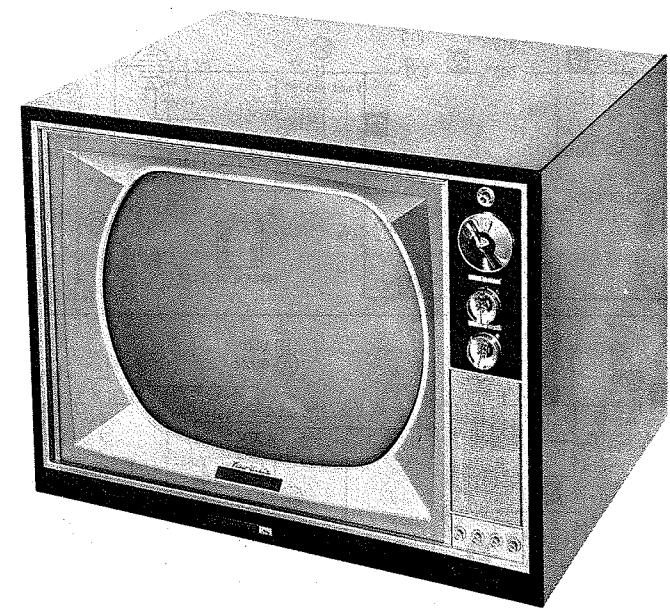


RCA VICTOR CHASSIS CTC11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

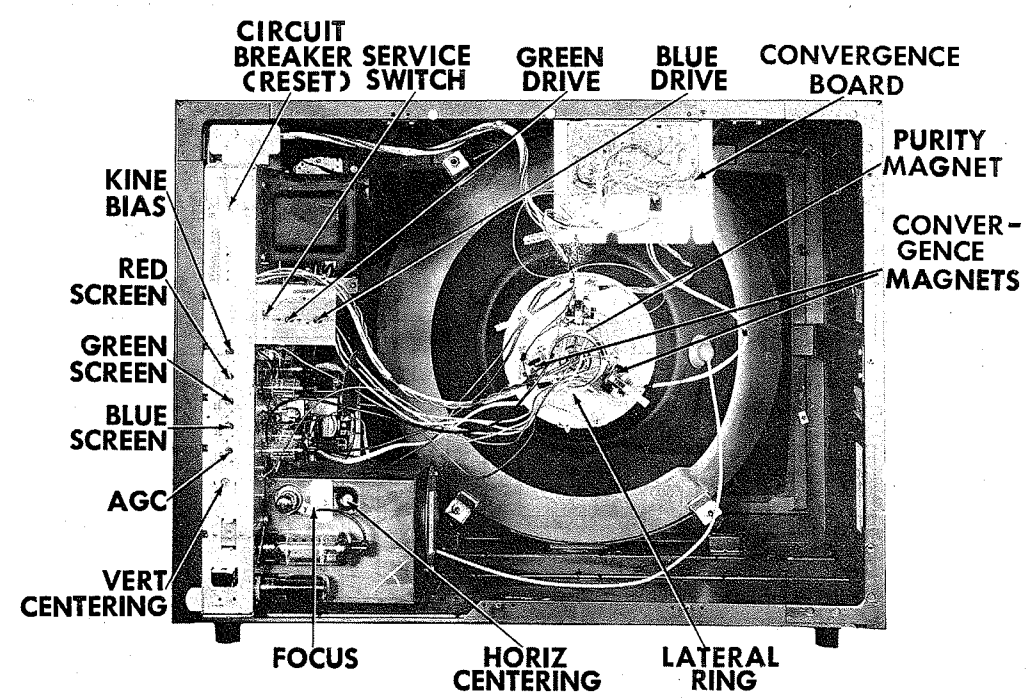
FOLDER 2  
SET 550  
PHOTOFACT® Folder with CIRCUITRACE®



MODEL 211CB412

RCA VICTOR CHASSIS CTC11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

RCA VICTOR CHASSIS CTC11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

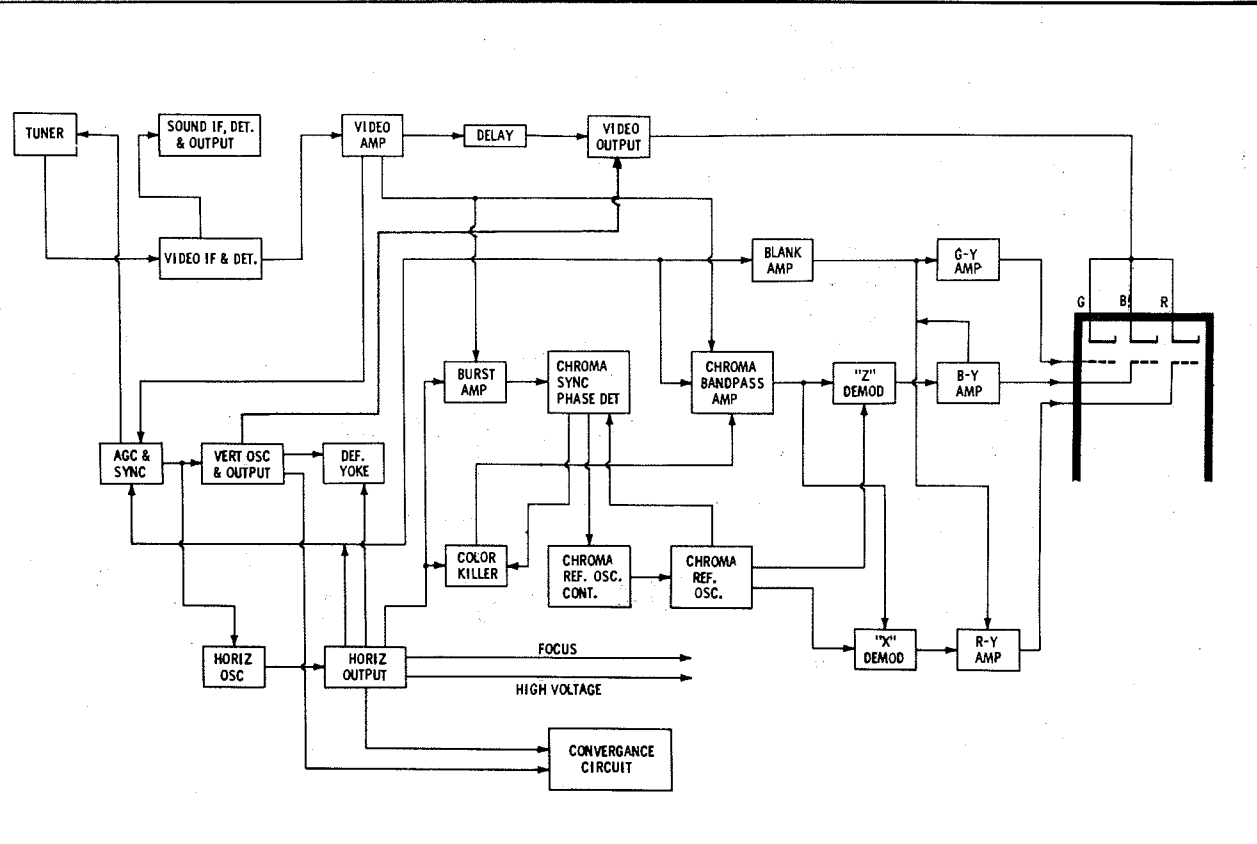


**CABINET-REAR VIEW  
DISASSEMBLY INSTRUCTIONS**

- CHASSIS REMOVAL MODEL 211CB412
1. Remove 9 push-on type knobs on front of set.
  2. Remove 7 screws and 3 clamps on rear cover.
  3. Remove rear cover.
  4. Remove yoke leads, picture tube socket, high voltage lead, speaker leads, and plug from convergence chassis.
  5. Remove 4 chassis bolts.
  6. Remove screw holding control assembly, slide back and pull up.
  7. Pull chassis straight out.

TRADE NAME	RCA VICTOR MODELS	TV Chassis	VHF Tuner	UHF Tuner	REMOTE CONTROL
					Transmitter   Receiver
211CB412	.....	CTC11A	.....	KRK98D	
211CB412U	.....	CTC11B	.....	KRK99D	.....
211CD425, 211CD426, 211CD427, 211CD435, 211CD436, 211CD437, 211CD445, 211CD446, 211CD447, 211CD456, 211CD464, 211CD475, 211CD476, 211CD477	.....	CTC11C	.....	KRK98J	
211CD425U, 211CD426U, 211CD427U, 211CD435U, 211CD436U, 211CD437U, 211CD445U, 211CD446U, 211CD447U, 211CD456U, 211CD464U, 211CD475U, 211CD476U, 211CD477U	.....	CTC11D	.....	KRK99J	.....
211CDR425, 211CDR426, 211CDR427, 211CDR446, 211CDR456, 211CDR464	.....	CTC11E	.....	KRK98C	.....
211CDR425U, 211CDR426U, 211CDR427U, 211CDR446U, 211CDR456U	.....	CTC11F	.....	KRK99C	.....
211CB392	.....	CTC11H	.....	KRK98K	.....
211CB392U	.....	CTC11J	.....	KRK99K	.....

MANUFACTURER: Radio Corporation of America, RCA Victor Home Instruments Division, Indianapolis 1, Indiana  
 TYPE SET: Color Television Receiver  
 TUBES: TV: (UHF) Twenty-Seven (VHF) Twenty-Six  
 Remote Control Receiver: Six  
 Remote Control Transmitter: One  
 POWER SUPPLY: 110-120 Volts AC, 60 Cycle (Transmitter 4.2V Battery)  
 RATING: TV: VHF - 290 Watts, 2.95 Amp. @ 117 Volts AC  
 TUNING RANGE: Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)



**BLOCK DIAGRAM**

MISCELLANEOUS ADJUSTMENTS - PAGE 16  
 BLOCK DIAGRAM - PAGE 33

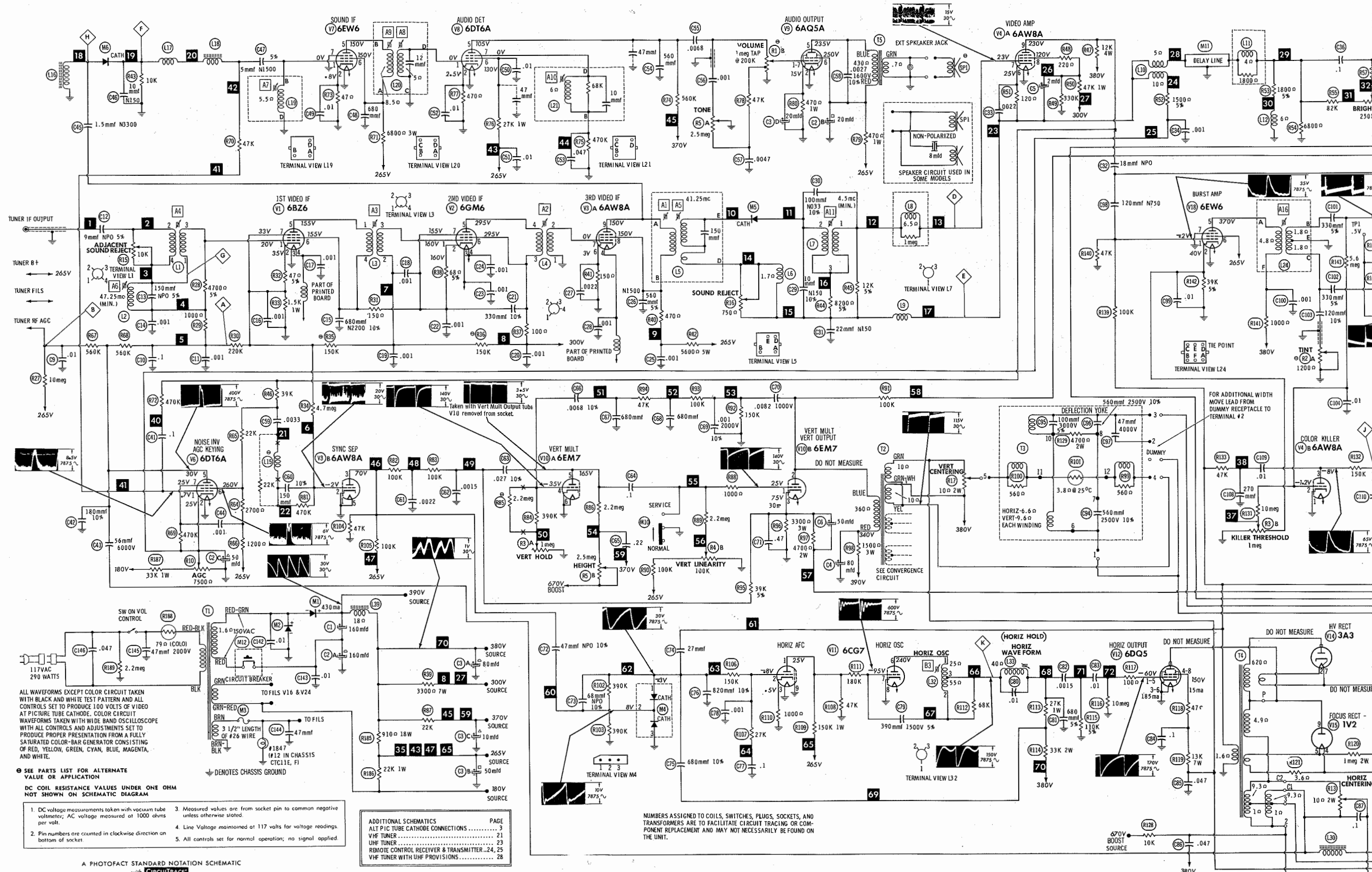
SCHEMATICS	PAGE
TV	2
ALTERNATE PICTURE TUBE CATH CONNECTIONS	3
VHF TUNER	21
VHF TUNER (WITH UHF PROVISIONS)	28
UHF TUNER	23
REMOTE CONTROL RECEIVER & TRANSMITTER	24, 25

