

CBS-COLUMBIA MODEL 205C2

TRADE NAME	CBS-Columbia Models 205C1, 205C2	
MANUFACTURER	CBS-Columbia, A Div. of Columbia Broadcasting System, Inc., 48-50 34th. St., Long Island City, N. Y.	
TYPE SET	Color Television Receiver	
TUBES	Forty-five	
POWER SUPPLY	110-120 Volts AC-60 Cycles	RATING 4.9 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

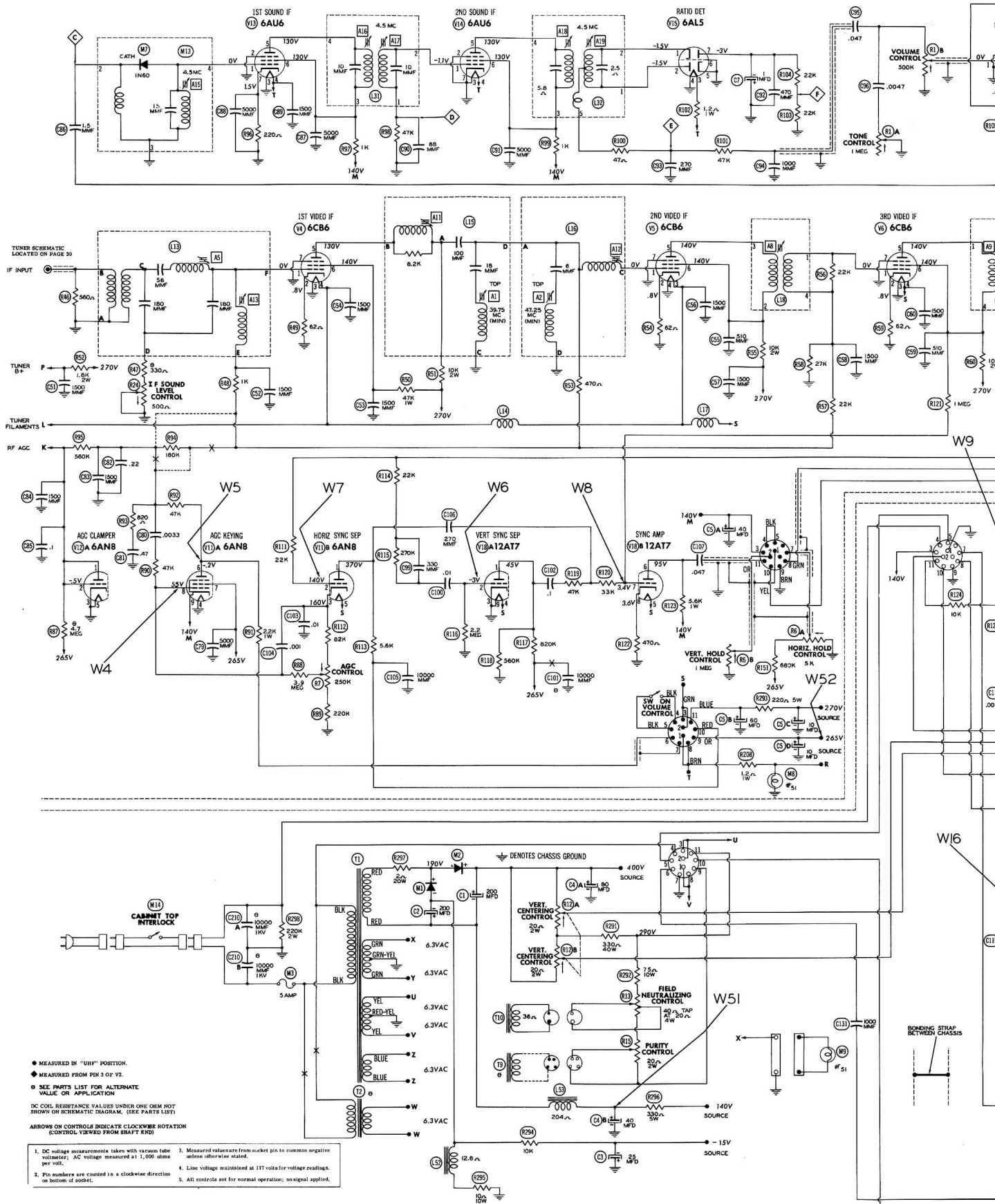
Alignment Instructions	6, 7	Photographs (Cont)
Block Diagram	3	Resistor Identification (RF-IF Chassis) R1-R15l . . .14, 15
Disassembly Instructions	27	Resistor Identification (RF-IF Chassis)
Miscellaneous Adjustments	20, 29	R191-R29312, 17
Parts List and Descriptions	21 thru 27	Resistor Identification (Sweep Chassis)13, 16
Photographs		Inductor & Alignment Identification
Cabinet-Rear View	19	(RF-IF Chassis) 33
Capacitor Identification (RF-IF Chassis)	31, 32	Trans. Inductor & Alignment Identification
Capacitor Identification (Sweep Chassis)	11, 18	(Sweep Chassis) 33
Chassis-Top View (RF-IF Chassis)	28	Resistance Measurements 4
Chassis-Top View (Sweep Chassis)	28	Service Adjustment Location Charts 19
RF Tuner	10	Schematic (Tuner) 30
		Schematic (TV) 2
		Tube Placement Chart (Bottom View) 5
		Tube Placement Chart (Top View) 8
		Waveforms 9

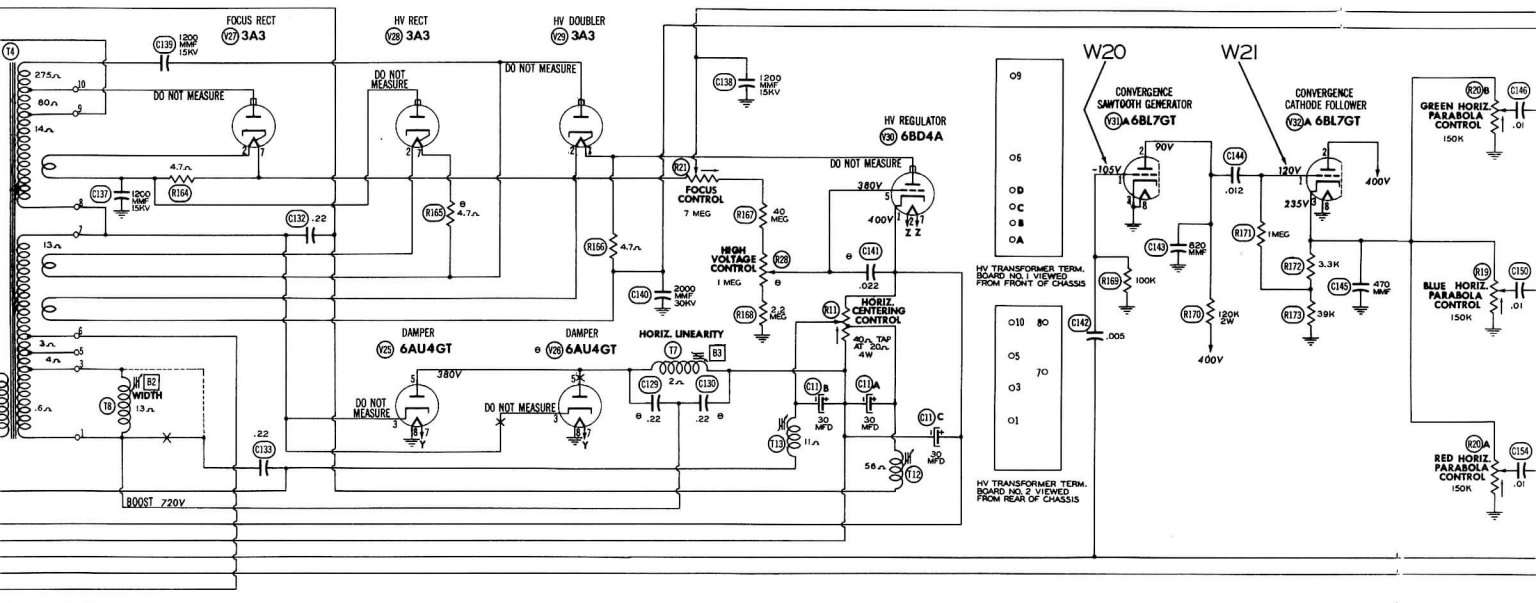
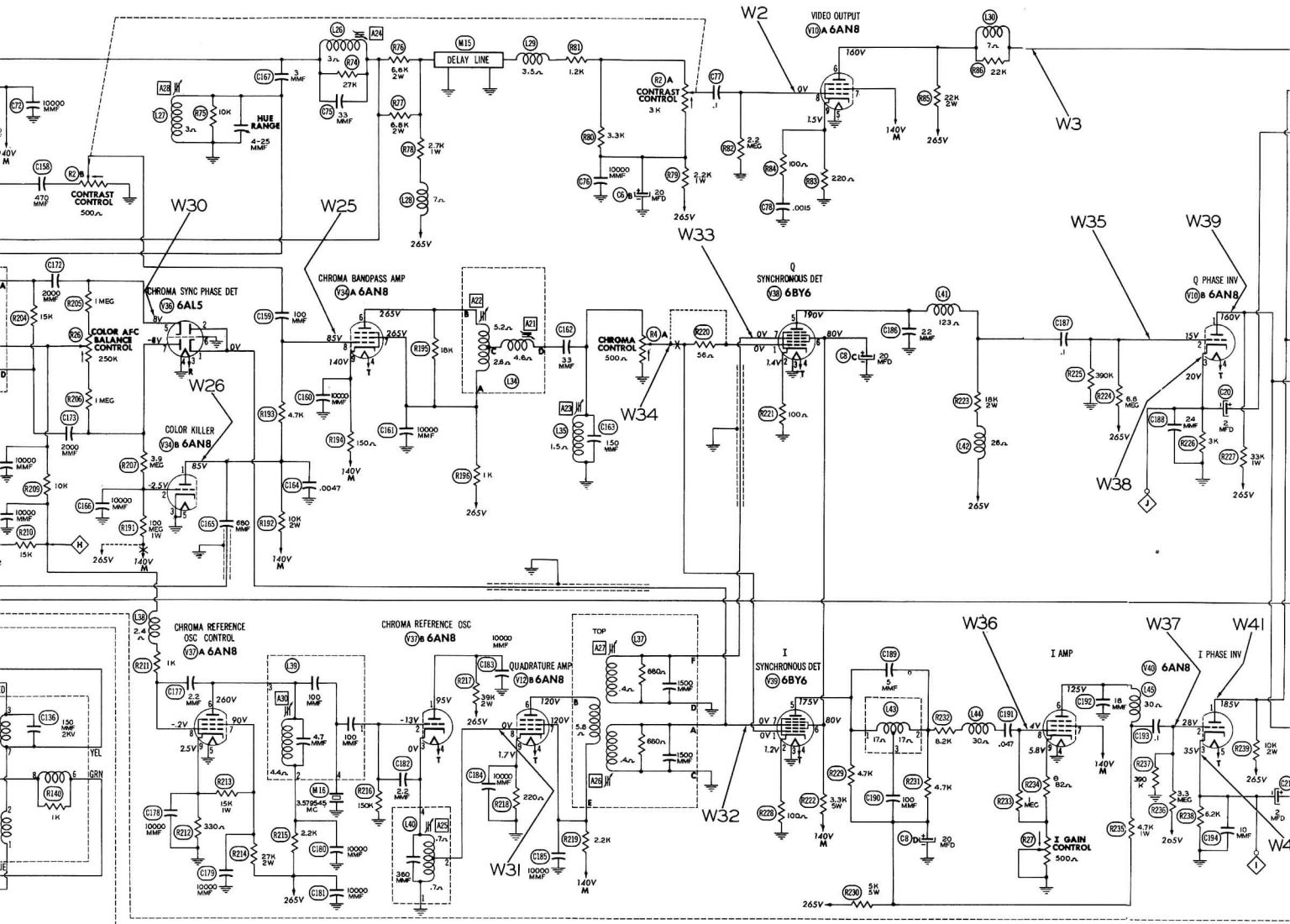
HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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CBS-COLUMBIA MODELS 205C1, 205C2





W3

W35

W39

W38

W37

W41

W48

W49

W40

VERT BLANKING

FOCUS

W42

W43

GREEN GAIN CONTROL

W45

BLUE GAIN CONTROL

W46

GREEN DC REST

BLUE DC REST

BRIGHTNESS CONTROL

W47

W44

W50

W14

GREEN BLUE RED

PICTURE TUBE

W45 19VP22

GREEN CONVERGENCE OUTPUT

W22

BLUE CONVERGENCE OUTPUT

W23

RED CONVERGENCE OUTPUT

W24

CONVERGENCE CATHODE FOLLOWER

W21 6BL7GT

GREEN HORIZ. PARABOLA CONTROL

BLUE HORIZ. PARABOLA CONTROL

RED HORIZ. PARABOLA CONTROL

GREEN HORIZ. TILT CONTROL

BLUE HORIZ. TILT CONTROL

RED HORIZ. TILT CONTROL

GREEN VERT. PARABOLA CONTROL

BLUE VERT. PARABOLA CONTROL

RED VERT. PARABOLA CONTROL

GREEN VERT. TILT CONTROL

BLUE VERT. TILT CONTROL

RED VERT. TILT CONTROL

GREEN VERT. PARABOLA CONTROL

BLUE VERT. PARABOLA CONTROL

RED VERT. PARABOLA CONTROL

GREEN VERT. TILT CONTROL

BLUE VERT. TILT CONTROL

RED VERT. TILT CONTROL

GREEN VERT. PARABOLA CONTROL

BLUE VERT. PARABOLA CONTROL

RED VERT. PARABOLA CONTROL

GREEN VERT. TILT CONTROL

BLUE VERT. TILT CONTROL

RED VERT. TILT CONTROL

GREEN VERT. PARABOLA CONTROL

BLUE VERT. PARABOLA CONTROL

RED VERT. PARABOLA CONTROL

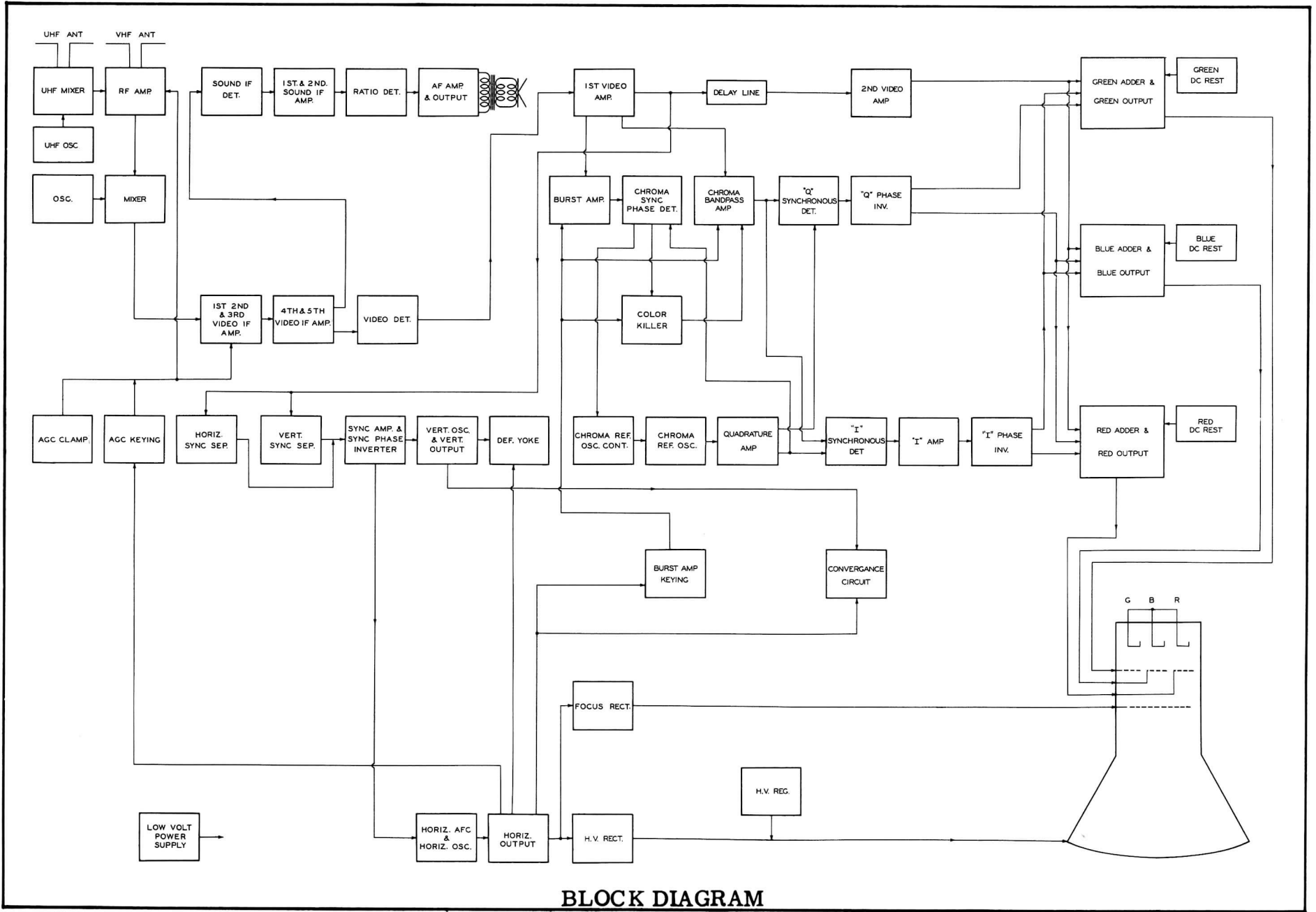
GREEN VERT. TILT CONTROL

BLUE VERT. TILT CONTROL

RED VERT. TILT CONTROL

CBS-COLUMBIA MODELS 205C1, 205C2

CBS-COLUMBIA MODELS 205C1, 205C2



BLOCK DIAGRAM
CBS-COLUMBIA MODELS 205C1, 205C2

RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6T4	*†6KΩ	8.2KΩ	.1Ω	0Ω	0Ω	8.2KΩ	*†6KΩ		
V2	6BZ7	†3.6KΩ	130KΩ	Inf.	0Ω	.1Ω	Inf.	800KΩ	15Ω	0Ω
V3	6U8	†3.6KΩ	200KΩ	†11KΩ	.1Ω	0Ω	†1.3KΩ	0Ω	0Ω	10KΩ
V4	6CB6	50KΩ	62Ω	0Ω	.1Ω	†11KΩ	†47KΩ	0Ω		
V5	6CB6	50KΩ	62Ω	.1Ω	0Ω	†11KΩ	†11KΩ	0Ω		
V6	6CB6	27KΩ	62Ω	0Ω	.1Ω	†11KΩ	†11KΩ	0Ω		
V7	6CB6	.2Ω	180Ω	.1Ω	0Ω	†11KΩ	†1.3KΩ	0Ω		
V8	6CL6	180Ω	.2Ω	†12KΩ	.1Ω	0Ω	†1.6KΩ	0Ω	†12KΩ	.2Ω
V9	6CL6	220Ω	8KΩ	†550Ω	.1Ω	0Ω	†6KΩ	0Ω	†550Ω	8KΩ
V10	6AN8	†13KΩ	390KΩ	3KΩ	.1Ω	0Ω	†11KΩ	†550Ω	2.2Meg	220Ω
V11	6AN8	†6.6KΩ	†28KΩ	600KΩ	0Ω	.1Ω	300KΩ	†500Ω	4.5Meg	†550Ω
V12	6AN8	750KΩ	750KΩ	0Ω	.1Ω	0Ω	†2.7KΩ	†2.7KΩ	.9Ω	220Ω
V13	6AU6	5.5Ω	0Ω	0Ω	.1Ω	†1.5KΩ	†1.5KΩ	220Ω		
V14	6AU6	47KΩ	0Ω	0Ω	.1Ω	†1.5KΩ	†1.5KΩ	0Ω		
V15	6AL5	Inf.	Inf.	.9Ω	0Ω	0Ω	0Ω	44KΩ		
V16	6AV6	150KΩ	820Ω	.1Ω	0Ω	0Ω	0Ω	†220KΩ		
V17	6AQ5	470KΩ	330Ω	.1Ω	0Ω	†2.1KΩ	†1.5KΩ	470KΩ		
V18	12AT7	†350KΩ	2.2Meg	0Ω	.1Ω	.1Ω	†6KΩ	†1Meg	470Ω	0Ω
V19	12AT7	†1.4KΩ	1Meg	1.3KΩ	0Ω	0Ω	NC	NC	NC	.1Ω
V20	6BL7GT	1.8Meg	†3Meg	0Ω	3.9Meg	†1KΩ	800Ω	.1Ω	0Ω	
V21	6AL5	27KΩ	27KΩ	0Ω	.1Ω	4.8Meg	0Ω	4.8Meg		
V22	12AU7	†15KΩ	5Meg	2.2KΩ	.1Ω	.1Ω	†160KΩ	110KΩ	2.2KΩ	0Ω
V23	6CU6	TP	.1Ω	TP	†8.2KΩ	550KΩ	NC	0Ω	0Ω	
V24	6CU6	TP	0Ω	TP	†8.2KΩ	550KΩ	NC	.1Ω	0Ω	
V25	6AU4GT	NC	NC	Inf.	NC	†45Ω	NC	.1Ω	0Ω	
V26	6AU4GT	NC	NC	Inf.	NC	†45Ω	NC	.1Ω	0Ω	
V27	3A3	Inf.	50Meg	Inf.	50Meg	Inf.	Inf.	50Meg	Inf.	TOP CAP ▲95Ω
V28	3A3	PINS	1-8	HAVE	INF	RESISTANCE				TOP CAP 50Meg
V29	3A3	PINS	1-8	HAVE	INF	RESISTANCE				TOP CAP Inf.
V30	6BD4A	†4Ω	Inf.	NC	NC	2.5Meg	NC	Inf.	NC	TOP CAP Inf.
V31	6BL7GT	100KΩ	†120KΩ	0Ω	60KΩ	†27KΩ	2.2KΩ	.1Ω	0Ω	
V32	6BL7GT	1Meg	10KΩ	25KΩ	60KΩ	†27KΩ	2.2KΩ	.1Ω	0Ω	
V33	6BL7GT	100KΩ	†3.2KΩ	0Ω	60KΩ	†27KΩ	2.2KΩ	.1Ω	0Ω	
V34	6AN8	†11KΩ	100Meg	0Ω	.1Ω	0Ω	†1.5KΩ	†1.5KΩ	†16KΩ	†700Ω
V35	6CB6	3Ω	†17KΩ	.1Ω	0Ω	†2.7KΩ	†2.7KΩ	†17KΩ		
V36	6AL5	.5Ω	.5Ω	.1Ω	0Ω	100Meg	0Ω	100Meg		
V37	6AN8	†40KΩ	150KΩ	1.5Ω	.1Ω	0Ω	†2.7KΩ	†15KΩ	100Meg	330Ω
V38	6BY6	200Ω	100Ω	0Ω	.1Ω	†18KΩ	†3.9KΩ	.6Ω		
V39	6BY6	140Ω	100Ω	0Ω	.1Ω	†8KΩ	†3.9KΩ	.6Ω		
V40	6AN8	†8KΩ	390KΩ	6.2KΩ	0Ω	.1Ω	†11KΩ	†550Ω	1Meg	400Ω
V41	12BH7	†5.2KΩ	1.8Meg	450Ω	.1Ω	.1Ω	†11KΩ	700Ω	200Ω	0Ω
V42	12BH7	†5.2KΩ	1.8Meg	450Ω	.1Ω	.1Ω	†11KΩ	700Ω	200Ω	0Ω
V43	12BH7	†5.2KΩ	1.8Meg	450Ω	.1Ω	.1Ω	†11KΩ	3.5KΩ	200Ω	0Ω
V44	6BC7	†1Meg	†12KΩ	0Ω	0Ω	.1Ω	†17KΩ	†1Meg	†12KΩ	†1Meg
V45	19VP22	†20KΩ	†1Meg	†120KΩ	†10KΩ	†10KΩ	†1Meg	†120KΩ	NC	50Meg
		PIN 10 NC	PIN 11 †120KΩ	PIN 12 †1Meg	PIN 13 †10KΩ	PIN 14 †20KΩ				

*MEASURED IN "UHF" POSITION.

