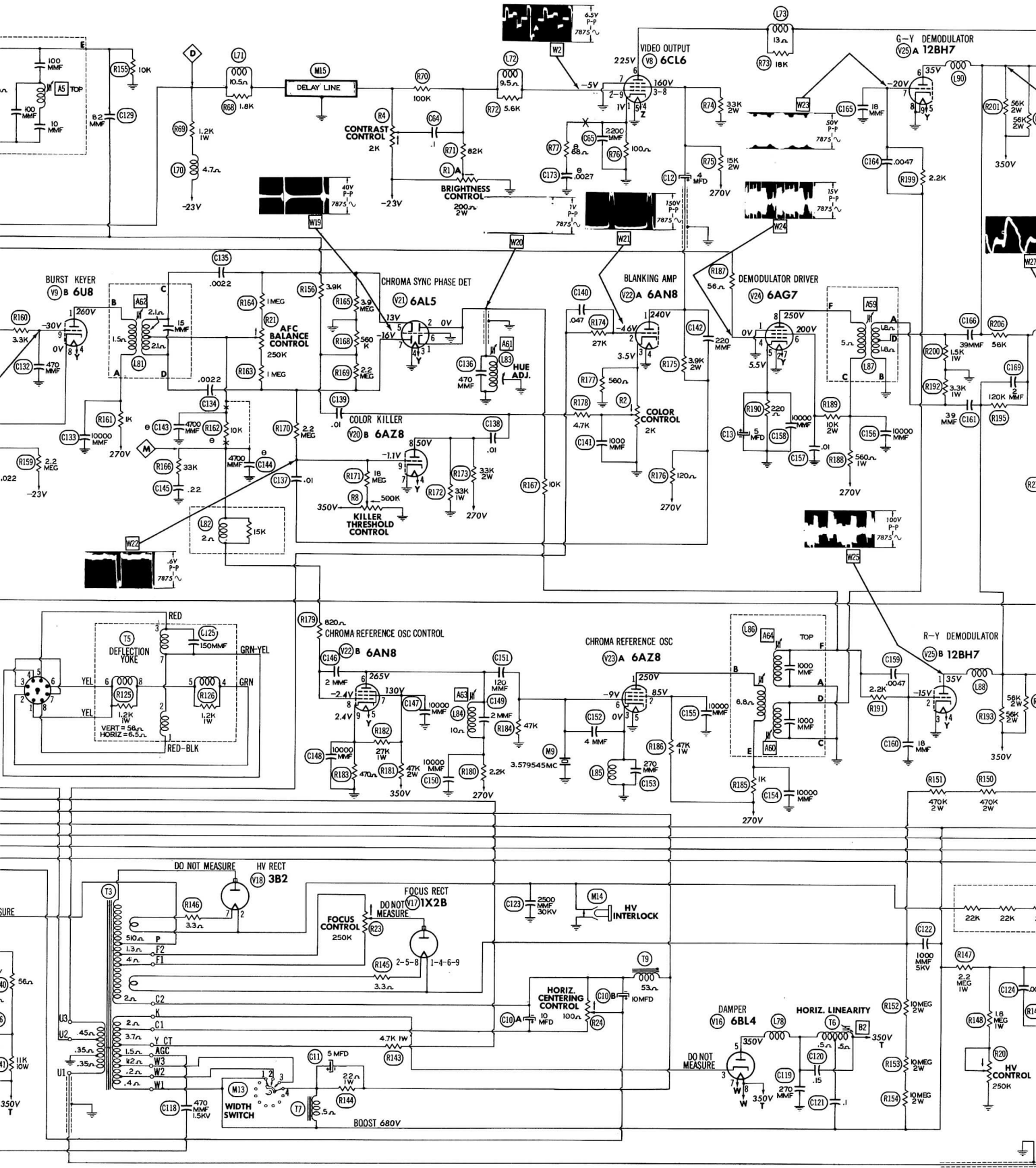
ALL WAVEFORMS TAKEN WITH A WIDE BAND OSCILLOSCOPE.

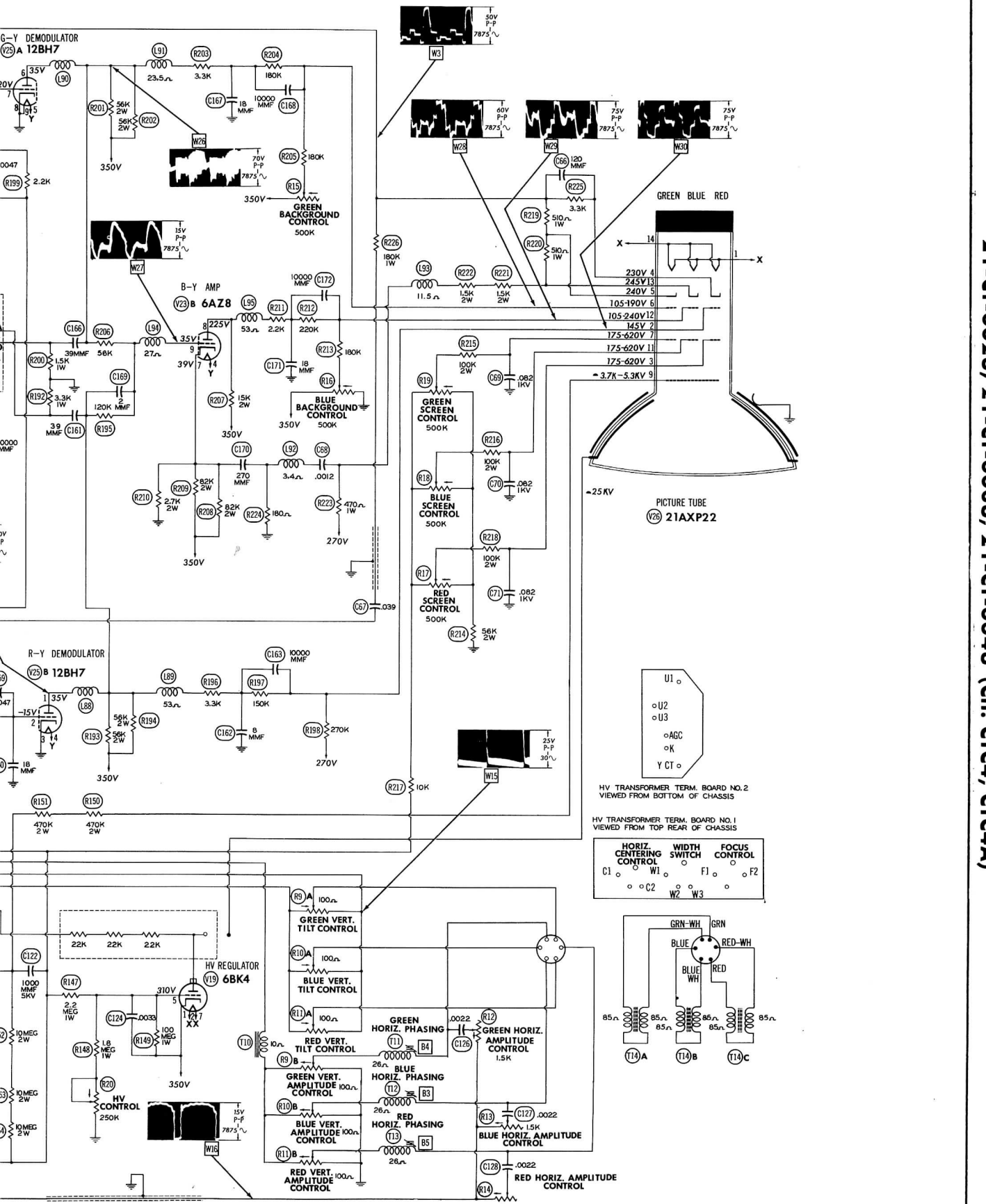
ALL WAVEFORMS TAKEN WITH CONTRAST CONTROL (R14) AND AGC CONTROL (R7A) SET TO PRODUCE 50 VOLTS PEAK-TO-PEAK OF "Y" SIGNAL AT PICTURE TUBE, COLOR CONTROL (R2), AND HUE ADJUSTMENT SET TO PRODUCE PROPER PRESENTATION FROM AN NTSC SATURATED COLOR-BAR GENERATOR CONSISTING OF RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA AND WHITE BARS.

1. DC voltage measurements taken with 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.

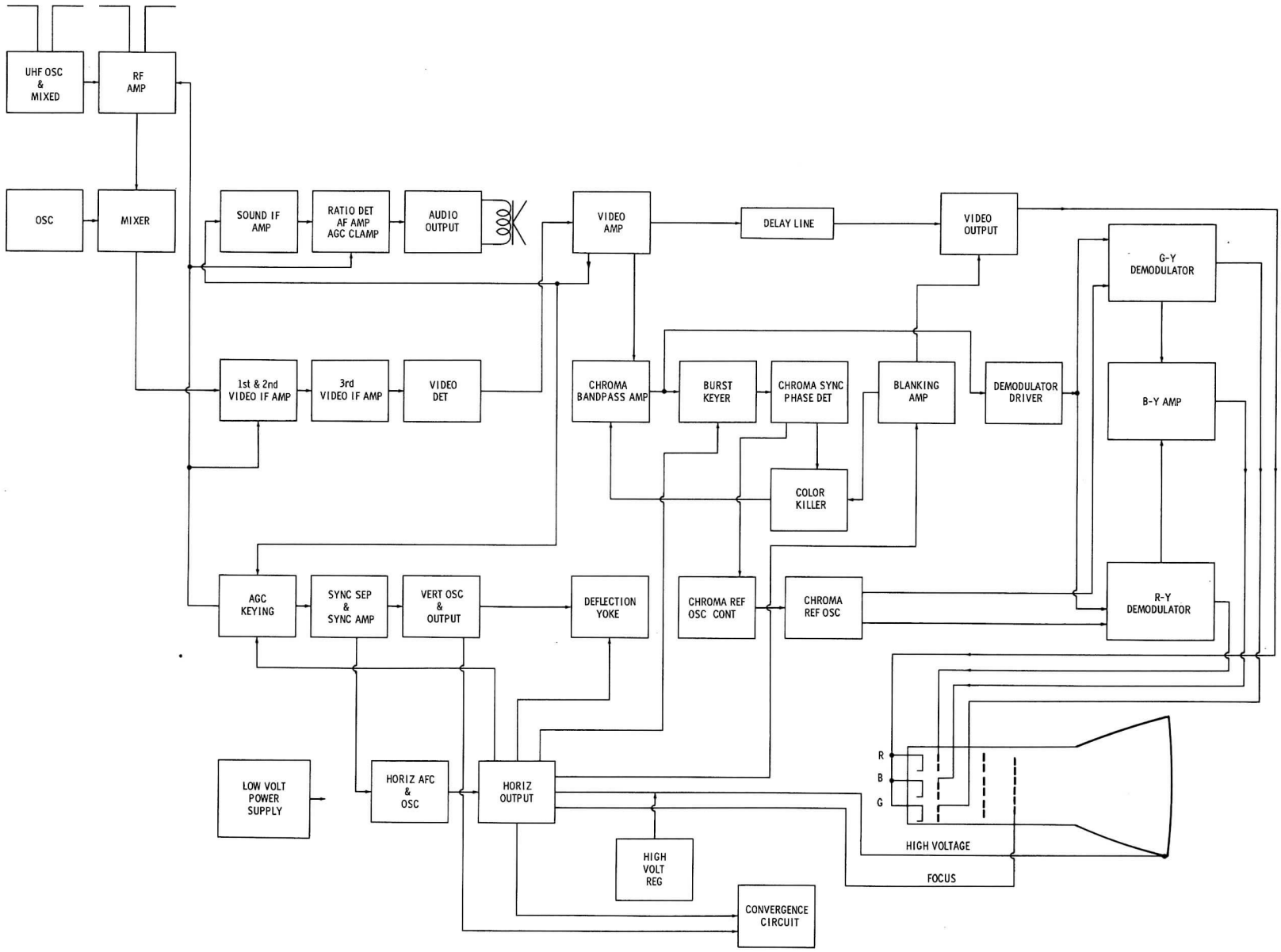
A PHOTOFACT STANDARD NOTATION SCHEMATIC


AF AMP AGC CLAMPER
V11 B 6T8
AUDIO OUTPUT
V12 6AQ5
VIDEO AMP
V7 6CL6
TONE CONTROL
2.5 MEG
3RD VIDEO IF
V6 A 6AN8
42.0MC
43.9MC
CATH
PART OF PRINTED CIRCUIT BOARD PC-102
TAKEN WITH PIN 8 OF VERT. OSC. TUBE (V4B) SHORTED TO GROUND AND HEIGHT CONTROL (R3A) SET AT CENTER OF ROTATION.
CHROMA BANDPASS AMP
V20 A 6AZ8
SYNC AMP
V5 B 6AZ8
VERT OSC
V4 B 6AZ8
PART OF PRINTED CIRCUIT BOARD PC-102
VERT OUTPUT
V13 6AQ5
DO NOT MEASURE
VERT. HOLD CONTROL
1.5 MEG
HEIGHT CONTROL
2.5 MEG
VERT. LINEARITY CONTROL
1K
TO LV POWER SUPPLY
NON-POLARIZED
DENOTES CHASSIS GROUND
350V SOURCE
300V SOURCE
270V SOURCE
-23V SOURCE
VERT. CENTERING CONTROL
2.5K
HORIZ AFC
V14 A 6SN7GT
HORIZ OSC
V14 B 6SN7GT
HORIZ. HOLD
HORIZ. WAVE SHAPING
HORIZ OUTPUT
V15 6CB5
DO NOT MEASURE
HORIZ. DRIVE CONTROL
250K
W1
W7
W8
W9
W10
W11
W12
W13
W14
W17
W18
W32


VIDEO OUTPUT V8 6CL6
G-Y DEMODULATOR V25A 12BH7
BURST KEYER V9B 6U8
CHROMA SYNC PHASE DET V21 6AL5
BLANKING AMP V22A 6AN8
DEMODULATOR DRIVER V24 6AG7
COLOR KILLER V20B 6AZ8
CHROMA REFERENCE OSC CONTROL V22B 6AN8
CHROMA REFERENCE OSC V23A 6AZ8
R-Y DEMODULATOR V25B 12BH7
HV RECT V18 3B2
FOCUS RECT V17 1X2B
DAMPER V16 6BL4
DELAY LINE
CONTRAST CONTROL 2K
BRIGHTNESS CONTROL 200K 2W
AFC BALANCE CONTROL 250K
HUE ADJ.
COLOR CONTROL 2K
KILLER THRESHOLD CONTROL
DEFLECTION YOKE
VERT = 56Ω HORIZ = 6.5Ω
FOCUS CONTROL 250K
HV INTERLOCK
HORIZ. CENTERING CONTROL
HORIZ. LINEARITY
HV CONTROL 250K
WIDTH SWITCH
BOOST 680V
DO NOT MEASURE
3.579545MC



RCA VICTOR MODELS 21-CT-660U, 21-CT-661U, 21-CT-662U, 21-CT-663U, 21-CT-664U (Ch. CTC4, CTC4A)



BLOCK DIAGRAM

RCA VICTOR MODELS 21-CT-660U, 21-CT-661U, 21-CT-662U, 21-CT-663U, 21-CT-664U (Ch. CTC4, CTC4A)

RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AF4A	*† 20KΩ	8KΩ	0Ω	. 1Ω	0Ω	8KΩ	*† 20KΩ		
V 2	6BQ7A	† 2. 5KΩ	500KΩ	600KΩ	0Ω	. 1Ω	600KΩ	250KΩ	120Ω	0Ω
V 3	6X8	0Ω	100KΩ	† 14KΩ	. 1Ω	0Ω	0Ω	100KΩ	† 19KΩ	† 19KΩ
V 4	6AZ8	† 7KΩ	† 7KΩ	68 Ω	. 1Ω	0Ω	35KΩ	120Ω	▲ 4Meg	1. 6Meg
V 5	6AZ8	† 7KΩ	† 7KΩ	68Ω	. 1Ω	0Ω	35KΩ	0Ω	■ 11KΩ	33KΩ
V 6	6AN8	■ 2. 2Meg	3Meg	0Ω	. 1Ω	0Ω	■ 470Ω	■ 470Ω	. 2Ω	180Ω
V 7	6CL6	900Ω	4. 2KΩ	† 12KΩ	. 1Ω	0Ω	† 5. 5KΩ	0Ω	† 12KΩ	4. 2KΩ
V 8	6CL6	100Ω	50KΩ	† 15KΩ	. 1Ω	0Ω	† 5KΩ	0Ω	† 15KΩ	50KΩ
V 9	6U8	† 1. 5KΩ	■ 25KΩ	† 500Ω	. 1Ω	0Ω	250KΩ	25KΩ	3. 5Ω	2. 2Meg
V 10	6U8	† 24KΩ	47KΩ	■ 1. 8KΩ	. 1Ω	0Ω	■ 1. 8KΩ	120Ω	1. 2KΩ	1. 8Meg
V 11	6T8	INF	27KΩ	INF	. 1Ω	0Ω	250KΩ	0Ω	10Meg	† 330KΩ
V 12	6AQ5	600KΩ	25KΩ	0Ω	. 1Ω	† 900Ω	† 470Ω	600KΩ		
V 13	6AQ5	2. 2Meg	500Ω	0Ω	. 1Ω	† 2. 7KΩ	† 2. 5KΩ	2. 2Meg		
V 14	6SN7GT	1. 3Meg	† 500Ω	230KΩ	250KΩ	† 39KΩ	0Ω	. 1Ω	0Ω	
V 15	6CB5	† 11KΩ	. 1Ω	200Ω	470KΩ	470KΩ	200Ω	0Ω	† 11KΩ	TOP CAP ▲ 60Ω
V 16	6BL4	† 3. 5Ω	NC	200KΩ	NC	† 3. 5Ω	NC	† 2Ω	† 2Ω	
V 17	1X2B	30Meg	30Meg	NC	30Meg	30Meg	30Meg	TP	30Meg	TOP CAP ▲ 80KΩ
V 18	3B2		PINS	1-8	HAVE	INF	RESISTANCE			TOP CAP ▲ 570Ω
V 19	6BK4	8KΩ	† 11KΩ	8KΩ	8KΩ	1. 2Meg	NC	† 11KΩ	8KΩ	TOP CAP INF
V 20	6AZ8	† 11KΩ	† 11KΩ	0Ω	. 1Ω	0Ω	560KΩ	0Ω	† 20KΩ	3. 5Meg
V 21	6AL5	. 2Ω	. 2Ω	. 1Ω	0Ω	2. 5Meg	0Ω	1. 8Meg		
V 22	6AN8	† 5KΩ	27KΩ	560Ω	0Ω	. 1Ω	† 2. 7KΩ	† 20KΩ	2Meg	470Ω
V 23	6AZ8	† 1. 5KΩ	† 47KΩ	. 4Ω	. 1Ω	0Ω	47KΩ	2. 7KΩ	† 15KΩ	† 60KΩ
V 24	6AG7	0Ω	0Ω	0Ω	60Ω	220Ω	† 11KΩ	. 1Ω	† 1. 1KΩ	
V 25	12BH7	† 28KΩ	2. 2KΩ	0Ω	. 1Ω	. 1Ω	† 28KΩ	2. 2KΩ	0Ω	0Ω
V 26	21AXP22	† 11KΩ	† 110KΩ	▲130-270KΩ	† 9KΩ	† 5KΩ	†110-170KΩ	▲130-270KΩ	NC	30Meg
V 27		PIN 10 NC	PIN 11 ▲130-270KΩ	PIN 12 † 130KΩ	PIN 13 † 4KΩ	PIN 14 † 11KΩ				

* MEASURED IN "UHF" POSITION.
† MEASURED FROM POSITIVE SIDE OF C1.
■ MEASURED FROM 130V LINE.
▲ MEASURED FROM PIN 3 OF V16.
NC-NO CONNECTION.
TP-TIE POINT.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage should be disabled by removing the fuse (M5) in series with pin 3 of the deflection yoke socket. Connect a 1500 ohm/100 watt resistor from pin 7 of deflection yoke socket (B+ line) to high side of vertical centering control (R6A) (B- line).

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Ground pin 8 (grid) of 3rd Video IF Amp. Tube (V6A) to chassis.
Connect two matched 100KΩ (±1%) resistors in series from point Ⓐ to chassis. The junction of these two resistors is alignment point Ⓒ as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	.01MFD	High side to pin 2 (grid) of first video amplifier tube (V7). Low side to chassis.	4.5MC (Unmod)	Any	DC probe to point Ⓐ. Common to chassis.	A1	Adjust for maximum deflection. Attenuate generator output for -15 volts on VTVM for final peaking A1, A3 and A4.
2.	"	"	"	"	DC probe to point Ⓑ. Common to point Ⓒ.	A2	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Move VTVM to point Ⓐ and chassis as in step 1. Retouch A4 for maximum deflection and then repeat step 2.
3.	"	"	"	"	DC probe to point Ⓐ. Common to chassis.	A3, A4	Adjust for maximum deflection. Remove ground from pin 8 of V6A. Remove 2 - 100KΩ resistors from point Ⓐ and chassis.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60∿ modulation and 450KC sweep. Use 120∿ sawtooth voltage in scope for horizontal deflection.
Ground pin 8 (grid) of 3rd Video IF Amp. Tube (V6A).

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	.01MFD	High side to pin 2 (grid) of first video amplifier (V7). Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. Amp. to point Ⓐ. Low side to chassis.	A1, A3, A4	Disconnect stabilizing capacitor (C5). Adjust for curve of maximum amplitude and symmetry similar to Fig. 1.
2.	"	"	"	"	"	Vert. Amp. to point Ⓑ. Low side to chassis.	A2	Reconnect stabilizing capacitor (C5). Adjust so that 4.5MC occurs at center of crossover lines as in Fig. 2. SLIGHTLY retouch A1 for maximum amplitude and straightness of crossover lines. Remove ground from pin 8 of V6A. Continue alignment with step 4.

VIDEO TRAP ALIGNMENT

Connect the negative lead of a 7 volt bias supply to point Ⓓ. Connect the positive lead to chassis.
Ground pin 8 (grid) of 3rd Video IF Amp. Tube (V6A) to chassis.
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
4.	.01MFD	High side to pin 2 (grid) of first video amplifier tube (V7). Low side to chassis.	Not used	4.5MC (400∿Mod)	Any	Vert. Amp. thru detector (Detector lead) of Fig. 3) to pin 1 (plate) of band-pass amplifier tube (V20A). Low side to chassis.	A5	Use high signal generator output. Adjust for MINIMUM 400∿ indication on scope. Remove ground from pin 8 of V6A.

VIDEO IF ALIGNMENT

Connect the negative lead of a variable bias supply to the ungrounded side of C76. Positive lead to chassis. Adjust for -6 volts at ungrounded side of C76. Connect a second bias supply (steps 13 and 14), negative lead to point Ⓖ. Positive lead to tuner chassis. Adjust for -3 volts bias at point Ⓖ.
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
5.	.0015MFD Ceramic Capacitor	High side to point Ⓔ. Low side to chassis.	Not used	45.0MC	Any non-interfering channel	USE VTVM. DC probe to point Ⓓ. Common to chassis.	A6	Adjust for maximum deflection. Attenuate signal generator output to maintain not more than -8 volts on VTVM. Maintain -6 volts bias at ungrounded side of C76.
6.	"	"	"	42.0MC	"	"	A7	"
7.	"	"	"	43.9MC	"	"	A8	"
8.	"	"	"	39.75MC	"	"	A9	Adjust for MINIMUM deflection. Increase signal generator output to produce 3 volts on VTVM at final MINIMUM adjustments.
9.	"	"	"	41.25MC	"	"	A10, A11	"
10.	"	"	"	47.25MC	"	"	A12	"
11.	"	High side to point Ⓔ. Low side to tuner chassis. (Use very short shielded leads).	44MC (10MC Swp)	42.17MC 42.75MC 45.75MC	4	Vert. Amp. thru detector (detector lead of Fig. 3) to pin 1 (plate) of first video IF amp. tube (V4A). Low side to chassis.	A13, A14, A15	Connect the load leads of IF test block (Fig. 3) to pin 1 (plate) of V5A (6AZ8) and pin 6 (plate) V6A (6AN8). If a separate signal generator is used for markers couple it loosely to pin 6 (grid) of first video IF amplifier tube (V4A). Preset A13 trimmer to MINIMUM capacity. Adjust A14 and A15 for maximum gain with 45.75MC marker at 70% of maximum response as in Fig. 4. Adjust A13 to place 42.17MC marker a 50% of maximum response with 42.75MC marker on low frequency side of peak as in Fig. 4. If necessary, SLIGHTLY retouch A14 and A15. Remove IF test block.
12.	"	"	"	42.17MC 42.75MC 45.0MC 45.75MC	"	Vert. Amp. to point Ⓓ. Low side to chassis.	A6, A7, A8	Adjust sweep generator for 8 volts peak to peak on scope. If a separate signal generator is used for marker couple it loosely to pin 6 (grid) of first video IF amplifier tube (V4A). Check for response curve similar to Fig. 5. If necessary, retouch A6, A7 and A8 for desired response. Exercise care to obtain response curve as in Fig. 5.

VIDEO IF ALIGNMENT (Cont).

