

MAGNAVOX CHASSIS  
CT-214, CT-218, CT-221

TRADE NAME	Magnavox Chassis CT214, CT218, CT221		
MANUFACTURER	Magnavox Co., 2131 Bueter Rd., Fort Wayne, Indiana		
TYPE SET	Television Receiver		
TUBES	Twenty-three		
POWER SUPPLY	105-125 Volts, 60 cycle AC	RATING	2.0 Amps. @ 117 Volts

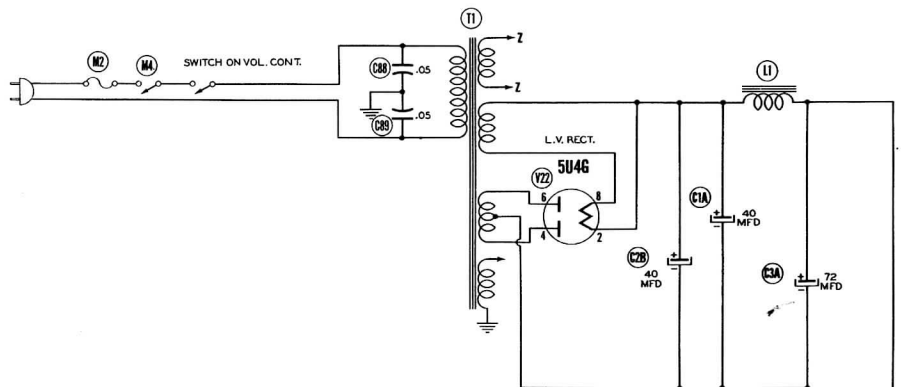
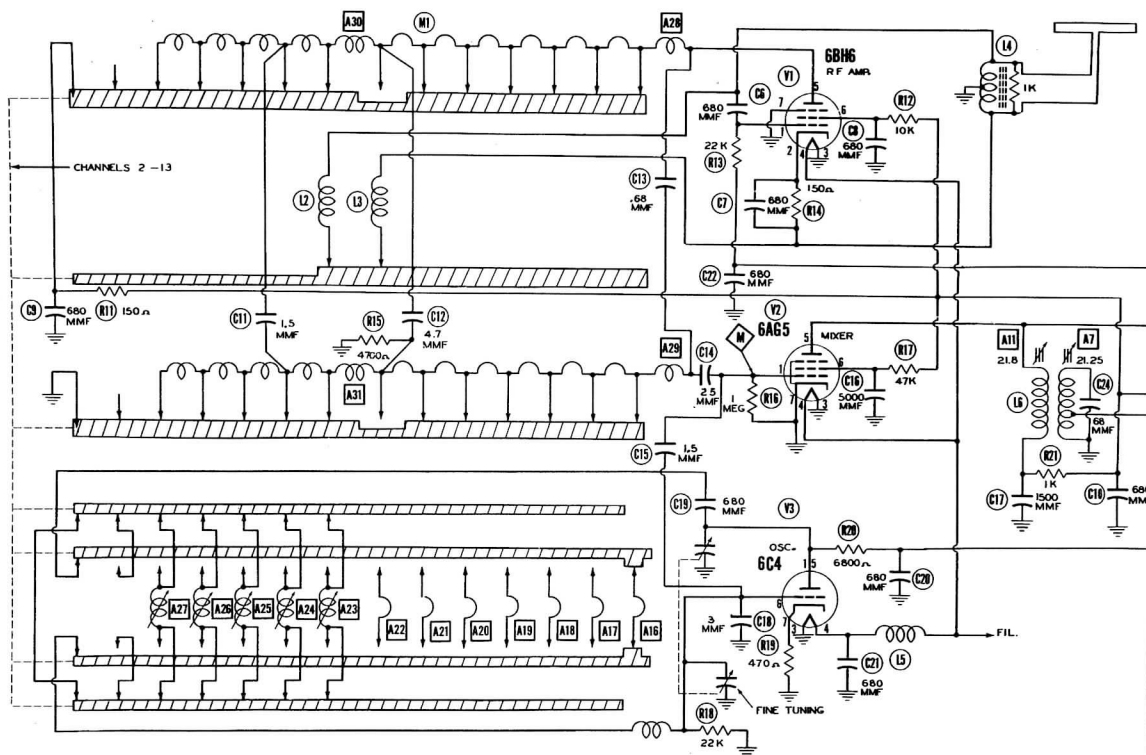
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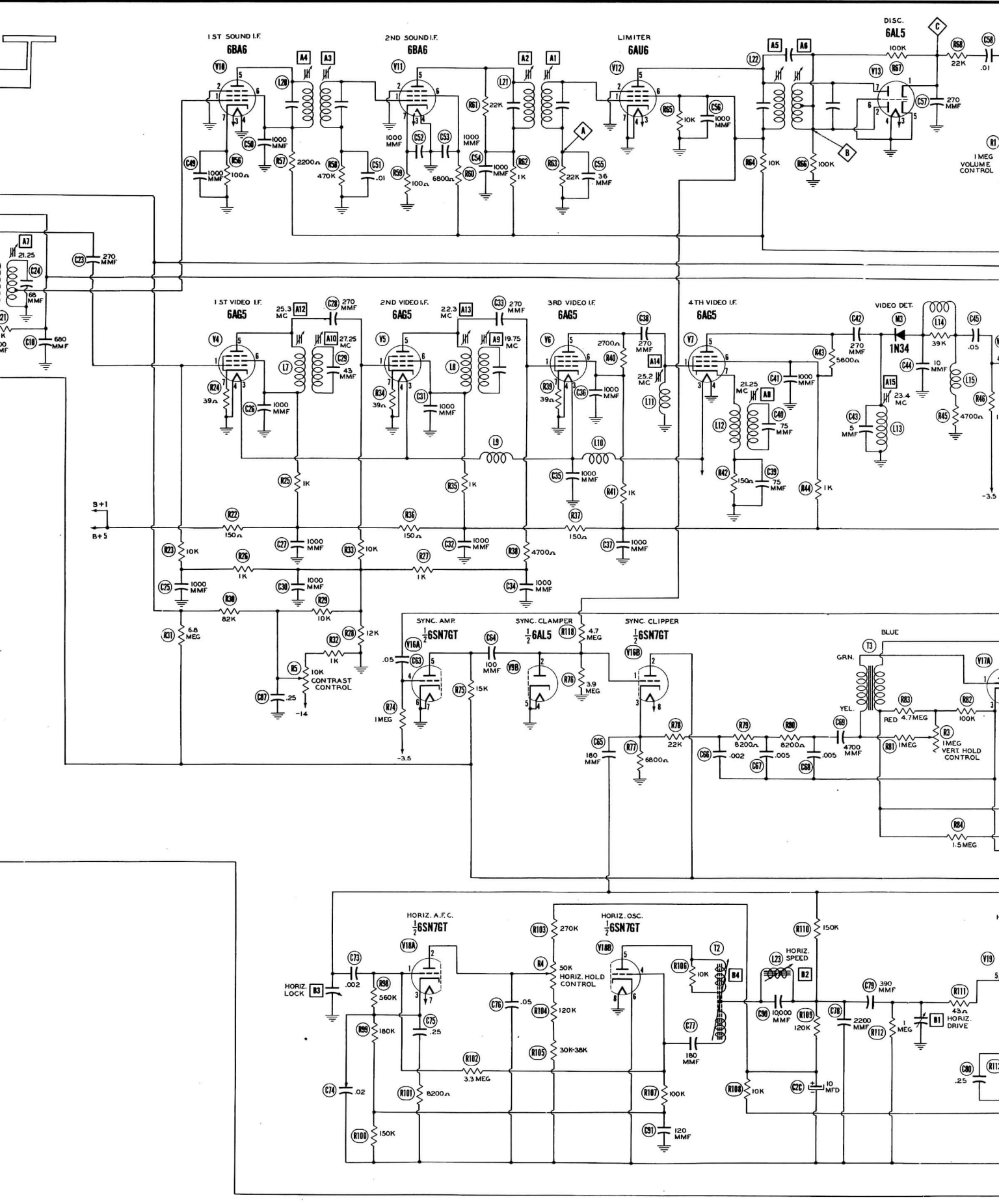
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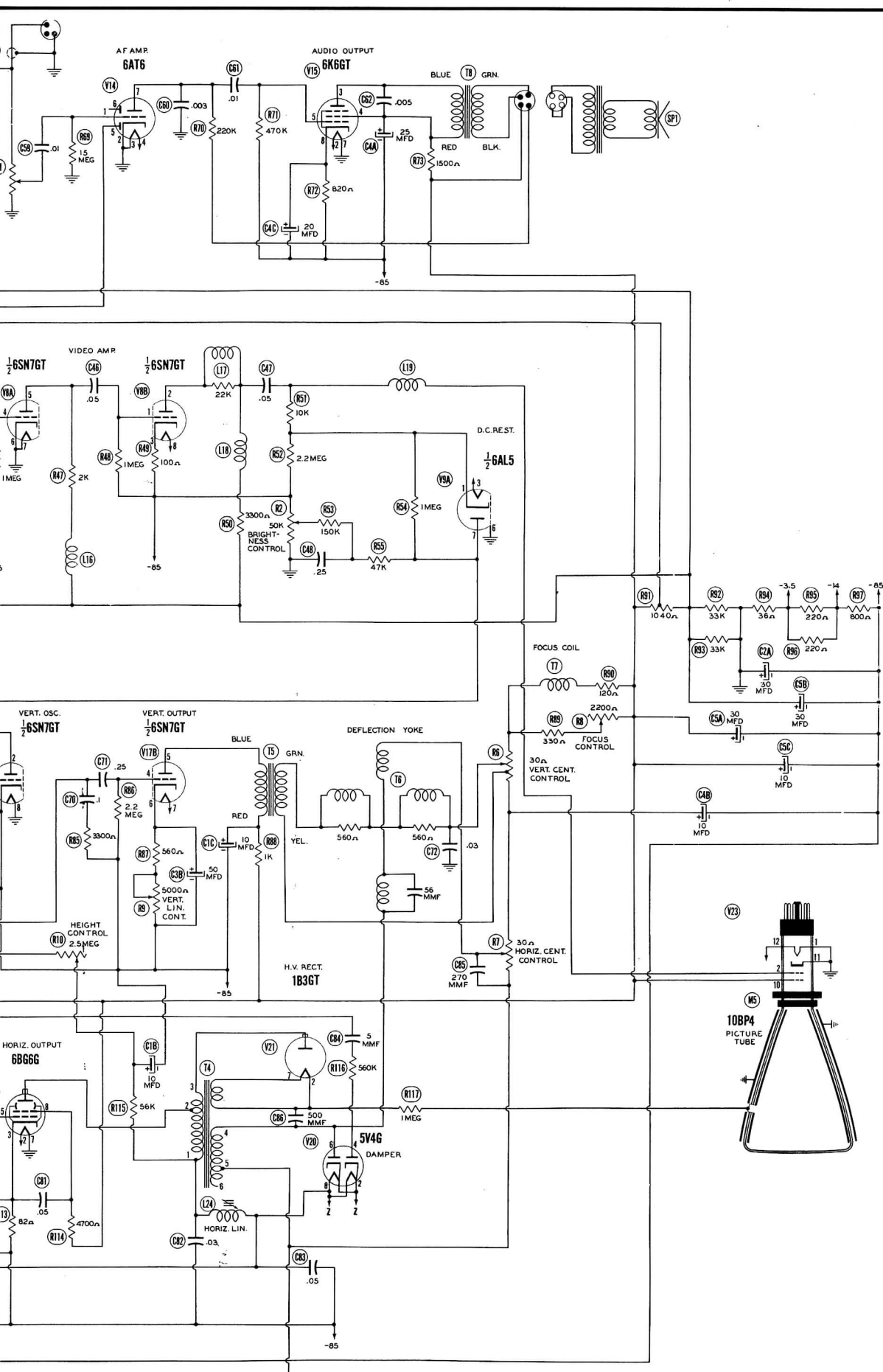
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DATE 5/49 4910-13 SET #62 FOLDER 13