†MEASURED FROM POSITIVE SIDE OF C2.

‡MEASURED FROM POSITIVE SIDE OF C1.

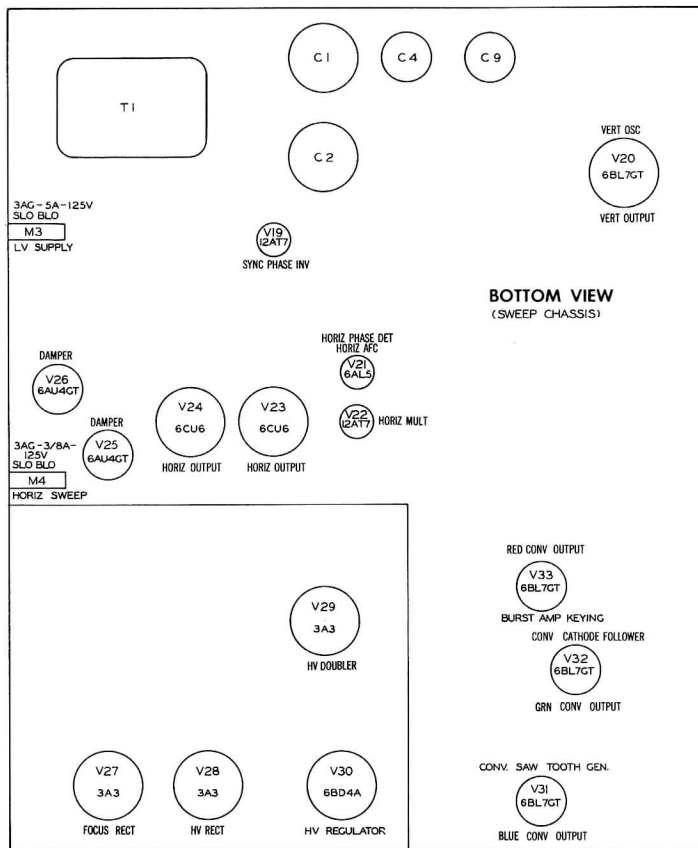
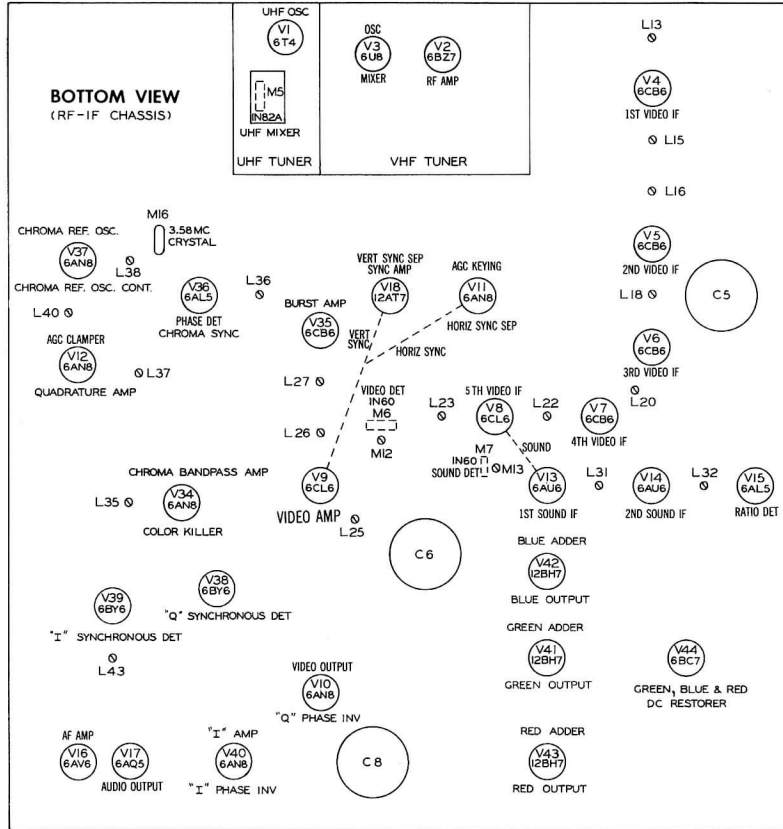
▲MEASURED FROM PIN 3 OF V25.

NC-NO CONNECTION.

TP-TIE POINT.

ALL MEASUREMENTS TAKEN IN "VHF" POSITION UNLESS OTHERWISE DESIGNATED.

TUBE PLACEMENT CHART



CBS-COLUMBIA MODELS 205C1, 205C2

ALIGNMENT I

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage shock hazard may be eliminated by removing the horizontal multivibrator tube (V22). Remove the ground connection from pin 8 (cathode) of the horizontal output tubes (V23 and V24). Connect a 200Ω, 10 watt resistor from pin 8 of V23 and V24 to chassis ground. AC line voltage should be maintained at 117V. Allow proper time for receiver and test equipment to warm-up.

VIDEO IF ALIGNMENT

Connect the negative lead of a 4 volt bias supply to the IF AGC line. Connect the positive lead to chassis. Use only enough sweep and signal generator output for usable indication on scope and VTVM. Leads between test equipment and chassis connections should be shielded and kept short as possible. Set the channel selector between any two channels to reduce the possibility of erroneous indications. 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
1. Direct	High side to an ungrounded tube shield floating over converter tube (V3). Low side to chassis.	Not used	39.75MC (Unmod)	Between any two channels	Use VTVM. DC probe to point A . Common to point B .	A1	Attenuate signal generator output for not more than -2 volts at VTVM. Adjust for MINIMUM deflection.
2. "	"	"	47.25MC	"	"	A2, A3	"
3. "	"	"	41.25MC	"	"	A4	"
4. "	"	"	41.25MC	"	"	R25	Detune slug adjustment (A5) by turning several turns counter clockwise. Adjust R25 for MINIMUM deflection.
5. "	"	"	41.25MC (Unmod)	"	DC probe thru detector (Fig. 1) to pin 5 (Plate) of 6CB6 (V7). Common to chassis.	A5	Adjust for MINIMUM deflection.
6. "	"	"	43.4MC 41.25MC (Unmod)	"	"	R24	Attenuate signal generator output for not more than -0.3 volts at VTVM with signal generator set at 43.4MC. Then set signal generator for 41.25MC. Do not change output of generator. Adjust R24 for exact reading as obtained on VTVM when generator was set for 43.4MC.
7. "	High side to pin 2 (grid) of 6CL6 (V8). Low side to chassis.	44MC (10MC Swp)	41.7MC 45.75MC	"	Vert. Amp. to point A . Low side to chassis.	A6, A7	Use only enough sweep generator output for usable pattern on scope. Adjust for response curve similar to Fig. 2.
8. "	High side to pin 1 (grid) of 6CB6 (V5). Low side to chassis.	"	41.7MC 45.0MC	"	"	A8, A9, A10	Adjust for flat-topped response similar to Fig. 3.
9. "	High side to pin 1 (grid) of 6CB6 (V4). Low side to chassis.	"	41.7MC 45.75MC	"	Vert. Amp. to pin 5 (plate) of 6CB6 (V5), thru detector (Fig. 7) Low side to chassis.	A11, A12	Adjust for flat-topped response similar to Fig. 4.
10. "	High side to an ungrounded tube shield floating over converter tube (V3). Low side to chassis.	"	41.7MC 45.75MC	"	"	A13, A14	Adjust for flat-topped response similar to Fig. 5.
11. "	"	"	39.75MC 41.25MC 41.7MC 45.0MC 45.75MC 47.25MC	"	Vert. Amp. to point A . Low side to chassis.		Check for response curve similar to Fig. 6. If necessary, retouch A8, A9 and A10 to obtain correct response and marker positions. Repeat steps 5 and 6. Increase sweep generator output to observe 47.25MC, 41.25MC and 39.75MC trap markers. If necessary, repeat steps 1 thru 4. Remove 200Ω, 10 watt resistor from pin 8 of V23 and V24, and chassis. Reconnect pin 8 of V23 and V24 to chassis. Replace shield over converter tube. Remove bias supply.

SOUND IF ALIGNMENT

Remove the AGC keying tube (V11A) from its socket. Remove fuse (M4) (located on rear apron of deflection chassis.). Set the channel selector between any two channels.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
12. .001MFD	High side to point C . Low side to chassis.	4.5MC (Unmod)	Between any two channels	DC probe to point D . Common to chassis.	A15, A16, A17	Attenuate generator output for not more than -2 volts at VTVM. Adjust for maximum deflection.
13. "	"	"	"	DC probe to pin 7 (plate) of 6AL5 (V15). Common to chassis.	A18	"
14. "	"	"	"	DC probe to point E . Common to point F .	A19	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Replace V11B in its socket. Replace M4 (fuse) in set.

VHF TUNER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of the portion if not recommended in the field.

UHF TUNER ALIGNMENT

The UHF portion of this receiver has been properly aligned at the factory and is very stable. Alignment of this portion is not recommended in the field.

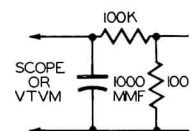


FIG. 1

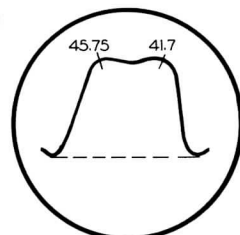


FIG. 2

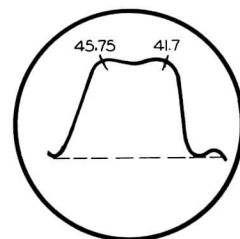


FIG. 4

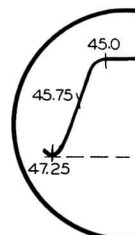


FIG. 6

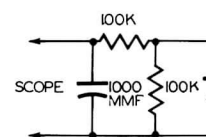


FIG. 7

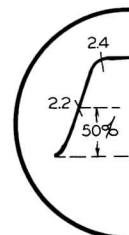


FIG. 8

ALIGNMENT INSTRUCTIONS

BEFORE ATTEMPTING ALIGNMENT
 Remove the ground connection from pin 8 of V23 and V24 to chassis ground.

Lead to chassis.
 VTVM.
 as possible.
 indications
 of the oscilloscope for horizontal deflection.

ADJUST	REMARKS
A1	Attenuate signal generator output for not more than -2 volts at VTVM. Adjust for MINIMUM deflection.
A2, A3	"
A4	"
R25	Detune slug adjustment (A5) by turning several turns counter clockwise. Adjust R25 for MINIMUM deflection.
A5	Adjust for MINIMUM deflection.
R24	Attenuate signal generator output for not more than -0.3 volts at VTVM with signal generator set at 43.4MC. Then set signal generator for 41.25MC. Do not change output of generator. Adjust R24 for exact reading as obtained on VTVM when generator was set for 43.4MC.
A6, A7	Use only enough sweep generator output for usable pattern on scope. Adjust for response curve similar to Fig. 2.
A8, A9, A10	Adjust for flat-topped response similar to Fig. 3.
A11, A12	Adjust for flat-topped response similar to Fig. 4.
A13, A14	Adjust for flat-topped response similar to Fig. 5.
	Check for response curve similar to Fig. 6. If necessary, retouch A8, A9 and A10 to obtain correct response and marker positions. Repeat steps 5 and 6. Increase sweep generator output to observe 47.25MC, 41.25MC and 39.75MC trap markers. If necessary, repeat steps 1 thru 4. Remove 200Ω, 10 watt resistor from pin 8 of V23 and V24, and chassis. Reconnect pin 8 of V23 and V24 to chassis. Replace shield over converter tube. Remove bias supply.

apron of deflection chassis.).

ADJUST	REMARKS
A15, A16, A17	Attenuate generator output for not more than -2 volts at VTVM. Adjust for maximum deflection.
A18	"
A19	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Replace V11B in its socket. Replace M4 (fuse) in set.

Alignment of the portion if not recommended in the

table. Alignment of this portion is not recommended

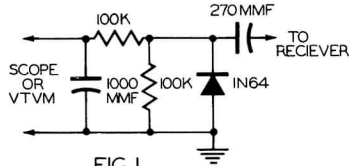


FIG. 1

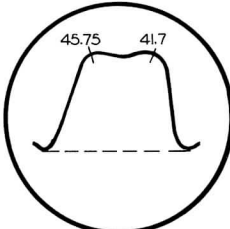


FIG. 2

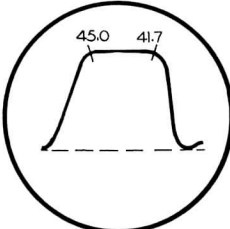


FIG. 3

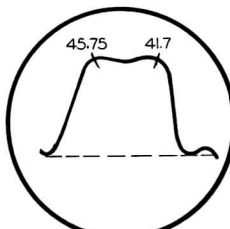


FIG. 4

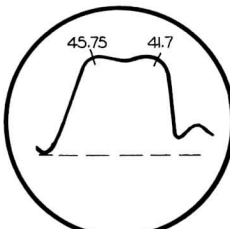


FIG. 5

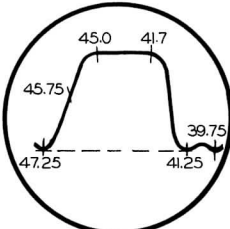


FIG. 6

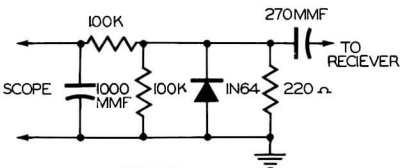


FIG. 7

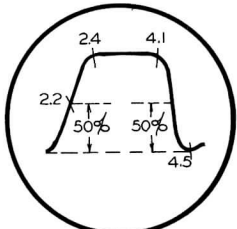


FIG. 8

Remove fuse (M4) (located on rear apron of deflection chassis). Leave bias connected as under "Bandpass Amplifier Alignment". Connect the positive lead to chassis. Turn the contrast control (R2) and the chroma control (R4) to their minimum positions. If a separate marker generator is used, couple it loosely to the antenna terminals. Connect the synchronized sweep voltage from the sweep generator to the antenna terminals.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY
15. .005MFD	High side to pin 2 (grid) of 6CL6 (V9). Low side to chassis.	3MC (3MC Swp)	2.2MC 2.4MC 4.1MC 4.4MC 4.5MC

Connect a 500MMF mica capacitor between pin 6 (plate) of 6CL6 (V9) and chassis. Use only enough signal generator frequency for usable indications.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL
16. .005MFD	High side to pin 2 (grid) of 6CL6 (V9). Low side to chassis.	3.58MC (Unmod)	Between any two channels

Tune in a local black and white TV station. Adjust contrast control and chroma control to their mid-range positions. Turn brightness control for low brightness. Connect a color bar generator to the antenna terminals.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY
17.		Not used	Not used
18.		"	"
19.		"	"
20. Direct	Use color bar generator. Connect across antenna terminals.		
21.	"		
22.	"		
23.	Use color bar generator. Connect across antenna terminals. Set generator for "Q" signal.		
24.	Connect color bar generator across antenna terminals. Set generator for "I" signal.		

Connect a 100% saturated color bar generator to antenna terminals. Adjust contrast, hue range selector to receive color bars. Adjust contrast, hue range selector to receive color bars.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY
25. Direct	Use color bar generator. Connect across antenna terminals.		
26.	"		
27.	"		
28.	"		

T INSTRUCTIONS

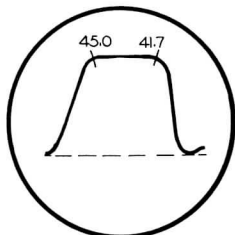
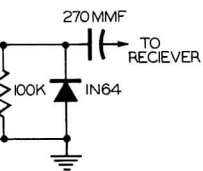


FIG. 3

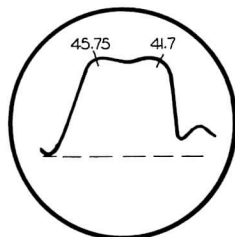


FIG. 5

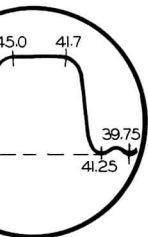


FIG. 6

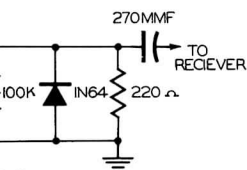


FIG. 7

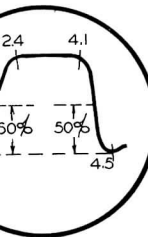


FIG. 8

BANDPASS AMPLIFIER ALIGNMENT

Remove fuse (M4) (located on rear apron of deflection chassis). Unless set has a color killer switch to open color killer circuit, connect the negative lead of a 30V bias supply to pin 2 (grid) of 6AN8 (V34B). Connect the positive lead to chassis.

Turn the contrast control (R2) and the chroma control (R4A) fully clockwise.

If a separate marker generator is used, couple it loosely to pin 2 of V9.

Connect the synchronized sweep voltage from the sweep generator to horizontal input of the oscilloscope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
15. .005MFD	High side to pin 2 (grid) of 6CL6 (V9). Low side to chassis.	3MC (3MC Swp)	2.2MC 2.4MC 4.1MC 4.4MC 4.5MC	Between any two channels	Vert. Amp. thru detector (Fig. 7) to pin 2 (cathode) of 6BY6 (V38). Low side to chassis.	A20, A21, A22, A23	Adjust A20, A21, A22 and A23 for response curve similar to Fig. 8. Adjust A20 to place 4.5MC in trap notch. A23 affects high frequency side of response curve. A21 and A22 affects bandwidth and tilt.

3.58MC TRAP ALIGNMENT

Connect a 500MMF mica capacitor between pin 6 (plate) of V12B and pin 2 (grid) of V9.

Leave bias connected as under "Bandpass Amplifier Alignment". Turn contrast control fully clockwise. Remove M4 from fuse holder. Use only enough signal generator frequency for usable indication on VTVM.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
16. .005MFD	High side to pin 2 (grid) of 6CL6 (V9). Low side to chassis.	3.58MC (Unmod)	Between any two channels	DC probe thru detector (Fig. 7) to point \diamond . Common to chassis.	A24	Adjust for MINIMUM deflection. Remove bias supply. Replace M4 in fuse holder. Remove 500MMF from pin 6 of V12B and pin 2 of V9.

COLOR AFC ALIGNMENT

Tune in a local black and white TV station. Adjust contrast and brightness controls for a normal picture. Then preset hue range trimmer, chroma control and contrast control to their mid-range position.

Turn brightness control for low brightness. Connect a color bar generator across antenna terminals, set channel selector to receive color bars.