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
13.	1000Ω Carbon Resistor in series with .0015MFD ceramic capacitor	High side to front terminal of 1N82 crystal h holder. Low side to chassis. (Use very short leads).	650MC (10MC Swp)	42.17MC 42.75MC 45.0MC 45.75MC	Between channels 43 and 44	Vert. Amp. thru detector (detector lead of Fig.3) to junction of 180Ω resistor and .0015 MFD. (See remarks) Low side to chassis.	A16, A17, A18	Set tuner to UHF position. Connect a 180Ω resistor in series with a .0015MFD ceramic capacitor between point (F) and chassis. Capacitor end connect to point (F). Connect a second bias supply to point (G). Positive lead to chassis. Adjust for -3 volts bias at point (G). Couple marker generator loosely to detector (Fig.3). Attenuate sweep generator for .5 volts peak to peak on scope. Adjust A16 for maximum gain with 45.75MC and 42.5MC markers as in Fig. 6. Adjust A17 to place 45.75MC marker at peak of curve. Adjust A18 for MINIMUM tilt of curve. (Fig.6). If necessary, to obtain proper bandwidth, adjust L55 (IF trap coil). L55 is adjusted by expanding or compressing coil turns. Remove 180Ω resistor and .0015 MFD capacitor from point (F) and chassis.
14.	Two 130Ω Carbon Resistors	Across antenna (VHF) terminals with 130Ω in each lead.	44MC (10MC Swp)	"	Check all VHF channels	Vert. Amp. to point (D). Low side to chassis.	A6, A7, A8	Couple marker generator loosely to first video IF amplifier grid. Check for response curve similar to Fig. 5 on all VHF channels. SLIGHTLY retouch A6, A7 and A8 if necessary to correct for any overall tilt as in step 12.
15.	Remove VHF sweep generator and connect UHF sweep generator to antenna terminals. Check all UHF channels for response similar to Fig. 5. SLIGHTLY retouch A16, A17 and A18 to correct any overall tilt. Disconnect generator and bias supplies.							

ANTENNA MATCHING UNIT ALIGNMENT

The antenna unit has been properly aligned at the factory. The RF unit is aligned with a particular antenna matching unit in place. If a new antenna unit is installed, the RF unit should be realigned.
The FM trap (A55) may be aligned without adversely affecting the unit.
Disconnect the lead from L15 (point (H)) to the channel selector switch. Use a short jumper to connect output of matching unit at point H through a .001MFD capacitor to pin 6 (grid) of second video IF amplifier tube (V5A). Remove the first video IF amplifier tube (V4) from its socket. The matching unit cover must be in place during alignment.
Connect the negative lead of a variable bias supply to the ungrounded side of C76. Positive lead to chassis. Adjust for -6 volts at ungrounded side of C76.
Adjustment A19 thru A22 are adjusted by expanding or compressing coil turns.
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.	Direct	Across antenna terminals. Low side to chassis.	Not used	45.75MC (400%Mod)	Any	Vert. Amp. to point (C). Low side to chassis.	A19	Adjust for MINIMUM 400% indication on scope.
17.	"	"	"	41.25MC	"	"	A20	"
18.	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	52MC (10MC Swp)	50MC 52MC 53MC 60MC	"	Vert. Amp. thru detector (detector lead of Fig.3) to point (H). Low side to chassis.	A21, A22	Remove .001MFD capacitor from point (H). to grid of V5A. Connect a 300Ω, ½ watt carbon resistor from point (H) to chassis. Use very short lead. Set sweep generator for maximum output. Adjust A21 and A22 for response curve similar to Fig. 7. Repeat steps 16, 17 and 18 until no further improvement is noted. A21 affects shoulder of curve (52MC point). Adjust A22 for maximum response at 53MC point. If distortion of response is affected by a second harmonic of sweep generator output, tune a (FM trap) for maximum inductance while adjusting A19 thru A22. After final adjustments return A55 to its original position. Restore connection from L15 to channel switch. Replace V4 in its socket.

VHF TUNER ALIGNMENT

A tuner unit which is operative and requires only minor touch-up adjustments will require no presetting of adjustments. When complete alignment is necessary make the following adjustments:
Preset A23 all the way out. Set channels 7 to 13 oscillator slugs one turn from tight.
Disconnect the link from terminals of L58 (converter plate transformer) and shunt the terminals with a 39 ohm carbon resistor.
Connect a 56 ohm carbon resistor from point (H) to chassis.
Tuner alignment as outlined below requires the use of a heterodyne frequency meter.
Short tuner AGC to chassis and point (G).
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
19.		RF input heterodyne frequency meter to end of insulated wire in hole provided for adjustment of A26. Exercise care that the wire does not touch any tuned circuit causing oscillator drift.	Not used	Set freq. meter to 227MC	8	Not used	A24, A25, A26	Preset A24 to read -3.5 volts at point (I). The limits of oscillator injection voltage are 2.5 volts minimum and 5.5 volts maximum. Set fine tuning control maximum clockwise. Adjust A25 for audible beat on frequency meter. Adjust A23 clockwise until beat note just begins to change, then turn one full turn in same clockwise direction. Return fine tuning control to its mechanical center of its range.
20.	NOTE: If channel 8 oscillator frequency cannot be reached by adjustment of A25, switch to channel 13 and adjust A27 for channel 13 oscillator frequency. Switch back to channel 8 and adjust A23 for channel 8 oscillator frequency. Switch to channel 13 and readjust A27 for channel 13 oscillator frequency. Repeat until proper frequencies are obtained and no changes are noted.							
21.	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	183MC (10MC Swp)	181.25MC 185.75MC	8	Vert. Amp. to point (I). Low side to chassis.	A26, A39, A40	Couple signal generator loosely to antenna terminals to provide markers. Adjust scope gain for maximum and attenuate generator output for minimum signal input. That will produce usable pattern on scope. Adjust for response similar to Fig. 8. A39 affects frequency of bandpass, A40 affects tilt. Adjust A26 to place markers at 100% on response curve. A26 also affects bandwidth.
22.	Connect the DC probe of VTVM to point (I). Common to chassis. Adjust A24 for -3.5 volts at point (I). Repeat steps 19, 20 and 21 until proper response is obtained.							
23.	Two 300Ω Carbon Resistors	Across antenna terminals with 300Ω in each lead.	213MC (10MC swp)	211.25MC 215.75MC	13	Vert. Amp. to point (I). Low side to chassis.	A41, A42	Adjust for response curve similar to Fig.8. Turn off generator and check oscillator injection at point (I) using VTVM as in step 22. If necessary to adjust A24, turn sweep generator and signal generator back on and recheck channel 13 response. If necessary retouch A41 and A42 for desired response.

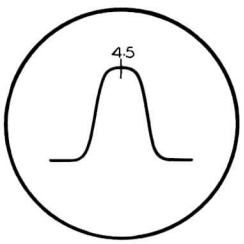


FIG. 1

DETE

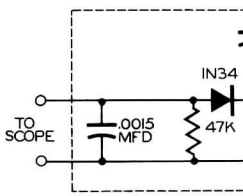


FIG. 3

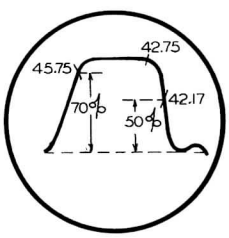


FIG. 4

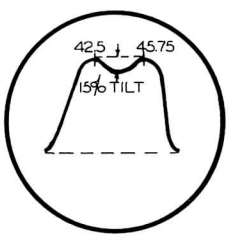


FIG. 6

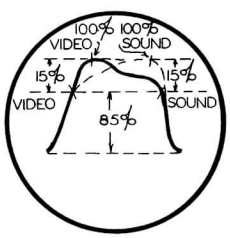


FIG. 8

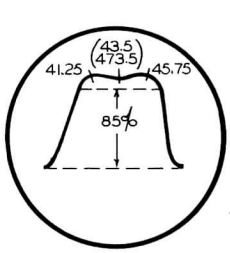


FIG. 10

ALIGNMENT INSTRUCTIONS (cont)

	ADJUST	REMARKS
ru tor to 0015 narks) assis.	A16, A17, A18	Set tuner to UHF position. Connect a 180Ω resistor in series with a .0015MFD ceramic capacitor between point Ⓕ and chassis. Capacitor end connect to point Ⓕ. Connect a second bias supply to point Ⓖ. Positive lead to chassis. Adjust for -3 volts bias at point Ⓖ. Couple marker generator loosely to detector (Fig. 3). Attenuate sweep generator for .5 volts peak to peak on scope. Adjust A16 for maximum gain with 45.75MC and 42.5MC markers as in Fig. 6. Adjust A17 to place 45.75MC marker at peak of curve. Adjust A18 for MINIMUM tilt of curve. (Fig. 6). If necessary, to obtain proper bandwidth, adjust L55 (IF trap coil). L55 is adjusted by expanding or compressing coil turns. Remove 180Ω resistor and .0015 MFD capacitor from point Ⓕ and chassis.
point de to	A6, A7, A8	Couple marker generator loosely to first video IF amplifier grid. Check for response curve similar to Fig. 5 on all VHF channels. SLIGHTLY retouch A6, A7 and A8 if necessary to correct for any overall tilt as in step 12.
Check all UHF channels for response similar to rator and bias supplies.		

LIGNMENT

rticular antenna matching unit in place. If a

er to connect output of matching unit at point
Remove the first video IF amplifier tube

lead to chassis. Adjust for -6 volts at

the oscilloscope for horizontal deflection.
sually 50 ohms.

	ADJUST	REMARKS
w side	A19	Adjust for MINIMUM 400∿ indication on scope.
	A20	"
ru ctor to w .	A21, A22	Remove .001MFD capacitor from point Ⓗ. to grid of V5A. Connect a 300Ω, ½ watt carbon resistor from point Ⓗ to chassis. Use very short lead. Set sweep generator for maximum output. Adjust A21 and A22 for response curve similar to Fig. 7. Repeat steps 16, 17 and 18 until no further improvement is noted. A21 affects shoulder of curve (52MC point). Adjust A22 for maximum response at 53MC point. If distortion of response is affected by a second harmonic of sweep generator output, tune a (FM trap) for maximum inductance while adjusting A19 thru A22. After final adjustments return A55 to its original position. Restore connection from L15 to channel switch. Replace V4 in its socket.

no presetting of adjustments. When complete

minals with a 39 ohm carbon resistor.

of the oscilloscope for horizontal deflection.
usually 50 ohms.

	ADJUST	REMARKS
	A24, A25, A26	Preset A24 to read -3.5 volts at point Ⓘ. The limits of oscillator injection voltage are 2.5 volts minimum and 5.5 volts maximum. Set fine tuning control maximum clockwise. Adjust A25 for audible beat on frequency meter. Adjust A23 clockwise until beat note just begins to change, then turn one full turn in same clockwise direction. Return fine tuning control to its mechanical center of its range.
o channel 13 and adjust A27 for channel 13 oscillator ncy. Switch to channel 13 and readjust A27 for channel ges are noted.		
o point de to	A26, A39, A40	Couple signal generator loosely to antenna terminals to provide markers. Adjust scope gain for maximum and attenuate generator output for minimum signal input. That will produce usable pattern on scope. Adjust for response similar to Fig. 8. A39 affects frequency of bandpass, A40 affects tilt. Adjust A26 to place markers at 100% on response curve. A26 also affects bandwidth.
volts at point Ⓘ. Repeat steps 19, 20 and		
o point ide to	A41, A42	Adjust for response curve similar to Fig. 8. Turn off generator and check oscillator injection at point Ⓘ using VTVM as in step 22. If necessary to adjust A24, turn sweep generator and signal generator back on and recheck channel 13 response. If necessary retouch A41 and A42 for desired response.

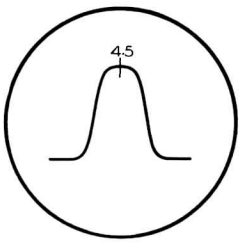


FIG. 1

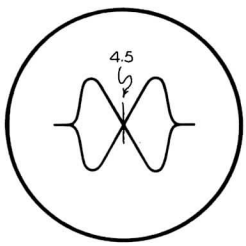


FIG. 2

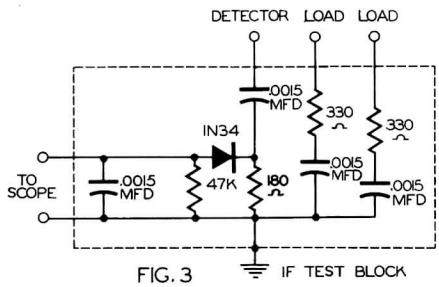


FIG. 3

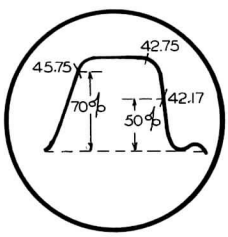


FIG. 4

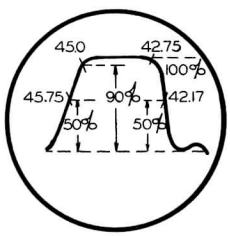


FIG. 5

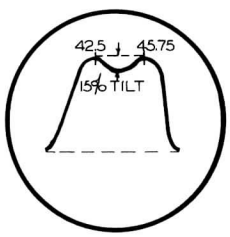


FIG. 6

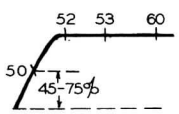


FIG. 7

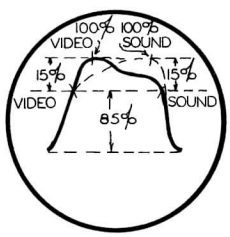


FIG. 8

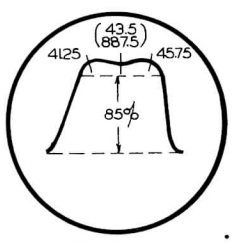


FIG. 9

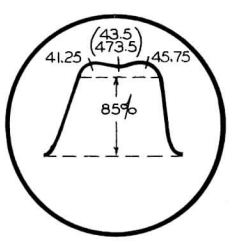


FIG. 10

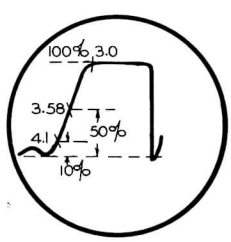


FIG. 11

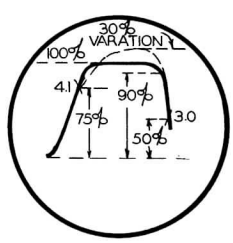


FIG. 12

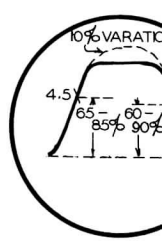


FIG. 13

VHF TU

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANN
24	Two 300Ω carbon resistors	Across antenna terminals with 300Ω in each lead.	183MC (10MC Swp)	181.25MC 185.75MC	8
25	"	"	213MC (10MC Swp)	211.25MC 215.75MC	13
			207MC (10MC Swp)	205.25MC 209.75MC	12
			201MC (10MC Swp)	199.25MC 203.75MC	11
			195MC (10MC Swp)	193.25MC 197.75MC	10
			189MC (10MC Swp)	187.25MC 191.75MC	9
			183MC (10MC Swp)	181.25MC 185.75MC	8
			177MC (10MC Swp)	175.25MC 179.75MC	7
26		Connect frequency meter as in step 19.	Not used	Freq. meter to 129MC	6
27	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	85MC (10MC Swp)	83.25MC 87.75MC	"
28	If A24 required readjustment switch receiver and generator to channe A25 for proper oscillator frequency as in step 19.				
29	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	85MC (10MC Swp)	83.25MC 87.75MC	6
			79MC (10MC Swp)	77.25MC 81.75MC	5
			69MC (10MC Swp)	67.25MC 71.75MC	4
			63MC (10MC Swp)	61.25MC 65.75MC	3
			57MC (10MC Swp)	55.25MC 59.75MC	2
30		Connect frequency meter as in step 19.	Not used	Freq. meter to 257MC	13
				251MC	12
				245MC	11
				239MC	10
				233MC	9
				227MC	8
				221MC	7
				129MC	6
				123MC	5
				113MC	4
				107MC	3
				101MC	2
31	Two 130Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	Not used	213MC (400∿Mod.)	13
32	"	"	"	85MC (400∿Mod)	6
33	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	183MC (10MC Swp)	181.25MC 185.75MC	8
34	"	"	213MC (10MC Swp)	211.25MC 215.75MC	13
35	"	"	85MC (10MC Swp)	83.25MC 87.75MC	6
36	Switch tuner thru all VHF channels and observe the response on sc response curve should be 85% of maximum. If dip exceeds this limi correct dip. Always knife coils starting with the highest frequency Remove all test equipment and bias supplies.				

RUCTIONS (cont)

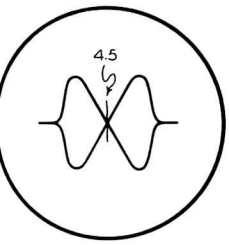
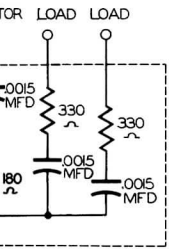


FIG. 2



F IF TEST BLOCK

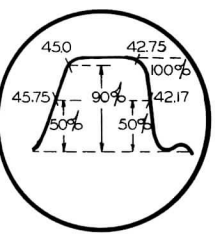


FIG.5

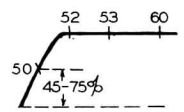


FIG.7

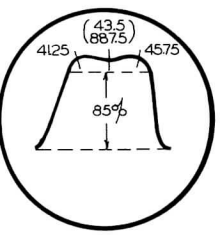


FIG.9

VHF TUNER ALIGNMENT (Cont).

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
24	Two 300Ω carbon resistors	Across antenna terminals with 300Ω in each lead.	183MC (10MC Swp)	181.25MC 185.75MC	8	Vert. Amp. to point (I). Low side to chassis.	A26,A39, A40	If necessary retouch A26, A39 and A40 to obtain desired response(Fig.8). If A40 required adjustment turn off generators and switch back to channel 13 and check injection voltage A5 in step 22. Repeat steps 23 and 24 until proper response is obtained.
25	"	"	213MC (10MC Swp)	211.25MC 215.75MC	13	"		Check for response curve similar to Fig.8. Check oscillator injection voltage for each channel at point (I). If markers fall below 85% of maximum on any one channel retouch A26 and A39 thru A42 to obtain response curves within proper limits as in Fig. 8.
			207MC (10MC Swp)	205.25MC 209.75MC	12			
			201MC (10MC Swp)	199.25MC 203.75MC	11			
			195MC (10MC Swp)	193.25MC 197.75MC	10			
			189MC (10MC Swp)	187.25MC 191.75MC	9			
			183MC (10MC Swp)	181.25MC 185.75MC	8			
			177MC (10MC Swp)	175.25MC 179.75MC	7			
26		Connect frequency meter as in step 19.	Not used	Freq. meter to 129MC	6	Not used	A34	Set fine tuning control to its mid-range position. Adjust A34 for an audible beat on frequency meter.
27	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	85MC (10MC Swp)	83.25MC 87.75MC	"	Vert. Amp. to point (I). Low side to chassis.	A43, A44	Adjust for response curve similar to Fig. 8. Check oscillator injection voltage as in step 22. Readjust A24 if necessary.
28	If A24 required readjustment switch receiver and generator to channel 8. Readjust A40 for response similar to Fig. 8. Recheck A23 and A25 for proper oscillator frequency as in step 19.							
29	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	85MC (10MC Swp)	83.25MC 87.75MC	6	Vert. Amp. to point (I). Low side to chassis.		Check for response curve similar to Fig.8. Check oscillator injection voltage on each channel at point (I). If markers fall below 85% on any one channel SLIGHTLY retouch A43 and A44. If unable to obtain correct MINIMUM tilt on channels 5 thru 2 knife coils (by expanding or compressing coil turns) L39 thru L42 and L47 thru L50.
			79MC (10MC Swp)	77.25MC 81.75MC	5			
			69MC (10MC Swp)	67.25MC 71.75MC	4			
			63MC (10MC Swp)	61.25MC 65.75MC	3			
			57MC (10MC Swp)	55.25MC 59.75MC	2			
30		Connect frequency meter as in step 19.	Not used	Freq. meter to 257MC	13	Not used	A27	Adjust individual channel oscillator slug for audible beat on each channel. Recheck oscillator injection voltage on each channel at point (I) to verify that the voltage is within (2 volts MINIMUM and 5.5 volts maximum) limits.
				251MC	12		A28	
				245MC	11		A29	
				239MC	10		A30	
				233MC	9		A31	
				227MC	8		A32	
				221MC	7		A33	
				129MC	6		A34	
				123MC	5		A35	
				113MC	4		A36	
				107MC	3		A37	
				101MC	2		A38	
31	Two 130Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	Not used	213MC (400%Mod.)	13	Vert. Amp. to point (D). Low side to chassis.	A45	Connect the negative lead of a variable bias supply to ungrounded side of C76. Positive lead to chassis. Adjust for -6 volts at ungrounded side of C76. Remove short from tuner AGC at point (G). Connect negative lead of a second bias supply to point (G). Positive lead to chassis. Adjust for -15 volts at point (G). Set scope for maximum gain. Adjust for MINIMUM 400% indication on scope.
32	"	"	"	85MC (400%Mod)	6	"	A46	"
33	Two 130Ω Carbon Resistors	Across antenna terminals with 130Ω in each lead.	183MC (10MC Swp)	181.25MC 185.75MC	8	Vert. Amp. to point (I). Low side to chassis.	A47	Reduce bias to -3 volts at point (G). Adjust A47 for maximum amplitude between two peaks on response curve.
34	"	"	213MC (10MC Swp)	211.25MC 215.75MC	13	"	A48	Adjust A48 for maximum amplitude between two peaks on response curve. A48 is adjusted by expanding or compressing coil turns. Repeat steps 33 and 34. Increase bias at point (G) to -15 volts. Repeat steps 31 and 32. Then reduce bias at point (G) to -3 volts and again repeat steps 33 and 34.
35	"	"	85MC (10MC Swp)	83.25MC 87.75MC	6	"	A49	Adjust A49 for maximum amplitude between two peaks on response curve.
36	Switch tuner thru all VHF channels and observe the response on scope, as in steps 25 and 29. The dip at mid-point between two peaks on response curve should be 85% of maximum. If dip exceeds this limit it will be necessary to knife coils L22 thru L26 and L17 thru L20 to correct dip. Always knife coils starting with the highest frequency (channel 13 thru 2) and continuing to the lowest. Remove all test equipment and bias supplies.							

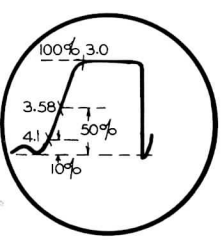


FIG.11

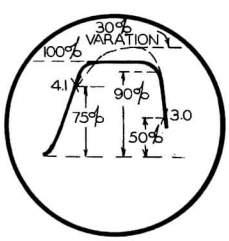


FIG.12

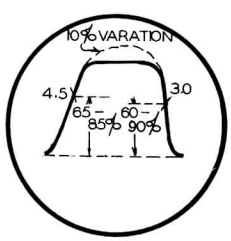


FIG.13

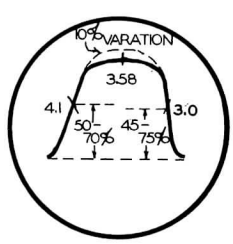


FIG.14

ALIGNMENT INSTRUCTIONS (cont)

UHF TUNER ALIGNMENT

Turn the change over switch to UHF position. To make the RF adjustment of the UHF tuner, the UHF tuner unit will have to be removed from the set. IF and oscillator adjustments may be aligned without removing UHF tuner. Connect a 100Ω carbon resistor from the center conductor of IF cable to chassis (point ⟨J⟩ on schematic). If the oscilloscope does not have a sensitivity of 5 millivolts per inch, a suitable preamplifier may be used.

Fabricate a test dial with markers scribed on its circumference at 0, 5 and 164 degrees. The test dial should be made to fit over the split gear on the tuner shaft for accurate alignment. Locate the "0" degree reference point with the capacitor plates fully meshed. The stop pin on the tuner should be against the stop plate on the gear assembly when the plates are fully meshed. Connect the high side of a VHF marker generator thru a 1000Ω carbon resistor to point ⟨J⟩ . Insert resistor lead (insulate lead) through aperture provided for crystal removal. Connect low side 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.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
37.	Two 300Ω Carbon Resistors	Across UHF antenna terminals with 300Ω in each lead.	887.5MC (Use max. sweep width)	41.25MC 43.5MC 45.75MC 887.5MC	83 (164degrees on tuning dial)	Vert. Amp. (thru preamp. if needed) to point ⟨J⟩ thru detector (detector lead of Fig.3). Low side to UHF tuner chassis.	A50, A51, A52	Use low VHF and UHF marker generator output. If UHF sweep generator has no built-in marker, couple separate marker generator loosely to antenna terminals to provide UHF marker (887.5MC). Adjust A50 and A51 for maximum amplitude over-coupled response curve centered at 887.5MC similar to Fig. 9. Adjust A52 until the 43.5 MC marker coincides with the 887.5MC marker. The 41.25MC and 45.75MC markers should be symmetrically located on top of response curve as in Fig. 9.
38.	"	"	473.5MC (Use max. sweep width)	41.25MC 43.5MC 45.75MC 473.5MC	14 (5 degrees on tuning dial)	"	A53, A54	Leave marker generators connected as in step 37. Adjust A53 until 43.5MC marker coincides with 473.5MC marker as in Fig.10. If A53 has insufficient range adjust A54 by repositioning coil until markers coincides. Repeat steps 37 and 38 until proper responses are obtained.

