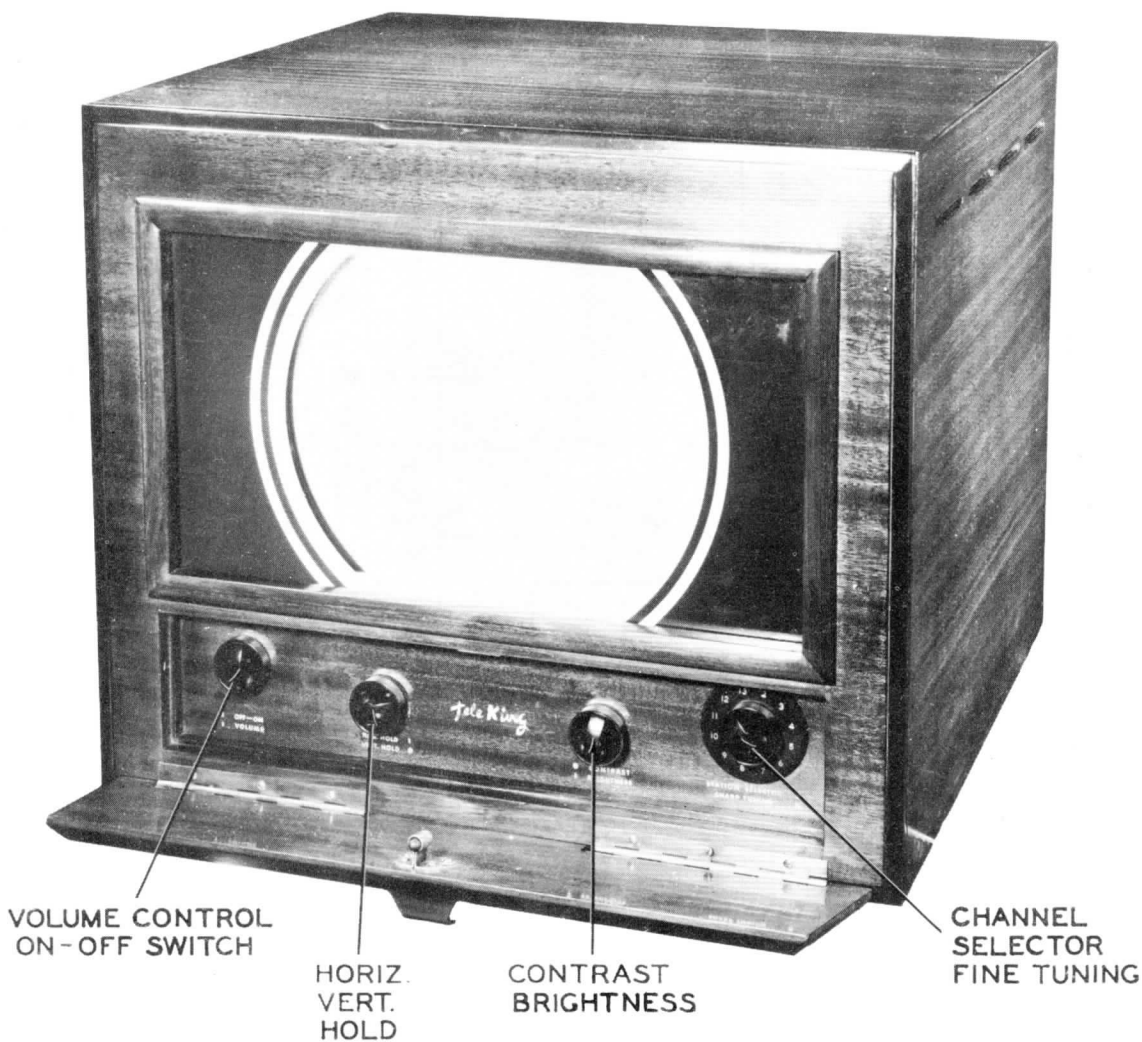




TELE KING
MODELS 410, 512, 612, 710



TELE KING MODEL 410

TRADE NAME	Tele King Models 410, 512, 612, 710	
MANUFACTURER	Tele King Corp., 601 W. 26th St., New York 1, New York	
TYPE SET	Television Receiver	
TUBES	Twenty	
POWER SUPPLY	110-120 Volts AC-60 Cycle	RATING 1.62 Amp. at 117 Volts AC
TUNING RANGE	Channels 2 thru 13	

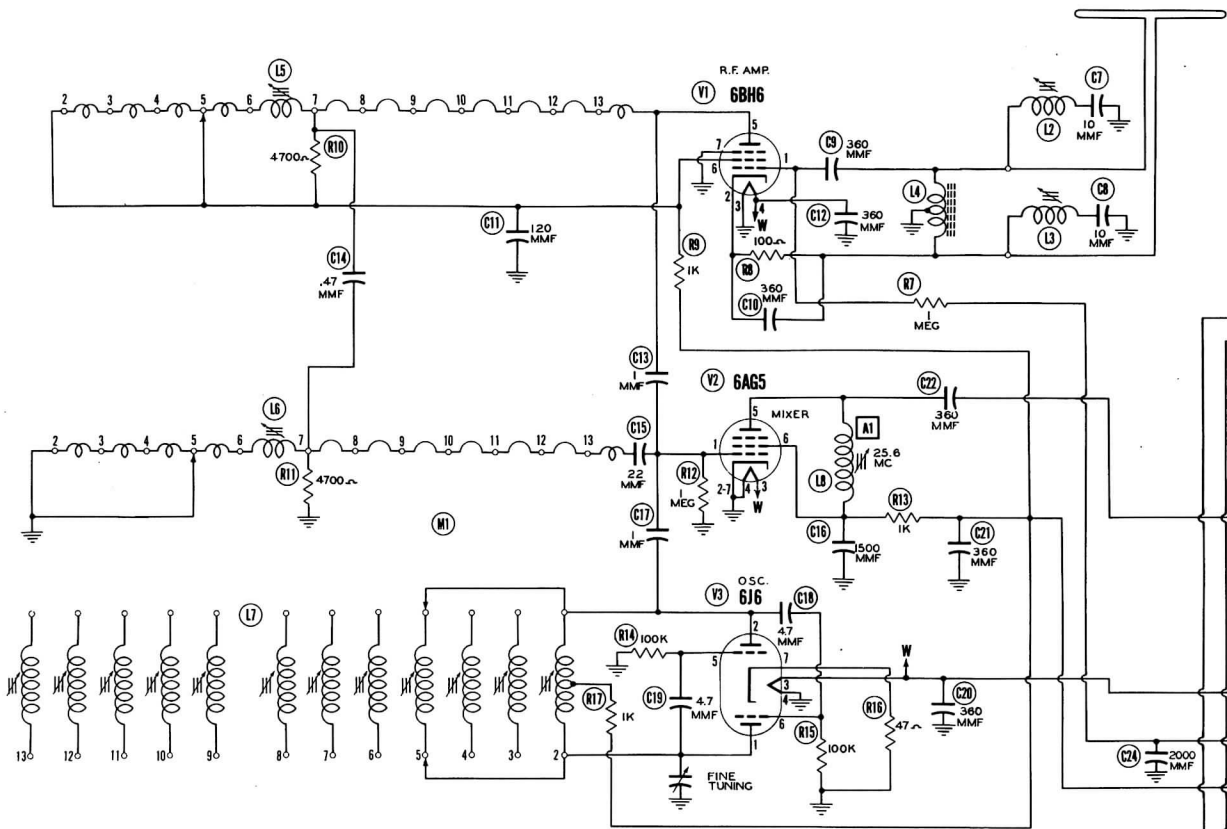
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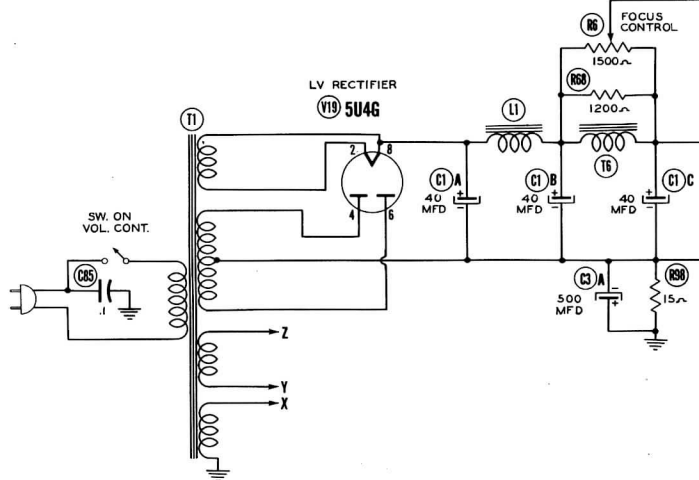
HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