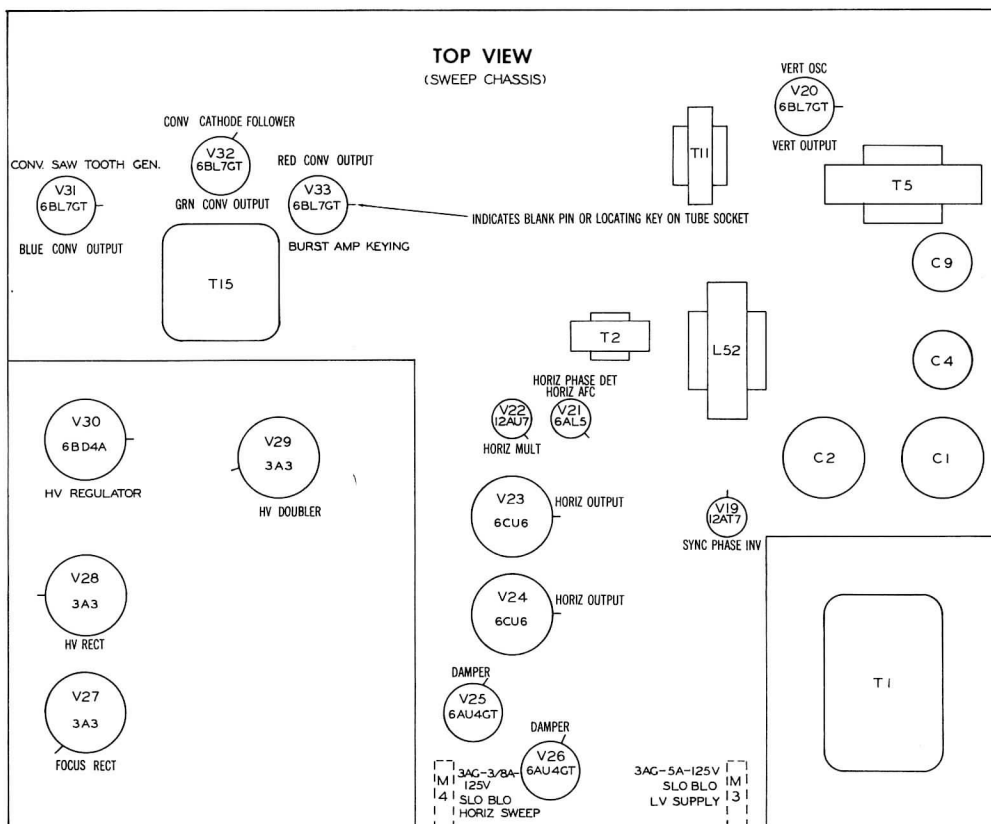
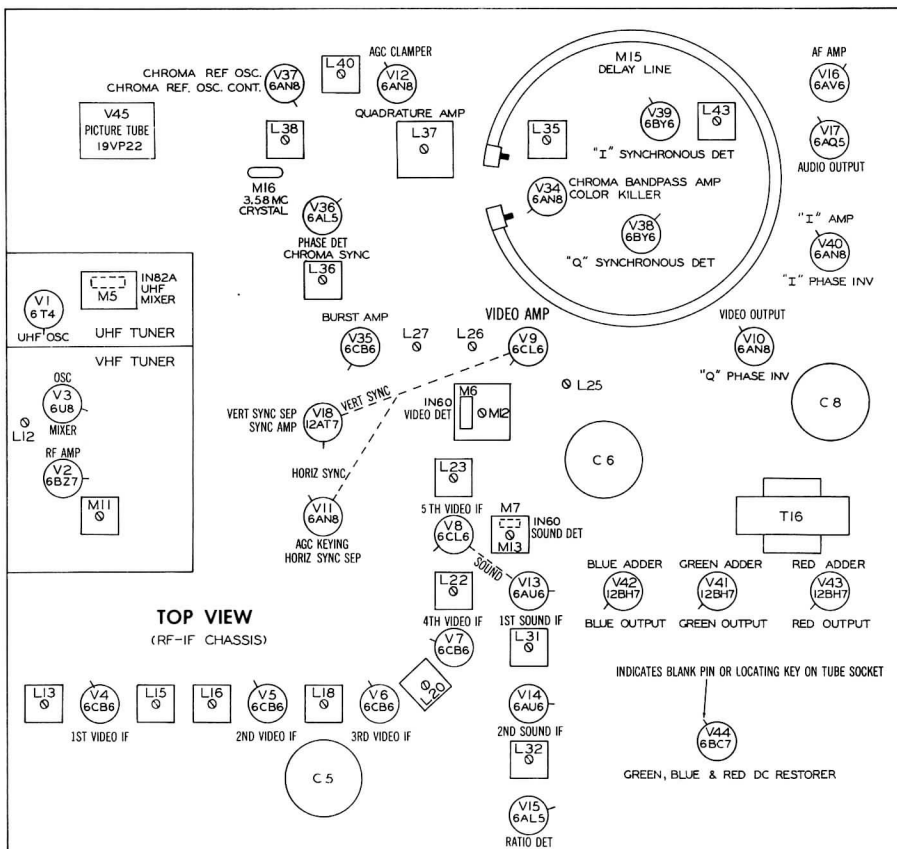
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
17.		Not used	Not used	Between any two channels	Use VTVM. DC probe to pin 7 (plate) of 6AL5 (V36). Common to chassis.	A25	Adjust A25 counter clockwise until reading on VTVM drops to -2.5 volts. Then adjust clockwise until reading on VTVM rises sharply to -7 volts. Continue adjusting clockwise until reading passes thru maximum deflection and falls 2 volts below maximum reading on VTVM.
18.		"	"	"	"	A26	Adjust for maximum deflection.
19.		"	"	"	"	A27	Adjust for MINIMUM deflection.
20. Direct	Use color bar generator. Connect across antenna terminals.			Channel of color bar generator.	"	A28, A29	Connect a clip lead from pin 8 of V12B to chassis. Adjust A28 and A29 for maximum deflection. Remove short from pin 8 of V12B.
21.	"	"	"	"	"	A30	Connect a clip lead from point \diamond to chassis. Adjust A30 until color bars are almost in sync. Remove short point \diamond . Color bars should fall in sync, if not retouch A30.
22.	"	"	"	"	DC probe to point \diamond . Common to chassis.	R26	Connect a 10MMF capacitor across 3.58 crystal (M16). Adjust the color AFC balance control (R26) for zero reading on VTVM. Remove 10MMF capacitor from across M16.
23.	Use color bar generator. Connect across antenna terminals. Set generator for "Q" signal.			Channel of color bar generator "Q" signal	Vert. Amp. to point \diamond . Low side to chassis.	Hue Range Trimmer	Switch off the "I" channel of the color signal generator. Switch the "Q" channel to on position. Adjust hue range trimmer for zero "Q" indication on scope.
24.	Connect color bar generator across antenna terminals. Set generator for "I" signal.			Channel of color bar generator "I" signal	Vert. Amp. to point \diamond . Low side to chassis.	A27	Switch off "Q" channel of color signal generator. Switch the "I" channel to on position. Readjust A27 for zero "I" indication on scope.

MATRIX ADJUSTMENT

Connect a 100% saturated color bar generator to antenna terminals or tune in a station broadcasting on NTSC color bar signal. Set channel selector to receive color bars. Adjust contrast, hue range trimmer and chroma controls to their mid-range position.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
25. Direct	Use color bar generator. Connect across antenna terminals.			Channel of color bar generator	Vert. Amp. to pin 12 (blue grid) of picture tube (V45). Low side to chassis.	R4A	Adjust the chroma control (R4A) for maximum cancellation of green and yellow bars.
26.	"	"	"	"	"	R27	Adjust the "I" gain control for best cancellation of red. Repeat steps 25 and 26 for best cancellation of green, yellow and red.
27.	"	"	"	"	Vert. Amp. to pin 2 (red grid) of picture tube (V45). Low side to chassis.		Check cancellation of green, blue and cyan bars.
28.	"	"	"	"	Vert. Amp. to pin 6 (green grid) of picture tube. Low side to chassis.		Check cancellation of red, magenta and blue bars. If necessary, repeat entire matrix adjustment until best overall cancellation is obtained.

TUBE PLACEMENT CHART



WAVEFORMS

ALL WAVEFORMS TAKEN WITH CONTRAST CONTROL (R2) SET AT MAXIMUM AND CHROMA CONTROL (R4) SET TO PRODUCE RED, YELLOW, GREEN, CYAN, BLUE, MAGENTA AND WHITE FROM NTSC COLOR-BAR GENERATOR



W1-NOTE 1



W2-NOTE 1



W3-NOTE 1



W4



W5



W6



W7



W8



W9



W10-NOTE 2



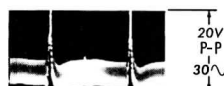
W11



W12



W13



W14



W15



W16



W17



W18



W19



W20



W21



W22



W23



W24



W25-NOTE 1



W26-NOTE 1



W27-NOTE 1



W28



W29



W30-NOTE 1



W31-NOTE 1



W32-NOTE 1



W33-NOTE 1



W34-NOTE 1



W35-NOTE 1



W36-NOTE 1



W37-NOTE 1



W38-NOTE 1



W39-NOTE 1



W40-NOTE 1



W41-NOTE 1



W42-NOTE 1



W43-NOTE 1



W44-NOTE 1



W45-NOTE 1



W46-NOTE 1



W47-NOTE 1



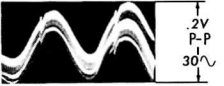
W48-NOTE 1



W49-NOTE 1



W50-NOTE 1



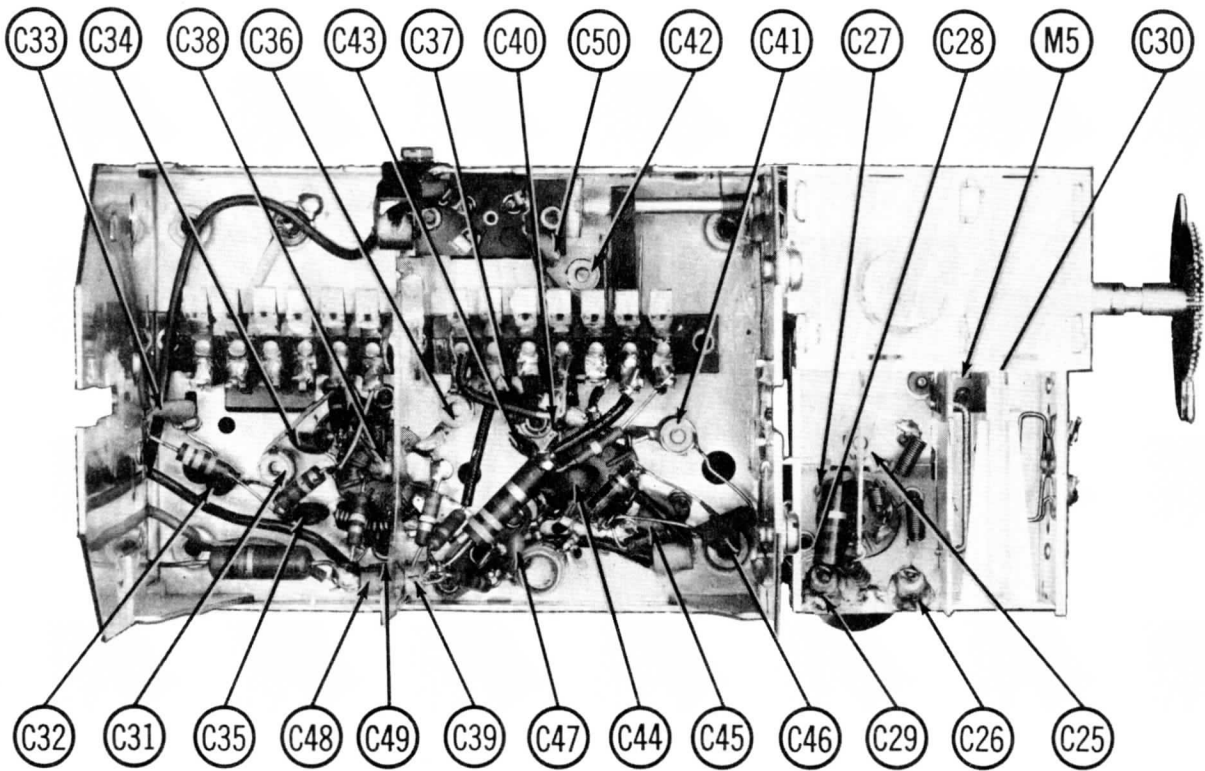
W51



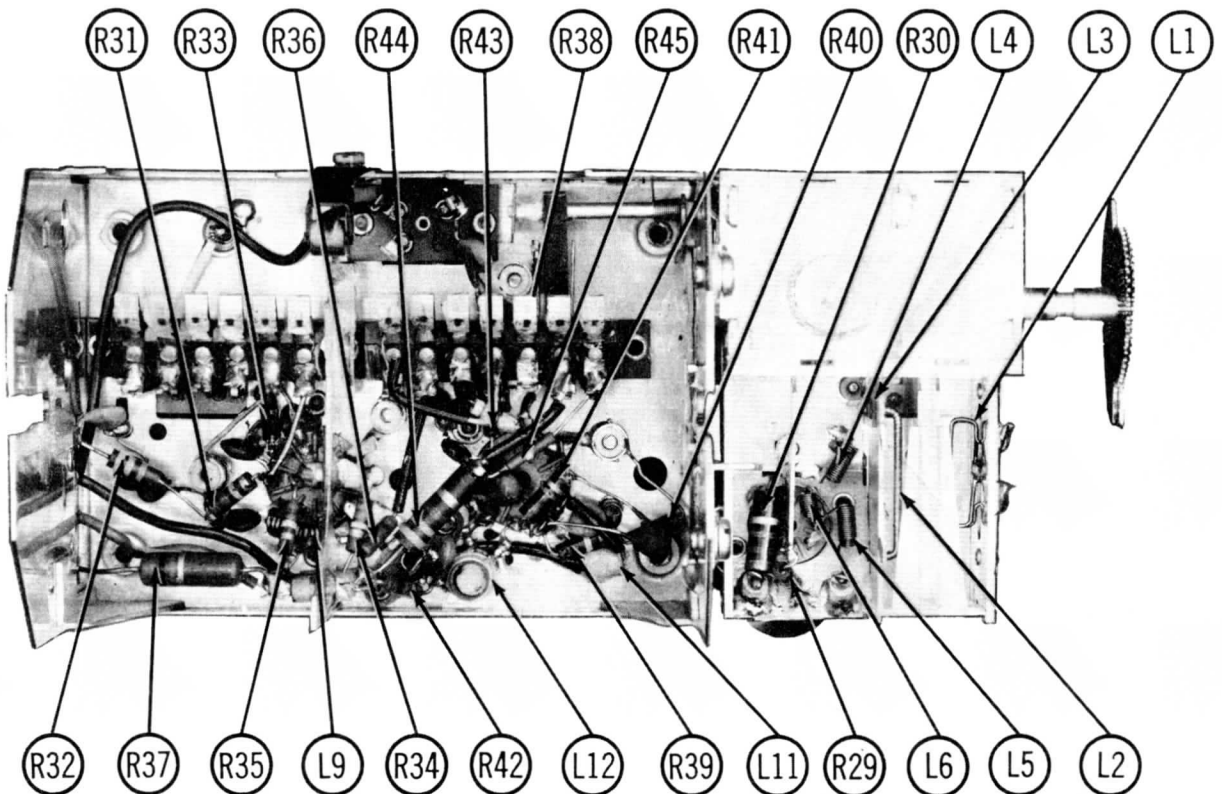
W52

NOTE 1. TAKEN WITH WIDE BAND OSCILLOSCOPE.

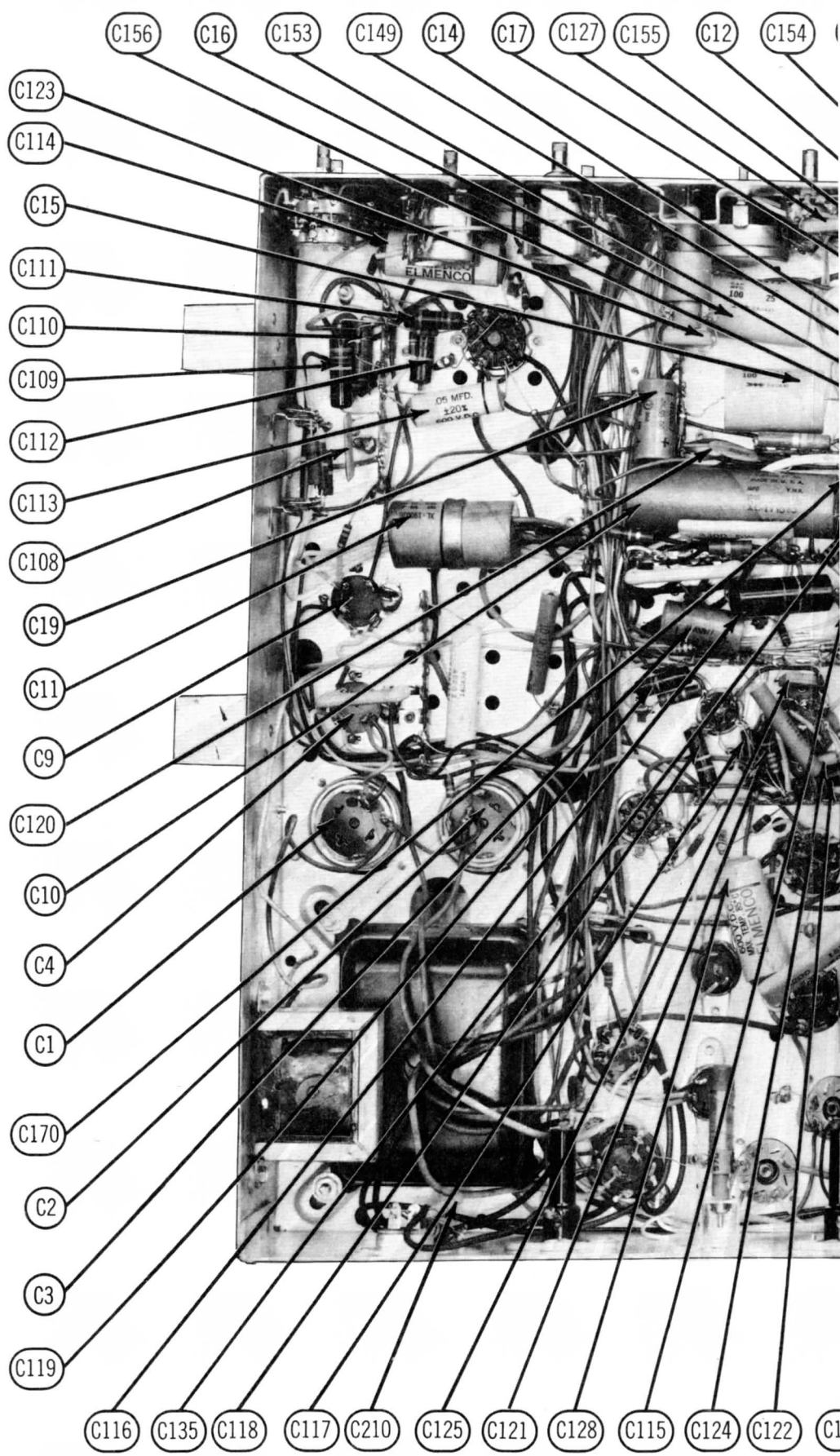
NOTE 2. TAKEN WITH V20 REMOVED FROM ITS SOCKET.