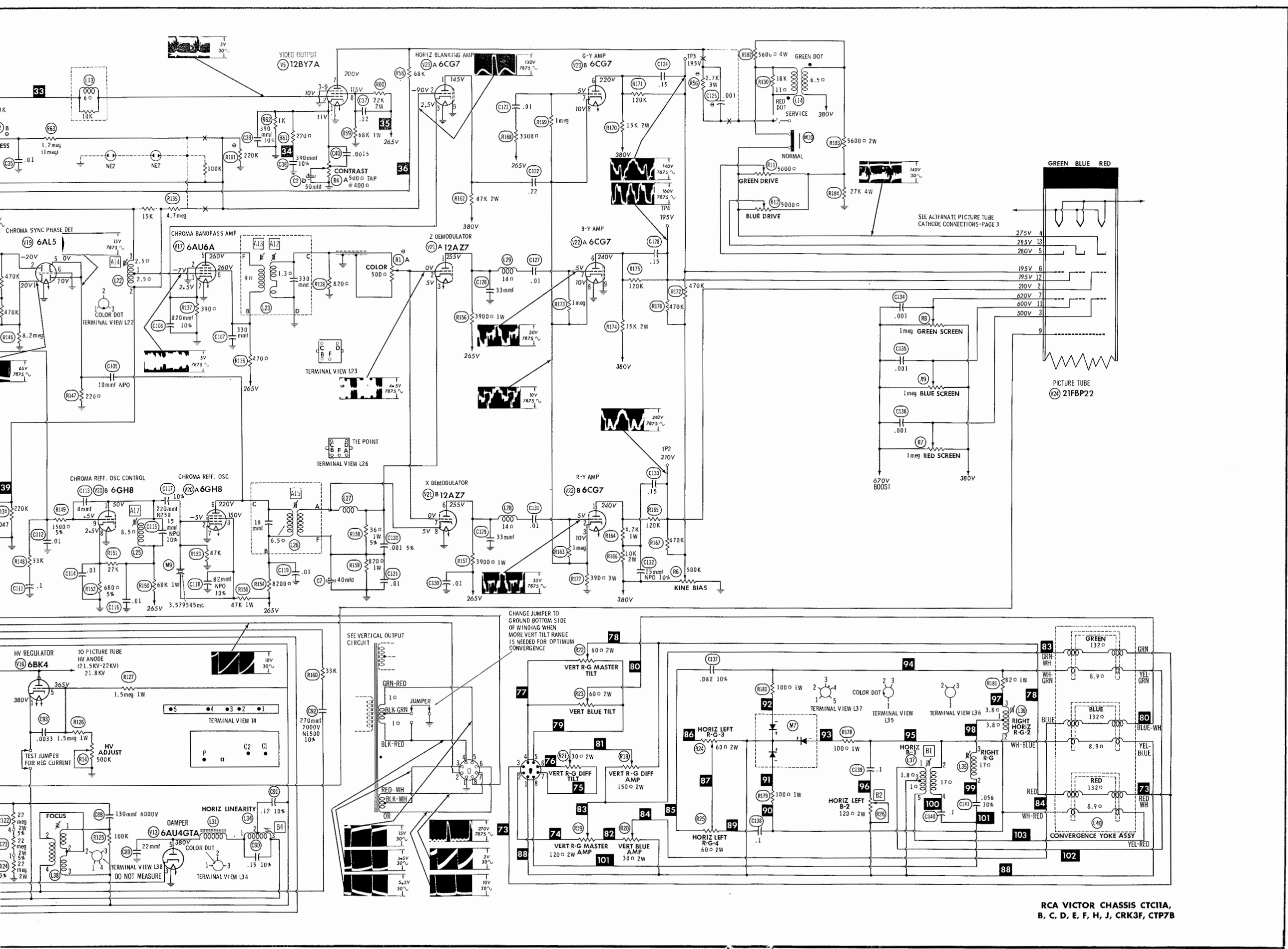
**HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana**

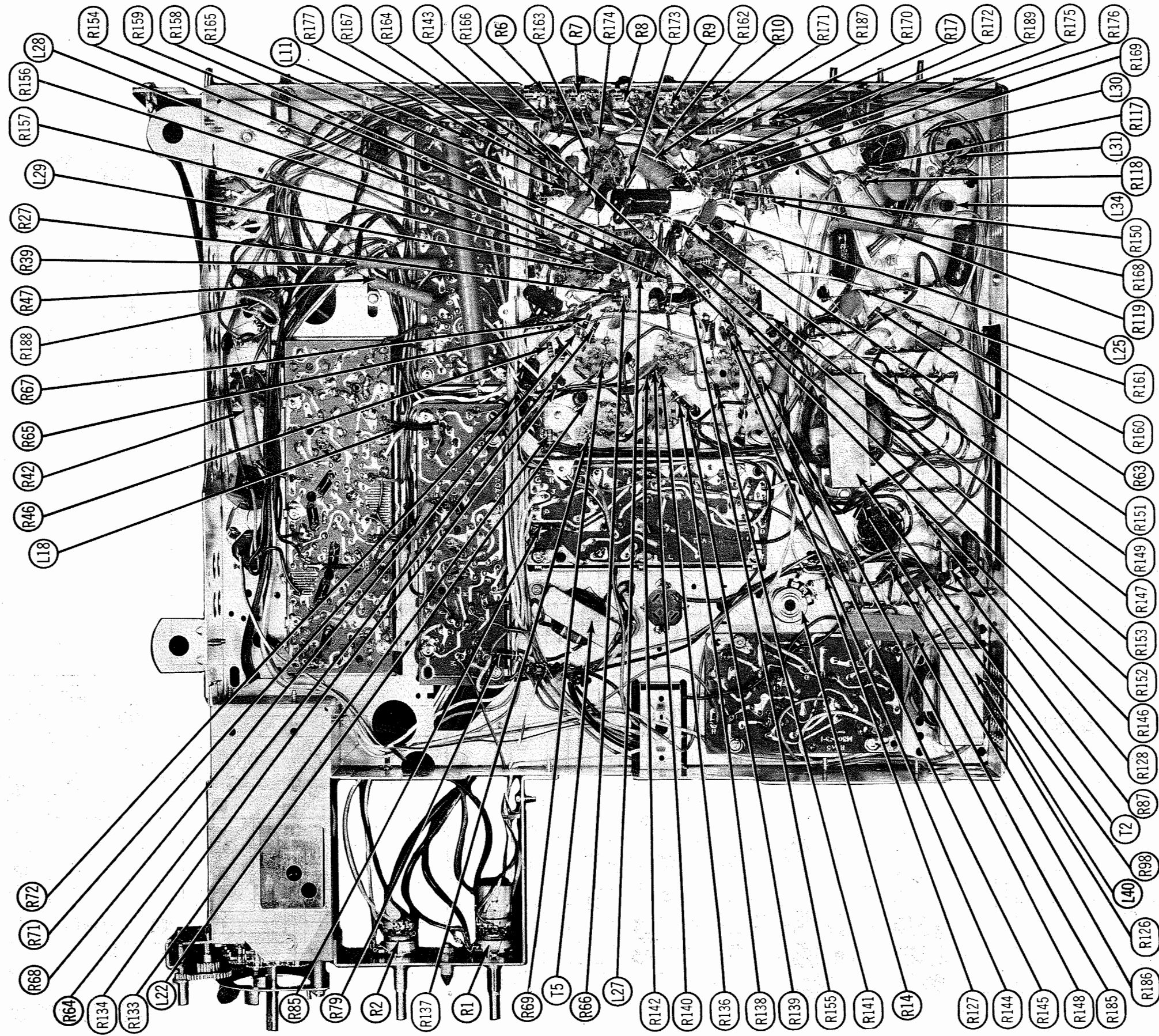


The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KB996

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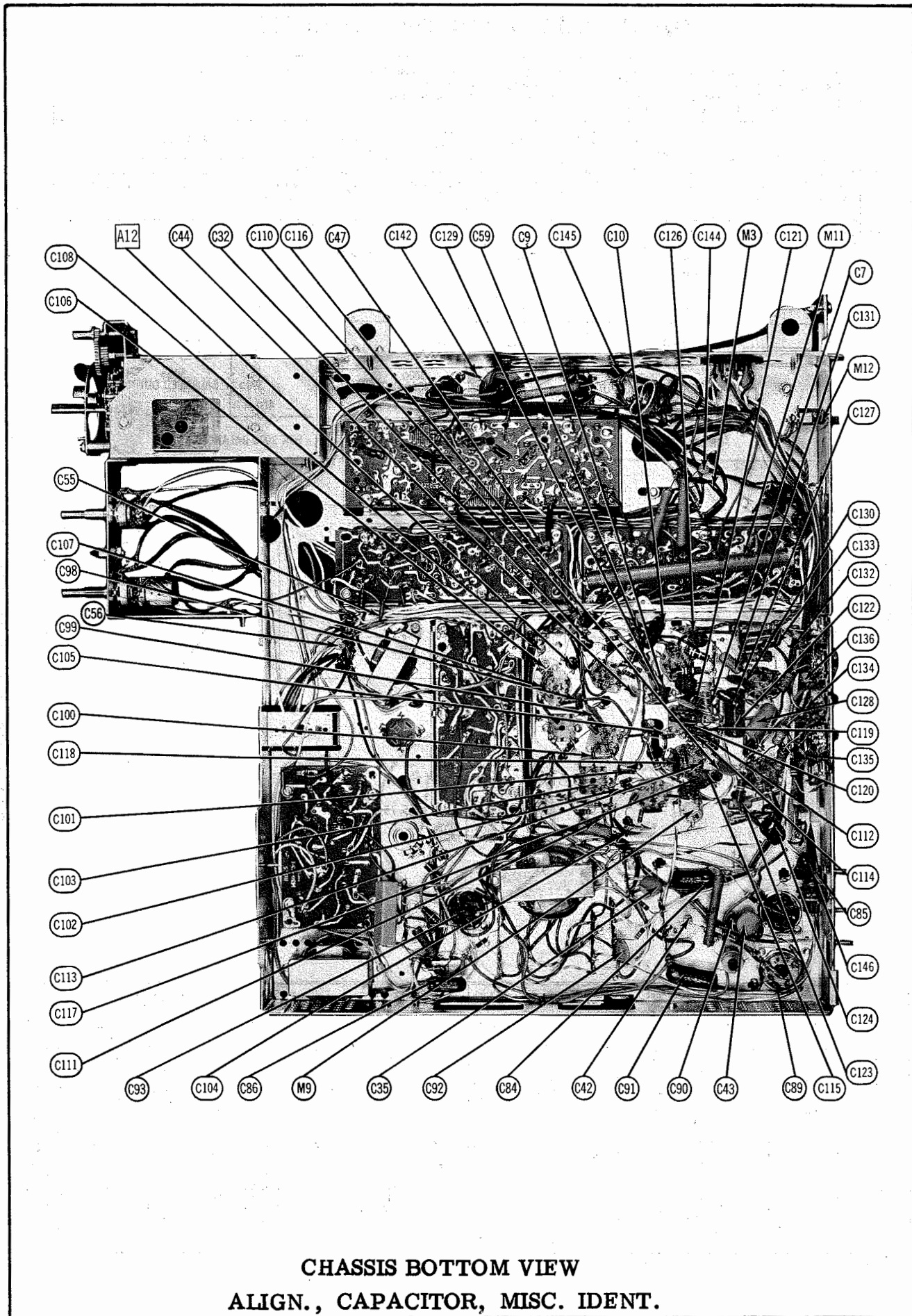




CHASSIS BOTTOM VIEW  
 RESISTOR, INDUCTOR, TRANSFORMER IDENT.

RCA VICTOR CHASSIS CT11A,  
 B, C, D, E, F, H, J, CRK3F, CTP7B

FOLDER 2



CHASSIS BOTTOM VIEW  
ALIGN., CAPACITOR, MISC. IDENT.

### RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	220K	1550Ω	FIL	FIL	■220Ω	■220Ω	1500Ω		
V2	6GM6	70K	INF	FIL	FIL	†3400Ω	†3400Ω	■68Ω		
V3	6AW8A	0Ω	4.7meg	†35K	FIL	FIL	150Ω	.1Ω	†7000Ω	†7000Ω
V4	6AW8A	0Ω	●5.9meg	370K	FIL	FIL	1600Ω	6000Ω	†50K	†11K
V5	12BY7A	●380Ω	●350K	0Ω	FIL	FIL	FIL	†5800Ω	†18K	NC
V6	6DT6A	47K	●2000Ω	FIL	FIL	780K	†4500Ω	472K		
V7	6EW6	5.5Ω	47Ω	FIL	FIL	†7700Ω	†7700Ω	0Ω		
V8	6DT6A	5Ω	470Ω	FIL	FIL	†580K	†28K	470K		
V9	6AQ5A	NC	470Ω	FIL	FIL	†1800Ω	†1400Ω	●10K		
V10	6EM7	●2.3meg	†1860Ω	2100Ω	●600K	●†3.3meg	0Ω	FIL	FIL	
V11	6CG7	†40K	800K	1000Ω	FIL	FIL	†60K	†240K	0Ω	0Ω
V12	6DQ5	10meg	FIL	0Ω	†13K	10meg	0Ω	FIL	†13K	TOP CAP †14Ω
V13	6AU4GT	NC	NC	300K	NC	†38Ω	NC	FIL	FIL	
V14	3A3	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †650Ω
V15	1V2	NC	NC	NC	66meg	66meg	TP	NC	NC	†14Ω
V16	6BK6	†38Ω	FIL	NC	NC	●1meg	NC	FIL	NC	TOP CAP INF
V17	6AU6A	220K	0Ω	FIL	FIL	†1400Ω	†1400Ω	390Ω		
V18	6EW6	30K	39K	FIL	FIL	†1000Ω	†930Ω	0Ω		
V19	6AL5	5.5meg	5.5meg	FIL	FIL	220Ω	0Ω	220Ω		
V20	6GH8	†25K	47K	†48K	FIL	FIL	†9100Ω	0Ω	680Ω	5.5meg
V21	12AZ7	†4800Ω	●100Ω	855Ω	FIL	FIL	†4800Ω	●100Ω	855Ω	FIL
V22	6CG7	†15K	1meg	390Ω	FIL	FIL	†15K	1meg	390Ω	0Ω
V23	6CG7	†47K	200K	390Ω	FIL	FIL	†15K	1meg	390Ω	0Ω
V24	21FBP22	FIL	●†110K	●†300K	†3000Ω	●†4000Ω	●†110K	●†150K	Pin 9 67meg	Pin 11 ●†250K
		Pin 12 ●†110K	Pin 13 ●†3500Ω	Pin 14 FIL						
V201	6CW4	Pin 2 †11K	Pin 4 2meg	Pin 8 0Ω	Pin 10 FIL	Pin 12 FIL				
V202	6EA8	†9100Ω	100K	▲2200Ω	FIL	FIL	▲3200Ω	0Ω	INF	▲5600Ω
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

● THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.  
† MEASURED FROM OUTPUT OF M1.      ■ MEASURED FROM PIN 2 OF V2.  
† MEASURED FROM PIN 3 OF V13.      ▲ MEASURED FROM PIN 8 OF V202.  
NC NO CONNECTION      TP TIE POINT

RCA VICTOR CHASSIS CTC11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

FOLDER 2

# TUNER ALIGNMENT INSTRUCTIONS

# TUNER ALIGNMENT INSTRUCTIONS

## UHF ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough sweep generator output to provide a usable pattern on scope. Connect the negative lead of a 2.5 volt bias supply to point  $\diamond$ . Positive to chassis. Connect a 180 $\Omega$  resistor across input cable of scope.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
23. High side thru input lead (Fig. 203) to point $\diamond$ . Low side to chassis.	45 MC (10MC Swp.)	41.25 MC 45.75 MC	UHF Any	Vert. Amp. thru 330mmf to plate of Mixer. Low side to chassis.	A230, A231	Adjust for maximum gain and symmetry of response similar to Fig. 204 with markers as shown.
24. Across UHF Antenna Terminals.	To center frequency of channel to be received. (See Chart)	"	Channel to be received	Scope across Video Det. Load	A230, A231	Retouch for response similar to Fig. 205.