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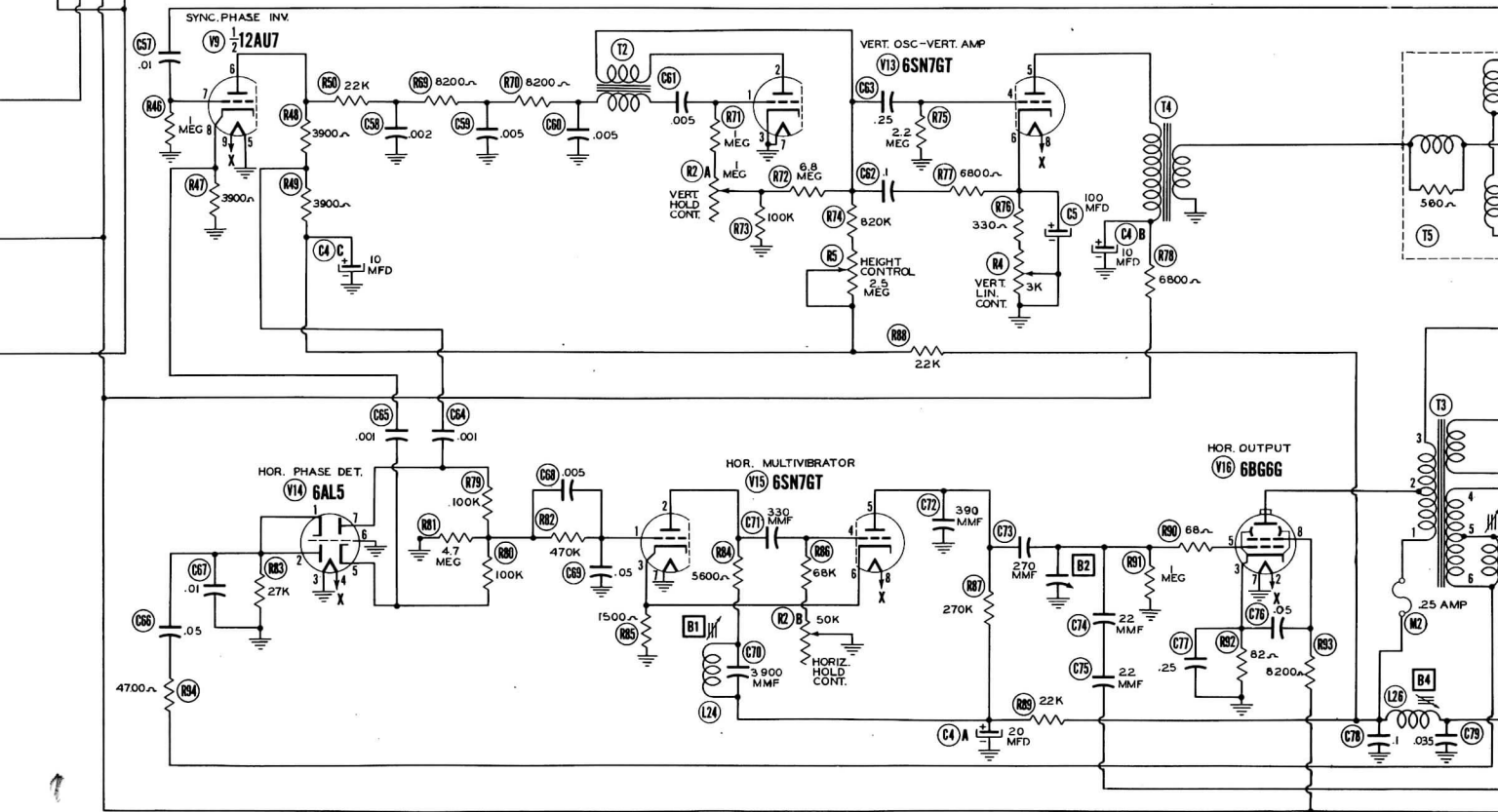
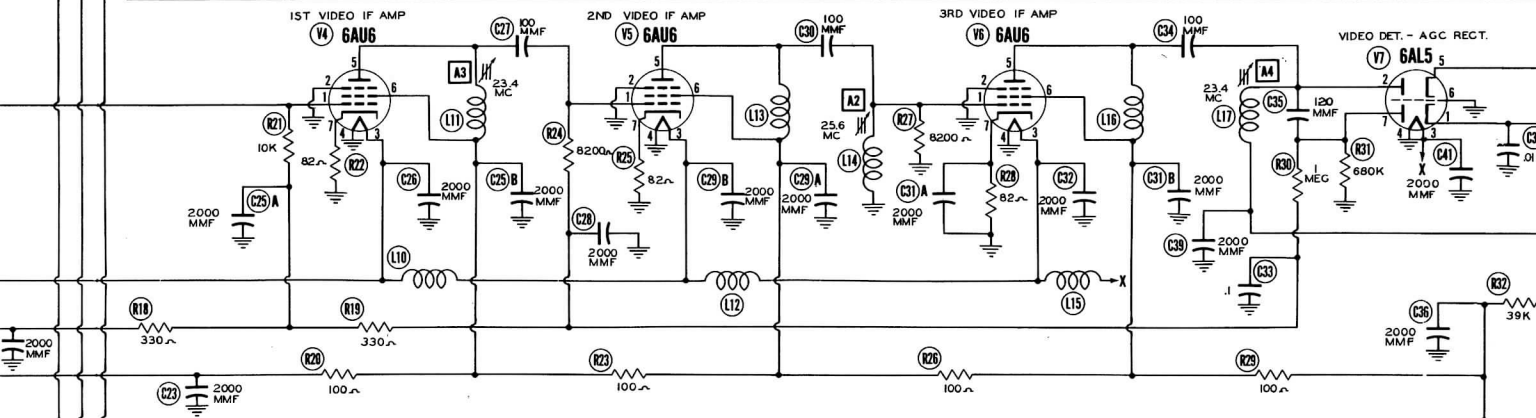
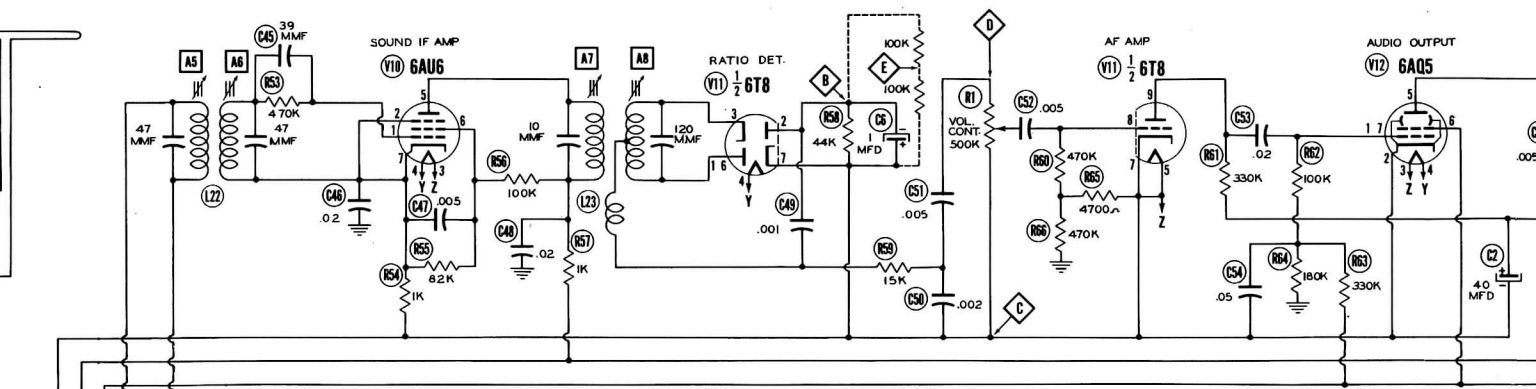
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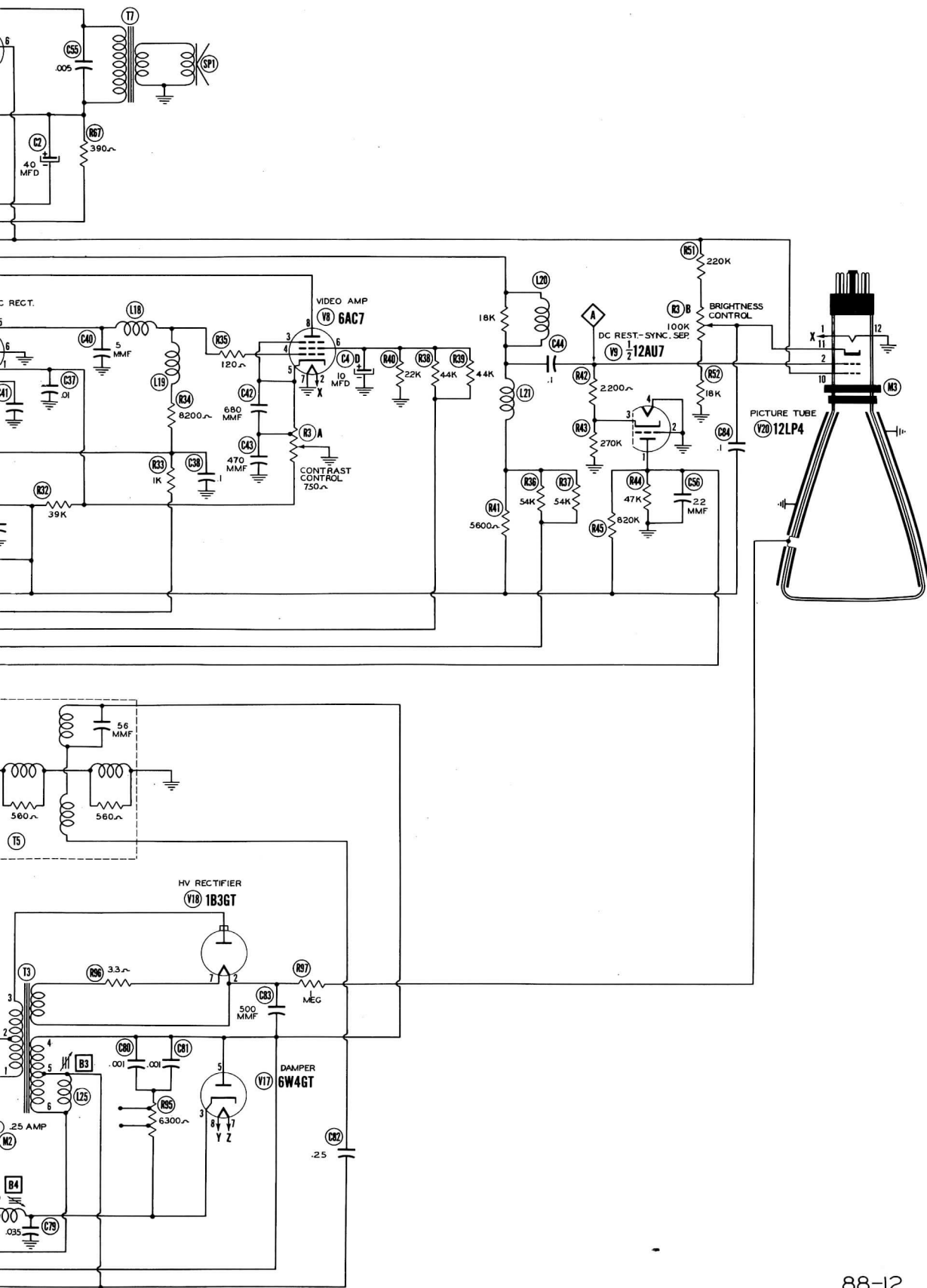
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE



A PHOTOFAC STANDARD NOTATION SCHEMATIC
©Howard W. Sams & Co., Inc. 1950



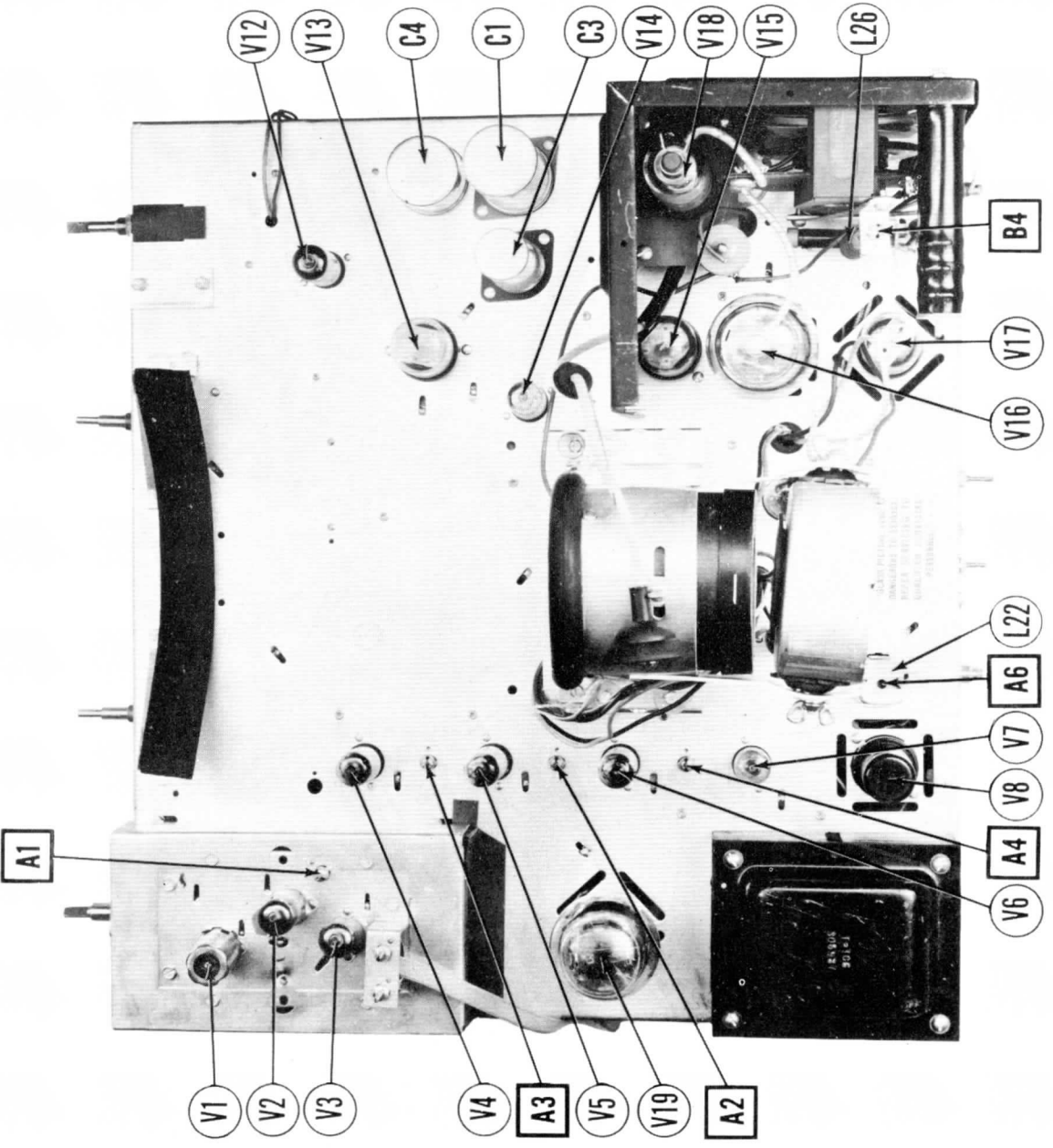
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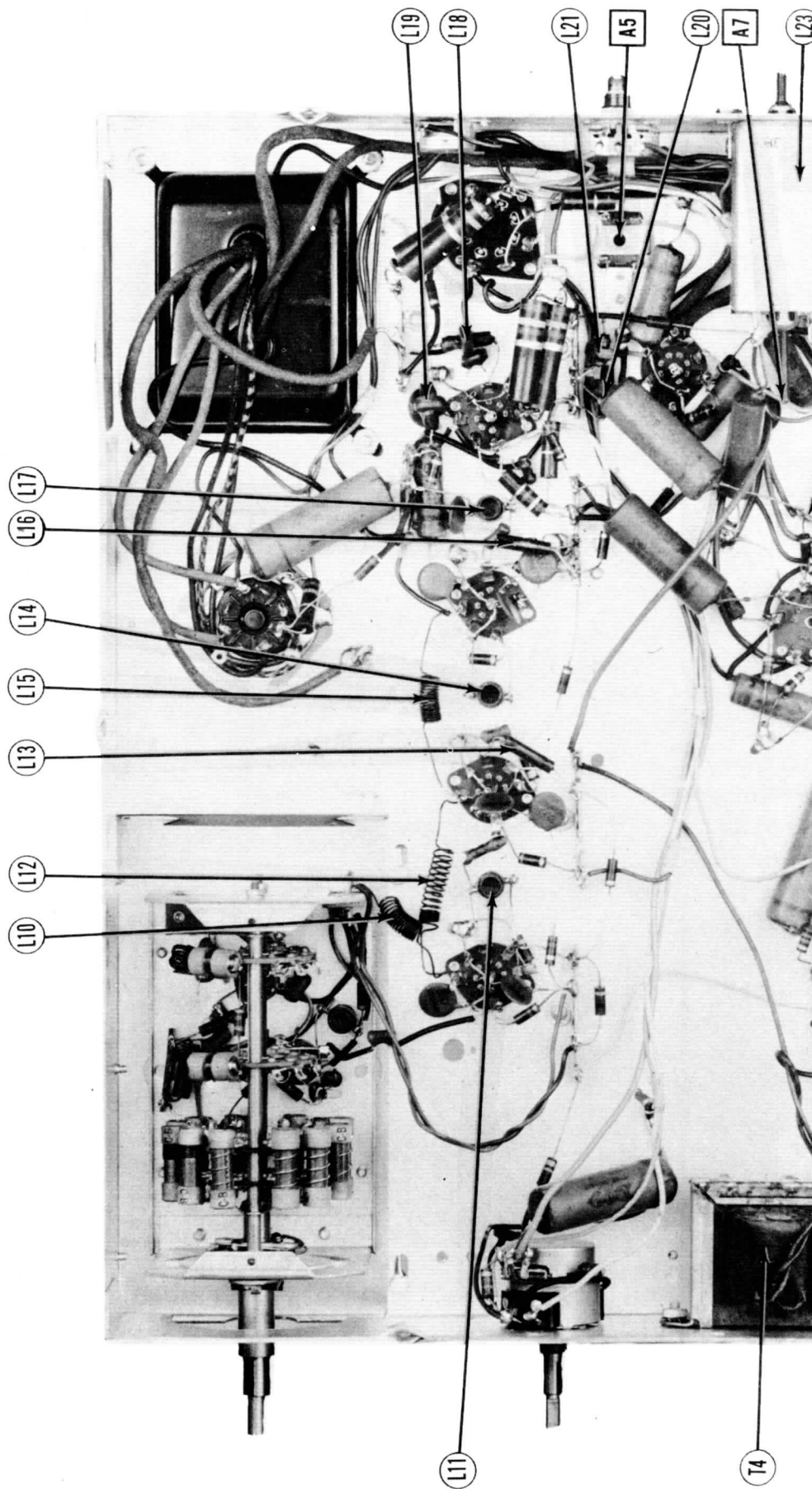