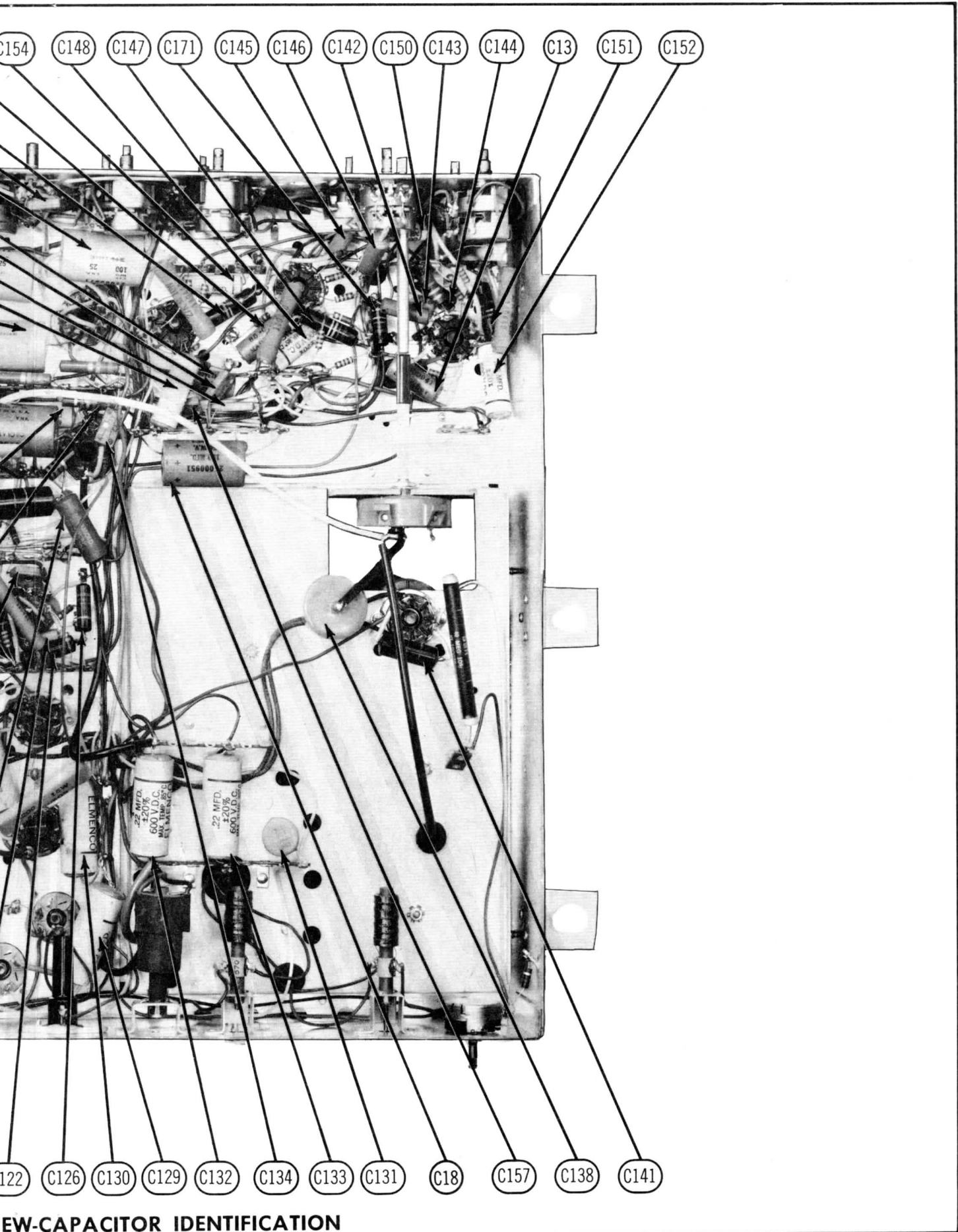
RF TUNER-BOTTOM VIEW-CAPACITOR IDENTIFICATION



RF TUNER-BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

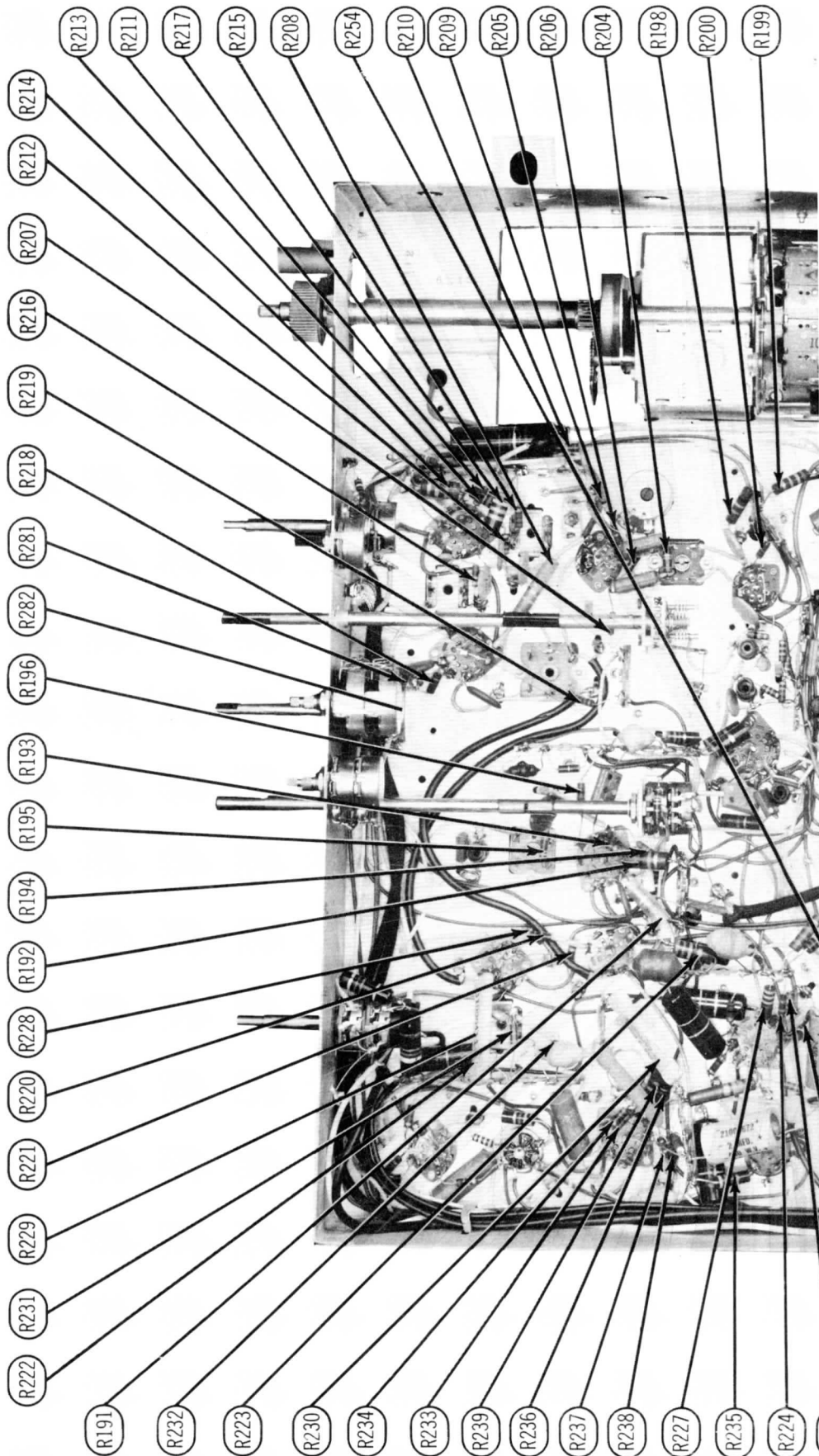


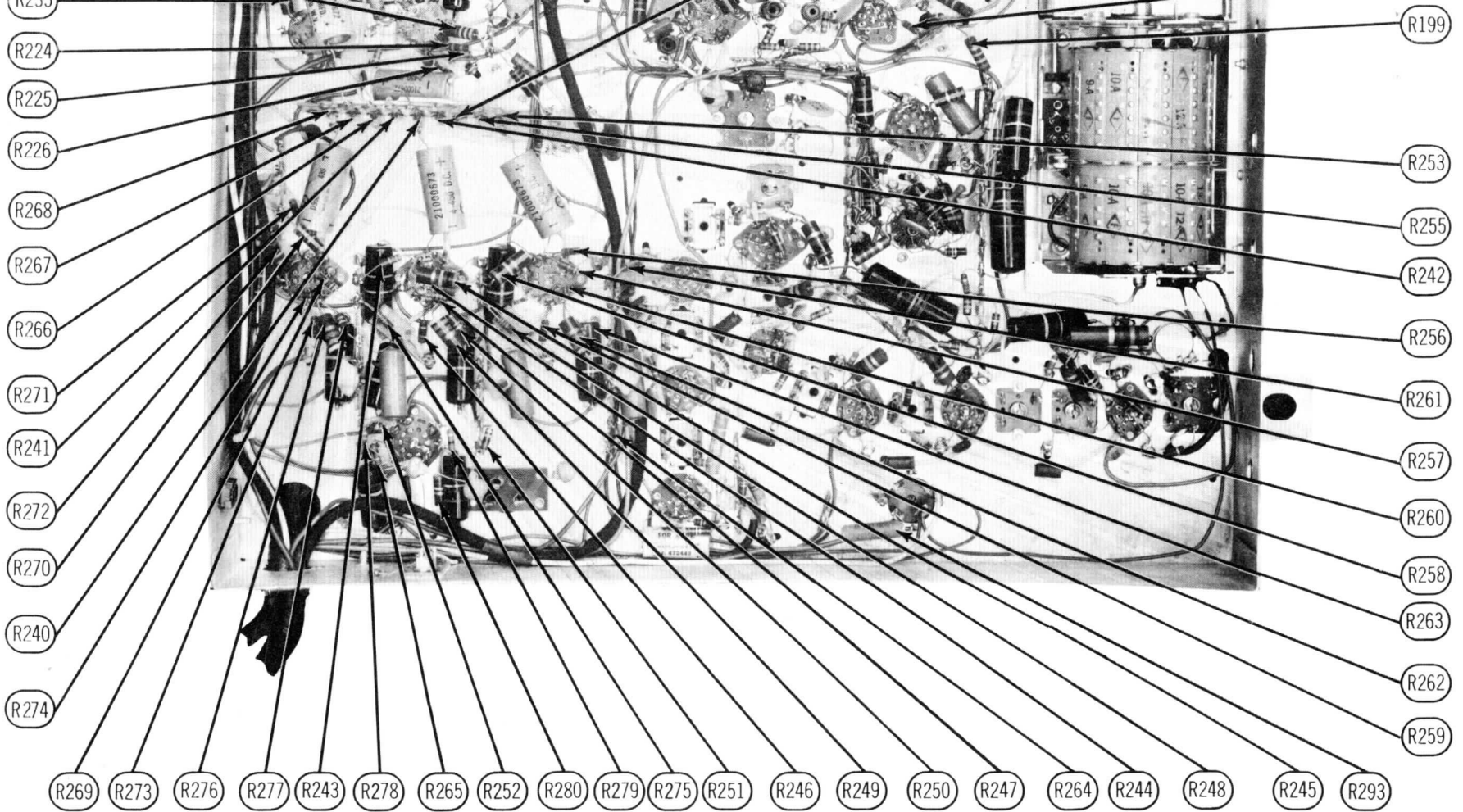
SWEEP CHASSIS-BOTTOM VIEW-CA



CBS-COLUMBIA MODELS 205C1, 205C2

EW-CAPACITOR IDENTIFICATION

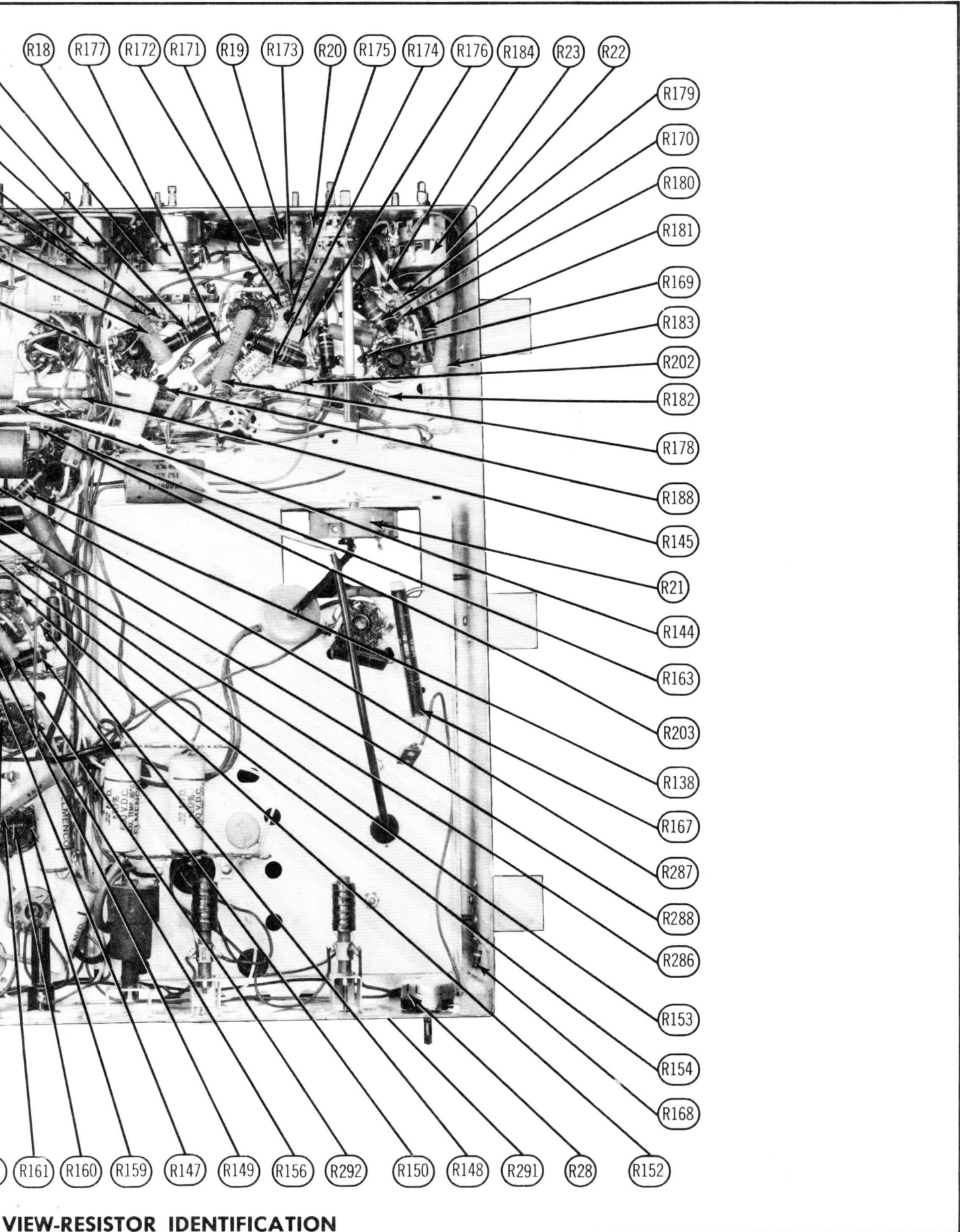




**CBS-COLUMBIA MODELS 205C1, 205C2
 RF-IF CHASSIS-BOTTOM VIEW-RESISTOR IDENTIFICATION (R199-R293)**

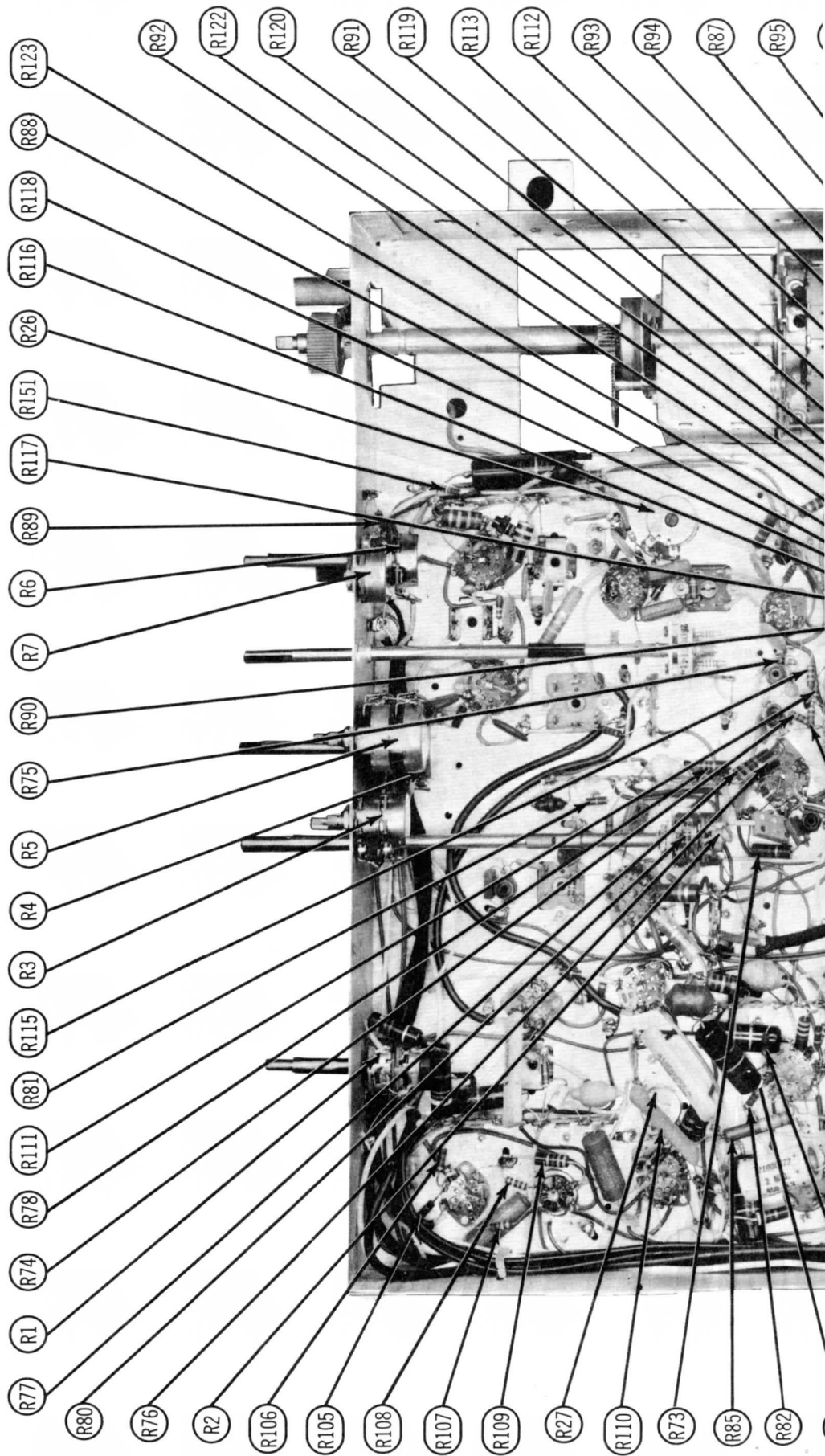


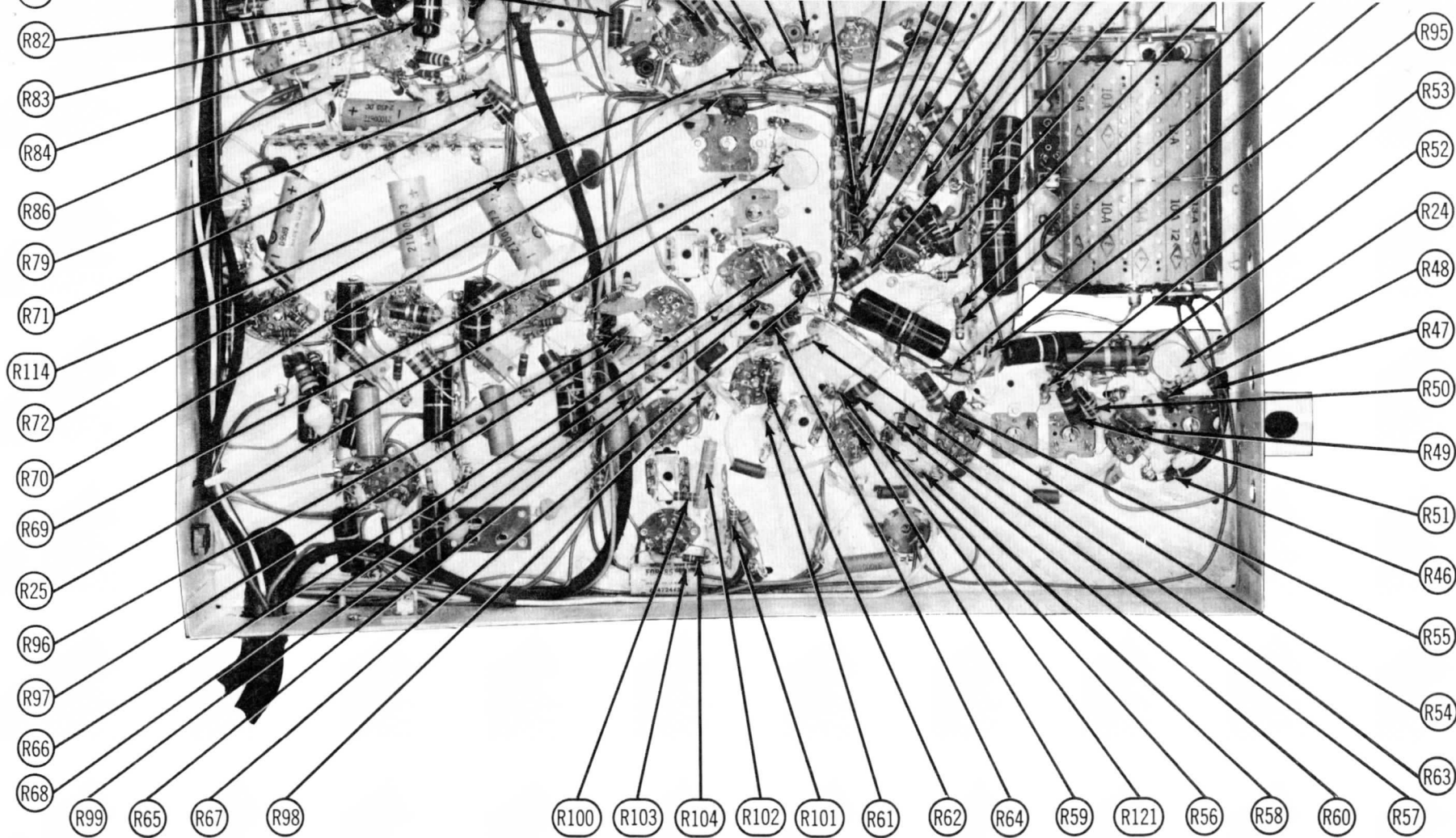
SWEEP CHASSIS-BOTTOM VIEW-R



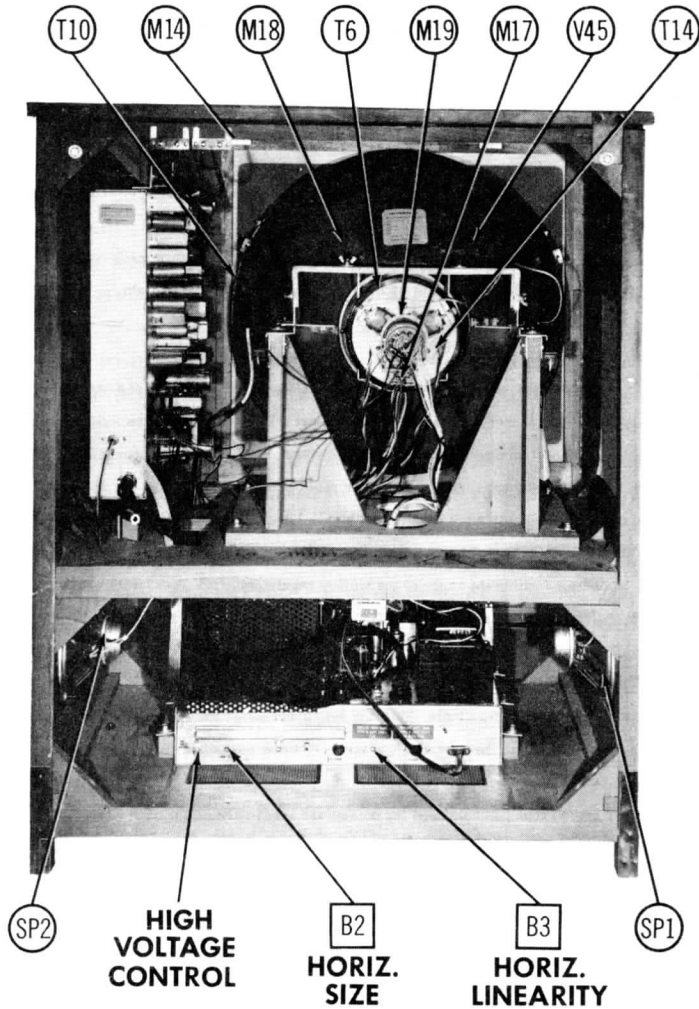
CBS-COLUMBIA MODELS 205C1, 205C2

VIEW-RESISTOR IDENTIFICATION

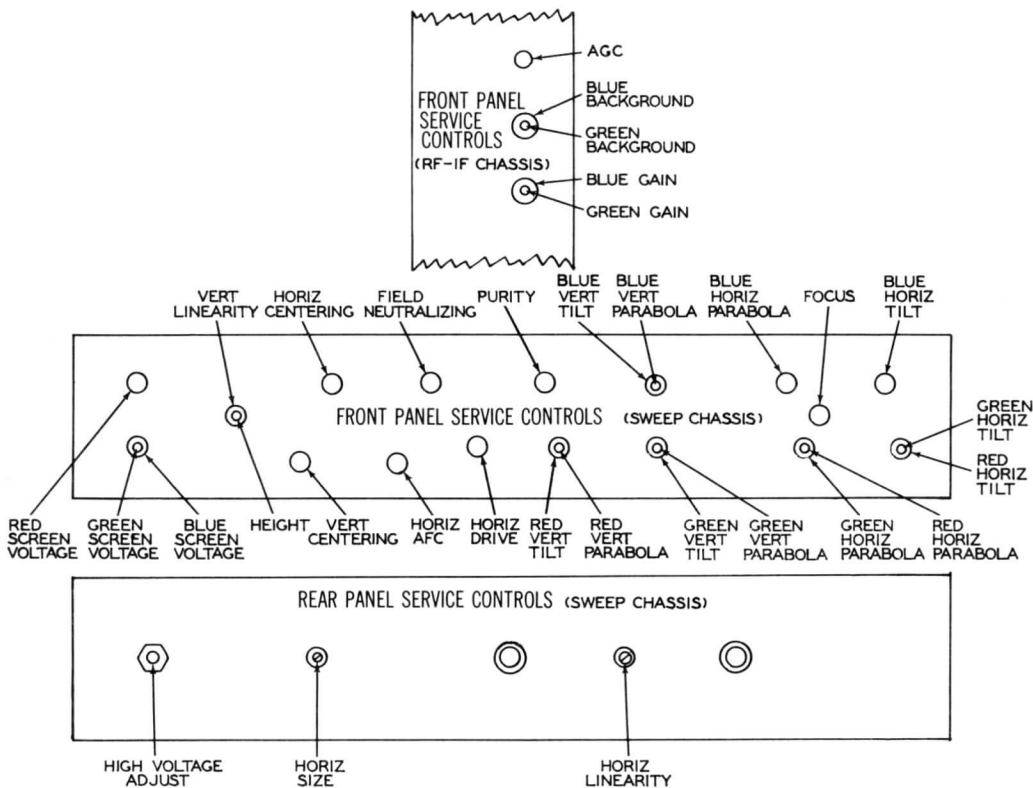




CBS-COLUMBIA MODELS 205C1, 205C2
 RF-IF CHASSIS-BOTTOM VIEW-RESISTOR IDENTIFICATION (R1-R151)



CABINET-REAR VIEW



MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENT

Turn the set on and tune in a TV station, preferably a test pattern.

Set the horizontal hold control to its mid-range position and adjust the horizontal AFC slug (B1) until the picture synchronizes horizontally.

Turn the horizontal drive control (R14) as far clockwise as possible without the presence of vertical white lines or compression near the center of the picture.

Adjust the width slug (B2) for a picture slightly wider than necessary to fill the picture mask horizontally.

Adjust the horizontal linearity slug (B3) for a picture that is symmetrical from left to right.

Turn AGC adjustment control (R7) to prevent any signal overload.

HIGH VOLTAGE ADJUSTMENT

Turn the contrast and brightness control fully counter clockwise. Connect the probe end of a high voltage probe to the high voltage anode lead (disconnect at picture tube and insert a "T" connector in the lead. Short out high voltage before disconnecting lead). Connect common lead of VTVM to chassis. Set meter for approximately 30KV reading on VTVM. Turn the high voltage adjustment control (R28) (rear panel of deflection chassis) for 26KV on VTVM. Turn the brightness control clockwise and notice the variation of high voltage on VTVM. There should not be more than 500 volts variation to the point where loss of regulation occurs. Beyond this point blooming will occur. The brightness control should always be operated within the range of the voltage regulator.

Disconnect power from the set, short out high voltage lead to chassis and remove VTVM. Reconnect high voltage anode lead.

COLOR PURITY ADJUSTMENTS

Connect a dot generator across antenna terminals. Turn the set on and adjust focus, contrast, brightness and fine tuning control for dots on picture tube. Turn the contrast and brightness controls at their lowest level with dots still visible on screen of picture tube.

Adjust the red, green and blue screen controls until the dots on the screen are all approximately the same size.

Adjust the red, green and blue static convergence magnets and the lateral blue beam positioning magnet (M17) to converge the red, green and blue dots near center of the screen. Remove dot generator.

Turn the field neutralizing control (R13) to its mid-range position. Loosen the two yoke positioning screws and slide yoke (T6A, T6B) back toward base of tube as far as possible without touching the convergence yoke assembly (T14A, T14B, T14C). Turn the contrast control, green and blue screen controls fully counter clockwise. Turn the red screen and brightness controls to maximum clockwise position. Adjust the two purity tabs of the purity magnet (M19) or rotate entire assembly of M19 for best red purity near the center of the screen. NOTE: In sets using a purity coil instead of a purity magnet rotate the purity coil around neck of tube and turn the purity control clockwise to increase the field strength.

Move the yoke forward (toward face of picture tube) until the best red purity is obtained on entire screen of the picture tube.

Tighten yoke assembly. The yoke should be perpendicular to the neck of the picture tube and spacing between inter-surface of the yoke and tube neck should be uniform. If necessary, retouch purity magnet (or coil) for best overall purity. Check the screen for any color contamination at edges of the screen. If necessary, adjust the field neutralizing control (R13) for minimum color contamination.

Turn the red screen control fully counter clockwise and the green screen control fully clockwise.

Check for an overall green screen with minimum color contamination.

Turn the green screen control fully counter clockwise and the blue screen control fully clockwise. Check for an overall blue screen with minimum color contamination on CRT.

If necessary, repeat purity adjustment for red purity and recheck green and blue screen for correct purity.

Turn the blue screen control fully counter clockwise and the red screen control clockwise until the picture tube screen begins to show red. Turn the green screen control clockwise, until the raster is a yellow color.

Then turn the blue screen control clockwise until the picture tube screen turns to a low-brightness white (neutral gray).

MISCELLANEOUS ADJUSTMENTS (cont.)

CONVERGENCE ADJUSTMENTS

Connect a dot generator across the antenna terminals. Recheck for convergence of dots near center of the screen.

If necessary, readjust the red, green and blue static convergence magnets and the lateral blue beam positioning magnet (M17) for dot convergence near center of the screen.

Turn the contrast and brightness controls for a low brightness dot display on picture tube screen.

Turn the red, green and blue horizontal parabola controls (located on rear apron of deflection chassis) until the three dots are positioned equally in a triangle pattern along a horizontal line thru the center of the screen.

If the dot group cannot be adjusted to form an equilateral triangle similar to Fig. 9, adjust the red, green and blue horizontal tilt controls. The horizontal tilt controls affect the outer edges of the triangle dot group along the horizontal center line. Adjust the red, green and blue. Convergence magnets (located on dynamic convergence yoke assembly (T14A, T14B, T14C) until approximately 1/16" spacing between the dots in each triangle group are obtained along a horizontal line.

Adjust the red, green and blue parabola controls (located on rear apron of deflection chassis) until the three dots are equally positioned in a triangle pattern along a vertical line thru the center of the screen. If the vertical dot triangle group cannot be adjusted to an equilateral triangle, adjust the red, green and blue vertical tilt controls.

The vertical tilt controls affect the top and bottom of the vertical triangle dot group. Due to interaction between the vertical parabola and tilt controls it may be necessary to retouch the vertical parabola controls.

Adjust the red, green and blue convergence magnets and the lateral blue beam positioning magnet until the red, green and blue dots are converged, both horizontally and vertically. The horizontal and vertical dots should now show maximum coverage over the entire picture tube screen, providing white dots.

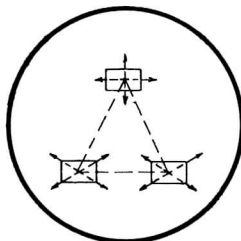


FIG. 9

WHITE ADJUSTMENT

Disconnect dot generator from antenna terminals. Turn set on and tune in a black and white picture.

Turn the contrast, blue screen and green screen controls to their maximum counter clockwise position.

Turn the brightness control to its maximum clockwise position. Adjust the red, green and blue screen controls to obtain a low brightness white (grey).

Adjust the contrast control clockwise for a picture that is visible on screen.

Adjust the blue and green gain controls for a black and white picture. Turn the brightness control down to a reduced setting.

Adjust the blue and green background controls until the low brightness portions of the picture are white (neutral grey).