## PRE-ALIGNMENT INSTRUCTIONS FOR TUNER #KRK98 AND KRK99

Allow a 20 minute warm-up period for the receiver and test equipment.

### VHF RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough sweep generator output to provide a usable pattern on scope. Use 10MC sweep unless otherwise noted. Coils not containing adjustable cores are adjusted by expanding or compressing coil turns. Connect the negative lead of a 2.5 volt bias supply to point  $\diamond$ . Positive to chassis.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Across VHF Antenna Terminals thru pad (Fig. 201).	195MC	193.25MC 197.75MC	10	Vert. Amp. to point $\diamond$ . Low side to chassis.	A201, A202	Adjust for maximum gain and symmetry of response similar to Fig. 202 with markers as shown. If oscillation is obtained and distorts the waveform, adjust A203 for MINIMUM gain and repeat adjustments of A201 and A202.
2. "	"	"	"	"	A203	Increase bias to -10 to -15 volts. Adjust A203 for MINIMUM response.
3. "	207MC	205.25MC 209.75MC	12	"	A204	Return bias to 2.5 volts. Adjust A204 for maximum gain at center of curve.
4. "	"	"	"	"	A201, A202, A205	Adjust for maximum gain and symmetry of response similar to Fig. 202 with markers as shown. Adjust A201 for correct freq. Adjust A202 for correct tilt. Position A205 for bandwidth.
5. "	195MC	193.25MC 197.75MC	10	"	A206, A207	Adjust for flat response.
6. "	189MC	187.25MC 191.75MC	9	"	A208, A209	"
7. "	183MC	181.25MC 185.75MC	8	"	A210, A211	"
8. "	177MC	175.25MC 179.75MC	7	"	A212, A213	"
9. "	85MC	83.25MC 87.75MC	6	"	A214, A215, A216, A217	Adjust for maximum gain and symmetry of response similar to Fig. 202 with markers as shown. Adjust A214 for amplitude, A215 for frequency, A216 for proper tilt and A217 for bandwidth.
10. Turn off generator.			12	Use VTVM DC probe to point $\diamond$ . Common to chassis.		Check Oscillator injection voltage. It should be between -2.0 to -5.0 volts.

### VHF OSCILLATOR ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection. Use only enough sweep generator output to provide a usable pattern on scope. Use 10MC sweep unless otherwise noted. Connect the negative lead of a 2.5 volt bias supply to point  $\diamond$ . Positive to chassis.

SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
11. Across VHF Antenna Terminals thru pad (Fig. 201).	Not Used	257MC	13	Vert. Amp. to point $\diamond$ . Low side to chassis.	A218	Adjust for zero beat.
12. "	"	251MC	12	"	A219	"
13. "	"	245MC	11	"	A220	"
14. "	"	239MC	10	"	A221	"
15. "	"	233MC	9	"	A222	"
16. "	"	227MC	8	"	A223	"
17. "	"	221MC	7	"	A224	"
18. "	"	129MC	6	"	A225	"
19. "	"	123MC	5	"	A226	"
20. "	"	113MC	4	"	A227	"
21. "	"	107MC	3	"	A228	"
22. "	"	101MC	2	"	A229	"

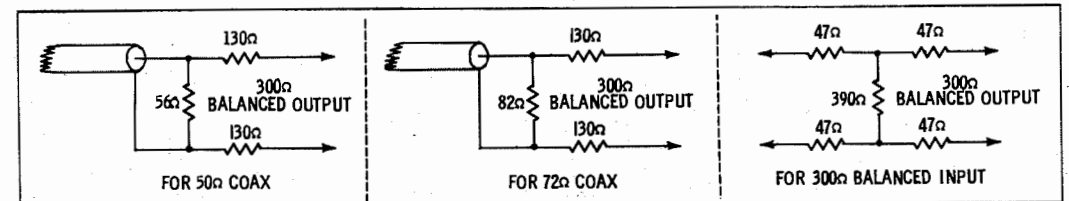


FIG. 201

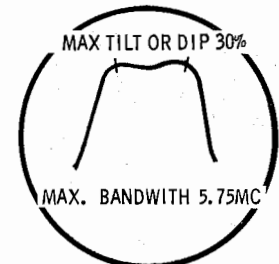


FIG. 202

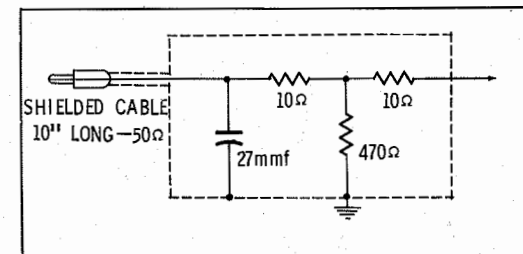


FIG. 203

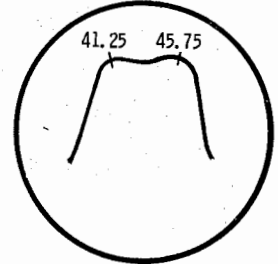


FIG. 204

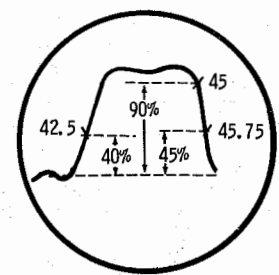
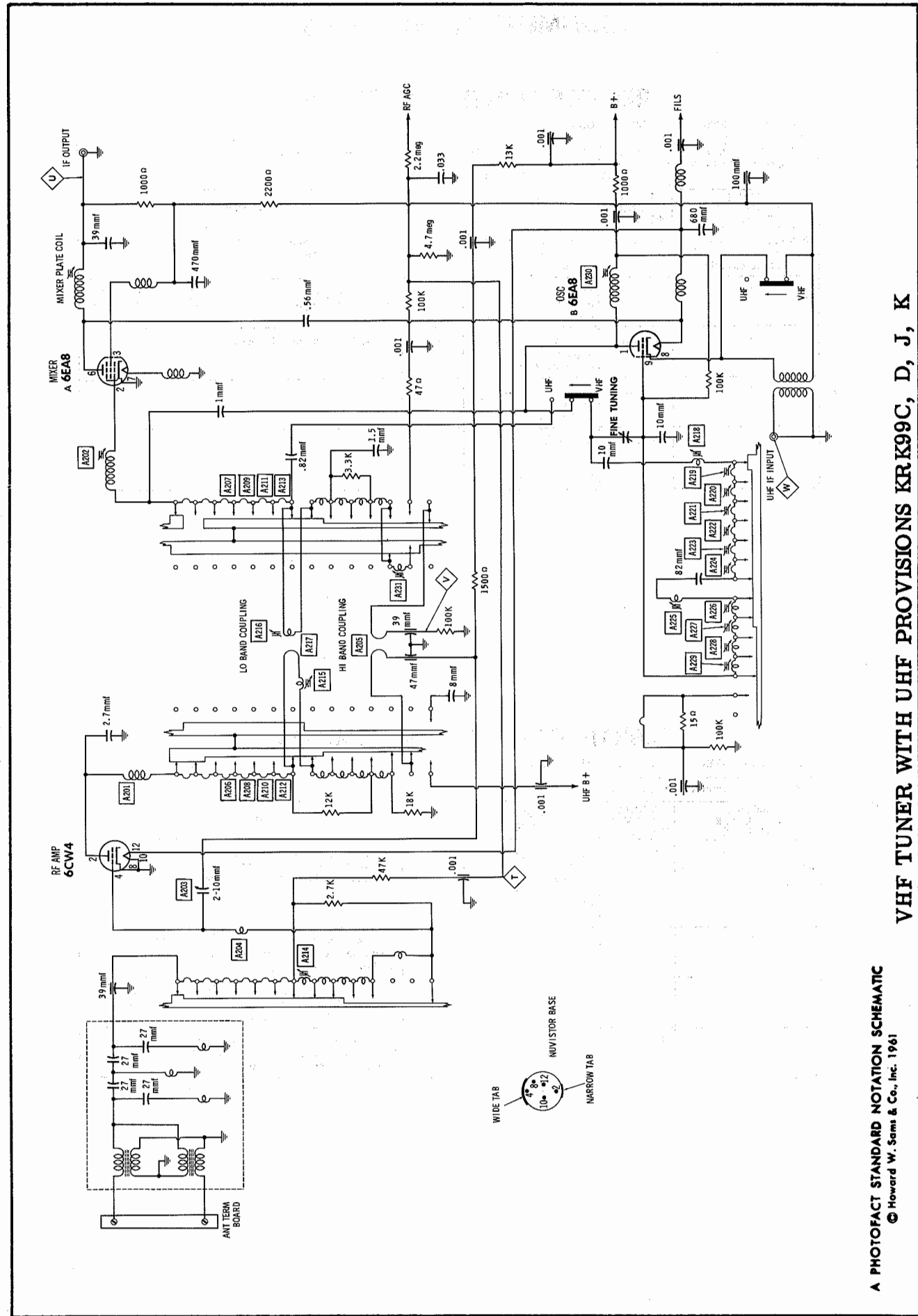


FIG. 205

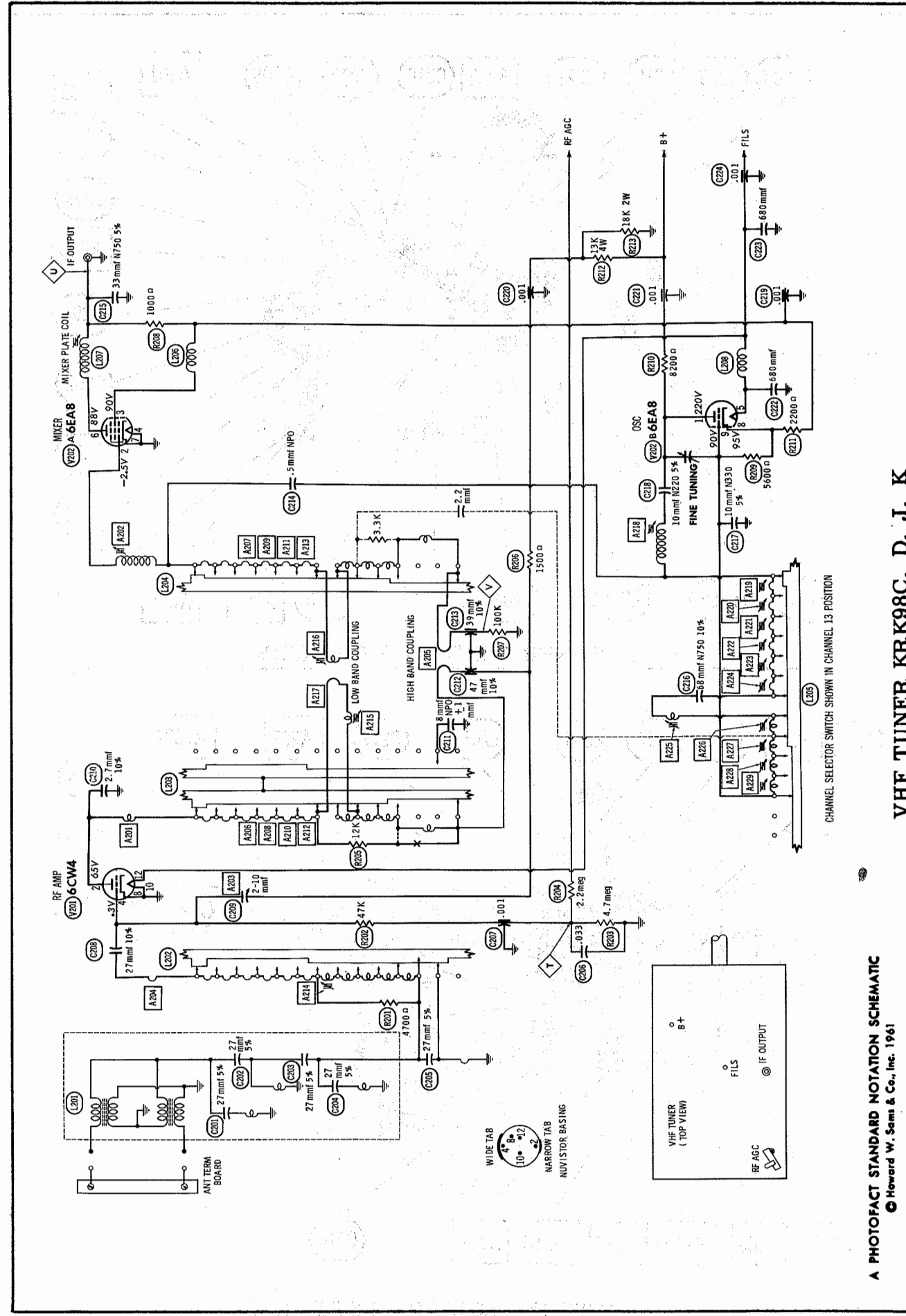
RCA VICTOR CHASSIS CT11A, B, C, D, E, F, H, J, CRK3F, CTP7B

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



A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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VHF TUNER WITH UHF PROVISIONS KRK99C, D, J, K



A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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VHF TUNER (TOP VIEW)  
B, C, D, E, F, H, J, CRK3F, CTP7B, KRK99C, D, J, K

