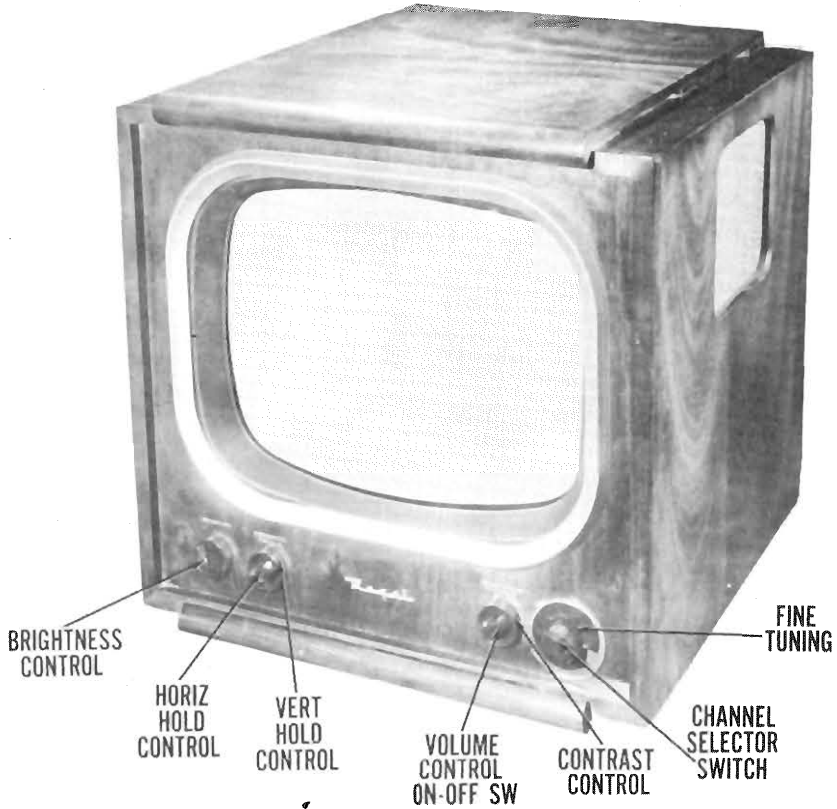


CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION



TRADE NAME	Regal	REGAL MODEL 17T22	MODEL
		CHASSIS	
		2022 (Code 77 or 88)	20C22, DX, 20D22, DX, 20T22, DX.
		2217 (Code 77 or 88)	17T22, DX, 22D17, DX, 1708, DX, 2217, DX
		2219 (Code 77 or 88)	22D19, DX, 2219, DX.
MANUFACTURER	Regal Electronics Corp., 603 W. 130th. St., New York (27), N. Y.		
TYPE SET	Television Receiver		
POWER SUPPLY	110-120 Volts AC-60 Cycle		
RATING	1.7 Amp. at 117 Volts AC		
TUNING RANGE	Channels 2 thru 13		

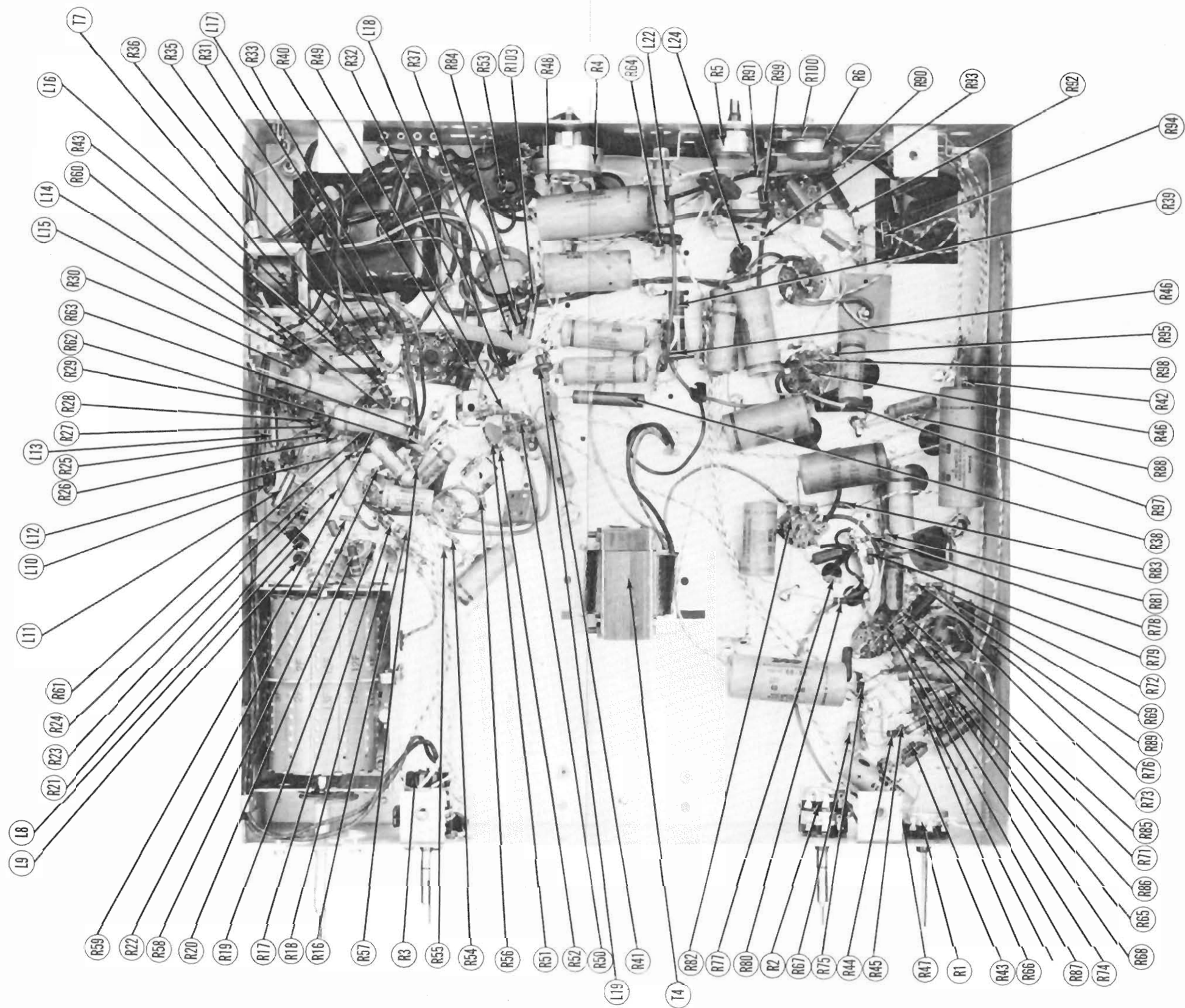
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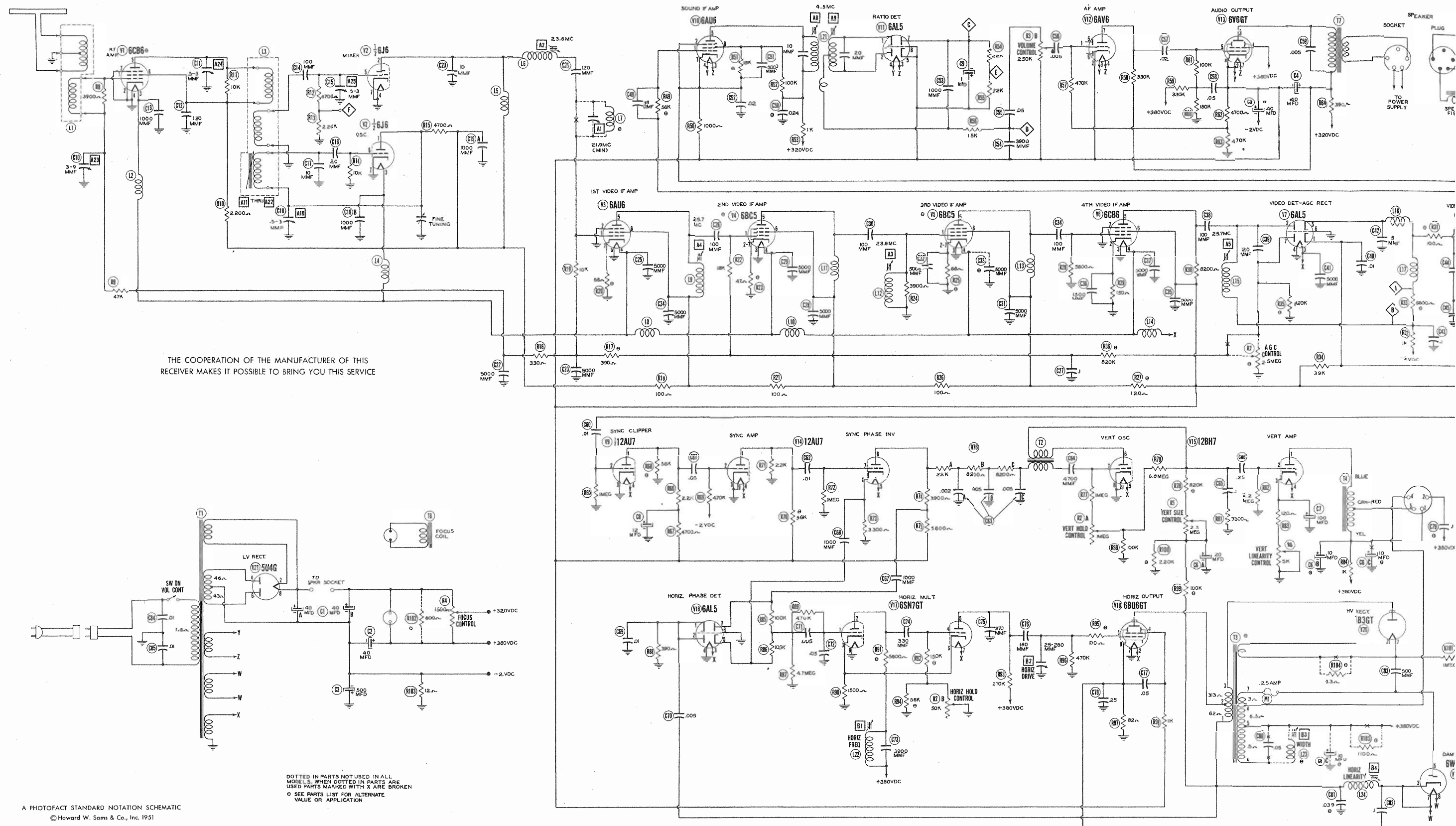
CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