The entire procedure should be repeated until the picture remains black and white over all settings of the contrast and brightness controls.

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		CBS-Columbia PART No.	STANDARD REPLACEMENT		
V1	UHF Osc.	6T4	6T4	7DK	
V2	RF Amp.	6BZ7	6BZ7	9AJ	
V3	Osc. - Mixer	6U8	6U8	9AE	
V4	1st. Video IF Amp.	6CB6	6CB6	7CM	
V5	2nd. Video IF Amp.	6CB6	6CB6	7CM	
V6	3rd. Video IF Amp.	6CB6	6CB6	7CM	
V7	4th. Video IF Amp.	6CB6	6CB6	7CM	
V8	5th. Video IF Amp.	6CL6	6CL6	9BV	
V9	Video Amp.	6CL6	6CL6	9BV	
V10	Video Output - "Q" Phase Inv.	6AN8	6AN8	9DA	
V11	AGC Keying - Horiz. Sync Sep.	6AN8	6AN8	9DA	
V12	AGC Clamper - Quad Amp.	6AN8	6AN8	9DA	
V13	1st. Sound IF Amp.	6AU6	6AU6	7BK	
V14	2nd. Sound IF Amp.	6AU6	6AU6	7BK	
V15	Ratio Det.	6AL5	6AL5	6BT	
V16	AF Amplifier	6AV6	6AV6	7BT	
V17	Audio Output	6AQ5	6AQ5	7BZ	
V18	Vert. Syn. Sep. - Sync Amp.	12AT7	12AT7	9A	
V19	Sync Phase Inv.	12AT7	12AT7	9A	
V20	Vert. Osc. - Vert. Output	6BL7GT	6BL7GT	8BD	
V21	Horiz. Phase Det.				
V22	Horiz. AFC	6AL5	6AL5	6BT	
V23	Horiz. Mult.	12AU7	12AU7	9A	
V24	Horiz. Output	6CU6	6CU6	6AM	
V25	Damper	6AU4GT	6AU4GT	4CG	
V26	Damper	6AU4GT	6AU4GT	4CG	Not used in some versions
V27	Focus Rect.	3A3	3A3	3C	
V28	HV Rectifier	3A3	3A3	3C	
V29	HV Doubler	3A3	3A3	3C	
V30	HV Regulator	6BD4A	6BD4A		
V31	Convergence Sawtooth Generator - Blue Convergence Output	6BL7GT	6BL7GT	8BD	
V32	Convergence Cath. Follower - Green Convergence Output	6BL7GT	6BL7GT	8BD	
V33	Red Convergence Output - Burst Amp Keying	6BL7GT	6BL7GT	8BD	
V34	Chroma Bandpass Amp. - Color Killer	6AN8	6AN8	9DA	
V35	Burst Amp.	6CB6	6CB6	7CM	
V36	Chroma Sync Phase Det.	6AL5	6AL5	6BT	
V37	Chroma Ref. Osc. - Chroma Ref. Osc. Control	6AN8	6AN8	9DA	
V38	"Q" Synchronous Detector	6BY6	6BY6	7CH	
V39	"I" Synchronous Detector	6BY6	6BY6	7CH	
V40	"I" Amp. - "I" Phase Inv.	6AN8	6AN8	9DA	
V41	Green Adder - Green Output	12BH7	12BH7	9A	
V42	Blue Adder - Blue Output	12BH7	12BH7	9A	
V43	Red Adder - Red Output	12BH7	12BH7	9A	
V44	Green DC Restorer - Blue DC Restorer - Red DC Restorer	6BC7	6BC7	9AX	

CBS-COLUMBIA MODELS 205C1, 205C2

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA				RETMA BASE TYPE	NOTES
	CBS-Columbia PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.		
V45	19VP22	19VP22			14W	

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	CAP.	VOLT	CBS-Columbia PART No.	CENTRALAB PART No.	ERIE PART No.	MALLORY PART No.	PYRAMID PART No.	
C1	200	250	21000901			FP126		
C2	200	250	21000901			FP126		
C3	25	50	21000877			TC36	TD-25-50	FM-0525
C4A	80	450	21000911				TM-8040-450	Q-325
B	40	250					TD-40-250	
C	40	250						
C5A	40	250	21000891			FP476	TM-4053	Q-060
B	60	450				TC58	TD-40-250	FM-2540
C	10	450						
D	10	450						
C6A	500	25	21000871			FP334.6	TM-3132	
B	20	450						
C	500	25						
C7	1	50	21000871			TC31	TD-1-50	MMT-0505
C8A	40	450	21000881			FP436	TM-403020-450	Q-375
B	50	25					TD-50-25	
C	20	250						
D	20	450						

PARTS LIST & DESCRIPTION (continued)

CAPACITORS (cont)

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT	CBS-Columbla PART No.	CENTRALAB PART No.	ERIE PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	
C8A	20	450	21000931			FP437	TM-4102	Q-395	
B	100	50							
C	20	450							
D	20	450							
C10	1000	15	21000961			TC415	TD-1000-15NP	S-025	Note 1
C11A	30	50	21000921			TCT-3113	TDL-T30-150	FMT-1550	
B	30	50							
C	30	50							
C12	5	25	21000941			TC30	TD-5-25	MMT-0505	
C13	5	25	21000941			TC30	TD-5-25	MMT-0505	
C14	5	25	21000941			TC30	TD-5-25	MMT-0505	
C15	100	25	21000971			TC425	TD-100-25NP	MTH-2525 *	Note 1
C16	100	25	21000971			TC425	TD-100-25NP	MTH-2525 *	Note 1
C17	100	25	21000971			TC425	TD-100-25NP	MTH-2525 *	Note 1
C18	150	50	21000951			TC495	TD-150-50	MT-15150	
C19	25	50	21000677			TC36	TD-25-50	FM-0525	
C20	2	450	21000672			TC70	TD-2-450	FM-4504	
C21	2	450	21000672			TC70	TD-2-450	FM-4504	
C22	4	450	21000673			TC70	TD-4-450	FM-4504	
C23	4	450	21000673			TC70	TD-4-450	FM-4504	
C24	4	450	21000673			TC70	TD-4-450	FM-4504	
C25	2-5.5			829-6		CT552			
C26	1000								
C27	800			DD-801	831-801	DC-521			
C28	800			DD-801	831-801	DC-521			
C29	1000								
C30	33			TCN-33	N750K-330				
C31	.8-3.5								
C32	6.8			TCZ-6R8	NPOA-6R8	ZT-5568			
C33	800			DD-801	831-801	DC-521			
C34	150			DD-151	811-151	UC-5315			
C35	3.6			TCZ-3R3	NPOA-3R3	ZT-5533			
C36	.8-3.5								
C37	47			DD-470	831-470	UC-5447			
C38	1000								
C39	1000								
C40	47			MFT-50					
C41	.8-3.5								
C42	.8-3.5								
C43	470			DD-471	831-471	UC-5347			
C44	7.5								
C45	1000			DD-102	801-001	DC-521			
C46	220			DD-221	811-221	UC-5322			
C47	800			DD-801	831-801	DC-521			
C48	1000								
C49	1000								
C50	800			DD-801	831-801	DC-521			
C51	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C52	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C53	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C54	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C55	510		23065510	DD-501	811-501	UC-535		K-1351	
C56	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C57	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C58	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C59	510		23065510	DD-501	811-501	UC-535		K-1351	
C60	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C61	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C62	510		23065510	DD-501	811-501	UC-535		K-1351	
C63	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C64	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C65	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C66	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C67	510		23065510	DD-501	811-501	UC-535		K-1351	
C68	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C69	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C70	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C71	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C72	10000		23065920	DD-103	811-01	DC-511		C-1215	
C73	1500		23064640	DD-152	801-0015	DC-5215		KR-1347	
C74	270	500	20001370	TCZ-271	NP0-335-271	MCE241		KR-1433	
C75	33		23081170	TCZ-33	NP0L-330	ZT-5433			
C76	10000		23065920	DD-103	811-01	DC-511			
C77	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C78	.0015	400	22017060	D6-152	GP2L-152	PT6215	IMP6-D15	3306215	
C79	5000		23065910	DD-502	811-005	DC-525		C-1250	
C80	.0033	400	22017100	D6-332	GP2-333-332	PT6233	IMP6-D33	3306233	
C81	.47	200	22016840			PT4047	IMP2-P47	3302047	
C82	.22	200	22016820			PT4022	IMP4-P22	3304022	
C83	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C84	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C85	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C86	1.5		23000421	TCZ-1R5	NP0A-1R5	ZT-5515			
C87	5000		23065910	DD-502	811-005	DC-525		C-1250	
C88	5000		23065910	DD-502	811-005	DC-525		C-1250	
C89	1500		23064640	DD-152	801-0015	DC-5215		C-1215	
C90	68		23000110	D6-680	GPIK-680	UC-5468		K-1468	
C91	5000		23065910	DD-502	811-005	DC-525		C-1250	
C92	470		23064600	DD-471	831-471	UC-5347		K-1347	
C93	270		23001670	D6-271	GP2K-271	UC-5327		K-1327	
C94	1000		23000740	D6-102	GP2L-102	UC-521	IMP6-D1	K-1210	
C95	.047	200	22016740	DF-503		PT4147	IMP2-S47	3302147	
C96	.0047	400	22017120	DF-472	GP2-333-472	PT6247	IMP6-D47	3306247	
C97	.047	400	22017240	DF-503		PT4147	IMP4-S47	3304147	
C98	.1	200	22016780	DF-104		PT4101	IMP2-P1	330201	
C99	330	500	20003960	D6-331	GP2K-331	UC-5333		K-1333	
C100	.01	400	22017160	D6-103	GP2-333-103	PT4111	IMP4-S1	330411	
C101-	10000		23065920	DD-103	811-01	DC-511			Note 2
C102	.1	400	22017260	DF-104		PT401	IMP4-P1	330401	
C103	.01	400	23065920	D6-103	GP2-333-103	PT411	IMP4-S1	330411	
C104	.001	400	22017040	D6-102	GP2L-102	PT621	IMP6-D1	330621	
C105	10000		23065920	DD-103	811-01	DC-511			
C106	10000		23001870	D6-271	GP2K-271	UC-5327		K-1327	
C107	.047	400	22017240	DF-503		PT4147	IMP4-S47	3304147	
C108A	2000					DC-522	IMP6-D2	C-1220	
B	5000		*82000121	*PC-100	*1405-01	DC-525	IMP6-D5	C-1250	
C	5000					DC-525	IMP6-D5	C-1250	

PARTS LIST & DESCRIPTION (continued)

CAPACITORS (cont)