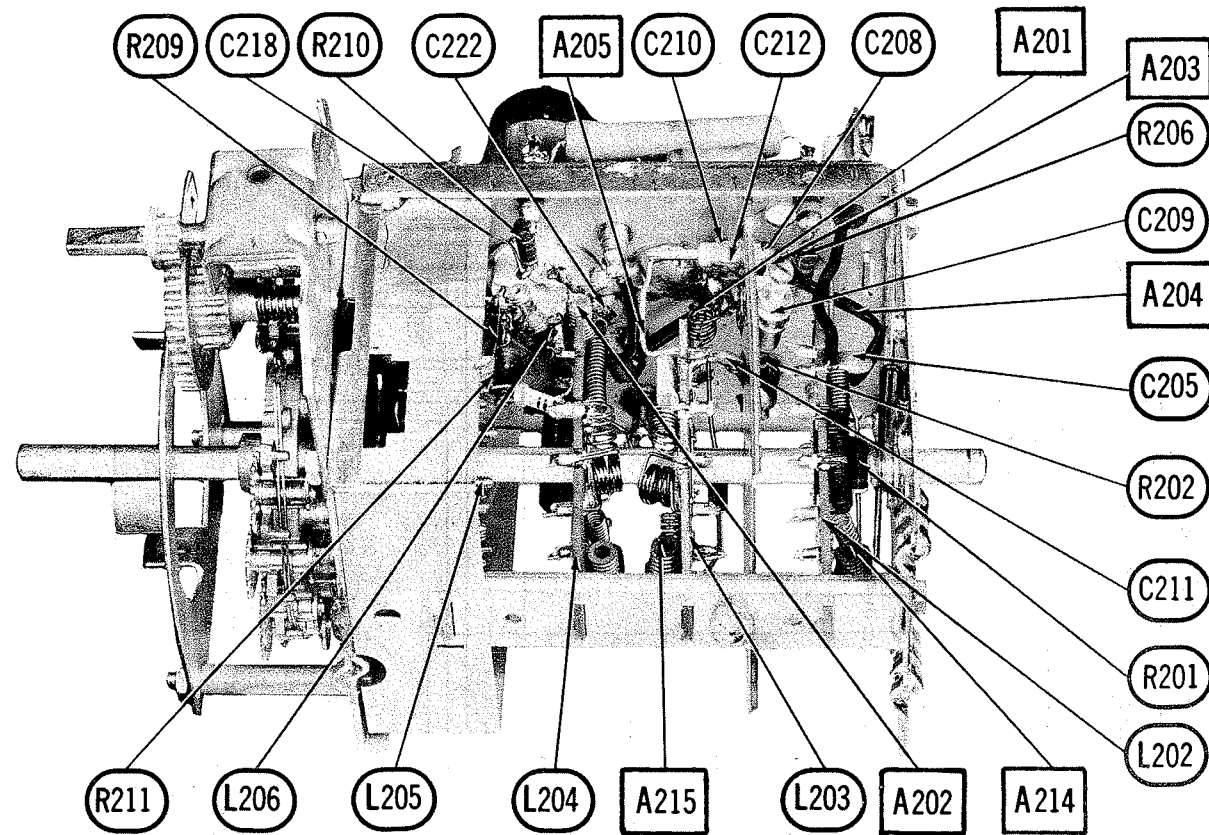
## ALIGNMENT INSTRUCTIONS

### REMOTE CONTROL RECEIVER

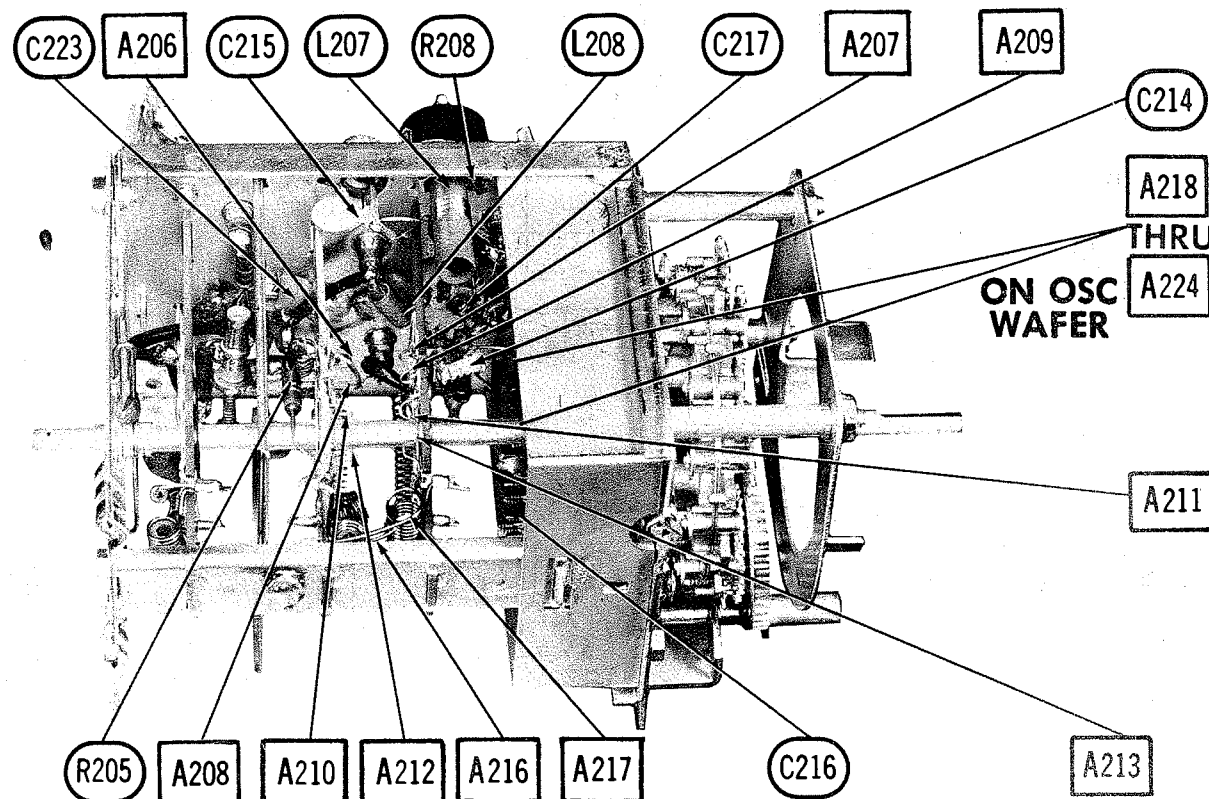
#### REMOTE CONTROL RECEIVER ALIGNMENT

Short points  $\diamond$ ,  $\diamond$ ,  $\diamond$  and pin 6 (cathode) of Vol. Rect. Amp. to chassis with clip leads.  
Suggested Alignment Tools: GENERAL CEMENT #8282, 8606, 8505L, 9295, 9440  
WALSCO #2526, 2543, 2544, 2545

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CONNECT VTVM	ADJUST	REMARKS
1. High side to microphone input. Low side to chassis.	40.75 KC	DC probe thru 10meg to point $\diamond$ . Common to chassis.	A18	Adjust for maximum deflection. Then turn $\frac{1}{2}$ turn clockwise.
2. "	35.75 KC	DC probe thru 10meg to point $\diamond$ . Common to chassis.	A19	Remove clip lead from points $\diamond$ , $\diamond$ , $\diamond$ and pin 6 of Vol. Rect. Amp. Adjust A19 for maximum deflection.
3. "	38.25 KC	DC probe thru 10meg to point $\diamond$ . Common to chassis.	A20	Adjust for maximum deflection.
4. "	40.75 KC	DC probe thru 10meg to point $\diamond$ . Common to chassis.	A21	"
5. "	43.25 KC	DC probe thru 10meg to pin 3 (Cath.) of Vol. Rect. Amp. Common to chassis.	A22	"



VHF TUNER KRK98D - RIGHT SIDE



VHF TUNER KRK98D - LEFT SIDE

### REMOTE CONTROL TRANSMITTER

#### REMOTE CONTROL TRANSMITTER ALIGNMENT

Remove the complete cover from the transmitter.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CONNECT SCOPE	ADJUST	REMARKS
6. High side to horizontal input of scope. Low side to ground lug of scope.	19.125 KC	Vert. Amp. probe about 1 inch in front of transducer opening at end of transmitter. Low side to negative terminal of battery.	A23	Depress right hand "Color" button and adjust A23 for zero beat on scope. Depress left hand "Color" button and check for blocking on scope pattern.
7. "	17.875 KC	"	A24	Depress right hand "Tint" button and adjust A24 for zero beat. Depress left hand "Tint" button and check for blocking on scope pattern.
8. "	20.375 KC	"	A25	Connect a clip lead from point $\diamond$ to point $\diamond$ . Depress "Channel" button and adjust A25 for zero beat on scope. Remove jumper.
9. "	21.625 KC	"	A26	Depress right hand "On-Volume" button and adjust A26 for zero beat on scope. Depress left hand "Off-Volume" button and check for blocking.

RCA VICTOR CHASSIS CTC1A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

FOLDER 2



# TUNER PARTS LIST AND DESCRIPTIONS

KRK98D

TUBES

GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	6CW4	V202	Mixer - Osc.	6EA8

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	27 5%	#109794	NPO-DI 25 P288N-033 EF-001	TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C202	27 5%			TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C203	27 5%			TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C204	27 5%			TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C205	27 10%			TCZ-27	C10Q27C	CCTO-270	CNO-427	10TCC-Q27
C206	.033 200V			DD-303	CUB6S33	4DP-2-333	GEM-6133	6TM-S33
C207	.001			MFT-1000		CCF-102	CT280A	
C208	27 10%			NPO-DI 27	TCZ-27	C10Q27C	CCTO-270	10TCC-Q27
C209	2-10				829-10			
C210	2.7 10%							
C211	8 NPO ±1mmf	#109559	NPO-SI 3.0 NPO-DI 8.2	C10V3C			10TCC-V27	
C212	47 10%					C10V82C		10TCC-V82
C213	39 10%							
C214	.5mmf NPO	#109558	NPO-SI .5	TCZ-R5		CNO-550		
C215	33 N750 5%			DTN-33	C10Q33U	CCTN-330	CN7-433	10TCU-Q33
C216	68 N750 10%			DTN-68	C10Q68U	CCTN-680	CN7-468	10TCU-Q68
C217	10 N330 5%	#103556	N750-DI 68				10TCS-Q10	
C218	10 N220 5%							10TCR-Q10
C219	.001			EF-001	MFT-1000	CCF-102	CT280A	
C220	.001	EF-001	MFT-1000	CCF-102	CT280A			
C221	.001	EF-001	MFT-1000	CCF-102	CT280A			
C222	680	DI-680	DD-681	BYA10T68	GP368	10TS-T68		
C223	680	DI-680	DD-681	BYA10T68	GP368	10TS-T68		
C224	.001	EF-001	MFT-1000	CCF-102	CT280A			

# RCA Victor Part Number.  
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

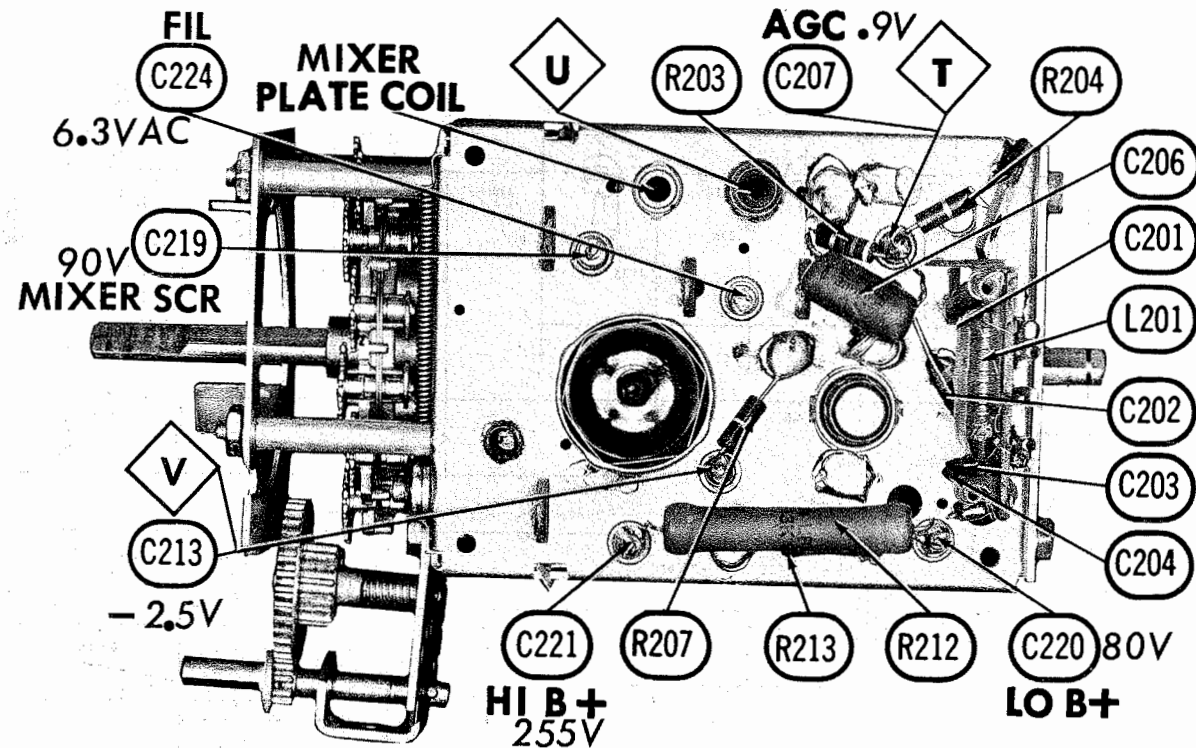
## RESISTORS

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

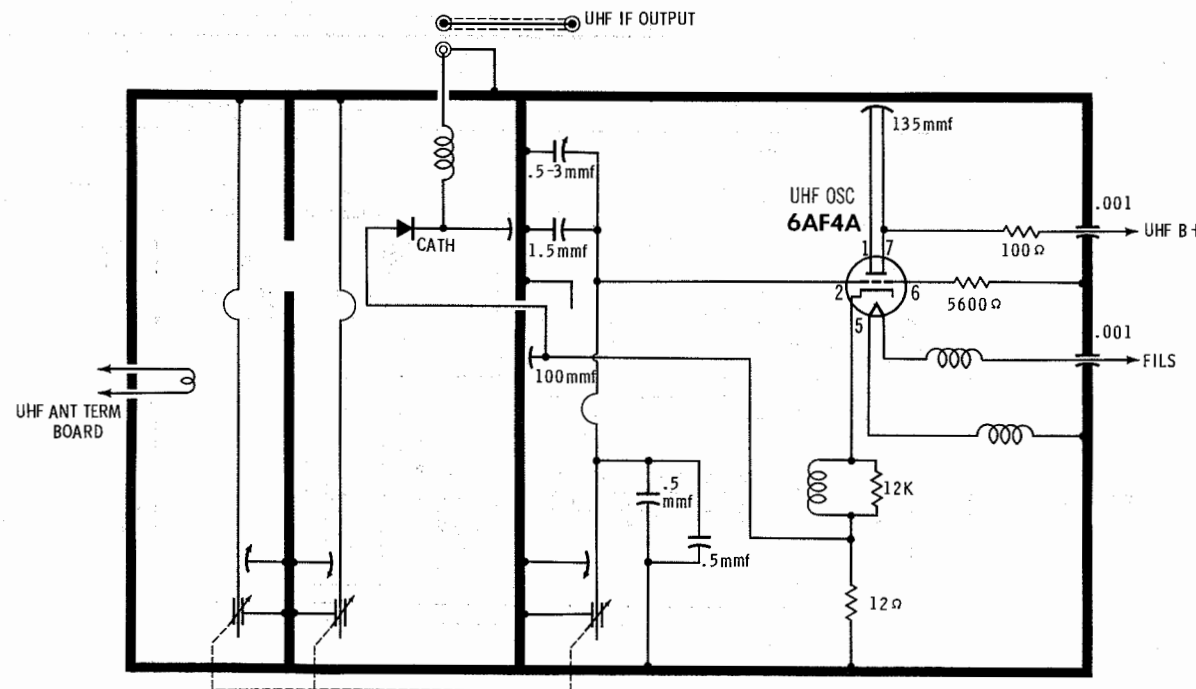
ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R201	4700Ω				R208	1000Ω			
R202	47K				R209	5600Ω			
R203	4.7meg				R210	8200Ω			
R204	2.2meg				R211	2200Ω			
R205	12K				R212	13K 4W	PW4-13K	4W-SQ-13K	
R206	1500Ω				R213	18K 2W			
R207	100K								

