

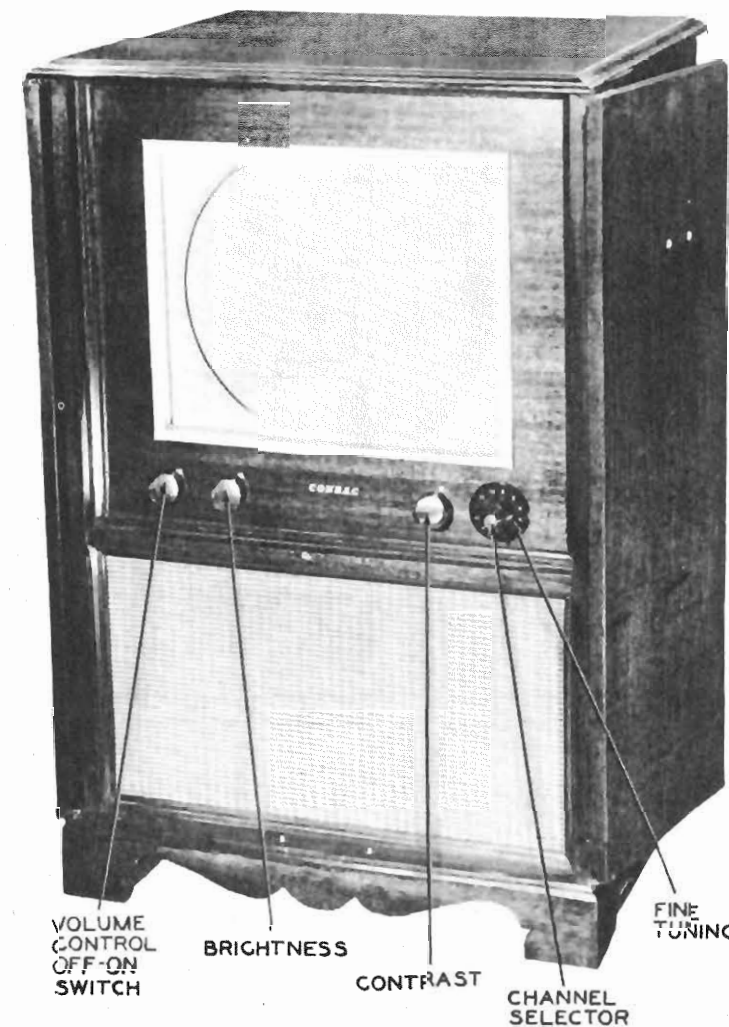
CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

CONRAC
MODELS 36, 39

PHOTOFACT* Folder



CONRAC
MODELS 36, 39



CONRAC
MODELS 36, 39

CONRAC MODEL 36

TRADE NAME	Conrac, Models 36, 39	
MANUFACTURER	Conrac Inc., 649 W. Foothill Blvd., Glendora, California	
TYPE SET	Television Receiver	
TUBES	Twenty Five	
POWER SUPPLY	110-120 Volts AC-60 Cycle	RATING 2.4 Amp. at 117 Volts AC
TUNING RANGE	Channels 2 thru 13	
INDEX		
Alignment Instructions	6, 7	Photographs (continued)
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Cabinet-Rear View	11	Tube Placement Chart
Capacitor and Alignment Identification	4, 9	Voltage and Resistance Measurements
Chassis-Top View	3	