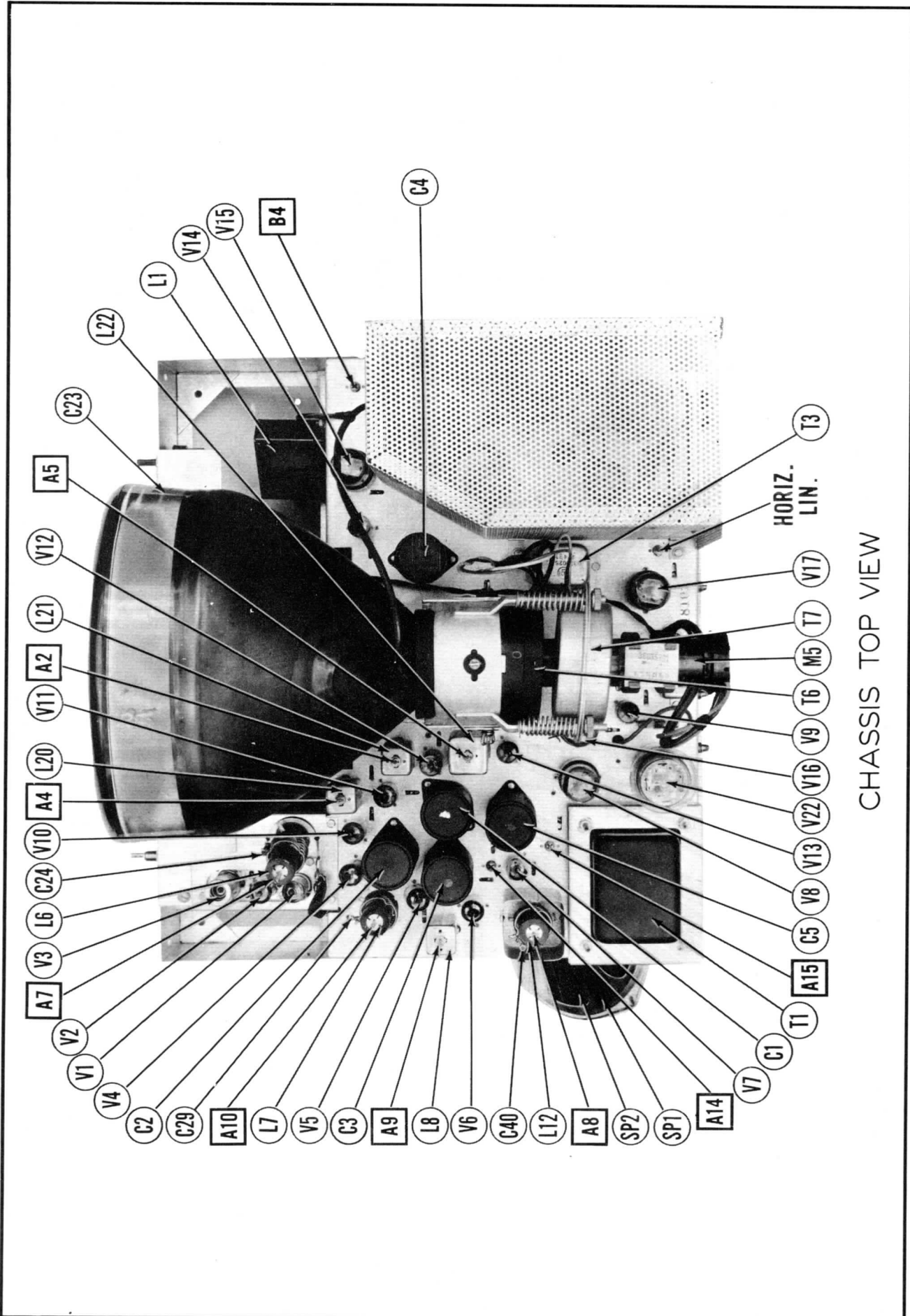
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1949



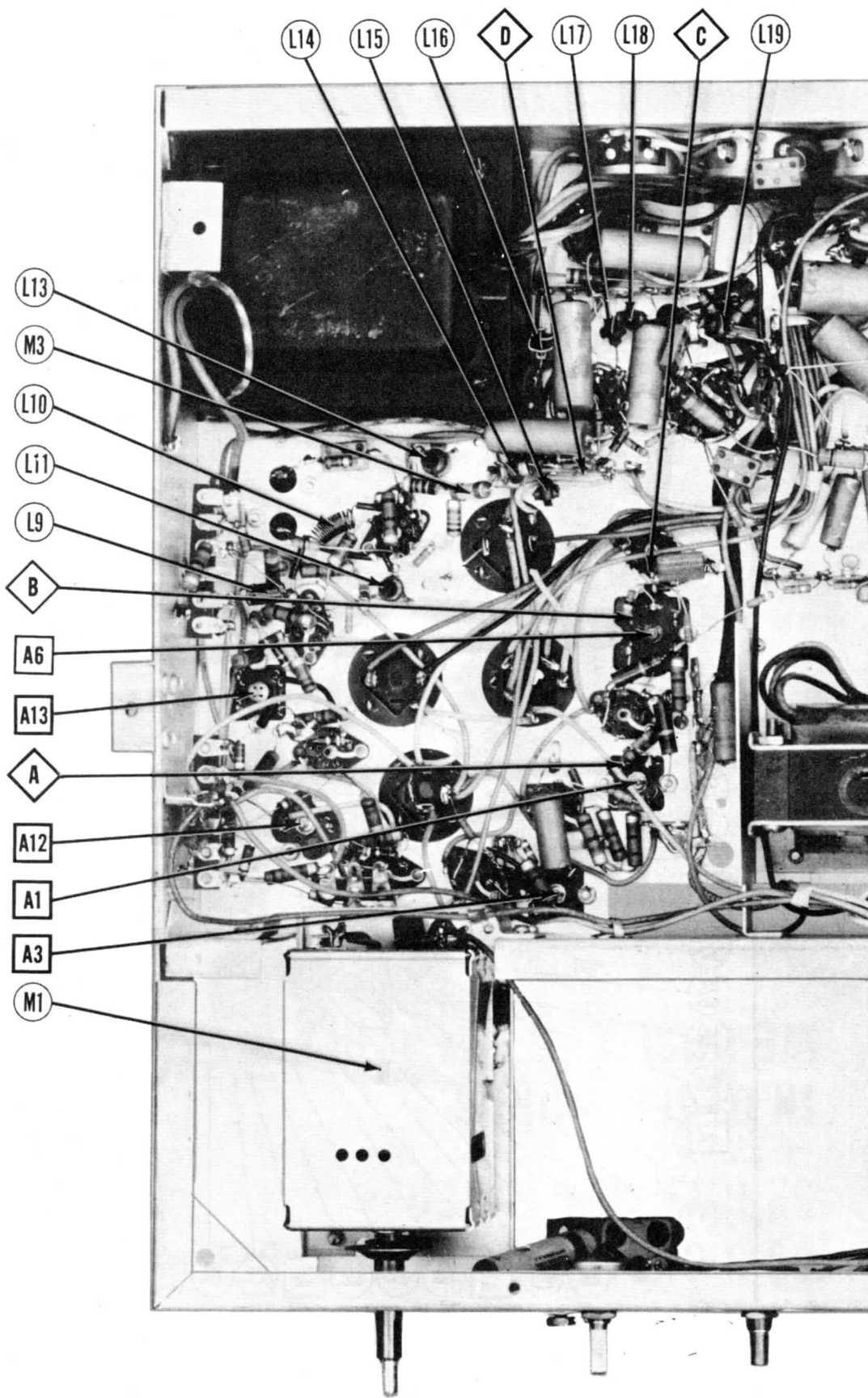


CT-214, CT-218, CT-221

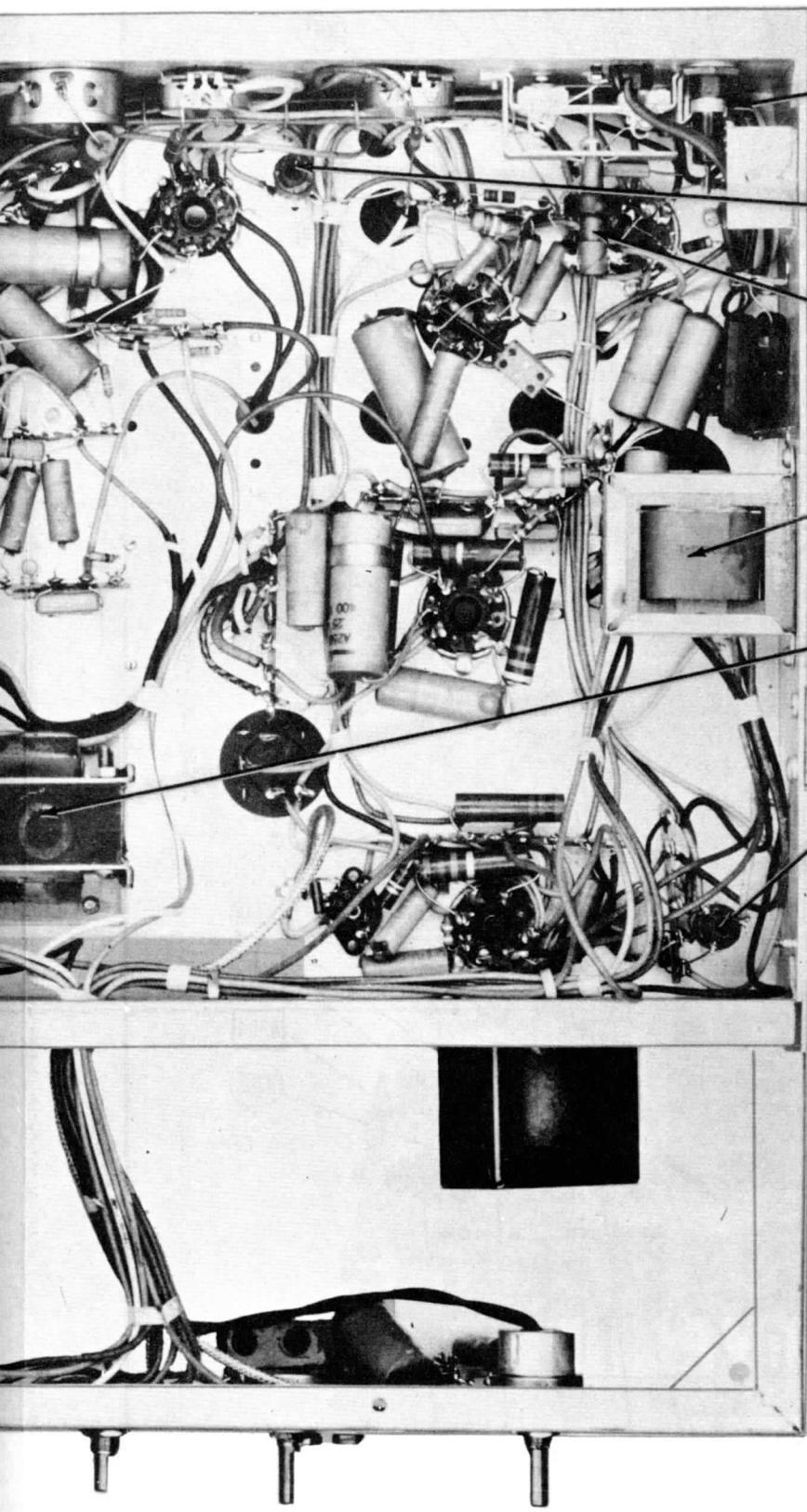


VIEW TOP CHASSIS

**MAGNAVOX CHASSIS**  
**CT-214, CT-218, CT-221**



CHASSIS BOTTOM VIEW-TRANS.,INDUCT



M4

L24

L23

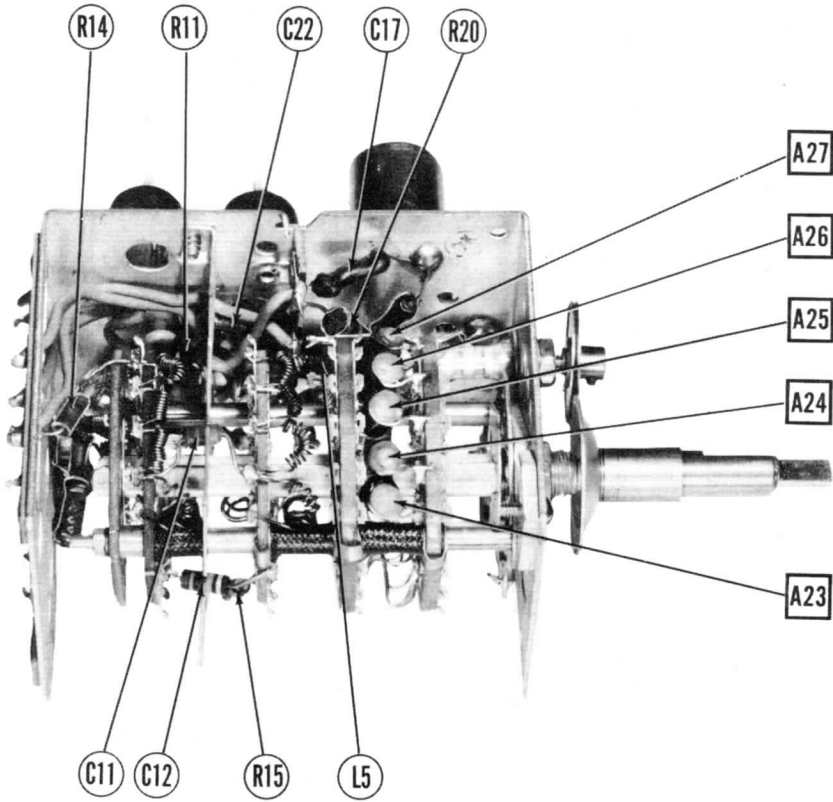
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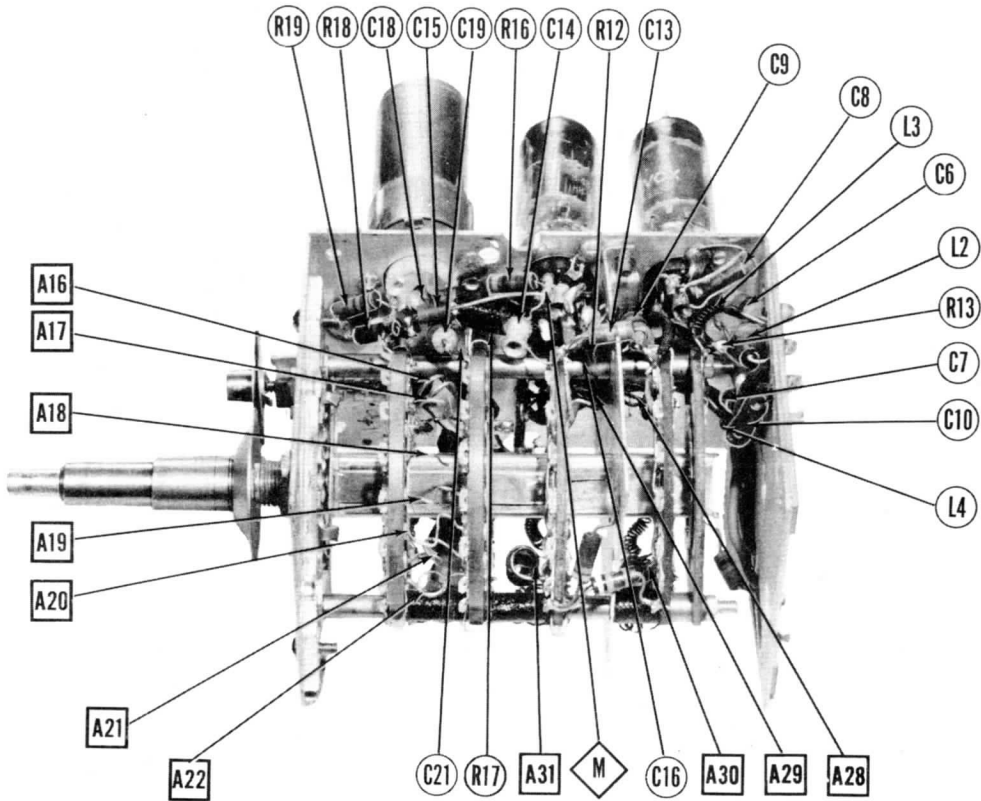
T2

MAGNAVOX CHASSIS  
CT-214, CT-218, CT-221

DUCTOR AND ALIGNMENT IDENTIFICATION



RF TUNER-LEFT SIDE



RF TUNER-RIGHT SIDE



# ALIGNMENT INSTRUCTIONS

TO DISABLE HIGH VOLTAGE REMOVE HORIZONTAL OSCILLATOR TUBE (V18) FROM SOCKET.

## SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. .01MFD	High side to Pin 1 (Grid) of 6BA6 (V11) Low side to chassis.	21.25MC	Any	DC Probe to Point $\diamond$ Common to chassis.	A1, A2	Adjust for maximum deflection.
2. .01MFD	High side to Pin 1 (Grid) of 6BA6 (V10) Low side to chassis.	21.25MC	Any	"	A3, A4	" " " "
3. .01MFD	"	"	"	DC Probe thru 1 Meg. to Point $\diamond$ Common to chassis.	A5	" " " "
4. .01MFD	"	"	"	DC Probe thru 1 Meg. to Point $\diamond$ Common to chassis.	A6	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. If A6 required much adjustment, repeat steps 3 & 4.

## SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. .01MFD	High side to Pin 1 (Grid) of 6BA6 (V10) Low side to chassis.	21.25MC (450KC Sweep)	21.25MC	Any	Vert. Amp. to point $\diamond$ Low side to chassis.	A1, A2, A3, A4	Adjust for maximum amplitude and symmetry as per fig. 1.
2. .01MFD	"	"	"	"	Vert. Amp. to point $\diamond$ Low side to chassis.	A5, A6	Adjust A5 for maximum amplitude and straightness of crossover lines as per fig. 2. Adjust A6 so crossover point occurs at center of the pattern. Continue with Step 5.

## VIDEO IF ALIGNMENT

This receiver employs one of three RF tuners. To inject the signal into the video IF channel, determine which tuner is being used, and inject signal as outlined.  
**SARKES TARZIAN TUNER:** Remove the oscillator tube (V3) and fashion a coil of hookup wire around the mixer tube. Connect the high side of the signal generator to the coil and the low side to chassis.  
**RCA or GENERAL INSTRUMENT:** Inject signal across the mixer grid resistor (point L for RCA tuner and point K for General Instrument tuner) accessible through hole in side of chassis.  
 Set the contrast control to approximately -3 volts.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
5.	See Instructions above.	21.25MC	Any	DC Probe to Point $\diamond$ Common to chassis.	A7, A8	Adjust for minimum reading.
6.	"	19.75MC	"	"	A9	" " " "
7.	"	27.25MC	"	"	A10	" " " "
8.	"	21.8 MC	"	"	A11	Adjust for maximum deflection.
9.	"	25.3 MC	"	"	A12	" " " "
10.	"	22.3 MC	"	"	A13	" " " "
11.	"	25.2 MC	"	"	A14	" " " "
12.	"	23.4 MC	"	"	A15	" " " "

## OVERALL VIDEO IF RESPONSE CHECK

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

To inject signal in Sarkes Tarzian tuner, loop a few turns of hookup wire around the mixer tube. For the RCA and gen. Instr. Tuner construct a dummy mixer tube as shown in Figure 5. Remove the oscillator tube to prevent spurious beats.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
13.	See Instructions listed above.	24MC (10MC Sweep)	19.75MC 21.25MC 25.75MC 27.25MC	Any	Vert. Amp. to point $\diamond$ Low side to chassis.		Check to see that response pattern is similar to fig. 3. If necessary, slightly retouch A11, 12, 13, 14, and 15 to obtain proper curve.

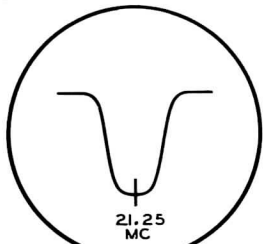


FIG. 1

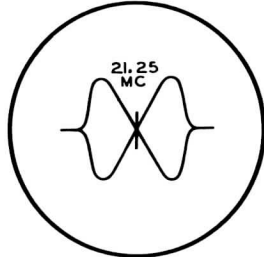
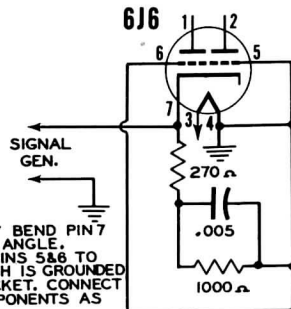


FIG. 2



DUMMY MIXER TUBE

FIG. 5

CAREFULLY BEND PIN 7 AT RIGHT ANGLE. CONNECT PINS 5 & 6 TO PIN 4 WHICH IS GROUNDED AT THE SOCKET. CONNECT OTHER COMPONENTS AS SHOWN.

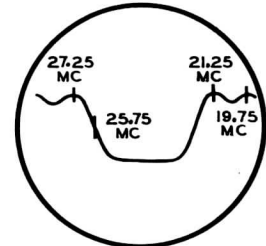


FIG. 3

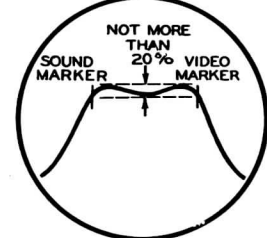


FIG. 4

SINCE THIS RECEIVER USES ONE OF THREE RF TUNERS, IT IS NECESSARY TO DETERMINE THE TYPE TUNER IN THE RECEIVER ON HAND AND FOLLOW THE CORRESPONDING RF AMP. AND OSCILLATOR ALIGNMENTS OUTLINED BELOW.  
UNLESS SIGNAL GENERATOR HAS A BALANCED 300Ω OUTPUT CONNECT A CARBON TERMINATING RESISTOR (USUALLY 50 OHMS) ACROSS THE SIGNAL GENERATOR OUTPUT TERMINALS. CONNECT A 125Ω CARBON RESISTOR TO EACH TERMINAL.

**OSCILLATOR ALIGNMENT (SARKES TARZIAN CHASSIS CT-218)**

To align oscillator circuits, set the fine tuning control to the mid-point of its range and follow the instruction below.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
14. Two 125Ω carbon res.	Across antenna terminals with 125Ω inserted in each generator lead.	215.75MC	13	DC Probe to Point Common to chassis.	A16	Turn fine tuning control slightly. If meter reaches the zero point the oscillator setting is correct. If not, reposition the fine tuning control to its midpoint and adjust A16 for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
15. Two 125Ω carbon res.	"	209.75MC 203.75MC 197.75MC 191.75MC 185.75MC 179.75MC 87.75MC 81.75MC 71.75MC 65.75MC 59.75MC	12 11 10 9 8 7 6 5 4 3 2	"	A17 A18 A19 A20 A21 A22 A23 A24 A25 A26 A27	"

**RF AMP & MIXER ALIGNMENT (SARKES-TARZIAN CHASSIS CT-218)**

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
16. Two 125Ω carbon res.	Across antenna terminals.	213MC (10MC Sweep)	211.25MC 215.75MC	13	Vert. Amp. thru 10KΩ to point Low side to chassis.	A28, A29	Expand or compress coil turns to obtain desired pattern as per Fig. 4. with markers above 80%.
17. Two 125Ω carbon res.	"	207MC (10MC Sweep) 201MC (10MC Sweep) 195MC (10MC Sweep) 189MC (10MC Sweep) 183MC (10MC Sweep) 177MC (10MC Sweep)	205.25MC 209.75MC 199.25MC 203.75MC 193.25MC 197.75MC 187.25MC 191.75MC 181.25MC 185.75MC 175.25MC 179.75MC	12 11 10 9 8 7	"	"	Check for response pattern as per Fig. 4. If markers fall below 80% readjust A28, and A29. Then check all channels again.
18. Two 125Ω carbon res.	"	85MC (10MC Sweep)	83.25MC 87.75MC	6	"	A30, A31	Expand or compress coil turns to obtain desired pattern as per Fig. 4 with markers above 80%.
19. Two 125Ω carbon res.	"	79MC (10MC Sweep) 69MC (10MC Sweep) 63MC (10MC Sweep) 57MC (10MC Sweep)	77.25MC 81.75MC 67.25MC 71.75MC 61.25MC 65.75MC 55.25MC 59.75MC	5 4 3 2	"	"	Check for response pattern as per Fig. 4. If markers fall below 80%, readjust A30 and A31. Then recheck all channels.

**RF AMP & MIXER ALIGNMENT (RCA TUNER CHASSIS CT-214)**

Set contrast control to give -1.5 volt reading at the junction of C603 and R603. Bypass the converter plate to ground with 100MMF.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
14. Two 125Ω carbon res.	Across antenna terminals with 125Ω resistor in each generator lead.	213MC (10MC Sweep)	211.25MC 215.75MC	13	Vert. Amp. thru 10KΩ to Point Low side to chassis.	A601, A602, A603, A604	Adjust for approximately flat top response pattern as per Fig. 4 with markers above 80%. Keep slug pairs in same relative position.
15. Two 125Ω carbon res.	"	207MC (10MC Sweep) 201MC (10MC Sweep) 195MC (10MC Sweep) 189MC (10MC Sweep) 183MC (10MC Sweep) 177MC (10MC Sweep)	205.25MC 209.75MC 199.25MC 203.75MC 193.25MC 197.75MC 187.25MC 191.75MC 181.25MC 185.75MC 175.25MC 179.75MC	12 11 10 9 8 7	"	"	Check for response curve as per fig. 4. If markers are below 80% on one channel, make slight re-adjustments of A601, 2, 3, and 4 on that channel. Recheck all other high band channels.
16. Two 125Ω carbon res.	"	85MC (10MC Sweep)	83.25MC 87.75MC	6	"	A605, A606, A607, A608	Adjust for approximately flat topped response pattern as per Fig. 4 with markers above 80%. Keep slug pairs in same relative position.
17. Two 125Ω carbon res.	"	79MC (10MC Sweep) 69MC (10MC Sweep) 63MC (10MC Sweep) 57MC (10MC Sweep)	77.25MC 81.75MC 67.25MC 71.75MC 61.25MC 65.75MC 55.25MC 59.75MC	5 4 3 2	"	"	Check for response curve as per Fig. 4. If markers are below 80% on one channel, make slight adjustment of A605, 6, 7, 8 on that channel. Recheck all other low band channels.

**MAGNAVOX CHASSIS CT-214, CT-218, CT-221**

# ALIGNMENT INSTRUCTIONS (CONT.)

## OSCILLATOR ALIGNMENT (RCA TUNER CHASSIS CT-214)

Set fine tuning control to the midpoint of its tuning range and follow instructions below.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
18. Two 125Ω carbon res.	Across antenna terminals with 125Ω resistor in each generator lead.	215.75MC	13	DC Probe to Point Common to Chassis.	A609, A610	Turn fine tuning control slightly. If meter reaches zero point, the oscillator setting is correct. If not, reposition fine tuning control to its mid-point and adjust A609 & A610 for zero. A positive and negative reading will be obtained on either side of the correct setting. Keep the slug pairs in the same relative position.
19. Two 125Ω carbon res.	"	209.75MC 203.75MC 197.75MC 191.75MC 185.75MC 179.75MC	12 11 10 9 8 7	"	A611 A612 A613 A614 A615 A616	Adjust for zero reading as outlined above.
20. Two 125Ω carbon res.	"	87.75MC	6	"	A617, A618	Adjust for zero reading, keeping A617, and A618 in same relative position.
21. Two 125Ω carbon res.	"	81.75MC 71.75MC 65.75MC 59.75MC	5 4 3 2	"	A619 A620 A621 A622	Adjust for zero reading as outlined above.
22. Wave traps A623 and A624 are used for specific types of interference and their alignment will depend upon the type encountered. With the receiver tuned to the channel having the interference, set fine tuning control until interference is at maximum. Adjust A623 and A624 for minimum interference in the picture and sound keeping the cores approximately the same relative position. Turn one core 1/2 turn, adjust the other for minimum interference.						