## COILS (RF-IF)

ITEM No.	USE	RCA Victor PART No.	NOTES	ITEM No.	USE	RCA Victor PART No.	NOTES
L201	Ant. Matching	109364	Assembly Channel 2-13, Includes Wafer Assembly	L205	Osc.	109367	Channel 2-13, Includes Wafer Assembly
L202	Ant.	109565					
L203	RF Mixer Grid	109563	"	L206	RF Choke	107966	"
L204	Mixer Grid	109561	"	L207	Mixer Plate		
				L208	Fil. Choke		



VHF TUNER KRK98D - TOP VIEW



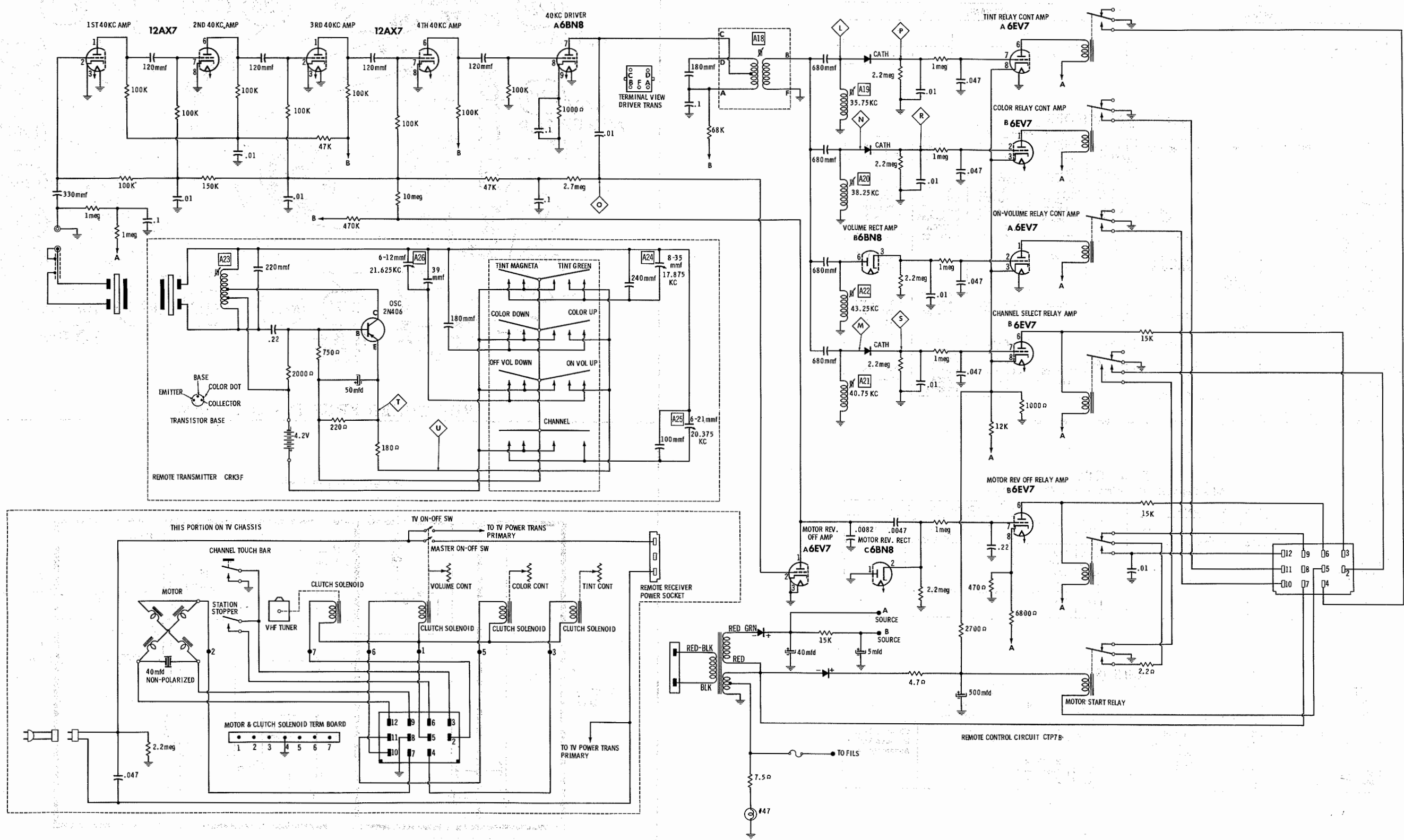
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1961

UHF TUNER KRK66AA, AB

SET 550 FOLDER 2

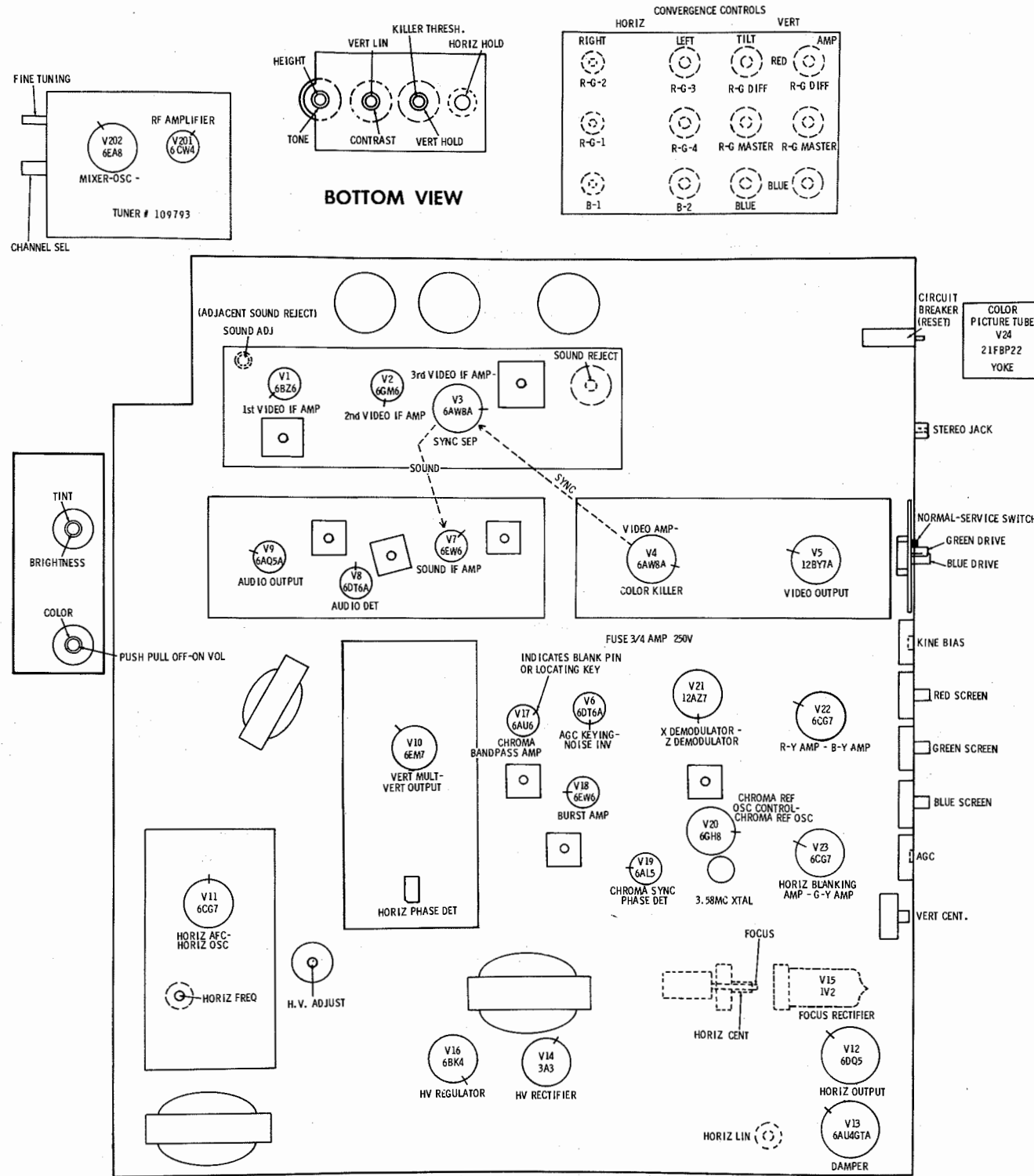
RCA VICTOR CHASSIS CT11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

FOLDER 2

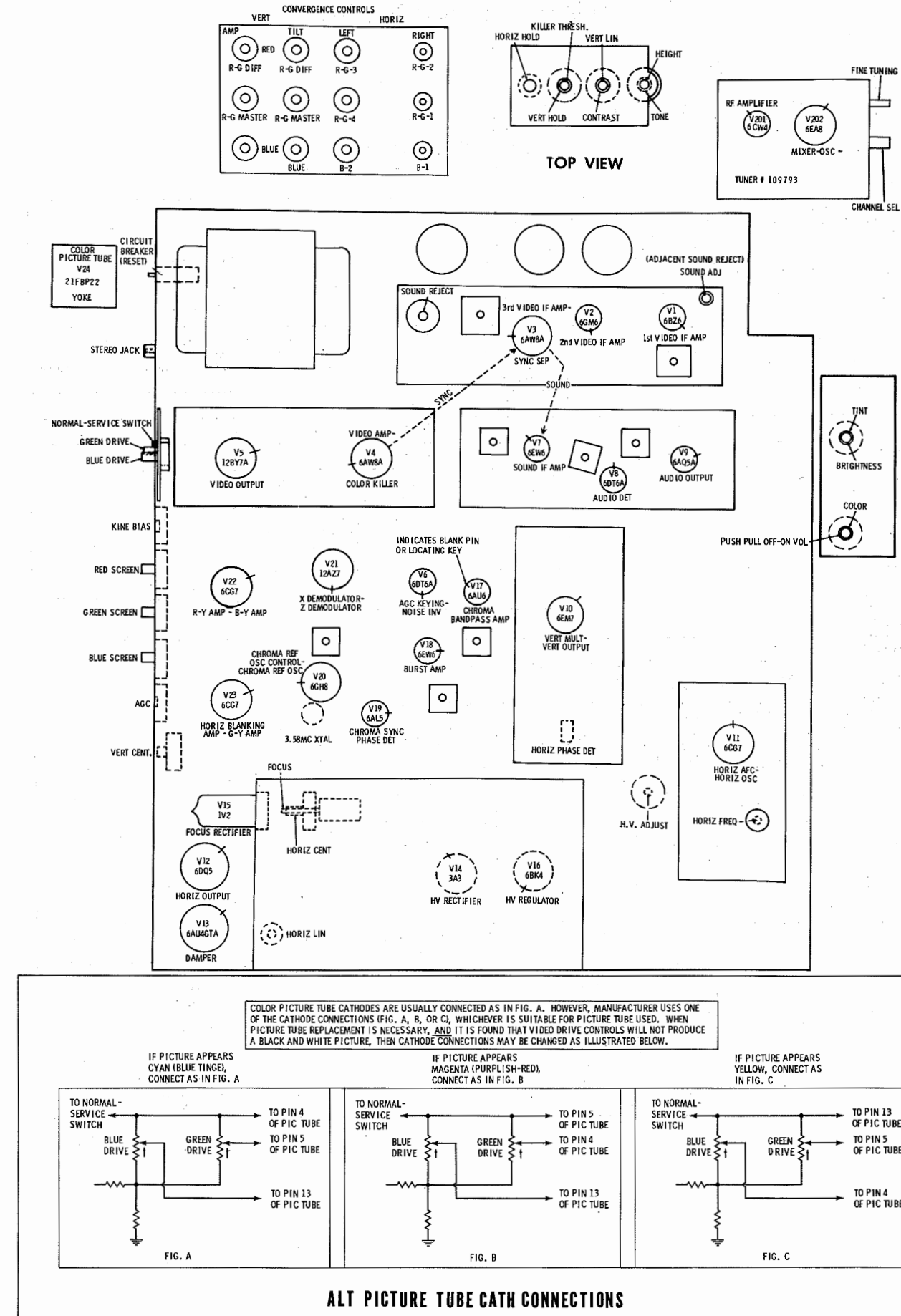


RCA VICTOR CHASSIS CTC11A,  
 B, C, D, E, F, H, J, CRK3F, CTP7B

# TUBE PLACEMENT CHART



# TUBE PLACEMENT CHART



RCA VICTOR CHASSIS CT11A, B, C, D, E, F, H, J, CRK3F, CTP7B

FOLDER 2

# TV ALIGNMENT INSTRUCTIONS

## PRE-ALIGNMENT INSTRUCTIONS

The high voltage lead should be securely taped and kept away from the chassis.  
Allow a 20 minute warm-up period for the receiver and test equipment.

Suggested Alignment Tools:  
A1 thru A19 ..... GENERAL CEMENT #8606, 8606L, 8282, 9295  
WALSCO #2526, 2543, 2544, 2545  
A20 ..... GENERAL CEMENT #5000, 5003, 5014, 5015, 5016, 8276, 8290  
WALSCO #2512, 2515, 2522, 2523, 2525, 2537

## VIDEO IF ALIGNMENT

Remove Horizontal Output Tube.  
Connect the negative lead of a 6 volt bias supply to point Ⓛ. Positive to chassis.  
Connect the negative lead of a 15 volt bias supply to point Ⓜ. Positive to chassis.  
Connect the negative lead of a 15 volt bias supply to pin 2 of V23. Positive to chassis.  
Connect a clip lead from point Ⓟ to chassis. Preset Sound Reject (R16) at 75% clockwise rotation. Preset Adjacent Sound Adjust (R15) at 50% rotation.  
Video IF Shield must be in place during alignment.