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT	CBS-Columbia PART No.	CENTRALAB PART No.	ERIE PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	
C109	.0068	600	22008640						
C110	.001	600	22017540	D6-102	GP2L-102	PT621	IMP6-D1	330621	
C111	.0022	600	22017580	D6-222	D6-222	PT6222	IMP6-D22	330622	
C112	.033	400	22011720	DF-303	GP2-333-222	PT6133	IMP6-S3	3306133	
C113	.05	600	22017740	DF-503		PT615	IMP6-S5	330615	
C114	.22	600	22017820			PT6025	IMP6-P22	3306022	
C115	.05	600	22017240	DF-503		PT615	IMP6-S5	330615	
C116	.1	600	22017780	DF-104		PT601	IMP6-P1	330601	
C117	.001	400	22008040	D6-102	GP2L-102	PT621	IMP6-D1	330621	
C118	.001	400	22008040	D6-102	GP2L-102	PT621	IMP6-D1	330621	
C119	.015	200	22016680	DD16-153		PT615	IMP6-S15	3306115	
C120	5000		23000631	DD-502	811-005	DC-525	IMP6-D5	C-1250	
C121	.0047	400	22016820	D6-472	GP2-333-472	PT6247	IMP6-D47	3306247	
C122	.047	200	22016740	DF-503		PT4147	IMP2-S47	3302147	
C123	3900	500	20012520			MCE463		CR-1239	
C124	510	500	20005120			MCE245		KR-1351	
C125	270	500	20003440	D6-271	NP0-335-271	MCE241		KR-1327	
C126	.0022	600	22017580	D6-222	GP2-333-222	PT6222	IMP6-D22	3306222	
C127	390	500	20003480	D6-391		MCB243		KR-1339	
C128	.22	600	22017820			PT6022	IMP6-P22	3306022	
C129	.22	600	22017820			PT6022	IMP6-P22	3306022	Note 3
C130	.22	600	22017820			PT6022	IMP6-P22	3306022	Note 3
C131	1000	2000	22000521	DD30-102	3KV-102	DC3021		C-3210	
C132	.22	600	22017820			PT6022	IMP6-P22	3306022	
C133	.22	600	22017820			PT6022	IMP6-P22	3306022	
C134	200	2000	20030800	DD30-201		MCL320		K-2320	
C135	200	2000	20030800	DD30-201		MCL320		K-2320	
C136	150	2000							
C137	1200	15000	23000151						
C138	1200	15000	28000151						
C139	1200	15000	23000181						
C140	2000	30000	23000161						
C141	.022	600		DF-203	817-203	PT6122	IMP6-S22	3306122	Note 4
C142	.005	600	22017820	D6-502	GP2-333-502	PT625	IMP6-D5	330625	
C143	820	500	20005170	D6-821	GP2K-821			K-1382	
C144	.012	600	22015170					3306112	
C145	470	500	20001900	D6-471	GP2K-471	MC245		K-1347	
C146	.01	600	22017660	D6-103	GP2-333-103	PT611	IMP6-S1	330611	
C147	.012	600	22015170						
C148	.05	600	22017740	DF-503		PT615	IMP6-S5	330615	
C149	390	500	20003480	D6-391		MCB243		KR-1339	
C150	.01	600	22017660	D6-103	GP2-333-103	PT611	IMP6-S1	330611	
C151	.012	600	22015170						
C152	.05	600	22017740	DF-503		PT615	IMP6-S5	330615	
C153	390	500	20003480	D6-391		MCB243		KR-1339	
C154	.01	600	22017660	D6-103	GP2-333-103	PT611	IMP6-S1	330611	
C155	.012	600	22015170						
C156	.05	600	22017740	DF-503		PT615	IMP6-S5	330615	
C157	390	500	20003480	D6-391		MCB243		KR-1339	
C158	470	500	20004000	D6-471	GP2K-471	MCB245		KR-1347	
C159	100	500	20003830	D6-101	GPLK-101	MCB235		KR-1310	
C160	10000		23065920	DD-103	811-01	DC-511			
C161	10000		23065920	DD-103	811-01	DC-511			
C162	33		23061170	TCZ-33	NP0L-330	ZT-5433		KR-1433	
C163	150	500	20003370	TCZ-151	NP0-334-151	MCB236		KR-1315	
C164	.0047	400	22016820	D6-472	GP2-333-472	PT6247	IMP6-D47	3306247	
C165	680			D6-681	GP2K-681	UC-5368		K-1368	
C166	10000		23065920	DD-103	811-01	DC-511			
C167	3		23030760	TCZ-3R3	NP0A-3R3	ZT-5533			
C168	10000		23065920	DD-103	811-01	DC-511			
C169	20000		23065930	DF-203	817-02				
C170	.05	600	22017740	DF-503		PT615	IMP6-S5	330615	
C171	.001	400	22014540	D6-102	GP2L-102	PT621	IMP6-D1	330621	
C172	2000	500	20013640			MCE457			
C173	2000	500	20013640			MCE457			
C174	10000		23065920	DD-103	811-01	DC-511			
C175	10000		23065920	DD-103	811-01	DC-511			
C176	.22	200	22016820			PT4022	IMP4-P22	3304022	
C177	2.2		23061050	TCZ-2R2	NP0A-2R2	ZT-5522			
C178	10000		23065920	DD-103	811-01	DC-511			
C179	10000		23065920	DD-103	811-01	DC-511			
C180	10000		23065920	DD-103	811-01	DC-511			
C181	10000		23065920	DD-103	811-01	DC-511			
C182	2.2		23061050	TCZ-2R2	NP0A-2R2	ZT-5522			
C183	10000		23065920	DD-103	811-01	DC-511			
C184	10000		23065920	DD-103	811-01	DC-511			
C185	10000		23065920	DD-103	811-01	DC-511			
C186	22		23061130	TCZ-22	NP0K-220	ZT-5422		KR-1422	
C187	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C188	24		23060840	TCZ-24	NP0K-240			KR-1424	
C189	5		23061070	TCZ-4R7	NP0A-4R7	ZT-555		KR-1550	
C190	100		23005120	TCZ-100	NP0-337-101	ZT-531		KR-1310	
C191	.047	400	23017240	DF-503		PT4147	IMP4-S47	3304147	
C192	.18		23060810	TCZ-18	NP0K-180			KR-1418	
C193	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C194	10		23060780	TCZ-10	NP0K-100	ZT-541		KR-1410	
C195	.1	400	22017280	DF-104		PT401	IMP4-S47	330401	
C196	470	500	20004000	D6-471	GP2K-471	MC245		K-1347	
C197	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C198	.047	400	22017240	DF-503		PT4147	IMP4-S47	3304147	
C199	.1	200	22016780	DF-104		PT401	IMP2-P1	330201	
C200	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C201	470	500	20004000	D6-471	GP2K-471	MC245		K-1347	
C202	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C203	.047	400	22017240	DF-503		PT4147	IMP4-S47	3304147	
C204	.1	200	22016780	DF-104		PT401	IMP2-P1	330201	
C205	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C206	470	500	20004000	D6-471	GP2K-471	MC245		K-1347	
C207	.1	400	22017280	DF-104		PT401	IMP4-P1	330401	
C208	.047	400	22017240	DF-503		PT4147	IMP4-S47	3304147	
C209	.1	200	22016780	DF-104		PT401	IMP2-P1	330201	
C210A	10000	1000		DD-103					Note 5
B	10000	1000		DD-103					Note 5

- Note 1. Non-polarized unit.
 Note 2. Not used in some versions.
 Note 3. Some versions use .047MFD in this application (Part No. 22017740).
 Note 4. Some versions use .01MFD in this application (Part No. 22017660).
 Note 5. Some versions use single units in this application (Part No. 23000511).
 ♦ Items C108A, C108B, C108C, R129A, R129B and R129C are combined in one unit.
 * Connect negative terminals together.

CBS-COLUMBIA MODELS 205C1, 205C2

CONTROLS

PARTS LIST AND DESIGN RESISTORS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	CBS-Columbia PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	1Meg	1/2	36001071	QJ-787 †		F1-52	UF16A	Tone - Panel Volume - Rear Attach to R1B Contrast
R1B	500KΩ	1/2				R2-41	UR55A	
R2	Switch					KB-1	US-26	
R2A	3000Ω	1	36001141	Q11-112			UE301	
R2B	500Ω	1		M11-103				
R3A	10KΩ	1	36001243	Q11-168 ▲		F1-23	UE686	Blue Gain - Panel Green Gain - Rear Chroma - Panel Brightness - Rear-wirewound Blue Background-Panel Green Background-Rear Horiz. Hold - Panel Vert. Hold - Rear
R3B	10KΩ	1				R2-23		
R4A	500Ω	1	36001131					
R4B	7500Ω	2						
R5A	15KΩ	1	36001242	QJ-789 ▲			UE800	
R5B	15KΩ	1						
R6A	5000Ω	1	36001151	QJ-770 ■		F1-19	UF53L	AGC Attach to R7A Red Screen - wirewound Blue Screen - Panel Green Screen - Rear Vert. Linearity-Panel-wirewound Height-Rear Horiz. Centering-tapped @ 20Ω-wirewound
R6B	1Meg	1				R2-51	UR16L	
R7A	250KΩ	1	36001091	Q11-130	A47-250K-S	AB-50	SU-46	
R7B	250KΩ	1		Not Req.	FKS-1/4	AK-1	Not Req.	
R8	25KΩ	2	36001212					
R9A	25KΩ	2	36001247			F1-27	UE817W	
R9B	25KΩ	2				R2-27		
R10A	5000Ω	2	36001246				UE575W	
R11	2Meg	1/2						
R11B	40Ω	4	36000931					
R12A	20Ω	2	36001248				UE26W	Vert. Centering - Wirewound Field Neutralizing-wirewound tapped @ 20Ω - Horiz. Drive Attach to R14A Purity - wirewound Attach to R15A Red Vert. Tilt-tapped @ 50Ω-wirewound-Panel Red Vert. Parabola-Rear Blue Vert. Tilt-tapped @ 50Ω-wirewound-Panel Blue Vert. Parabola-Rear Green Vert. Tilt-tapped @ 50Ω-wirewound-Panel Green Vert. Parabola-Rear Blue Horiz. Parabola Attach R19A Red Horiz. Parabola-Panel Green Horiz. Parabola-Rear Focus Blue Horiz. Tilt Red Horiz. Tilt-Panel Green Horiz. Tilt-Rear IF Sound Level IF Sound Reject Color AFC Balance Attach to R26A "U" Gain High Voltage-Note 2 Attach to R28A
R12B	20Ω	2						
R13	40Ω	4	36000931					
R14A	250KΩ	1/2	36001091	Q11-130	A47-250K-S	AB-50	SU-46	
R14B	250KΩ	1/2		Not Req.	FKS-1/4	AK-1	Not Req.	
R15A	20Ω	2	36001211	W-20			R20L	
R15B	20Ω	2		Not Req.	FKS-1/4		Not Req.	
R16A	100Ω	2	36001241				UE29W	
R17A	2500Ω	1/2						
R17B	100Ω	2	36001241				UE29W	
R18A	2500Ω	1/2						
R18B	150KΩ	1/2	36001261	Q11-328		AB-43		
R19A	150KΩ	1/2		Not Req.		AK-1		
R20A	150KΩ	1/2	36001244	QJ-773 **		F1-33	UE1250	
R20B	150KΩ	1/2				R2-33		
R21	7Meg	1	36001171					
R22	50KΩ	1	36001201			A-118		
R23A	50KΩ	1	36001245			F1-29	UE978	
R23B	50KΩ	1				F1-29		
R24	500Ω	1	36001111					
R25	500Ω	1	36001111					
R26A	250KΩ	1	36001091	Q11-130	A47-250K-S	AB-50	SU-46	
R26B	250KΩ	1		Not Req.	FKS-1/4	AK-1	Not Req.	
R27	500Ω	1	36001111					
R28A	1.5Meg	1/2	36001181	Q11-138	A47-1.5Meg-S	AB-742	U-155	
R28B	1.5Meg	1/2		Not Req.	FKS-1/4	AK-1	Not Req.	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	CBS-Columbia PART No.	IRC PART No.	
R89	220KΩ	1	30224230	BTS-220K	
R90	47KΩ	1	30473230	BTS-47K	
R91	2200Ω	1	30222240	BTA-2200	
R92	47KΩ	1	30473230	BTS-47K	
R93	820Ω	1	30821230	BTS-820	
R94	180KΩ 5%	1	30184130	BTS-180K 5%	
R95	560KΩ 5%	1	30564130	BTS-560K 5%	
R96	220Ω	1	30221230	BTS-220	
R97	1000Ω	1	30102230	BTS-1000	
R98	47KΩ	1	30473230	BTS-47K	
R99	1000Ω	1	30102230	BTS-1000	
R100	47Ω	1	30470230	BTS-47	
R101	47KΩ	1	30473230	BTS-47K	
R102	1.2Ω	1	30000061		
R103	22KΩ 5%	1	3022130	BTS-22K 5%	
R104	22KΩ 5%	1	3022130	BTS-22K 5%	
R105	820Ω	1	30821230	BTS-820	
R106	5600Ω	1	30562230	BTS-5600	
R107	220KΩ	1	30224230	BTS-220K	
R108	470KΩ	1	30474230	BTS-470K	
R109	330Ω	1	30331240		
R110	1000Ω	1	31000074		
R111	22KΩ	1	30223230		
R112	82KΩ	1	30823230		
R113	5600Ω	1	30562230		
R114	22KΩ	1	30223230		
R115	270KΩ	1	30274230		
R116	2.2Meg	1	30225230		
R117	820KΩ	1	30824230	BTS-820K	
R118	560KΩ	1	30564230	BTS-560K	
R119	47KΩ	1	30473230		
R120	33KΩ	1	3033230		
R121	1Meg	1	30105230		
R122	470Ω	1	30471240	BTS-470	
R123	5600Ω	1	30562240		
R124	10KΩ	1	30103230		
R125	1Meg	1	30105230		
R126	470Ω	1	30471240		
R127	820Ω 5%	1	30821130	BTS-820 5%	
R128	820Ω 5%	1	30821130	BTS-820 5%	
R129A	22KΩ	1			
R129B	8200Ω	1	*82000121		
R129C	8200Ω	1			
R130	1Meg	1	30105230		
R131	1.2Meg	1			
R132	5.6Meg	1	30565230		
R133	1.8Meg	1	30185230		
R134	4700Ω	1	30472230	BTS-4700	
R135	22KΩ	1	3022130		
R136	3.9Meg	1	30395230		
R137	560Ω	1	30561230	BTS-560	
R138	6800Ω	2	30682250		
R139	1000Ω	2	30102230		
R140	1000Ω	2	30102230		
R141	100KΩ 5%	2	30104130		
R142	100KΩ 5%	2	30104130		
R143	27KΩ	1	30273240		
R144	27KΩ	2	30273250		
R145	27KΩ	2	30273250		
R146	4.7Meg	1	30475230		
R147	470KΩ	1	30474230		
R148	2200Ω 5%	1	30222130	BTS-2200 5%	
R149	6800Ω 5%	1	30682130		
R150	100KΩ 5%	1	30104130		
R151	680KΩ	1	30684230		
R152	150KΩ	1	30154230		
R153	8200Ω	1	30822230	BTS-8200	
R154	10KΩ	1	30102230		
R155	330KΩ	1	30334230		
R156	100Ω	1	30101230	BTS-100	
R157	68Ω	1	30680230	BTS-68	
R158	22Ω	1	30101230		
R159	100Ω	1	30101230	BTS-100	
R160	68Ω	1	30680230	BTS-68	
R161	8200Ω	15	31000503		
R162	22Ω	1	30220240		
R163	4700Ω	1	30472230		
R164	4.7Ω	1	30000071		
R165	4.7Ω	1	30000071		
R166	4.7Ω	1	30000071		
R167	40Meg	1	33000071		
R168	2.2Meg	1	30225230		
R169	100KΩ	1	30104230		
R170	120KΩ	2	30124250		
R171	1Meg	1	30105230		
R172	3300Ω	1	30332230	BTS-3300	
R173	39KΩ	1	30392230		
R174	47KΩ	1	30473230		
R175	47KΩ	1	30473230		
R176	150KΩ	1	30154230		
R177	2200Ω	1	30222230	BTS-2200	
R178	27KΩ	10	30272230		
R179	47KΩ	1	30473230		
R180	47KΩ	1	30473230		
R181	150KΩ	1	30154230		
R182	2200Ω	2	30222230	BTS-2200	
R183	27KΩ	10	30272230		
R184	1000Ω	1	30102230	BTS-1000	
R185	47KΩ	1	30473230		
R186	47KΩ	1	30473230		
R187	150KΩ	1	30154230		
R188	2200Ω	1	30222230	BTS-2200	
R189	27KΩ	10	30272230		
R190	560Ω	1	30561230	BTS-560	
R191	100Meg	1	30000751		
R192	10KΩ	2			

Note 2. Some versions will use an alternate control part #36001262.
 * Universal Replacement (Mallory exact duplicate part #UE16568).
 † Universal Replacement (Mallory exact duplicate part #UE544).
 † CONCENTRIKIT EQUIVALENT: K-2 KIT, BASE ELEMENTS AND SHAFTS : B13-137, P1-109 (Panel)
 B13-133, R1-126 (Rear)
 78-1 (SWITCH)
 ** CONCENTRIKIT EQUIVALENT: K-5 KIT, BASE ELEMENTS AND SHAFTS: B11-328, P9-018 (Panel)
 B11-328, R12-026 (Rear)
 ▲ CONCENTRIKIT EQUIVALENT: K-5 KIT, BASE ELEMENTS AND SHAFTS: B11-116, P9-018 (Panel)
 B11-116, R12-026 (Rear)
 ● CONCENTRIKIT EQUIVALENT: K-5 KIT, BASE ELEMENTS AND SHAFTS: B11-118, P9-018 (Panel)
 B11-118, R12-026 (Rear)
 ■ CONCENTRIKIT EQUIVALENT: K-5 KIT, BASE ELEMENTS AND SHAFTS: B11-114, P1-126 (Panel)
 B11-137, R2-209 (Rear)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	CBS-Columbia PART No.	IRC PART No.	
R29	8200Ω	1			
R30	2200Ω	1		BTA-2200	
R31	22KΩ	1			
R32	47KΩ	1			
R33	15Ω	1		BTS-15	
R34	270KΩ	1			
R35	220KΩ	1		BTS-220K	
R36	150Ω	1		BTS-150	
R37	1000Ω	1		BTA-1000	
R38	15KΩ	1			
R39	100KΩ	1			
R40	100KΩ	1			
R41	10KΩ	1			
R42	1000Ω	1		BTS-1000	
R43	10KΩ	1			
R44	3300Ω	1		BTA-3300	
R45	150KΩ	1			
R46	560Ω	1	30561230		

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (cont)

RY No.	INSTALLATION NOTES	ITEM No.	RATING		REPLACEMENT DATA		NOTES
			OHMS	WATT	CBS-Columbia PART No.	IRC PART No.	
	Tone - Panel	R89	220KΩ		30224230	BTS-220K	
	Volume - Rear	R90	47KΩ		30473230	BTS-47K	
	Attach to RIB	R91	2200Ω		30222240	BTA-2200	
	Contrast	R92	47KΩ		30473230	BTS-47K	
	Blue Gain - Panel	R93	820Ω		30821230	BTS-820	
	Green Gain - Rear	R94	180KΩ 5%		30181430	BTS-180K 5%	
	Chroma - Panel	R95	560KΩ 5%		30564130	BTS-560K 5%	
	Brightness - Rear-wirewound	R96	220Ω		30221230	BTS-220	
	Blue Background-Panel	R97	1000Ω		30102230	BTS-1000	
	Green Background-Rear	R98	47KΩ		30473230	BTS-47K	
	Vert. Hold - Rear	R99	1000Ω		30102230	BTS-1000	
	AGC	R100	47Ω		30470230	BTS-47	
	Attach to R7A	R101	47KΩ		30473230	BTS-47K	
	Red Screen - wirewound	R102	1.2Ω		30000061		
	Blue Screen - Panel	R103	22KΩ 5%		30223130	BTS-22K 5%	
	Green Screen - Rear	R104	22KΩ 5%		30223130	BTS-22K 5%	
	Vert. Linearity-Panel-wirewound	R105	820Ω		30821230	BTS-820	
	Height-Rear	R106	5600Ω		30562230	BTS-5600	
	Horiz. Centering-tapped @	R107	220KΩ		30224230	BTS-220K	
	20Ω-wirewound	R108	470KΩ		30474230	BTS-470K	
	Vert. Centering-Wirewound	R109	330Ω		30331240		
	Field Neutralizing-wirewound	R110	1000Ω		31000074	PW7-1000	
	tapped @ 20Ω -	R111	22KΩ		30223230		
	Horiz. Drive	R112	82KΩ		30823230	BTS-82K	
	Attach to R14A	R113	5600Ω		30562230	BTS-5600	
	Purity - wirewound	R114	22KΩ		30223230		
	Attach to R15A	R115	270KΩ		30274230		
	Red Vert. Tilt-tapped @ 50Ω-	R116	2.2Meg		30225230		
	wirewound-Panel	R117	820KΩ		30824230	BTS-820K	
	Red Vert. Parabola-Rear	R118	560KΩ		30564230	BTS-560K	
	Blue Vert. Tilt-tapped @ 50Ω-	R119	47KΩ		30473230		
	wirewound-Panel	R120	33KΩ		30333230		
	Red Vert. Parabola-Rear	R121	1MΩ		30105230		
	Blue Vert. Tilt-tapped @ 50Ω-	R122	470Ω		3047240	BTS-470	
	wirewound-Panel	R123	5600Ω		30562240		
	Blue Vert. Parabola-Rear	R124	10KΩ		30103230		
	Focus	R125	1MΩ		30105230		
	Green Vert. Tilt-tapped @	R126	470Ω			BTS-470	Note 3
	50Ω-wirewound-Panel	R127	820Ω 5%		30821130	BTS-820 5%	
	Green Vert. Parabola-Rear	R128	820Ω 5%		30821130	BTS-820 5%	
	Blue Horiz. Parabola	R129A	22KΩ				
	Attach R19A	R130	8200Ω		82000121		
	Red Horiz. Parabola-Panel	R131	1.2Meg		30105230		
	Green Horiz. Parabola-Rear	R132	5.6Meg		30565230		
	Focus	R133	1.8Meg		30185230		
	Blue Horiz. Tilt	R134	4700Ω		30472230		
	Red Horiz. Tilt-Panel	R135	22KΩ		30223130	BTS-4700	
	Green Horiz. Tilt-Rear	R136	3.9Meg		30395230		
	IF Sound Level	R137	560Ω		30561230	BTS-560	
	Color AFC Balance	R138	6800Ω		30682250		
	Attach to R26A	R139	1000Ω		30102230		
	"I" Gain	R140	1000Ω		30102230		
	High Voltage-Note 2	R141	100KΩ 5%		30104130		
	Attach to R28A	R142	100KΩ 5%		30104130		
		R143	27KΩ		30273240		
		R144	27KΩ		30273250		
		R145	27KΩ		30273250		
		R146	4.7Meg		30475230		
		R147	470KΩ		30474230		
		R148	2200Ω 5%		30222130	BTS-2200 5%	
		R149	6800Ω 5%		30682130		
		R150	100KΩ 5%		30104130		
		R151	680KΩ		30684230		
		R152	150KΩ		30154230		
		R153	8200Ω		30822230	BTS-8200	
		R154	10KΩ				Note 5
		R155	330KΩ		30334230		
		R156	100Ω		30101230	BTS-100	
		R157	68Ω		30680230	BTS-68	
		R158	22Ω				
		R159	100Ω		30101230	BTS-100	
		R160	68Ω		30680230	BTS-68	
		R161	8200Ω		31000503		
		R162	22Ω		30220240		
		R163	4700Ω		30472230		
		R164	4.7Ω		30000071		Note 6
		R165	4.7Ω		30000071		
		R166	4.7Ω		30000071		
		R167	40MΩ		33000071		
		R168	2.2Meg		30225230		
		R169	100KΩ		30104230		
		R170	120KΩ		30124230		
		R171	1MΩ		30105230		
		R172	3300Ω		30332230	BTS-3300	
		R173	39KΩ		30393230		
		R174	47KΩ		30473230		
		R175	47KΩ		30473230		
		R176	150KΩ		30154230		
		R177	2200Ω		30222230	BTS-2200	
		R178	27KΩ				
		R179	47KΩ		30473230		
		R180	47KΩ		30473230		
		R181	150KΩ		30154230		
		R182	2200Ω		30222230	BTS-2200	
		R183	27KΩ				
		R184	1000Ω		30102230	BTS-1000	
		R185	47KΩ		30473230		
		R186	47KΩ		30473230		
		R187	150KΩ		30154230		
		R188	2200Ω		30222230	BTS-2200	
		R189	27KΩ				
		R190	560Ω		30561230	BTS-560	
		R191	100MΩ		30000751		
		R192	10KΩ				