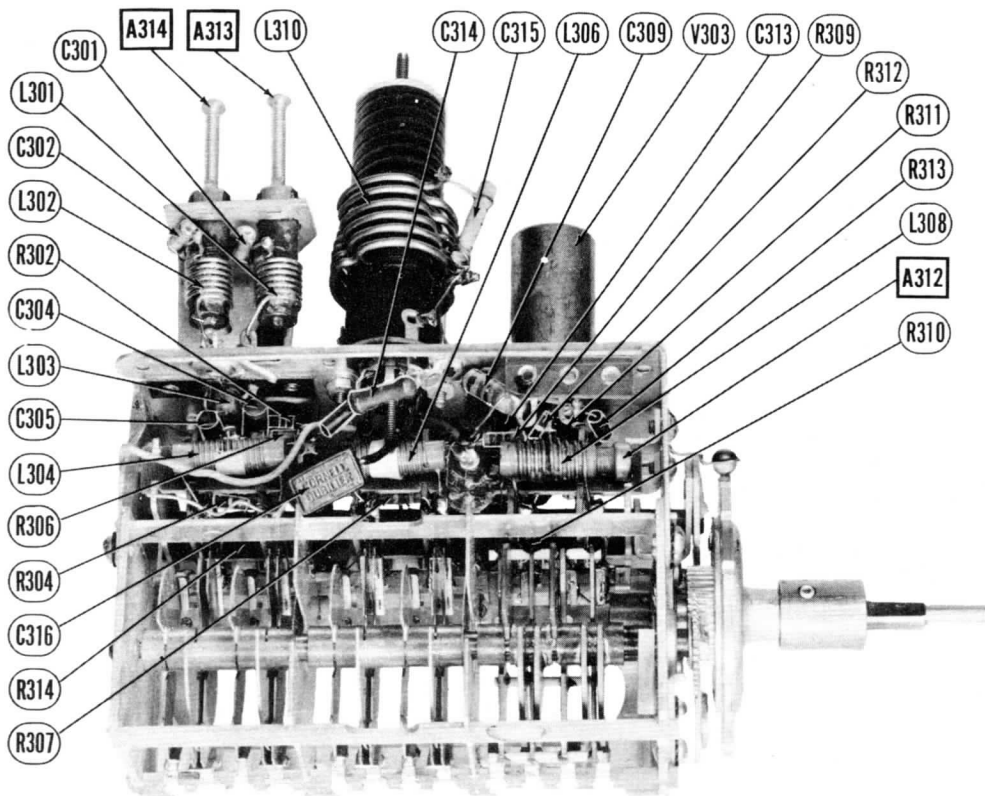
## RF AMP & MIXER ALIGNMENT (GEN. INSTR. CT. 221)

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
14. Two 125Ω carbon res.	Across antenna terminals with 125Ω resistor in each generator lead.	213MC (10MC Sweep)	211.25MC 215.75MC	13	Vert. Amp. thru 10KΩ resistor to point Common to Low side to chassis.	A301, A302, A303, A304	Adjust for response curve approximately to Fig. 4. with markers at 80% amplitude or more. Keep the RF and Mixer Trimmer pairs in approximately same relative position.
15. Two 125Ω carbon res.	"	177MC (10MC Sweep)	175.25MC 179.75MC	7	"	A305, A306	Adjust rings for waveform as shown in Fig. 4.
16. Two 125Ω carbon res.	"	183MC (10MC Sweep) 189MC (10MC Sweep) 195MC (10MC Sweep) 201MC (10MC Sweep) 207MC (10MC Sweep)	181.25MC 185.75MC 187.25MC 191.75MC 193.25MC 197.75MC 199.25MC 203.75MC 205.25MC 209.75MC	8 9 10 11 12	"	"	Check response on channels 8 thru 12. Slight adjustments of A301, 2, 3, 4, 5 and 6 may be required to obtain optimum performance on all high band channels.
17. Two 125Ω carbon res.	"	85MC (10MC Sweep)	83.25MC 87.75MC	6	"	A307, A308, A309, A310	Adjust for response curve shown in Fig. 4.
18. Two 125Ω carbon res.	"	79MC (10MC Sweep) 69MC (10MC Sweep) 63MC (10MC Sweep) 57MC (10MC Sweep)	77.25MC 81.75MC 67.25MC 71.75MC 61.25MC 65.75MC 55.25MC 59.75MC	5 4 3 2	"	"	Check response on channels 2 thru 5. Slight adjustment of A307, 8, 9, 10 may be required to obtain optimum response on all low band channels.

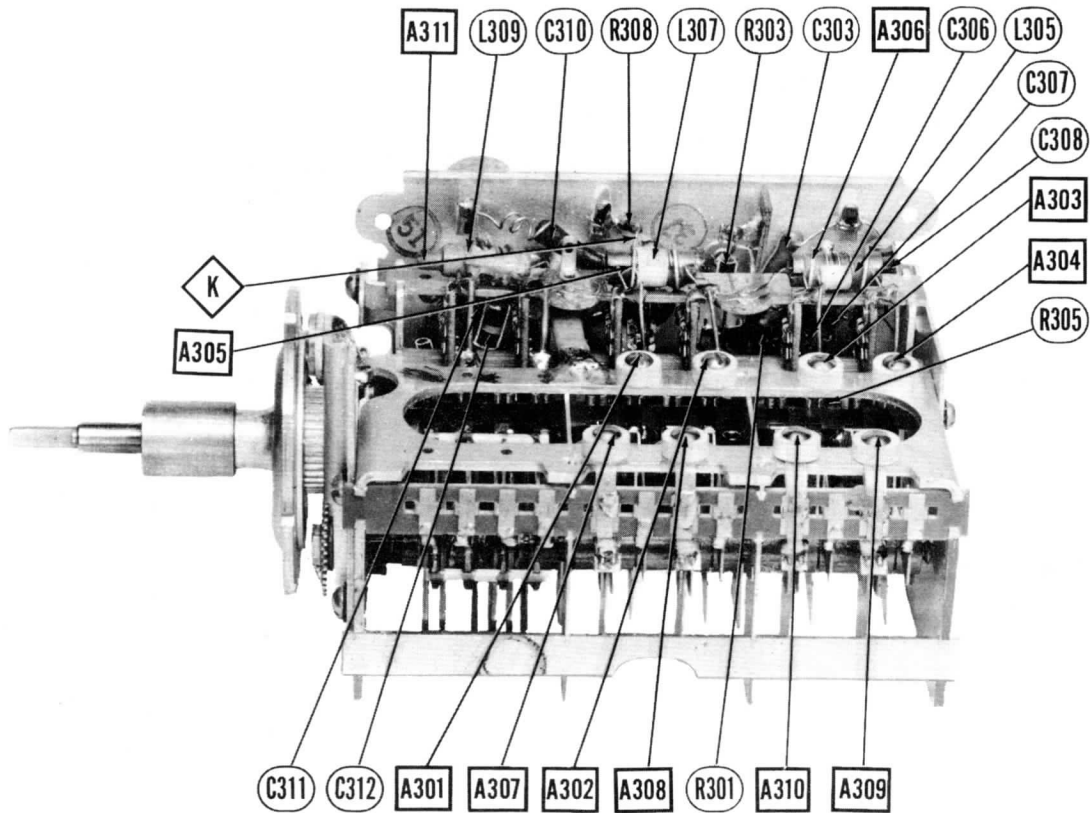
## OSCILLATOR ALIGNMENT (GEN. INSTR. CT. 221)

Set fine tuning control to the midpoint of its tuning range.

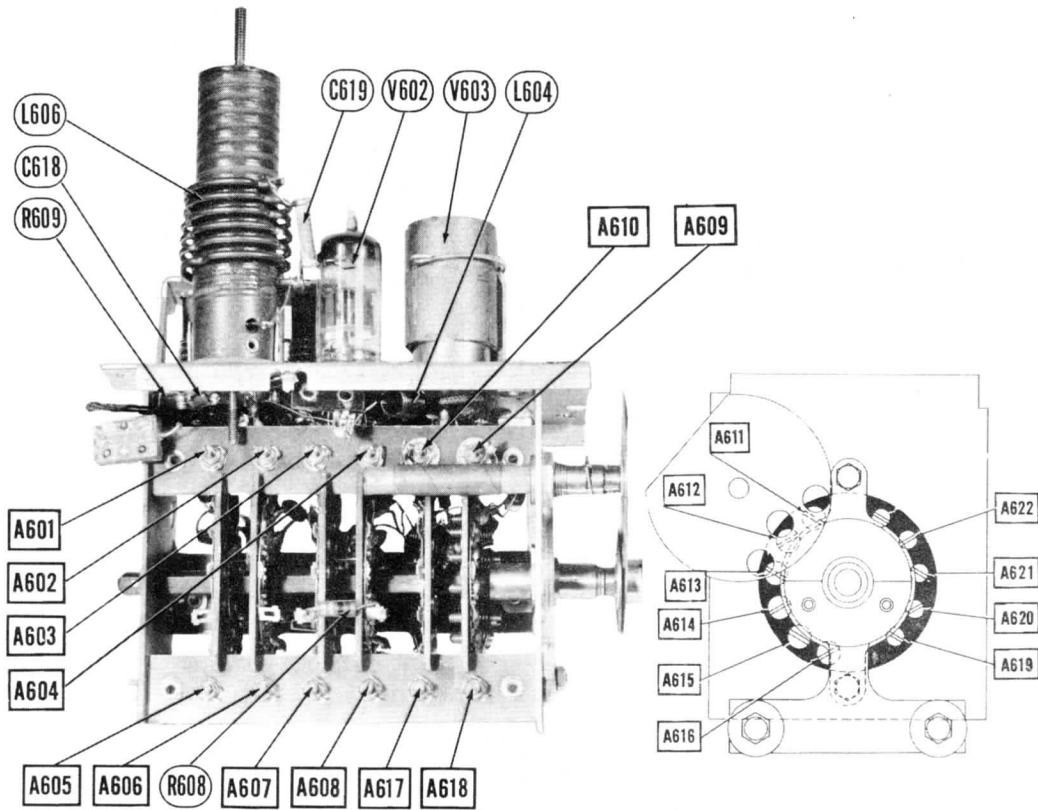
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
19. Two 125Ω carbon res.	Across antenna terminals with 125Ω resistor in each generator lead.	215.75MC	13	DC Probe to Point Common to Chassis.	A311	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
20. Two 125Ω carbon res.	"	87.75MC	6	"	A312	" " "
21. Check to see that all other channels are received well within the limits of the fine tuning control. If not, some compromise may be made by adjusting A311 for the high band channels and A312 for the low band channels.						
22. Wave traps A313 and A314 are used for specific types of interference and their alignment will depend upon the type encountered. With the receiver tuned to the channel having the interference set fine tuning control until interference is at maximum. Adjust A313 and A314 for minimum interference in the picture and sound, keeping the cores at approximately the same relative position. Turn one core 1/2 turn, adjust the other for minimum interference.						