TELE KING
 MODELS 410, 512, 612, 710

**TELE KING
MODELS 410, 512, 612, 712**

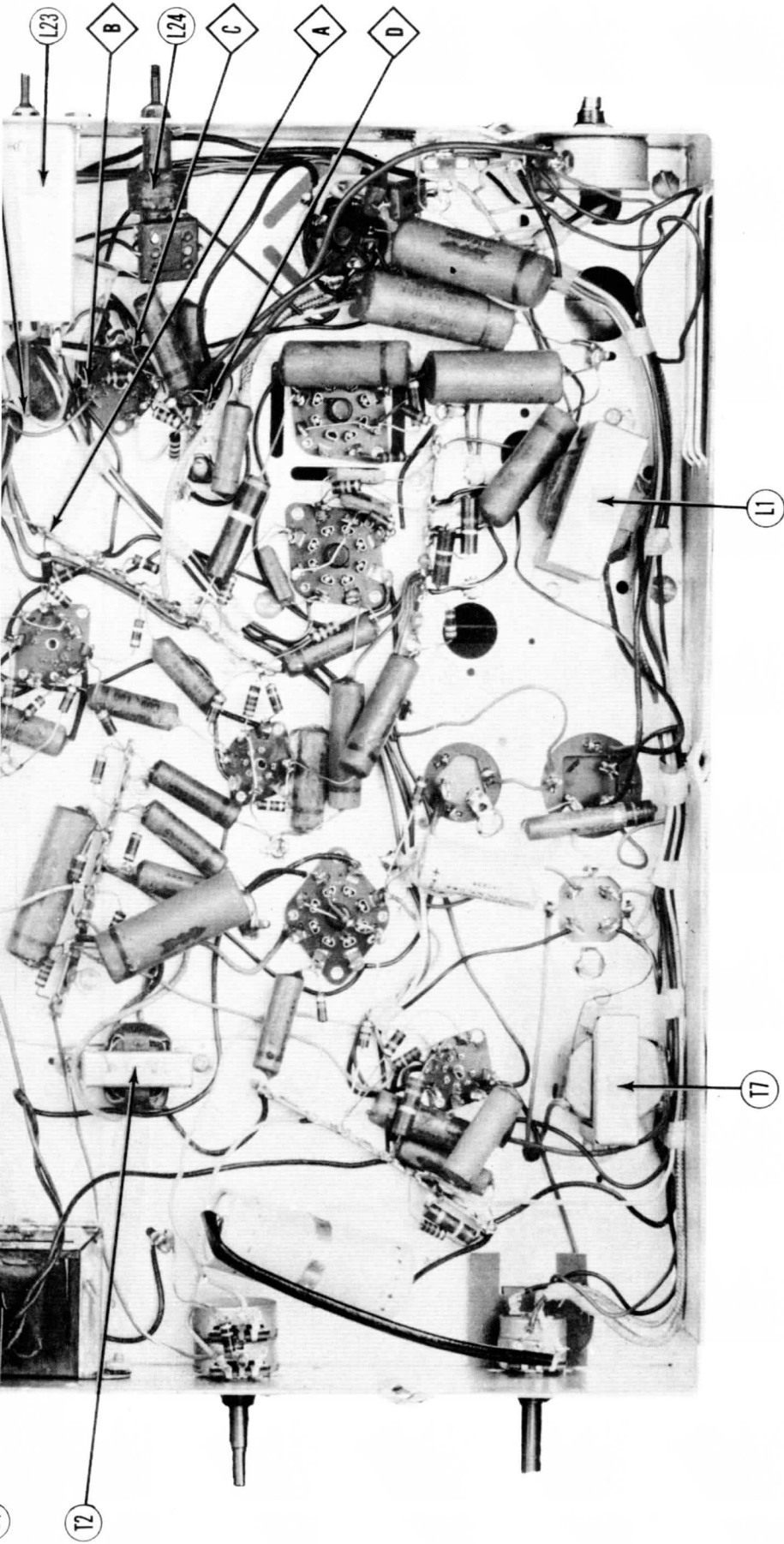
MAIN POL SISSWAHD





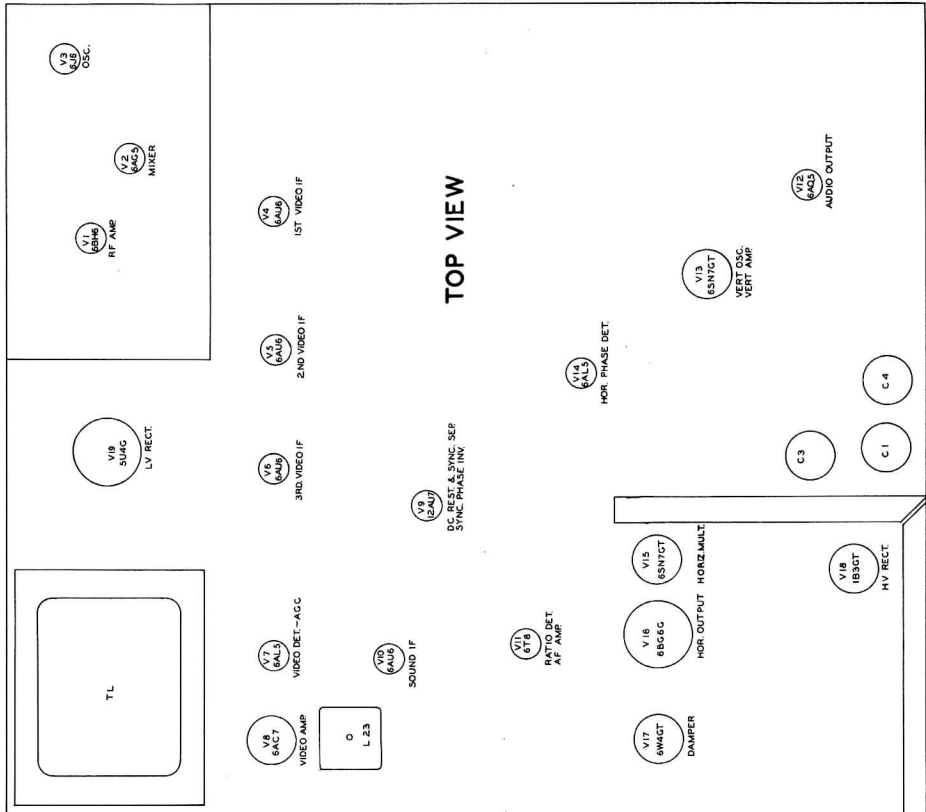
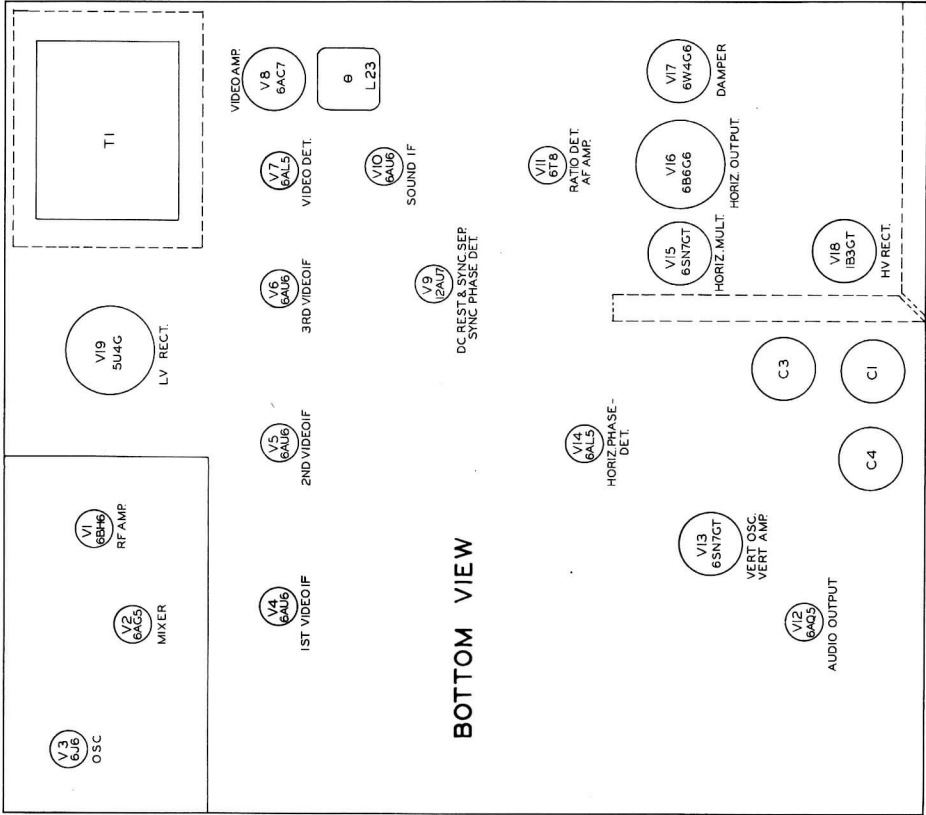
TELE KING
MODELS 410, 512, 612, 712

CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION



**TELE KING
MODELS 410, 512, 612, 712**

TUBE PLACEMENT CHART



ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To eliminate the high voltage shock hazard remove the horizontal oscillator tube (V15) from its socket.

VIDEO IF ALIGNMENT

The use of a VTVM with an AC scale is necessary to align the video IF stages, do not attempt to connect the VTVM across the diode load resistor. Remove the local oscillator tube (V3) from its socket to prevent erroneous indications. Set the contrast control to slightly less than maximum clockwise.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. Direct	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	25.6MC (400 ~ AM modulated)	Any	AC Probe to Point A Common to chassis. (see instructions above)	A1, A2	Adjust for maximum deflection.
2. Direct	"	23.4MC (400 ~ AM modulated)	"	"	A3, A4	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the signal 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
3. Direct	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	25MC (10MC SWP)	26.1MC 25.6MC 22.6MC 21.6MC	Any	Vert. Amp. to Point A Low side to chassis.		Check for response curve similar to Fig 1 with markers as shown. If necessary retouch A1 thru A4 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect a matched pair of 100K Ω resistors between points B, and C. The junction of these resistors is alignment point E.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
4. .01MFD	High side to pin 4 (Grid) of 6AC7 (V8). Low side to chassis.	4.5MC (Unmod.)	Any channel not used locally	DC Probe to Point B Common to Point C	A5, A6, A7	Adjust for maximum deflection.
5. .01MFD	"	"	"	DC Probe to Point D Common to Point E	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

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

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4. .01MFD	High side to pin 4 (Grid) of 6AC7 (V8). Low side to chassis.	4.5MC (450KC SWP)	4.5MC	Any channel not used locally.	Vert. Amp. to Point B Low side to chassis.	A5, A6, A7	Disconnect stabilizer capacitor C6. Adjust for maximum amplitude and symmetry as per Fig 2.
5. .01MFD	"	"	"	"	Vert. Amp. to Point D Low side to chassis.	A8	Reconnect capacitor C6. Adjust A8 so 4.5MC occurs at center of crossover lines as per Fig 3. SLIGHTLY retouch A7 for maximum amplitude and straightness of crossover lines.