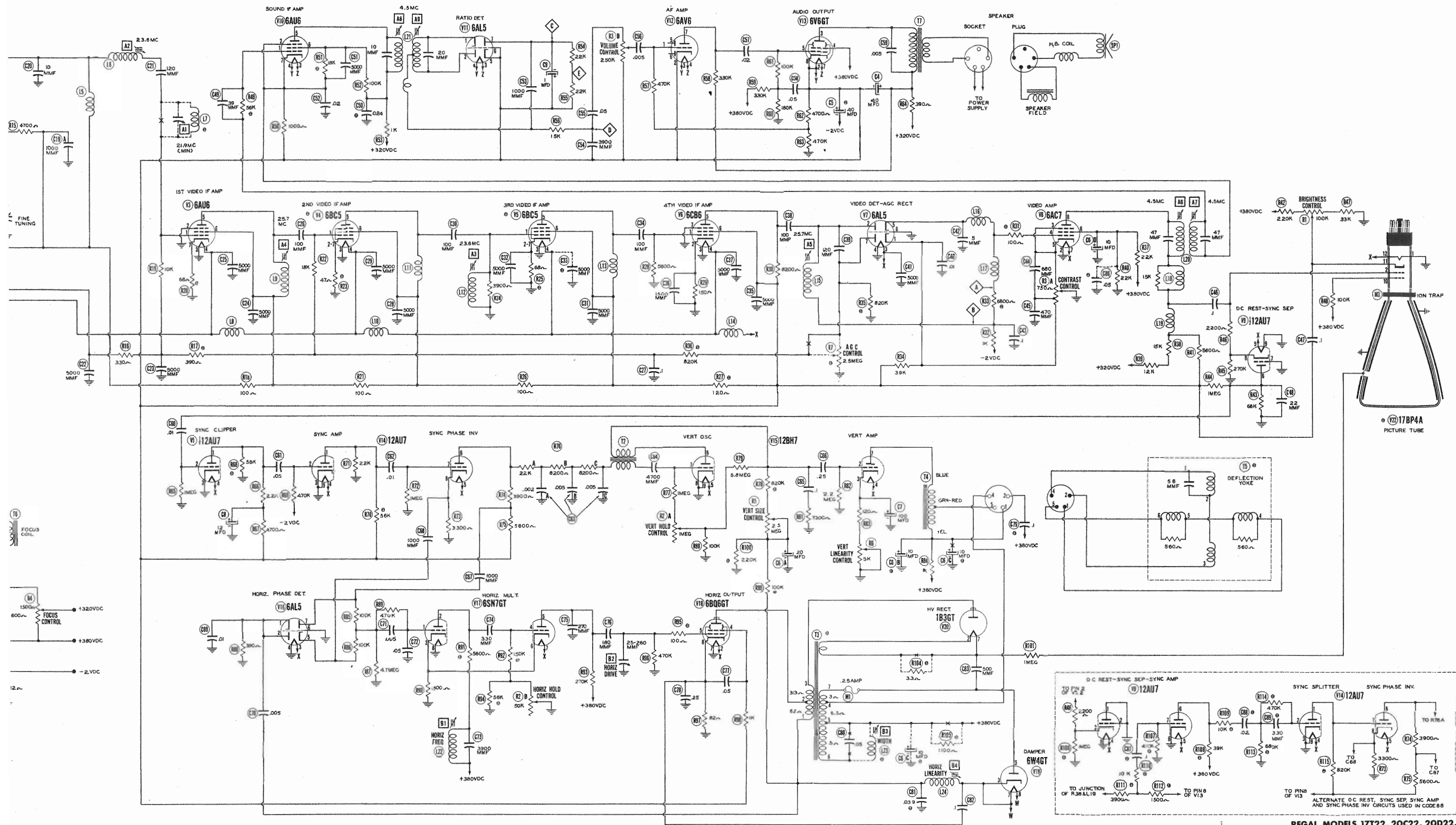
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TRADE NAME	Regal
MANUFACTURER	Regal E
TYPE SET	Televis
POWER SUPPLY	110-120
RATING	1.7 Am
TUNING RANGE	Channe
Alignment instructions...	
Disassembly Instructions.	
Horizontal Sweep Circuit A	
Parts List and Description	
Photographs	
Cabinet - Rear View...	
Capacitor and Alignmen	

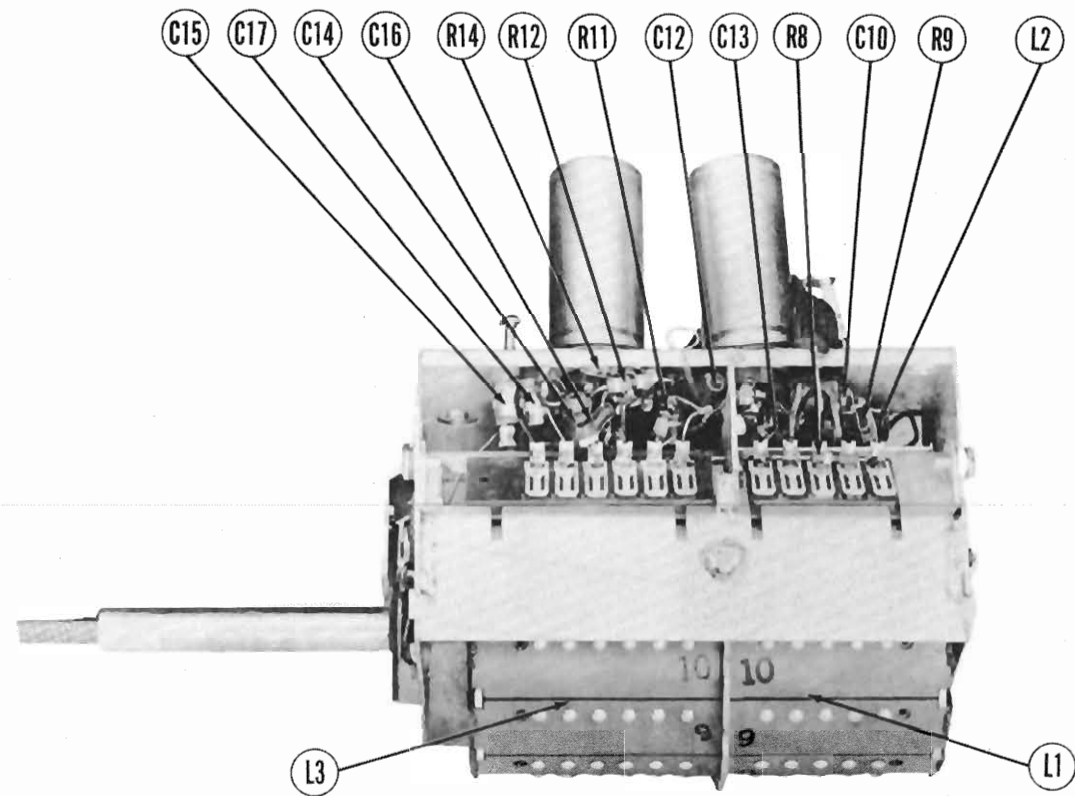
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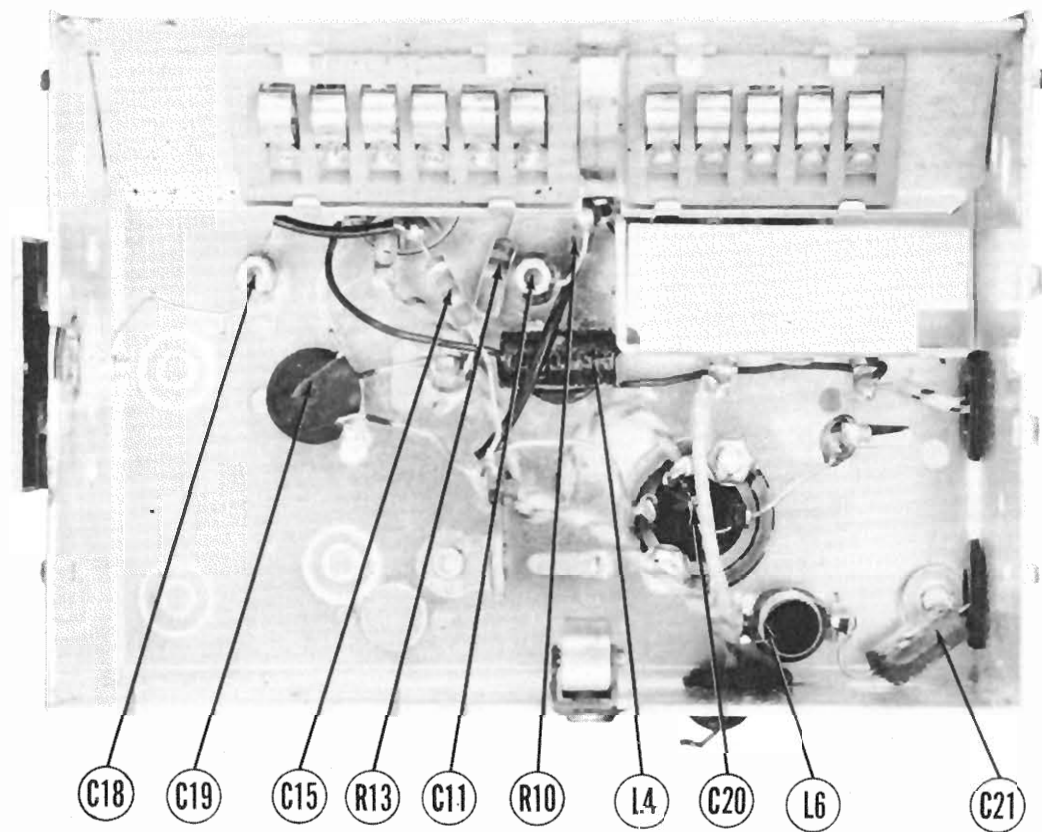




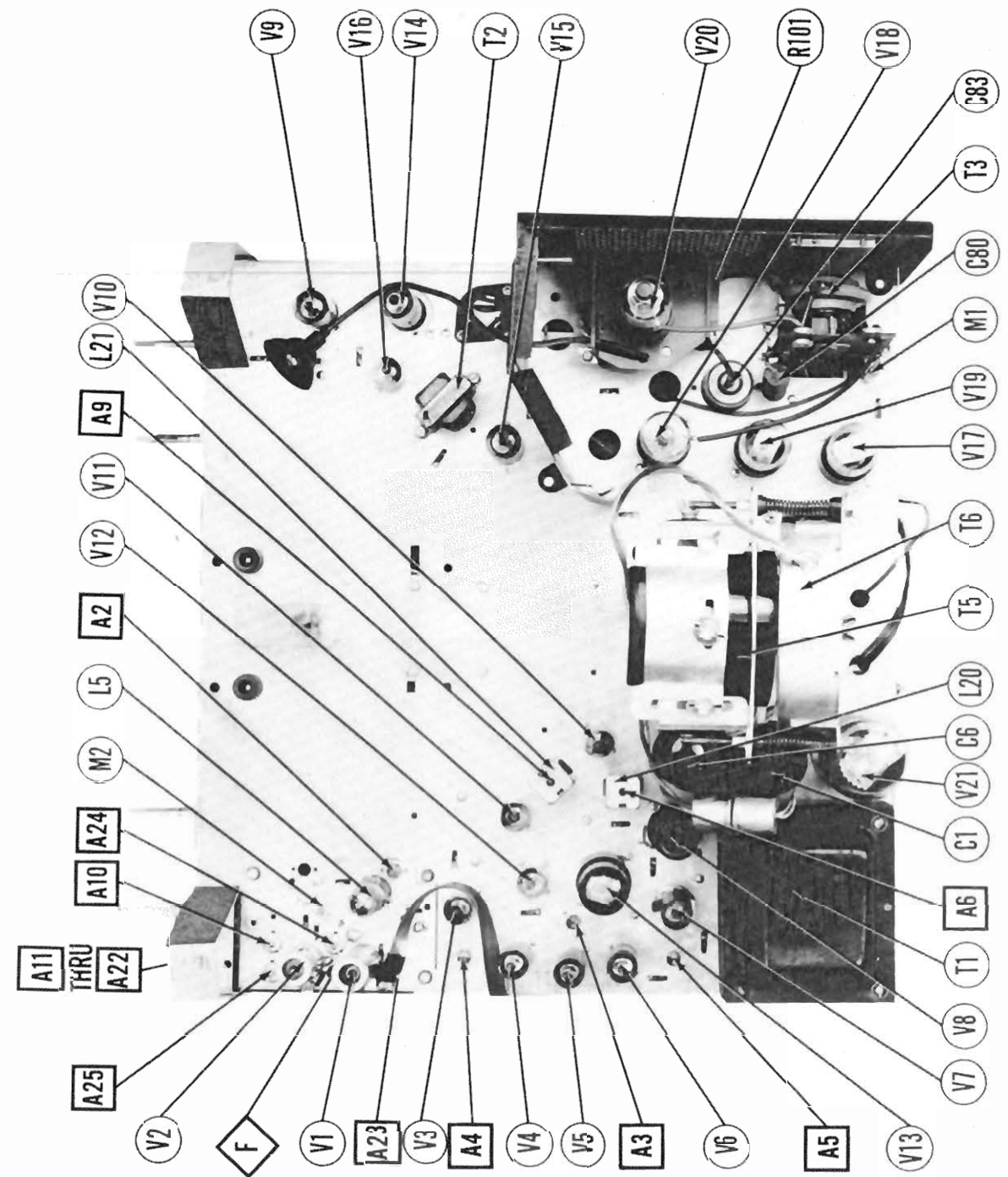
REGAL MODELS 17T22, 20C22, 20D22,
20T22, 22D17, 22D19, 1708, 2217, 2219



RF TUNER-RIGHT SIDE



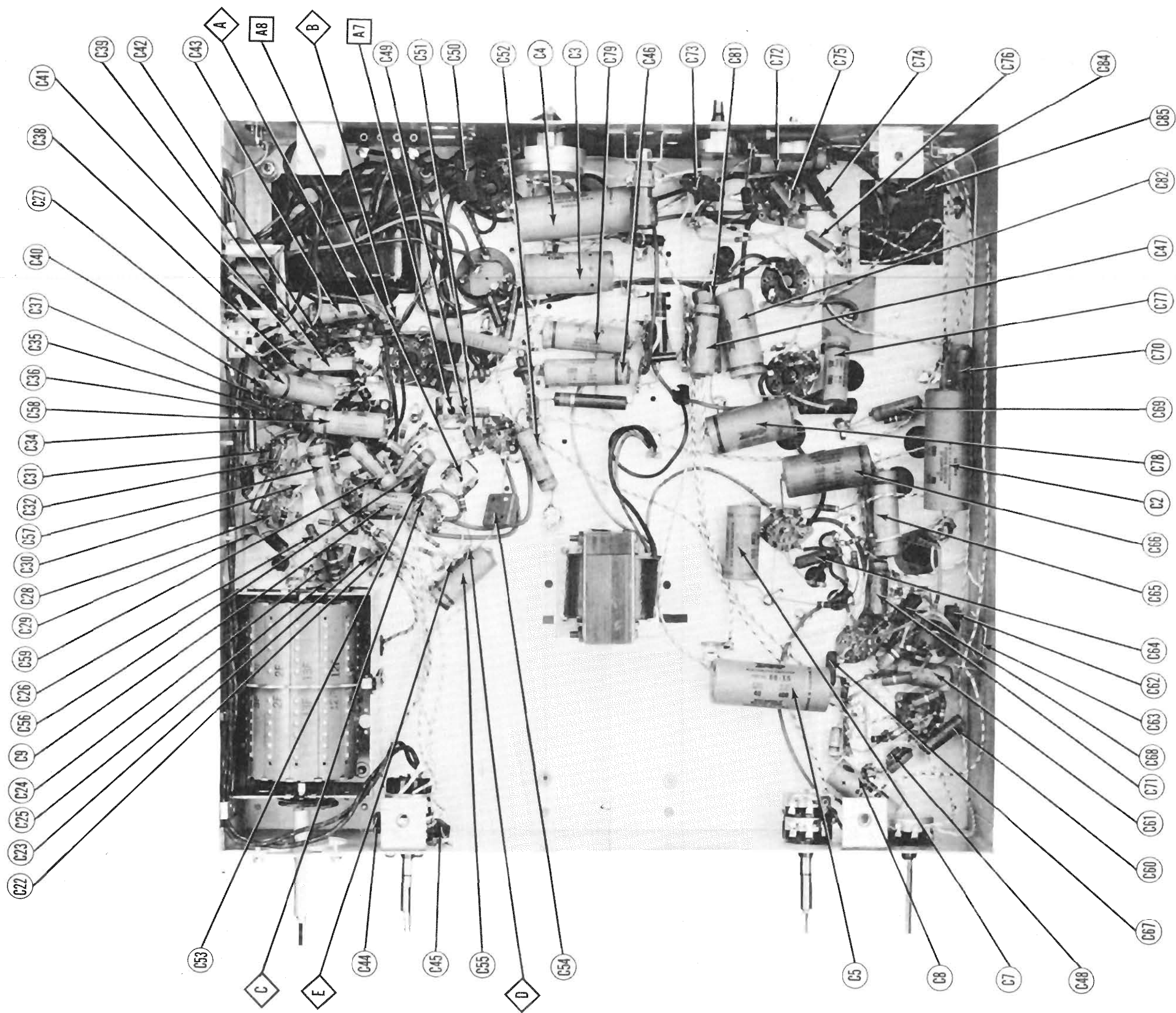
RF TUNER-BOTTOM VIEW



REGAL MODELS 17T22, 20C22, 20D22,
20T22, 22D17, 22D19, 1708, 2217, 2219
MAIN DOL SISSACHO

REGAL MODELS 17T22, 20C22, 20D22,
20T22, 22D17, 22D19, 1708, 2217, 2219

CHASSIS BOTTOM VIEW- CAPACITOR AND ALIGNMENT IDENTIFICATION



VOLTAGE AND RESISTANCE MEASUREMENTS

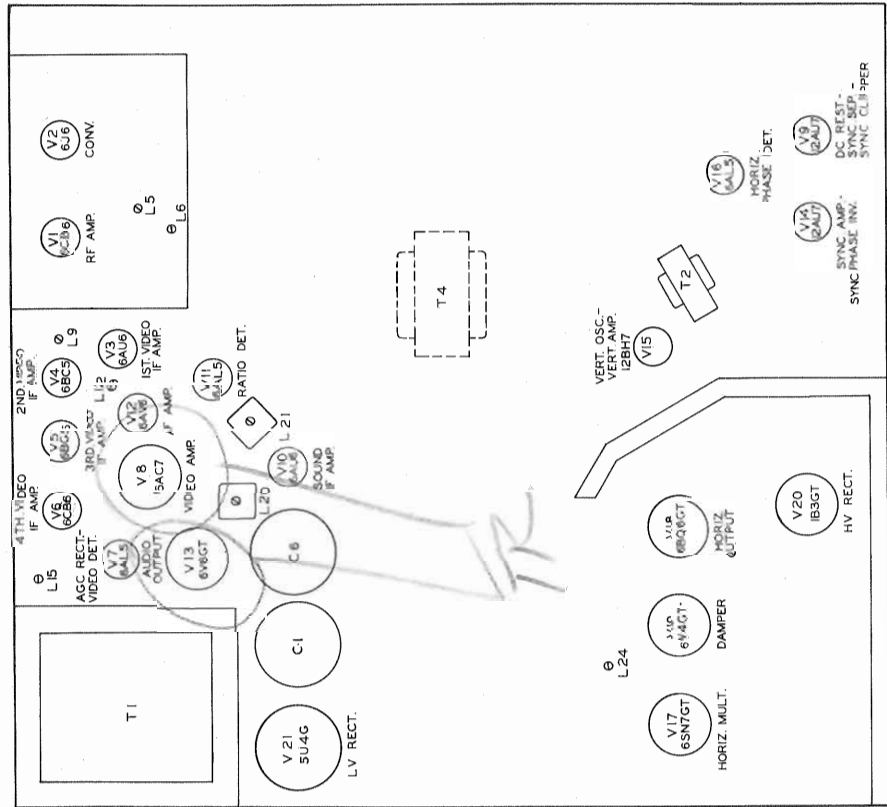
VOLTAGE READINGS											RESISTANCE READINGS										
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	- .4VDC	0V	6.3VAC	0V	85VDC	85VDC	0V			V 1	6CB6	1.7Meg	0Ω	.1Ω	0Ω	Δ1.6KΩ	Δ1.6KΩ	0Ω		
V 2	6J6	80VDC	105VDC	6.3VAC	0V	- .4VDC	Δ-2.1VDC	0V			V 2	6J6	Δ5.1KΩ	Δ420Ω	.1Ω	0Ω	220KΩ	10KΩ	0Ω		
V 3	6AU6	-1.1VDC	0V	0V	6.3VAC	105VDC	105VDC	.2VDC			V 3	6AU6	1.6Meg	0Ω	0Ω	.1Ω	Δ320Ω	Δ320Ω	66Ω		
V 4	6BC5	- .4VDC	0V	0V	6.3VAC	110VDC	110VDC	.3VDC			V 4	6BC5	1.6Meg	0Ω	0Ω	.1Ω	Δ220Ω	Δ220Ω	47Ω		
V 5	6BC5	0V	0V	0V	6.3VAC	115VDC	115VDC	.8VDC			V 5	6BC5	.3Ω	68Ω	0Ω	.1Ω	Δ120Ω	Δ120Ω	68Ω		
V 6	6CB6	0V	1.8VDC	0V	6.3VAC	55VDC	120VDC	0V			V 6	6CB6	5.6KΩ	15Ω	0Ω	.1Ω	Δ8.2KΩ	Δ0Ω	0Ω		
V 7	6AL5	0V	-2VDC	6.3VAC	0V	-1.6VDC	0V	- .4VDC			V 7	6AL5	0Ω	1KΩ	.1Ω	0Ω	780Ω	0Ω	820KΩ		
V 8	6AC7	0V	0V	1.8VDC	-1.6VDC	1.8VDC	150VDC	6.3VAC	145VDC		V 8	6AC7	0Ω	0Ω	750Ω	8KΩ	750Ω	16KΩ	.1Ω	Δ5.6KΩ	
V 9	12AU7	43VDC	- .4VDC	0V	6.3VAC	6VDC	0V	1.5VDC	0V		V 9	12AU7	Δ18KΩ	1Meg	0Ω	.1Ω	.1Ω	66KΩ	0Ω	270KΩ	0Ω
V 10	6AU6	Δ1.6VDC	Δ2.5VDC	Δ6.3VAC	Δ0V	Δ190VDC	Δ27VDC	Δ2.5VDC			V 10	6AU6	Δ57KΩ	Δ1KΩ	Δ.1Ω	Δ0Ω	Δ1.5KΩ	Δ18KΩ	Δ1KΩ		
V 11	6AL5	Δ-.3VDC	Δ-.3VDC	Δ6.3VAC	Δ0V	Δ0V	Δ0V	Δ-.7VDC			V 11	6AL5	ΔInf.	ΔInf.	Δ.1Ω	Δ0Ω	Δ0Ω	Δ.44KΩ			
V 12	6AV6	Δ-.6VDC	Δ0V	Δ6.3VAC	Δ0V	Δ-.3VDC	Δ-.3VDC	Δ95VDC			V 12	6AV6	Δ470KΩ	Δ0Ω	Δ.1Ω	Δ0Ω	Inf.	Inf.	Δ330KΩ		
V 13	6V6GT	Δ-120VDC	Δ0V	Δ140VDC	Δ200VDC	Δ-2.6VDC	Δ-2.9VDC	Δ6.3VAC	Δ0V		V 13	6V6GT	0Ω	Δ0Ω	Δ1.1KΩ	Δ400Ω	250KΩ	140KΩ	Δ.1Ω	Δ0Ω	
V 14	12AU7	32VDC	-4.4VDC	0V	6.3VAC	100VDC	100VDC	0V	5.8VDC	0V	V 14	12AU7	Δ22KΩ	Δ7KΩ	0Ω	.1Ω	.1Ω	Δ9.8KΩ	1Meg	3.3KΩ	0Ω
V 15	12BH7	375VDC	Δ4VDC	24VDC	6.3VAC	155VDC	155VDC	Δ-48VDC	0V	0V	V 15	12BH7	Δ2KΩ	2.2Meg	12Ω	.1Ω	.1Ω	Δ90KΩ	2Meg	0Ω	0Ω
V 16	6AL5	0V	0V	6.3VAC	0V	2.6VDC	0V	-3.9VDC			V 16	6AL5	390Ω	390Ω	.1Ω	0Ω	4.8Meg	0Ω	4.8Meg		
V 17	6SN7GT	Δ-1VDC	280VDC	10.6VDC	Δ-11.5VDC	140VDC	10.6VDC	6.3VAC	0V	Top Cap *	V 17	6SN7GT	5.2Meg	16KΩ	1.5KΩ	150KΩ	Δ270KΩ	1.5KΩ	.1Ω	0Ω	
V 18	6BQ6GT	0V	6.3VAC	-7.2VDC	100VDC	-7.2VDC	120VDC	0V	5.1VDC		V 18	6BQ6GT	Inf.	.1Ω	470KΩ	Δ1KΩ	470KΩ	Δ0Ω	82Ω		Top Cap #375Ω
V 19	6W4GT	0V	0V	60VDC	0V	320VDC	0V	600VDC	600VDC		V 19	6W4GT	Inf.	Inf.	220KΩ	Inf.	Δ100Ω	Inf.	Δ0Ω	Δ.1Ω	Top Cap #375Ω
V 20	1B3GT	*	DO NOT MEASURE								V 20	1B3GT	PINS 1-8 HAVE INF. RESISTANCE								
V 21	5U4G	0V	400VDC	320VDC	360VAC	120VDC	360VAC	340VDC	400VDC		V 21	5U4G	Inf.	370KΩ	Δ100KΩ	58Ω	Δ0Ω	55Ω	Δ1.5KΩ	370KΩ	
V 22	17BP4A	0V	1.5VDC	320VDC	125VDC	125VDC	5.3VAC	Δ10.2KV			V 22	17BP4A	0Ω	270KΩ	Δ100KΩ	100KΩ	.1Ω				

ALL MEASUREMENTS TAKEN WITH PICTURE TUBE REMOVED.
* DO NOT MEASURE.
† TAKEN WITH VACUUM TUBE VOLTMETER.
** USE EXTREME CAUTION WHEN MEASURING THIS VOLTAGE
FOCUS CONTROL FULLY COUNTER-CLOCKWISE

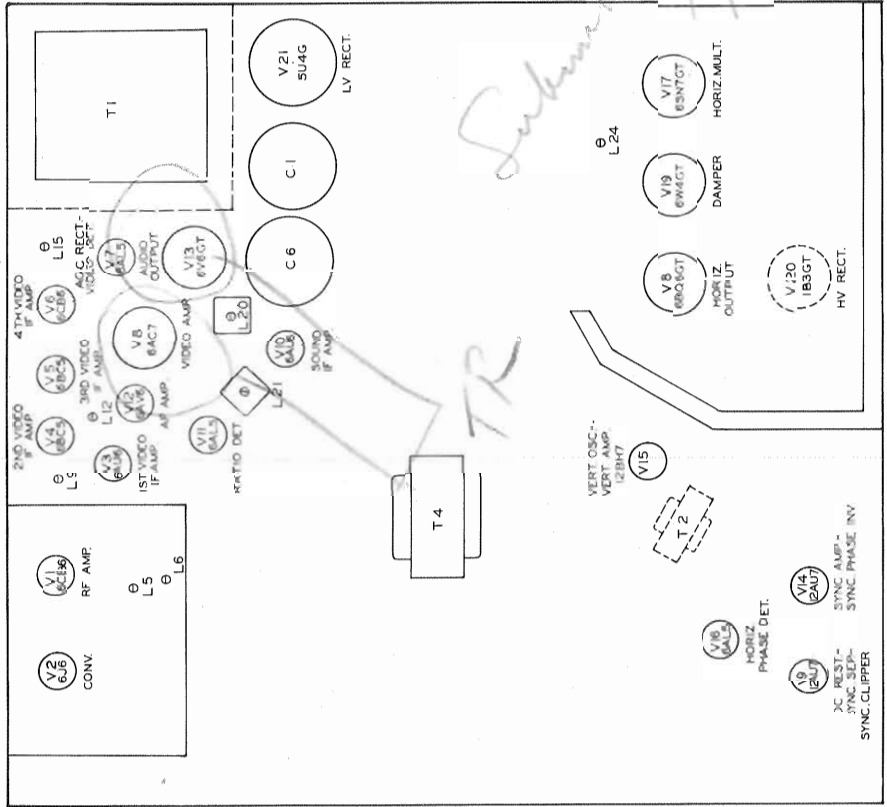
1. DC voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.

4. Line voltage maintained at 117 volts for voltage readings.
5. Front panel controls set at minimum.
6. Where readings may vary according to the setting of the service controls, both minimum and maximum readings are given.

REGAL MODELS 17122, 20C22, 20D22, 20T22, 22D17, 22D19, 1708, 2217, 2219
TUBE PLACEMENT CHART



TOP VIEW



BOTTOM VIEW

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The end of the high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator to disable the high voltage.

VIDEO IF ALIGNMENT

Remove the converter tube, (V2), and replace it with a 6J6 which has pin 1 removed, this will disable the local oscillator and prevent the possibility of erroneous indications.
Connect the negative lead of a three volt battery to the ungrounded lead of C27. Connect the positive lead to chassis.
The trap A1 appears in models, 20C22, 20D22, and 20T22 only.
When aligning all other models omit step 1.
During video IF alignment the common lead of the VTVM is connected to approximately 2 volts with respect to chassis. Avoid grounding the VTVM case.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	21.9MC	Any	DC Probe to point A. Common to point B.	A1	Adjust for MINIMUM deflection.
"	"	23.6MC	"	"	A2, A3	Adjust for maximum deflection.
"	"	25.7MC	"	"	A4, A5	"

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
Direct	High side to an ungrounded tube shield floating over dummy converter tube, (V2). Low side to chassis.	24MC (10MCSWP)	21.9MC 26.4MC	Any	Vert. Amp. to point D. Low side to chassis.		Check for response curve similar to fig. 1. If necessary retouch A2 thru A5 for proper response. If set has sound trap adjust A1 to properly place 21.9MC marker.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

During sound IF alignment the common lead of the VTVM is connected to approximately 140 volts with respect to chassis. Avoid grounding or touching the VTVM case.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
.01Mfd.	High side to pin 4 (grid) of 6AC7, (V8). Low side to chassis.	4.5MC (Unmod.)	Any	DC Probe to point C. Common to chassis.	A6, A7, A8	Adjust for maximum deflection.
"	"	"	"	DC Probe to point D. Common to point C.	A9	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
.01MFD.	High side to pin 4 (Grid) of 6AC7, (V8). Low side to chassis.	4.5MC (450KC SWP)	4.5MC	Any	Vert. Amp. to Point C. Low side to chassis.	A6, A7, A8	Disconnect stabilizer capacitor C9. Adjust for maximum amplitude and symmetry as per fig. 2.
"	"	"	"	"	Vert. Amp. to Point D. Low side to chassis.	A9	Reconnect capacitor C9. Adjust A9 so 4.5MC occurs at center of crossover lines as per fig. 3. SLIGHTLY retouch A8 for maximum amplitude and straightness of crossover lines.

OSCILLATOR ALIGNMENT

Remove the dummy converter tube, and replace the original 6J6 in its socket.
Complete oscillator alignment may not be necessary. If the oscillator seems to be off-frequency approximately the same for a majority of the channels it may be possible to correct them in one step using A10. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for any individual channel. If adjustment of A10 will not bring all channels well within the range of the fine tuning control, it will be necessary to adjust the channel strip adjustments for each channel that is off-frequency. The channel strip adjustments are reached through a hole just to the right of the channel switch shaft. The correct adjustment screw is accessible through this hole as the channel switch is turned to each channel.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS			
Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MCSWP)	211.25MC 215.75MC	13	Vert. Amp. to point A. Low side to chassis.	A11	Adjust to place video marker at 50% as shown in fig. 4.			
		207MC (10MCSWP)	205.25MC 209.75MC	12		A12				
		201MC (10MCSWP)	199.25MC 203.75MC	11		A13				
		195MC (10MCSWP)	193.25MC 197.75MC	10		A14				
		189MC (10MCSWP)	187.25MC 191.75MC	9		A15				
		183MC (10MCSWP)	181.25MC 185.75MC	8		A16				
		177MC (10MCSWP)	175.25MC 179.75MC	7		A17				
		85MC (10MCSWP)	83.25MC 87.75MC	6		A18				
		79MC (10MCSWP)	77.25MC 81.75MC	5		A19				
		69MC (10MCSWP)	67.25MC 71.75MC	4		A20				
		63MC (10MCSWP)	61.25MC 65.75MC	3		A21				
		57MC (10MCSWP)	55.25MC 59.75MC	2		A22				

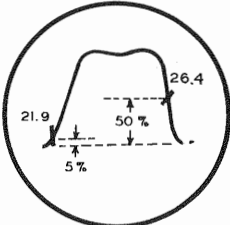


FIG. 1

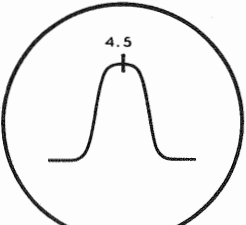


FIG. 2

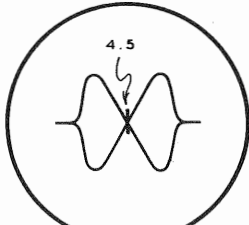


FIG. 3

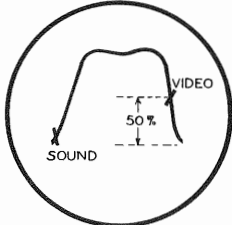


FIG. 4

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT							
Leave the bias connected as during video IF alignment, but reduce the voltage to 1.5. The sweep generator output lead should be terminated with its characteristic impedance usually 50 ohms.							
DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8. Two 120Ω carbon resistors	Across antenna terminals with 120Ω in each lead.	207MC (10MCSWP)	205.25MC 209.75MC	12	Vert. Amp. thru 10KΩ to point E. Low side to chassis.	A23, A24, A25	Adjust for response curve similar to fig. 5 with markers above 90%.
9. "	"	213MC (10MCSWP)	211.25MC 215.75MC	13	"		Check all channels for response similar to fig. 5. If markers fall below 70% on any channel, make slight adjustment of A23, A24 and A25 with channel switch set for that channel. Recheck all channels to see that they have not been seriously effected.
		201MC (10MCSWP)	199.25MC 203.75MC	11			
		195MC (10MCSWP)	193.25MC 197.75MC	10			
		189MC (10MCSWP)	187.25MC 191.75MC	9			
		183MC (10MCSWP)	181.25MC 185.75MC	8			
		177MC (10MCSWP)	175.25MC 179.75MC	7			
		85MC (10MCSWP)	83.25MC 87.75MC	6			
		79MC (10MCSWP)	77.25MC 81.75MC	5			
		69MC (10MCSWP)	67.25MC 71.75MC	4			
		63MC (10MCSWP)	61.25MC 65.75MC	3			
		57MC (10MCSWP)	55.25MC 59.75MC	2			

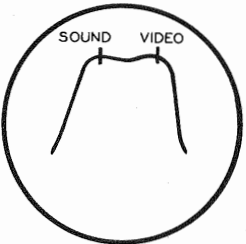


FIG. 5

REGAL MODELS 17T22, 20C22, 20D22, 20T22, 22D17, 22D19, 17O8, 2217, 2219

PARTS LIST AND DESCRIPTIONS (Continued)
TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		REGAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.					
T2	140Ω	800Ω	140-8	A-8122 ①	A-3000 ①	TB0-1 ①	Vert. Block Osc. Trans. Horiz. Output Trans.
T3	375Ω Tap 62Ω	10Ω Taps .5 and 7Ω	140-21 ②		HV0-7		
T3	380Ω Tap 38Ω	SEC. 2	140-26 ③		HV0-7		Horiz. Output Trans.
		0Ω					
		24Ω Taps .4 and 12.6Ω					
		SEC. 2					
		0Ω					
T4	570Ω	6.9Ω	140-9	A-8115	A-3035	TS0-1	Vert. Output Horiz. Deflection Coil Vert. Deflection Coil Horiz. Deflection Coil Vert. Deflection Coil Focus Coil
T5A	19.5Ω	140-122 ④	DY-7	MDF-70			
B	48Ω						
T5A	17Ω	30-52 ⑤	DY-7	MDF-70			
B	67Ω						
T6	470Ω		140-20	FC-11	MF-2		

- ① Drill one new mounting hole.
② Used in chassis 2217 and 2219.
③ Used in chassis 2022.
④ Used in chassis 2217.
⑤ Used in chassis 2219 and 2022.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		REGAL PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T7	4.1KΩ	3.1Ω	310Ω	.5Ω	140-13	A-3825	A-2930	RO-9 ①	① Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	REGAL PART No.	JENSEN PART No.	QUAM PART No.	
SP1	90Ω	3.1Ω	T110-2		46A90S	
SP2	CONE DIA.	V. C. DIA.				
	4"X6"	9/16"				

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	REGAL	MEISSNER	
				PART No.	PART No.	
L1	Ant. Coils	0Ω	0Ω			Part of Tuner Part # TV-201
L2	Flt. Choke	0Ω				Part of Tuner Part # TV-201
L3	RF, Mixer Grid and Osc. Coils	0Ω				
L4	Flt. Choke	0Ω				Part of Tuner Part # TV-201
L5	Conn. Plate Coil	0Ω				Part of Tuner Part # TV-201
L6	1st. Video IF	1.2Ω				Part of Tuner Part # TV-201
L7	Sound Trap	0Ω				Used in Models 20C22, 20DE2, 20T22 only
L8	Flt. Choke	0Ω		30-11		
L9	2nd. Video IF	.3Ω		30-48A		
L10	Flt. Choke	0Ω		30-11		
L11	RF Choke	3.6		30-24		
L12	3rd. Video IF	.3Ω		30-48A		
L13	RF Choke	3.6		30-24		
L14	Flt. Choke	0Ω		30-11		
L15	5th. Video IF	.3Ω		30-49		
L16	Peaking	6.5Ω		30-54	19-1921	180 Microhenries (Orange Dot)
L17	Peaking	14Ω		30-28		600 Microhenries (Gray Dot)
L18	Peaking	6Ω		T30-35	19-1921 †	160 Microhenries wound on 15KΩ resistor
L19	Peaking	10Ω		30-30	19-1923	380 Microhenries (Purple Dot)
L20	Sound IF	2Ω	2Ω	30-46		
L21	RatioDet.					
L22	Trans.	4.6Ω	2.2Ω	30-47		Tap 2Ω
L23	Horiz. Osc.	80Ω		T30-26		
L24	Horiz. Size	.6Ω		30-17		Not used in Models 17T22, 22D17, 1708 and 2217
L24	Horiz. Lin	31Ω		30-16		

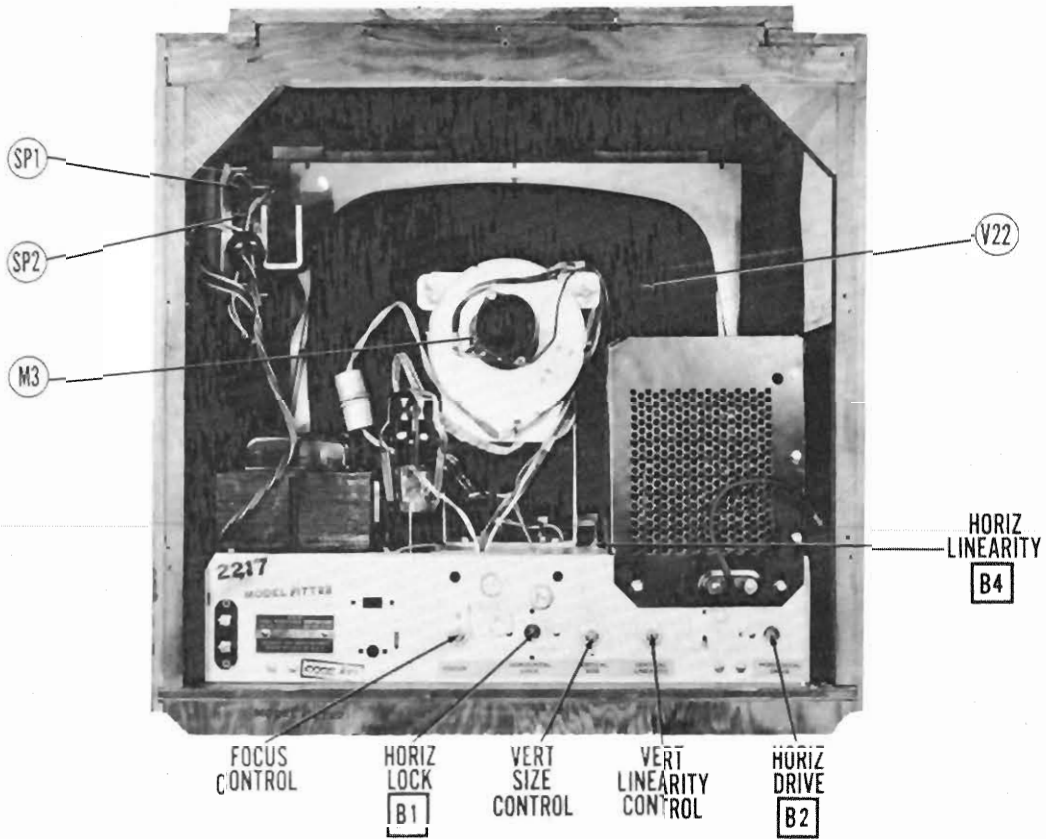
† Parallel with 15KΩ resistor.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				REMARKS
			REGAL PART No.		LITTELFUSE PART No.		
			FUSE	HOLDER	FUSE	HOLDER	
M1	3AG Pigtail	.250				318.250	