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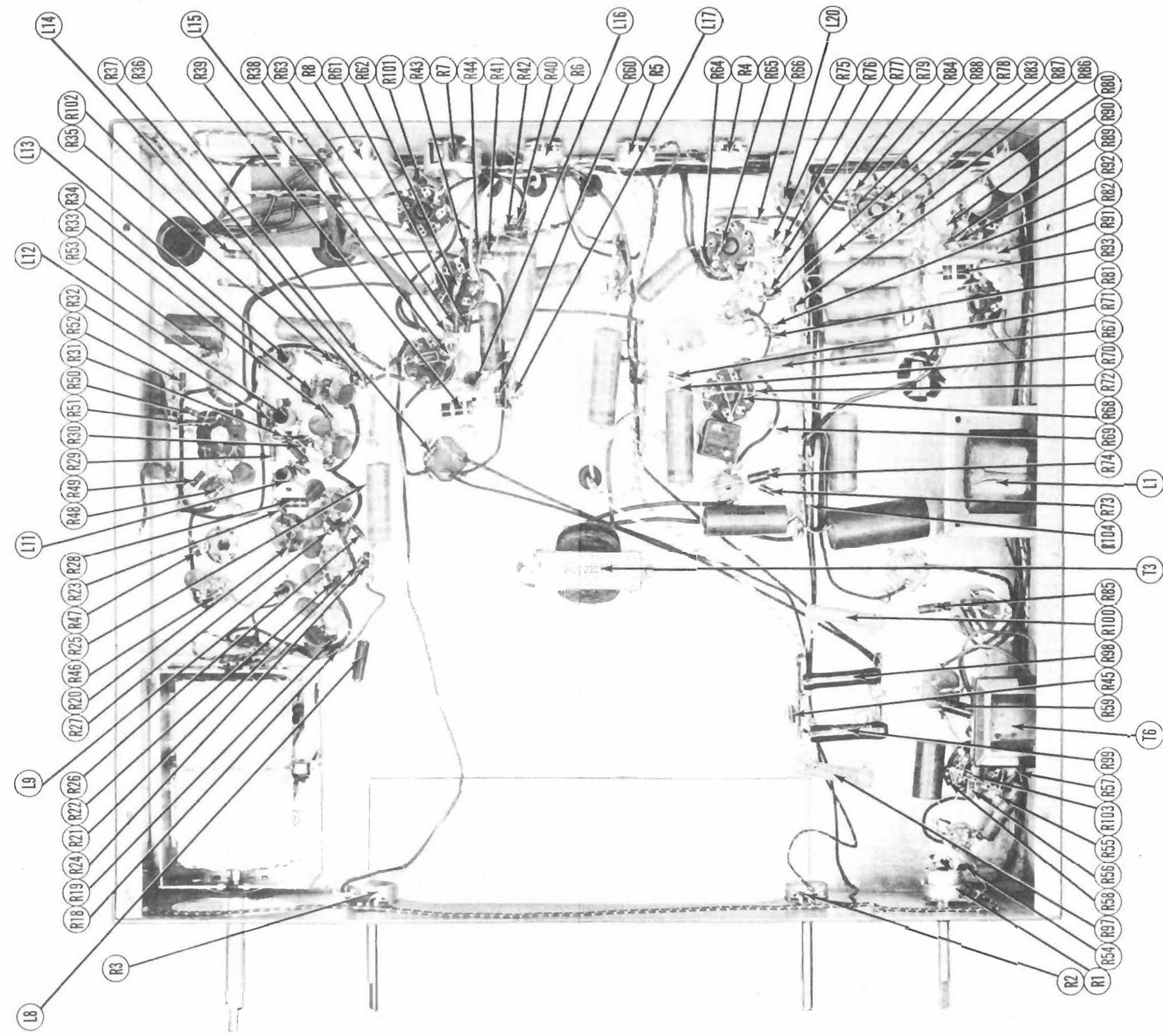
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DATE 10-50