TUNER ALIGNMENT

The circuits in the tuner have been pre-set at the factory and are sufficiently broad and should not require adjustment in the field.

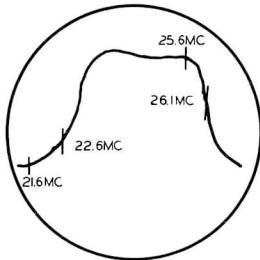


FIG. 1

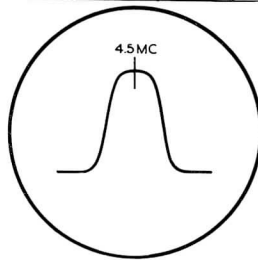


FIG. 2

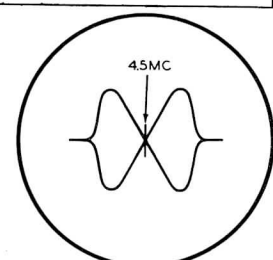


FIG. 3

HORIZONTAL OSCILLATOR ADJUSTMENTS

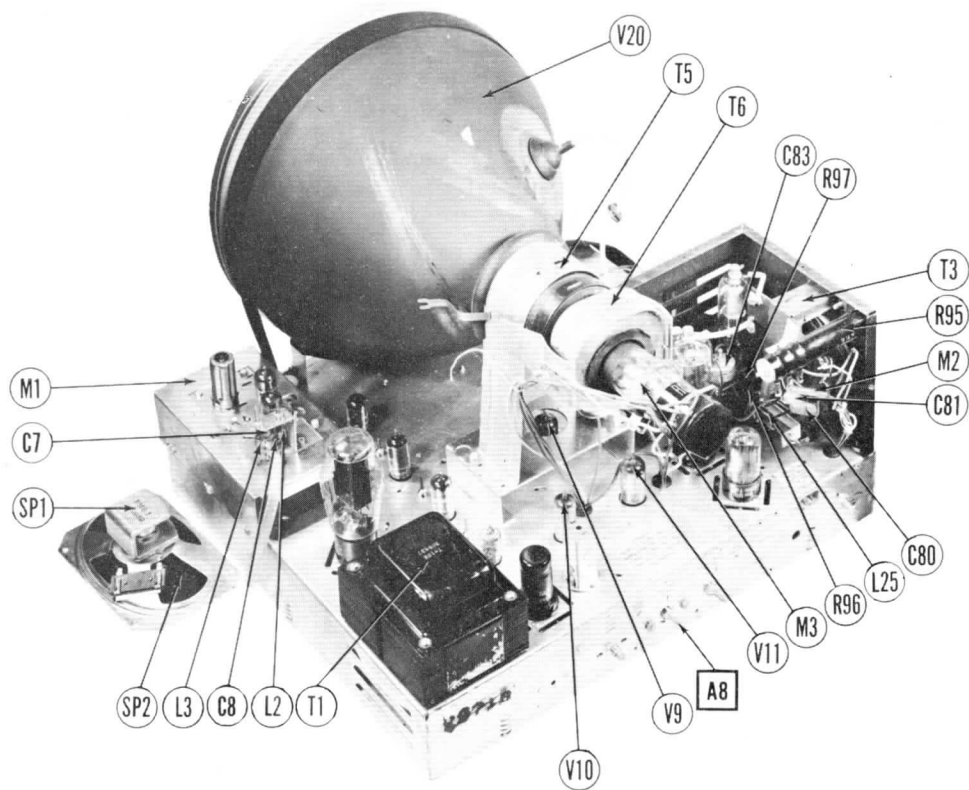
Turn the set on and tune in a TV station, preferably a test pattern.

Set the horizontal hold control to the mid position of its range. Adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally.

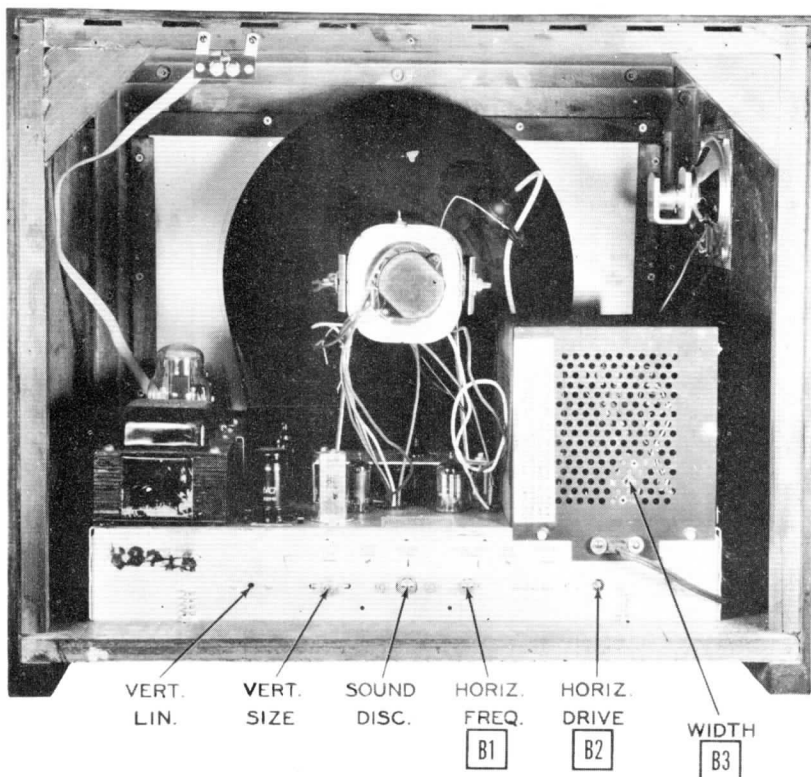
Turn the horizontal drive trimmer (B2) clockwise as far as possible without crowding the right side of the picture.

Adjust the width slug (B3) until the picture fills the mask horizontally.

Adjust the horizontal linearity slug until the picture is symmetrical from left to right, readjustment of B2 may be required to obtain optimum results.



CHASSIS-TOP VIEW



CABINET-REAR VIEW

TELE KING
 MODELS 410, 512, 612, 712

VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BH6	- .4VDC	.1VDC	0V.	6.3VAC	55VDC	55VDC	0V.		
V 2	6AG5	-1VDC	0V.	6.3VAC	0V.	55VDC	55VDC	0V.		
V 3	6J6	95VDC	95VDC	6.3VAC	0V.	§-2.2VDC	§-2.5VDC	.4VDC		
V 4	6AU6	-1.9VDC	0V.	6.3VAC	0V.	55VDC	55VDC	.2VDC		
V 5	6AU6	-1VDC	0V.	6.3VAC	0V.	55VDC	55VDC	.2VDC		
V 6	6AU6	0V.	0V.	6.3VAC	0V.	55VDC	55VDC	.4VDC		
V 7	6AL5	0V.	-3VDC	6.3VAC	0V.	-1.6VDC	0V.	-.6VDC		
V 8	6AC7	0V.	6.3VAC	2.8VDC	-2.5VDC	2.8VDC	185VDC	0V.	110VDC	
V 9	12AU7	2.8VDC	0V.	.7VDC	0V.	340VDC	0V.	17VDC		6.3VAC
V 10	6AU6	1.1VDC	17.2VDC	16.3VAC	16.3VAC	1350VDC	190VDC	17.2VDC		
V 11	6T8	1-.4VDC	1-.8VDC	1-.4VDC	16.3VAC	10V.	0V.	10V.		185VDC
V 12	6AQ5	1-.6VDC	10V.	10V.	16.3VAC	145VDC	1180VDC	1-.6VDC		
V 13	6SN7GT	-20VDC	75VDC	185VDC	0V.	290VDC	15VDC	0V.	6.3VAC	
V 14	6AL5	0V.	0V.	0V.	6.3VAC	1.8VDC	0V.	-1.2VDC		
V 15	6SN7GT	.1VDC	250VDC	10VDC	0V.	105VDC	10VDC	0V.	6.3VAC	
V 16	6EG6G	0V.	6.3VAC	7VDC	0V.	-4VDC	0V.	0V.	250VDC	
V 17	6W4GT	0V.	0V.	430VDC	0V.	360VDC	380VDC	10V.	16.3VAC	
V 18	1B3GT	* DO NOT MEASURE.								
V 19	5U4G	0V.	390VDC	0V.	380VAC	-3VDC	380VAC	0V.	390VDC	
V 20	12LP4	6.3VAC	1.3VDC	360VDC	110VDC	0V.				

§ TAKEN WITH VACUUM TUBE VOLTMETER.

* DO NOT MEASURE.

† MEASURED FROM PIN 2 OF V12.