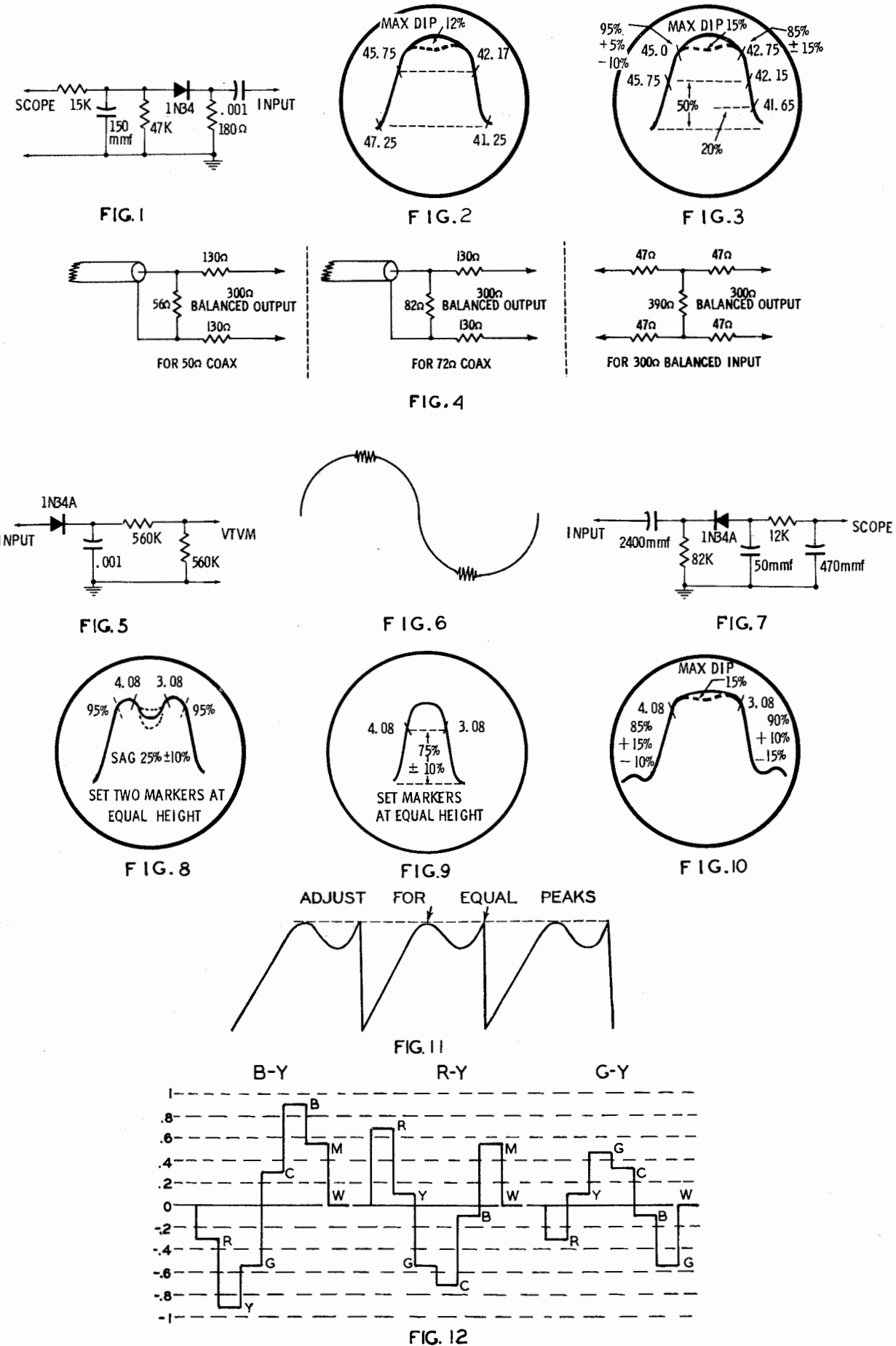
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. Direct	High side to ungrounded tube shield floating over Mixer-Osc. tube (V202). Low side to chassis.	43.8MC (Unmod.)	4	DC probe thru 10K to point Ⓛ. Common to chassis. Use negative scale.	A1	Adjust for maximum deflection. Use peak with core nearest printed board end of coil. Maintain VTVM reading of 1.5 volts by adjusting signal generator output.
2. "	"	42.5MC	"	"	A2	"
3. "	"	45.75MC	"	"	A3	"
4. "	"	44.0MC	"	"	A4	"
5. "	"	"	"	"	Mixer Plate Coil	Adjust for maximum deflection with peak at top end of coil.
6. "	"	41.25MC	"	"	A5, R16	Adjust A5 and Sound Reject (R16) simultaneously for MINIMUM deflection with slug away from chassis. Reduce bias at point Ⓛ if necessary for sufficient indication.
7. "	"	47.25MC	"	"	A6, R15	Adjust A6 and Adjacent Sound (R15) simultaneously for MINIMUM deflection with slug away from chassis.

## OVERALL VIDEO IF RESPONSE CHECK

Connect bias as under "Video IF Alignment".  
Connect a .001mfd capacitor in series with a 180Ω resistor from pin 5 (plate) of 6GM6 (V2) to chassis with the resistor next to chassis.  
Connect a 1000mfd capacitor across the scope leads.  
The Video IF Shield must be in place during alignment.  
Connect the DC probe of the VTVM to point Ⓟ. Common to chassis. (Use negative scale.)  
Use 10MC sweep unless otherwise noted.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8. Direct	High side to ungrounded tube shield floating over Mixer-Osc. tube (V202). Low side to chassis.	45MC	42.17MC 45.75MC	4	Vert. Amp. thru demodulator probe (Fig. 1) to pin 5 (plate) of 6BZ6 (V1).		Set sweep output for .1 volt peak to peak on scope. Retouch Mixer Plate Coil and A4 for maximum gain and symmetry of response similar to Fig. 2. Reduce bias to -4 volts at point Ⓛ if necessary.
9. "	"	"	47.25MC	"	"		Retouch A6 and R15 to place marker in trap notch as in Fig. 2. Remove capacitor and resistor load from 6GM6 (V2). Increase bias at point Ⓛ to -6 volts. Remove .001mfd and 180Ω from pin 5 of V2.
10. "	"	"	41.65MC 42.17MC 42.75MC 45.0MC 45.75MC	"	Vert. Amp. thru 10K to point Ⓛ. Low side to chassis.		Use 3 volts peak to peak on scope. Retouch A1, A2 and A3 for response similar to Fig. 3 with markers as shown. A1 controls tilt, A2 affects 42.17MC side of curve and A3 affects 45.75MC side. Connect a .001mfd capacitor from point Ⓟ to chassis.
11. "	"	"	41.25MC	"	"		Retouch A5 and R16 to place 41.25MC in trap notch if necessary. Remove .001mfd.
12. Fig. 4	Across VHF Antenna Terminals thru matching network (Fig.4)	All VHF Channels separately	42.17MC 45.0MC 45.75MC	All VHF Channels separately	"		Decrease bias at point Ⓟ to -3 volts. SLIGHTLY retouch A1, A2 and A3 to correct for any overall tilt that is approximately the same on all channels. Repeat step 11.

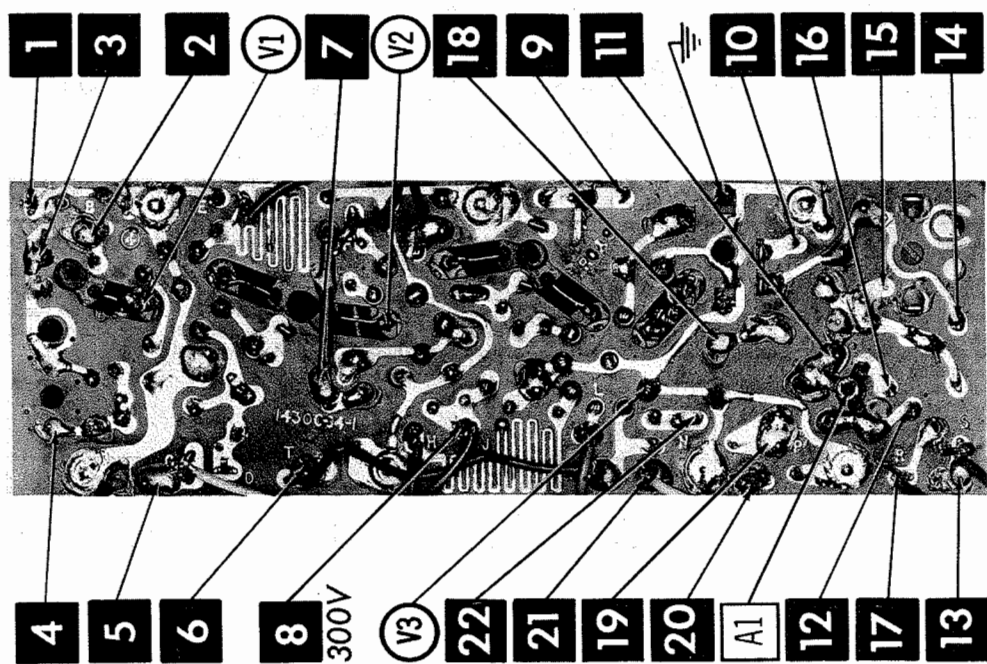
## TV ALIGNMENT INSTRUCTIONS (cont)



RCA VICTOR CHASSIS CT11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

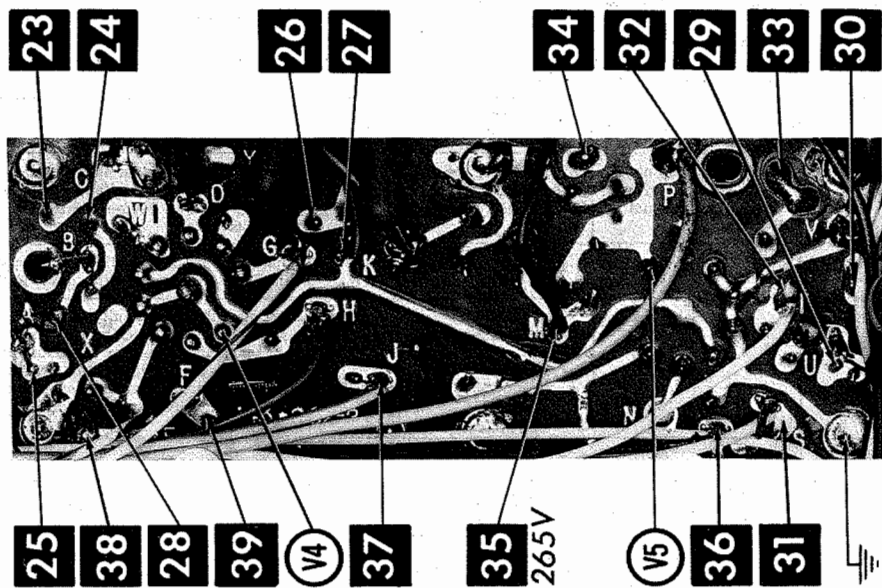
FOLDER 2



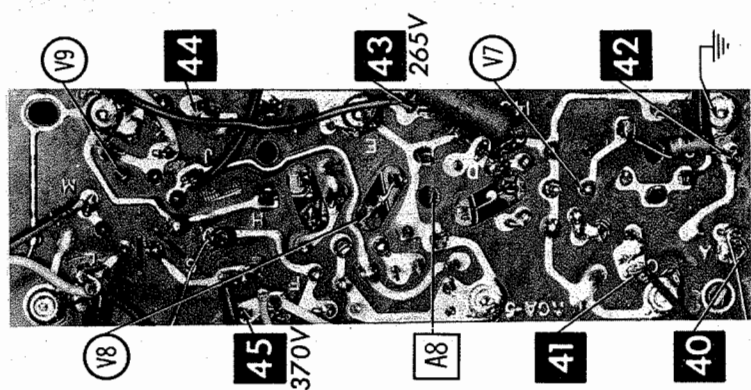


A Howard W. Sams CIRCUITRACE® Photo

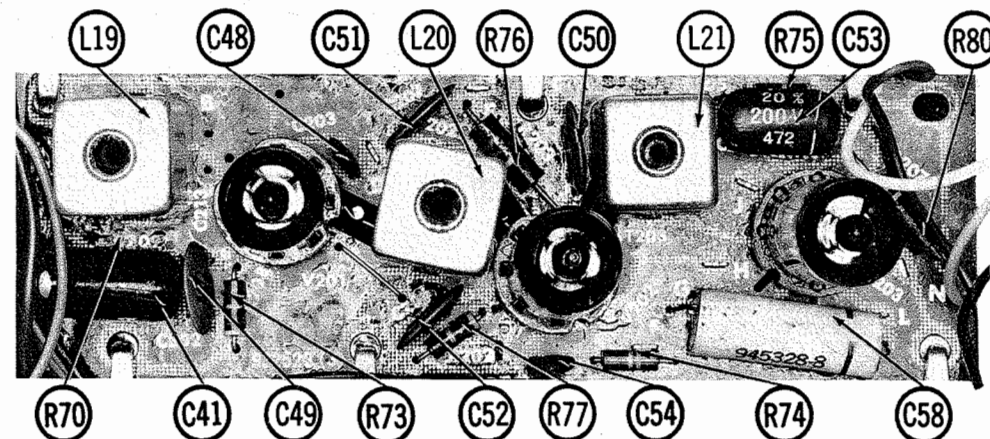
VIDEO IF - SYNC SEP. PRINTED BOARD



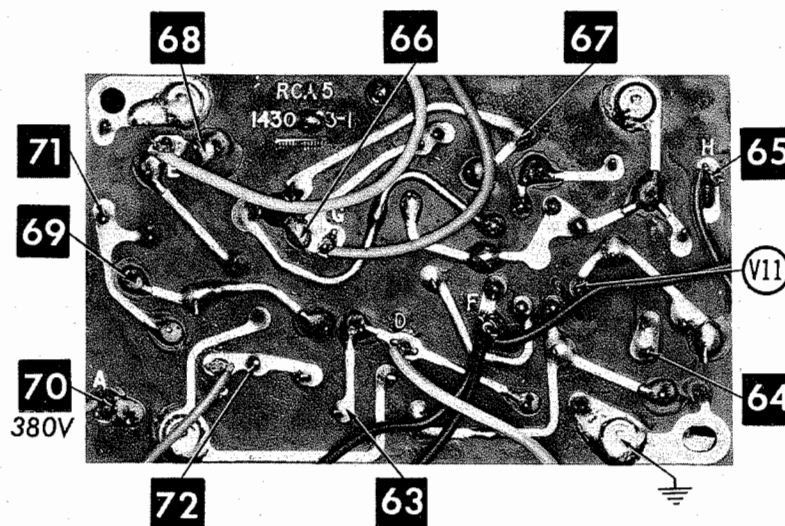
VIDEO AMP. - OUTPUT PRINTED BOARD



SOUND PRINTED BOARD

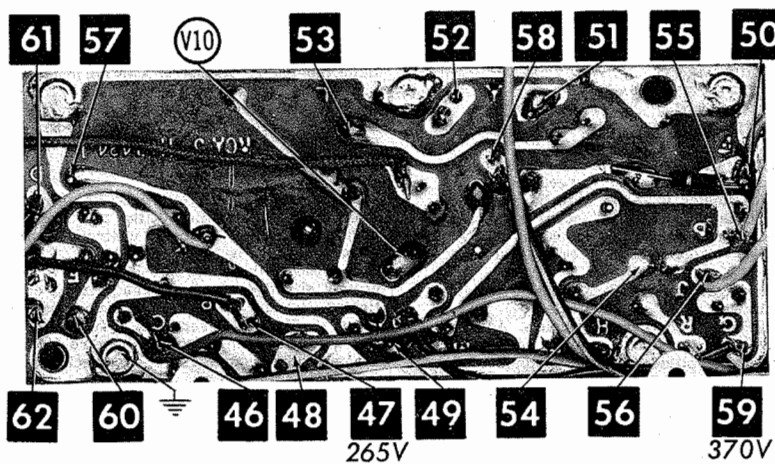


SOUND PRINTED BOARD



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HORIZ. AFC - OSC. PRINTED BOARD