39. Tune thru the entire UHF range and check tracking. If the 41.25MC and 45.75MC markers fall below 85% on any UHF channel it will be necessary to bend the RF plates to correct mistracking. The plates may be bent by using a knife blade with the shield cover removed. Knife the plates while tuning lower in frequency so that tracking above the point of knifing will not be disturbed. A check of which requires knifing may be made by touching the plates with the knifing tool while noting the effect on the response curve, then knifing the proper section or both sections if required. Connect the DC probe of VTVM to point ⟨J⟩ . Common to chassis. Tune thru the entire UHF range, at the same time noting the reading on VTVM. Readings between .03 and .4 volts should be obtained. If voltages outside this limit are obtained, it indicates low B+ voltage, low or high crystal impedance or an oscillator tube outside its allowable limits. This voltage may be varied by repositioning L3 (UHF osc. coupling coil. Connect DC probe of VTVM to point ⟨K⟩ . Common to chassis. Readings between .75 and 3.5 volts should be obtained. Readings outside this range will cause crystal currents beyond allowable limits and in such cases the oscillator tube should be replaced. If the oscillator tube is replaced steps 37 and 38 should repeated.
allowable limits and in such cases, the oscillator tube should be replaced. If the oscillator tube is replaced steps 37 and 38 should be repeated.

FM TRAP ALIGNMENT

Tune in a local TV station in which interference is noticed, adjust A55 for minimum interference in the picture.

FIRST VIDEO AMPLIFIER AND BANDPASS AMPLIFIER ALIGNMENT

Remove the G-Y,R-Y demodulation tube (V25) from its socket.
Connect the negative lead of a variable bias supply to pin 6 of AGC clamper tube (6T8/ V11A). Connect the positive lead to chassis.
Adjust for -2 volts bias at pin 6 of V11A.
Connect a second bias supply to the ungrounded side of C76. Connect the positive lead to chassis. Adjust for -6 volts at ungrounded side of C76.

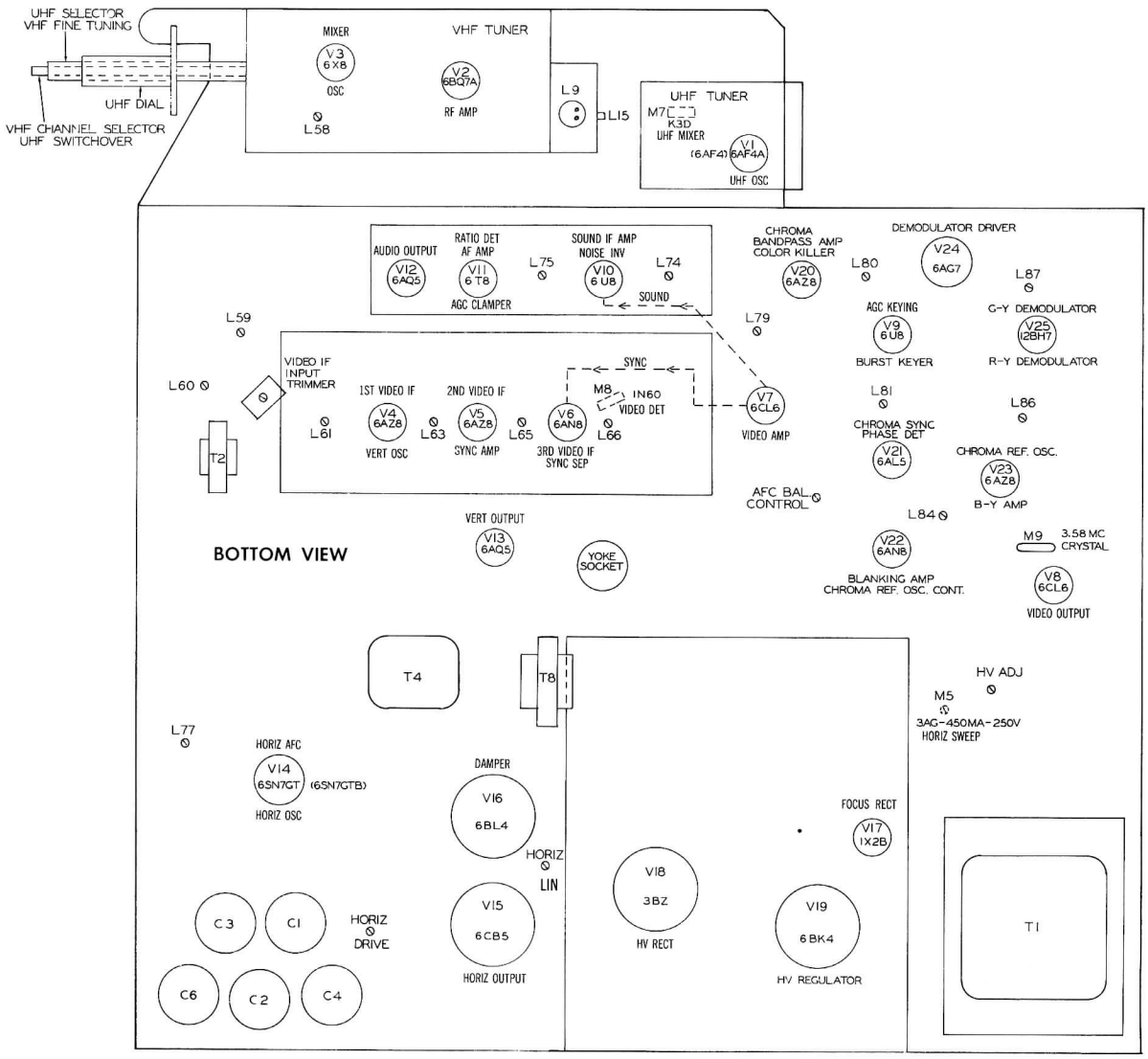
	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
40.	Direct	Connect signal generator and video sweep modulator across antenna terminals. (See remarks)	3MC (3MC Swp)	3.0MC 3.58MC 4.1MC	4	Vert. Amp. of wide band scope to point ⟨D⟩ . thru detector (detector lead of Fig. 3). Low side to chassis.		Signal generator should provide channel 4 video carrier frequency (67.25MC) with crystal accuracy. Connect DC probe of VTVM to pin 2 (grid) of 6CL6 (V7). Common to point ⟨D⟩ . With zero video sweep modulation adjust signal generator output (67.25MC) for 1.5 volts on VTVM. Remove VTVM and apply video sweep modulation, being careful not be overload. Couple VHF signal generator loosely to pin 6 (grid) of 1st. video IF amplifier tube (V4) to provide 45.75MC marker. To set the local oscillator exactly on frequency adjust fine tuning control until a beat pattern is obtained on scope. Remove VHF generator from pin 6 of V4A. The response on scope should be similar to Fig. 11. Remove bias supplies.
41.	"	"	"	3.0MC 4.1MC	"	Vert. Amp. of wide band scope thru detector (detector lead of Fig. 3). To terminal "B" of L80. Low side to chassis.	A56	Connect a 330Ω, 1 watt resistor across terminals "A" and "B" of bandpass primary coil (L80). Connect negative lead of a bias supply to pin 9 (grid) of burst keyer tube (V9B). Connect negative lead of a second bias supply to junction of R168 and R169. Connect positive terminals of both to chassis. Adjust for -7 volts at both bias points. Adjust A56 for correct response curve similar to Fig. 12. Remove 330Ω resistor from terminals "A" and "B" of L80 and connect to terminals "C" and "F" of demodulator transformer (L87) for adjustments in step 42.
42.	Direct	Connect signal generator and video sweep modulator across antenna terminals. (See remarks-step 1)	"	"	"	Vert. amp. of wide band scope thru detector (detector lead of Fig.3) to terminal "F" of L87. Low side to chassis.	A57, A58	Connect both bias supplies as in step 41. At pin 9 of V9B increase bias to -9 volts. At junction of R168 and R169 increase bias to -15 volts. Adjust A57 and A58 for response curve similar to Fig.13. If necessary, make SLIGHT readjustment of A7 for desired response. Remove 330Ω from terminals "C" and "F" of L87.
43.	"	"	"	"	"	Vert. Amp. of wide band scope thru 2MMF capacitor and detector (detector lead of Fig.3) to pin 1 (plate) of R-Y demodulated (V25B). Low side to chassis.	A59	Adjust A59 for response similar to Fig.14. In step 42, if adjustment of A7 required readjustment for desired response, repeat step 14 for a check of the overall IF response check with response curves similar to Fig.5. Replace fuse (MS) in its fuse holder. Remove 1500Ω,100 watt resistor from pin 7 of deflection yoke socket and high side of R8A (B- line).

ALIGNMENT INSTRUCTIONS (cont)

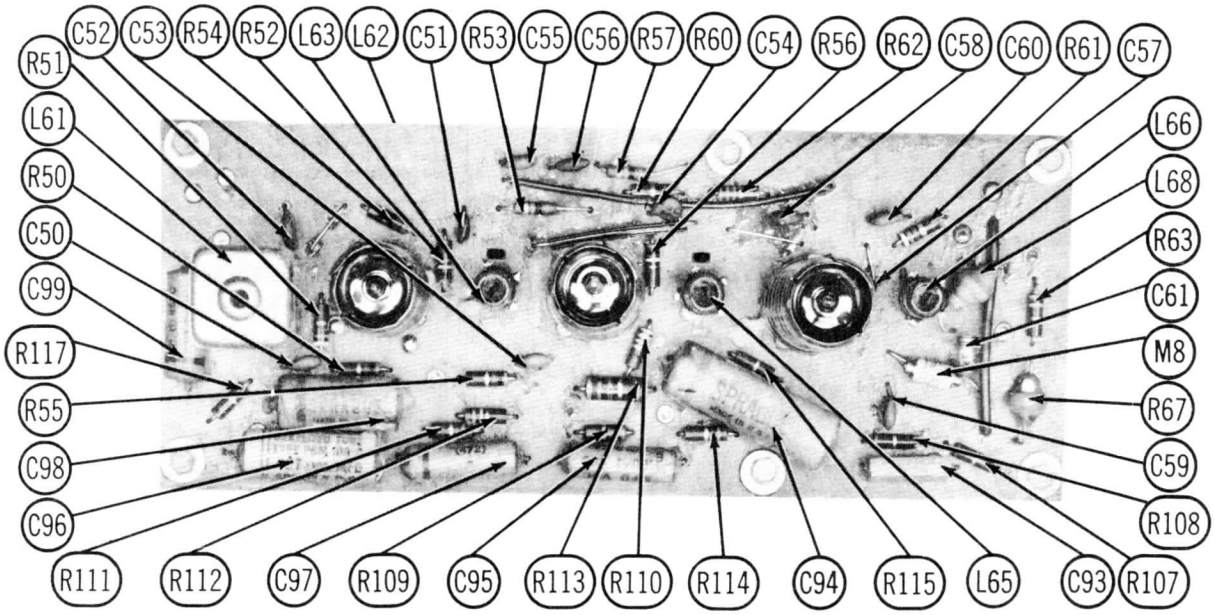
COLOR AFC ALIGNMENT

Connect a 100% saturated color bar generator across the antenna terminals (a TV color signal may be used if available).
Connect the negative lead of a 15 volt bias supply to point D . Connect the positive lead to chassis.
Turn the channel selector to correct channel (whichever crystal that was supplied with the generator) or correct channel for TV color signal. Adjust horizontal hold control of the generator until color is in sync.

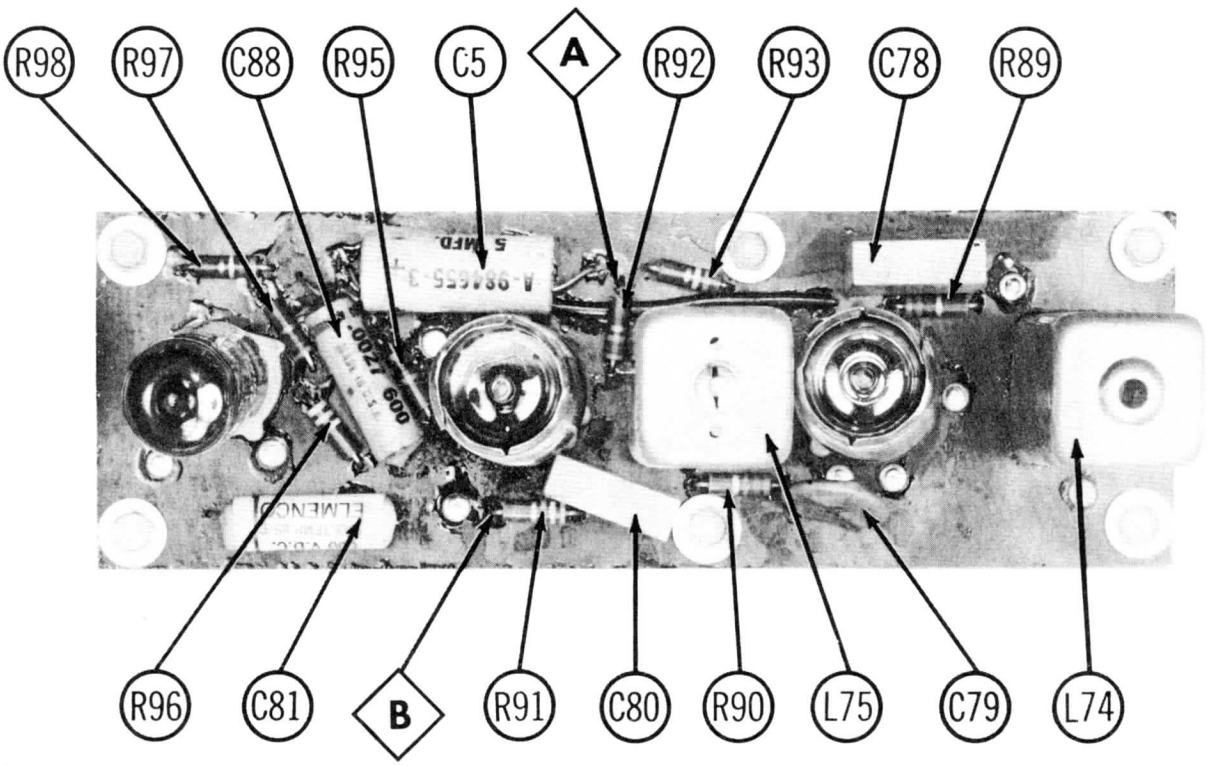
	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
44.	Direct	Use color bar generator. Across antenna terminals.			DC probe to pin 7 (plate) of color phase detector (V21). Common to chassis.	A60, A61, A62	Connect a short jumper from terminal "C" of bandpass primary coil (L80) to chassis. Adjust A60 for maximum deflection on VTVM. Set the hue control to its mid-range position and adjust A61 for maximum deflection. Remove short from terminal "C" of L80 and chassis. Then adjust A62 for maximum deflection.
45.	"	"			Vert. Amp. to pin 2 (red grid) of picture tube. Low side to chassis.	A63	Connect a clip lead from point Ⓜ to chassis. Adjust A63 for zero indication on scope. Remove clip lead from point Ⓜ and chassis.
46.	"	"			DC probe to point Ⓜ. Common to chassis.	R20	Connect a 10 to 15MMF capacitor across 3.58MC crystal (M9). Adjust AFC control (R20) for zero deflection on VTVM. Remove capacitor from across M9 and adjust the color control (R2) for color sync.