RESISTANCE READINGS

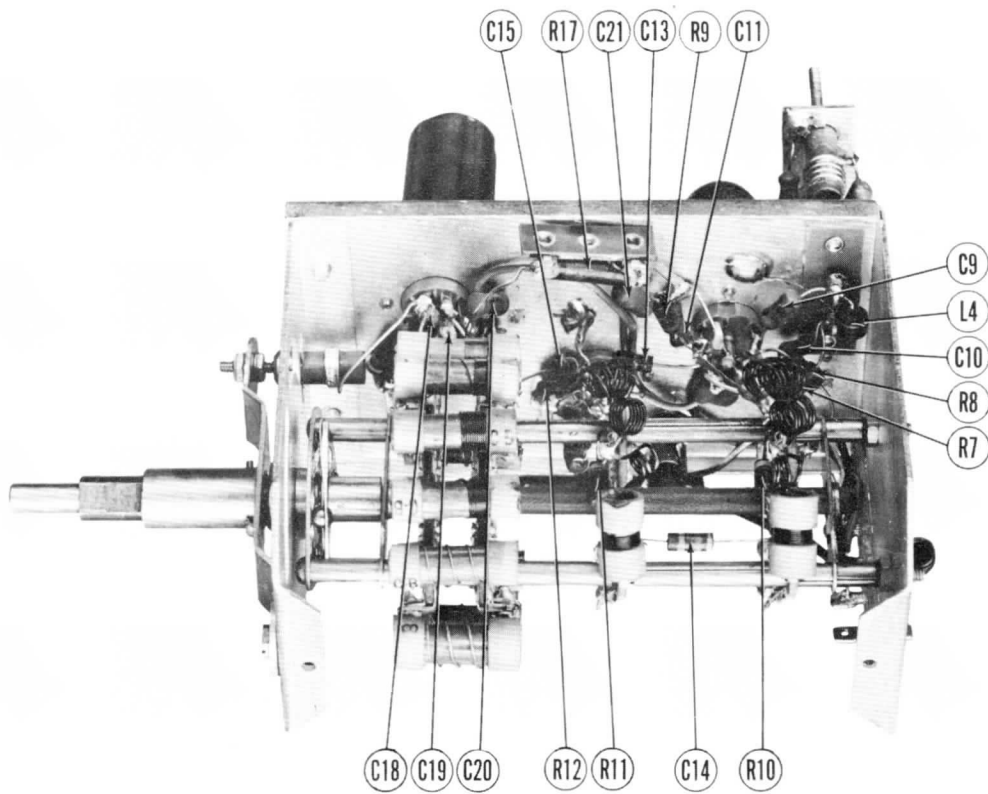
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BH6	2.6 Meg.	100Ω	0Ω	.1Ω	11000Ω	11000Ω	0Ω		
V 2	6AG5	1 Meg.	0Ω	.1Ω	0Ω	11000Ω	11000Ω	0Ω		
V 3	6J6	11000Ω	11000Ω	.1Ω	0Ω	100KΩ	100KΩ	47Ω		
V 4	6AU6	1.8 Meg.	0Ω	.1Ω	0Ω	1300Ω	1300Ω	82Ω		
V 5	6AU6	1.6 Meg.	0Ω	.1Ω	0Ω	1200Ω	1200Ω	82Ω		
V 6	6AU6	.1Ω	0Ω	.1Ω	0Ω	1100Ω	1100Ω	82Ω		
V 7	6AL5	1.5Ω	1000Ω	.1Ω	0Ω	9KΩ	0Ω	680KΩ		
V 8	6AC7	0Ω	.1Ω	750Ω	9.2KΩ	750Ω	22KΩ	0Ω	15.6KΩ	
V 9	12AU7	47KΩ	0Ω	270KΩ	0Ω	0Ω	#32KΩ	1 Meg.	3.9KΩ	.1Ω
V 10	6AU6	1470KΩ	11000Ω	10Ω	1.1Ω	11000Ω	155KΩ	11000Ω		
V 11	6T8	11M.	144KΩ	11M.	1.1Ω	10Ω	11M.	10Ω	1470KΩ	1330KΩ
V 12	6AQ5	250KΩ	10Ω	10Ω	1.1Ω	11000Ω	1200Ω	250KΩ		
V 13	6SN7GT	2 Meg.	#2.5 Meg.	0Ω	2.2 Meg.	18KΩ	3.3KΩ	0Ω	.1Ω	
V 14	6AL5	27KΩ	27KΩ	0Ω	.1Ω	4.8 Meg.	0Ω	4.8 Meg.		
V 15	6SN7GT	5.1 Meg.	#28KΩ	1.5KΩ	110KΩ	#300KΩ	1.5KΩ	0Ω	.1Ω	
V 16	6EG6G	Inf.	.1Ω	82Ω	0Ω	1 Meg.	Inf.	0Ω	#8.5KΩ	TOP CAP #200Ω
V 17	6W4GT	Inf.	Inf.	50KΩ	Inf.	1220Ω	1230Ω	10Ω	1.1Ω	
V 18	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP #360Ω
V 19	5U4G	Inf.	20KΩ	Inf.	60Ω	15Ω	58Ω	Inf.	20KΩ	
V 20	12LP4	.1Ω	270KΩ	1200Ω	80KΩ	0Ω				

† MEASURED FROM PIN 2 OF V12.

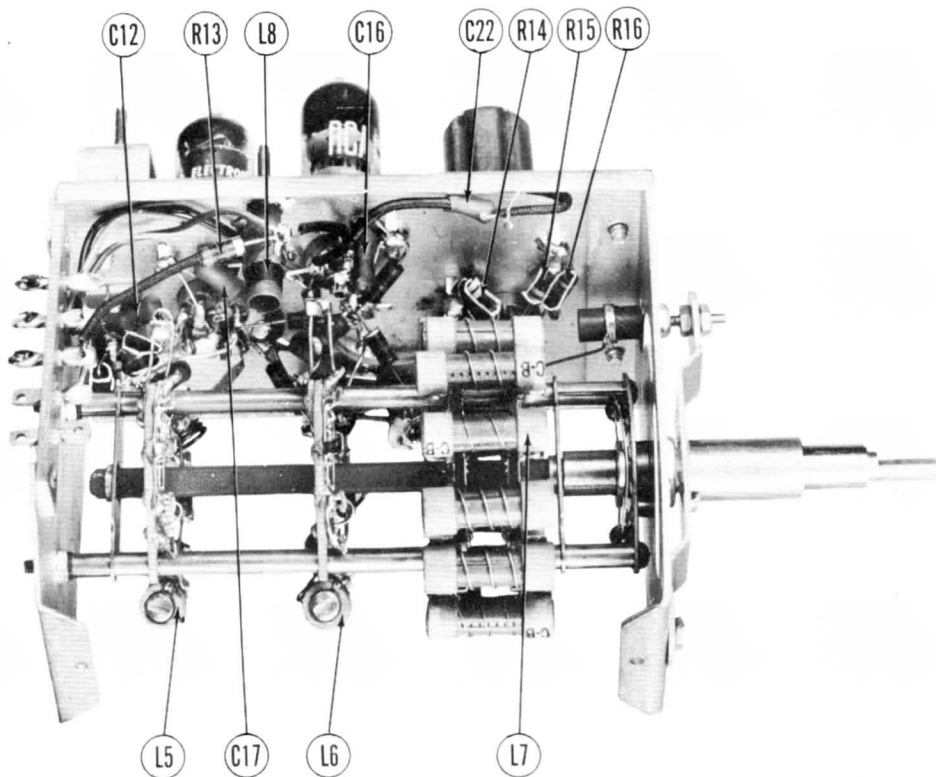
MEASURED FROM PIN 3 OF V17.

† MEASURED FROM PIN 8 OF V19.

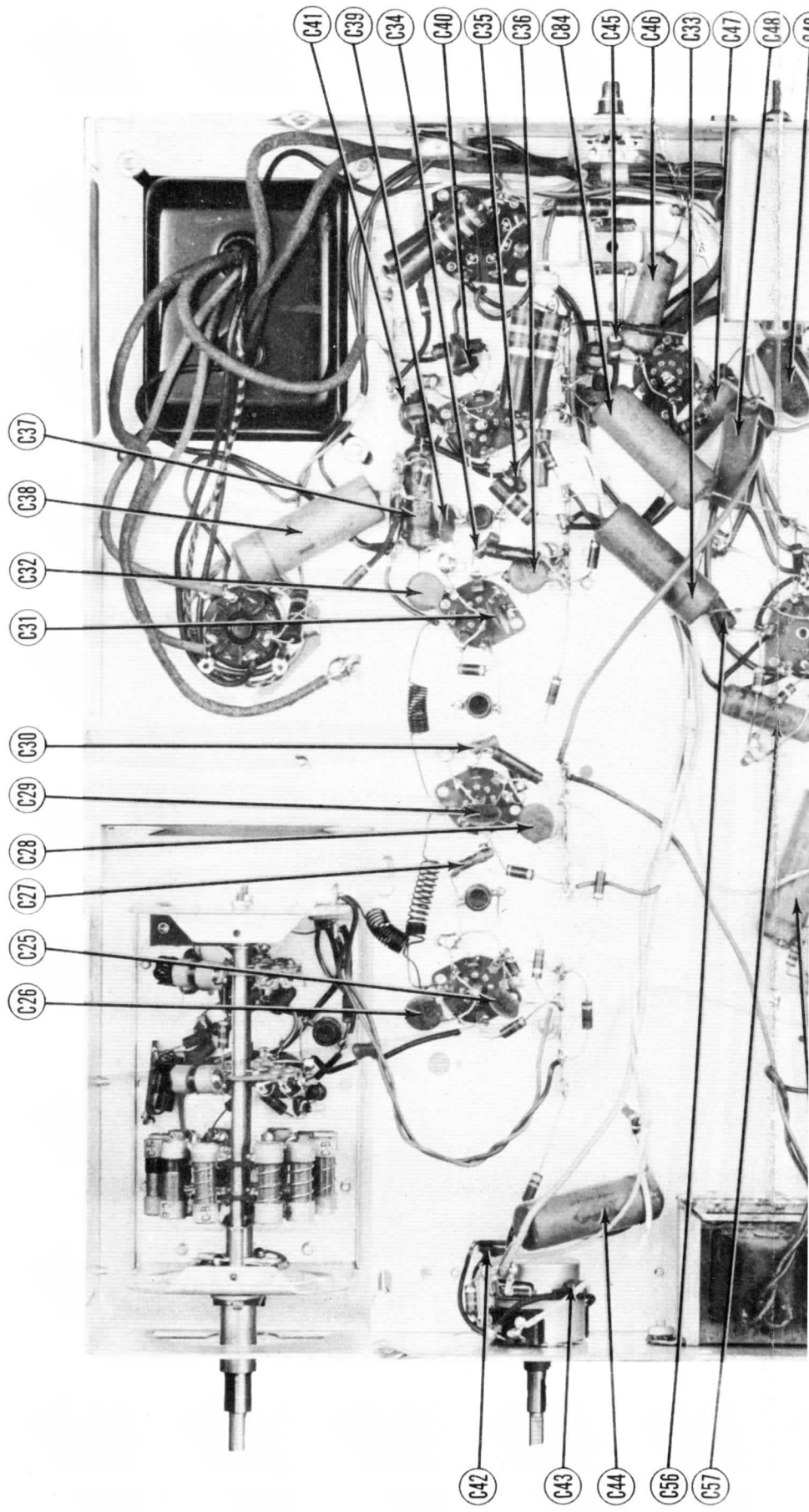
- DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
- Pin numbers are counted in a clockwise direction on bottom of socket.
- Measured values are from socket pin to common negative unless otherwise stated.
- Line voltage maintained at 117 volts for voltage readings.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



RF TUNER-RIGHT SIDE

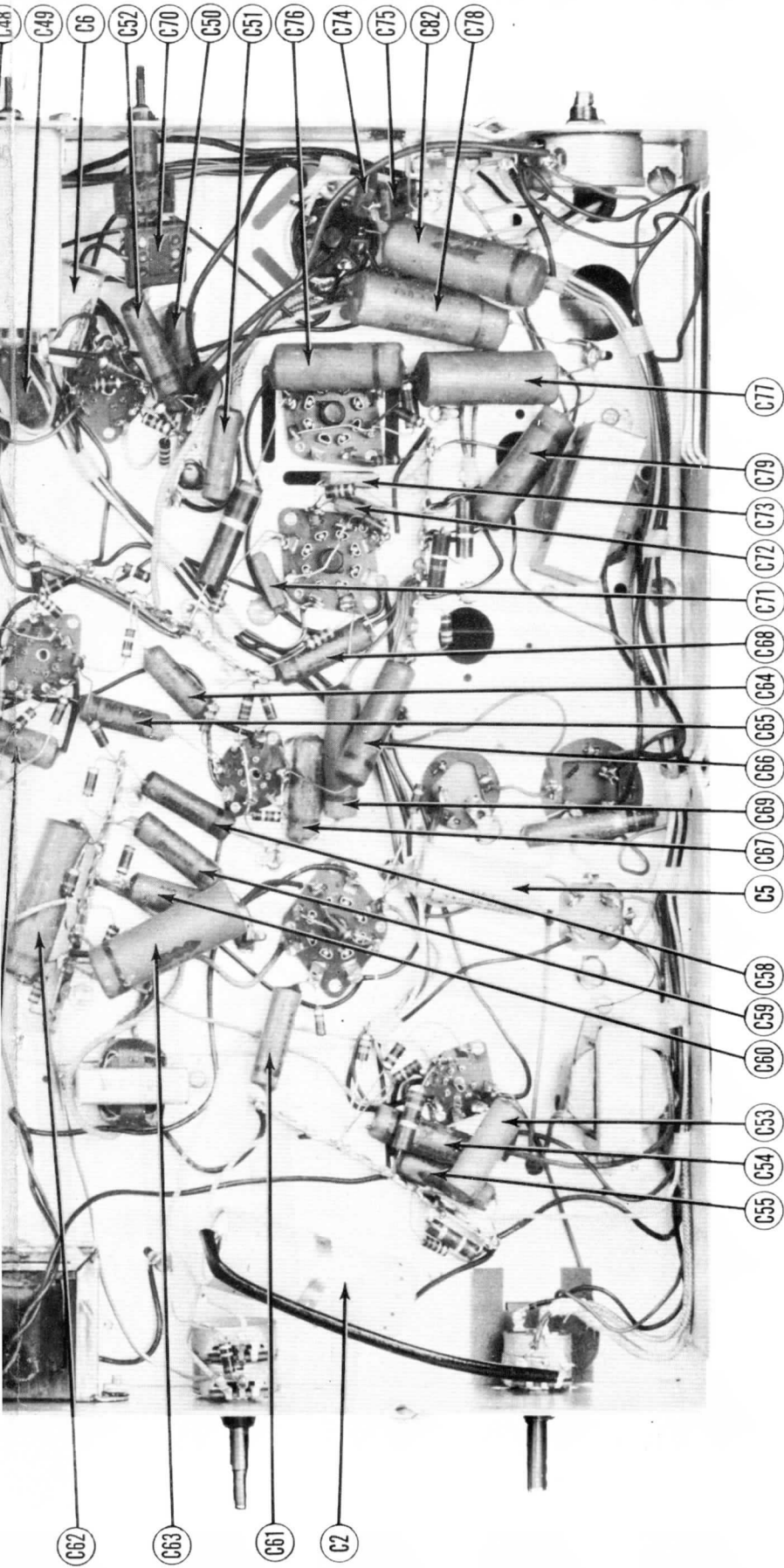


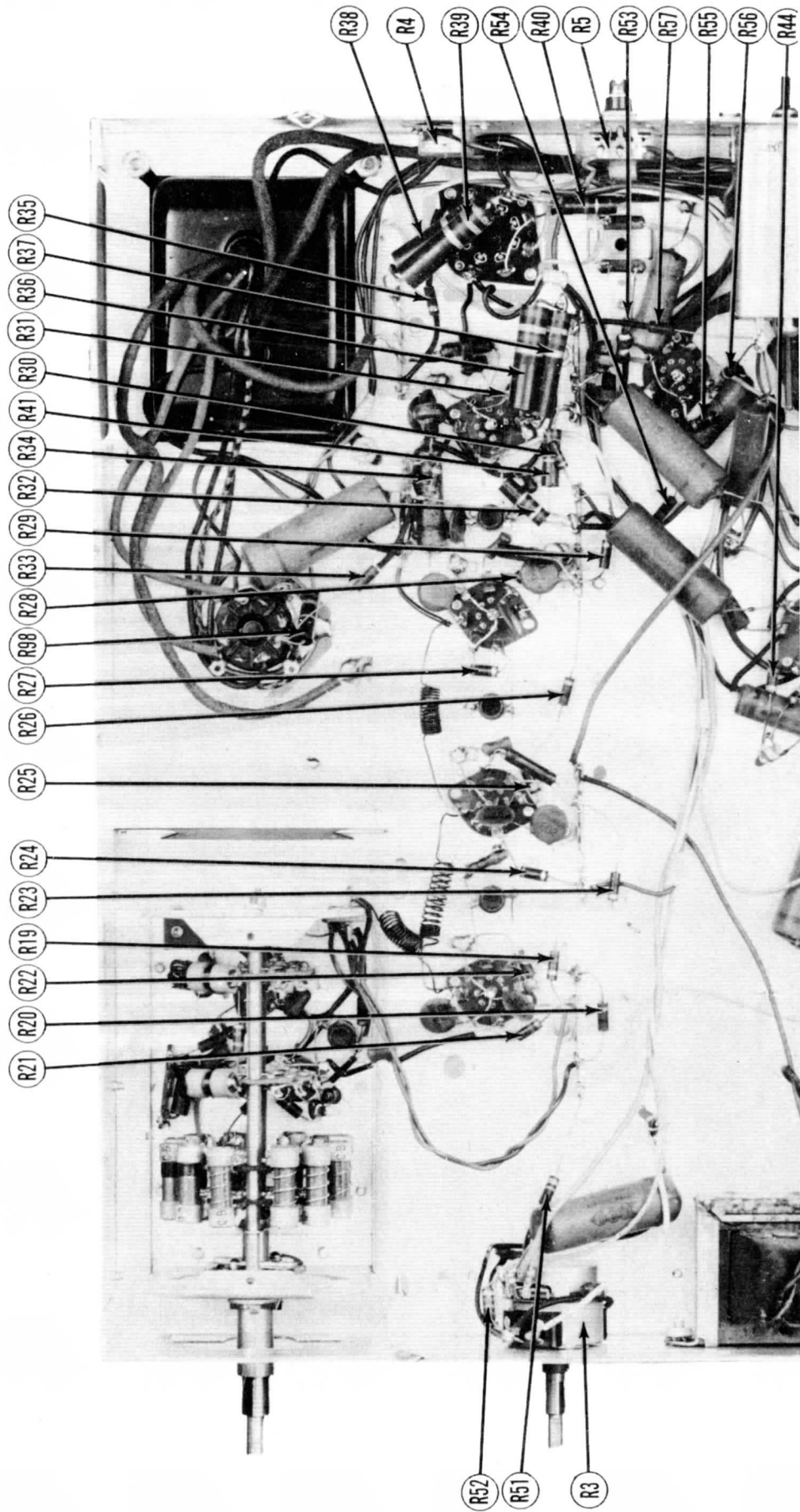
RF TUNER-LEFT SIDE



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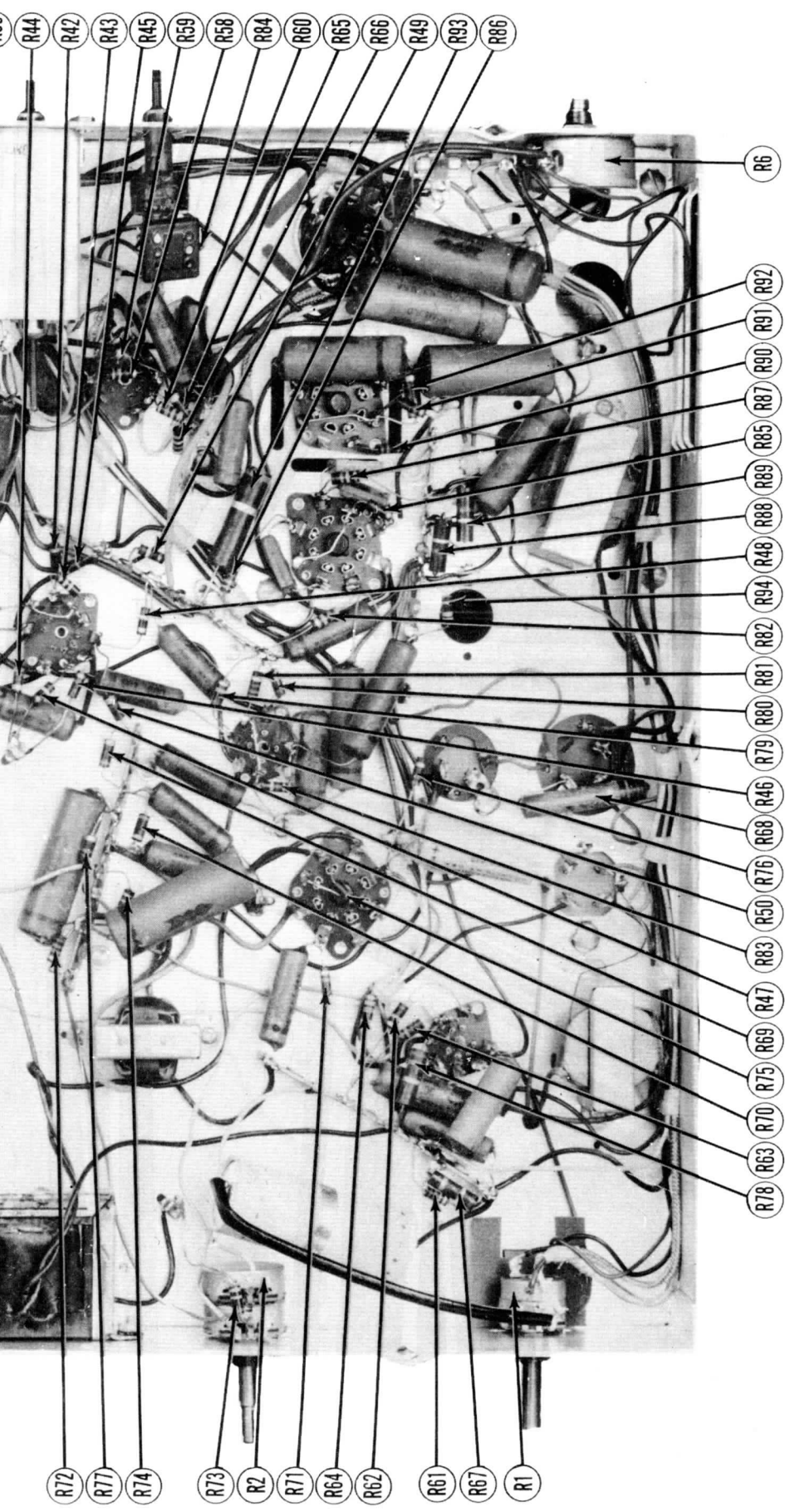
CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

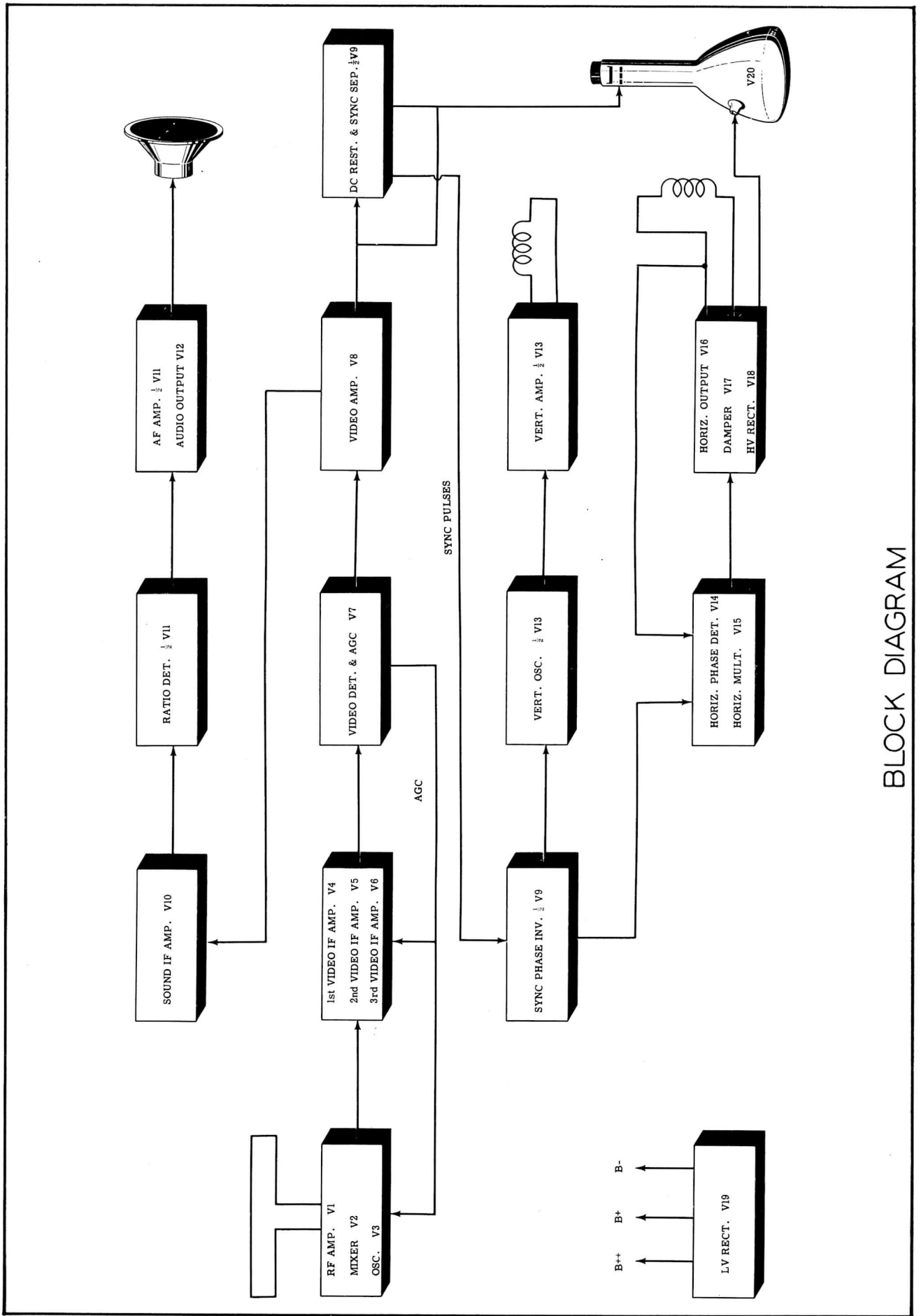




TELE KING
MODELS 410, 512, 612, 712

CHASSIS BOTTOM VIEW - RESISTOR IDENTIFICATION





BLOCK DIAGRAM

TELE KING
 MODELS 410, 512, 612, 712

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		TELE-KING PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.					
T2	170Ω	1130Ω	T-104	A-8111 ⑤	A-3000 ⑤	TBO-1 ⑤	Vert. Block Osc. Trans. Hor. Output Trans.
T3	320Ω	SEC. 1	T-211T3	A-8127	HVO-3	TFB-2	
T4	Tap at 185Ω	10.6Ω Tap at .6Ω	T-107	A-8112	A-3035 ⑥	TSO-5	Vert. Output Trans. Hor. Deflection Coil Vert. Deflection Coil Focus Coil
T5A	1120Ω	8.5Ω	DY-2	DY-1	MD-1		
T6	13Ω		LF-3	FC-10	MF-1		

- ⑤ Drill one new mounting hole.
⑥ Drill new mounting holes.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TELE-KING PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T7	5.6KΩ	3.6Ω	420Ω	.7Ω	T-102	A-3877	A-2930	RO-9 ⑤	⑤Drill one new mounting hole.