MISCELLANEOUS

ITEM No.	PART NAME	REGAL PART No.	NOTES
M2	RF Tuner	TV-201	
M3	Ion Trap	150-154	
B2	Trimmer	T-40-1	25-280MMF(Horiz. Drive)



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

- Turn the set on and tune in a TV station, preferably a test pattern.
- Turn the horizontal hold control to the mid-position of its range.
- Adjust the horizontal frequency slug, (B1), until the picture synchronizes horizontally.
- Adjust the horizontal drive trimmer (B2) counter-clockwise as far as possible without crowding or beaded vertical lines appearing in the picture.
- If the set has a width slug, (B3), adjust it until the picture is slightly wider than necessary to fill the mask.
- Adjust the horizontal linearity slug, (B4), until the picture is symmetrical from left to right. Slight readjustment of B2 may be necessary for optimum results.

DISASSEMBLY INSTRUCTIONS

1. Remove eight push-on type control knobs.
2. Remove seven wood screws from rear cover. Remove rear cover.
3. Disconnect built-in antenna.
4. Disconnect speaker.
5. Remove four metal screws from chassis. Remove chassis.
6. Remove four 5/16" hex nuts from speaker. Remove speaker.

NOTE: - FOR PICTURE TUBE REMOVAL IT IS NECESSARY TO REMOVE THE CHASSIS AS OUTLINED.

REGAL MODELS 17T22, 20C22, 20D22, 20T22, 22D17, 22D19, 1708, 2217, 2219

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		REGAL PART No.	STANDARD REPLACEMENT		
V1A	RF Amplifier	6CB6	6CB6	5CK	Used in models with "DX" series only
B	RF Amplifier	6AG5	6AG5	7BD	
V2	Converter	6J6	6J6	7BD	
V3	1st. Video IF Amp.	6AU6	6AU6	7BK	
V4A	2nd. Video IF Amp.	6BC5	6BC5	7BD	
B	2nd. Video IF Amp.	6AG5	6AG5	7BD	
C	2nd. Video IF Amp.	6AU6	6AU6	7BK	
D	2nd. Video IF Amp.	6CB6	6CB6	6CK	
V5A	3rd. Video IF Amp.	6BC5	6BC5	7BD	
B	3rd. Video IF Amp.	6AG5	6AG5	7BD	
C	3rd. Video IF Amp.	6AU6	6AU6	7BK	Used in models with "DX" series only.
D	3rd. Video IF Amp.	6CB6	6CB6	6CK	
V6	4th. Video IF Amp.	6CB6	6CB6	6CK	
V7	Video Detector-AGC Rectifier	6AL5	6AL5	8BK	
V8	Video Amplifier	6AC7	6AC7	8N	
V9	DC Restorer-Sync. Separator-Sync. Clipper	12AU7	12AU7	9A	
V10	Sound IF Amp.	6AU6	6AU6	7BK	
V11	Ratio Detector	6AL5	6AL5	8BT	
V12	AF Amplifier	6AV6	6AV6	7BT	
V13	Audio Output	6V6GT	6V6GT	7AC	
V14	Sync. Amplifier	12AU7	12AU7	9A	
V15	Vert. Oscillator-Vert. Amplifier	12BH7	12BH7	9A	
V16	Horiz. Phase Det.	6AL5	6AL5	8BD	
V17	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V18	Horiz. Output	6BQ6GT	6BQ6GT	6AM	
V19	Damper	6W4GT	6W4GT	4CG	
V20	HV Rectifier	1B3GT	1B3GT	3C	
V21	LV Rectifier	5U4G	5U4G	5T	

CATHODE-RAY TUBE

ITEM No.	USE	REPLACEMENT DATA			NOTES
		REGAL PART No.	SYLVANIA PART No.	THOMAS PART No.	
V22A	17BP4A	17BP4A	17BP4A	17BP4A	⑥ Glass Equivalent tube. Ground outer coating and change high voltage capacitor.
B	19AP4A	19AP4A	19AP4A	19AP4A	
C	20CP4A	20CP4A	20CP4A	20CP4A	

CAPACITORS

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

ITEM No.	RATING	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		REGAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C1 A	40	60-8	AFH2-72		UP4450		TVL-2830
B	40						
C2	40	60-12	PRS450/40		BR4045A		TVA-1712
C3	500	60-10	PRS6/500		BRH605A		TVA-1103
C4	40	60-15	PRS450/40		BR4045A		TVA-1712
C5	40	60-12	PRS450/40		BR4045A		TVA-1712
C6 A	20		AFH4-13		UPT211145		TVL-4766
B	10						
C	10						
C7	100	60-9	PRS25/100		BRH251A		TVA-1207
C8	12	60-119	PRS250/12		BR1225A		TVA-1505
C9	1	60-7	PRS150/4		BBR2-50T		TVA-1300
C10	3-9			829-10			
C11	120			829-3			
C12	100			D6-121		GP2K-121	5GA-T12
C13	1000			SI1000		GP2L-102	5HK-D1
C14	100			SI100N750		TCN-100	5TCU-T1
C15	5-3						
C16	20			SI20NP0		TCZ-20	
C17	10			SI10N750		TCZ-10	
C18	5-3						
C19 A	1000			BPD-2X001		DD-2-102	5HK-2D1
B	1000						
C20	10			SI10NP0		TCZ-10	5TCC-Q1
C21	120						
C22	5000			BPD-005		DD-502	5D5D5
C23	5000			BPD-005		DD-502	5D5D5
C24	5000			BPD-005		DD-502	5D5D5
C25	5000			BPD-005		DD-502	5D5D5
C26	100			SI100		D6-101	5W5T1
C27	.1			P488-1		DF-104	5PTE4P1
C28	5000			BPD-005		DD-502	5D5D5
C29	5000			BPD-005		DD-502	5D5D5
C30	100			SI100N750		TCN-100	
C31	5000			BPD-005		DD-502	5D5D5
C32	5000			BPD-005		DD-502	5D5D5
C33	5000			BPD-005		DD-502	5D5D5
C34	100			SI100N750		TCN-100	
C35	5000			BPD-005		DD-502	5D5D5
C36	1500			SI1500		D6-152	5W5D15
C37	5000			BPD-005		DD-502	5D5D5
C38	100			SI100		D6-101	5W5T1
C39	120			1469-00015		D6-121	5R5T15
C40	.01			P488-01		DF-104	5PTE4S1
C41	5000			BPD-005		DD-502	5D5D5
C42	5			1469-000005			5NP0K-050
C43	.1			P488-1		DF-104	5PTE4P1
C44	680			1479-0007		D6-681	2R5T7
C45	470			1469-0005		D6-471	5R5T5
C46	.1			P488-1		DF-104	5PTE4P1
C47	.1			1469-000025		D6-220	5R5G25
C48	22			SI30		D6-390	5W5G4
C49	.024			1P1688-02			5PTE16S2
C50	1800			BPD-005		DD-502	5D5D5
C51	5000						

PARTS LIST AND DESCRIPTIONS

CAPACITORS (CONT.)

ITEM No.	RATING	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		REGAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C52	.02						
C53	1000						
C54	3900						
C55	.05						
C56	.005						
C57	.02						
C58	.05						
C59	.005						
C60	.01						
C61	.05						
C62	.01						
C63 A	.002						
B	.005						
C	.005						
C64	4700						
C65	.1						
C66	.25						
C67	1000						
C68	1000						
C69	.01						
C70	.005						
C71	.005						
C72	.05						
C73	3900						
C74	330						
C75	270						
C76	180						
C77	.05						
C78	.25						
C79	.1						
C80	.05						
C81	.039						
C82	.1						
C83	500						
C84	.01						
C85	.01						
C86	.05						
C87	.1						
C88	.02						
C89	330						

- * Not used in all models.
† Some models use 50 MFD at 200V in this application (Mfg. Part # 60-121).
‡ Some models Parallel C6B, and C6C, other use C6C as Damper Decoupling.
†† Some models use .02MFD in this application.
††† Some models use .25MFD in this application.
†††† Some models use .035MFD in this application.
• Items C63A, C63B, C63C, R76A, R76B, R76C are combined in one unit.
•• Used in model code #88 only.

CONTROLS

ITEM No.	RATING	REPLACEMENT DATA					INSTALLATION NOTES
		RESISTANCE	WATTS	REGAL PART No.	IRC PART No.	CLAROSTAT PART No.	
R1A	100KΩ			T-20-10	Q11-128	AM-49-S	Brightness Control
B	Shaft			Not req.	Not req.	FS-3	Attach to R1A per instructions
R2A	1Meg			T-20-2	Q11-137	RTV-2	Vert. Hold Control - Front
B	50KΩ				Q11-123		Horiz. Hold Control - Rear
C	Shaft end				E-187		Attach per instructions in Concentrik
R3A	750Ω			T-20-9		RTV-192	Contrast Control - Wire Wound - Front
B	250KΩ					RTV-9	Volume Control and SW - Rear
R4	1500Ω			T-20-8		SVP-994	Focus Control - Wire Wound
R5A	2.5Meg			T-20-5	Q11-239	AM-84-S	Vert. Size Control
B	Shaft			Not req.	FKS-1/4	AK-1	Attach to R5A per instructions
R6A	5000Ω			T-20-6	Q11-114	AM-19-S	Vert. Linearity Control
B	Shaft			Not req.	FKS-1/4	AK-1	Attach to R6A per instructions
R7A	2.5Meg			T-20-5	Q11-239	AM-84-S	AGC Control - See Note 1
B	Shaft			Not req.	FKS-1/4	AK-1	Attach to R7A per instructions

φ Additional parts to be used with Concentrik.
Note 1 Not used in all models.

RESISTORS

ITEM No.	RATING	REPLACEMENT DATA		IDENTIFICATION CODES
		REGAL PART No.	IRC PART No.	
R8	3900Ω			BTS-3900
R9	47KΩ			BTS-47K
R10	2200Ω			BTS-2200
R11	10KΩ			BTS-10K
R12	4700Ω			BTS-4700
R13	220KΩ			BTS-220K
R14	10KΩ			BTS-10K
R15	4700Ω			BTS-4700
R16	330Ω			BTS-330
R17	390Ω			BTS-100
R18	100Ω			
R19	10KΩ			BTS-100
R20	68Ω			BTS-18K
R21	100Ω			
R22	18KΩ			
R23	47Ω			BTA-3900
R24	3900Ω			
R25	68Ω			
R26	100Ω			BTS-100
R27	120Ω			BTS-120
R28	5600Ω			
R29	150Ω			BTS-150
R30	8200Ω			
R31	100Ω			BTS-100
R32	1000Ω			BTS-1000
R33	6800Ω			BTS-6800
R34	39KΩ			BTA-39K
R35	820KΩ			BTS-820K
R36	820KΩ			BTS-820K
R37	22KΩ			
R38	15KΩ			BTB-15K
R39	12KΩ			BTB-12K
R40	22KΩ			BTB-22K

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	REGAL PART No.	IRC PART No.	
R41	5600Ω	1		BTA-5600	Voltage Divider
R42	220KΩ			BTS-220K	Voltage Divider
R43	68KΩ	20%		BTS-68K	Voltage Divider
R44	1Meg			BTS-1Meg	Isolation
R45	270KΩ			BTS-270K	DC Restorer Diode Load
R46	2200Ω	20%		BTS-2200	Picture Tube Grid
R47	33KΩ			BTS-33K	Picture Tube Cathode
R48	100KΩ	20%		BTS-100K	Acc. Anode Load
R49	56KΩ			BTS-56K	Sound IF Amp. Grid - See Note 10
R50	1000Ω			BTS-1000	Bias Network
R51	18KΩ			BTS-18K	Voltage Divider - See Note 11
R52	100KΩ	20%		BTS-100K	Sound IF Amp. Screen
R53	1000Ω			BTS-1000	Sound IF Amp. Decoupling
R54	22KΩ			BTS-22K	Ratio Det. Diode Load
R55	22KΩ			BTS-22K	Ratio Det. Diode Load
R56	15KΩ			BTS-15K	De-emphasis
R57	470KΩ			BTS-470K	AF Amp. Grid
R58	330KΩ			BTS-330K	AF Amp. Plate
R59	330KΩ			BTS-330K	Bias Network
R60	180KΩ	5%		BTS-180K-5%	Bias Network
R61	100KΩ	20%		BTS-100K	Output Grid
R62	4700Ω	1		BTA-4700	Bias Network
R63	470KΩ	1		BTS-470K	AF Amp. Grid
R64	390Ω	1		BTA-390	Decoupling
R65	1Meg	1		BTS-1Meg	Sync. Sep. Grid
R66	22KΩ	1		BTS-22K	Sync. Sep. Plate
R67	4700Ω	1		BTA-4700	Sync. Sep. Decoupling
R68	56KΩ	1		BTA-56K	Voltage Divider - See Note 10
R69	470KΩ			BTS-470K	Sync. Amp. Grid
R70	56KΩ	1		BTA-56K	Sync. Amp. Plate - See Note 10
R71	22KΩ			BTS-22K	Voltage Divider
R72	1Meg			BTS-1Meg	Sync. Phase Inv. Grid
R73	3300Ω	20%		BTS-3300	Sync. Phase Inv. Cathode
R74	3900Ω	1		BTA-3900	Sync. Phase Inv. Plate
R75	5600Ω			BTS-5600	Sync. Phase Inv. Plate
R76A	22KΩ			BTS-22K	Integrator
B	8200Ω			BTS-8200	Integrator
C	8200Ω			BTS-8200	Integrator
R77	1Meg			BTS-1Meg	Virt. Osc. Grid
R78	820KΩ			BTS-820K	Virt. Osc. Plate - See Note 12
R79	6.8Meg	20%		BTS-6.8Meg	Voltage Divider
R80	100KΩ	20%		BTS-100K	Voltage Divider
R81	3300Ω			BTS-3300	Virt. Peaking
R82	2.2Meg			BTS-2.2Meg	Virt. Amp. Grid
R83	120Ω			BTS-120	Virt. Amp. Cathode
R84	1000Ω	20%		BTA-1000	Virt. Amp. Decoupling
R85	100KΩ			BTS-100K	Horiz. Phase Det. Diode Load
R86	100KΩ			BTS-100K	Horiz. Phase Det. Diode Load
R87	4.7Meg	20%		BTS-4.7Meg	Horiz. Phase Det. Diode Load
R88	390Ω			BTS-390	Horiz. Feedback Network
R89	470KΩ			BTS-470K	Horiz. AFC Filter
R90	1500Ω	20%		BTS-1500	Horiz. MV Cathode
R91	5600Ω			BTS-5600	Horiz. MV Plate - See Note 13
R92	150KΩ			BTS-150K	Horiz. MV Grid - See Note 14
R93	270KΩ			BTS-270K	Horiz. MV Plate
R94	56KΩ			BTA-56K	Horiz. Hold Control Shunt - See Note 10
R95	100Ω			BTS-100	Parasitic Suppressor - See Note 7
R96	470KΩ			BTS-470K	Horiz. Output Grid
R97	82Ω	2		BW-2-82	Horiz. Output Cathode
R98	1000Ω			BTS-1000	Horiz. Output Screen
R99	100KΩ	20%	1	BTA-1000	Virt. Osc. Decoupling - See Note 15
R100	220KΩ	5%	2	BTB-220K	Voltage Divider - See Note 16
R101	1Meg		2		HV Filter
R102	600Ω		2		Focus Coil Shunt - See Note 2
R103	12Ω		1	BW-1-12	Bias Network - Wire Wound
R104	3.3Ω		2		HV Rectifier Filament - See Note 2
R105	100Ω		10	13/4A-100	Damper Decoupling - Wire Wound - See Note 2
R106	1Meg			BTS-1Meg	DC Rest. Diode Load - See Note 17
R107	470KΩ		2	BTS-470K	Sync. Amp. Grid - See Note 17
R108	56KΩ		2	BTB-39K	Sync. Amp. Plate - See Note 17
R109	10KΩ		1	BTS-10K	Voltage Divider - See Note 17
R110	10KΩ		1	BTS-10K	Isolation - See Note 17
R111	3900Ω		1	BTA-3900	Voltage Divider - See Note 17
R112	1500Ω		1	BTS-1500	Voltage Divider - See Note 17
R113	680KΩ		1	BTS-680K	Integrator - See Note 17
R114	470KΩ		1	BTS-470K	Sync. Sep. Grid - See Note 17
R115	820KΩ		1	BTS-820K	Sync. Sep. Plate - See Note 17