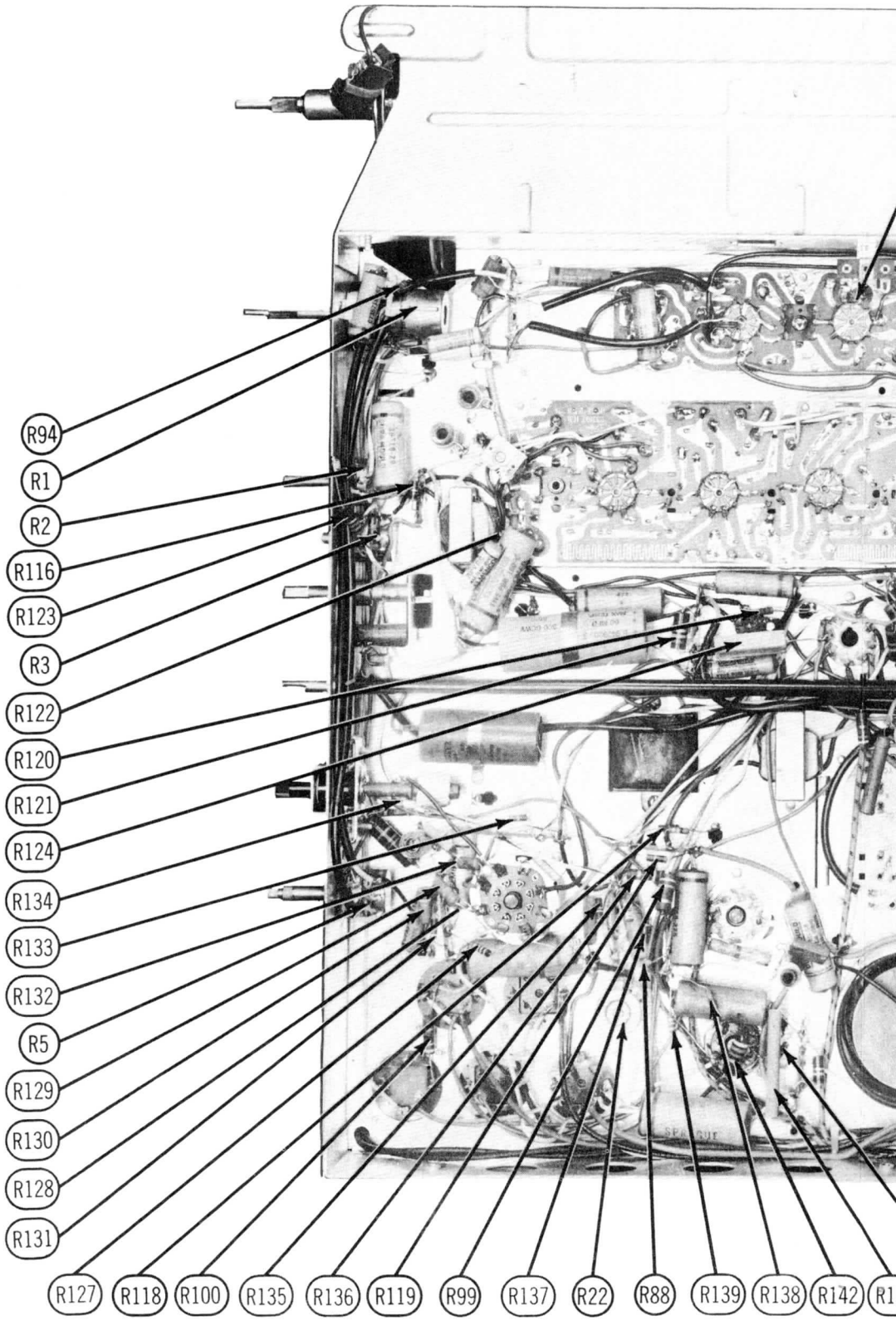
TUBE PLACEMENT CHART



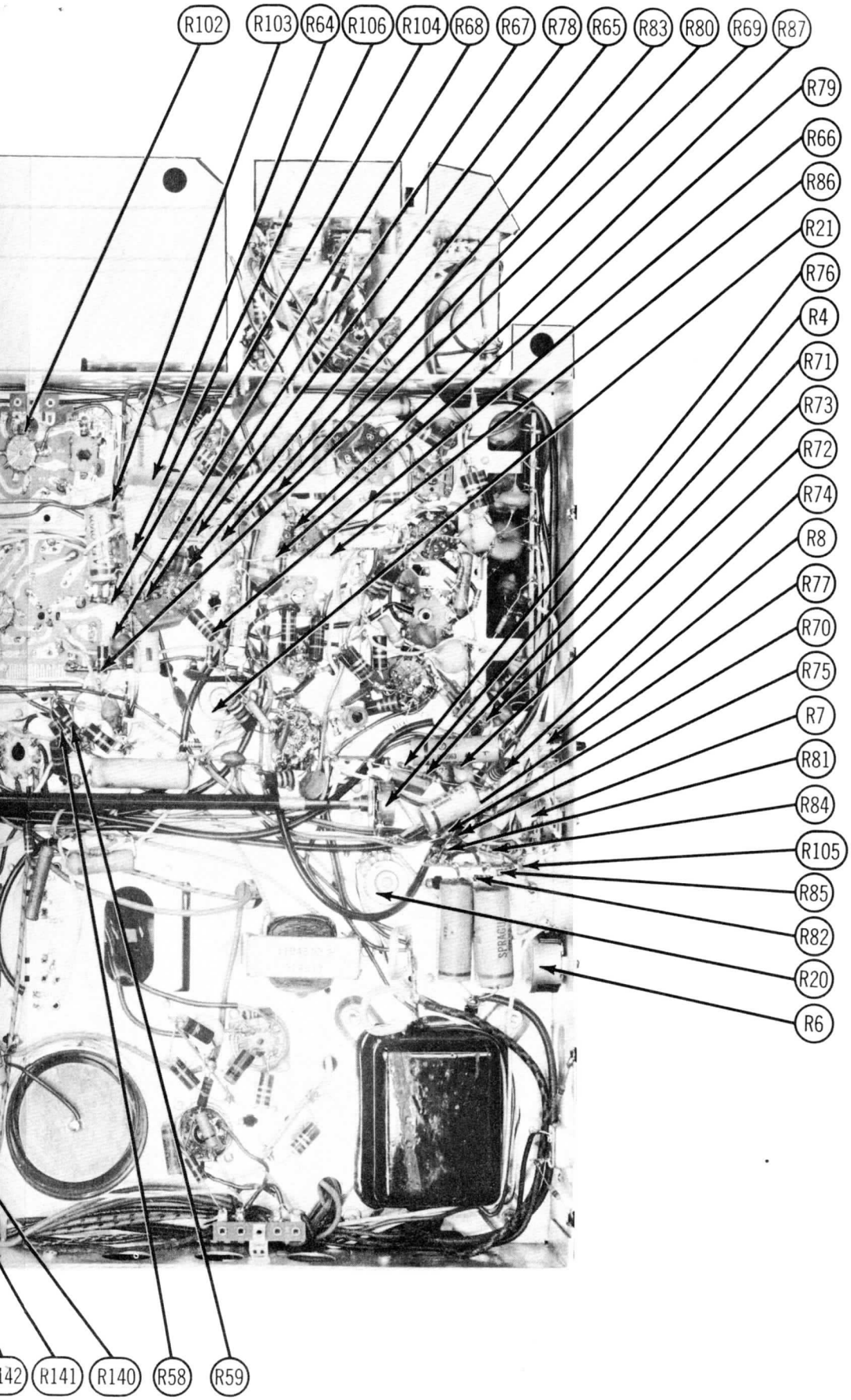
VIDEO IF SUB-CHASSIS PRINTED CIRCUIT



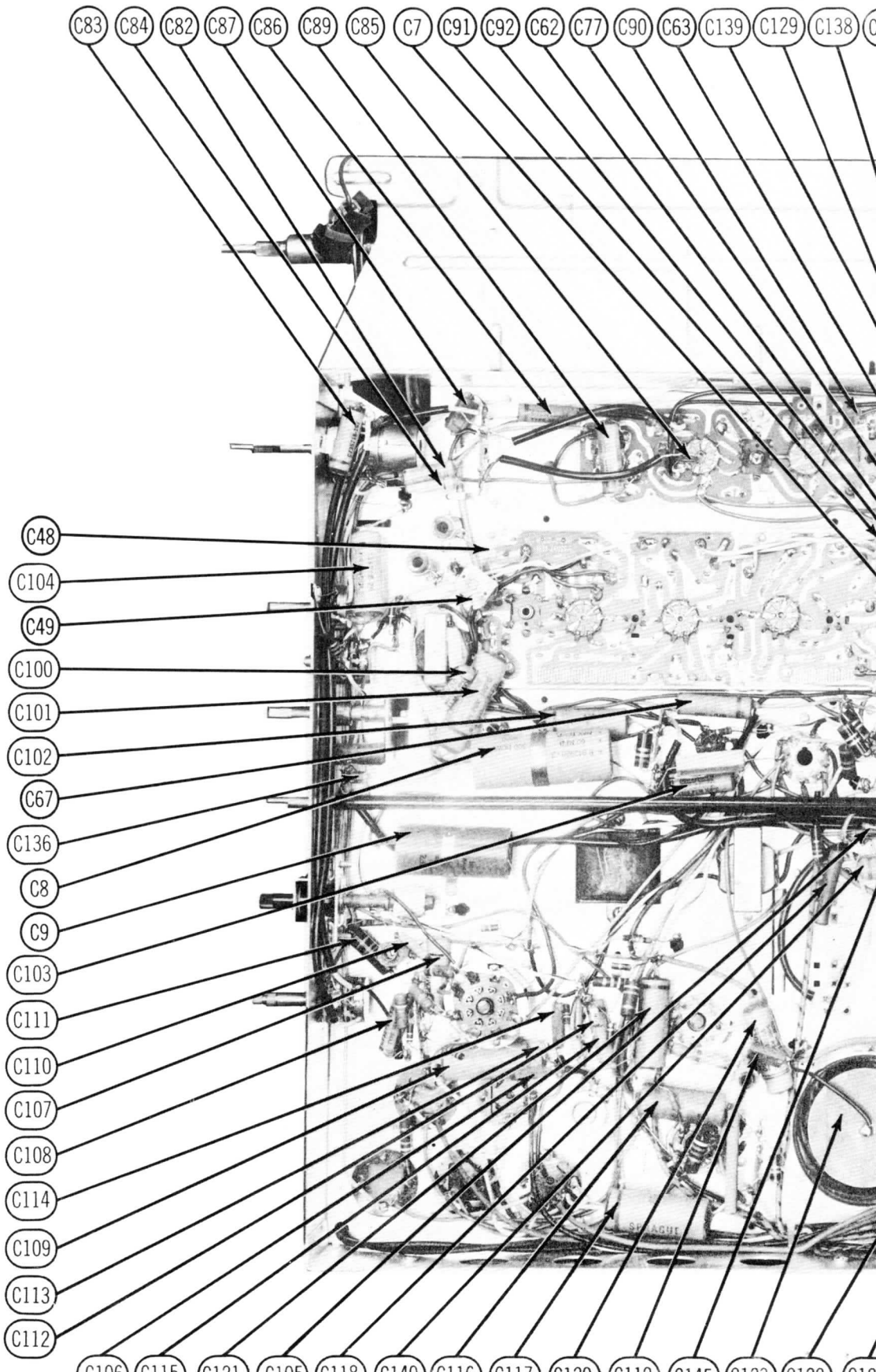
SOUND IF SUB-CHASSIS PRINTED CIRCUIT



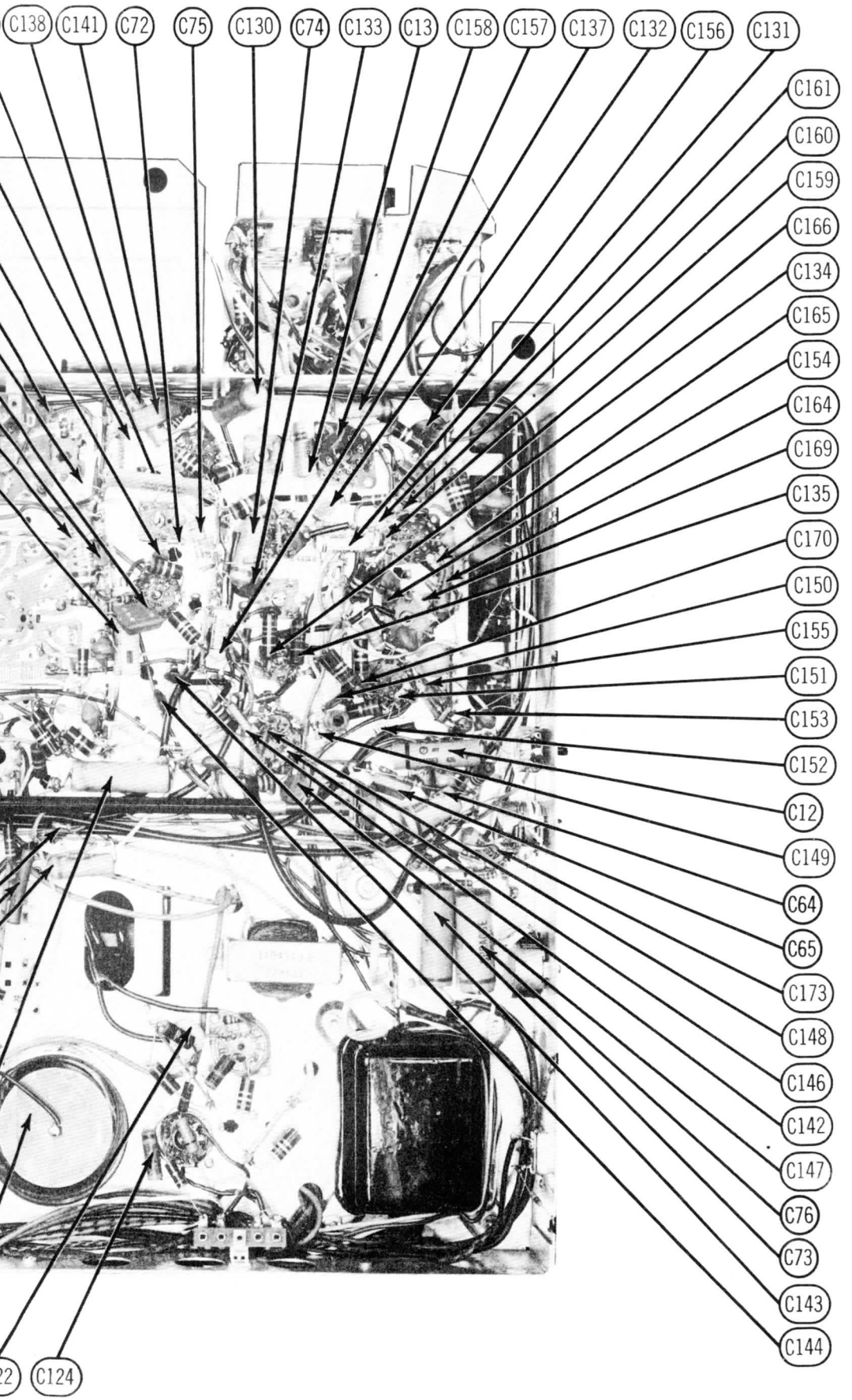
CHASSIS BOTTOM VIEW RES



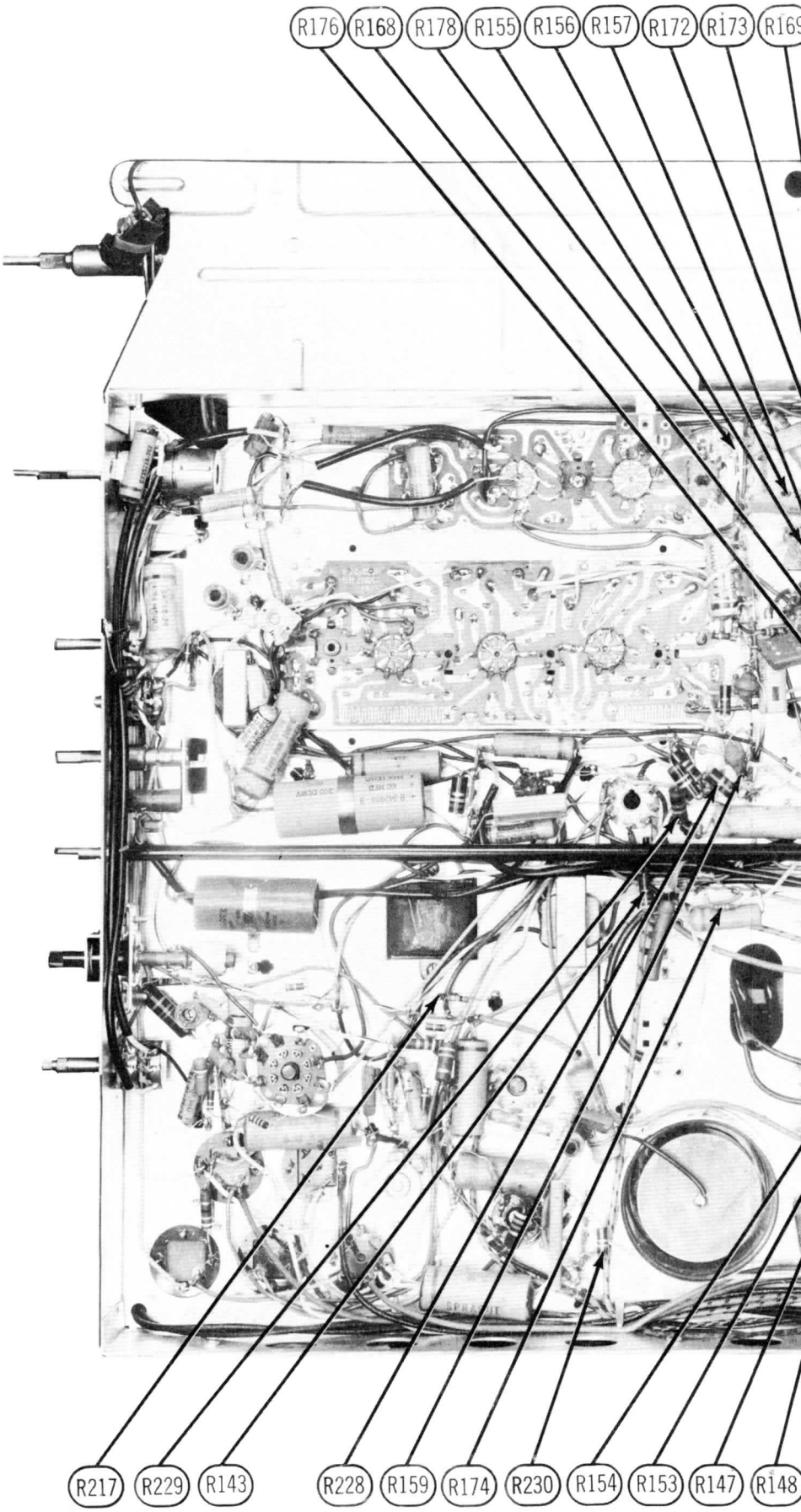
W RESISTOR IDENT. (R1-R142)



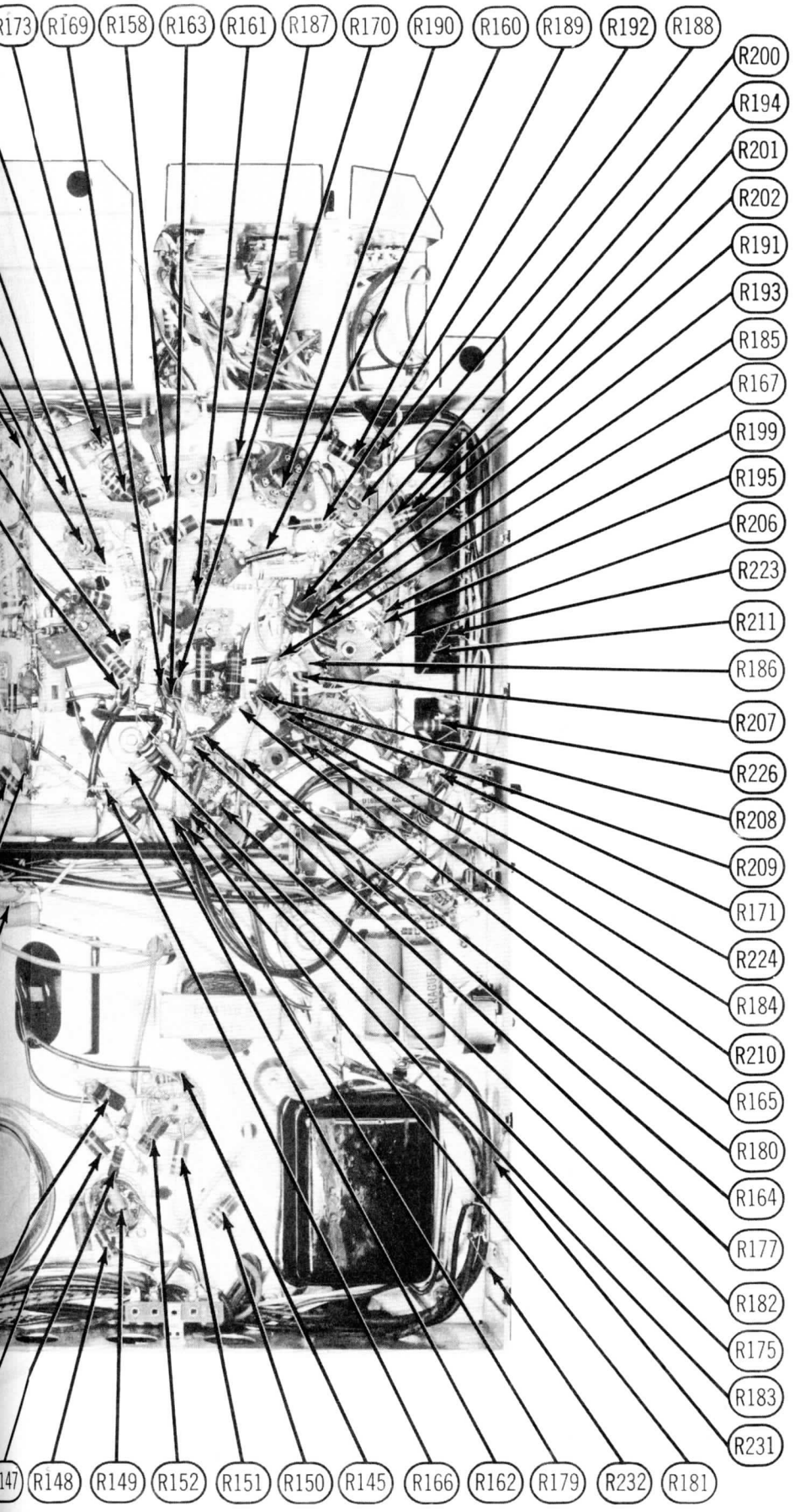
CHASSIS BOTTOM VIEW-CAPA



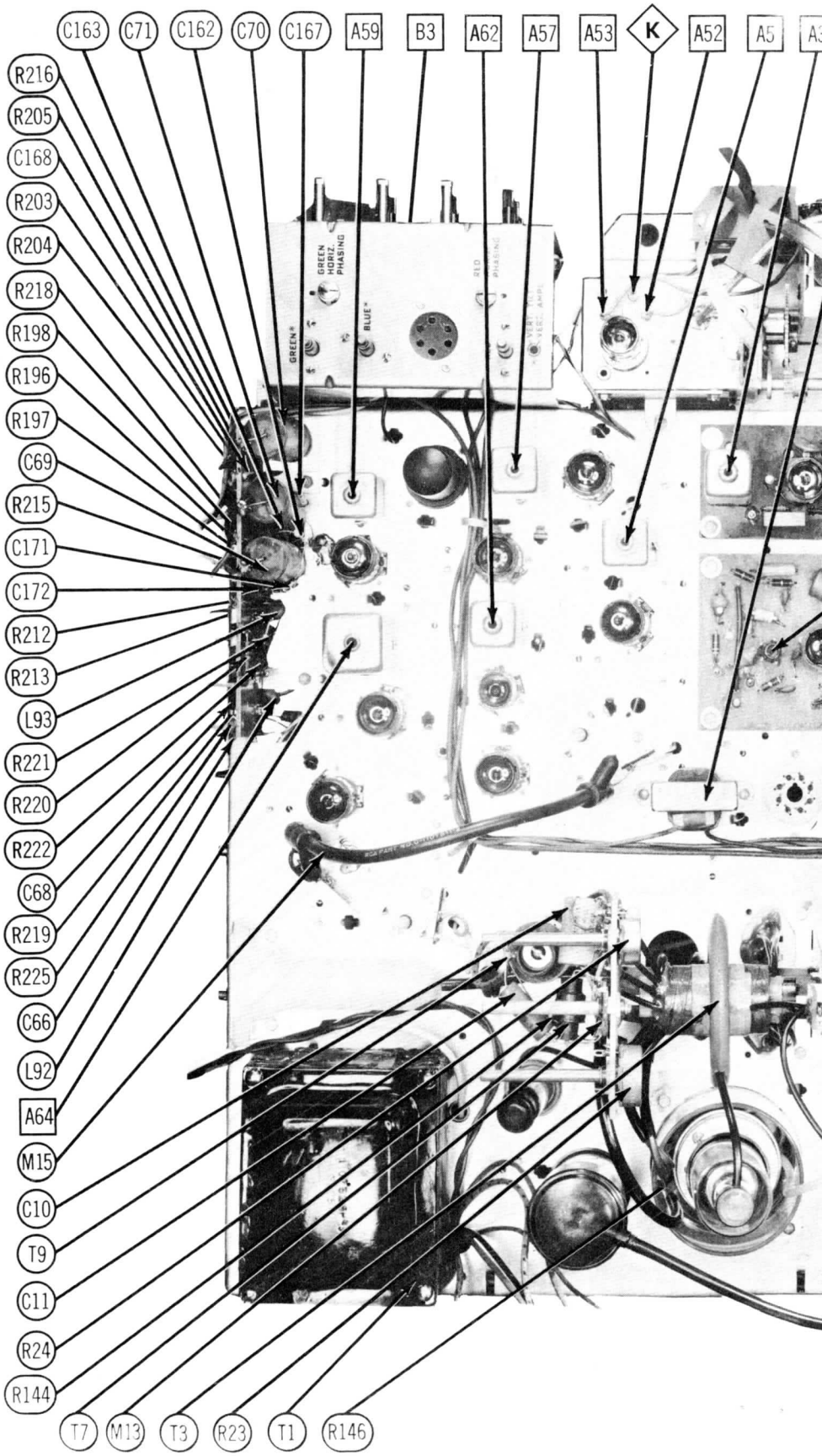
CAPACITOR IDENTIFICATION



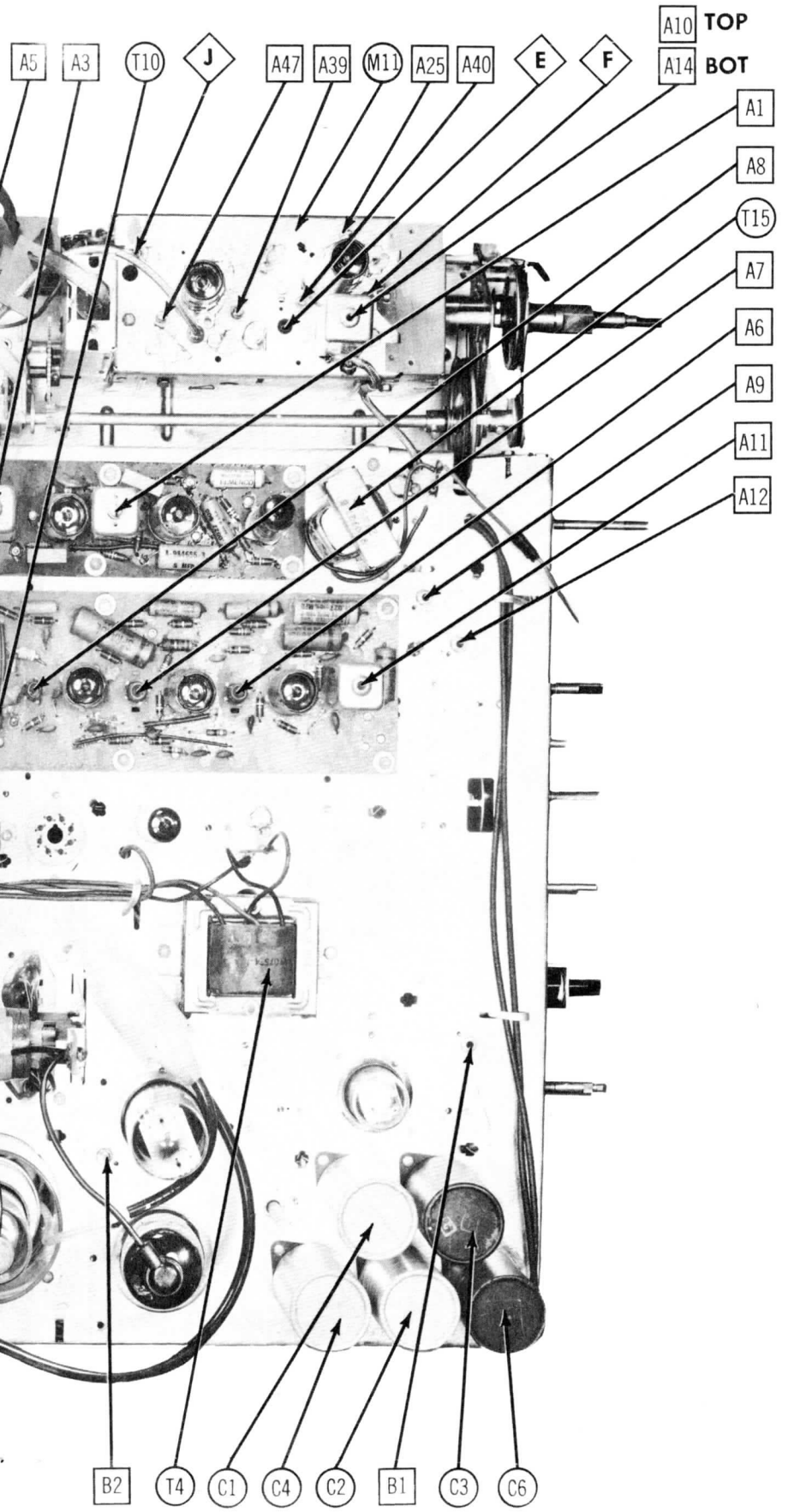
CHASSIS BOTTOM VIEW RES



EW RESISTOR IDENT. (R143-R232)

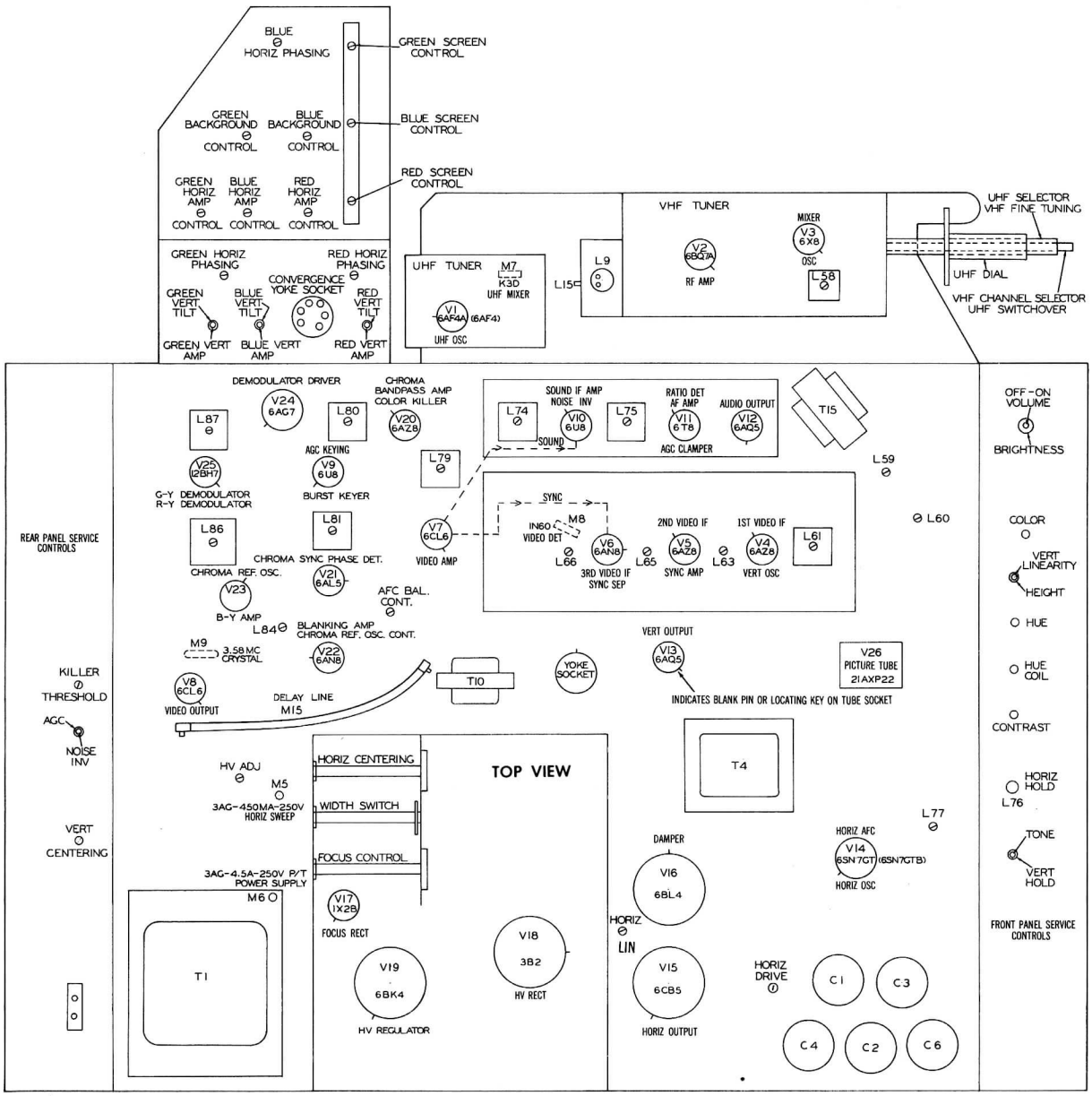

C163
C71
C162
C70
C167
A59
B3
A62
A57
A53
K
A52
A5
R216
R205
C168
R203
R204
R218
R198
R196
R197
C69
R215
C171
C172
R212
R213
L93
R221
R220
R222
C68
R219
R225
C66
L92
A64
M15
C10
T9
C11
R24
R144
T7
M13
T3
R23
T1
R146
GREEN
HORIZ.
PHASING
BLUE*
GREEN*

CHASSIS TOP


A10 TOP
A14 BOT
A5
A3
T10
J
A47
A39
M11
A25
A40
E
F
A1
A8
T15
A7
A6
A9
A11
A12
B2
T4
C1
C4
C2
B1
C3
C6

. TOP VIEW

TUBE PLACEMENT CHART



MISCELLANEOUS ADJUSTMENTS

HORIZONTAL OSCILLATOR ALIGNMENT

Turn the set on and tune in a TV station, preferably a test pattern. If necessary, synchronize the picture with the horizontal hold slug (located on the front control panel). If picture still will not synchronize, adjust the horizontal waveshaping slug (B1) several turns out of the coil and readjust the horizontal hold slug to synchronize the picture. If picture width or linearity is incorrect, adjust the horizontal drive control (R22) and set the width control switch for proper results.

HORIZONTAL WAVEFORM ADJUSTMENT

The horizontal waveform adjustment is adjust at the factory and normally will require no readjustment.
If L76 or L77 coils are replaced in set, scope adjustment will be necessary to synchronize the picture.
Short out the horizontal waveshaping coil (L77) with clip leads and turn the horizontal hold slug all the way out of coil. Rotate horizontal hold slug back in coil until picture locks in sync. Remove short from L77. Connect the low capacity probe of an oscilloscope to point ⓛ on schematic. Connect low side of scope to chassis. Adjust B1 until the waveform on scope appears similar to Fig. 15. While adjusting B1 keep the picture in sync by readjusting the horizontal hold slug. Remove the oscilloscope from point ⓛ and chassis. Turn the horizontal hold slug fully clockwise, then counter clockwise until picture synchronizes horizontally, continue two full turns counter clockwise from the pull-in point. Momentarily switch off channel and back again, the picture should remain in sync.

HIGH VOLTAGE ADJUSTMENT

Turn the contrast control and brightness control to their maximum counter clockwise positions.
Connect the probe end of high voltage probe to the cap of the high voltage regulator tube (V19). Common to chassis. Set the meter for a 25KV reading. Adjust the high voltage control (R21) for 25KV on VTVM.
Remove high voltage fuse (M5) from its holder and connect a 0-500MADC milliameter across fuse terminals. Adjust the horizontal linearity slug (B2) for minimum reading on milliameter. Remove milliameter and replace M5 in its holder. Turn the contrast and brightness controls clockwise until picture appears on picture tube. Turn the horizontal drive control (R22) clockwise as far as possible without the presence of white foldover lines in the raster. Recheck the operation of the horizontal hold for proper pull-in action as outlined under "Horizontal Oscillator Alignment".

HIGH VOLTAGE PERFORMANCE CHECK

Connect a 0-1MA DC milliameter in the cathode circuit of the 6BK4 (V19). A reading of .7MA should be obtained when the high voltage is 25KV. Remove millameter and high voltage probe. Adjust the vertical height and vertical linearity controls so that after final adjustment a vertical overscan of one half inch at top and bottom of viewing area is obtained.

AGC AND NOISE INVERTER CONTROL ADJUSTMENTS

Tune in the strongest signal in that area. Set the noise inverter control (R7B) to its maximum counter clockwise position. Starting with the AGC control (R7A) fully clockwise, adjust R7A counter clockwise until picture on screen shows no sign of pulling.
Tune in weakest TV signal in that area and adjust R7B clockwise until the best signal to noise ratio is obtained, then turn back to the strongest TV signal in that area and check for picture overload. If necessary, slightly retouch R7B. Never adjust AGC control on the weakest signal being received.

MATRIX ALIGNMENT USING 100% SATURATED COLOR BAR GENERATOR

Connect a 100% saturated color bar generator providing IR-Y and IB-Y signals across antenna terminals. Adjust contrast hue and color controls to their mid-range positions. Turn the channel selector switch to the correct channel (channel which crystal has been supplied with color bar generator). Connect the vertical amplifier of scope to red grid of the picture tube (pin 2). Low side to chassis. Observe the +R-Y signal on the scope; if necessary, adjust A62 for zero B-Y signal on scope.
Move the vertical amplifier of scope to the blue grid of the picture tube (pin 12). Observe the +B-Y signal on the scope. Adjust A64 for zero R-Y signal on scope. Move the vertical amplifier back to red grid of the picture tube, recheck for zero B-Y on scope. If necessary, retouch A62. Reconnect scope to the blue grid of the picture tube and recheck for zero R-Y on scope. If necessary, slightly retouch A64 for zero R-Y signal on scope.
Move the high side of scope to green grid of picture tube (pin 6) and check cancellation of red magenta and blue bars. Repeat matrix adjustments until best overall cancellation is obtained.

COMPLETE SET-UP PROCEDURE

Before making any picture tube adjustments, check the "High Voltage Adjustments" under "Horizontal Sweep Circuit Adjustments".

INITIAL ADJUSTMENTS

Tune in a TV station, preferably a test pattern. It should be possible to sync the picture if the horizontal oscillator and AGC systems are operating normally. If the picture will not sync, or if the picture is overloading due to misadjusted AGC control or noise inverter control, it will be necessary to readjust the controls as outlined under "Horizontal Sweep Circuit Adjustments".
Adjust the focus control (R24) for best definition.

CHECK OF HORIZONTAL OSCILLATOR ALIGNMENT

Turn the horizontal hold (located on front control panel) fully counter clockwise. The picture should be out of sync with multiple bars slanting to the right. Slowly turn the horizontal hold clockwise until 1 to 3 diagonal bars are obtained, with slight additional clockwise rotation of the horizontal hold. The picture should fall in sync. The picture should now remain in sync for approximately three additional turns clockwise of the horizontal hold. Turn the horizontal hold fully clockwise; the picture should now be out of sync with multiple bars sloping to the left. Then turn the horizontal hold back counter clockwise until picture locks in sync, then turn two full turns additional counter clockwise. The picture should now lock in sync while switching off channel and back again. If the receiver failed to lock in sync by the above check, refer to "Horizontal Sweep Circuit Adjustments".

CENTERING ADJUSTMENT

Adjust the vertical and horizontal centering controls until the picture is centered within the picture tube mask. If the picture does not cover the marked area, adjust the positioning for equal blank areas at top and bottom and each side of picture.

HORIZONTAL WIDTH AND HORIZONTAL DRIVE ADJUSTMENTS

Adjust the width switch (rear panel of H. V. compartment) for an overscan of approximately 3/4" on each side.
Adjust the horizontal drive control (R22) as outlined under "High Voltage Adjustment".

HEIGHT AND VERTICAL LINEARITY ADJUSTMENTS

Adjust the height and vertical linearity controls (front panel) for a picture that is symmetrical from top to bottom. Final adjustment should overscan the picture mask by one half inch at top and bottom. Recheck horizontal and vertical centering of the picture. If necessary, readjust the focus control (R24) for best overall picture definition.

PRELIMINARY CONVERGENCE ADJUSTMENT

Connect the RF output of a white dot generator across the antenna terminals. Preset the red, green, and blue horizontal and vertical amplitude controls (located inside cabinet, accessible by removing top) maximum counter clockwise. Preset the red, green, and blue vertical tilt controls to their center range position. Turn dot generator on and set channel selector switch to correct channel to receive a dot pattern on picture tube from the dot generator. Adjust the three converging magnets. (small magnets mounted on a knurled nut in a horizontal position). Note which of these three dots require positioning, then adjust magnet corresponding to that color to correct the position of that dot.
In Fig. 16 the dashed lines indicate the direction of dot movement. The solid lines indicate the direction of dot movement when the associated converging magnet is adjusted. Each magnet has a slight effect on the two beams other than the one it is intended to control.
Adjust the three magnets and the blue beam positioning magnet (located over blue gun next to picture tube socket) to produce a white dot near the center of the screen.
Complete convergence should be obtained at the center of the screen indicated by a white dot with no color fringing around its edge.

COLOR PURITY ADJUSTMENTS

Switch channel selector to an unused channel. Turn contrast control maximum counter clockwise. Turn the brightness control maximum clockwise. Set the six magnets on the field equalizing assembly to their maximum counter clockwise positions. Set the red screen control fully clockwise and the blue and green screen controls fully counter clockwise. Loosen the two wing nuts holding yoke assembly so yoke may be moved back and forth. Slide purity magnet assembly toward neck of tube if necessary to provide yoke clearence.
Alternately slide the yoke assembly forward or back and adjust the two purity magnet tabs (or rotate entire assembly) until red purity is obtained with minimum color contamination of the red field. Tighten yoke assembly. Rotate the blue and green screen controls clockwise and adjust all three (red, blue and green) screen controls for a low brightness white raster. If necessary, readjust contrast and brightness controls for proper view of raster. Adjust the six magnets on the field equalizing assembly for the best overall white field over the entire picture tube screen. Adjustment of the magnets will have the most effect near the edges of the screen. Remove the dot generator from antenna terminals and tune in a black and white picture, preferably a test pattern. Adjust the blue and green background controls to their center range positions. Set the brightness control fully clockwise. Set the contrast control fully counter clockwise. Adjust the red, blue, and green screen controls to obtain a high level grey screen. Then turn the contrast control clockwise to observe the picture on the screen. Adjust the brightness control for a dark picture on the screen. Adjust the blue and green background controls for a uniform black and white picture. Adjust the proper screen control, if necessary, to eliminate any color cast. Rotate the brightness control over its brightness viewing range. The picture on the screen should be black and white over the brightness controls viewing range. If necessary repeat adjustments of the background and screen controls until this condition is achieved.

MISCELLANEOUS ADJUSTMENTS (cont.)

VERTICAL DYNAMIC CONVERGENCE ADJUSTMENTS

Recheck "Preliminary Convergence Adjustment" for correct setting of the three converging magnets and the blue beam positioning magnet to produce a white dot near the center of the screen (using a white dot generator).
Connect the RF output of a white dot generator across antenna terminals. Adjust for white dots on screen of picture tube. Refer only to a vertical row of dots near the center of the screen. Adjust the red vertical amplitude control maximum clockwise. Adjust the red vertical tilt control for maximum displacement of the red dots (near the center of the screen) from the cyan dots.
Adjust the green vertical amplitude control maximum clockwise and adjust the green vertical tilt control for maximum displacement of the green dots opposite the red. Connect a clip lead from the blue grid (pin 12) of the picture tube to chassis thru a 100KΩ resistor (terminals are provided to ground blue, green, and red grids at rear of chassis.) Adjust the green and red vertical amplitude and tilt controls for straight vertical rows of the green and red dots equally displaced. Adjust the green and red convergence magnets (small magnets mounted on a knurled nut in a horizontal position) for convergence of the green and red vertical rows of dots. If necessary, readjust green and red vertical tilt and amplitude controls to produce a single vertical row of (yellow) dots from top to bottom of screen.
Remove clip lead from blue grid of picture tube and chassis. Adjust the blue vertical amplitude control maximum clockwise . Adjust the blue vertical tilt and blue vertical amplitude controls alternately until the displacement of the blue dots is uniform with respect to the yellow dots in a vertical line.
Adjust the blue beam positioning magnet and the blue convergence magnet to converge vertically on the row of yellow dots. There should be one single row of dots (white) vertically from top to bottom. of the screen. If necessary, repeat above adjustment of vertical convergence.

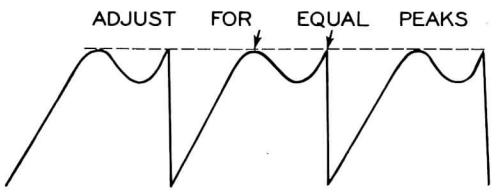


FIG. 15

HORIZONTAL DYNAMIC CONVERGENCE ADJUSTMENTS

Connect color dot generator as under "Vertical Dynamic Convergence". Use a horizontal row of dots near center of screen as reference.
Adjust the blue horizontal amplitude control maximum clockwise. Adjust the blue horizontal phasing slug (B3) for the maximum downward displacement of the blue dots. Adjust the blue horizontal amplitude control and B3 alternately for a straight horizontal line of blue dots across the screen, downward from the green and red dots.
Connect a clip lead from red grid (pin 2) lead to chassis thru a 100KΩ resistor. Adjust the green horizontal amplitude control and the green horizontal phasing slug (B4) to provide a uniform displacement of the horizontal green dots with respect to the blue dots along a horizontal line.
Remove the clip lead from the red grid lead and connect it to the blue grid lead to chassis. Adjust the red horizontal amplitude control and the red horizontal phasing slug (B5) to provide a uniform displacement of the horizontal red dots with respect to the green dots.
Adjust the red and green convergence magnet adjustments for convergence of the red and green dots horizontally near center line of the screen. There should now be a single horizontal row of yellow dots near center of screen. Remove clip lead from blue grid lead of picture tube and chassis.
Adjust the blue convergence magnet and the blue beam positioning magnet (over blue gun near picture tube socket) to converge horizontally on the row of horizontal yellow dots, providing white dots. The vertical and horizontal dots should now show maximum coverage over the entire picture tube screen, providing white dots. Repeat, if necessary, adjustments under "Horizontal and Vertical Dynamic Convergence Adjustments" until maximum convergence is obtained.

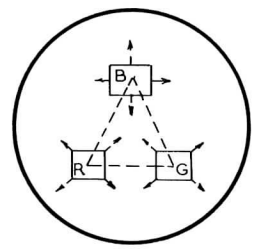
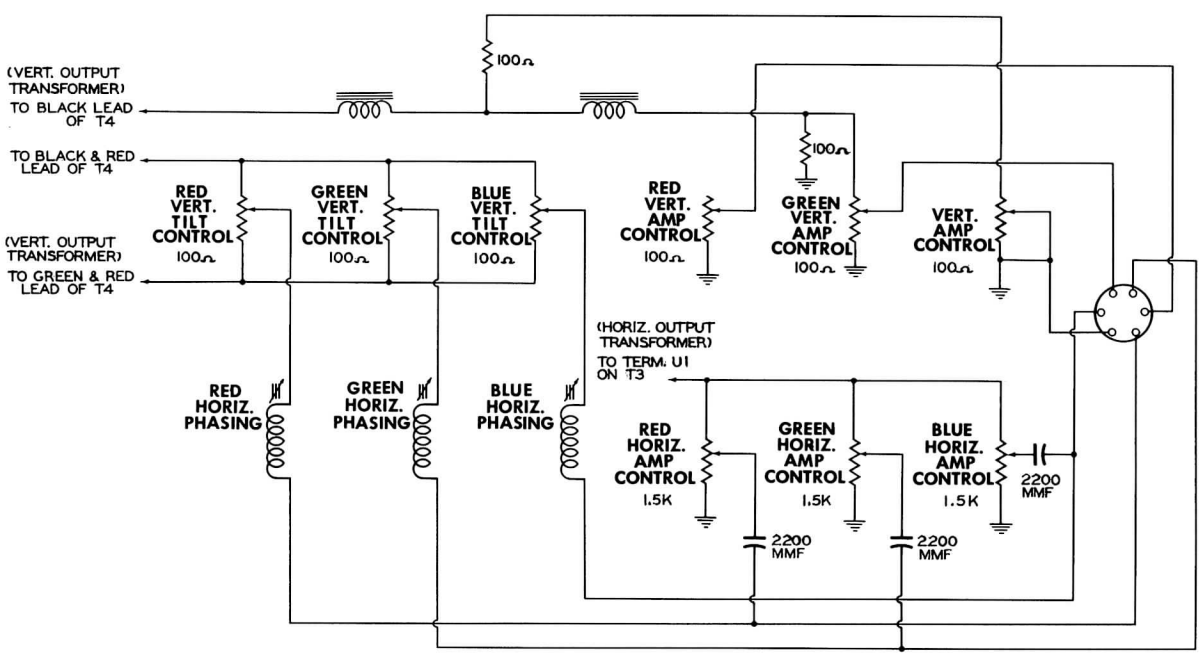


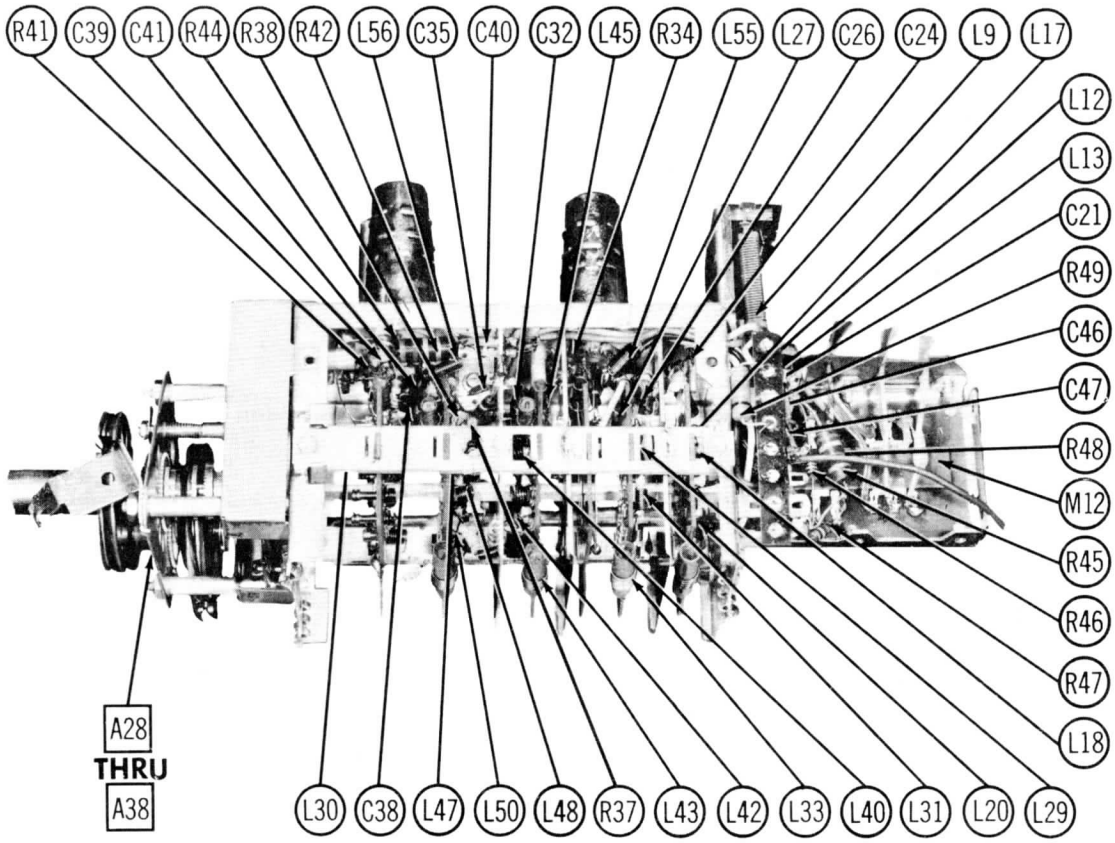
FIG. 16



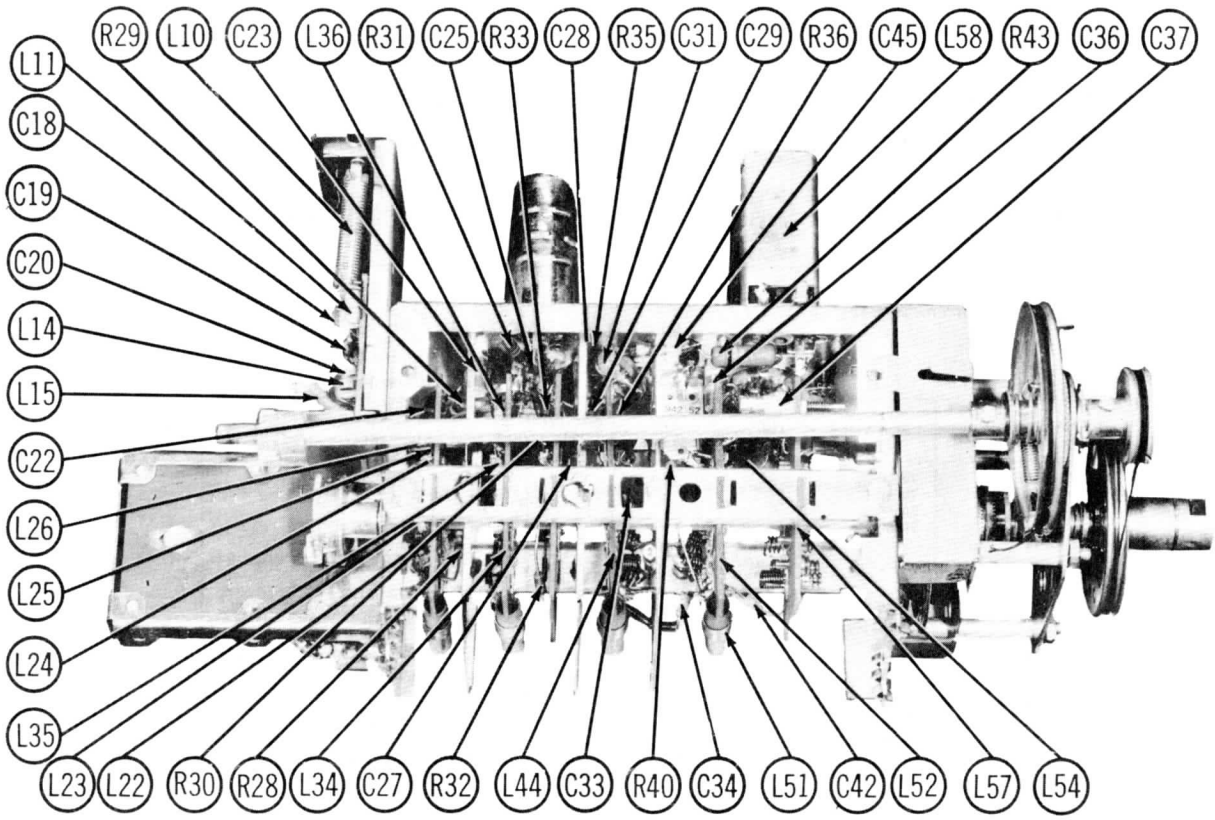
ALTERNATE CONVERGENCE CIRCUIT USED WITH SOME VERSIONS

A PHOTOFACT STANDARD NOTATION SCHEMATIC

ALTERATE CONVERGENCE CIRCUIT SCHEMATIC



VHF TUNER-RIGHT SIDE



VHF TUNER-LEFT SIDE

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	REPLACEMENT DATA		NOTES
		RCA Victor PART No.	STANDARD REPLACEMENT	
V1	UHF Oscillator	6AF4A	6AF4A	6AF4 used as an alternate
V2	RF Amplifier	6BQ7A	6BQ7A	
V3	Mixer-Oscillator	6X8	6X8	
V4	1st. Video IF Amplifier-Vert. Oscillator	6AZ8	6AZ8	
V5	2nd. Video IF Amplifier-Sync Amplifier	6AZ8	6AZ8	
V6	3rd. Video IF Amplifier-Sync Separator	6AN8	6AN8	
V7	Video Amplifier	6CL6	6CL6	
V8	Video Output	6CL6	6CL6	
V9	AGC Keying-Burst Keyer	6U8	6U8	
V10	Sound IF Amplifier-Noise Inverter	6U8	6U8	
V11	Ratio Detector-AF Amp.-AGC Clamper	6T8	6T8	
V12	Audio Output	6AQ5	6AQ5	
V13	Vert. Output	6AQ5	6AQ5	
V14	Horiz. AFC-Horiz. Osc.	6SN7GT	6SN7GT	6SN7GTB is used as an alternate
V15	Horiz. Output	6CB5	6CB5	
V16	Damper	6BL4	6BL4	
V17	Focus Rectifier	1X2B	1X2B	
V18	HV Rectifier	3B2	3B2	
V19	HV Regulator	6BK4	6BK4	
V20	Chroma Bandpass Amp.-Color Killer	6AZ8	6AZ8	
V21	Chroma Sync Phase Detector	6AL5	6AL5	
V22	Blanking Amplifier-Chroma Reference Osc. Control	6AN8	6AN8	
V23	Chroma Reference Osc.-B-Y Amplifier	6AZ8	6AZ8	
V24	Demodulator Driver	6AG7	6AG7	
V25	G-Y Demodulator-R-Y Demodulator	12BH7	12BH7	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA				NOTES
	RCA Victor PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V26	21AXP22			21AXP22	

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.
C1	200	250	78957			FP126	TM-200-250	Q-221.5	R2067 †
C2	200	250	78957			FP126	TM-200-250	Q-221.5	R2067 †
C3A	▰80	450	100394	AFH2-64	B048	FP264.5	TM-8040-450	D-255	TVL-3787
B	▲40	200							
C4A	▰40	350	100393		B048	FP250	TM-8040-450	T-110	TVL-2675
B	▲500	25			BRH255	TC2505	TD-500-25	MTH-2550	TVA-1220
C	■80	200							
C5	5	50	74521	SRE50V5	BR550	TC30	TD-5-50	MMT-0505	TVA-1303
C6	90	350	100375	AFH1-57	A057	FP187	TM-90-500	S-240	TVL-1850
C7	4	350	78919	PRS350V4	BR435	TC60	TD-4-450	FM-4504	TVA-1601
C8	60	300	100376	PRS350V60	BR6045	TC68	TD-60-350	S-180	TVA-1613
C9	1000	3	79625 (Note 1)		BRH620 *	TC415	TD-1000-3NP	MTH-06150 *	
					BRH620			MTH-06150	
C10A	10	25	79786	PRS250V1010	BBRD115	TN-111	TDL-D10-25	FMD-0210	TVA-2210
B	10	25							
C11	5	25	100447	SRE50V5	BR550	TC30	TD-5-50	MMT-0505	TVA-1203
C12	4	350	78919	PRS350V4	BR435	TC60	TD-4-450	FM-4504	TVA-1601
C13	5	25	100447	SRE50V5	BR550	TC30	TD-5-50	MMT-0505	TVA-1203

Note 1. Non-polarized unit.
* Connect negative leads together.
† Units must be ordered from Mfgr.

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.	
C14	1-4		79556		829-4		3115-01-10	CT551		
C15	1000		79559							
C16	1000		79559					•		
C17	1000		79559							
C18	18				TCZ-18	TZ12	NP0K-180			
C19	5			NP0-DI5	TCZ-4R7	Z011	NP0A-050	ZT-555	5TCCB-V47	
C20	27				TCZ-27	TZ16	NP0L-270			
C21	33			NP0-SI33	TCZ-33	TZ18	NP0L-330	ZT-5433	5TCC-Q33	
C22	270		77838	SI270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C23	1-4		76532		829-4		3115-01-10	CT551		
C24	1000		77084	EF-001	MFT-1000				503C-D1	
C25	220		100672	BPD-00022	DD-221	G051	811-221	UC-5322	5GA-T22	
C26	1000		77252	BPD-001	DD-102	K06 9	801-001	DC-521	5HK-D1	
C27	1000		77252	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C28	220		100672	BPD-00022	DD-221	G051	811-221	UC-5322	5GA-T22	
C29	1000		77252	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C30	470		77293	BPD-00047	DD-471	K060	831-471	UC-5347	5GA-T47	
C31	.8-3		77151		829-3		3115-01-0R5	CT565A		
C32	1000		77252	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C33	270		77838	SI270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C34	.68		71504		TCZ-R68	TZ02	NP0A-0R68			
C35	1000		77252	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C36	.1-4		100671		829-4		3115-01-10	CT551		
C37	.8-3		77913		829-3		3115-01-0R5	CT565A		
C38	10		100662	NP0-SI10	TCZ-10	TZ09	NP0A-100	ZT-541	5TCC-Q1	
C39	.8-3		79192		829-3		3115-01-0R5	CT565A		

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA RCA Victor PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C40	1000		77084	EF-001	MFT-1000				503C-D1	
C41	12		33380		TCN-12	TN02	N750K-120			
C42	.68		71504		TCZ-R68	TZ02	NP0A-0R68			
C43	1000		77084	EF-001	MFT-1000				503C-D1	
C44	82		78603	SI82	D6-820	G040	801-820		5GA-Q82	
C45	1000		77084	EF-001	MFT-1000				503C-D1	
C46	1000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C47	470		77293	BPD-00047	DD-471	K060	831-471	UC-5347	5GA-T47	
C48	22									
C49	22									
C50	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C51	330		79979	BPD-00033	DD-331	G056	811-331	UC-5333	5GA-T33	
C52	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C53	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C54	330		79979	BPD-00033	DD-331	G056	811-331	UC-5333	5GA-T33	
C55	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C56	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C57	330		79979	BPD-00033	DD-331	G056	811-331	UC-5333	5GA-T33	
C58	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C59	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C60	1000		78623	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C61	5.6		100374							
C62	3300	500	39664	1464-0033		1R5D33			MS-233	
C63	1000		77252	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C64	.1	200	73784	P288N-1	DF-104	CUB2P1		PT401	2TM-P1	
C65	2200	500	39660	1464-0022		1R5D22		MCE460	MS-222	
C66	120		71614	N750-SI120	TCN-120	TN24	N750L-121		5TCU-T12	
C67	.039	400	73790					PT614		
C68	.0012	600	76995	SI1200	D6-122	1W5D12	GP2L-122	UC-5212	1FM-212	
C69	.082	1000	100371							
C70	.082	1000	100371							
C71	.082	1000	100371							
C72	56		71924	N750-SI56	TCN-56	TN16	N750K-560		5TCU-Q56	
C73	.33	200	76994	P288N-33						
C74	.047	200	73558	BPD-05	DF-503	CUB2S47		PT4147	2TM-S47	
C75	.0022	600	73595	SI2200	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	
C76	.47	200	73787	P288N-22		CUB2P47		PT4047	2TM-P47	
C77	6.8		205183	NP0-SI6.8	TCZ-6R8		NP0A-6R8	ZT-5568	5TCCB-V68	
C78	2200	500	39660	SI2200	D6-222	1W5D22	GP2-333-222	PT6222	1FM-222	
C79	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C80	1200	500	39654	1464-0012		1R5D12			MS-212	
C81	.0022	600	73595	SI2200	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	
C82	.0033	400	79315	SI3300	D6-332	CUB6D33	GP2-333-333	PT6233	6TM-D33	Note 3
C83	.022	400	73562	BPD-02	DD-203	CUB4S22	817-02	PT4122	4TM-S22	
C84	.01	400	73561	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C85	4700		73473	BPD-0047	DD-472	K079	811-0047	DC-525	5HK-D47	
C86	.0047	400	73920	SI4700	D6-472	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C87	270	500	39638	SI270	D6-271	5W5T27	GP2K-271	UC-5327	1FM-327	
C88	.0027	600	73599	SI2700	D6-272	CUB6D3	GP2-333-272	UC-5227	6TM-D3	Note 4
C89	.0027	1600	73818	P1688N-003	DD30-272	CUB16D3			MB-D3	
C90	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C91	.1	400	73551	P488N-1	DF-104	CUB4P1		PT401	4TM-P1	
C92	330	500	79191	1469-00033	D6-331	5R5T33	811-331		MS-333	
C93	330	500	39640	1469-00033	D6-331	5R5T33	811-331		MS-333	
C94	.1	600	73551	P688N-1	DF-104	CUB6P1		PT601	6TM-P1	
C95	.0047	400	73920	SI4700	D6-472	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C96	.027	400	73554							
C97	.0047	400	73920	SI4700	D6-472	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C98	.056	400	100370							
C99	.033	400	100369	BPD-03	DF-503	CUB6S33		PT6133	6TM-S33	
C100	.01	200	79316							
C101	.33	200	76994	P288N-33						
C102	.056	600	79317							
C103	.0039	1600	73780							
C104	.22	200		P288N-22		CUB2P22		PT4022	2TM-P22	Note 2
C105	56		71924	N750-SI56	TCN-56	TN16	N750K-560			
C106	82	1000	76474							
C107	.047	400	73553	BPD-05	DF-503	CUB4S47		PT4147	4TM-S47	
C108	.01	400	73561	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C109	.47	200	73787	P288N-47		CUB2P47		PT4047	2TM-P47	
C110	270	1000	79022							
C111	.01	600	73594							
C112	12		33380		TCN-12	TN02	N750K-120			
C113	82		71514	SI82	D6-820	G040	801-820		5GA-Q82	
C114	1000	500	39652	1464-001		1R5D1		MCE255	MS-21	
C115	.01	600	73594	BPD-01	D6-103	CUB6S1	GP3-333-103	PT611	6TM-S1	
C116	.22	400	73794	P488N-22		CUB4P22		PT4022	4TM-P22	
C117	.22	600	74957	P688N-22		CUB6P25		PT4022	6TM-P22	
C118	470	1500	77673	HVD-15-470	DD30-471	MCT47	1R5KV-471	DC30347	15GAB-T47	
C119	270	500	76579	1469-00027	DD-271	5R5T27	811-271	MCB241	MS-327	
C120	.15	400	73793							
C121	.1	600	73557	P688N-1	DF-104	CUB6P1		PT601	6TM-P1	
C122	1000	5000	100446		DD60-102			•		
C123	2500	30000	100398							
C124	.0033	600	73795	SI3300	D6-332	CUB6D33	GP2-333-332	PT6233	6TM-D33	
C125	150									
C126	.0022	600	73595	SI2200	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	
C127	.0022	600	73595	SI2200	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	
C128	.0022	600	73595	SI2200	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	
C129	82		71514	SI82	D6-820	G040	801-820		5GA-Q82	
C130	.1	400	73551	P488N-1	DF-104	CUB4P1		PT401	4TM-P1	
C131	.022	200	100438							
C132	470	500	76992	1469-00047	D6-471	5R5T47	811-471	MCB245	MS-347	
C133	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C134	.0022	600	73595	1464-0022		1R5D22			MS-222	
C135	.0022	600	73595	1464-0022		1R5D22			MS-222	
C136	470	500	76992	1469-00047	D6-471	5R5T47	811-471	MCB245	MS-347	
C137	.01	400	73561	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C138	.01	400	73561	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C139	.01	400	73561	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C140	.047	200	73558	BPD-05	DF-503	CUB2S47		PT4147	2TM-S47	
C141	1000	500	39652	SI1000	D6-102	1W5D1	GP2L-102	MC255	1FM-21	
C142	220	500	39636	1469-00022	D6-221	5R5T22	811-221	MCB240	MS-322	
C143	4700			BPD-0047	DD-472	K079	811-0047	DC-525	5HK-D47	Note 2

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA RCA Victor PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C144	4700			BPD-0047	DD-472	K079	811-0047	DC-525	5HK-D47	Note 5
C145	.22	200	78905	P288N-22		CUB2P22		PT4022	2TM-P22	
C146	2		79992	NP0-SI2.2	TCZ-2R2	TZ05	NP0A-2R2		5TCCB-V22	
C147	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C148	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C149	2		100925							
C150	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C151	120		71614	SI120	D6-121	TP35	GP2K-121	UC-5312	5GA-T12	
C152	4		100926							
C153	270	500	39638	NP0-SI270	TCZ-270	5R5T27	NP0-335-271	MCE241	MS-327	
C154	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C155	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C156	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C157	.01	400	73561	BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C158	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C159	.0047	400	79017	SI4700	D6-472	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C160	18		39041		TCN-18	TN04	N750K-180			
C161	39		73664	SI39	D6-390	TP28	GP1K-390	UC-5439	5GA-Q39	
C162	8		78228			TP08				
C163	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C164	.0047	400	79017	SI4700	D6-472	CUB6D47	GP2-333-222	PT6247	6TM-D47	
C165	18		39041	SI18	D6-180	TP12	GP1K-180	UC-5418	5GA-Q18	
C166	39		73664	SI39	D6-390	TP28	GP1K-390	UC-5439	5GA-Q39	
C167	18		39041		TCN-18	TN04	N750K-180			
C168	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C169	2		100925							
C170	270	500	59483	1469-00027	D6-271	5R5T27	811-271	MCB241	MS-327	
C171	18		39041		TCN-18	TN04	N750K-180			
C172	10000		73960	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C173	.0027	600								Note 2

Note 2. Not used in some versions.
Note 3. Model 21CT661U uses .0082MFD in this application (part #73808).
Note 4. Model 21CT661U uses .0068MFD in this application (part #73789).
Note 5. Some versions use 10000MMF in this application (part #73561).

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA RCA Victor PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	200Ω	2	100383	F7-50			UE38S	Brightness - Panel
B	1Meg	½		R2-57				Volume Tapped at 200K -Rear
C	Switch			KB-4				Attach to R1B.
R2A	2000Ω	½	100382	B-6	A47-2000-S	Q11-110	U-6	Color
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R2A.
R3A	2.5Meg	½	100390	F1-76		* QJ-853	UE1892	Height-Panel
B	1000Ω	½		R2-5				Vert. Linearity - Rear
R4A	2000Ω	½	100381	A-102	A47-2000-S		U-6	Contrast
B	Shaft		Not Req.	Not Req.	FS-3		Not Req.	Attach to R4A.
R5A	1.5Meg	½	100384	F1-84		**QJ-855	UF155L †	Vert. Hold - Panel
B	2.5Meg	½		R2-77			UR255L †	Tone - Rear
R6A	1500Ω	2	100386	VK-130	A43-1500	WK-1500	R1500L	Vert. Centering -Wire Wound
B	Shaft		Not Req.	Not Req.	FKS-1/4	Not Req.	Not Req.	Attach to R6A.
R7A	500KΩ	½	100389	F1-40		♦ QJ-852	UE1492	AGC - Panel
B	2.5Meg	½		R2-76				Noise Inverter - Rear
R8A	500KΩ	½	78808	BX-59	A47-500K-S	B11-133	TA55L	Killer Threshold
B	Shaft		Not Req.	Not Req.	FKS-½	TM-2 Kit	Not Req.	Attach to R8A.
R9A	100Ω	½	100388				UE-39	Green Vert. Tilt- Panel
B	100Ω	½						Green Vert. Amplitude - Rear
R10A	100Ω	½	100388				UE-39	Blue Vert. Tilt-Panel
B	100Ω	½						Blue Vert. Amplitude-Rear
R11A	100Ω	½	100388				UE-39	Red Vert. Tilt-Panel
B	100Ω	½						Red Vert. Amplitude-Rear
R12A	1500Ω	½	100392	AB-6	A47-1500-S	Q11-109	TA152L	Green Horiz. Amplitude
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R12A.
R13A	1500Ω	½	100392	AB-6	A47-1500-S	Q11-109	TA152L	Blue Horiz. Amplitude
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R13A.
R14A	1500Ω	½	100392	AB-6	A47-1500-S	Q11-109	TA152L	Red Horiz. Amplitude
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R14A.
R15A	500KΩ	½	100391	AB-59	A47-500K-S	Q11-133	TA55L	Green Background
B	Shaft		Not Req.	AK-1	KSS-3	Not Req.	Not Req.	Attach to R15A.
R16A	500KΩ	½	100391	AB-59	A47-500K-S	Q11-133	TA55L	Blue Background
B	Shaft		Not Req.	AK-1	KSS-3	Not Req.	Not Req.	Attach to R16A.
R17A	500KΩ	½	100391	AB-59	A47-500K-S	Q11-133	TA55L	Red Screen
R1 B	Shaft		Not Req.	AK-1	KSS-3	Not Req.	Not Req.	Attach to R17A.
R18A	500KΩ	½	100391	AB-59	A47-500K-S	Q11-133	TA55L	Blue Screen
B	Shaft		Not Req.	AK-1	KSS-3	Not Req.	Not Req.	Attach to R18A.
R19A	500KΩ	½	100391	AB-59	A47-500K-S	Q11-133	TA55L	Green Screen
B	Shaft		Not Req.	AK-1	KSS-3	Not Req.	Not Req.	Attach to R19A.
R20A	250KΩ	½	100387	AB-50	A47-250K-S	Q11-130	TA254L	H. V. Adjustment
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R20A.
R21A	250KΩ	½	100387	AB-50	A47-250K-S	Q11-130	TA254L	AFC Balance
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R21A.
R22A	250KΩ	½	100387	AB-50	A47-250K-S	Q11-130	TA254L	Horiz. Drive
B	Shaft		Not Req.	AK-4	KSS-3	Not Req.	Not Req.	Attach to R22A.
R23	250KΩ	1	100396					Focus
R24	100Ω	½	100395					Horiz. Centering

* Concentrikit Equivalent; K-15 Kit, Base Elements and Shafts; B11-239, P19-016
B17-108, R15-009

**Concentrikit Equivalent; K-6 Kit, Base Elements and Shafts; B11-138, P20-104
B11-239, R11-112

♦ Concentrikit Equivalent; K-15 Kit, Base Elements and Shafts; B11-133, P19-012
B11-239, R15-005

† Universal Replacement (Mallory Exact Duplicate Part No. UE1699).

RESISTORS

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA Victor PART No.	IRC PART No.	NOTES
R25	4700Ω	½	502247		
R26	3300Ω	½	502233	BTS-3300	
R27	6800Ω	1	512268		
R28	1000Ω	½	502210	BTS-1000	
R29	10KΩ	½	502310	BTS-10K	
R30	100Ω	½	502110	BTS-100	
R31	120Ω	½	502112	BTS-120	
R32	100KΩ	½	502410	BTS-100K	
R33	100KΩ	½	502410	BTS-100K	
R34	1Meg	½	502510	BTS-1Meg	
R35	1Meg	½	502510	BTS-1Meg	
R36	1000Ω	½	502210	BTS-1000	
R37	100KΩ	½	502410		
R38	10Ω	½		BTS-10	
R39	100KΩ	½	502410		

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA Victor PART No.	IRC PART No.	NOTES
R40	3300Ω	½	502233	BTS-3300	
R41	100KΩ	½	502410		
R42	12KΩ	1	522312		
R43	10KΩ	1	512310	BTA-10K	
R44	120Ω	½	502112	BTS-120	
R45	6800Ω	2	522268	BTB-6800	
R46	56KΩ	½	502356	BTS-56K	
R47	3900Ω	½	502239	BTS-3900	
R48	470KΩ	½	502447	BTS-470K	
R49	1000Ω	1	512210	BTA-1000	
R50	1000Ω	½	502210	BTS-1000	
R51	4700Ω 5%	½	502247		
R52	100KΩ 5%	½	502410		
R53	1000Ω	½	502210	BTS-1000	Note 1
R54	68Ω 5%	½	502068	BTS-68 5%	

PARTS LIST AND DESC
RESISTOI

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA Victor PART No.	IRC PART No.	NOTES
R55	1000Ω	½	502210	BTS-1000	
R56	100K 5%	½	502410		
R57	1000Ω	½	502210	BTS-1000	Note 1
R58	10KΩ	2	522310	BTB-10K	Note 2
R59	10KΩ	2	522310	BTB-10K	Note 2
R60	68Ω 5%	½	502068	BTS-68 5%	
R61	470Ω	½	502147	BTS-470	
R62	180Ω 5%	½	502118	BTS-180 5%	
R63	3300Ω 5%	½	502233	BTS-3300 5%	
R64	5000Ω	10	100443	PW10-5000	
R65	22KΩ	2	522322		
R66	12KΩ	2	522312		
R67	33Ω	½	502033	BTS-33	
R68	1800Ω	½	502218	BTS-1800	
R69	1200 5%	1	512212	BTS-1200 5%	
R70	100KΩ	½	502410	BTS-100K	
R71	82KΩ	½	502382	BTS-82K	
R72	5600Ω	½	502256	BTS-5600	
R73	18KΩ	½	502318	BTS-18K	
R74	33KΩ	2	522333	BTB-33K	
R75	15KΩ	2	522315	BTB-15K	
R76	100Ω	½	502110	BTS-100	
R77	68Ω	½	502068	BTS-68	Note 2
R78	22KΩ	½	502322	BTS-22K	
R79	27KΩ	½	502327	BTS-27K	
R80	100KΩ	2	522410	BTB-100K	
R81	1Meg	½	502510	BTS-1Meg	
R82	120KΩ 5%	½	502412	BTS-120K	
R83	18KΩ	½	502318	BTS-18K	
R84	150KΩ 5%	½	502415	BTS-150K 5%	
R85	33KΩ 5	½	502333	BTS-33K 5%	
R86	47KΩ	½	502347	BTS-47K	
R87	33KΩ	½	502333	BTS-33K	
R88	8200Ω	½	502282	BTS-8200	
R89	1800Ω	½	502218	BTS-1800	
R90	120Ω	½	502112	BTS-120	
R91	39KΩ	½	502339	BTS-39K	
R92	150Ω 5%	½	502115	BTS-150 5%	
R93	27KΩ 5%	½	502327	BTS-27K 5 %	
R94	22KΩ	½	502322	BTS-22K	
R95	10Meg	½	502610	BTS-10Meg	
R96	330KΩ	½	502433	BTS-330K	
R97	1.5Meg	½	502515	BTS-1.5Meg	Note 3
R98	820KΩ	½	502482	BTS-820K	
R99	470Ω	2	522147	BTB-470	
R100	47Ω	1	512047	BTA-47	
R101	3.3Meg	½	502533	BTS-3.3Meg	Note 2
R102	470KΩ	½	502447	BTS-470K	
R103	18KΩ	½	502318	BTS-18K	
R104	330Ω	½	502133	BTS-330	
R105	270KΩ	½	502427	BTS-270K	
R106	270KΩ	½	502427	BTS-270K	
R107	1.5Meg	½	502515	BTS-1.5Meg	
R108	1.5Meg	½	502515	BTS-1.5Meg	
R109	1Meg	½	502510	BTS-1Meg	
R110	33KΩ	½	502333	BTS-33K	
R111	5600Ω	½	502256	BTS-5600	
R112	27KΩ	½	502327	BTS-27K	
R113	8200Ω 5%	1	512282	BTA-8200 5%	
R114	2700Ω	½	502227	BTS-2700	
R115	2.2Meg	½	502522	BTS-2.2Meg	Note 4
R116	1Meg	½	502510	BTS-1Meg	
R117	2.2Meg	½	502522	BTS-2.2Meg	
R118	2.7Meg	½	502527	BTS-2.7Meg	
R119	1Meg	½	502510	BTS-1Meg	
R120	2.2Meg	½	502522	BTS-2.2Meg	
R121	56KΩ	2	522356	BTB-56K	
R122	15KΩ 5%	½	502315	BTS-15K 5%	
R123	270Ω	1	512127	BTA-270	
R124	2500Ω	7	100444	PW7-2500	
R125	1200Ω 5%	1			
R126	1200Ω 5%	1			
R127	330KΩ	½	502433		
R128	820KΩ	½	502482	BTS-820K	
R129	82KΩ	1	512382	BTA-82K	
R130	150KΩ 5%	1	512415	BTA-150K 5%	
R131	3900Ω	½	502239		
R132	100KΩ 5%	1	512410	BTA-100K 5%	
R133	3.3Meg	½	502533		
R134	68KΩ	½	502368		
R135	150KΩ	½	502415		
R136	39KΩ	1	512339		
R137	150KΩ	½	502415		
R138	120Ω	½	502112	BTS-120	
R139	470KΩ	½	502447		
R140	56Ω	½	502056	BTS-56	
R141	11KΩ	10	79987	1 3/4A-11K	
R142	470Ω	2	522147		
R143	4700Ω 5%	1	512247		
R144	22Ω	1	512022		

Note 1. Some versions use a 10
Note 2. Not used in some versi
Note 3. Some versions use a 1.
Note 4. Some versions use a 1.

TRANSFORME

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	RCA Victor PART No.
T1	117VAC @ 3.6A	170VAC @ .540 ADC	6.3VAC @ 1.92A	6.3VAC @ 3A SEC. 4 6.3VAC @ 11.8A	100432

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (cont)

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA Victor PART No.	REPLACEMENT DATA IRC PART No.	NOTES
R55	1000Ω	½	502210	BTS-1000	
R56	100K 5%	½	502410		
R57	1000Ω	½	502210	BTS-1000	Note 1
R58	10KΩ	2	522310	BTB-10K	Note 2
R59	10KΩ	2	522310	BTB-10K	Note 2
R60	68Ω 5%	½	502068	BTS-68 5%	
R61	470Ω	½	502147	BTS-470	
R62	180Ω 5%	½	502118	BTS-180 5%	
R63	3300Ω 5%	½	502233	BTS-3300 5%	
R64	5000Ω	10	100443	PW10-5000	
R65	22KΩ	2	522322		
R66	12KΩ	2	522312		
R67	33Ω	½	502033	BTS-33	
R68	1800Ω	½	502218	BTS-1800	
R69	1200 5%	1	512212	BTS-1200 5%	
R70	100KΩ	½	502410	BTS-100K	
R71	82KΩ	½	502382	BTS-82K	
R72	5600Ω	½	502256	BTS-5600	
R73	18KΩ	½	502318	BTS-18K	
R74	33KΩ	2	522333	BTB-33K	
R75	15KΩ	2	522315	BTB-15K	
R76	100Ω	½	502110	BTS-100	
R77	68Ω	½	502068	BTS-68	Note 2
R78	22KΩ	½	502322	BTS-22K	
R79	27KΩ	½	502327	BTS-27K	
R80	100KΩ	2	522410	BTB-100K	
R81	1Meg	½	502510	BTS-1Meg	
R82	120KΩ 5%	½	502412	BTS-120K	
R83	18KΩ	½	502318	BTS-18K	
R84	150KΩ 5%	½	502415	BTS-150K 5%	
R85	33KΩ 5	½	502333	BTS-33K 5%	
R86	47KΩ	½	502347	BTS-47K	
R87	33KΩ	½	502333	BTS-33K	
R88	8200Ω	½	502282	BTS-8200	
R89	1800Ω	½	502218	BTS-1800	
R90	120Ω	½	502112	BTS-120	
R91	39KΩ	½	502339	BTS-39K	
R92	150Ω 5%	½	502115	BTS-150 5%	
R93	27KΩ 5%	½	502327	BTS-27K 5 %	
R94	22KΩ	½	502322	BTS-22K	
R95	10Meg	½	502610	BTS-10Meg	
R96	330KΩ	½	502433	BTS-330K	
R97	1. 5Meg	½	502515	BTS-1. 5Meg	Note 3
R98	820KΩ	½	502482	BTS-820K	
R99	470Ω	2	522147	BTB-470	
R100	47Ω	1	512047	BTA-47	
R101	3. 3Meg	½	502533	BTS-3. 3Meg	Note 2
R102	470KΩ	½	502447	BTS-470K	
R103	18KΩ	½	502318	BTS-18K	
R104	330Ω	½	502133	BTS-330	
R105	270KΩ	½	502427	BTS-270K	
R106	270KΩ	½	502427	BTS-270K	
R107	1. 5Meg	½	502515	BTS-1. 5Meg	
R108	1. 5Meg	½	502515	BTS-1. 5Meg	
R109	1Meg	½	502510	BTS-1Meg	
R110	33KΩ	½	502333	BTS-33K	
R111	5600Ω	½	502256	BTS-5600	
R112	27KΩ	½	502327	BTS-27K	
R113	8200Ω 5%	1	512282	BTA-8200 5%	
R114	2700Ω	½	502227	BTS-2700	
R115	2. 2Meg	½	502522	BTS-2. 2Meg	Note 4
R116	1Meg	½	502510	BTS-1Meg	
R117	2. 2Meg	½	502522	BTS-2. 2Meg	
R118	2. 7Meg	½	502527	BTS-2. 7Meg	
R119	1Meg	½	502510	BTS-1Meg	
R120	2. 2Meg	½	502522	BTS-2. 2Meg	
R121	56KΩ	2	522356	BTB-56K	
R122	15KΩ 5%	½	502315	BTS-15K 5%	
R123	270Ω	1	512127	BTA-270	
R124	2500Ω	7	100444	PW7-2500	
R125	1200Ω 5%	1			
R126	1200Ω 5%	1			
R127	330KΩ	½	502433		
R128	820KΩ	½	502482	BTS-820K	
R129	82KΩ	1	512382	BTA-82K	
R130	150KΩ 5%	1	512415	BTA-150K 5%	
R131	3900Ω	½	502239		
R132	100KΩ 5%	1	512410	BTA-100K 5%	
R133	3. 3Meg	½	502533		
R134	68KΩ	½	502368		
R135	150KΩ	½	502415		
R136	39KΩ	1	512339		
R137	150KΩ	½	502415		
R138	120Ω	½	502112	BTS-120	
R139	470KΩ	½	502447		
R140	56Ω	½	502056	BTS-56	
R141	11KΩ	10	79987	1 3/4A-11K	
R142	470Ω	2	522147		
R143	4700Ω 5%	1	512247		
R144	22Ω	1	512022		

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA RCA Victor PART No.	REPLACEMENT DATA IRC PART No.	NOTES
R145	3. 3Ω 5%	½	100928	BW½-3. 3 5%	
R146	3. 3Ω 5%	½	100928	BW½-3. 3 5%	
R147	2.2Meg 5%	1	512522		
R148	1. 8Meg 5%	1	512518		
R149	100Meg	1	512710		
R150	470KΩ	2	522447		
R151	470KΩ	2	522447		
R152	10Meg	2	522610		
R153	10Meg	2	522610		
R154	10Meg	2	522610		
R155	10KΩ	½	502310	BTS-10K	
R156	3900Ω	½	502239	BTS-3900	
R157	2200Ω	½	502222	BTS-2200	
R158	10KΩ	2	522310	BTB-10K	
R159	2. 2Meg	½	502522	BTS-2. 2Meg	
R160	3300Ω	½	502233	BTS-3300	
R161	1000Ω	½	502210	BTS-1000	
R162	10KΩ	½	502310	BTS-10K	Note 2
R163	1Meg 5%	½	502510		
R164	1Meg 5%	½	502510		
R165	3. 9Meg	½	502539		
R166	33KΩ	½	502333		
R167	10KΩ	½	502310	BTS-10K	
R168	560KΩ 5%	½	502456	BTS-560K 5%	
R169	2. 2Meg 5%	½	502522	BTS-2. 2Meg 5%	
R170	2. 2Meg 5%	½	502522	BTS-2. 2Meg 5%	
R171	18Meg	½	502618	BTS-18Meg	
R172	33KΩ	1	512333	BTA-33K	
R173	33KΩ	2	522333	BTB-33K	
R174	27KΩ	½	502327	BTS-27K	
R175	3900Ω	2	522239	BTB-3900	
R176	120Ω	½	502112	BTS-120	
R177	560Ω	½	502156	BTS-560	
R178	4700Ω	½	502247	BTS-4700	
R179	820Ω 5%	½	502182	BTS-820 5%	
R180	2200Ω	½	502222	BTS-2200	
R181	47KΩ	2	522347	BTB-47K	
R182	27KΩ	1	512327	BTA-27K	
R183	470Ω	½	502147	BTS-470	
R184	47KΩ	½	502347	BTS-47K	
R185	1000Ω	½	502210	BTS-1000	
R186	47KΩ	1	512347	BTA-47K	
R187	56Ω	½	502056	BTS-56	
R188	560Ω	1	512156	BTA-560	
R189	10KΩ	2	522310	BTB-10K	
R190	220Ω	½	502122	BTS-220	
R191	2200Ω	½	502222	BTS-2200	
R192	3300Ω	1	512233	BTA-3300	
R193	56KΩ	2	522356	BTB-56K	
R194	56KΩ	2	522356	BTB-56K	
R195	120KΩ 5%	½	502112	BTS-120K 5%	
R196	3300Ω	½	502233	BTS-3300	
R197	150KΩ	½	502415	BTS-150K	
R198	270KΩ 5%	½	502427	BTS-270K	
R199	2200Ω	½	502222	BTS-2200	
R200	1500Ω	1	512215	BTA-1500	
R201	56KΩ	2	522356	BTB-56K	
R202	56KΩ	2	522356	BTB-56K	
R203	3300Ω	½	502233	BTS-3300	
R204	180KΩ	½	502418	BTS-180K	
R205	180KΩ	½	502418	BTS-180K	
R206	56KΩ 5%	½	502356	BTS-56K 5%	
R207	15KΩ 5%	2	522315	BTB-15K 5%	
R208	82KΩ 5%	2	522382	BTB-82K 5%	
R209	82KΩ 5%	2	522382	BTB-82K 5%	
R210	2700Ω 5%	2	522227	BTB-2700 5%	
R211	2200Ω	½	502222	BTS-2200	
R212	220KΩ	½	502422	BTS-220K	
R213	180KΩ	½	502418	BTS-180K	
R214	56KΩ	2	522356	BTB-56K	
R215	100KΩ	2	522410	BTB-100K	
R216	100KΩ	2	522410	BTB-100K	
R217	10KΩ	½	502310	BTS-10K	
R218	100KΩ	2	522410	BTB-100K	
R219	510Ω 5%	1	512151	BTA-510 5%	
R220	510Ω 5%	1	512151	BTA-510 5%	
R221	1500Ω 5%	2	522215	BTB-1500 5%	
R222	1500Ω 5%	2	522215	BTB-1500 5%	
R223	470Ω	1	512147	BTA-470	
R224	180Ω	½	502118	BTS-180	
R225	3300Ω	½	502233	BTS-3300	
R226	180KΩ	1	512418	BTA-180K	
R227	500Ω	20	100304	2D-500	
R228	100Ω	2	522110	BTB-100	
R229	100Ω	2	522110	BTB-100	
R230	10KΩ	1	512310	BTA-10K	
R231	56KΩ	½	502356	BTS-56K	
R232	56KΩ	½	502356	BTS-56K	

Note 1. Some versions use a 10KΩ ½W resistor in this application.
Note 2. Not used in some versions.
Note 3. Some versions use a 1. 2Meg ½W resistor in this application.
Note 4. Some versions use a 1. 5Meg ½W resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA RCA Victor PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @ 3. 6A	170VAC @ .540 ADC	6. 3VAC @ 1. 92A	6. 3VAC @ 3A SEC. 4 6. 3VAC @ 11. 8A	100432					

TRA

ITEM No.	USE	RCA Victor PART No.
T2	Vert. Osc. Trans.	79379
T3	Horiz. Output Trans.	100409
T4	Vert. Output Trans.	100428
T5A	Yoke-Horiz. (12MH)	100711 ①
B	Vert. (110MH)	
T6	Horiz. Lin. Coil (.25-1.1MH C. T.)	100414
T7	Width Choke (. 5MH)	79787A
T8	Vert. Centering Choke	78900
T9	Horiz. Centering Choke	100415
T10	Vert. Convergence Choke	100413
T11	Green Horiz. Phasing Coil	100429
T12	Blue Horiz. Phasing Coil	100429
T13	Red Horiz. Phasing Coil	100429
T14A	Green } Dynamic	100974 ②
B	Blue } Convergence	100975 ③
C	Red } Yoke Assembly	

① Includes capacitor C125; Resistors
② Exciter coil and pole piece assembl
③ Control magnet and knob assembly

TRA

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	RCA Victor PART No.	H P
T15	7.6KΩ	3. 5Ω	100037	2

ITEM No.	RATINGS SIZE	RATINGS FIELD	RATINGS V. C. IMP.	RC P
SP1	8"	PM	3. 4Ω	77
SP2	8"	PM	3. 4Ω	77

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.
L1	UHF Ant. Coil	0Ω	
L2	UHF Mixer Coupling Coil	0Ω	
L3	UHF Osc. Coupling Coil	0Ω	
L4	Fil. Choke	0Ω	
L5	Fil. Choke	0Ω	
L6	Cathode Choke	0Ω	
L7	UHF Osc. Shunt Coil	0Ω	
L8	UHF IF Coil	0Ω	
L9	VHF Ant. Matching Trans	. 6Ω	. 4Ω
L10	VHF Ant. Matching Trans	. 6Ω	. 4Ω
L11	IF Trap	0Ω	
L12	Ant. Shunt Coil	0Ω	
L13	Ant. Shunt Coil	0Ω	
L14	IF Trap	0Ω	
L15	FM Trap	0Ω	
L16	RF Choke	0Ω	
L17	VHF Ant. Coil	0Ω	
L18	VHF Ant. Coil	0Ω	
L19	VHF Ant. Coil	0Ω	
L20	VHF Ant. Coil	0Ω	
L21	VHF Ant. Coil	0Ω	
L22	VHF Ant. Coil	0Ω	
L23	VHF Ant. Coil	0Ω	
L24	VHF Ant. Coil	0Ω	
L25	VHF Ant. Coil	0Ω	
L26	VHF Ant. Coil	0Ω	
L27	VHF Neut.Coil	0Ω	
L28	VHF Neut.Coil	0Ω	
R29	VHF Neut.Coil	0Ω	
L30	VHF Neut.Coil	0Ω	
L31	VHF Neut. Coil	0Ω	
L32	VHF Neut. Coil	0Ω	
L33	VHF Neut. Coil	0Ω	
L34	VHF Neut. Coil	0Ω	
L35	VHF Neut. Coil	0Ω	
L36	RF Choke	0Ω	
L37	UHF IF Coil	. 1Ω	. 1Ω
L38	UHF IF Coil	0Ω	
L39	VHF RF Coil	0Ω	
L40	VHF RF Coil	0Ω	
L41	VHF RF Coil	0Ω	
L42	VHF RF Coil	0Ω	
L43	VHF RF Coil	0Ω	
L44	VHF RF Coils	0Ω	
L45	VHF RF Coil	0Ω	
L46	UHF IF Coil	0Ω	
L47	VHF Mixer Grid Coil	0Ω	
L48	VHF Mixer Grid Coil	0Ω	
L49	VHF Mixer Grid Coil	0Ω	
L50	VHF Mixer Grid Coil	0Ω	
L51	VHF Mixer Grid Coil	0Ω	
L52	VHF Mixer Grid Coil	0Ω	
L53	VHF Mixer Grid Coil	0Ω	
L54	IF Trap	0Ω	
L55	Fil. Choke	0Ω	

MALLORY PART No.	SPRAGUE PART No.	NOTES
C-525	5HK-D47	Note 5
T4022	2TM-P22	
	5TCCB-V22	
C-511	5HK-S1	
C-511	5HK-S1	
C-511	5HK-S1	
C-511	5HK-S1	
C-5312	5GA-T12	
CE241	MS-327	
C-511	5HK-S1	
C-511	5HK-S1	
C-511	5HK-S1	
T411	4TM-S1	
C-511	5HK-S1	
T6247	6TM-D47	
C-5439	5GA-Q39	
C-511	5HK-S1	
T6247	6TM-D47	
C-5418	5GA-Q18	
C-5439	5GA-Q39	
C-511	5HK-S1	
ICB241	MS-327	
C-511	5HK-S1	
		Note 2

	INSTALLATION NOTES
	Brightness - Panel
	Volume Tapped at 200K -Rear
	Attach to R1B.
	Color
	Attach to R2A.
	Height-Panel
	Vert. Linearity - Rear
	Contrast
	Attach to R4A.
	Vert. Hold - Panel
	Tone - Rear
	Vert. Centering -Wire Wound
	Attach to R6A.
	AGC - Panel
	Noise Inverter - Rear
	Killer Threshold
	Attach to R8A.
	Green Vert. Tilt- Panel
	Green Vert. Amplitude - Rear
	Blue Vert. Tilt-Panel
	Blue Vert. Amplitude-Rear
	Red Vert. Tilt-Panel
	Red Vert. Amplitude-Rear
	Green Horiz. Amplitude
	Attach to R12A.
	Blue Horiz. Amplitude
	Attach to R13A.
	Red Horiz. Amplitude
	Attach to R14A.
	Green Background
	Attach to R15A.
	Blue Background
	Attach to R16A.
	Red Screen
	Attach to R17A.
	Blue Screen
	Attach to R18A.
	Green Screen
	Attach to R19A.
	H. V. Adjustment
	Attach to R20A.
	AFC Balance
	Attach to R21A.
	Horiz. Drive
	Attach to R22A.
	Focus
	Horiz. Centering

REPLACEMENT DATA RCA Victor PART No.	REPLACEMENT DATA IRC PART No.	NOTES
502233	BTS-3300	
502410		
522312		
512310	BTA-10K	
502112	BTS-120	
522268	BTB-6800	
502356	BTS-56K	
502239	BTS-3900	
502447	BTS-470K	
512210	BTA-1000	
502210	BTS-1000	
502247		
502410		
502210	BTS-1000	Note 1
502068	BTS-68 5%	

PTIONS (Continued)
cont)

RATING		REPLACEMENT DATA		NOTES
OHMS	WATT	RCA Victor PART No.	IRC PART No.	
3.3Ω 5%	1/2	100928	BW1/2-3.3 5%	
3.3Ω 5%	1/2	100928	BW1/2-3.3 5%	
2.2Meg 5%	1	512522		
1.8Meg 5%	1	512518		
100Meg	1	512710		
470KΩ	2	522447		
470KΩ	2	522447		
10Meg	2	522610		
10Meg	2	522610		
10Meg	2	522610		
10KΩ	1/2	502310	BTS-10K	
3900Ω	1/2	502239	BTS-3900	
2200Ω	1/2	502222	BTS-2200	
10KΩ	2	522310	BTB-10K	
2.2Meg	1/2	502522	BTS-2.2Meg	
3300Ω	1/2	502233	BTS-3300	
1000Ω	1/2	502210	BTS-1000	
10KΩ	1/2	502310	BTS-10K	Note 2
1Meg 5%	1/2	502510		
1Meg 5%	1/2	502510		
3.9Meg	1/2	502539		
33KΩ	1/2	502333		
10KΩ	1/2	502310	BTS-10K	
560KΩ 5%	1/2	502456	BTS-560K 5%	
2.2Meg 5%	1/2	502522	BTS-2.2Meg 5%	
2.2Meg 5%	1/2	502522	BTS-2.2Meg 5%	
18Meg	1/2	502618	BTS-18Meg	
33KΩ	1	512333	BTA-33K	
33KΩ	2	522333	BTB-33K	
27KΩ	1/2	502327	BTS-27K	
3900Ω	2	522239	BTB-3900	
120Ω	1/2	502112	BTS-120	
560Ω	1/2	502156	BTS-560	
4700Ω	1/2	502247	BTS-4700	
820Ω 5%	1/2	502182	BTS-820 5%	
2200Ω	1/2	502222	BTS-2200	
47KΩ	2	522347	BTB-47K	
27KΩ	1	512327	BTA-27K	
470Ω	1/2	502147	BTS-470	
47KΩ	1/2	502347	BTS-47K	
1000Ω	1/2	502210	BTS-1000	
47KΩ	1	512347	BTA-47K	
56Ω	1/2	502056	BTS-56	
560Ω	1	512156	BTA-560	
10KΩ	2	522310	BTB-10K	
220Ω	1/2	502122	BTS-220	
2200Ω	1/2	502222	BTS-2200	
3300Ω	1	512233	BTA-3300	
56KΩ	2	522356	BTB-56K	
56KΩ	2	522356	BTB-56K	
120KΩ 5%	1/2	502112	BTS-120K 5%	
3300Ω	1/2	502233	BTS-3300	
150KΩ	1/2	502415	BTS-150K	
270KΩ 5%	1/2	502427	BTS-270K	
2200Ω	1/2	502222	BTS-2200	
1500Ω	1	512215	BTA-1500	
56KΩ	2	522356	BTB-56K	
56KΩ	2	522356	BTB-56K	
3300Ω	1/2	502233	BTS-3300	
180KΩ	1/2	502418	BTS-180K	
180KΩ	1/2	502418	BTS-180K	
56KΩ 5%	1/2	502356	BTS-56K 5%	
15KΩ 5%	2	522315	BTB-15K 5%	
82KΩ 5%	2	522382	BTB-82K 5%	
82KΩ 5%	2	522382	BTB-82K 5%	
2700Ω 5%	2	522227	BTB-2700 5%	
2200Ω	1/2	502222	BTS-2200	
220KΩ	1/2	502422	BTS-220K	
180KΩ	1/2	502418	BTS-180K	
56KΩ	2	522356	BTB-56K	
100KΩ	2	522410	BTB-100K	
100KΩ	2	522410	BTB-100K	
10KΩ	1/2	502310	BTS-10K	
100KΩ	2	522410	BTB-100K	
510Ω 5%	1	512151	BTA-510 5%	
510Ω 5%	1	512151	BTA-510 5%	
1500Ω 5%	2	522215	BTB-1500 5%	
1500Ω 5%	2	522215	BTB-1500 5%	
470Ω	1	512147	BTA-470	
180Ω	1/2	502118	BTS-180	
3300Ω	1/2	502233	BTS-3300	
180KΩ	1	512418	BTA-180K	
500Ω	20	100304	2D-500	
100Ω	2	522110	BTB-100	
100Ω	2	522110	BTB-100	
10KΩ	1	512310	BTA-10K	
56KΩ	1/2	502356	BTS-56K	
56KΩ	1/2	502356	BTS-56K	

esistor in this application.

W resistor in this application.
W resistor in this application.

OWER)

REPLACEMENT DATA				
orson T No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA							
		RCA Victor 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. Osc. Trans.	79379	B6702	A-3003		V405	A-8125	26A03	A-97X
T3	Horiz. Output Trans.	100409							
T4	Vert. Output Trans.	100428							
T5A	Yoke-Horiz. (12MH)	100711 ①							
B	Vert. (110MH)								
T6	Horiz. Lin. Coil (.25-1.1MH C.T.)	100414							
T7	Width Choke (.5MH)	79787A							
T8	Vert. Centering Choke	78900							
T9	Horiz. Centering Choke	100415							
T10	Vert. Convergence Choke	100413							
T11	Green Horiz. Phasing Coil	100429							
T12	Blue Horiz. Phasing Coil	100429							
T13	Red Horiz. Phasing Coil	100429							
T14A	Green } Dynamic	100974 ②							
B	Blue } Convergence	100975 ③							
C	Red } Yoke Assembly								

① Includes capacitor C125; Resistors R125, R126, and 8 contact male connector.
② Exciter coil and pole piece assembly (3 used).
③ Control magnet and knob assembly (3 used).

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	RCA Victor PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T15	7.6KΩ	3.5Ω	100037	Z1003	A-3020	A-3878 ①	26S48	S-9Z	① Drill one new mtg. hole.

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	RCA Victor PART No.	QUAM PART No.	RCA TYPE No.	
SP1	8"	PM	3.4Ω	77872	8A21	208S2	
SP2	8"	PM	3.4Ω	77872	8A21	208S2	

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	UHF Ant. Coil	0Ω		79564				
L2	UHF Mixer Coupling Coil	0Ω						
L3	UHF Osc. Coupling Coil	0Ω						
L4	Fil. Choke	0Ω		79565				
L5	Fil. Choke	0Ω		79565				
L6	Cathode Choke	0Ω						
L7	UHF Osc. Shunt Coil	0Ω		79566				Not used in some versions.
L8	UHF IF Coil	0Ω		79567				.15 Microbenries
L9	VHF Ant. Matching Trans	.6Ω	.4Ω	100454				Note 1
L10	VHF Ant. Matching Trans	.6Ω	.4Ω	100454				Note 1
L11	IF Trap	0Ω		100454				Note 1
L12	Ant. Shunt Coil	0Ω		100454				Note 1
L13	Ant. Shunt Coil	0Ω		100454				Note 1
L14	IF Trap	0Ω		100454				Note 1
L15	FM Trap	0Ω		100454				Note 1
L16	RF Choke	0Ω		100697				Note 2
L17	VHF Ant. Coil	0Ω		100689				Channel 2-Note 2
L18	VHF Ant. Coil	0Ω		100689				Channel 3-Note 2
L19	VHF Ant. Coil	0Ω		100692				Channel 4-Note 2
L20	VHF Ant. Coil	0Ω		100691				Channel 5-Note 2
L21	VHF Ant. Coil	0Ω		73461				Channel 6-Note 2
L22	VHF Ant. Coil	0Ω		71469				Channel 8-Note 2
L23	VHF Ant. Coil	0Ω		100690				Channel 9-Note 2
L24	VHF Ant. Coil	0Ω		71469				Channel 10-Note 2
L25	VHF Ant. Coil	0Ω		72552				Channel 11 -Note 2
L26	VHF Ant. Coil	0Ω		79727				Channel 12-Note 2
L27	VHF Neut.Coil	0Ω		100681				Channel 13-Note 3
L28	VHF Neut.Coil	0Ω		100683				Channel 2-Note 3
R29	VHF Neut.Coil	0Ω		100684				Channel 3-Note 3
L30	VHF Neut.Coil	0Ω		100685				Channel 4-Note 3
L31	VHF Neut. Coil	0Ω		100686				Channel 5-Note 3
L32	VHF Neut. Coil	0Ω		100678				Channel 6-Note 3
L33	VHF Neut. Coil	0Ω		100687				Channel 7-8-Note 3
L34	VHF Neut. Coil	0Ω		100687				Channel 9-10-Note 3
L35	VHF Neut. Coil	0Ω		100687				Channel 11-12-Note 3
L36	RF Choke	0Ω		100679				Note 4
L37	UHF IF Coil	.1Ω	.1Ω	100677				Note 4
L38	UHF IF Coil	0Ω		100675				Note 5
L39	VHF RF Coil	0Ω		79717A				Channel 2-Note 5
L40	VHF RF Coil	0Ω		79727				Channel 3-Note 5
L41	VHF RF Coil	0Ω		79727				Channel 4-Note 5
L42	VHF RF Coil	0Ω		79732				Channel 5-Note 5
L43	VHF RF Coil	0Ω		73460				Channel 6-Note 5
L44	VHF RF Coils	0Ω		100694				Channels 7 thru 12-Note 5
L45	VHF RF Coil	0Ω		100682				Channel 13-Note 5
L46	UHF IF Coil	0Ω		100676				Note 6
L47	VHF Mixer Grid Coil	0Ω		79727				Channel 2-Note 6
L48	VHF Mixer Grid Coil	0Ω		71469				Channel 3-Note 6
L49	VHF Mixer Grid Coil	0Ω		71469				Channel 4-Note 6
L50	VHF Mixer Grid Coil	0Ω		100688				Channel 5-Note 6
L51	VHF Mixer Grid Coil	0Ω		73874				Channel 6-Note 6
L52	VHF Mixer Grid Coil	0Ω		100695				Channels 7 thru 12-Note 6
L53	VHF Mixer Grid Coil	0Ω		100680				Channel 13-Note 6
L54	IF Trap	0Ω						
L55	Fil. Choke	0Ω		76763				

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L56	Fil. Choke	0Ω		76763				
L57	VHF Osc.Coils	0Ω		100693				Note 7
L58	Conv. Plate	.3Ω	.1Ω	100673				Includes 39K resistor & trap
L59	39.75MC Trap	0Ω		100421			6226	
L60	47.25MC Trap	0Ω		100422			6225	
L61	1st Video IF	0Ω	.1Ω	100418	17-5002	TV-127	6232	Includes 41.25MC Trap
L62	Fil. Choke	0Ω						
L63	2nd Video IF	.2Ω	.2Ω	100417				
L64	Fil. Choke	0Ω						
L65	3rd Video IF	.2Ω	.2Ω	100417				
L66	4th Video IF	.2Ω	.3Ω	100419				
L67	Series Peaking Coil	3.4Ω		93486	19-7068		6110	62 Microhenries
L68	Shunt Peaking Coil	6Ω		74214	19-3180	TV-184	6180	180 Microhenries
L69	Series Peaking Coil	.4Ω		100441	19-2864			12 Microhenries
L70	Shunt Peaking Coil	4.7Ω		75253	19-3125		6153	120 Microhenries
L71	Series Peaking Coil	10.5Ω		71526	19-3250	TV-185	6181	250 Microhenries
L72	Series Peaking Coil	9.5Ω		74214	19-3180	TV-184	6180	180 Microhenries
L73	Series Peaking Coil	13Ω		100442	19-3300		6155	300 Microhenries
L74	Sound IF	8.5Ω	7Ω	100425				Includes resistor & cap.
L75	Ratio Det.	10.5Ω	1ΩCT	100420	17-3497	TV-115	6205	Tertiary Winding=.3Ω
L78	RF Choke	.72Ω			19-1001		4604	1.5 Microhenries, IRC Part No. CL-1
L79	Chroma Take-Off Trans.	2.5Ω	2.5Ω	100426				Includes Caps. & 4.5MC Trap
L80	Bandpass Primary Coil	11.5Ω	3.5Ω	100424				
L81	Burst Amp. Trans.	1.5Ω	4.2ΩCT	100431	17-6012			
L82	Series Peaking Coil	2Ω		74930	19-2864 ■			12 Microhenries, Wound on 15KΩ resistor
L83	Hue Coil	.2Ω		100410				
L84	Reactance Plate Coil	10Ω		100411				
L85	Chroma Reference Osc. Coil	.4Ω		100441	19-2864			12 Microhenries
L86	Quadrature Trans.	6.8Ω		100430	17-6014			R-Y Winding=.2Ω
L87	Demodulator Trans.	5Ω	3.6ΩCT	100427				G-Y Winding=.2Ω
L88	Series Peaking Coil	.4Ω		100441	19-2864			12 Microhenries
L89	Series Peaking Coil	53Ω		100448				1.7 Millihenries
L90	Series Peaking Coil	.4Ω		100441	19-2864			12 Microhenries
L91	Series Peaking Coil	23.5Ω		100597			6148	750 Microhenries
L92	Series Peaking Coil	3.4Ω		93486	19-7068		6110	62 Microhenries
L93	Series Peaking Coil	11.5Ω		71526	19-3250	TV-185	6181	250 Microhenries
L94	Series Peaking Coil	27Ω		79185			4652	1 Microhenry
L95	Series Peaking Coil	53Ω		100448				1.7 Millihenries

Note 1. Part of complete assembly-complete antenna matching transformer Part #100454 includes L9 thru L15, C18 thru C21, Part #100454.
Note 2. Part of complete assembly-stator complete with rotor, L16 thru L26, C22 complete wafer Part #100697.
Note 3. Part of complete assembly-stator complete with rotor, L27 thru L35, C26-complete wafer Part #100698.
Note 4. Part of complete assembly-stator complete with rotor, L36, L37, C27, R30-complete wafer Part #100696.
Note 5. Part of complete assembly-stator complete with rotro, L37 thru L45, C29, C32, R36 complete wafer part #100694.
Note 6. Part of complete assembly-stator complete with rotor, L46 thru L53, C25, C35, C42 , R37 thru R40. Complete wafer Part #100695.
Note 7. Complete assembly-stator complete with rotor, Part #100693.
■ Parallel with 15KΩ resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	NOTES
L76	85Ω		79161					•		Tapped @ 62Ω Horiz. Osc.
L77	46Ω		79966			6314				Horiz. Waveshaping Coil

FILTER CHOKE

ITEM No.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: D. C. RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000 ∿)	REPLACEMENT DATA: RCA Victor PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L96	.540A	25Ω	.75HY	100397					

SELENIUM RECTIFIER

ITEM No.	RATING: CURRENT	REPLACEMENT DATA: RCA Victor PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	RADIO RECEPTOR PART No.	SARKES TARZIAN PART No.	NOTES
M1	.540ADC	100412	1319A	9RS600MSL	9S750 ①			① Drill new mtg. holes. Add mtg. bracket.
M2	.540ADC	100412	1319A	9RS600MSL	9S750 ①			

PARTS LIST AND DESCRIPTIONS (Continued)

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			RCA Victor PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M3		3"Piece #26 Wire	79358					
M4		3" Piece #26 Wire	79358					
M5	3AG	450MA 250V	79798	79641	312. 500 (3AG $\frac{1}{2}$A)	357001	AGC$\frac{1}{2}$	4405
M6	3AG P/T	4. 5A 250V	79357		318005. (3AG P/T 5A)		MDV5	

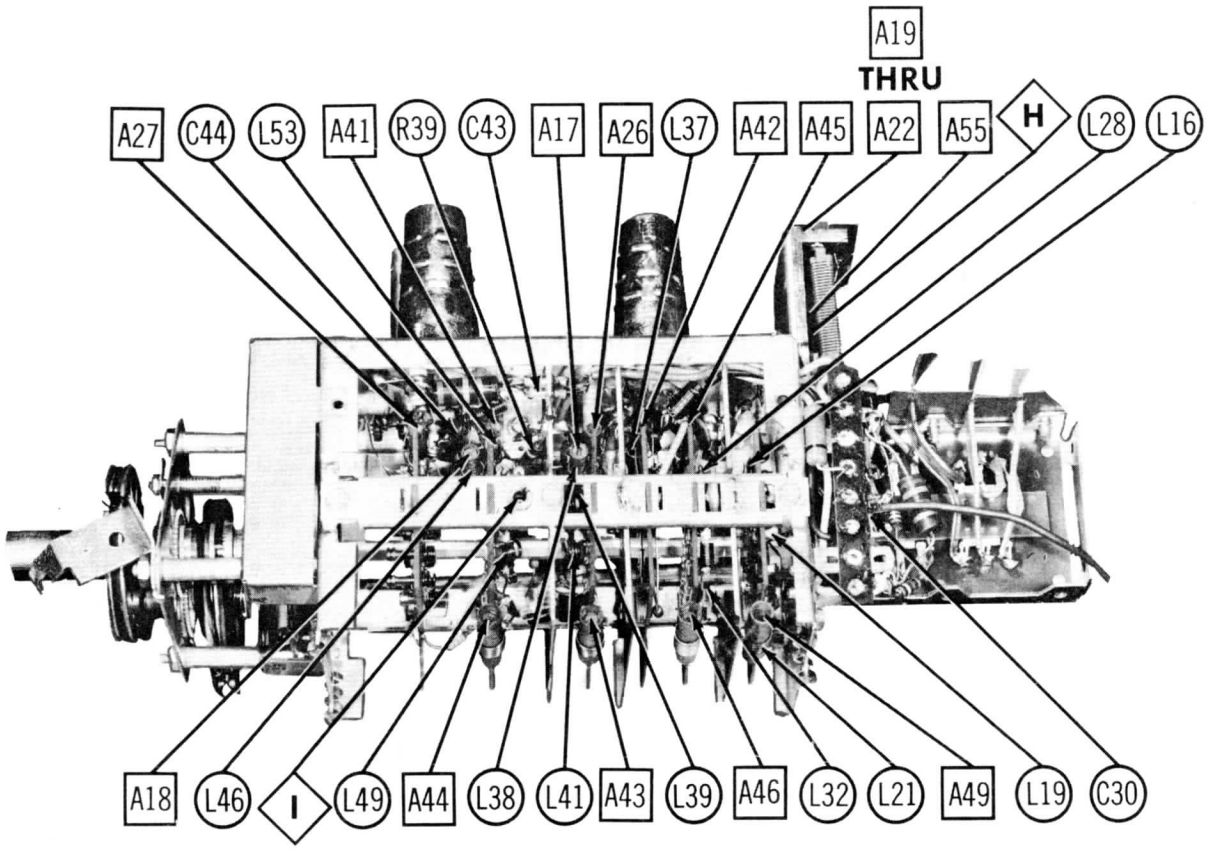
SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA				NOTES
		RCA Victor PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M7	K3D *	77489			1N82A	UHF Mixer
M8	1N60	76675			1N60	Video Detector

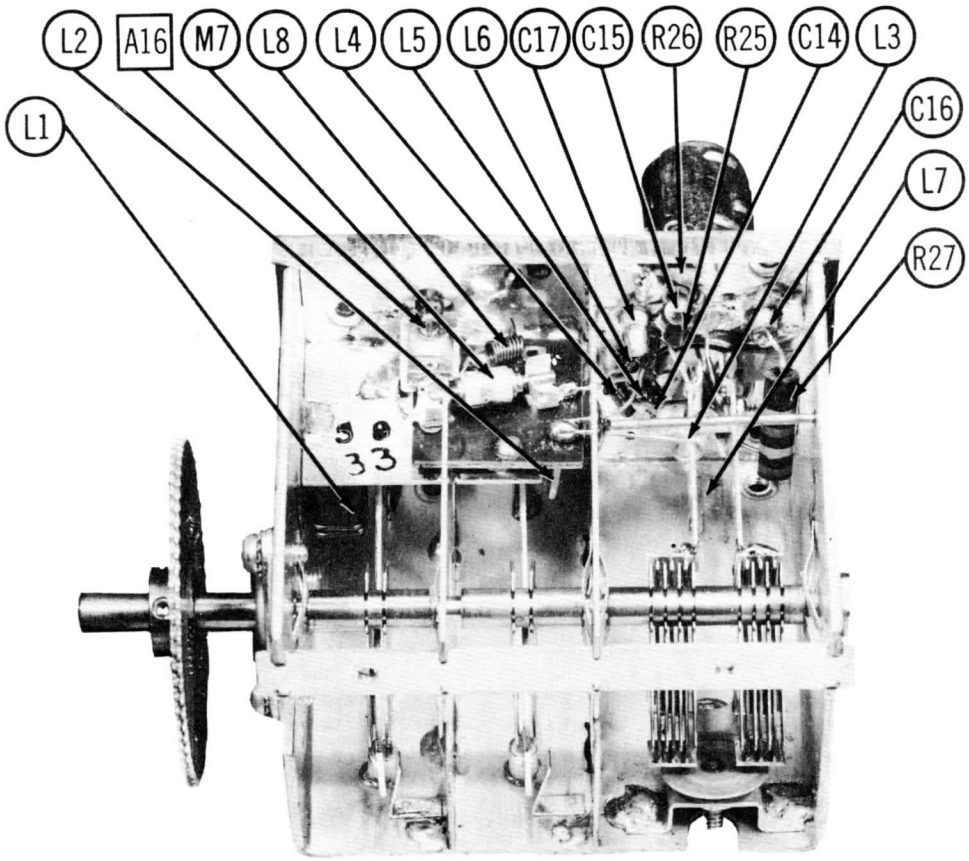
* Some Versions may use a 1N82A in this application.

MISCELLANEOUS

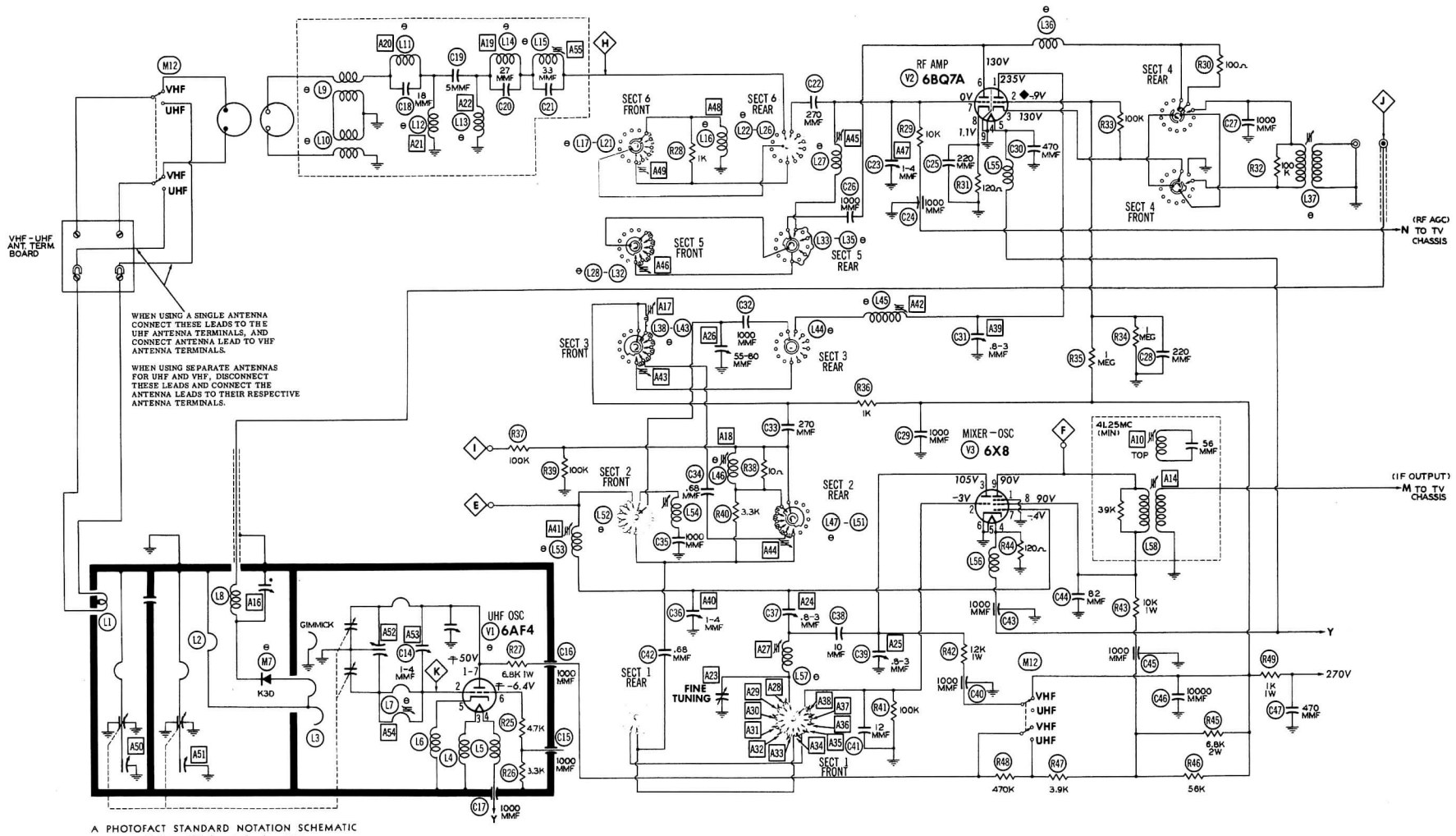
ITEM No.	PART NAME	RCA Victor PART No.	NOTES
M9	Crystal	100449	3579.545KC Osc.
M10	Dial Light	11891	#44
M11	Tuner	KRK-37	Includes both VHF & UHF sections
			VHF section only (part #KRK-35)
M12	Switch	100619	VHF-UHF (Slide type)
M13	Switch	100404	Width (SP-3 position-rotary, wafer type)
M14	Switch		High voltage interlock
M15	Delay Line	100451	Luminance channel
M16	Magnet	79604	Purity
M17	Magnet	79669	Blue beam lateral corrector
M18	Rim Purity Magnet Assy.	100929	
A13	Trimmer Cap.	100927	Video IF Input Trimmer
	Connector	100400	High voltage interlock & 18" long - polyethylene lead
	Connector	100403	High voltage and lead complete with 3 (22KΩ) filter resistors and nylon cap.
	Knob	79470	Brightness - For mahogany, maple and walnut instruments
	Knob	79444	Brightness - For birch, blonde tropical hardwood or oak instruments
	Knob	79508	Channel selector - For mahogany, maple and walnut instruments
	Knob	79509	Channel selector - For birch, blonde tropical hardwood instruments
	Knob	79465	Fine tuning
	Knob	79471	On-off-volume - For mahogany, maple and walnut instruments
	Knob	79445	On-off-volume - For birch, blonde tropical hardwood and oak instruments
	Knob	75945	Tone, contrast, hue and color
	Safety Glass	79591	Models 21CT661U, 21CT662U
	Safety Glass	101785	Models 21CT660U, 21CT663U, 21CT664U
	Mask	79587	Models 21CT661U, 21CT662U
	Mask	101784	Models 21CT660U, 21CT663U, 21CT664U



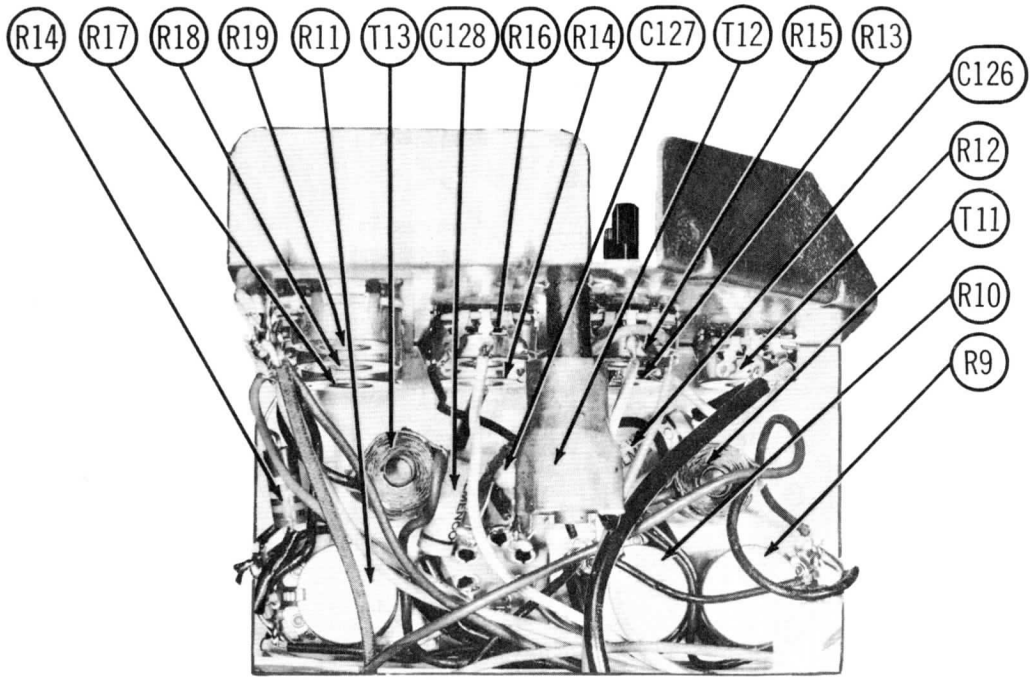
VHF TUNER-RIGHT SIDE



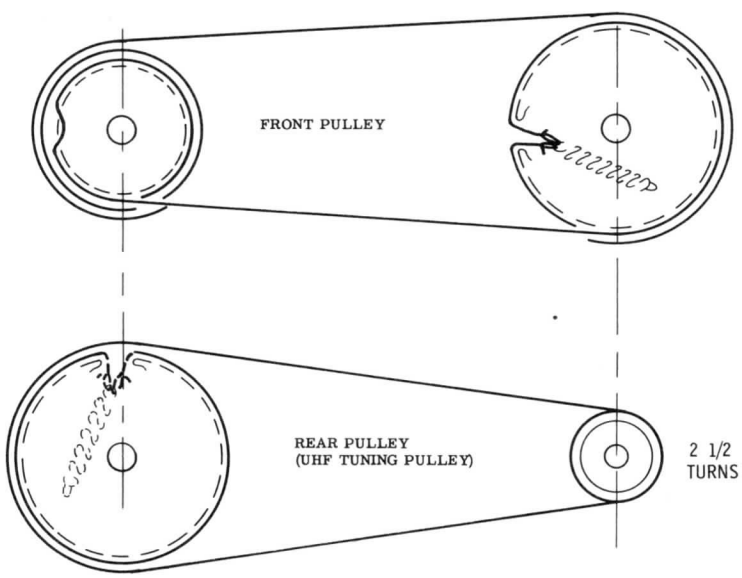
UHF TUNER-RIGHT SIDE



TUNER SCHEMATIC

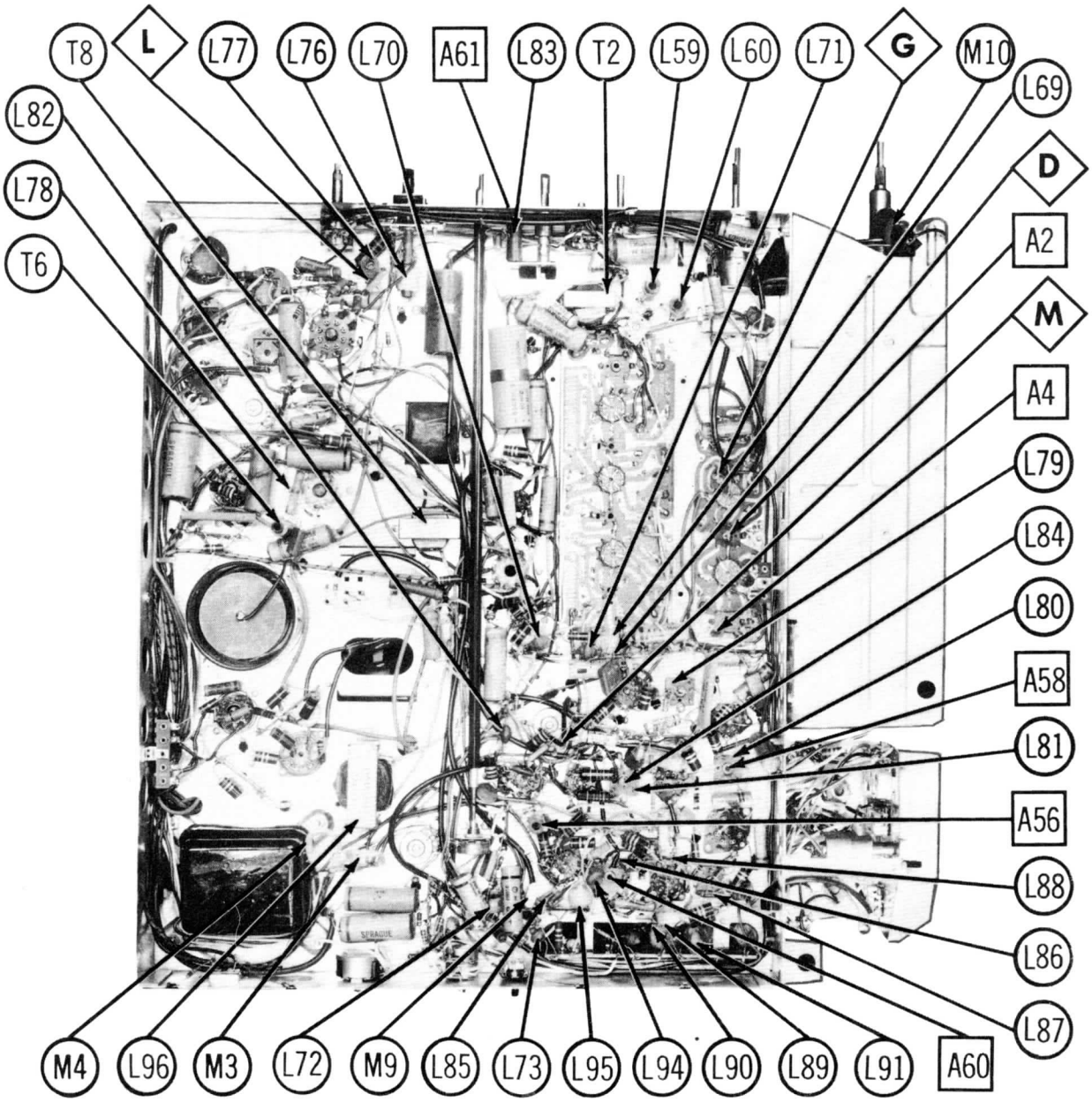


CONVERGENCE CHASSIS BOTTOM VIEW

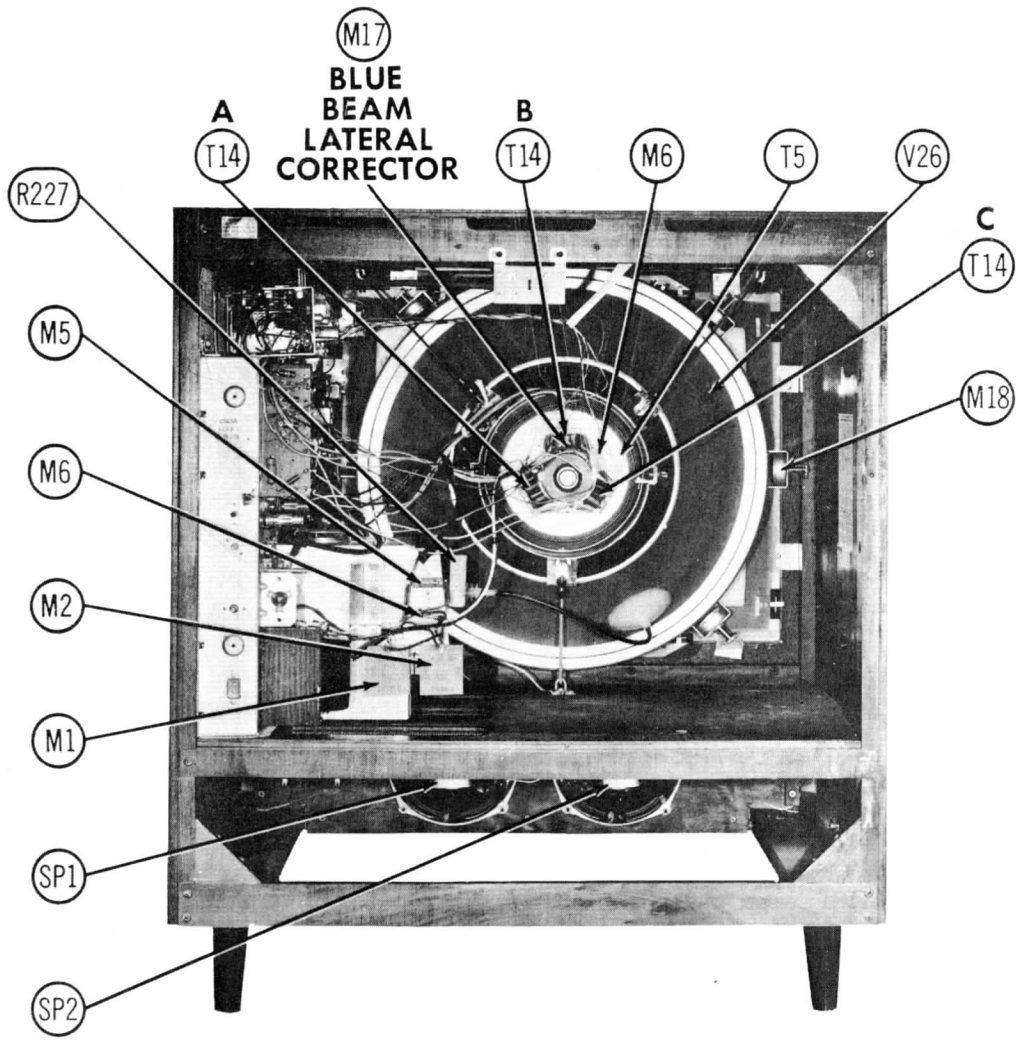


UHF TUNING PULLEY IN FULLY COUNTER CLOCKWISE POSITION

UHF DRIVE CORD STRINGING



CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION



CABINET—REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 7 push-on type control knobs and UHF dial from front panel of cabinet.
2. Remove 8 wood screws and 2 metal screws. Remove rear cover.
3. Remove the cabinet top by taking the 3 bolts holding top in place; slide top to the rear 1 inch and lift off.
4. Disconnect H. V. lead, picture tube socket ; remove the yoke plug, speaker leads and the convergence yoke plug.
5. Loosen 2 wood screws. Remove antenna terminal bracket.
6. Remove 5 chassis bolts. Remove chassis.
7. Remove 8 speaker nuts. Remove 2 speakers.

PICTURE TUBE REMOVAL

1. Remove chassis as under chassis removal.
2. Lay cabinet face down on a soft surface.
3. Remove the blue beam positioning magnet and the purifying magnet assembly by sliding them from the neck of the picture tube.
4. Slide the convergence yoke assembly from the neck of the picture tube.
5. Loosen the (3) retaining rod thumb screws and disengage the rods from the retaining ring. Slide the retaining ring and yoke assembly from the neck of picture tube.
6. Unclip the ground lead to the front mask trim and loosen the screw holding the field equalizing magnet assembly Carefully slide assembly off from the front end of the picture tube insulator and remove.
7. Remove insulating shield and anode connector. Grasp the picture tube at the rear flange, and lift straight up and out of cabinet. Place picture tube face down on a soft pad ,then remove rubber ring cushion from around the front flange of the picture tube.

NOTE: Use extreme caution when removing the picture tube.