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ~)	TELE-KING PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.142A	32Ω	.8 Henry	LC-3	C-2325 ⑤	C-2991 ⑤	TR-4200 ⑤	⑤Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	TELE-KING PART No.	MEISSNER PART No.	
L2	Wave Trap	0Ω				Part of tuner. Part of tuner. Part of tuner. Part of tuner. Part of tuner. Part of tuner. Part of tuner. (Used in tuner TT-3 only). Used with tuner TT-1 only. Wound on 18KΩ resistor.
L3	Wave Trap	0Ω				
L4	Ant. Input	.2Ω CT				
L5	RF End. Ind.	0Ω				
L6	RF End. Ind.	0Ω				
L7	Osc. Coil	0Ω				
L8	Mixer Plate	.2Ω				
L9	Mixer Plate			LV-6		
L10	Fil. Choke	0Ω		LC-1		
L11	2nd Video IF	.1Ω		LTO-2		
L12	Fil. Choke	0Ω		LC-1		
L13	Plate Choke	5Ω		LC-4		
L14	3rd Video IF	.1Ω		LV-6		
L15	Fil. Choke	0Ω		LC-1		
L16	Plate Choke	5Ω		LC-4		
L17	4th Video IF	.1Ω		LV-6		
L18	Peaking	6Ω		LP-5		
L19	Peaking	10Ω		LP-6		
L20	Peaking	7.5Ω		LP-7		
L21	Peaking	10Ω		LP-8		
L22	Sound IF	2Ω	2Ω	LTO-3		
L23	Ratio Det. Trans.	6Ω	.5Ω	LRD-1		
L24	Horiz. AFC	95Ω		LHO-2		
L25	Width Cont.	.2Ω		L-201R1		
L26	Horiz. Linearity	34Ω		L-201R3		

MISCELLANEOUS

ITEM No.	PART NAME	TELE-KING PART No.	NOTES
M1A	RF Tuner	TT-1	Complete except tubes.
M1B	RF Tuner	TT-3	
M2	Fuse		Complete except tubes.
M3	Ion Trap	IT-1	Type GJV, .25A