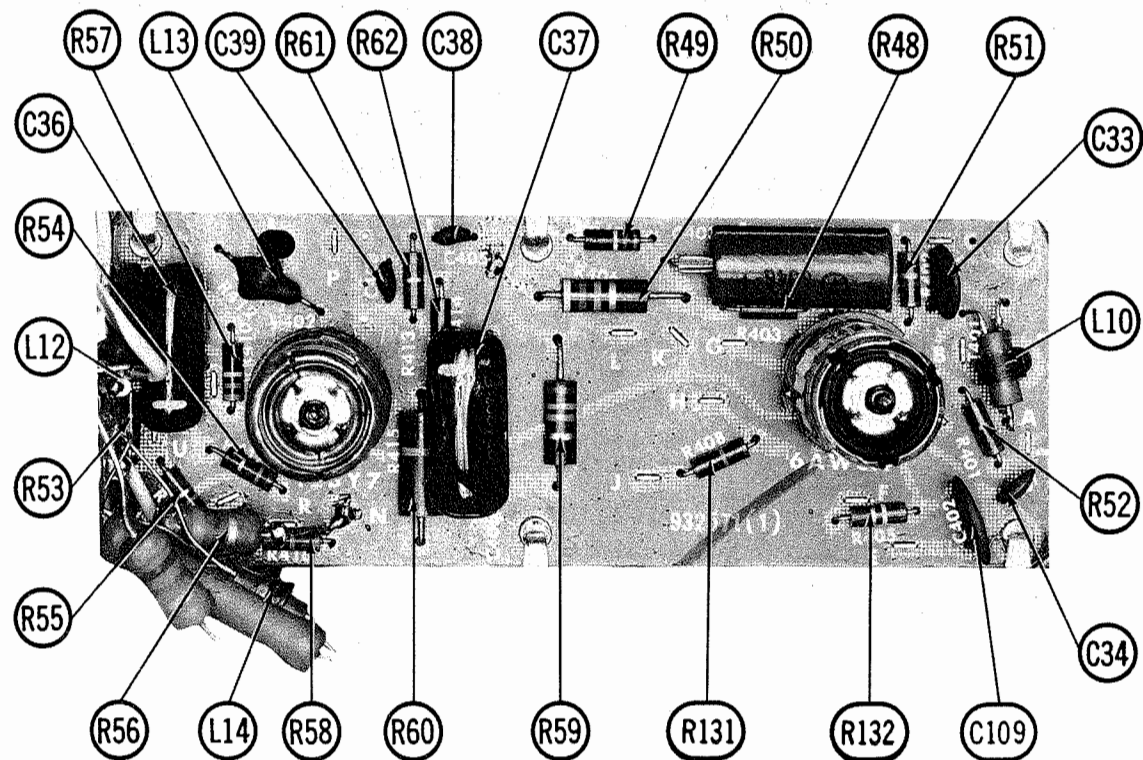
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VERT. MULT. - OUTPUT PRINTED BOARD

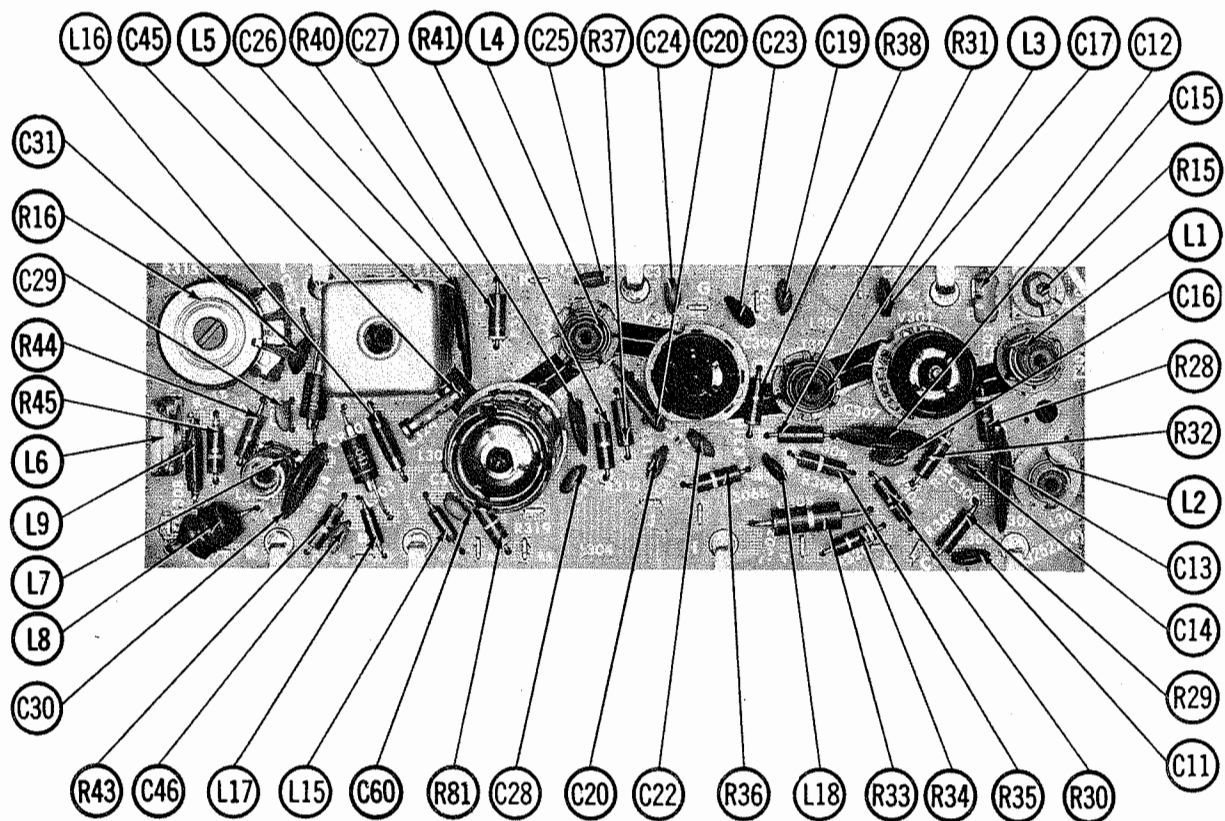
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