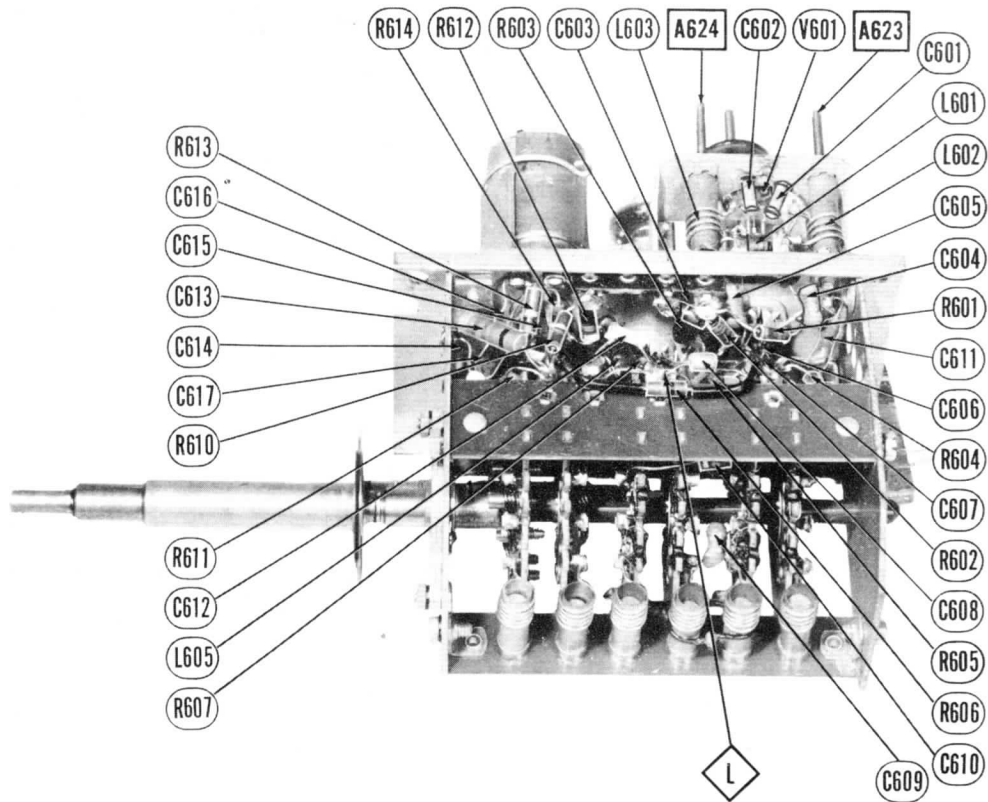
RF TUNER-LEFT SIDE



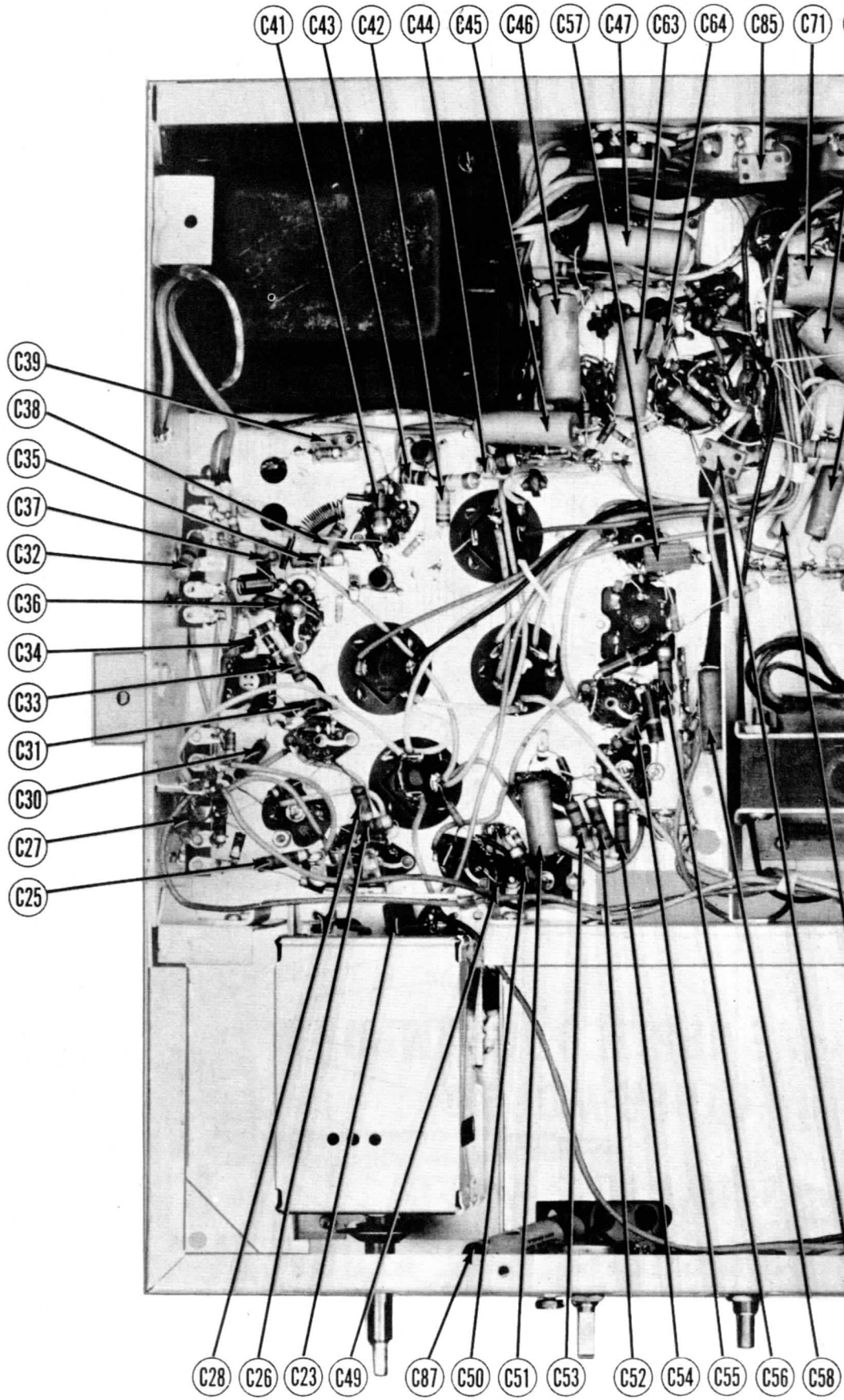
RF TUNER-RIGHT SIDE



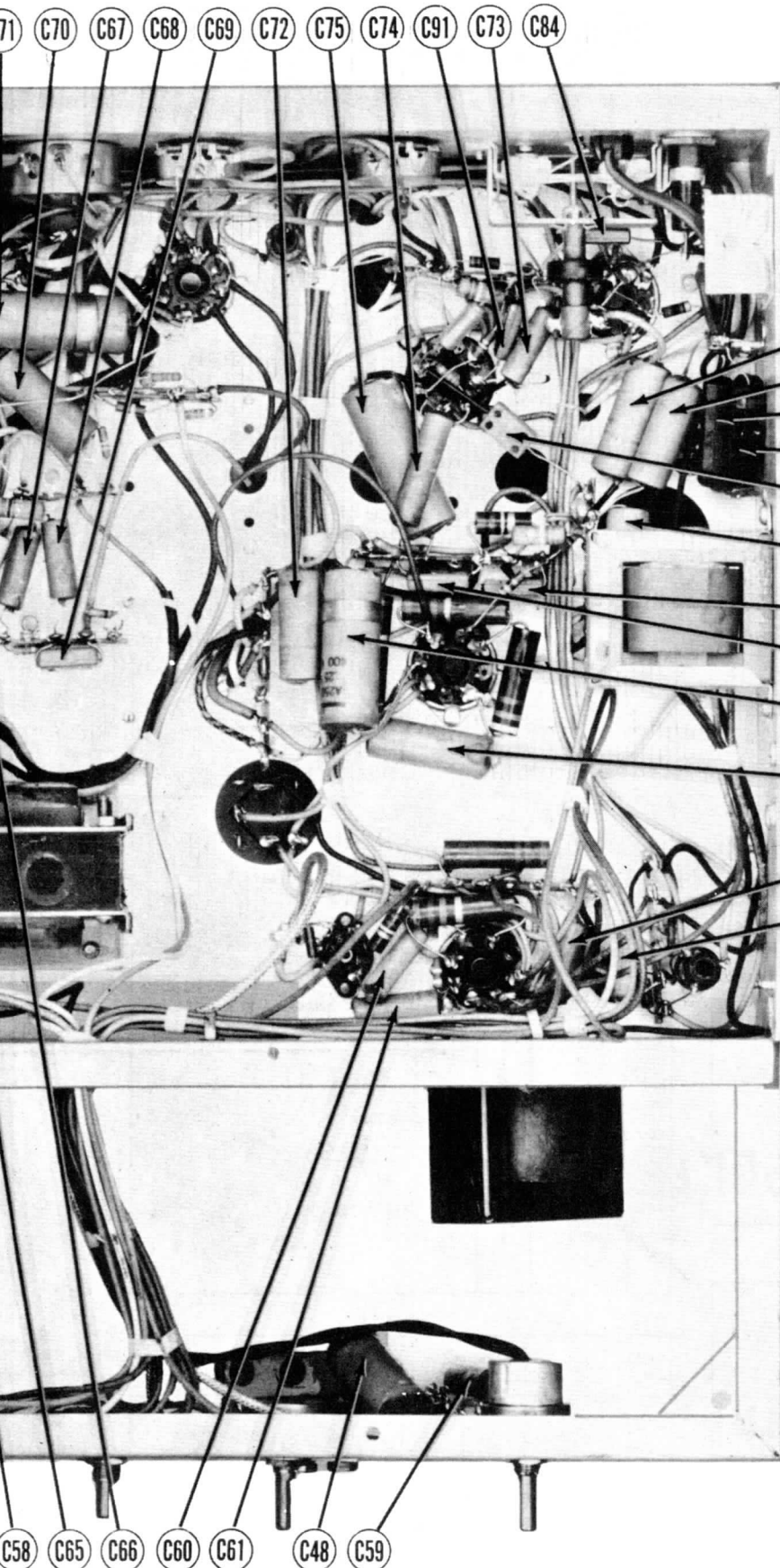
RF TUNER-LEFT SIDE



RF TUNER-RIGHT SIDE



CHASSIS BOTTOM VIEW-CA



- C83
- C82
- C89
- C88
- C77
- C76
- C79
- C78
- C80
- C81
- C62
- C90

- C71
- C70
- C67
- C68
- C69
- C72
- C75
- C74
- C91
- C73
- C84
- C58
- C65
- C66
- C60
- C61
- C48
- C59

**MAGNAVOX CHASSIS  
CT-214, CT-218, CT-221**

CAPACITOR IDENTIFICATION

# VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Cap
1	6BH6	-5.5VDC	9VDC	OV	6.3VAC	190VDC	190VDC	OV		
2	6AG5	-8VDC	OV	OV	6.3VAC	115VDC	115VDC	OV		
3	6C4	1.75VDC	OV	OV	6.3VAC	1.75VDC	1.75VDC	4.5VDC		
4	6AG5	-5.6VDC	OV	6.3VAC	OV	145VDC	145VDC	OV		
5	6AG5	-5.7VDC	OV	6.3VAC	OV	145VDC	145VDC	OV		
6	6AG5	-5.8VDC	OV	6.3VAC	OV	145VDC	145VDC	OV		
7	6AG5	OV	1.8VDC	6.3VAC	OV	80VDC	130VDC	1.8VDC		
8	6SN7GT	1OV	11.70VDC	11.8VDC	-5VDC	130VDC	OV	OV	6.3 VAC	
9	6AL5	-45VDC	-45VDC	6.3VAC	OV	OV	OV	-75VDC		
10	6BA6	OV	OV	6.3VAC	OV	115VDC	115VDC	1.5VDC		
11	6BA6	OV	OV	6.3VAC	OV	185VDC	112VDC	1.5VDC		
12	6AU6	-2VDC	OV	6.3VAC	OV	50VDC	50VDC	OV		
13	6AL5	OV	-2VDC	6.3VAC	OV	OV	OV	-3VDC		
14	6AT6	-4VDC	OV	OV	6.3VAC	-5.8VDC	-5VDC	55VDC		
15	6K6GT	OV	6.3VAC	260VDC	275VDC	1OV	1OV	OV	121VDC	
16	6SN7GT	-2VDC	235VDC	10VDC	-6VDC	130VDC	OV	OV	6.3VAC	
17	6SN7GT	-25VDC	1108VDC	1OV	1-1.3VDC	300VDC	118VDC	6.3 VAC	OV	
18	6SN7GT	-1.5VDC	108VDC	-1VDC	-44VDC	1195VDC	1OV	6.3 VAC	OV	
19	6BG6G	OV	6.3VAC	17.4VDC	1330VDC	-2VDC	1310VDC	OV	1240VDC	*
20	5V4G	OV	1480VDC	1480VDC	1400VDC	OV	1400VDC	OV	1450VDC	
21	1B3GT									
* DO NOT MEASURE.										
22	5U4G	OV	310VDC	OV	385VAC	OV	385VAC	-85VDC	310VDC	
23	10BP4	OV	-70VDC	230VDC	OV	OV	OV	OV	OV	

§ Taken with VTVM  
\* Do not measure  
† Measured from pin 6 of V18

RESISTANCE READINGS

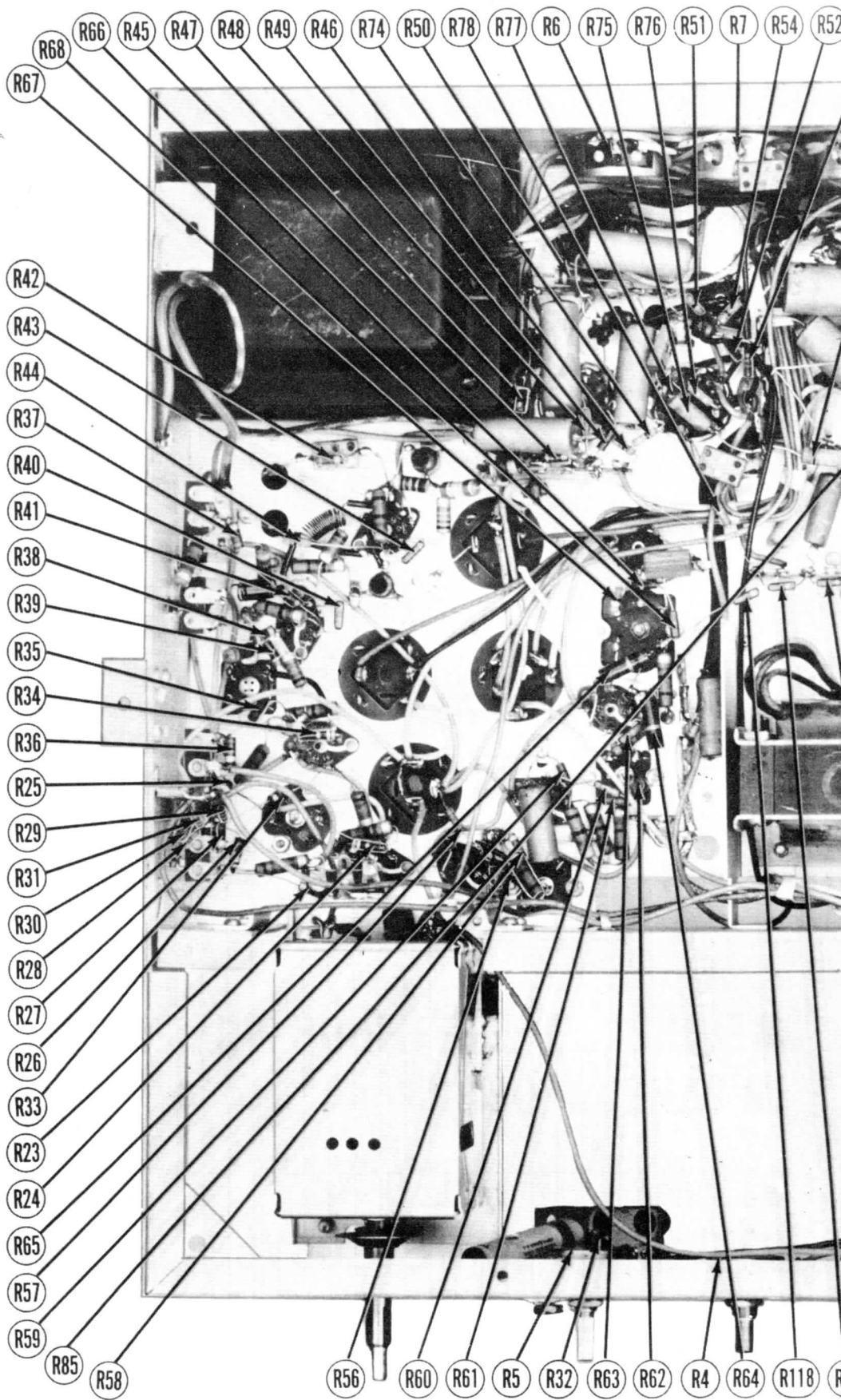
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Cap
1	6BH6	100KΩ	150Ω	0Ω	.2Ω	*1000Ω	*10KΩ	0Ω		
2	6AG5	116Ω	0Ω	0Ω	.2Ω	*2KΩ	*50KΩ	0Ω		
3	6C4	6.5KΩ	Inf.	0Ω	.2Ω	*6.5KΩ	22KΩ	470Ω		
4	6AG5	1.7KΩ	35Ω	.2Ω	0Ω	*2.8KΩ	*2.8KΩ	39Ω		
5	6AG5	1.5KΩ	39Ω	.2Ω	0Ω	*2.5KΩ	*2.5KΩ	39Ω		
6	6AG5	1.1KΩ	39Ω	.2Ω	0Ω	*5KΩ	*2.5KΩ	39Ω		
7	6AG5	.2Ω	150Ω	.2Ω	0Ω	*8KΩ	*2.5KΩ	150Ω		
8	6SN7GT	117Ω	*4.8KΩ	1100Ω	117Ω	*3.5KΩ	0Ω	0Ω	.2Ω	
9	6AL5	750KΩ	2.57Ω	.2Ω	0Ω	0Ω	Inf.	180KΩ		
10	6BA6	0Ω	0Ω	.2Ω	0Ω	*3.5KΩ	*3.5KΩ	100Ω		
11	6BA6	500KΩ	0Ω	.2Ω	0Ω	*2.5KΩ	*9KΩ	100Ω		
12	6AU6	22KΩ	0Ω	.2Ω	0Ω	*10KΩ	*10KΩ	0Ω		
13	6AL5	200KΩ	100KΩ	.2Ω	0Ω	0Ω	0Ω	100KΩ		
14	6AT6	157Ω	0Ω	0Ω	.2Ω	90KΩ	Inf.	*220KΩ		
15	6K6GT	Inf.	.2Ω	*2.5KΩ	*1800Ω	1470KΩ	10Ω	0Ω	1820Ω	
16	6SN7GT	2.5KΩ	*500Ω	6.8KΩ	117Ω	*17KΩ	0Ω	0Ω	.2Ω	
17	6SN7GT	117Ω	12.27Ω	10Ω	12.27Ω	*2KΩ	76KΩ	1600Ω	0Ω	
18	6SN7GT	1750KΩ	1130KΩ	1300KΩ	1240KΩ	1420KΩ	10Ω	0Ω	0Ω	
19	6BG6G	Inf.	.2Ω	182Ω	*400Ω	117Ω	*500Ω	0Ω	6KΩ	*220Ω
20	5V4G	Inf.	1280KΩ	1280KΩ	*36Ω	Inf.	*36Ω	Inf.	1280KΩ	
21	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	*480Ω
22	5U4G	Inf.	12KΩ	Inf.	900Ω	Inf.	900Ω	0Ω	12KΩ	
23	10BP4	0Ω	800KΩ	*500Ω	0Ω	Inf.	Inf.	0Ω	0Ω	