Note 2

ITEM No.	RATING	REPLACEMENT DATA		NOTES
		OHMS	WATT	
R193	4700Ω			
R194	150Ω			
R195	18KΩ			
R196	1000Ω			
R197	47Ω			
R198	10KΩ			
R199	27KΩ			
R200	2200Ω			
R201	100KΩ			
R202	47KΩ			
R203	2700Ω			
R204	15KΩ			
R205	1MΩ 5%			
R206	1MΩ 5%			
R207	3.9MΩ			
R208	1.2Ω			
R209	10KΩ			
R210	15KΩ			
R211	1000Ω			
R212	330Ω			
R213	15KΩ			
R214	27KΩ			
R215	2200Ω			
R216	150KΩ			
R217	39KΩ			
R218	220Ω			
R219	2200Ω			
R220	56Ω			
R221	100Ω			
R222	3300Ω			
R223	18KΩ 5%			
R224	6.8MΩ			
R225	390KΩ			
R226	3000Ω 5%			
R227	33KΩ 5%			
R228	100Ω			
R229	4700Ω 5%			
R230	5000Ω			
R231	4700Ω 5%			
R232	8200Ω			
R233	1MΩ			
R234	82Ω			
R235	4700Ω 5%			
R236	3.3MΩ			
R237	390KΩ			
R238	6200Ω 5%			
R239	10KΩ 5%			
R240	10KΩ 5%			
R241	47KΩ 5%			
R242	10KΩ 5%			
R243	680Ω			
R244	3300Ω 5%			
R245	10KΩ 5%			
R246	1.8MΩ			
R247	270Ω 5%			
R248	180Ω 5%			
R249	4700Ω 5%			
R250	15KΩ			
R251	100KΩ			
R252	1MΩ			
R253	10KΩ 5%			
R254	10KΩ 5%			
R255	10KΩ 5%			
R256	680Ω			
R257	3300Ω 5%			
R258	10KΩ 5%			
R259	1.8MΩ			
R260	270Ω 5%			
R261	180Ω 5%			
R262	4700Ω 5%			
R263	15KΩ			
R264	100KΩ			
R265	1MΩ			
R266	10KΩ 5%			
R267	10KΩ 5%			
R268	30KΩ 5%			
R269	3300Ω 5%			
R270	120Ω 5%			
R271	82Ω 5%			
R272	10KΩ 5%			
R273	1.8MΩ			
R274	270Ω 5%			
R275	180Ω 5%			
R276	4700Ω 5%			
R277	15KΩ			
R278	100KΩ			
R279	1MΩ			
R280	12KΩ			
R281	12KΩ			
R282	12KΩ			
R283	100KΩ			
R284	100KΩ			
R285	100KΩ			
R286	5000Ω			
R287	3300Ω			
R288	22KΩ			
R289	12KΩ			
R290	10KΩ			
R291	330Ω			
R292	75Ω			
R293	220Ω			
R294	10KΩ			
R295	10Ω			
R296	330Ω			
R297	2Ω			
R298	220KΩ			

ITEM No.	USE	RATING		
		PRI.	SEC. 1	SEC. 2
T				

DESCRIPTIONS (Continued)
RESISTORS (cont)

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	CBS-Columbia PART No.	IRC PART No.	
R193	4700Ω				
R194	150Ω		30151230	BTS-150	
R195	18KΩ		30183230		
R196	1000Ω		30102230	BTS-1000	
R197	47Ω			BTS-47	Note 7
R198	10KΩ				
R199	27KΩ			BTA-27K	
R200	2200Ω		30222230	BTS-2200	
R201	100KΩ		30104230		
R202	47KΩ		30473230		
R203	2700Ω			BTA-2700	
R204	15KΩ		30153230		
R205	1Meg 5%		30105130		
R206	1Meg 5%		30105130		
R207	3.9Meg		30395230		
R208	1.2Ω		30000061		
R209	10KΩ		30103230		
R210	15KΩ		30153230		
R211	1000Ω		30102230	BTS-1000	
R212	330Ω		30331230	BTS-330	
R213	15KΩ		30153240	BTA-15K	
R214	27KΩ		30273250		
R215	2200Ω		30222230	BTS-2200	
R216	150KΩ		30154230		
R217	39KΩ		30393250		
R218	220Ω		30221230	BTS-220	
R219	2200Ω		30222230	BTS-2200	
R220	56Ω		30560230	BTS-56	
R221	100Ω		30101230	BTS-100	
R222	3300Ω		31000493	PW7-3300	
R223	18KΩ 5%		30183150	BTB-18K 5%	
R224	6.8Meg		30685230	BTS-6.8Meg	
R225	390KΩ		30394230	BTS-390K	
R226	3000Ω 5%		30302130	BTS-3000 5%	
R227	33KΩ 5%		30333140	BTA-33K 5%	
R228	100Ω		30101230	BTS-100	
R229	4700Ω 5%		30472130		
R230	5000Ω		31000492	PW7-5000	
R231	4700Ω 5%		30472130	BTS-4700 5%	
R232	8200Ω		30822230		
R233	1Meg		30105230		
R234	82Ω			BTS-82	Note 8
R235	4700Ω 5%		30472140	BTA-4700 5%	
R236	3.3Meg		30335230		
R237	390KΩ		30394230		
R238	6200Ω 5%		30622130		
R239	10KΩ 5%		30103130		
R240	10KΩ 5%		30103130		
R241	47KΩ 5%		30473130		
R242	10KΩ 5%		30103130		
R243	680Ω		30681230		
R244	3300Ω 5%		30332130	BTS-3300 5%	
R245	10KΩ 5%		30103150		
R246	1.8Meg		30185230		
R247	270Ω 5%		30271130	BTS-270 5%	
R248	180Ω 5%		30181130	BTS-180 5%	
R249	4700Ω 5%		30472150		
R250	15KΩ		30153230		
R251	100KΩ		30104230		
R252	1Meg		30105230		
R253	10KΩ 5%		30103130		
R254	10KΩ 5%		30103130		
R255	10KΩ 5%		30103130		
R256	680Ω		30681230	BTS-680	
R257	3300Ω 5%		30332130	BTS-3300 5%	
R258	10KΩ 5%		30103150		
R259	1.8Meg		30185230		
R260	270Ω 5%		30271130	BTS-270 5%	
R261	180Ω 5%		30181130	BTS-180 5%	
R262	4700Ω 5%		30472150		
R263	15KΩ		30153230		
R264	100KΩ		30104230		
R265	1Meg		30105230		
R266	10KΩ 5%		30103130		
R267	10KΩ 5%		30103130		
R268	30KΩ 5%		30303130		
R269	3300Ω 5%		30332130	BTS-3300 5%	
R270	120Ω 5%		30121140	BTA-120 5%	
R271	82Ω 5%		30820130	BTS-82 5%	
R272	10KΩ 5%		30103150		
R273	1.8Meg		30185230		
R274	270Ω 5%		30271130	BTS-270 5%	
R275	180Ω 5%		30181130	BTS-180 5%	
R276	4700Ω 5%		30472150		
R277	15KΩ		30153230		
R278	100KΩ		30104230		
R279	1Meg		30105230		
R280	12KΩ		30123240	BTA-12K	Note 7
R281	12KΩ		30123230	BTS-12K	Note 7
R282	12KΩ		30123230	BTS-12K	Note 7
R283	100KΩ				Note 7
R284	100KΩ				Note 7
R285	100KΩ				Note 7
R286	5000Ω		31000492	PW7-5000	
R287	3300Ω		31000493	PW7-3300	
R288	22KΩ			BTA-22K	Note 7
R289	12KΩ		30123240	BTA-12K	
R290	10KΩ		30123240	BTA-10K	
R291	330Ω		31000451		Note 7
R292	75Ω		31000499	1 3/4A-75	
R293	220Ω		31000497		
R294	10KΩ		30103230	BTS-10K	
R295	10Ω		31000498	1 3/4A-10	
R296	330Ω		31000495		
R297	2Ω		31000431		
R298	220KΩ		30224250	BTB-220K	

RESISTORS (cont)

♦ Items R129A, R129B, R129C, C108A, C108B and C108C are combined in one unit.
 Note 1. Some versions use a 470Ω resistor in this application.
 Note 2. Some versions use a 10Meg resistor in this application.
 Note 3. Some versions use a 680Ω resistor in this application.
 Note 4. Some versions use a 1Meg resistor in this application.
 Note 5. Some versions use a 8200Ω resistor in this application.
 Note 6. Some versions use a 2.2Ω resistor in this application.
 Note 7. Not used in some versions.
 Note 8. Some versions use a 100Ω resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA						
	PRI.	SEC. 1	SEC. 2	CBS-Columbia PART No.	Haldorson PART No.	Merit PART No.	RCA TYPE No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC ④ 4.78A	175VAC 600ADC	6.3VAC ④ .6A	10000581						
	SEC. 3	SEC. 4	SEC. 5							
	12.6VCT ④ 5.3A	12.6VCT ④ 5.8A								

TRANSFORMER (FILAMENT)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	CBS-Columbia PART No.	Haldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	117VAC ④ .12A	6.3VAC ④ 1.66A			10000631③	F5512①	P-2945①②	P-6466①②	21F10①②	F-16X①②

① Tape 6.3VCT
 ② Drill one new mounting hole.
 ③ Not used in some versions.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA								
		CBS-Columbia PART No.	Haldorson PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T3	Vert. Osc. Trans.	12000971	B6701	A-4003	208T9	V402	A-8122	26A03①	A-97Y	
T4	Horiz. Output Trans.	12001001								
T5	Vert. Output Trans.	12000981	Z1900②		243T1①	V307	A-8144			
T6	Yoke-Horiz. (12MH)	16001241			223D1					
T7	Vert. (10MH)									
	Horiz. Lin. Coll. (.25-1.2MH)	16001251	RF800③④	MWC-2⑤	206R1	201R4	WC-7	WC-23	WC-12⑥	
T8	Width Coll. (1.5-10MH)	16000271	RF800③④	MWC-6⑤	211R1	201R15	WC-8	WC-22	WC-12⑦	
T9	Purity Coll.	16001281⑧								
T10	Field Neutralizing Coll.	16001261								
T11	Vert. Centering Choke	12000991								
T12	Horiz. Yoke Isolation Coll.	16001331								
T13	Horiz. Yoke Isolation Coll.	16001321	RF800③④	MWC-11⑤	212R1⑥	201R16⑥	WC-5⑤⑦	WC-18③⑧	WC-12⑦⑨	
T14A	Green Dynamic Con-Blue vergence yoke assembly	16001311								
T15	Dynamic Convergence Inductor Assy.	16001341								

① Drill new mounting hole(s).
 ② Use 9 to 1 turns ratio.
 ③ Enlarge mounting hole.
 ④ Connect to terminals #3 or #4 and "CT".
 ⑤ Connect to coded green and red terminals.
 ⑥ Connect to terminals #3 and #4.
 ⑦ Connect to coded red and blue terminals.
 ⑧ Not used in all versions.
 ⑨ Adjust to maximum inductance.
 ⑩ Connect to terminals #1 and #2.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	CBS-Columbia PART No.	Haldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T16	5.42KΩ	1.74Ω	10000231	Z1002	A-3019	A-3849	22S58①	S-5Z	① Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS				REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C.	IMP.	CBS-Columbia PART No.	QUAM PART No.	
SP1	6" x 9"	PM	3.6Ω		73000261	68A3	
SP2	6" x 9"	PM	3.4Ω		73000271	68A3	

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	CBS-Columbia PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	UHF Ant. Coll	0ΩCT						
L2	UHF RF Coll	0Ω						
L3	UHF Osc. Coupling Coll	0Ω						
L4	Fl. Choke	0Ω						
L5	Fl. Choke	0Ω						
L6	Cathode Choke	0Ω						
L7	UHF IF Out-put	0Ω						Tapped

CBS-COLUMBIA MODELS 205C1, 205C2

PARTS LIST & DESCRIPTION (continued)

COILS (cont)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
				CBS-Columbia PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
		PRI.	SEC.					
L8A	VHF Ant. Coils	0ΩCT	0Ω					Channels 2-13
B	UHF IF Strip							
L9	Neut. Coil	0Ω						Channels 2-13
L10A	VHF RF, Mixer Grid, Osc. Coils	0Ω						
B	UHF IF Strip	0Ω						
L11	Fil. Choke	0Ω						
L12	Conv. Plate	. 1Ω	0Ω					
L13	1st Video IF Grid	. 1Ω		12000851				
L14	Fil. Choke	0Ω		15000511	19-1001		4604	
L15	1st Video IF Plate	. 1Ω		12000861				
L16	2nd Video IF Grid	. 1Ω		12000871				
L17	Fil. Choke	0Ω		15000511	19-1001		4604	
L18	3rd Video IF	. 3Ω	. 3Ω	12000901	17-5004	TV-125	6234	
L19	Fil. Choke	0Ω		15000511	19-1001		4604	
L20	4th Video IF	. 2Ω	. 2Ω	12000901	17-5004	TV-125	6234	
L21	Fil. Choke	0Ω		15000511	19-1001		4604	
L22	5th Video IF	. 2Ω	. 2Ω	12000911	17-5004	TV-125	6234	
L23	6th Video IF	. 1Ω		12000891	17-4521*	TV-128■	6218*	
L24	Shunt Peaking Coil	7Ω		16000051	19-3250	TV-185	6181	
L25	4.5MC Trap	. 4ΩCT		15000631	17-3402▲		1469	
L26	Burst Amp. Primary	3Ω		15000621	17-6016			
L27	Burst Amp. Secondary	3Ω		15000621	17-6017			
L28	Shunt Peaking Coil	7Ω		16000051	19-3250	TV-185	6181	
L29	Series Peaking Coil	3.5Ω		16000524	19-3036	TV-180	6176	
L30	Series Peaking Coil	7Ω		16000051	19-3250	TV-185	6181	
L31	2nd Sound IF	8.3Ω	4.4Ω	12000931	17-3495	TV-113	6203	
L32	Ratio Det.	5.8Ω	2.5Ω	12000201	17-3497	TV-115	6205	
L33	Horiz. Osc.	63Ω		16000111	17-1576	TV-163	6210	
L34	Band Pass Amp. Plate Coil	7.8Ω*	4.6Ω	12000921	17-6010			
L35	Band Pass Amp. Output Coil	1.5Ω		16000211	17-6011			
L36	Burst Amp. Plate Trans.	2.4Ω	1.4ΩCT	12000951	17-6012			
L37	Phase Det.	5.8Ω		12000961				
L38	Series Peaking Coil	2.4Ω		16000521	19-6022		6152	
L39	Chroma Reference Osc. Plate Coil	4.4Ω		16001221	17-6015			
L40	Chroma Reference Osc. Coil	1.5Ω		16001231	17-6013			
L41	Series Peaking Coil	123Ω		15000611	19-5102		4670	
L42	Shunt Peaking Coil	26Ω		15000531	19-5101		4664	
L43	"I" Band Pass Amp.	34ΩCT		15000601				
L44	Series Peaking Coil	30Ω		15000541			4652	
L45	Series Peaking Coil	30Ω		15000541			4652	
L46	Shunt Peaking Coil	7.5Ω		16000051	19-3250	TV-185	6181	
L47	Series Peaking Coil	5.5Ω		16000522	19-3125		6153	
L48	Shunt Peaking Coil	7.5Ω		16000051	19-3250	TV-185	6181	
L49	Series Peaking Coil	5.5Ω		16000522	19-3125		6153	
L50	Shunt Peaking Coil	7.5Ω		16000051	19-3250	TV-185	6181	
L51	Series Peaking Coil	5.5Ω		16000522	19-3125		6153	

*Use one winding only.
 ■Use adaptor plate.
 ▲Do not use external cap.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 C.)	CBS-Columbia PART No.	Haldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L52	. 670ADC	12. 8Ω	. 7HY	16001291					
L53	. 074ADC	204Ω	4. 85HY	16001301	C-5015		C-1355①	20C65 ①	C-8X

① Drill new mounting holes.

PARTS LIST & DESCRIPTION (continued)

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT	CBS-Columbia PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	RADIO RECEPTOR PART No.	SARKES TARZIAN PART No.	
M1	. 600ADC	62000051	1229A	9RS-650MSL				
M2	. 600ADC	62000051	1229A	9RS-650MSL				

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			CBS-Columbia PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M3	3AG S/B	5A 125V	43000080		313005 (3AG S/B 5A)	341001	MDX5	HKP
M4	3AG S/B	3/8A 125V	43000090		313. 375 (3AG S/B 3/8A)	341001	MDL 3/8	HKP

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA		NOTES
		CBS-Columbia PART No.	SYLVANIA PART No.	
M5	1N82A		1N82A	UHF Mixer
M6	1N60		1N60	Video Det.
M7	1N60		1N60	Sound Det.