RCA VICTOR CHASSIS CTC11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

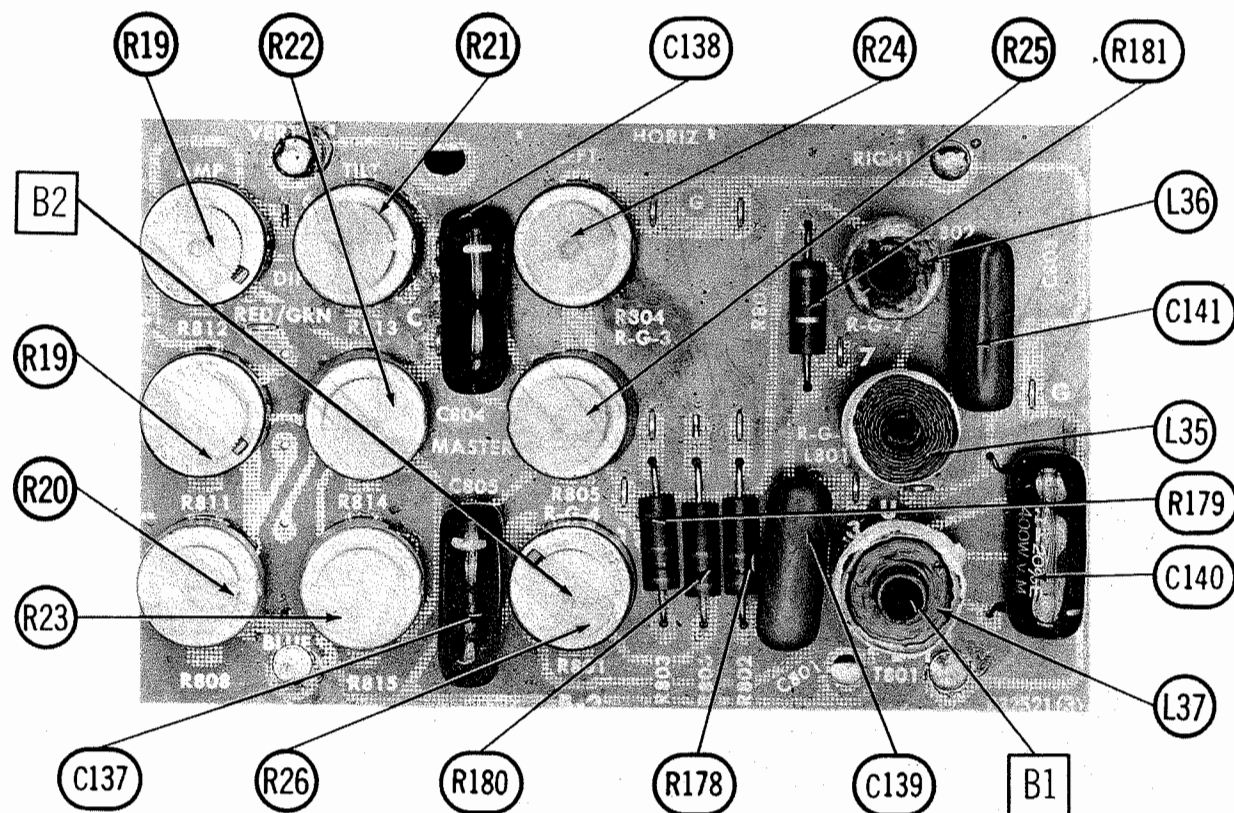
FOLDER 2



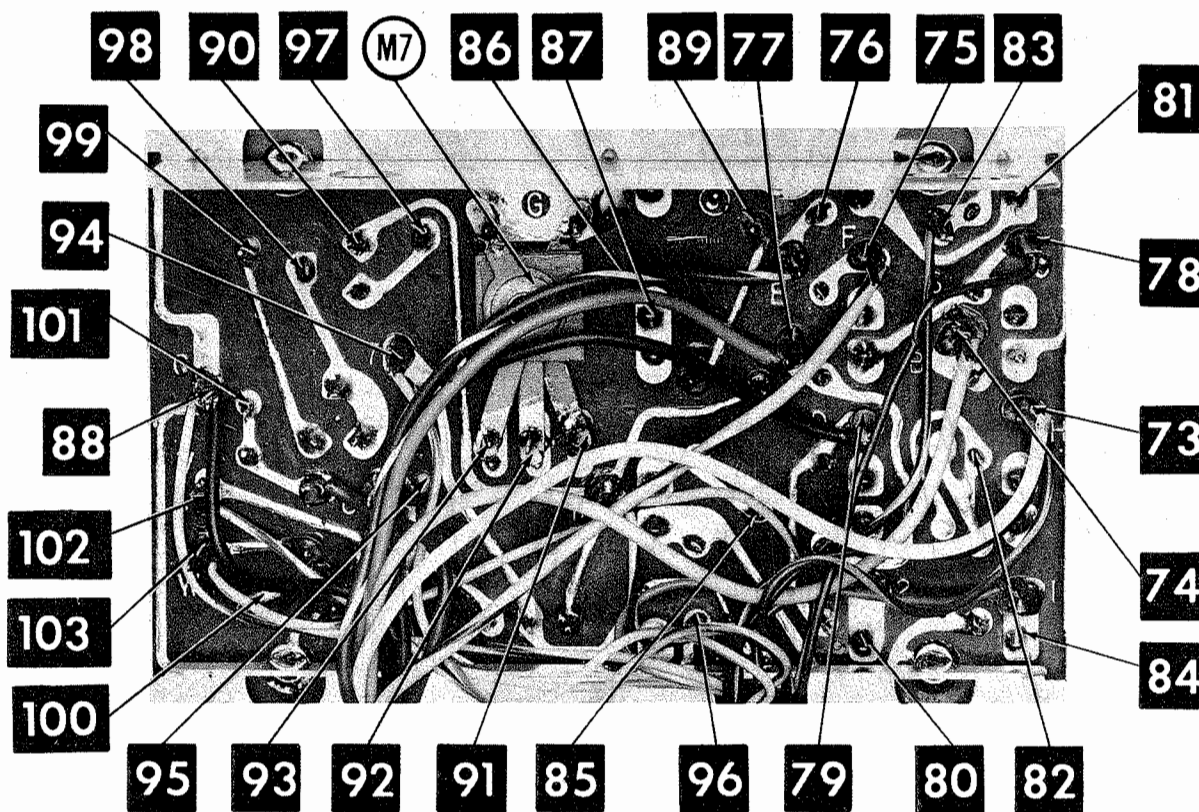
VIDEO AMP - OUTPUT PRINTED BOARD



VIDEO IF - SYNC SEP. PRINTED BOARD



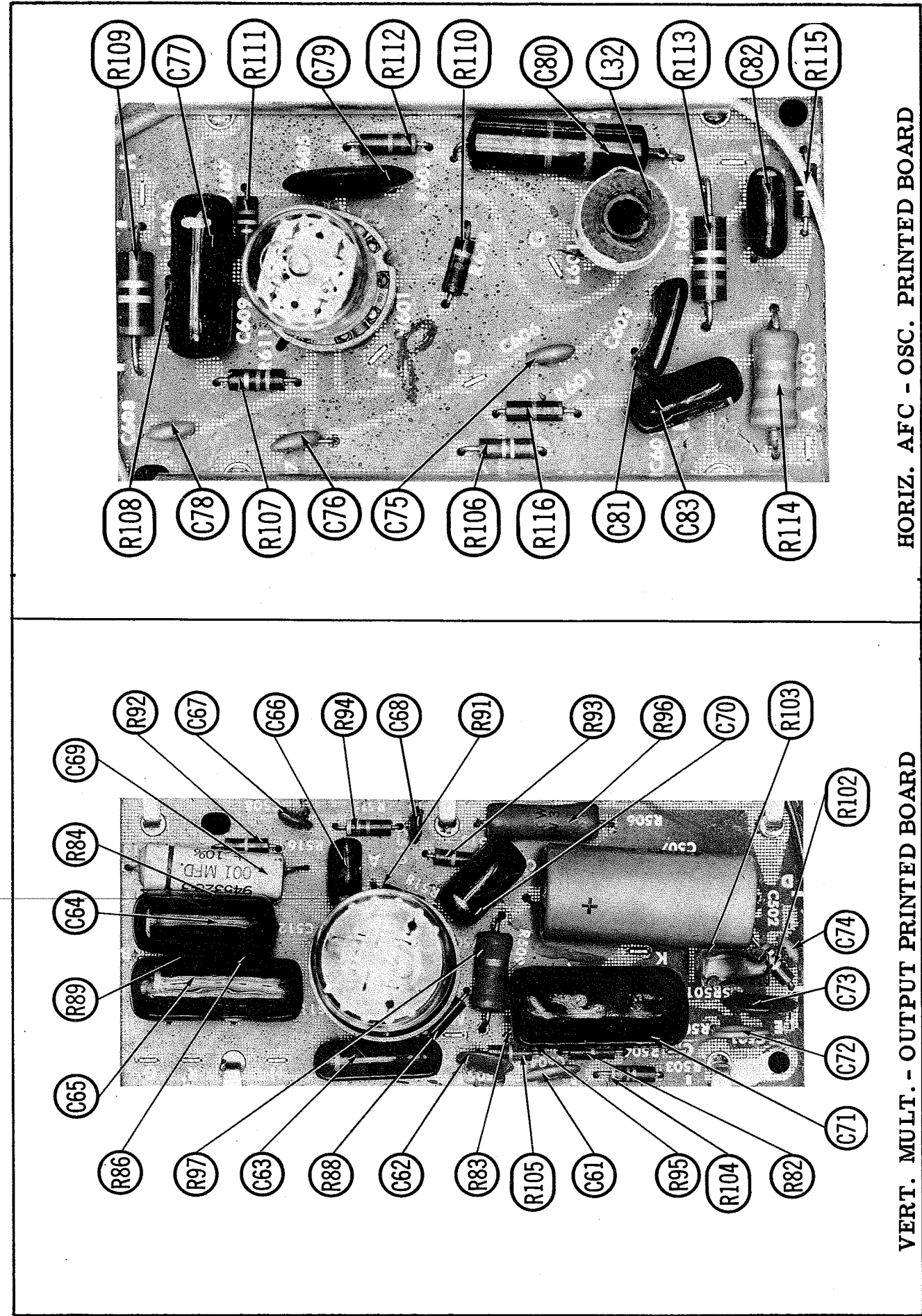
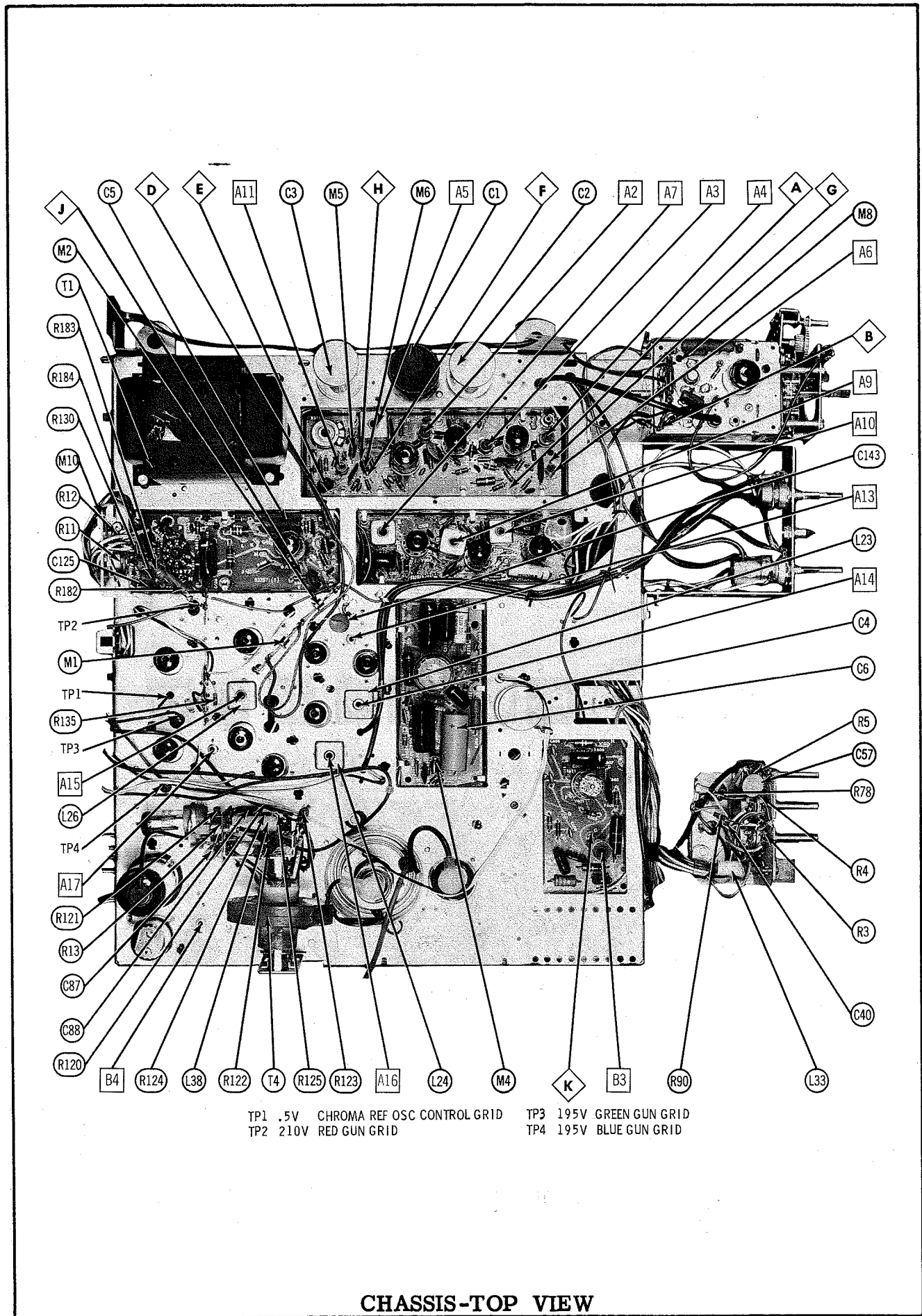
CONVERGENCE PRINTED BOARD



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RCA VICTOR CHASSIS CTC11A,  
B, C, D, E, F, H, J, CRK3F, CTP7B

FOLDER 2







## PARTS LIST AND DESCRIPTIONS

### TUBES

GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	1st Video IF Amp.	6BZ6	V14	HV Rectifier	3A3			
V2	2nd Video IF Amp.	6GM6	V15	Focus Rectifier	1V2			
V3	3rd Video IF Amp. - Sync Sep.	6AW8A	V16	FV Regulator	6BK4			
V4	Video Amp. - Color Killer	6AW8A	V17	Chroma Bandpass Amp.	6AU6A			
V5	Video Output	12BY7A	V18	Burst Amp.	6EW6			
V6	AGC Keying - Noise Inv.	6DT8A	V19	Chroma Sync Phase Det.	6AL5			
V7	Sound IF Amp.	6EW9	V20	Chroma Ref. Osc. Control	6GH8			
V8	Audio Detector	6DT8A	V21	X Demodulator - Chroma Ref. Osc.	6GH8			
V9	Audio Output	6AQ5A	V22	Z Demodulator - R-Y Amp. - B-Y Amp.	12A27			
V10	Vert. Mult. - Vert. Output	6EM7	V23	Horiz. Blanking Amp. - G-Y Amp.	6CG7			
V11	Horiz. AFC - Horiz. Osc.	6CG7						
V12	Horiz. Output	6DQ5						
V13	Damper	6AU4GTA						

### PICTURE TUBE

REPLACEMENT DATA						NOTES
ITEM No.	RCA Victor PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	SYLVANIA PART No.		
V24	2FBP22		2FBP22 (1)			(1) Aluminized

### 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.	SPRAGUE PART No.	NOTES	
C1	180	250	106364	AFH1-31-75	XA0315	WP131.5	TMS-1480	TVL-1540		
C2A	180	250	109240	AFHS-4-117-49		FP341.6	TMT-3259	TVL5-371L 2 *		
C2B	20	450				TC75	TD-50-50	TVA-1709		
C3	50	75								
C4	50	50								
C5A	50	450	109239	AFH4-86-25		FP385.5	TMQ-4589	TVL5-3744 5 *		
C5B	50	450				TT25X20		TVA-1716		
C6	20	25								
C7	40	450	109836	AFH1-55	A0510	FP149	TMS-1800	TVL-1735		
				PR51705	BR245	TC595	TD-2-450	TVA-1701		
				PR51480	BR5015	TC49	TD-50-150	TVA-1414		
				PR51470	BR4015	TC48	TD-40-160	TVA-1413		

\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

### FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA							
	RESISTANCE	WATTS		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELENCO PART No.	MALLORY PART No.	SPRAGUE PART No.		
C9	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C10	.1	200V		P288N-1	DD-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10		
C11	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C12	9	NPO 5%		NPO-SI 10	TCZ-10	C10V8C	CCCTO-100	CNO-410	10TCP-Q10		
C13	150	NPO 5%						CNO-315	10TCP-T15		
C14	.001		#102237	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C15	680	N2200 10%									
C16	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C17	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C18	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C19	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C20	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C21	330	10%		DI-330	LI0T33	CCD-331	GP333	10TS-T33			
C22	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C23	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C24	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C25	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C26	560	N1500 5%	#109142	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C27	.0022			BPD-0022	DD-222	BYA10D22	CCD-222	B-222	5HK-D22		
C28	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C29	10	N150 10%	#105302						10TCP-Q22		
C30	100	N033 10%	#104304						10TCP-Q10		
C31	22	N150	#109259								
C32	18	NPO		NPO-SI 18	TCZ-18	C10Q8C	CCCTO-180	CNO-418	10TCP-Q18		
C33	.0022			BPD-0022	DD-222	BYA10D22	CCD-222	B-222	5HK-D22		
C34	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C35	.01			BPD-001	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C36	.1	200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10		
C37	.22	200V		P288N-22	2DP-4-224	CUB2P22	2DP-4-224	GEM-2022	2TM-P22		
C38	390	10%		DI-390	LI0T39	CCD-391	GP339	10TS-T39			
C39	390	10%		DI-390	LI0T39	CCD-391	GP339	10TS-T39			
C40	.0015			BPD-0015	DD-152	BYA10D15	CCD-152	B-215	5HK-D15		
C41	.1	400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-201	4TM-P10		
C42	180	10%		DI-180	LI0T18	CCD-181	GP318	10TS-T18			
C43	56	6000V		HVD-60-56	DD80-560	BPD-001	8CCD-560	60GA-Q56			
C44	.001		#103411	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C45	1.5	N3300	#105302						10TCP-Q10		
C46	10	N150	#106384								
C47	5	N1500 5%									
C48	680			DI-680	DD-681	BYA10T68	CCD-681	B-368	10TS-T68		
C49	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C50	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C51	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C52	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10		
C53	.047	200V		P288N-047	DD-503	CUB2847	4DP-3-473	GEM-2047	2TM-S47		
C54	580			DI-580	DD-581	LI0T56	CCD-561	B-356	10TS-T56		
C55	.0088			BPD-0088	DD-682	BYA10D68	CCD-682	B-288	5HK-D68		
C56	.001			BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C57	.0047			BPD-0047	DD-472	BYA10D47M	CCD-472	B-247	5HK-D47		
C58	.0027	1600V 10%		BPD-0027	DD-332	DPMS6D33	16DP-2-302	GEM-1623	MB-D3		
C59	.0033			BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33		
C60	150	10%		DI-150	DD-151	LI0T15	CCD-151	GP315	10TS-T15		
C61	.0022			BPD-0022	DD-222	BYA10D22	CCD-222	B-222	5HK-D22		
C62	.0015			BPD-0015	DD-152	BYA10D15	CCD-152	B-215	5HK-D15		
C63	.027	600V 10%		P684CM-027	6DP-3-273	DPMS6S27	6DP-3-273	GEM-1613	6PS-S27		
C64	.1	600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10		
C65	.22	400V		P488N-22	4DP-5-224	CUB4P22	4DP-5-224	GEM-2022	4TM-P22		

### FIXED CAPACITORS (cont)

ITEM No.	RATING		REMARKS	REPLACEMENT DATA							
	RESISTANCE	WATTS		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELENCO PART No.	MALLORY PART No.	SPRAGUE PART No.		
C66	.0068	400V 10%		V84CB68-10%	DD-681	PMB68	6DP-1-682	GEM-16268	6TM-D68		
C67	680			DI-680	DD-681	BYA10T68	CCD-681	B-368	10TS-T68		
C68	680			DI-680	DD-681	BYA10T68	CCD-681	B-368	10TS-T68		
C69	.001	2000V 10%	#105320								
C70	.0082	1000V		P1084CM-0082	DD-822	CUB16D8	16DP-3-802	GEM-16282	MB-D8		
C71	.47	200V		P288N-47	DD-822	CUB2P47	2DP-5-474	GEM-2047	2TM-P47		
C72	47	NPO 10%		NPO-DI 47	DTZ-47	C10Q47C	CCCTO-470	CNO-447	10TCC-Q47		
C73	68	NPO 10%		NPO-DI 68	DTZ-68	C10Q68C	CCCTO-680	CNO-468	10TCC-Q68		
C74	27			DI-27	DD-270	LI0Q27	CCD-270	B-270	10TS-Q27		
C75	680	10%		DI-680	DD-681	5RE768	CCD-681	GP368	10TS-T68		
C76	820	10%		DI-820	DD-821	5R5T82	CCD-821	GP382	10TS-T82		
C77	.1	200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10		
C78	.001		#109806	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10		
C79	390	1500V 5%		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10		
C80	.01	600V		1469-00068		5R5T68	CM-19B-681J	MCI249	MS-368		
C81	680	5%		V84CB68-10%		PM68D15	6DP-1-152	GEM-16215	6TM-D15		
C82	.0015	600V 10%		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10		
C83	.01	600V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10		
C84	.1	600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10		
C85	.047	600V		P688N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47		
C86	.047	600V		P688N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47		
C87	270	200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10		
C88	130	6000V		HVD-60-120	DD60-121	LI0Q22	6CCD-121	60GA-T12			
C89	22			DI-22	DD-220	PM2P15	2DP-3-154	GEM-2015	2TM-P15		
C90	.15	200V 10%		V84C2P15-10%							
C91	.12	600V 10%									
C92	270	2000V N1500 10%	#109228	BPD-0033	DD-332	BPD-0033	VCM-20-271K	B-233	5HK-D33		
C93	.0033										
C94	560	2500V 10%	#109843								
C95	100	3000V 5%	#106306								
C96	560	2500V 10%	#109843								
C97	47	4000V		HVD-60-47	DD60-470	HYB50Q47					