\*Measured From Pin 2 of V22  
†Measured From Pin 6 of V18  
‡Measured From Pin 8 of V20

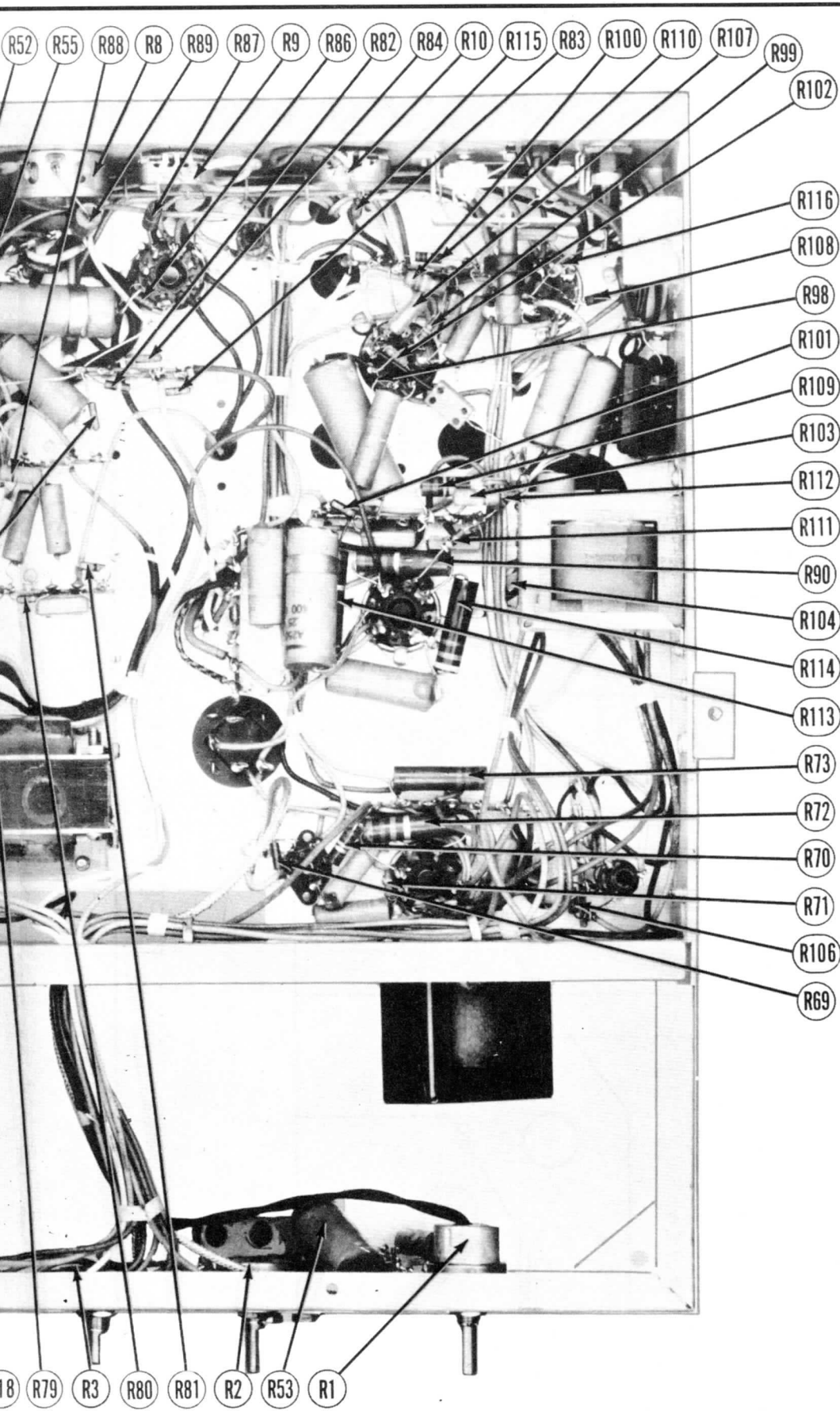
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
5. Front panels controls set at minimum.
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.

**MAGNAVOX CHASSIS**  
**CT-214, CT-218, CT-221**



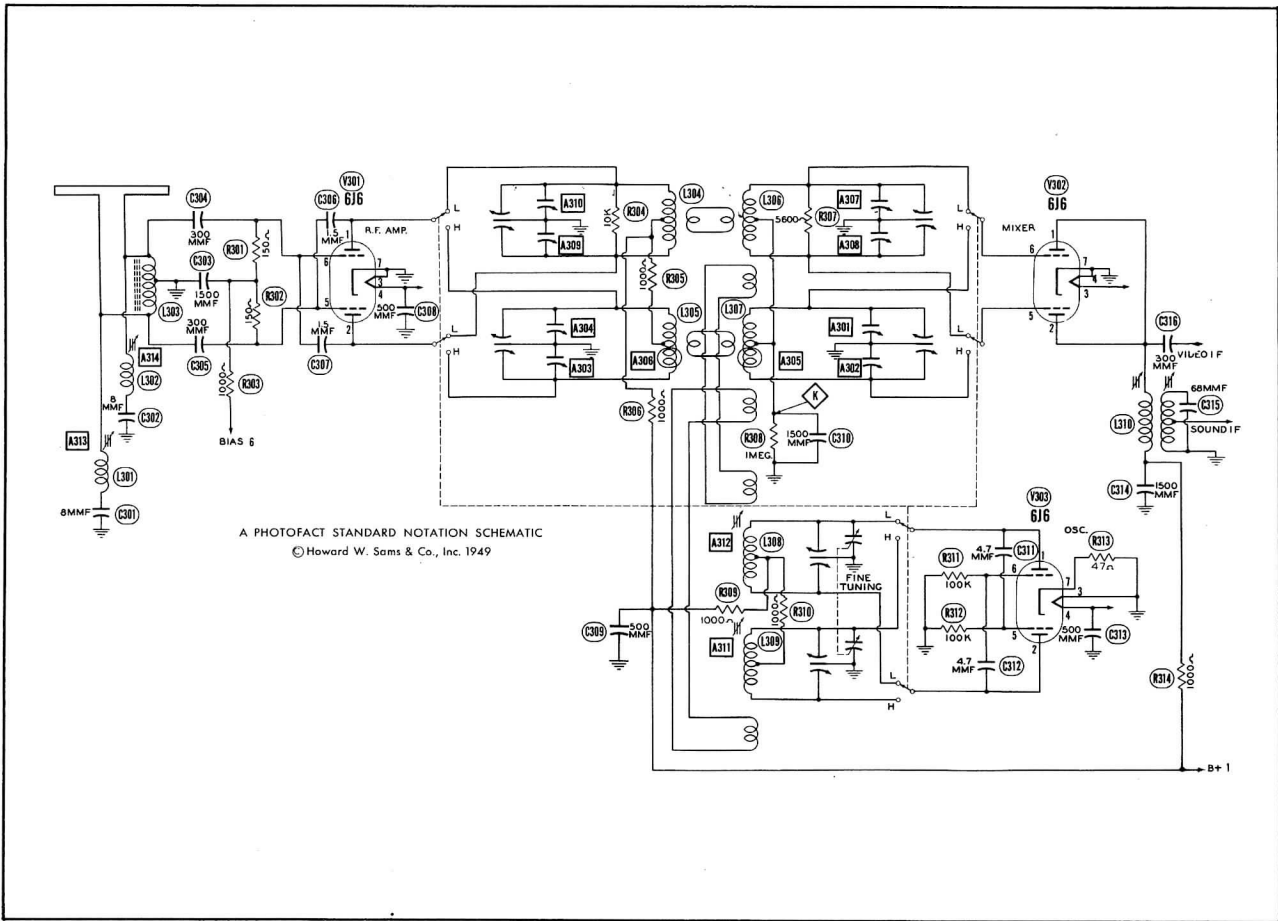


CHASSIS BOTTOM VIEW-R



MAGNAVOX CHASSIS  
 CT-214, CT-218, CT-221

- RESISTOR IDENTIFICATION



## PARTS LIST AND DESCRIPTIONS

### TUBES

ITEM No.	USE	REPLACEMENT DATA	
		STANDARD REPLACEMENT	RMA BASE TYPE
V301	RF Amp.	6J6	7BF
V302	Mixer	6J6	7BF
V303	Oscillator	6J6	7BF

### RESISTORS

ITEM No.	RATING		IDENTIFICATION
	RESISTANCE	WATTS	
R301	150Ω		Rf Grid
R302	150Ω		Rf Grid
R303	1000Ω		Bias Filter
R304	10KΩ		Rf Coil Shunt
R305	1000Ω		Rf Plate
R306	1000Ω		Rf Plate
R307	5600Ω		Mixer Coil Shunt
R308	1 Meg		Mixer Grid
R309	1000Ω		Osc. Plate
R310	1000Ω		Osc. Plate
R311	100KΩ		Osc. Grid
R312	100KΩ		Osc. Grid
R313	4.7Ω		Osc. Cathode
R314	1000Ω		Mixer Decoup.

### CAPACITORS

ITEM No.	RATING		IDENTIFICATION
	CAP.	VOLT	
C301	8		Fixed Trimmer
C302	8		Fixed Trimmer
C303	1500		Bias Filter
C304	300		Rf Coupling
C305	300		Rf Coupling
C306	1.5		Neutralizing
C307	1.5		Neutralizing
C308	500		Filament Bypass
C309	500		Rf Bypass
C310	1500		Mixer Grid Filter
C311	4.7		Osc. Feedback
C312	4.7		Osc. Feedback
C313	500		Filament Bypass
C314	1500		Mixer Decoupling
C315	68		Fixed Trimmer
C316	300		IF Coupling

### COILS

ITEM No.	USE	DC RES.	
		PRI.	SEC.
L301	Interference Trap	0Ω	
L302	Interference Trap	0Ω	
L303	Ant. Input	0Ω	
L304	Rf Low Band	0Ω	
L305	Rf High Band	0Ω	
L306	Mixer Low Band	0Ω	
L307	Mixer High Band	0Ω	
L308	Osc. Low Band	0Ω	
L309	Osc. High Band	0Ω	
L310	IF Trans.	.2Ω	0Ω

MAGNAVOX CHASSIS  
CT-214, CT-218, CT-221

TUBES (SYLVANIA or Equivalent)

Table with columns: ITEM No., USE, REPLACEMENT DATA (MAGNAVOX PART No., STANDARD REPLACEMENT), RMA BASE TYPE, NOTES. Lists various tube types like 6BH6, 6AG5, 6C4, etc.

Table with columns: ITEM No., RATING (CAP., VOLT), MAGNAVOX PART No., AEROVOX PART No., CORNELL-DUBLIER PART No., REPLACEMENT DATA. Lists tube types and their ratings.

CAPACITORS

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

Table with columns: ITEM No., RATING (CAP., VOLT), MAGNAVOX PART No., AEROVOX PART No., CORNELL-DUBLIER PART No., ERIE PART No., SOLAR PART No., SPRAGUE PART No., IDENTIFICATION CODES AND INSTALLATION NOTES. Lists capacitor types and their ratings.

\* Some models use 120MMF in this application. † Not used in all models.

Table with columns: ITEM No., RATING (RESISTANCE, WATTS), MAGNAVOX PART No., IRC PART No., CLIA PART No., REPLACEMENT DATA. Lists capacitor types and their ratings.

Table with columns: ITEM No., RATING (RESISTANCE, WATTS), MAGNAVOX PART No., IRC PART No., REPLACEMENT DATA. Lists capacitor types and their ratings.



DESCRIPTIONS

RESISTORS

Table with columns: E No., SOLAR PART No., SPRAGUE PART No., IDENTIFICATION CODES AND INSTALLATION NOTES

Main table with columns: ITEM No., RATING (RESISTANCE, WATTS), REPLACEMENT DATA (MAGNAVOX PART No., IRC PART No.), IDENTIFICATION CODES

DLS

INSTALLATION NOTES

Volume control Attach to R1A Per Instructions
Brightness control Attach to R2A Per Instructions
Vert. Hold control Attach to R3A Per Instructions

RS

IDENTIFICATION CODES

resistors are ± 20% unless otherwise stated.

Grn.-Br. RF Decoupling 10%
Blk.-Or. RF Screen
Red-Or. RF Grid

TRANSFORMER (POWER)

Table with columns: ITEM No., RATING (PRI, SEC. 1, SEC. 2, SEC. 3), REPLACEMENT DATA (MAGNAVOX PART No., STANCOR PART No., CHICAGO PART No., MERIT PART No.)

TRANSFORMER (SWEEP CIRCUITS)

Table with columns: ITEM No., RATING (DC RESISTANCE PRI, SEC.), REPLACEMENT DATA (MAGNAVOX PART No., STANCOR PART No., CHICAGO PART No., MERIT PART No.), NOTES

TRANSFORMER (AUDIO OUTPUT)

Table with columns: ITEM No., RATING (IMPEDANCE PRI, SEC., DC RES. PRI, SEC.), REPLACEMENT DATA (MAGNAVOX PART No., STANCOR PART No., CHICAGO PART No., MERIT PART No.), INSTALLATION NOTES

SPEAKER

Table with columns: ITEM No., RATING (FIELD RES., V. C. IMP., CONE DIA., V. C. DIA.), REPLACEMENT DATA (MAGNAVOX PART No., JENSEN PART No., QUAM PART No.), NOTES

MAGNAVOX CHASSIS CT-214, CT-218, CT-221

# PARTS LIST AND DESCRIPTIONS (Continued)

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 $\mu$ H)	MAGNAVOX PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
L1	.240A	60 $\Omega$	1.6Henry	360340G1	C-1703*		C-2991*	* Drill one new mounting hole.

## COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	MAGNAVOX PART No.	MEISSNER PART No.	
L2	Ant. Input	0 $\Omega$				Part of Tuner Assembly "
L3	Ant. Input	0 $\Omega$				
L4	Ant. Input	0 $\Omega$				
L5	Fil. Choke	0 $\Omega$				
L6	1st Video & IF Sound Trap	0 $\Omega$	0 $\Omega$			
L7	2nd Video IF	.2 $\Omega$		360332G3		
L8	3rd Video IF	.2 $\Omega$	0 $\Omega$	360332G5 360332G11 360332G11		
L9	Fil. Choke	0 $\Omega$				
L10	Fil. Choke	0 $\Omega$				
L11	4th Video IF	.2 $\Omega$		360332G6		
L12	4th Video Cath. Coil	.2 $\Omega$		360332G4		
L13	5th Video IF	.2 $\Omega$		360332G4 360332G9 360332G10	Wound on 39K $\Omega$ resistor	
L14	Peaking	7.5 $\Omega$				
L15	Peaking	7.5 $\Omega$				
L16	Peaking	7.5 $\Omega$				
L17	Peaking	5 $\Omega$		360332G7	Wound on 22K $\Omega$ resistor	
L18	Peaking	4.8 $\Omega$		360332G8 360332G8		
L19	Peaking	4 $\Omega$				
L20	1st Sound IF	.1 $\Omega$	.1 $\Omega$	360332G12		
L21	2nd Sound IF	.1 $\Omega$	.1 $\Omega$	360332G12		
L22	Sound Disc. AFMR.	.1 $\Omega$	.1 $\Omega$	360332G13		
L23	Horiz. Speed	45 $\Omega$				
L24	Horiz. Linearity	36 $\Omega$		360334G1		

## MISCELLANEOUS

ITEM No.	PART NAME	MAGNAVOX PART No.	NOTES
M1	RF Tuner Assembly	700315G1	(RCA Tuner)
M2	Fuse		5 Amp.
M3	Video Det. Crystal		Sylvania 1N34
M4	Pushbutton Switch	160192G1	AC Interlock
M5	Connector	180441G1	Picture Tube
	Ion Trap		

## CIRCUIT MODIFICATIONS

The schematic on page 2 conforms to the CT218A chassis. This chassis is identical to the CT221A and CT214C except for the tuners used. The following changes have been made which account for variations from this schematic.

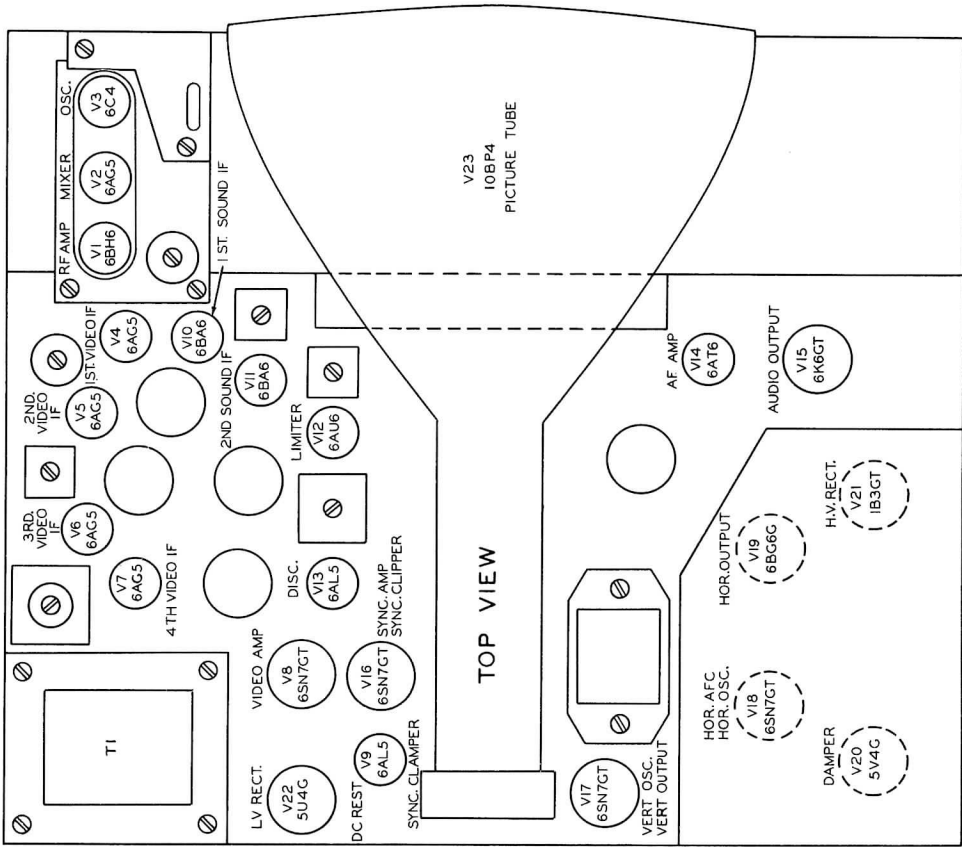
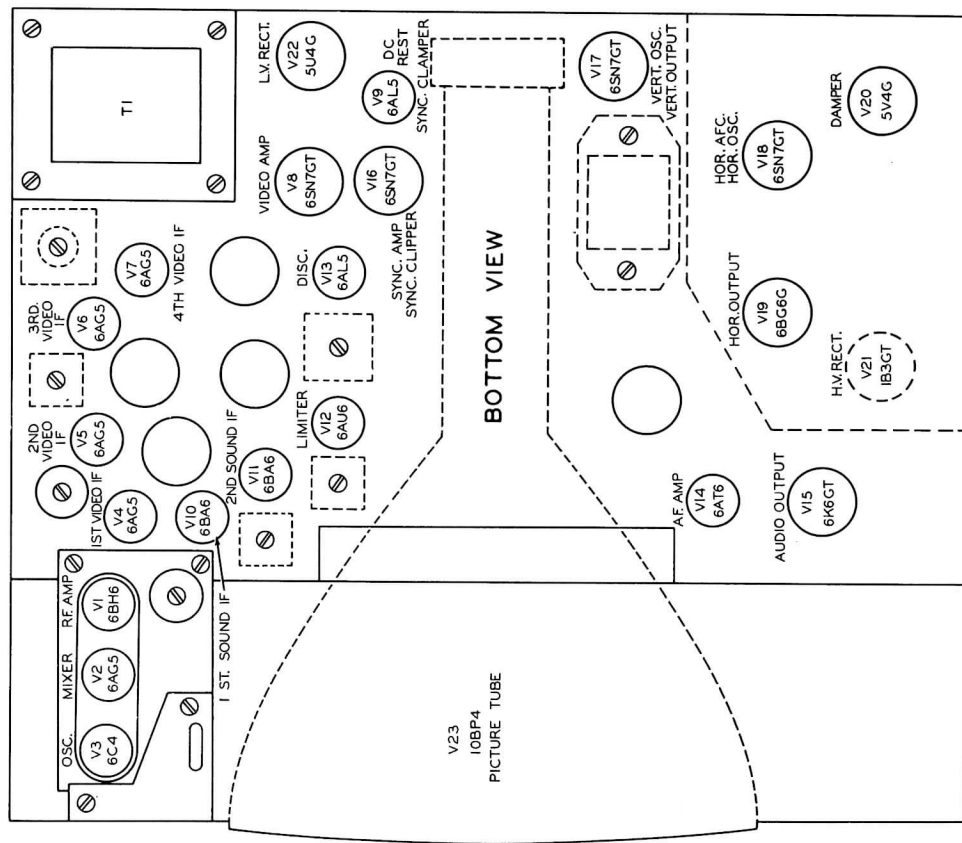
**CT214A.** This chassis does not incorporate the video peaking coil L16. Also the horizontal speed coil L23 was not used. C65 was 120MFD and C91 was a variable trimmer which was the horizontal speed control. The fixed trimmer C90 and R118 were also not used.

**CT214B.** This chassis is electrically identical to the CT218A schematic on page 2 except for the tuner.

**CT214D, CT218B, CT221B.** On these chassis the Audio output cathode bypass section of C4 is not used. Instead a separate 20MFD, 150V capacitor is connected between the output cathode and chassis. The positive terminal is connected to chassis. The negative terminal of C4 is returned to ground instead of the -85 volt line. C4B is connected in parallel with C4A. C5C is connected in the circuit where C4B was removed.

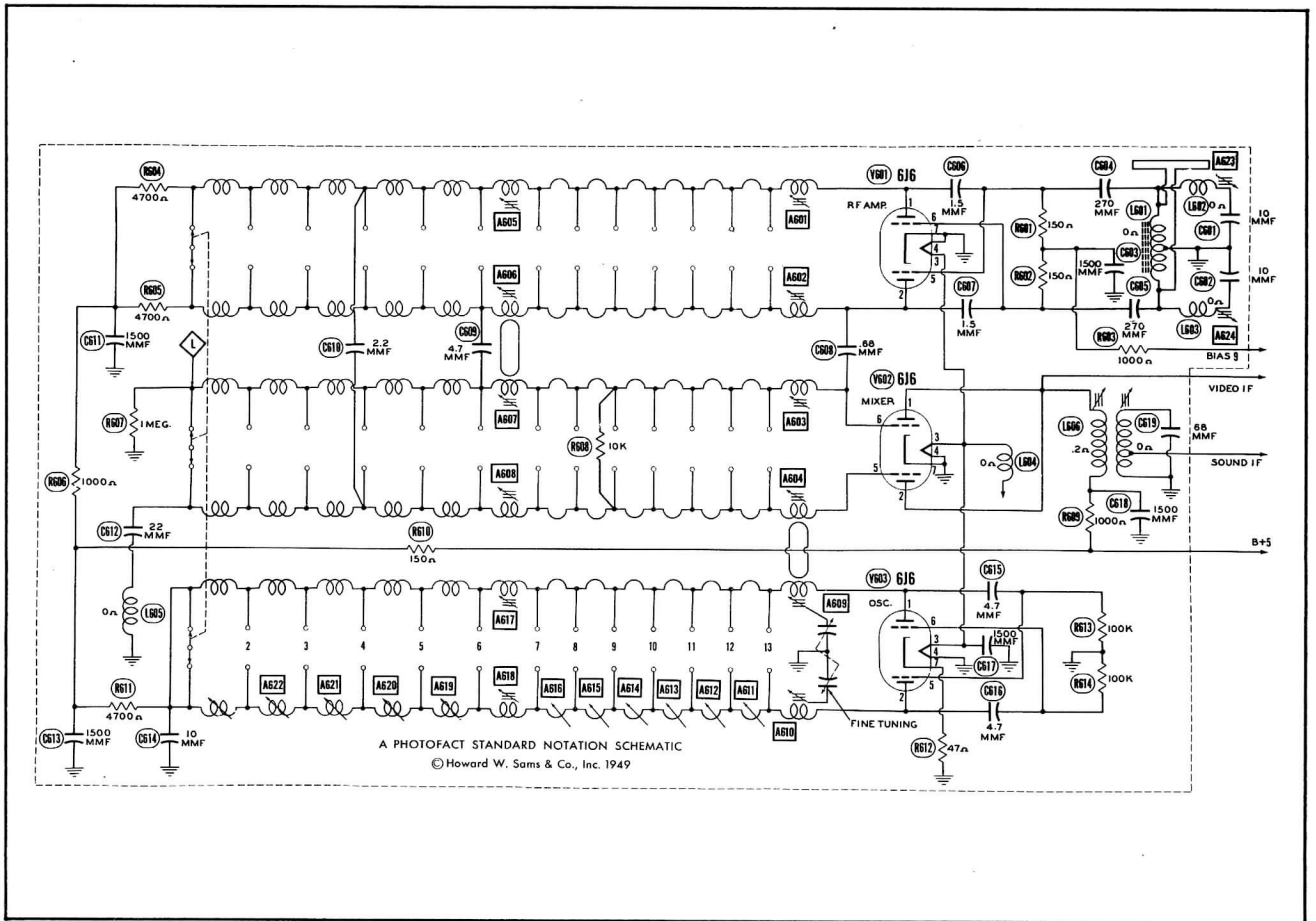
## HORIZONTAL SPEED AND LINEARITY ADJUSTMENTS

1. Set the horizontal "Drive" (B1) "Speed" (B2) and "Lock" (B3) controls to approximately 3/4 turn from the tight position. Do not force the tight adjustment to determine this setting.
2. With a test pattern being received and the horizontal "Hold" control at the full counter-clockwise position, turn the "Speed" adjustment (B2) until picture "syncs" in.
3. Turn the "Drive" adjustment (B1) until best linearity is obtained and the picture fills the mask.
4. Turn channel selector switch to an unused channel and then back again to the original channel. If the picture fails to "sync", reset the "Lock" control adjustment (B3) 1/4 turn counter-clockwise. Turn the "Speed" adjustment (B2) until picture "syncs" in.
5. After the adjustments have been made above so the picture "syncs" after the signal is interrupted, turn the horizontal "Hold" control clockwise to the point where the picture begins to drop out of "sync". Back the control slightly and interrupt the signal. The picture should lock in at this point which is approximately 60% of the rotation of the horizontal "Hold" control.
6. If synchronization cannot be obtained, set the horizontal "Speed" adjustment (B2) to its mid-setting and adjust B4 (course sync frequency setting) until picture "syncs" in.



TUBE PLACEMENT CHART





## PARTS LIST AND DESCRIPTIONS

### TUBES

ITEM No.	USE	REPLACEMENT DATA	
		STANDARD REPLACEMENT	RMA BASE TYPE
V601	R. F. Amp.	6J6	7BF
V602	Mixer	6J6	7BF
V603	Oscillator	6J6	7BF

### RESISTORS

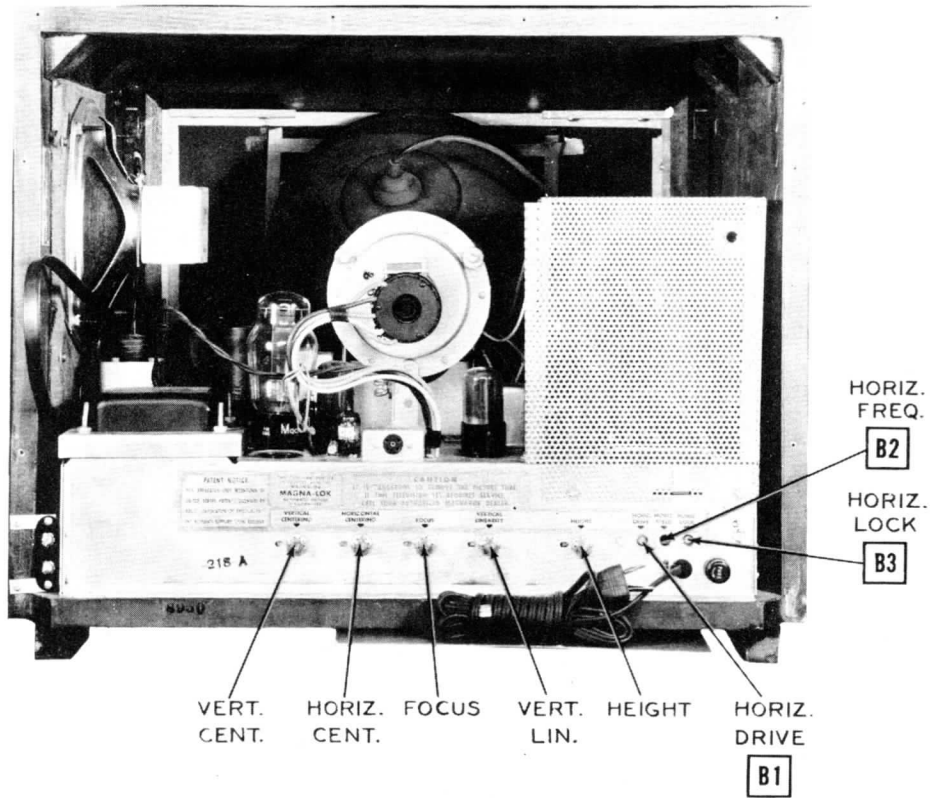
ITEM No.	RATING		IDENTIFICATION
	RESISTANCE	WATTS	
R601	150Ω	1/4	RF Grid
R602	150Ω	1/4	RF Grid
R603	1000Ω	1/4	Bias Filter
R604	4700Ω	1/4	RF Plate
R605	4700Ω	1/4	RF Plate
R606	1000Ω	1/4	RF Decoupling
R607	1 Meg.	1/4	Mixer Grid
R608	10KΩ	1/4	Mixer Grid Shunt
R609	1000Ω	1/4	Mixer Decoupling
R610	150Ω	1/4	Decoupling
R611	4700Ω	1/4	Osc. Plate
R612	47Ω	1/4	Osc. Cathode
R613	100KΩ	1/4	Osc. Grid
R614	100KΩ	1/4	Osc. Grid

### CAPACITORS

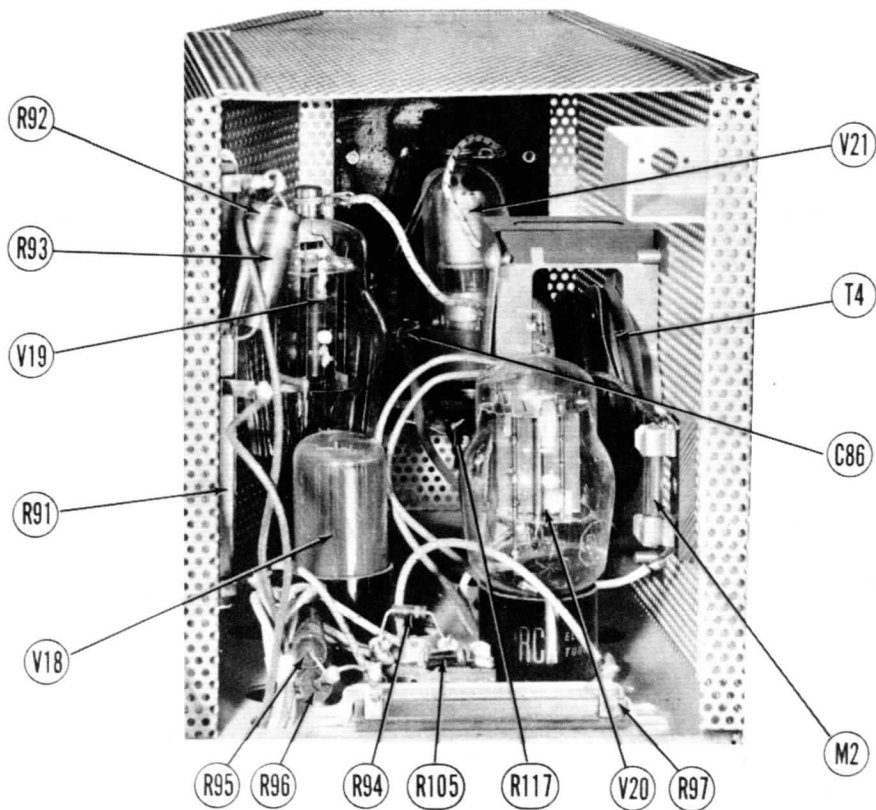
ITEM No.	RATING		IDENTIFICATION
	CAP.	VOLT	
C601	10		Fixed Trimmer
C602	10		Fixed Trimmer
C603	1500		RF Bypass
C604	270		RF Coupling
C605	270		RF Coupling
C606	1.5		Neutralizing
C607	1.5		Neutralizing
C608	.68		RF Coupling
C609	4.7		RF Coupling
C610	2.2		RF Coupling
C611	1500		RF Decoupling
C612	22		Fixed Trimmer
C613	1500		Osc. Decoupling
C614	10		Fixed Trimmer
C615	4.7		Osc. Feedback
C616	4.7		Osc. Feedback
C617	1500		Filament Bypass
C618	1500		Mixer Decoupling
C619	68		Fixed Trimmer

### COILS

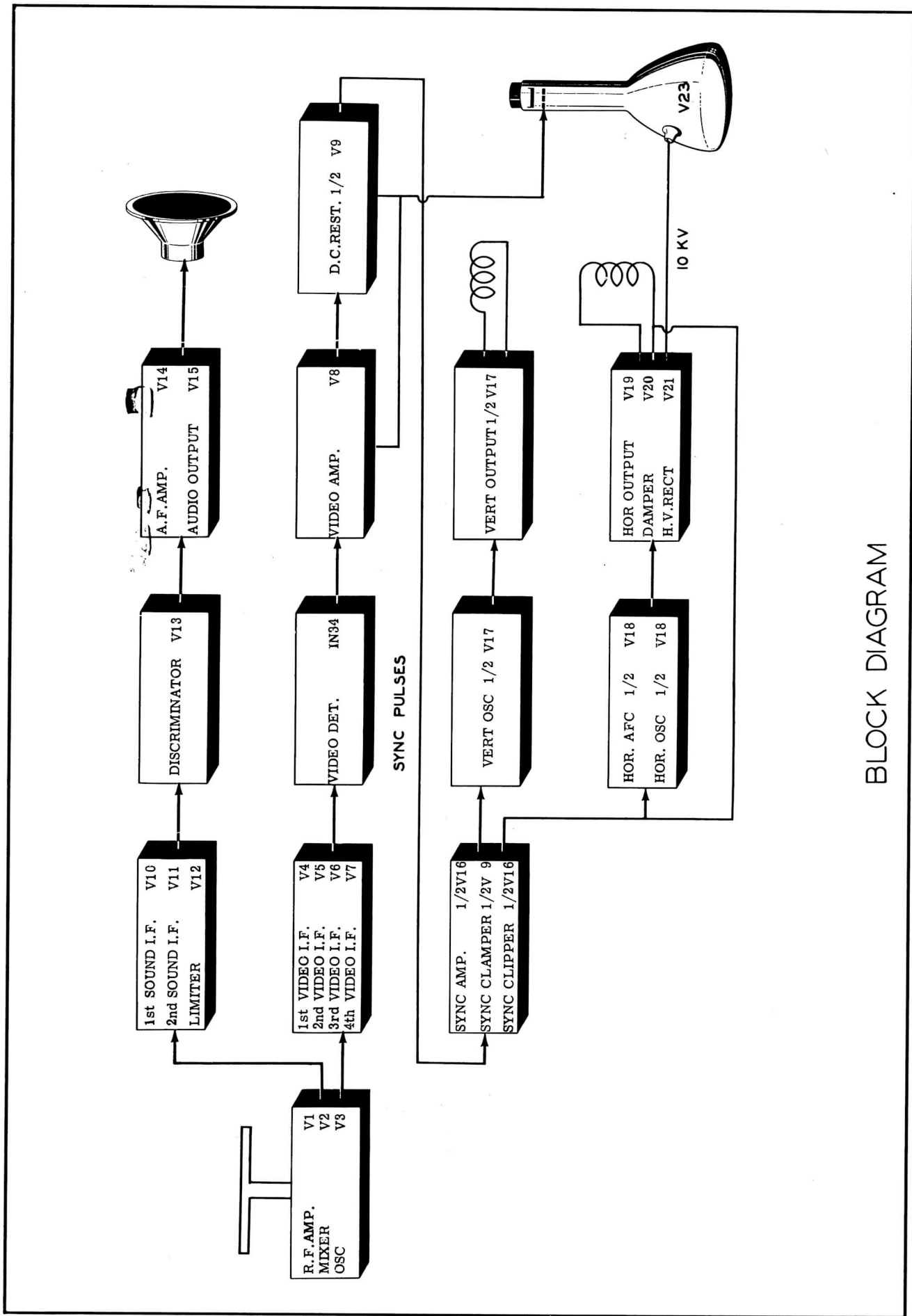
ITEM No.	USE	DC RES.	
		PRI.	SEC.
L601	Ant. Input	0Ω	
L602	Interference Trap	0Ω	
L603	Interference Trap	0Ω	
L604	Filament Choke	0Ω	
L605	Mixer Grid Trap	0Ω	
L606	1st. Video IF and Sound Trap	.2Ω	0Ω



CABINET-REAR VIEW



HORIZONTAL SWEEP COMPARTMENT



BLOCK DIAGRAM