MISCELLANEOUS

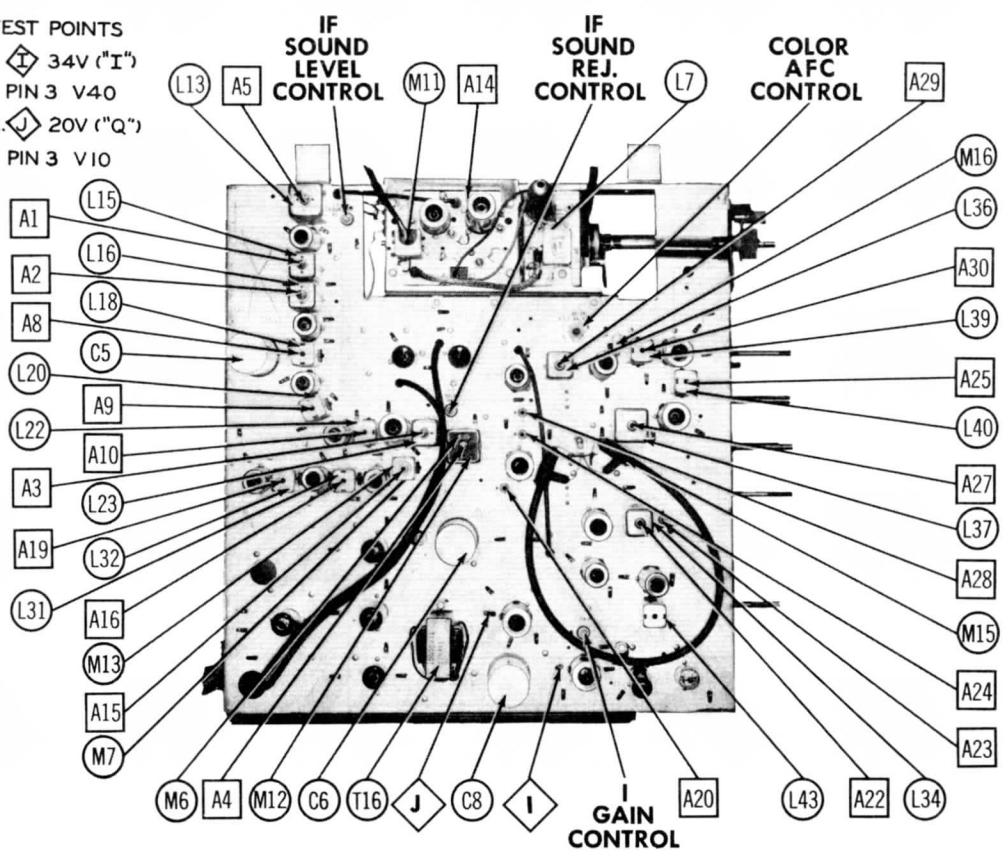
ITEM No.	PART NAME	CBS-Columbia PART No.	NOTES
M8	Dial Light	64000111	#51
M9	Pilot Light	64000111	#51
M10	Tuner	69000621	VHF-UHF
M11	Trap	83A64917	VHF Ant. Input Filter
M12	Video Det. Assy.	12000881	Includes M6, coils and capacitors
M13	Sound Det. Assy.	12000941	Includes M7, coils and capacitors
M14	Switch	40000281	Micro (on-off-power)
M15	Delay Line	16000801	Luminescence Channel
M16	Crystal	63000061	3. 579545KC Osc.
M17	Magnet	19000221	Lateral blue beam positioning
M18	Magnetic Shield	46003321	Yoke
M19	Magnet		
	Trimmer Capacitor	26000141	Hue Range (4-25MMF)
	Knob	76003151	Fine tuning
	Knob	76002991	Channel Selector (yellow)
	Knob	76003161	Channel Selector (Beige)
	Knob	76003001	On-off-volume (yellow)
	Knob	76003171	On-off-volume (Beige)
	Knob	76003141	Tone
	Knob	76003231	Rear - Chroma and horizontal hold
	Knob	76003241	Rear - Hue and contrast
	Knob	76003251	Front - Contrast, Vert. Hold, Hue and Brightness
	Disc	76002851	UHF Indicator
	Dial Scale	76002961	UHF
	Mash	71001381	Chartreuse
	Mask	71001382	Beige

DISASSEMBLY INSTRUCTIONS

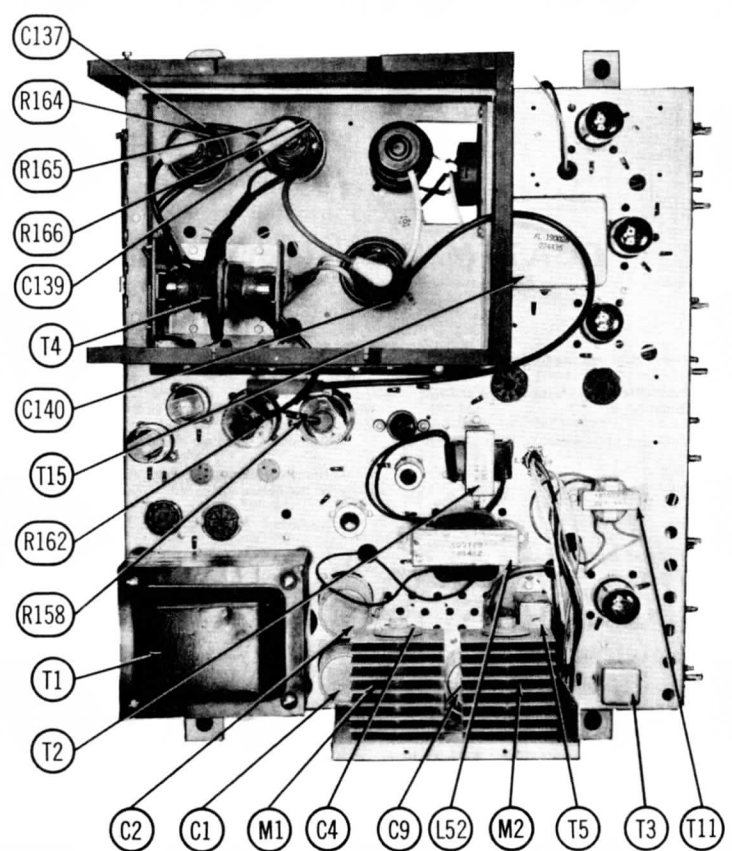
<p>CABINET TOP REMOVAL</p> <ol style="list-style-type: none"> 1. Remove 16 wood screws. Remove rear cover. 2. Remove 2 large bolts located at the upper right and left hand corners of the cabinet back. 3. Pull the cabinet top about 2 inches toward the rear and lift off. 	<p>RF-IF CHASSIS REMOVAL</p> <ol style="list-style-type: none"> 1. Remove 12 push-on type control knobs from front panel of cabinet. 2. Remove 16 wood screws. Remove rear cover. 3. Remove 4 wood screws. Remove antenna terminal bracket. 4. Disconnect speaker plug, color plug and 2 power cables from deflection chassis. 5. Remove 1 metal screw from ground strap. 6. Remove 2 chassis bolts at the top of the cabinet. 7. Slide chassis straight out of guide.
<p>CONTROL PANEL REMOVAL (RF-IF CHASSIS)</p> <ol style="list-style-type: none"> 1. Remove control knobs. 2. Unfasten the 2 clips located at the bottoms of the holes thru which the channel selector and the off/on volume control shafts project. 3. Pull panel away from the cabinet. 	<p>SWEEP CHASSIS REMOVAL</p> <ol style="list-style-type: none"> 1. Disconnect interlock plug, indication lamp plug, yoke plug and focus plug. 2. Remove 6 chassis bolts. Remove sweep chassis.
<p>CONTROL PANEL REMOVAL (SWEEP CHASSIS)</p> <ol style="list-style-type: none"> 1. Locate the recessed finger grips on the bottom of the board running across the lower edge of the cabinet front. 2. Grasp the board with both hands and pull firmly away from the cabinet (same version may have a screw holding board in place). 	<p>SPEAKER REMOVAL</p> <ol style="list-style-type: none"> 1. Disconnect speaker plug. 2. Remove 8 speaker nuts. Remove 2 speakers.

TEST POINTS

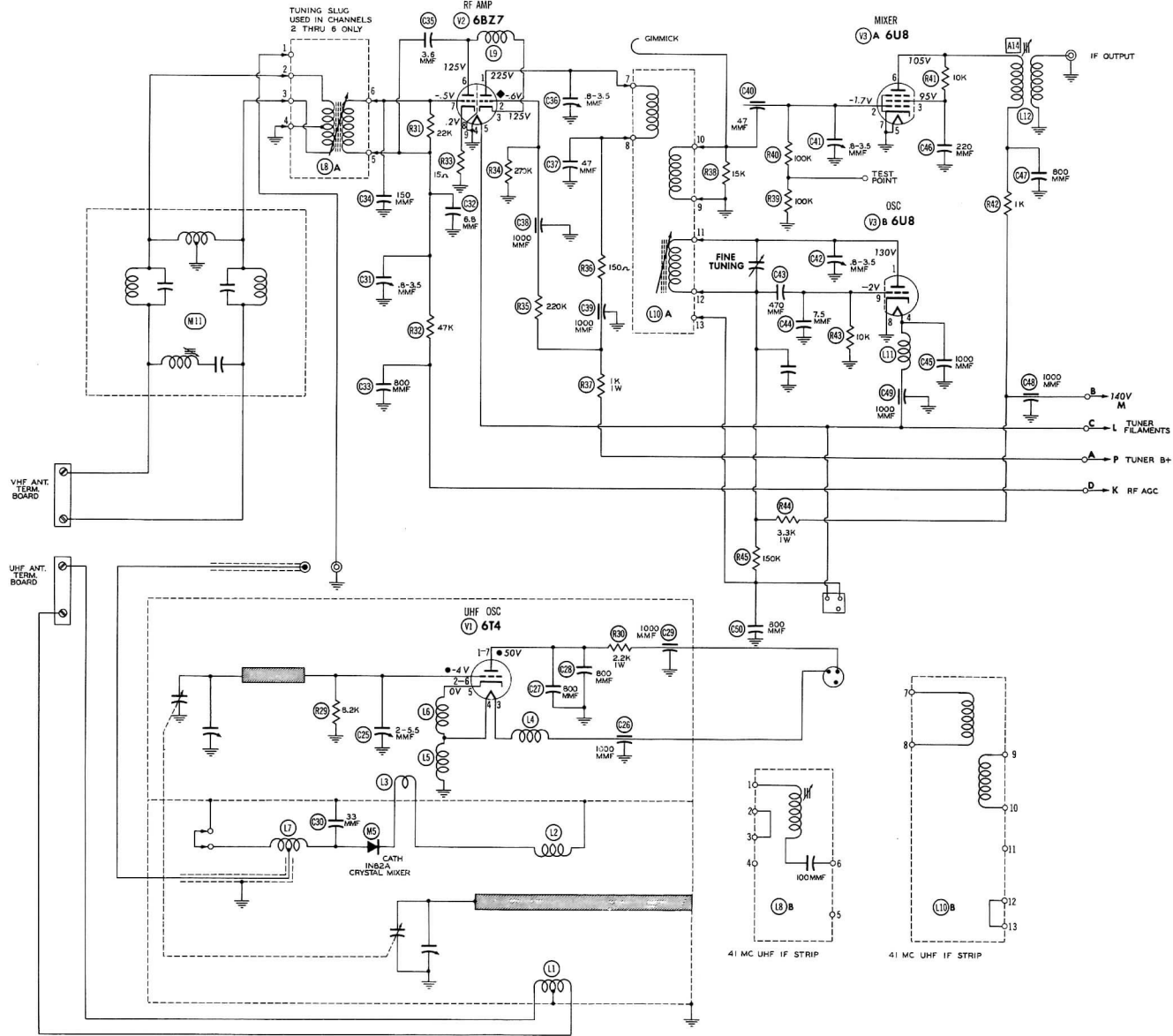
- 1. \diamond 34V ("I")
PIN 3 V40
- 2. \diamond 20V ("Q")
PIN 3 V10



RF-IF CHASSIS-TOP VIEW

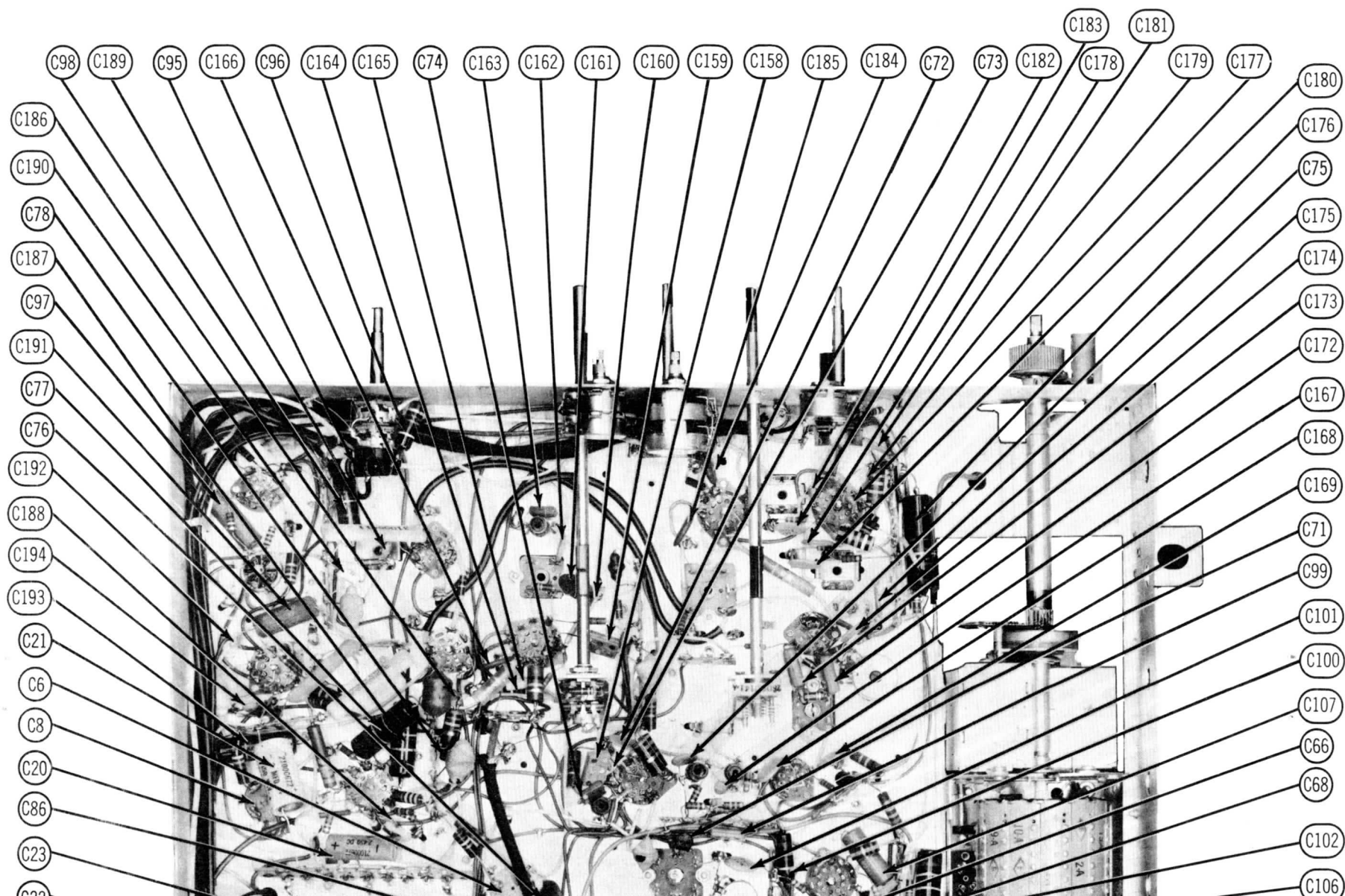


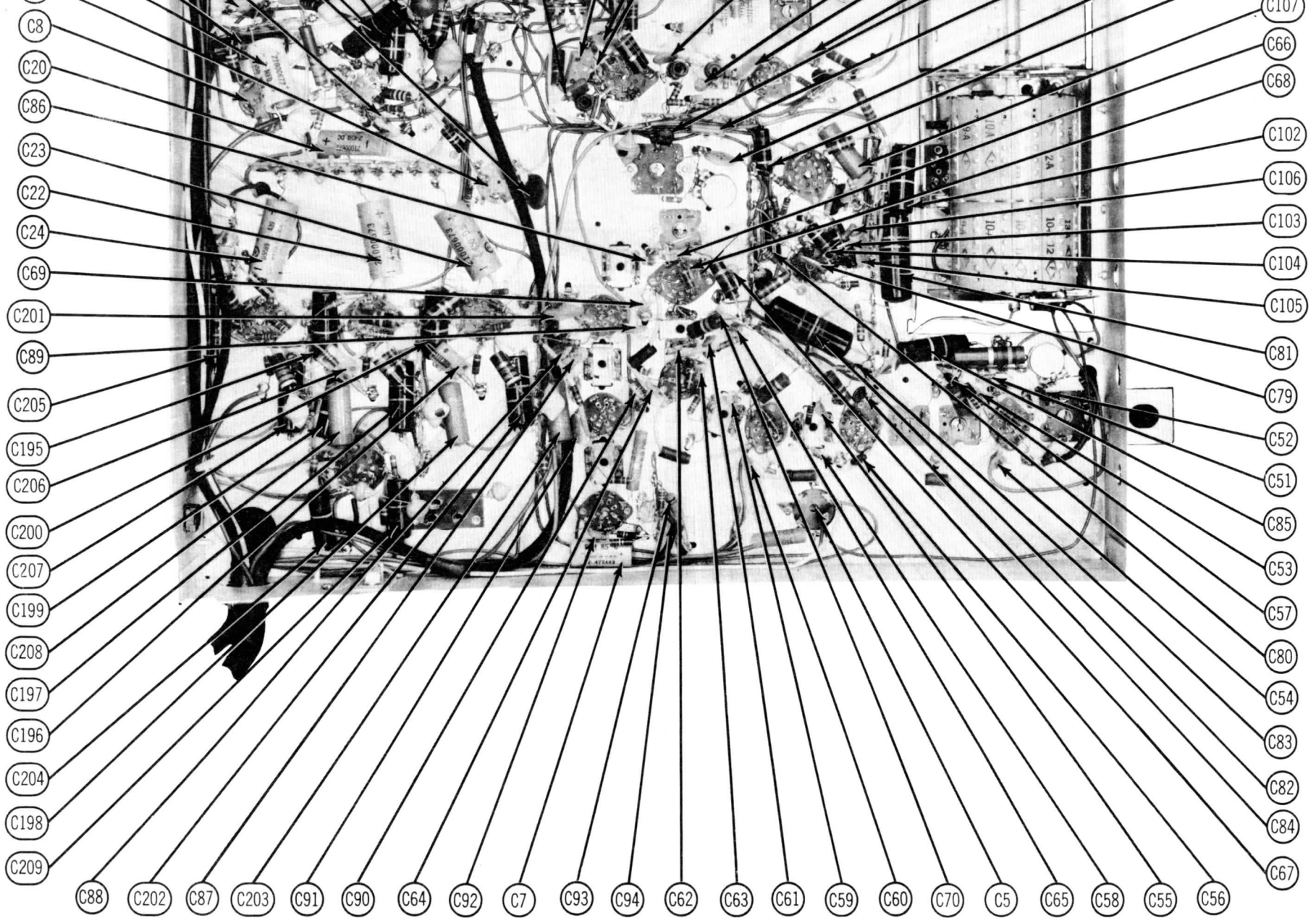
SWEEP CHASSIS-TOP VIEW



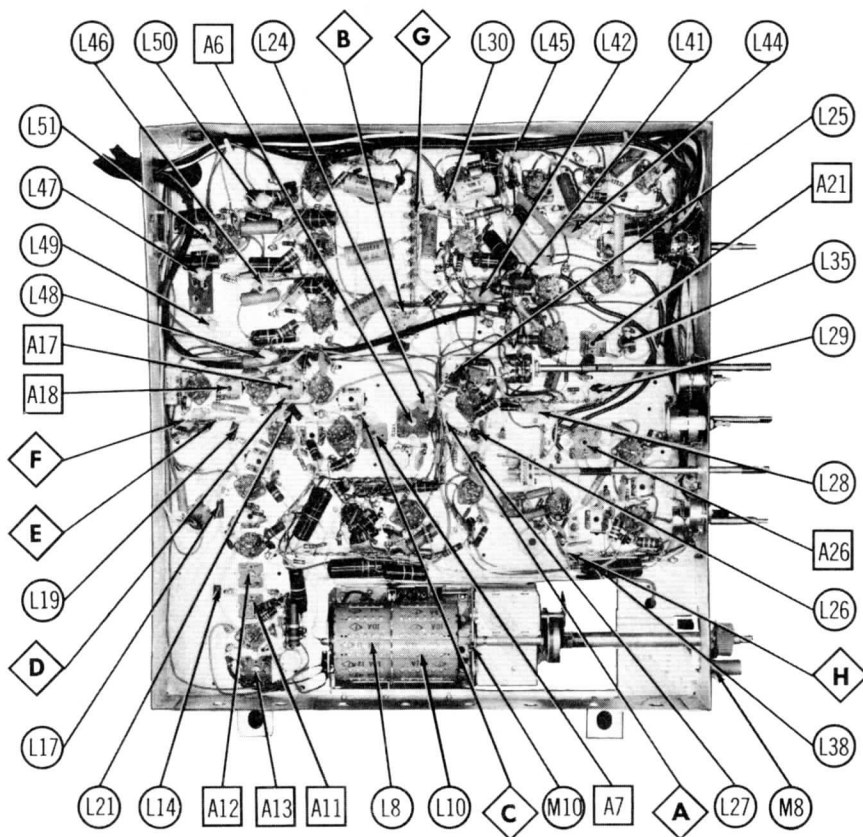
A PHOTOFAC STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1955

TUNER SCHEMATIC

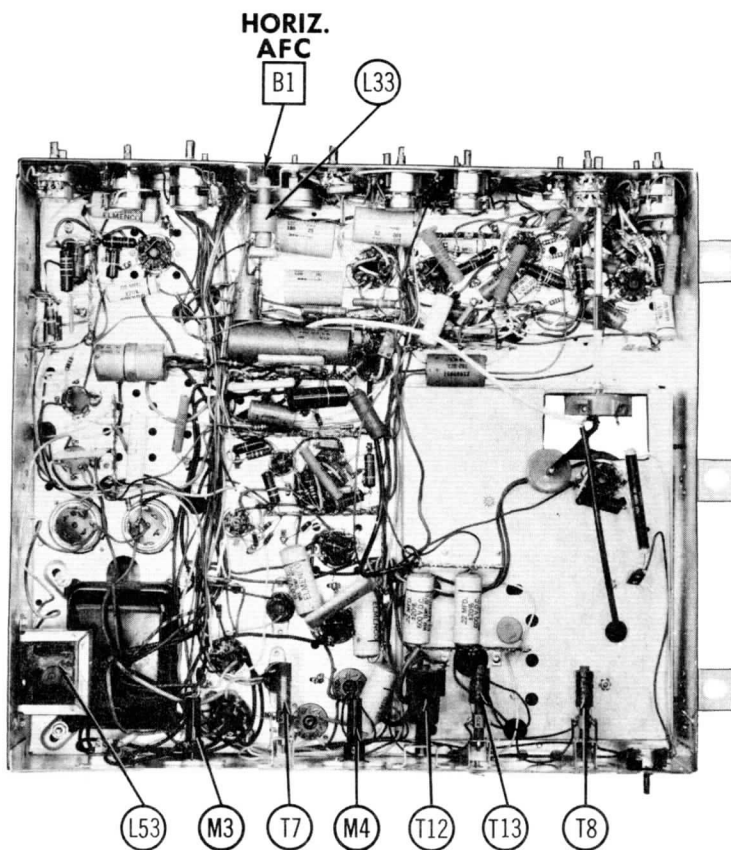




RF-IF CHASSIS-BOTTOM VIEW-CAPACITOR IDENTIFICATION



RF-IF CHASSIS-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION



SWEEP CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENT.