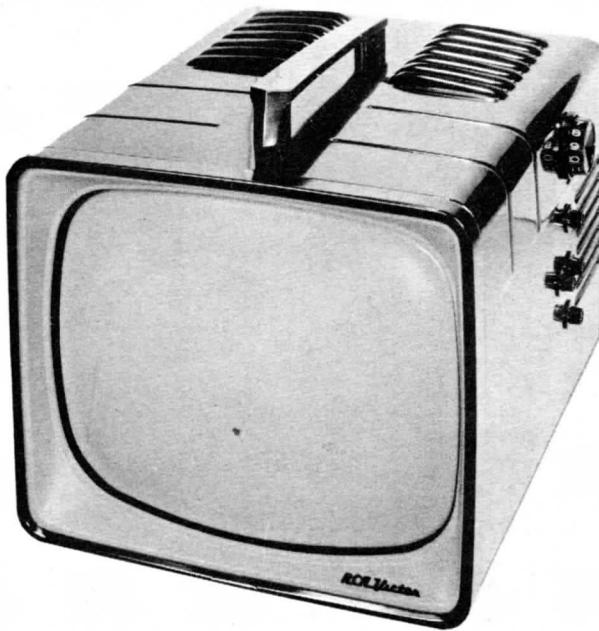




## DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

1. Remove 6 push-on type knobs from side of cabinet.
2. Remove 3 metal screws holding front trim and remove trim.
3. Bend 2 tabs at top of safety glass up and remove safety glass.
4. Remove 6 metal screws and remove rear cover.
5. Remove speaker leads.
6. Remove 1 metal screw holding chassis to brace at top.
7. Place receiver front down on a pad.
8. Remove 3 chassis screws from bottom.
9. Lift cabinet off of chassis.
10. Remove 2 speaker nuts and remove speaker.



MODEL

CHASSIS

14-S-7052

KCS102B

## SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustments of the VHF tuner oscillator circuit may be accomplished by removing the channel selector and fine tuning knobs.

PICTURE TUBE SAFETY GLASS CLEANING

1. Remove 3 metal screws from bottom holding front trim and remove trim.
2. Bend up tabs at top of safety glass and remove safety glass.
3. Caution: Use only a soft cloth and water to clean safety glass.

FOCUS

Adjust Ion trap for best focus consistent with maximum brightness.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The horizontal frequency coil is located on the control panel of the chassis and is used as the horizontal hold control. Adjust the horizontal hold until the picture synchronizes horizontally.

FUSES

One fuse is used for horiz. sweep circuit protection. (For location see tube placement chart.)

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube. Rotate the two rings around the neck of the tube until the picture is properly centered.

**HOWARD W. SAMS & CO., INC. • Indianapolis 5, 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 the particular type of replacement part listed." "Reproduction or use, without express permission, of editorial or pictorial con-

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G794

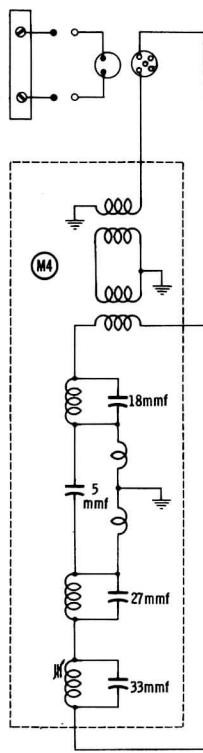
DATE 4-57

SET 354

FOLDER 16

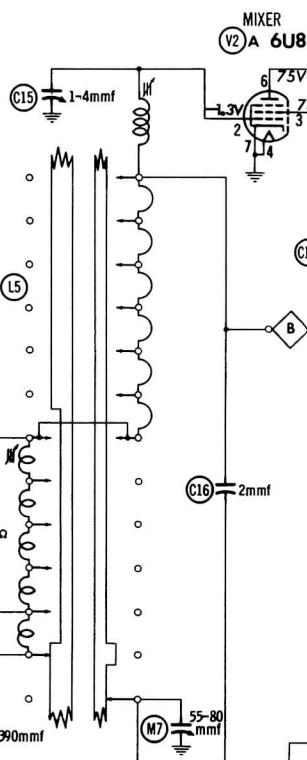
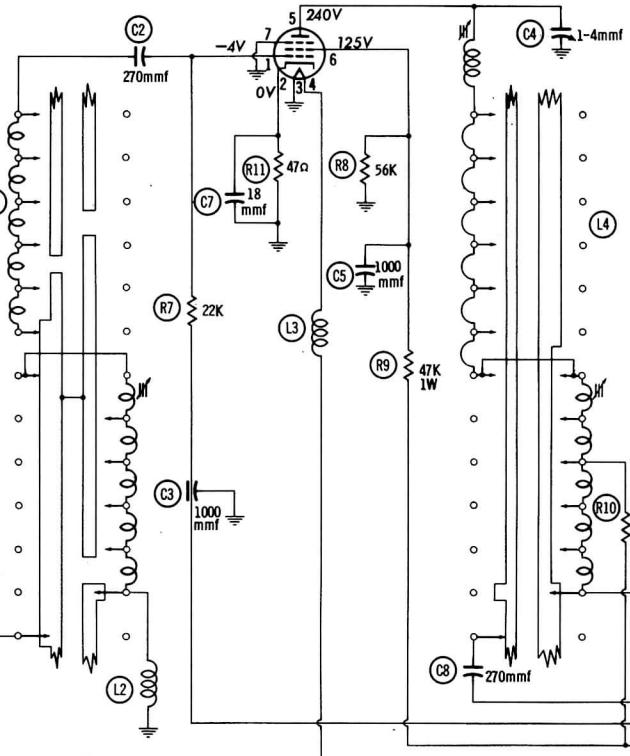
RCA VICTOR MODELS 14-S-7052, U, 14-S-7070, U,  
14-S-7071, U, 14-S-7074, U, (Ch. KCS102B, D)

VHF ANT.  
TERMINAL  
BOARD

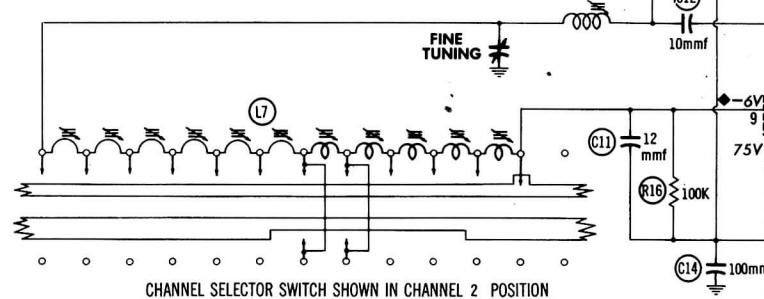


ALTERNATE UHF-VHF  
TUNER SCHEMATIC  
LOCATED ON PAGE 10.

RF AMP  
VI 6CB6

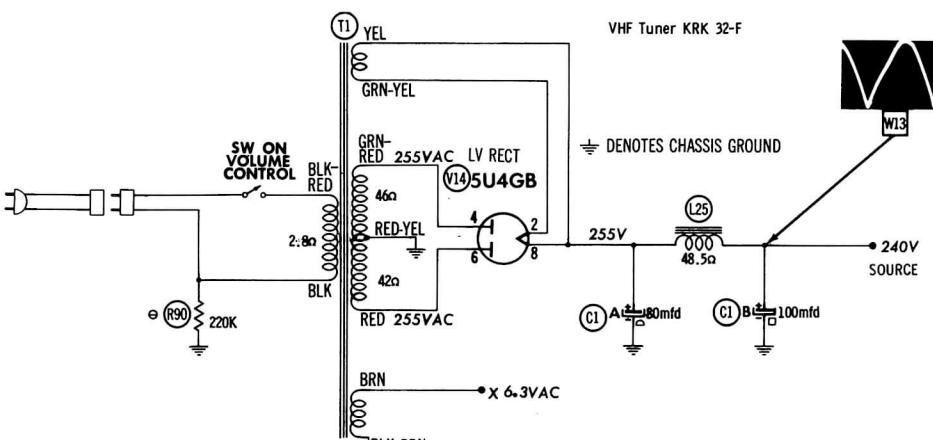


FINE  
TUNING



CHANNEL SELECTOR SWITCH SHOWN IN CHANNEL 2 POSITION

VHF Tuner KRK 32-F



◆ MEASURED FROM PIN 8 OF V2.

● SEE PARTS LIST FOR ALTERNATE  
VALUE OR APPLICATION

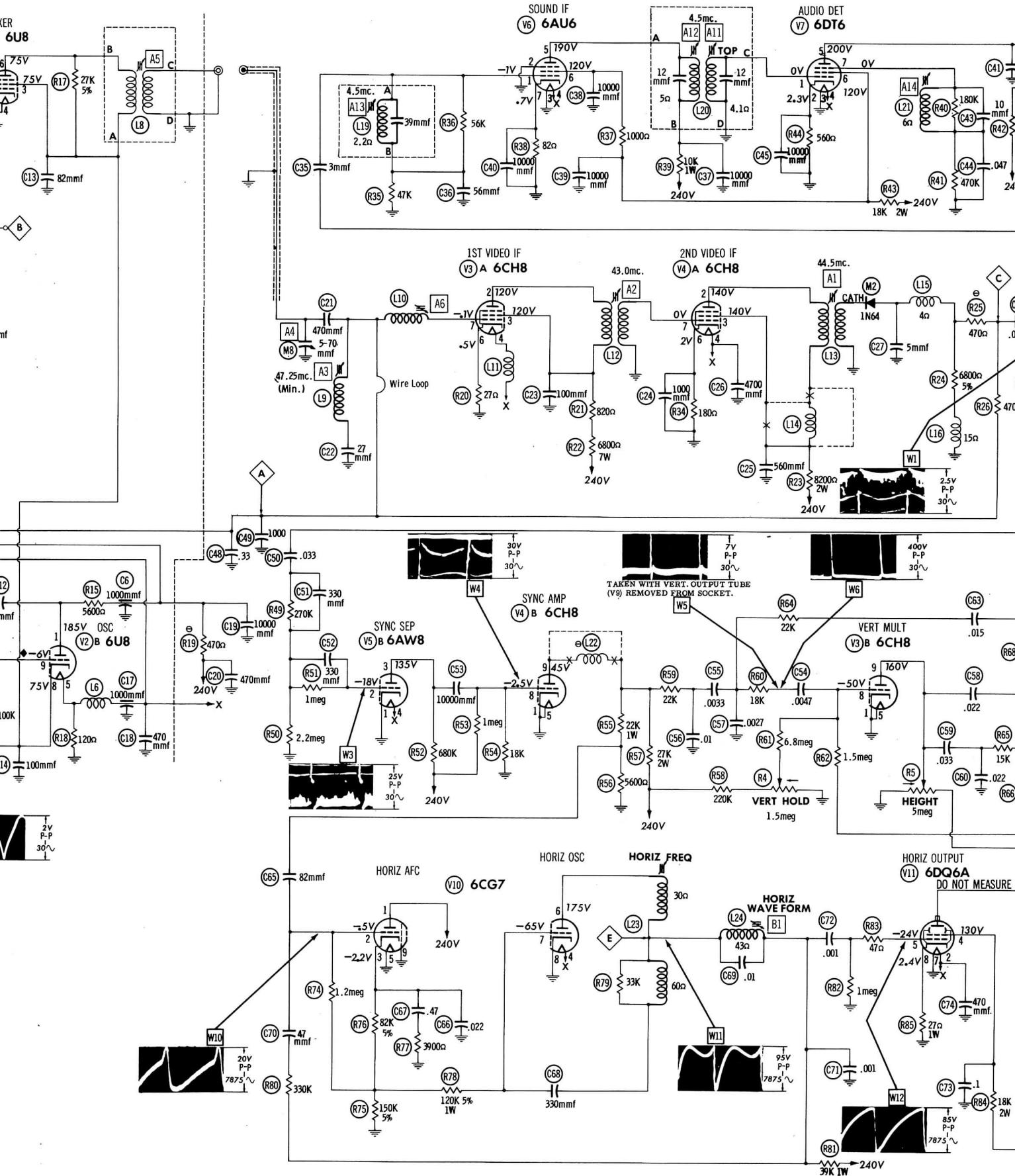
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT  
SHOWN ON SCHEMATIC DIAGRAM.

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

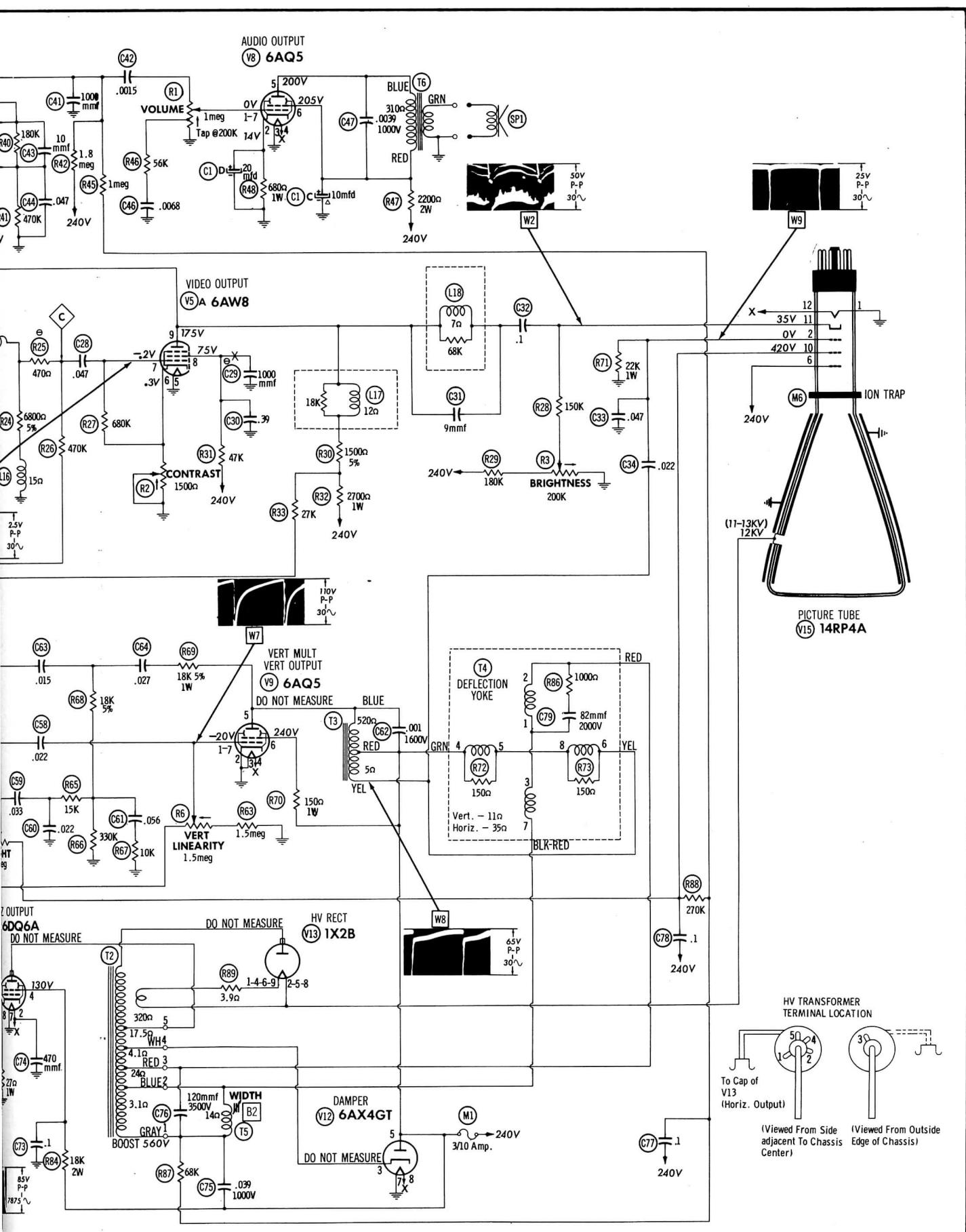
WAVE FORMS TAKEN WITH CONTROLS  
SET TO PRODUCE 50 VOLTS PEAK-TO-  
PEAK SIGNAL AT PICTURE TUBE

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1,000 ohms per volt.
2. Pin numbers are counted in a clockwise direction on bottom of socket.

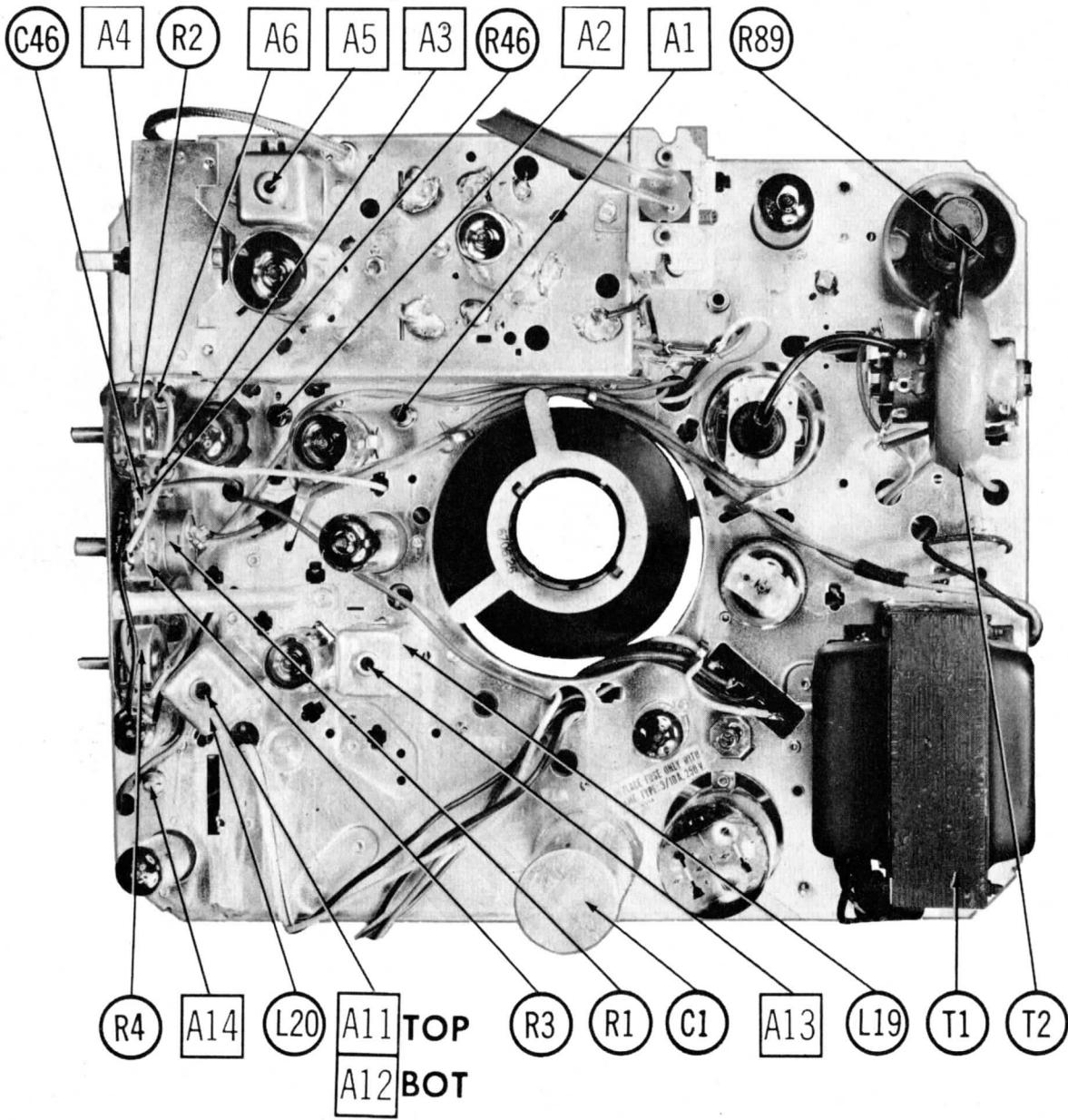
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation; no signal applied.



**RCA VICTOR MODELS 14-S-7052, U, 14-S-7070, U,  
14-S-7071, U, 14-S-7074, U (Ch. KCS102B, D)**

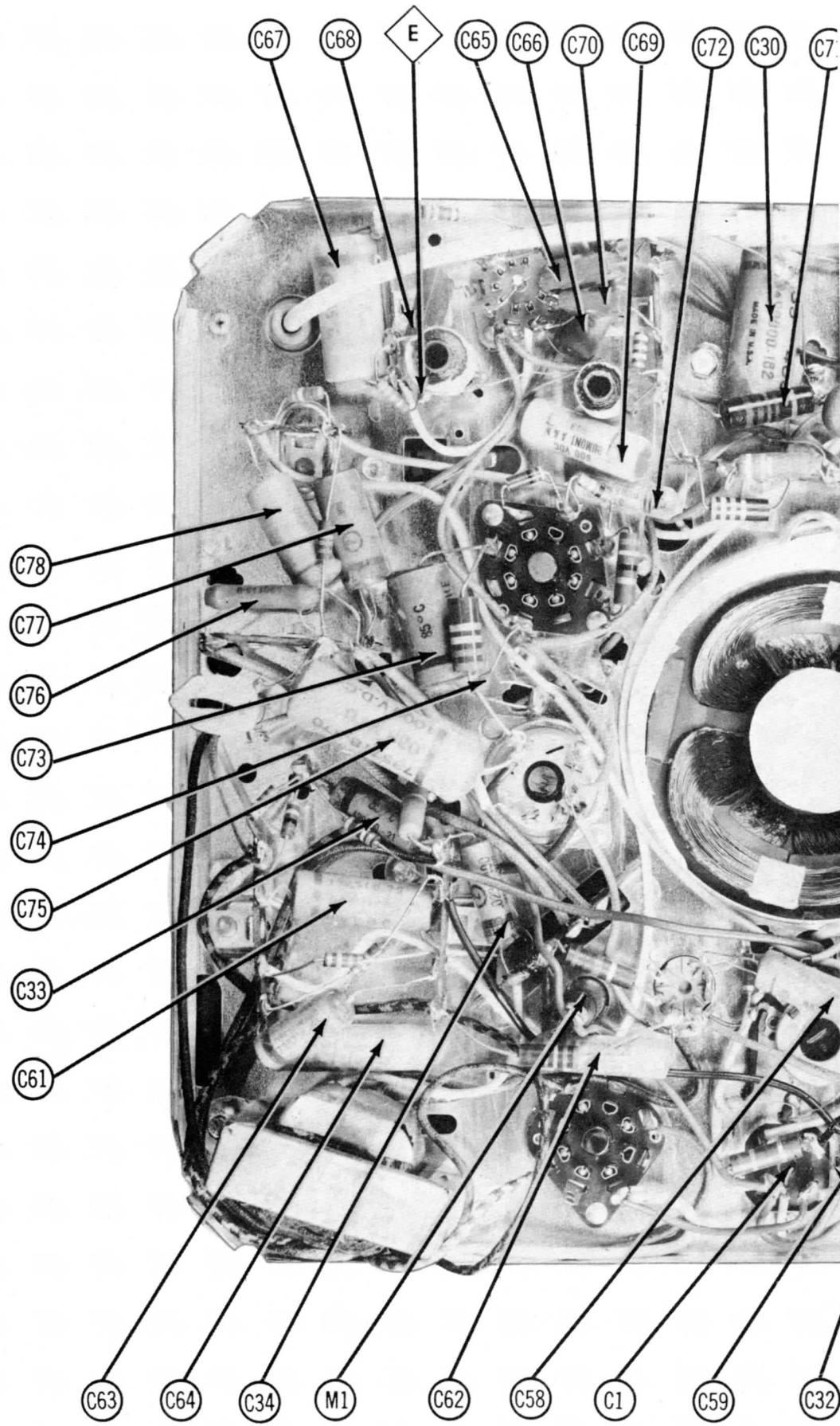


**RCA VICTOR MODELS 14-S-7052, U, 14-S-7070, U,  
14-S-7071, U, 14-S-7074, U, (Ch. KCS102B, D)**

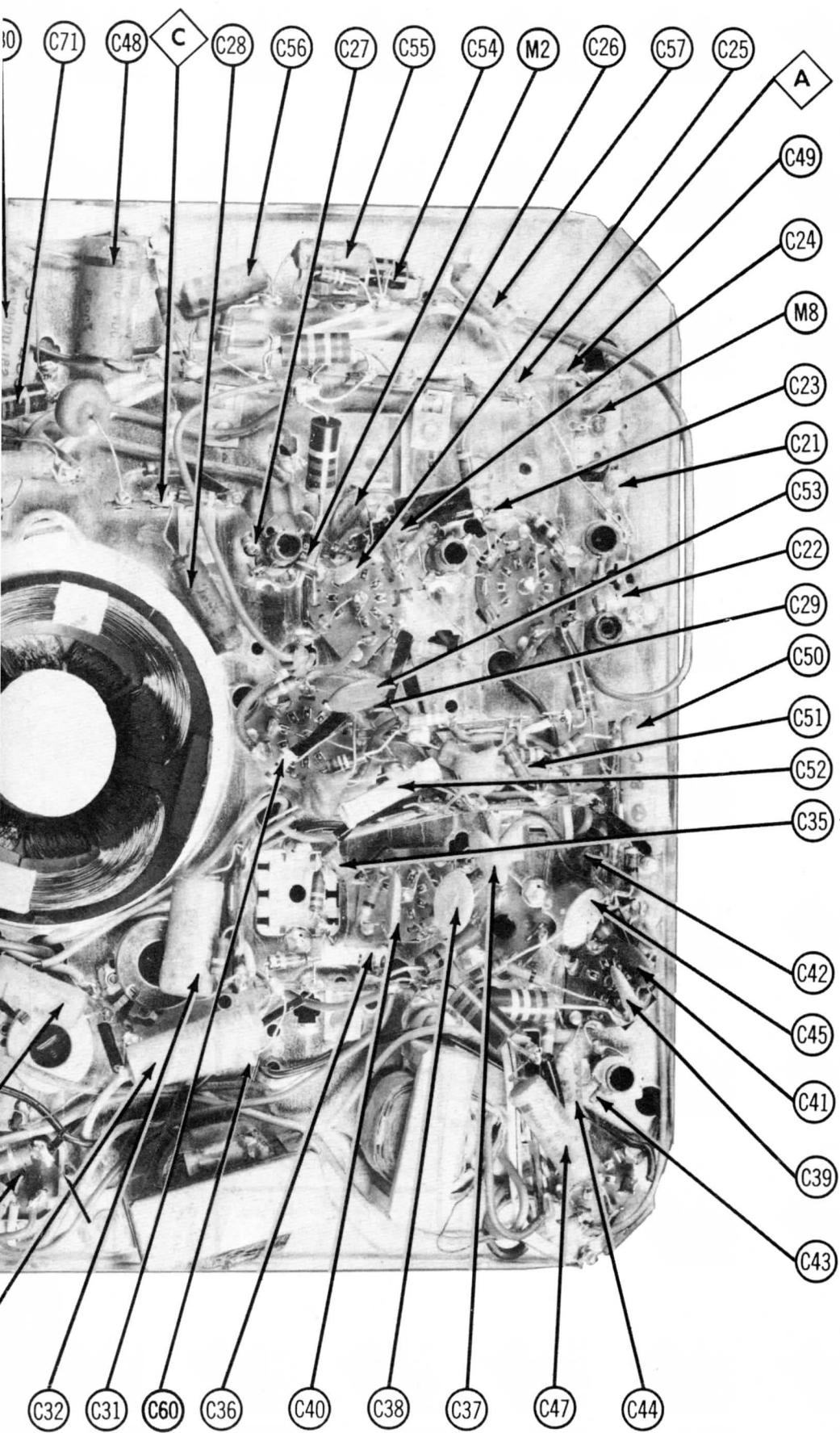


14-S-7071, U, 14-S-7074, U (CH. KCS102B, D)

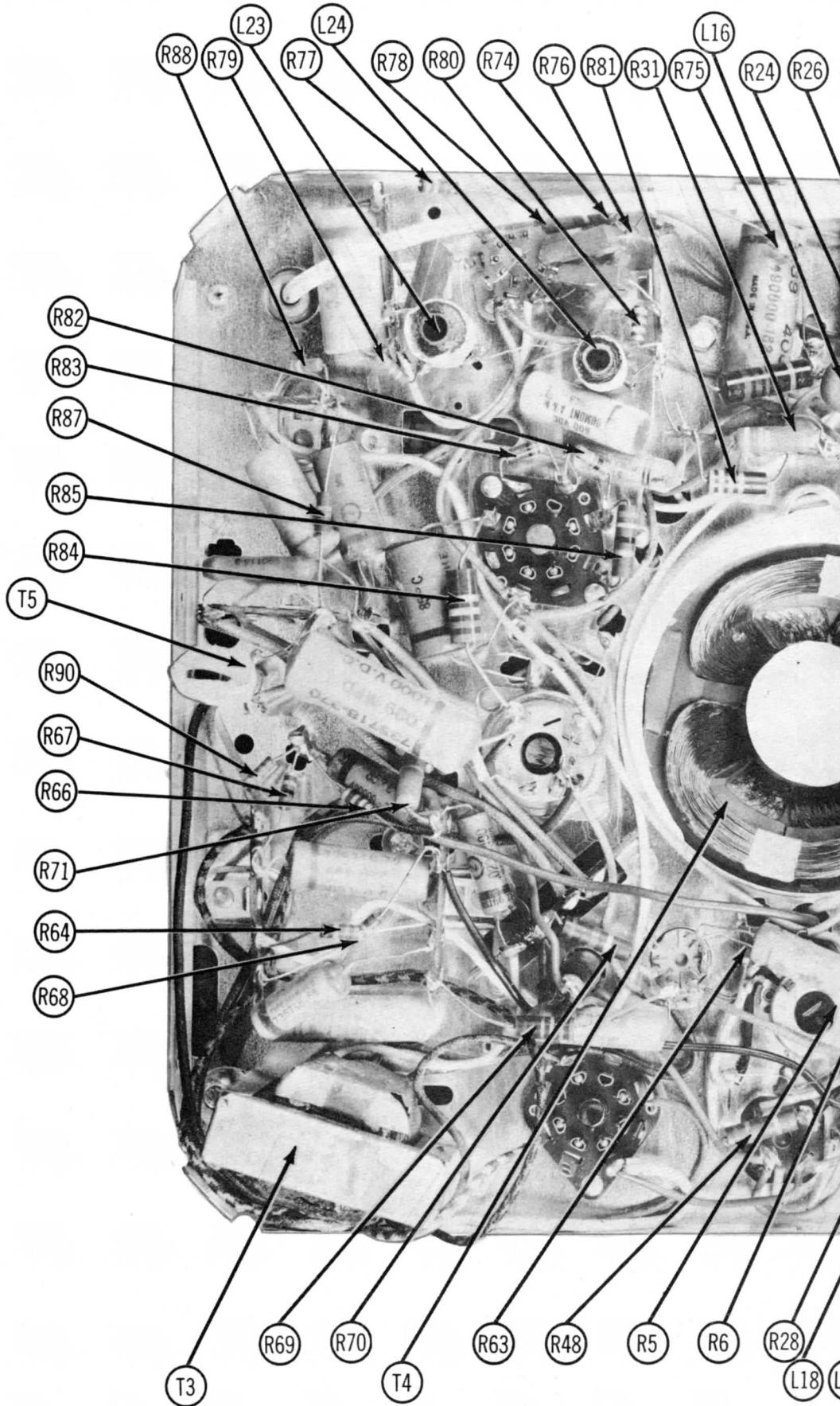
RCA VICTOR MODELS 14-S-7052, U, 14-S-7060, U,



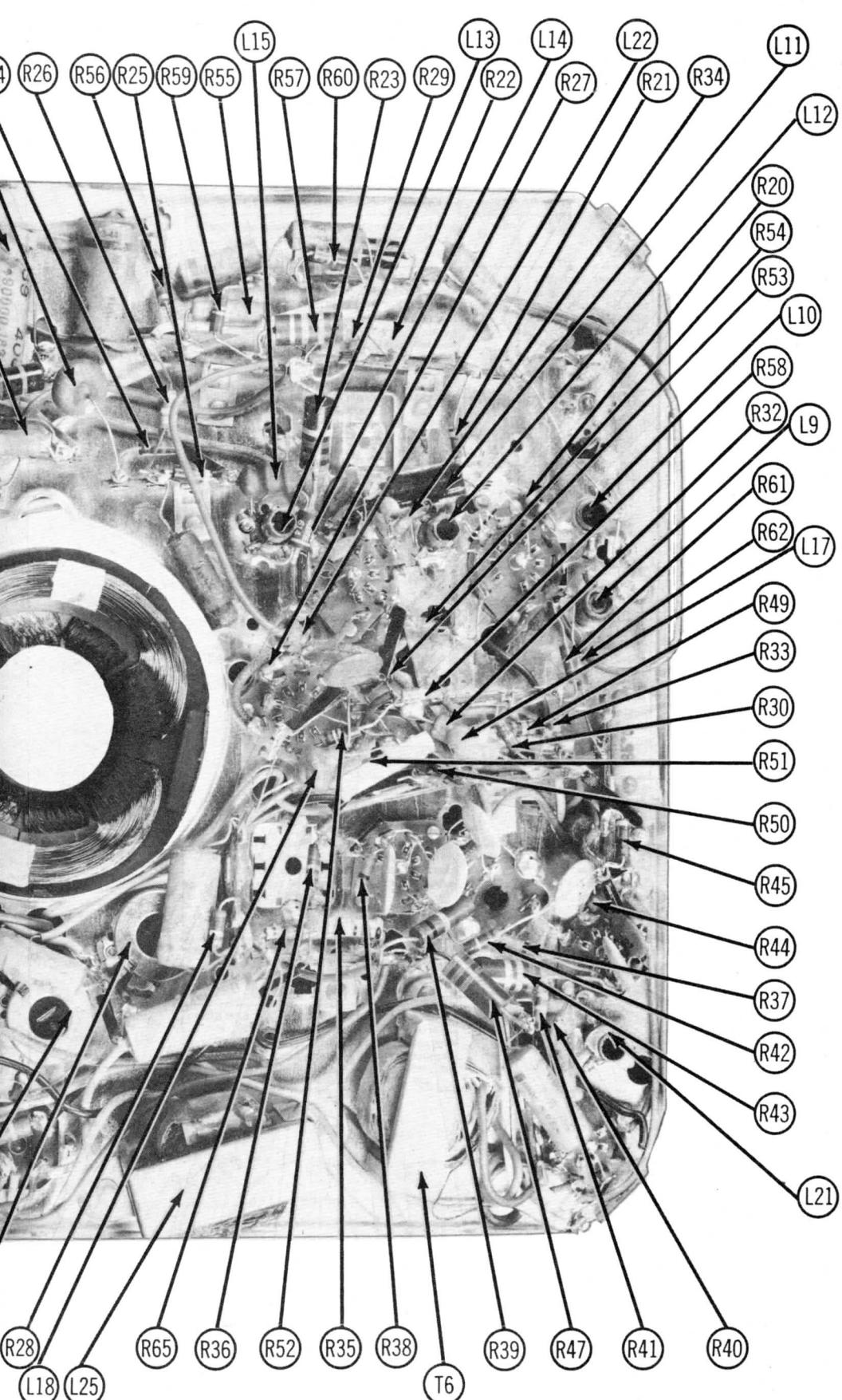
CHASSIS BOTTOM VIEW-CAPACITOR AND



OR AND ALIGNMENT IDENTIFICATION



CHASSIS BOTTOM VIEW-RESISTOR



RESISTOR AND INDUCTOR IDENTIFICATION

# ALIGNMENT INSTRUCTIONS

## ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage lead should be securely taped and kept away from the chassis.

### VIDEO IF ALIGNMENT

Connect a 1000 ohm potentiometer across a 7.5 volt bias battery (capable of an appreciable current drain). Connect the potentiometer to point  $\triangle$  and the positive lead of the battery to chassis. Set the potentiometer arm to provide -3.5 volts at point  $\triangle$ . 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. 1500MMF	High side to point $\triangle$ . Low side to tuner chassis.	Not used.	45.5MC	Any unused channel.	USE VTVM DC probe to point $\triangle$ . Common to chassis.	A1	Use only enough generator output to provide usable indication on VTVM. Adjust for maximum deflection.	
2.	"	"	43.0MC	"	"	A2	"	
3.	"	"	47.25MC	"	"	A3	Increase generator output to maintain 3 volts on VTVM when this adjustment is made. Adjust A3 for MINIMUM deflection.	
4.	"	High side to point $\triangle$ . Low side to chassis. Use shortest leads possible with no more than 1 inch exposed on end of hot lead.	44MC (10MC Swp)	43.0MC 45.75MC	"	Vert. amp. thru detector probe (Fig. 1) to pin 2 (plate) of 6CH8 (V3). Low side to chassis.	A4, A5, A6	Preset A4 approximately 4 full turns counter clockwise. Connect a 180Ω carbon resistor from pin 2 (plate) of 6CH8 (V3) to pin 3 (screen) of same tube. Adjust bias battery to obtain -3.5 volts at point $\triangle$ . If a separate marker generator is used, loosely couple to detector probe (used for scope). Adjust A5 and A6 for maximum amplitude with 45.75MC marker at 45% on response curve. Adjust A4 clockwise to obtain response curve as shown in Fig. 2 with markers as indicated. Remove 180Ω carbon resistor from V3.
5.	"	"	41.25MC 43.0MC 45.0MC 45.75MC	"	Vert. amp. thru 10K to point $\triangle$ . Low side to chassis.	A1, A2, A3	Adjust sweep generator output to provide 5 volts peak to peak on scope. If separate marker generator is used, loosely couple to grid of first video IF amp. (V3). Retouch A1 and A2 to obtain response as shown in Fig. 3 with markers as shown. Increase the sweep generator output ten times and retouch A2 to place 41.25MC marker at approximately 5% on curve.	

### ADDITIONAL VIDEO IF ALIGNMENT FOR UHF MODELS

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6. 1500MMF ceramic capacitor and 100Ω carbon resistor in series.	High side to front terminal of IN82 crystal holder after removing crystal aperture cover. Use shortest leads possible and connect low side to tuner case.	44MC (10MC Swp)	41.25MC 45.75MC	UHF Between channels 68 and 69.	Connect a 220Ω carbon resistor in series with 1500MMF between pin 1 (plate) of 6BQ7A (RF Amp.) and ground with the resistor next to ground. This point is accessible through the hole in the left side of the tuner. Connect the vert. amp. of the scope to the junction of the resistor and the capacitor thru the detector probe (Fig. 1).	A7, A8	Adjust the bias for -3.5 volts at point $\triangle$ . Set the sweep generator output to produce .5 volts peak to peak on scope. Adjust A7 and A8 for maximum gain with marker positioned as in Fig. 4.
7.	"	"	"	"	Move the resistor-capacitor network along with the detector probe from the plate of the 6BQ7A to point $\triangle$ .	A9, A10	Adjust A9 and A10 for maximum gain with markers as in Fig. 4. Remove the resistor, capacitor and detector probe from point $\triangle$ .
8. Two 130Ω carbon resistors	Across VHF antenna terminals with 130Ω in each lead.	See VHF freq. chart.	See VHF freq. chart.	All VHF channels.	Vert. amp. thru 10K to point $\triangle$ . Low side to chassis.	A1, A2	Check for response similar to Fig. 5 on each VHF channel. Correct for any overall tilt that is essentially the same on all channels by retouching A1 and A2.
9.	"	Across UHF antenna terminals with 130Ω in each lead.	See UHF freq. chart.	See UHF freq. chart.	All UHF channels.	A9, A10	Check for response similar to Fig. 5 on all UHF channels, retouching A9 and A10, if necessary, to correct for any overall tilt. Remove test equipment and bias battery. Do not retouch any adjustments other than A9 and A10.

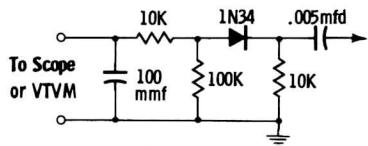


FIG. 1

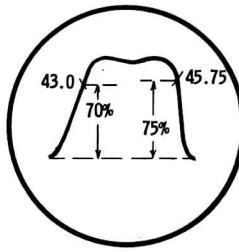


FIG. 2

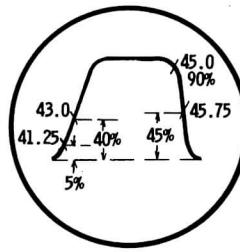


FIG. 3

# ALIGNMENT INSTRUCTIONS (cont)

SOUND IF ALIGNMENT

Connect the negative lead of a 10 volt bias supply or battery to point A and positive to chassis.  
Turn contrast control fully clockwise.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
10. .01MF D	High side to pin 7 (grid) of 6AW8 (V5). Low side to chassis.	4. 5MC (unmod)	Any unused channel.	DC probe thru detector probe (Fig. 6) to pin 1 (grid) of 6DT6 (V7). Common to chassis.	All, A12, A13	Connect a short jumper from pin 7 (suppressor grid) of the 6DT6 (V7) to chassis. Preset All and A12 fully counter clockwise. Adjust All, A12 and A13 for maximum meter deflection. Adjust signal generator output to maintain between 1 and 2 volts on meter when adjustments are peaked. Remove the VTVM, detector probe and the short from pin 7 of V7.
11.	Remove the signal generator and tune in the strongest channel available in the area. Connect the scope leads across the speaker voice coil leaving the speaker connected. Turn A14 fully counter clockwise. While observing the scope and at the same time, listening to the speaker, adjust A14 clockwise until a peak is observed and heard. Continue turning clockwise until a second louder peak is obtained and adjust for a maximum indication on the scope. Remove the scope leads. Connect one end of a 1000 ohm potentiometer to chassis and the center arm to pin 1 (grid) of the 6AU8 (V6). Decrease the volume by running the center arm of the 1000 ohm potentiometer toward chassis until distortion is heard in the sound. With the distorted output, readjust A14 for maximum audio output. Use a voice signal only while making this adjustment. Remove the 1000 ohm potentiometer.					

ALTERNATE SOUND IF ALIGNMENT

Connect bias as under "Sound IF Alignment".  
Turn Contrast control fully clockwise.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
12. .01MF D	High side to pin 7 (grid) of 6AW8 (V5). Low side to chassis.	4. 5MC (4000 FM 15KC Swp.)	Not used.	Any unused channel.	Across the voice coil of speaker with speaker connected.	All, A12, A13, A14	Preset A14 fully counter clockwise. Adjust A14 to second peak turning clockwise. Volume control should be set for .7 volts peak to peak on scope when A14 is peaked. Reduce the output of the generator slowly and adjust A11 until oscillation occurs at each end of the modulation swing as in Fig. 7. Adjust A12 and A13 for maximum gain and symmetry as in Fig. 7.

TUNER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

## TELEVISION CHANNEL FREQUENCIES

Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier	Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier	Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier	Channel No.	Frequency Band (Mc)	Video Carrier	Sound Carrier
2	54-60	55.25	59.75	23	524-530	525.25	529.75	44	650-656	651.25	655.75	64	770-776	771.25	775.75
3	60-66	61.25	65.75	24	530-536	531.25	535.75	45	656-662	657.25	661.75	65	776-782	777.25	781.75
4	66-72	67.25	71.75	25	536-542	537.25	541.75	46	662-668	663.25	667.75	66	782-788	783.25	787.75
5	76-82	77.25	81.75	26	542-548	543.25	547.75	47	668-674	669.25	673.75	67	788-794	789.25	793.75
6	82-88	83.25	87.75	27	548-554	549.25	553.75	48	674-680	675.25	679.75	68	794-800	795.25	799.75
7	174-180	175.25	179.75	28	554-560	555.25	559.75	49	680-686	681.25	685.75	69	800-806	801.25	805.75
8	180-186	181.25	185.75	29	560-566	561.25	565.75	50	686-692	687.25	691.75	70	806-812	807.25	811.75
9	186-192	187.25	191.75	30	566-572	567.25	571.75	51	692-698	693.25	697.75	71	812-818	813.25	817.75
10	192-198	193.25	197.75	31	572-578	573.25	577.75	52	698-704	699.25	703.75	72	818-824	819.25	823.75
11	198-204	199.25	203.75	32	578-584	579.25	583.75	53	704-710	705.25	709.75	73	824-830	825.25	829.75
12	204-210	205.25	209.75	33	584-590	585.25	598.75	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								

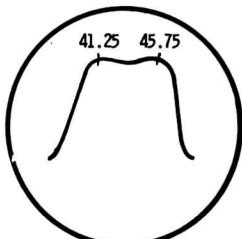


FIG. 4

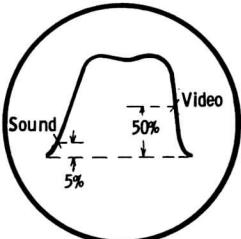


FIG. 5

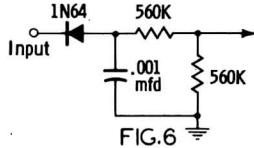


FIG. 6

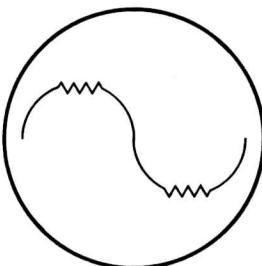
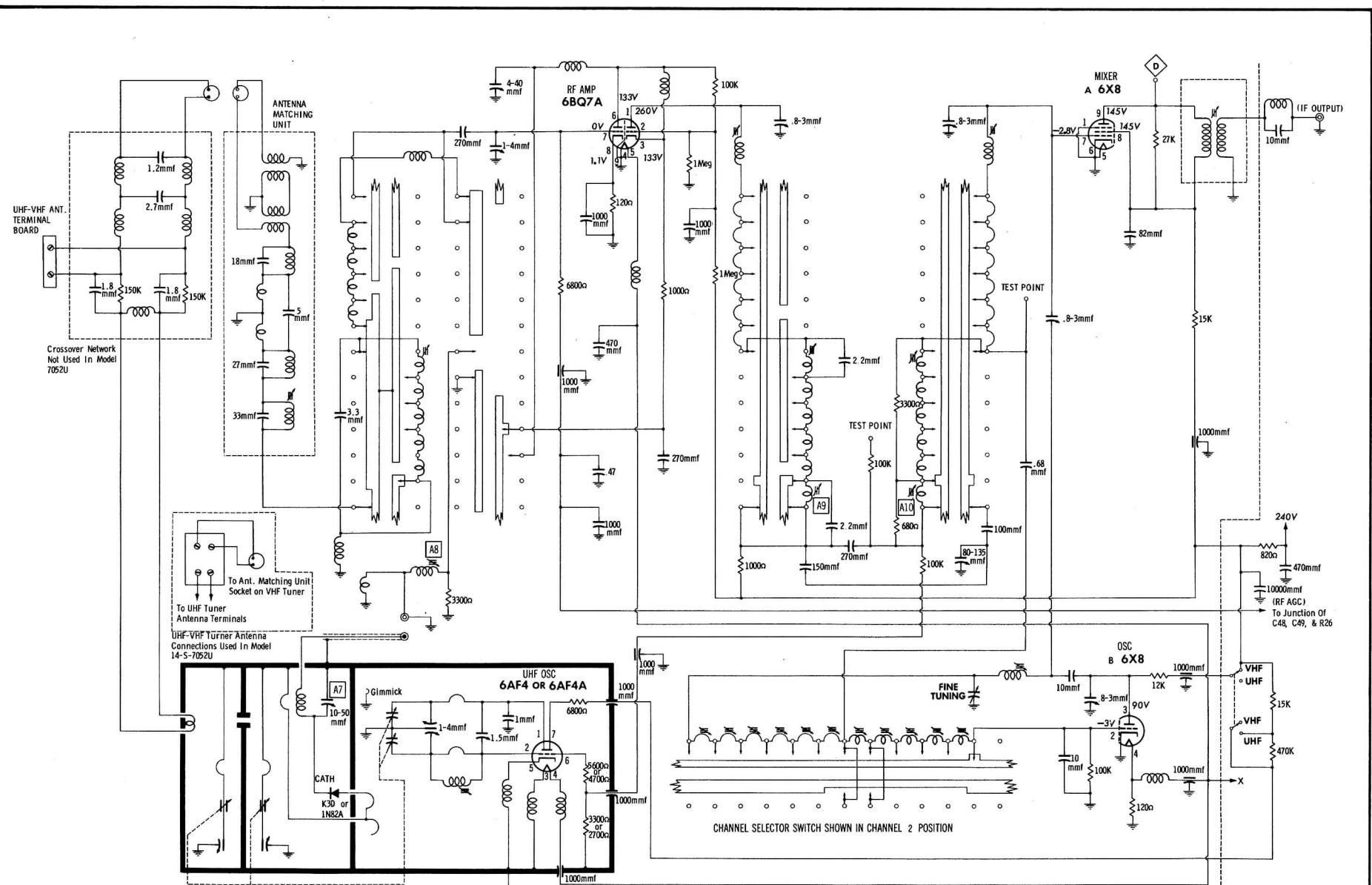


FIG. 7

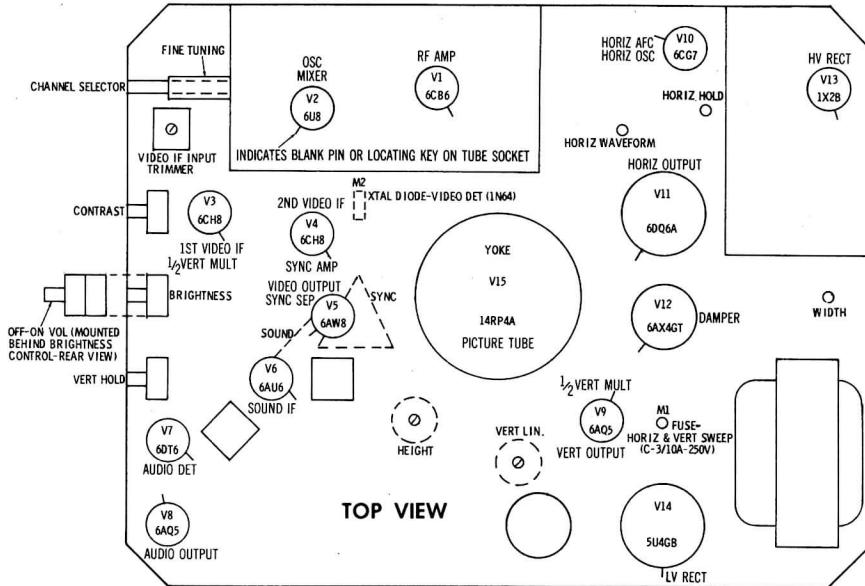


A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1957

UHF Tuner KRK 36-F, VHF Tuner KRK 29-D -- Used With Chassis KCS 102D

## **ALTERNATE UHF-VHF TUNER SCHEMATIC**

## TUBE PLACEMENT CHART



## TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms.  
Refer to tube placement chart for location and type of tube.

### POWER SUPPLY FAILURE

No raster, no sound - V14

### LOSS OF PICTURE OR SOUND

No pic, no sound, has raster - V3, V4, Diode (M2), V5  
 No pic, no sound, has snow - V1, V2  
 No pic, has sound, has raster - V5, V15  
 Has pic, no sound - V6, V7, V8

### SYNC FAILURE

No vert. sync - V3, V4, V5, V9  
 No horiz. sync - V4, V5, V10  
 No vert. or horiz. sync - V4, V5

### SWEEP FAILURE

No raster, has sound - V10, V11, V12, V13, V15, Fuse (M1)  
 No vertical deflection - V3, V9  
 Poor vert. linearity or foldover - V3, V9  
 Poor horiz. linearity or foldover - V10, V11, V12  
 Narrow picture - V10, V11, V12, V14  
 Vert. off freq. - V3, V4, V5, V9  
 Horiz. off freq. - V4, V5, V10

# PARTS LIST A

CON

## TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	RF Amp.	6CB6		V7	Audio Det.	6DT8	
V2	Mixer-Osc.	6U8		V8	Audio Output	6AQ5	
V3	1st Video IF Amp. - Vert. Mult.	6CH8		V9	Vert. Mult.-Vert. Output	6AQ5	
V4	2nd Video IF Amp. - Sync Amp.	6CH8		V10	Horiz. AFC-Horiz. Osc.	6CG7	
V5	Video Output-Sync Sep.	6AW8		V11	Horiz. Output	6DQ6A	
V6	Sound IF Amp.	6AU6		V12	Damper	6AX4GT	
				V13	HW Rectifier	IX2B	
				V14	LV Rectifier	5U4GB	

## PICTURE TUBE

ITEM No.	REPLACEMENT DATA			NOTES	
	RCA Victor PART No.	CBS PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	
V15	14RP4A		14RP4A ① 14RP4	14RP4A ②	① Aluminized Silver Screen "85"

## ELECTROLYTIC CAPACITORS

ITEM No.	REPLACEMENT DATA								
	CAP.	VOLT.	RCA Victor PART No.	AEROVOX PART No.	CORNELL-DUBLIUMER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	80	350	103111	AFH4-56-80	CO896 BR205	FP389.1 TC80		T-537 MT-4580	R2352*
B	100	350							
C	110	300							
D	20	50							

\* Non catalog item.

## FIXED CAPACITORS

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

ITEM No.	REPLACEMENT DATA							NOTES		
	RATING	CAP.	VOLT.	RCA Victor PART No.	AEROVOX PART No.	CORNELL-DUBLIUMER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C2	270			77838	BPD-00027	DD-271	L1027	ED-270	UC-5327	5GA-T27
C3	1000			77084	EF-001	MFT-1000	829-4	3115-E	503C-D1	
C4	1-4			76532						
C5	1000			77252	BPD-001	DD-102	BYA6DL	ED-1000	DC521	5HK-D1
C6	1000			77084	EF-001	MFT-1000				503C-D1
C7	18			57517	NPO-SI 18	TCZ-18	C10Q18C	TCO-18		
C8	270			77838	BPD-00027	DD-271	L1027	ED-270	UC-5327	5GA-T27
C9	300			75641	BPD-00039	DD-391	L10T39	ED-390	UC-5339	5GA-T39
C10	270			77838	BPD-00027	DD-271	L10T29	ED-270	UC-5327	5GA-T27
C11	12			79710	BPD-00001	DD-120	L10T12	ED-12	UC-5412	5GA-Q12
C12	10			77865	NPO-SI 10	TCZ-10	C10Q1C	TCO-10	ZT-541	5TCC-Q1
C13	82			78603		D6-82	L10Q82	ED-82		5GA-Q82
C14	100			79735	BPD-0001	DD-101	L10T1	ED-100	UC-531	5GA-T1
C15	1-4			76532			829-4	3115-E	CT551	
C16	2			NPO-SI 2. 2	TCZ-2. 2	C10V2C	TCO-2. 2			5TCCB-V22
C17	1000			77084	EF-001	MFT-1000				503C-D1
C18	470			77293	BPD-00047	DD-471	BYA10D47	ED-470	UC-5347	5GA-T47
C19	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C20	470			77293	BPD-00047	DD-471	BYA10D47	ED-470	UC-5347	5GA-T47
C21	470			77293	BPD-00047	DD-471	BYA10D47	ED-470	UC-5347	5GA-T47
C22	27			79468	NPO-SI 27	TCZ-27	C10Q27C	TCO-27		
C23	100			N750-SI 100	TCN-100	C10U10	TC-100	NT-531	5TCU-T1	
C24	1000			77252	BPD-001	DD-102	BYA6DL	ED-1000	DC521	5HK-D1
C25	560			103033	BPD-00056	DD-561	BYA10T56	ED-560	UC-5356	5GA-T56
C26	4700			75473	BPD-0047	DD-472	BYA10D47	GP-4700	UC-5247	5HK-D47
C27	5			77688	NPO-SI 5	TCZ-5	C10V5C	TCO-5	ZT-555	5TCCB-V47
C28	.047	200		78921-A	BPD-05	DF-503	CUB2847		GEM-2147	2TM-S47
C29	1000			77293	BPD-00047	DD-102	BYA6DL	ED-1000	DC521	5HK-D1
C30	.39	400		103034	P488N-39	TCN-9	C10V6U	TC-7-9	GEM-4039	4TM-P39
C31	9			103035	N750-SI 9	TCN-9	DF-104	CUB4P1	NT-541	5TCU-Q1
C32	.1	400		77423	P488N-1	DF-104	CUB2847	ED-02	GEM-401	4TM-P1
C33	.047	200		78921-A	BPD-05	DF-503	CUB2847		GEM-2147	2TM-S47
C34	.022	400		79932	BPD-02	DF-203	CUB4S22		GEM-4122	4TM-S22
C35	3			102415	N750-SI 3	TCN-3				
C36	56			71924	NPO-SI 56	TCZ-56	C10Q56C	TCO-56		
C37	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C38	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C39	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C40	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C41	1000			102234	BPD-001	DD-102	BYA6DL	ED-1000	DC521	5HK-D1
C42	.0015	600		103031	BPD-0015	DD-152	CUB6D15		GEM-6215	6TM-D15
C43	10			103174						
C44	.047	200		78921-A	BPD-05	DF-503	CUB2847		GEM-2147	2TM-S47
C45	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C46	.0068	200		102078	BPD-0068		CUB2D68		GEM-2268	2TM-D68
C47	.0039	1000		73804	P1088N-004		CUB10D4		GEM-10239	10TM-D39
C48	.33	200		102075	P288N-33		CUB2P33		GEM-2033	2TM-P33
C49	1000			77252	BPD-001	DD-102	BYA6DL	ED-1000	DC521	5HK-D1
C50	.033	600		102227	BPD-03	DF-303	CUB6S33		GEM-6133	6TM-S33
C51	330			100123	BPD-00033	DD-331	L10T33	ED-330	UC-5333	5GA-T33
C52	330			100123	N750-SI 330	TCN-330	L10T33U	TC-7-330		5TCU-T33
C53	10000			73960	BPD-01	DD-103	BYA6SL	GP-10000	DC51	5HK-S1
C54	.0047	600		73920	BPD-0047	DD-472	CUB6D47	GP-4700	GEM-6247	6TM-D47
C55	.0033	600		102174	BPD-0033	DD-332	CUB6D33	GP-3300	GEM-6233	6TM-D33
C56	.01	400		102220	BPD-01	DD-103	CUB4S1	GP-10000	GEM-411	4TM-S1
C57	.0027	600		102224	BPD-003	DD-272	CUB6D27	GP-2700	GEM-6227	6TM-D27
C58	.022	600		103036	BPD-02	DF-203	CUB6S22	ED-02	GEM-6122	6TM-S22
C59	.033	400		73552	BPD-03	DF-303	CUB4S33		GEM-4133	4TM-S33
C60	.022	400		79932	BPD-02	DF-203	CUB4S22	ED-02	GEM-4122	4TM-S22
C61	.056	200		73791	BPD-05	DF-503	CUB2S66		GEM-2156	2TM-S56
C62	.001	1600		73849	P1688N-001	DD-30-102	CUB16D1		GEM-1621	16TM-D1
C63	.015	200		79530	BPD-015	DF-203	CUB2S15	ED-015	GEM-2115	2TM-S15
C64	.027	600		75643	BPD-03	DF-303	CUB6S27		GEM-6127	6TM-S27
C65	.82			76474	1468-000082		5W5Q82	ED-82	UC-5482	MS-456
C66	.022	400		79932	BPD-02	DF-203	CUB2P22	ED-02	GEM-4122	4TM-S22
C67	.47	200		79148	P288N-47		CUB2P47		GEM-2047	2TM-P47
C68	.330			76476	1468-00033		5W5T33	ED-330	UC-5333	MS-333
C69	.01	600		73594	BPD-01	DD-103	CUB6S1	GP-10000	GEM-611	6TM-S1
C70	.47			79063	1468-00047	DD-470	5W5Q47	ED-47	UC-5447	MS-447
C71	.001	600		75249	BPD-001	DD-102	CUB6D1	GP-1000	GEM-621	6TM-D1
C72	.001	600		75643	BPD-001	DD-102	CUB6D1	GP-1000	GEM-621	6TM-D1
C73	.1	600		79149	P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1
C74	.470			77283	BPD-0047	DD-471	BYA10T47	ED-470	UC-5347	5GA-Q47
C75	.039	1000		74728	P1088N-04	DD-403	CUB10S39		GEM-10139	10TM-S39
C76	120	3500		79532	DD-60-121					
C77	.1	400		77423	P488N-1	DF-104	CUB4P1			
C78	.1	100		77423	P188N-1	DF-104	CUB1P1			
C79	.82	2000			DD-380-2	HVA20Q82				

Note 1: Not used in some versions.

ITEM No.	RATING		RCA Victor PART No.	CENTRALAB PART No.	CLARO PART No.
	RESISTANCE	WATTS			
R1A	1Meg	1/2	103105	BT-72	A47-1M
B	Shaft			Not Req.	FS-5
C	Switch			KB-1	SWE-12
R2A	1500Ω	1/2	103106	B-6	A47-150C
B	Shaft			Not Req.	FS-3
R3A	200K	1/2	103108	B-46	A47-200
B	Shaft			Not Req.	FS-3
R4A	1.5Meg	1/2	103107		A47-15M
B	Shaft				FS-3
R5A	5Meg	1/2	103110	AB-87	A47-5M
B	Shaft				FKS-1/4
R6A	1.5Meg	1/2	103109	BX-842	A47-15M
B	Shaft				FKS-1/4

ITEM No.	RATING		RCA Victor PART No.	IRC
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# PARTS LIST AND DESCRIPTIONS

## CONTROLS

\* HORIZ

A)

TYPE	NOTES
6DT8	
6AQ5	
6AQ5	
6CG7	
6DQ6A	
6AX4GT	
1XB2	
5U4GB	

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	RCA Victor PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	1Meg	1/2	103105	BT-72	A47-1Meg		UT440	Volume - Tap ② 200K
B	Shaft			Not Req.	FS-3			Not Req.
C	Switch	1/2		KB-1	SWE-12			US-26
R2A	1500Ω	1/2	103106	B-6	A47-1500-S	Q17-109	TA152L	Contrast
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	U43
R3A	200K	1/2	103108	B-46	A47-200K-S	Q11-129		Brightness
B	Shaft			Not Req.	FS-3	Not Req.	Not Req.	Vertical Hold
R4A	1. 5Meg	1/2	103107	A47-1.5Meg-S	Q11-138	TA155L		Height
B	Shaft			FS-3	Not Req.	BL-141	PTA56L	Vertical Linearity
R5A	5Meg	1/2	103110	AK-1	A47-5Meg-S	TM1-KIT	BL-138	
B	Shaft			FKS-1/4	TM1-KIT	TA155L	Not Req.	
R6A	1. 5Meg	1/2	103109	BX-842	A47-1.5Meg-S			
B	Shaft			FKS-1/4	TM1-KIT			
				Not Req.				

	ORIGINAL TERMINAL CONNECTIONS	Haldorson Replaces
	5	
	4	
	3	
	2	
	1	
Connect Width	Coil Across	1 & 2

## RESISTORS

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

ITEM No.	RATING		REPLACEMENT DATA		NOTES	ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	RCA Victor PART No.	IRC PART No.			OHMS	WATT	RCA Victor PART No.	IRC PART No.	
R7	22K		502322	BTS-22K		R49	270K		502427	BTS-270K	
R8	56K		502356	BTS-56K		R50	2.2Meg		502522	BTS-2.2Meg	
R9	47K	1	512347	BTA-47K		R51	1Meg		502510	BTS-1Meg	
R10	1000Ω		502210	BTS-1000		R52	680K		502468	BTS-680K	
R11	47Ω		502047	BTS-47		R53	1Meg		502510	BTS-1Meg	
R12	100K		502410	BTS-100K		R54	18K		502318	BTS-18K	
R13	100K		502410	BTS-100K		R55	22K	1	512322	BTA-22K	
R14	2700Ω		502227	BTS-2700		R56	5600Ω		502256	BTS-5600	
R15	5600Ω		502256	BTS-5600		R57	27K	2	522327	BTB-27K	
R16	100K		502410	BTS-100K		R58	220K		502422	BTS-220K	
R17	27K 5%		502327	BTS-27K 5%		R59	22K		502322	BTS-22K	
R18	120Ω		502112	BTS-120		R60	18K		502318	BTS-18K	
R19	470Ω			BTS-470	Note 1	R61	6.8Meg		502568	BTS-6.8Meg	
R20	27Ω		502027	BTS-27		R62	1.5Meg		502515	BTS-1.5Meg	
R21	82Ω		502182	BTS-82		R63	1.5Meg		502515	BTS-1.5Meg	
R22	6800Ω	7	102171			R64	22K		502322	BTS-22K	
R23	8200Ω	2	522282	BTB-8200		R65	15K		502315	BTS-15K	
R24	6800Ω 5%		502268	BTS-6800 5%		R66	330K		502433	BTS-330K	
R25	470Ω		502447	BTS-470K		R67	10K		502310	BTS-10K	
R26	470K		502468	BTS-680K		R68	18K 5%		502318	BTS-18K 5%	
R27	680K		502468	BTS-680K		R69	18K 5%	1	512318	BTA-18K 5%	
R28	150K		502415	BTS-150K		R70	150Ω	1	512115	BTA-150	
R29	180K		502418	BTS-180K		R71	22K	1	502322	BTA-22K	
R30	1500Ω 5%		502215	BTS-1500		R72	150Ω				
R31	47K	1	512347	BTA-47K		R73	150Ω				
R32	2700Ω	1	512227	BTA-2700		R74	1.2Meg		502512	BTS-150K 5%	
R33	27K		502327	BTS-27K		R75	150K 5%		502415	BTS-150K 5%	
R34	18Ω		502118	BTS-18		R76	82K 5%		502382	BTS-82K 5%	
R35	47K		502347	BTS-47K		R77	3900Ω		502239		
R36	56K		502356	BTS-56K		R78	120K 5%	1	512412	BTA-120K 5%	
R37	1000Ω		502210	BTS-1000		R79	33K		502333	BTS-33K	
R38	82Ω		502062	BTS-82		R80	330K		502433		
R39	10K	1	512310	BTA-10K		R81	39K	1	512339		
R40	180K		502418	BTS-180K		R82	1Meg		502510	BTS-1Meg	
R41	470K		502447	BTS-470K		R83	47Ω		502047		
R42	1. 8Meg		502518	BTS-1.8Meg		R84	18K	2	522318	BTB-18K	
R43	18K	2	522318	BTB-18K		R85	27Ω	1	512027	BTA-27	
R44	56Ω		502156	BTS-56Ω		R86	1000Ω		502210		
R45	1Meg		502510	BTS-1Meg		R87	68K		502368		
R46	56K		502356	BTS-56K		R88	270K		502427	BTS-270K	
R47	2200Ω	2	522222	BTB-2200		R89	3.9Ω		103030	BW 1/2-3.9	
R48	68Ω	1	512168	BTA-680		R90	220K		502422	BTS-220K	Note 2

Note 1. A 1000Ω ② 1/2 W Resistor Used In Some Versions (Part #502210).

Note 2. A 100K ② 1/2 W Resistor Used In Some Versions (Part #502410).

## TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	RCA Victor PART No.	Haldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @ 1. 38A	500VCT @ 220A	5V @ 3A	6. 3V @ 7. 2A	103091					

## TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA							
		RCA Victor PART No.	Haldorson PART No.	Merit PART No.	RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Horiz. Output Trans.	103092	Z1807①	A-2824①	V315①	HO-272*	FLY-100*	26S75②③	A-109X④
T3	Vert. Output Trans.	103093				VO-103	DY-24A⑧		
T4A	Yoke(90°)Horiz.(18.6MHz)	103114⑤							
B	Vert.(1.3MH)	103115⑥							
T5	Width Coll (2-17MH)	102396⑦	RF800⑨	MWC-11	20LR15	WC-11⑪	WC-18⑫	WC-12⑬	

- ① Cut and tape blanking lead.
- ② Use 15 to 1 turns ratio.
- ③ Connect as auto transformer.
- ④ Drill new mtg. hole(s).
- ⑤ Includes resistors R72, R73, R86 and capacitor C79.
- ⑥ Yoke rear cover and centering device.
- ⑦ Yoke mounting clamp.
- ⑧ Use original rear cover and centering device.
- ⑨ Use terminals 1 and 2.
- ⑩ Use black and white terminals.
- ⑪ Use red and blue terminals.

ITEM No.	IMPEDANCE	RCA Victor PART No.
T6	8.1K 3-4Ω	103094

ITEM No.	TYPE
SPI	SIZE FIELD V. C. IMP.
	4" PM 3-4Ω
L1	USE
L2	VHF Ant. Coils
L3	RF Choke
L4	Fil. Choke
L5	Shunt Peaking Coll
L6	Series Peaking Coll
L7	Shunt Peaking Coll
L8	Series Peaking Coll
L9	1st Sound IF
L20	2nd Sound IF
L21	Quadrature Coll
L22	RF Choke

\* Parallel with 18K resistor.  
▲ Parallel with 68K resistor.  
■ Use adaptor plate.

Note 1: Not used in some versions.

ITEM No.	DC RES.	RCA Victor PART No.
L23	90Ω	103103
L24	43Ω	103102

ITEM No.	RATINGS
L25	TOTAL DIRECT CURRENT D. C. RESISTANCE IN OHM
	.220A 48.5Ω

① Drill one new mounting hole.

ITEM No.	TYPE	RCA VICTOR PART NO.
ML1	C	3/10A 250V
ML2	FUSE	

ITEM No. TYPE RCA VICTOR PART NO.

ML1 C 3/10A 250V

# DESCRIPTIONS

6

IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
		Volume - Tap @ 200K
-109 Req. -129	TA152L Not Req. U43	Contrast
Req. -138 Req. -141	TA155L Not Req. PTA56L	Brightness
1-KIT -138 1-KIT	TA155L Not Req.	Vertical Hold
		Height
		Vertical Linearity

## \*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

	ORIGINAL TERMINAL CONNECTIONS	Halldorson Replacement Connections	Merit Replacement Connections	RCA Replacement Connections	Ram Replacement Connections	Stancor Replacement Connections	Thordarson Replacement Connections	Triad Replacement Connections
	5					5	5	
	4					4	4	
	3					3	3	
	2					2	2	
	1					1	1	
Connect Width Coil Across →	1 & 2					1 & 2	1 & 2	

## TRANSFORMER (AUDIO OUTPUT)

otherwise listed.

ITEM NO.	RATING	REPLACEMENT DATA		NOTES
		RCA Victor PART No.	IRC PART No.	
49	270K	502427	BTS-270K	
50	2.2Meg	502522	BTS-2.2Meg	
51	1Meg	502510	BTS-1Meg	
52	680K	502468	BTS-680K	
53	1Meg	502510	BTS-1Meg	
54	18K	502318	BTS-18K	
55	22K	512322	BTA-22K	
56	5600Ω	502256	BTS-5600	
57	27K	522327	BTS-27K	
58	220K	502422	BTS-220K	
59	22K	502322	BTS-22K	
60	18K	502318	BTS-18K	
61	6.8Meg	502568	BTS-6.8Meg	
62	1.5Meg	502515	BTS-1.5Meg	
63	1.5Meg	502515	BTS-1.5Meg	
64	22K	502322	BTS-22K	
65	15K	502315	BTS-15K	
66	330K	502433	BTS-330K	
67	10K	502310	BTS-10K	
68	18K 5%	502318	BTS-18K 5%	
69	18K 5%	1 512318	BTA-18K 5%	
70	150Ω	1 512115	BTA-150	
71	22K	1 502322	BTA-22K	
72	150Ω			
73	150Ω			
74	1.2Meg	502512	BTS-150K 5%	
75	150K 5%	502415	BTS-150K 5%	
76	82K 5%	502382	BTS-82K 5%	
77	3900Ω	502239		
78	120K 5%	1 512412	BTA-120K 5%	
79	33K	502333	BTS-33K	
80	330K	502433		
81	39K	1 512339		
82	1Meg	502510	BTS-1Meg	
83	47Ω	502047		
84	18K	2 522318	BTB-18K	
85	27Ω	1 512027	BTA-27	
86	1000Ω	502210		
87	68K	502368		
88	270K	502427	BTS-270K	
89	3.9Ω	103030	BW 1/2-3.9	
90	220K	502422	BTS-220K	Note 2

In Some Versions (Part #502210).  
In Some Versions (Part #502410).

## POWER

REPLACEMENT DATA				
Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.

## EEP CIRCUITS

REPLACEMENT DATA				
RCA TYPE No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
V315①	HO-272* VO-103 DY-24A⑧	FLY-100* 26875②③	A-109X③④	
20LR15	WC-11④⑩	WC-18 ④	WC-12 ⑪	

ITEM No.	IMPEDANCE PRI. SEC.	REPLACEMENT DATA					NOTES
		RCA Victor PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T6	8.1K 3-4Ω	103094	Z1115	A-2927 ①	A-8114	24S52	S-8X ① ① Drill one new mtg. hole.

ITEM No.	TYPE SIZE	REPLACEMENT DATA		NOTES
		RCA Victor PART No.	QUAM PART No.	
SP1	4"	PM 3-4Ω	79696	4A07

## COILS (RF-IF)

ITEM No.	USE	RCA Victor PART No.	NOTES		ITEM No.	USE	RCA Victor PART No.	NOTES
L1	VHF Ant. Coils	79724		Stator complete with rotor, Includes C7.	L5	VHF Mixer Coils	79723	Stator complete with rotor. Includes C16, C19, C22, R6, R7 & R9.
L2	RF Choke	77859			L6	Fil. Choke	79720	
L3	Fil. Choke	79720			L7	VHF Osc. Coils	79722	Stator complete with rotor.
L4	VHF RF Coils	79726			L8	Conv. Plate	103048	
ITEM No.	USE	RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.			NOTES
L9	47.25MC Trap	103100	20-1049	TV-153	6225			
L10	1st Video IF	103099		TV-131	6225			
L11	Fil. Choke	73477	19-4215	BC-537	4610			5.4 Microhenries
L12	2nd Video IF	103097	17-4524	TV-130	6224			
L13	3rd Video IF	103098	17-4524	TV-130	6224			
L14	Shunt Peaking Coll	101819	19-3036	TV-180	6176			.22 Microhenries
L15	Series Peaking Coll	103037	19-4400		6134			36 Microhenries
L16	Shunt Peaking Coll	103039	19-3300*		6154*			390 Microhenries
L17	Shunt Peaking Coll							300 Microhenries; Wound on 16K resistor.
L18	Series Peaking Coll	103038	19-3125A		6153A			120 Microhenries; Wound on 68K resistor.
L19	1st Sound IF	103098	17-1031		1481			
L20	2nd Sound IF	103095	16-3445		6203*			
L21	Quadrature Coll	103101	20-1005		1480			
L22	RF Choke							Note 1

\* Parallel with 18K resistor.

▲ Parallel with 68K resistor.

■ Use adaptor plate.

Note 1: Not used in some versions.

## TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES. PRI. SEC.	REPLACEMENT DATA						NOTES
		RCA Victor PART No.	MEISSNER PART No.	MERIT PART No.	RCA TYPE No.	Ram PART No.	Thordarson PART No.	
L23	90Ω	103103			6211			HS-7
L24	43Ω	103102			6314			HS-8 Tapped @ 60Ω Horiz. Osc. Horiz. Waveform

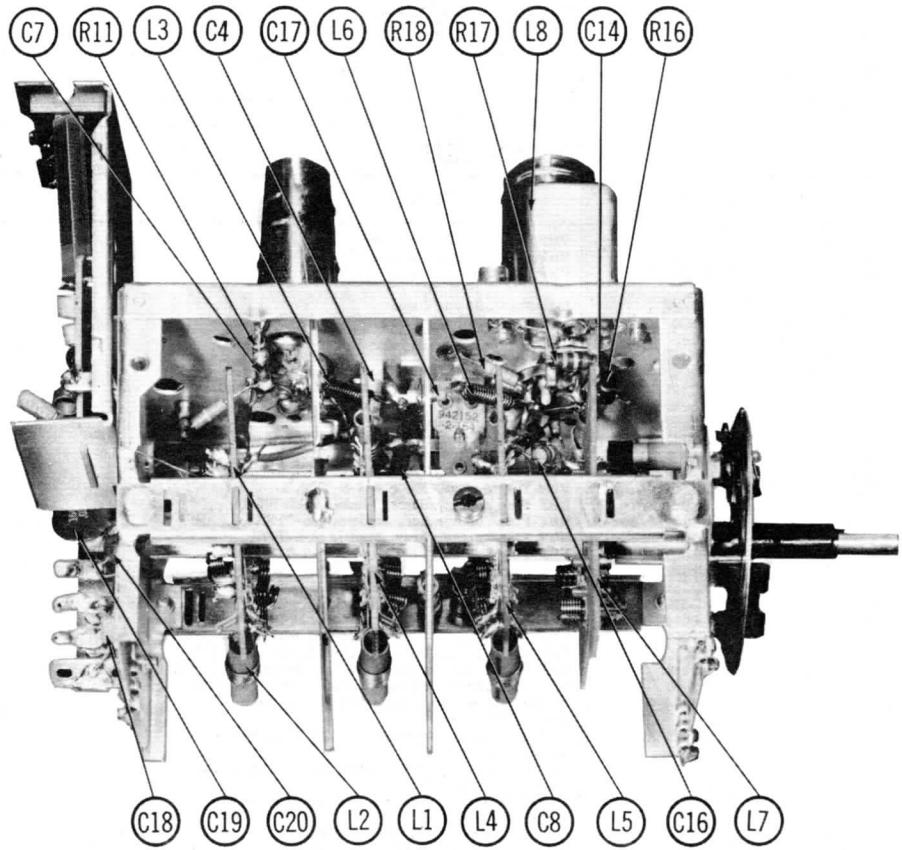
## FILTER CHOKE

ITEM No.	RATING	REPLACEMENT DATA		NOTES
		RCA Victor PART No.	Halldorson PART No.	
L25	.220A 48.5Ω	.89HY	100286	C5037 ① C-2996 ① C-2326 ① 26C44 ① C-17X ①

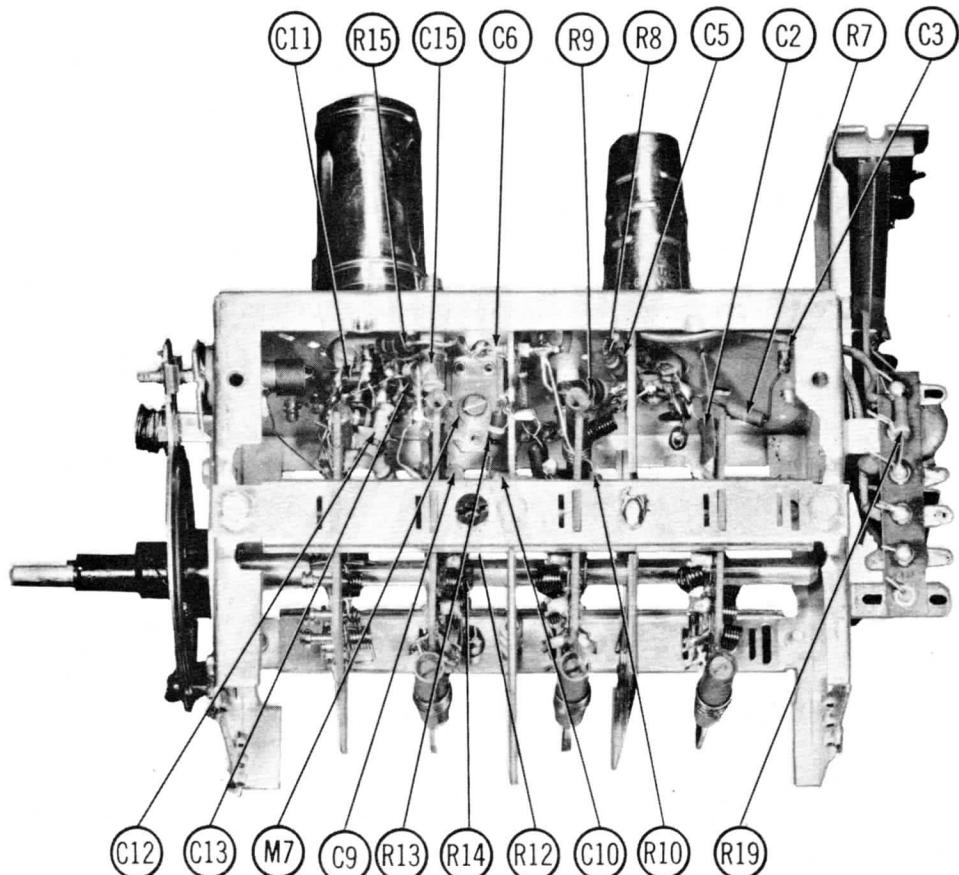
① Drill one new mounting hole.

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			RCA Victor PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	C	3/10A 250V	102164	102162	332.300 (C-3/10A)	346001	C 3/10	HC 0 to 3/10



**RF TUNER-LEFT SIDE**



**RF TUNER-RIGHT SIDE**

## RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6CB6	460K	47Ω	0Ω	.1Ω	†1500Ω	†30K	0Ω		
V2	6U8	†6000Ω	100K	INF	0Ω	.1Ω	INF	0Ω	INF	INF
V3	6CH8	0Ω	†7500Ω	†7500Ω	.1Ω	0Ω	27Ω	440K	•3.5Meg	•†500K
V4	6CH8	0Ω	†8200Ω	†8200Ω	.1Ω	0Ω	180Ω	.3Ω	18K	†20K
V5	6AW8	0Ω	3.2Meg	†680K	.1Ω	0Ω	•50Ω	680K	†47K	†4200Ω
V6	6AU6	47K	0Ω	0Ω	.1Ω	†10K	†20K	82Ω		
V7	6DT6	4.1Ω	560Ω	0Ω	.1Ω	†1Meg	†18K	470K		
V8	6AQ5	45K	680Ω	0Ω	.1Ω	†2500Ω	†2200Ω	45K		
V9	6AQ5	•1.7Meg	0Ω	0Ω	.1Ω	†600Ω	†200Ω	•1.7Meg		
V10	6CG7	†50Ω	1.3Meg	330K	.1Ω	0Ω	†39K	270K	0Ω	0Ω
V11	6DQ6A	NC	.1Ω	NC	†18K	1Meg	TP	0Ω	27Ω	TOP CAP †17.5Ω
V12	6AX4GT	NC	NC	1.8Meg	NC	†50Ω	NC	0Ω	.1Ω	TOP CAP †337.5Ω
V13	1X2B	PINS		1 THRU 9	HAVE	INFINITE RESISTANCE				
V14	5U4GB	NC	25K	NC	46Ω	NC	42Ω	NC	25K	
V15	14RP4A	0Ω	22K	†50Ω	Pin 6 †340K	Pin 10 •170K	Pin 11	Pin 12 .1Ω		

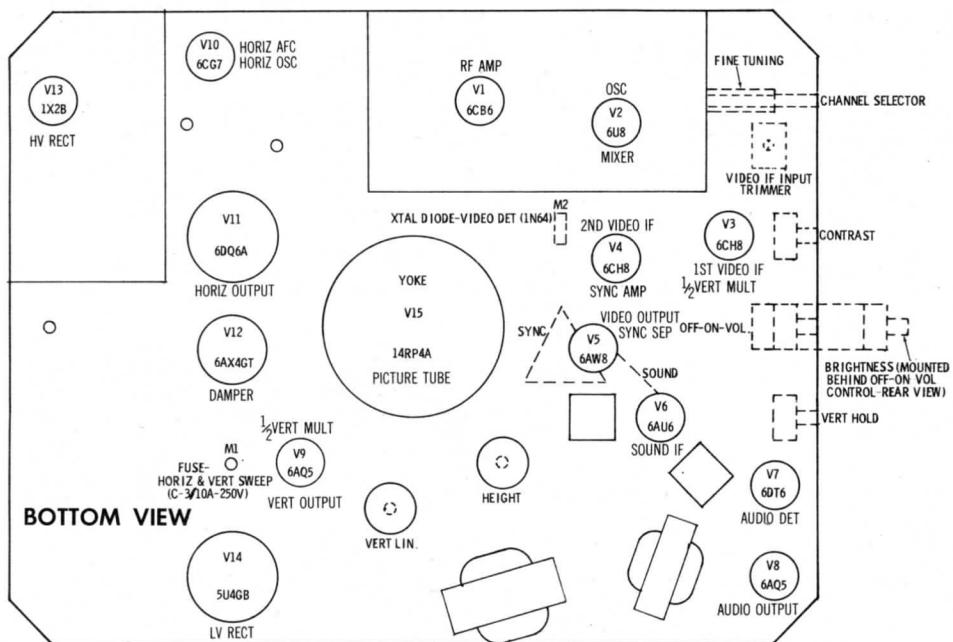
† MEASURED FROM PIN 8 OF V14.

‡ MEASURED FROM PIN 3 OF V12.

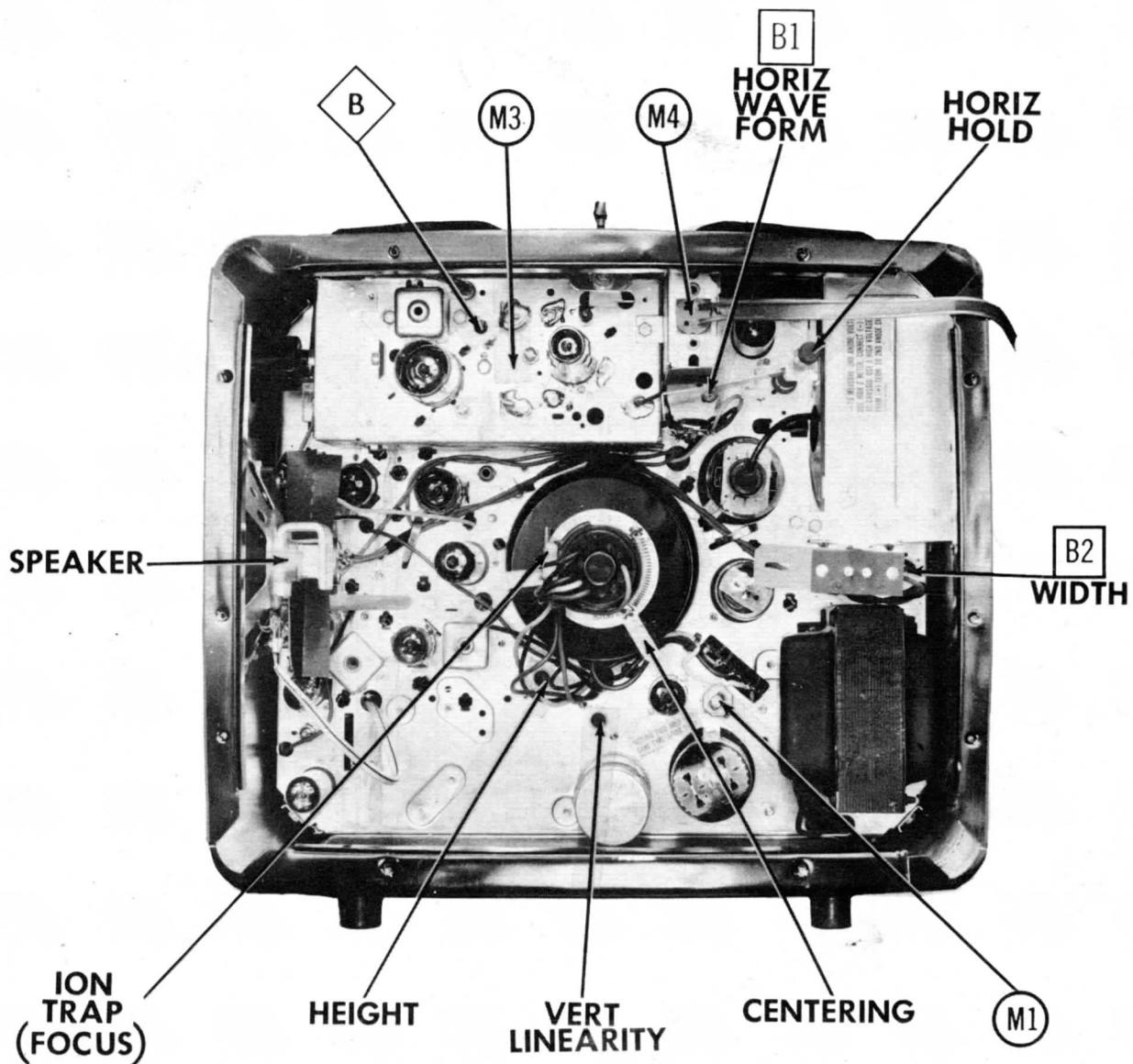
• THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.

NC NO CONNECTION

TP TIE POINT



**TUBE PLACEMENT CHART**



### CABINET - REAR VIEW

### **HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS**

Connect a clip lead across the horizontal waveform coil (L24) and adjust the horizontal hold until the picture synchronizes horizontally. Remove the clip lead from across L24. Connect the vertical amplifier of the oscilloscope to point **B** thru a low capacity probe. Connect the low side to chassis. Turn the horizontal hold clockwise until the picture just falls out of sync, then counter clockwise until the picture just falls into sync. Adjust the horizontal waveform slug (B1) until the waveform on the scope appears similar to Fig. 8 with the round peak and the sharp peaks of equal amplitude. Adjust the width slug (B2) for a picture SLIGHTLY wider than necessary to fill the picture mask horizontally.

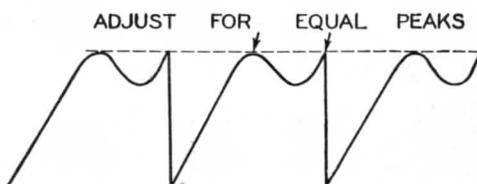


FIG. 8