SET 110

FOLDER 4

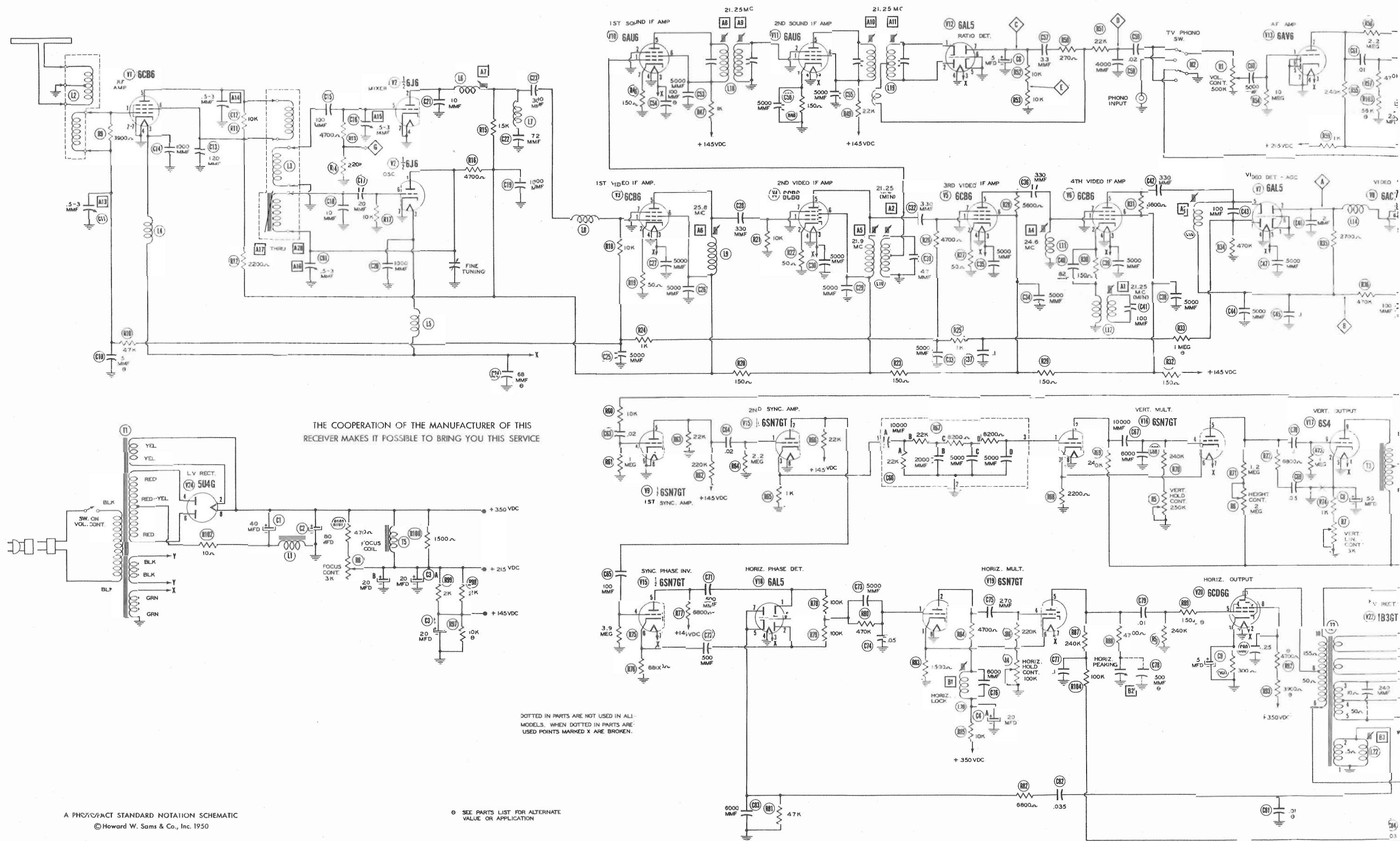


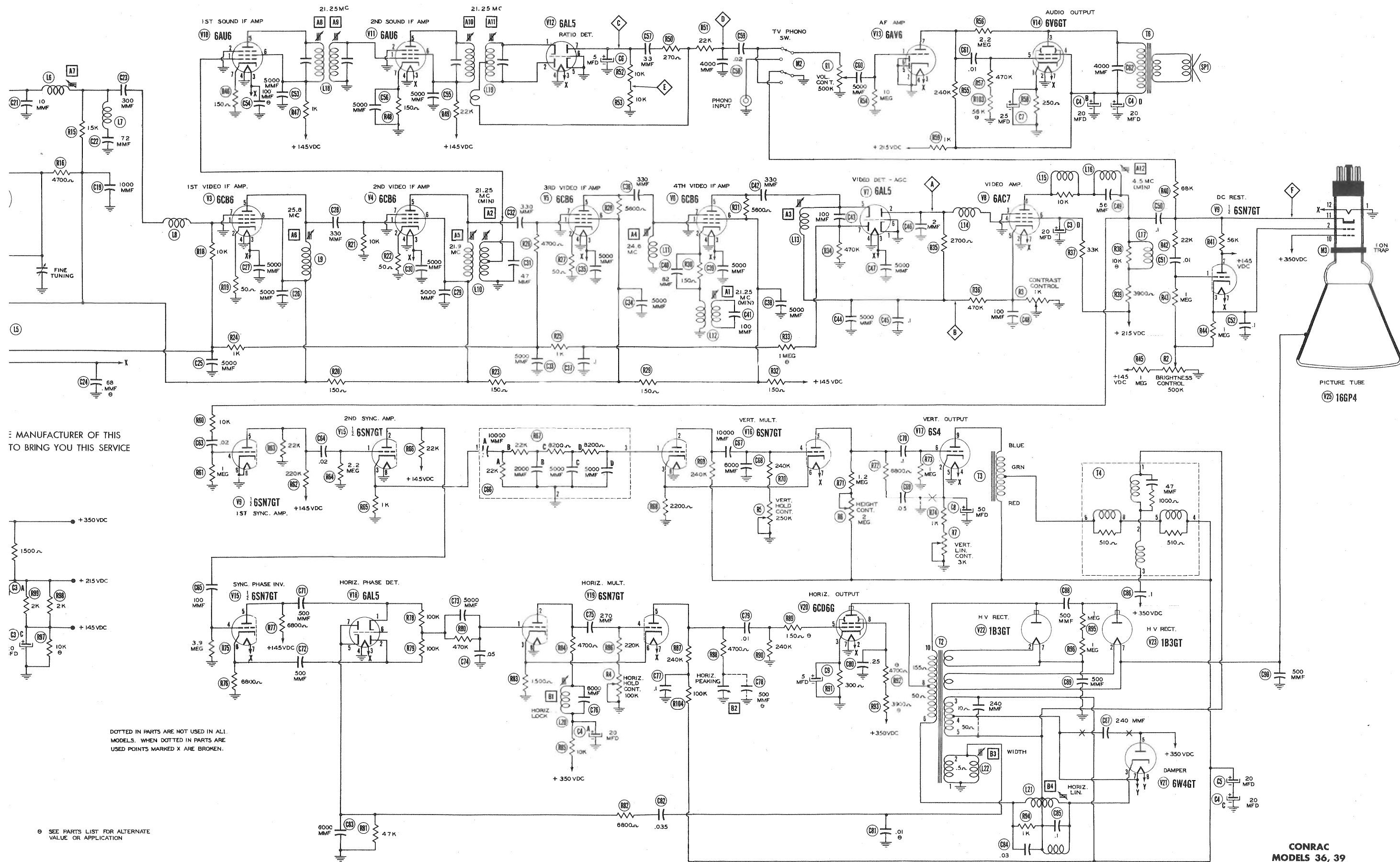
CHASSIS BOTTOM VIEW-RESISTOR AND INDUCTOR IDENTIFICATION

CONRAC
MODELS 36, 39

TRADE NAME	Con
MANUFACTURER	Con
TYPE SET	Tab
TUBES	Two
POWER SUPPLY	110- Cha
TUNING RANGE--	
Alignment Instructions	
Horiz. Sweep Circuit	
Parts List and Description	
Photographs	
Cabinet-Rear View	
Capacitor and Alignment	
Chassis-Top View	

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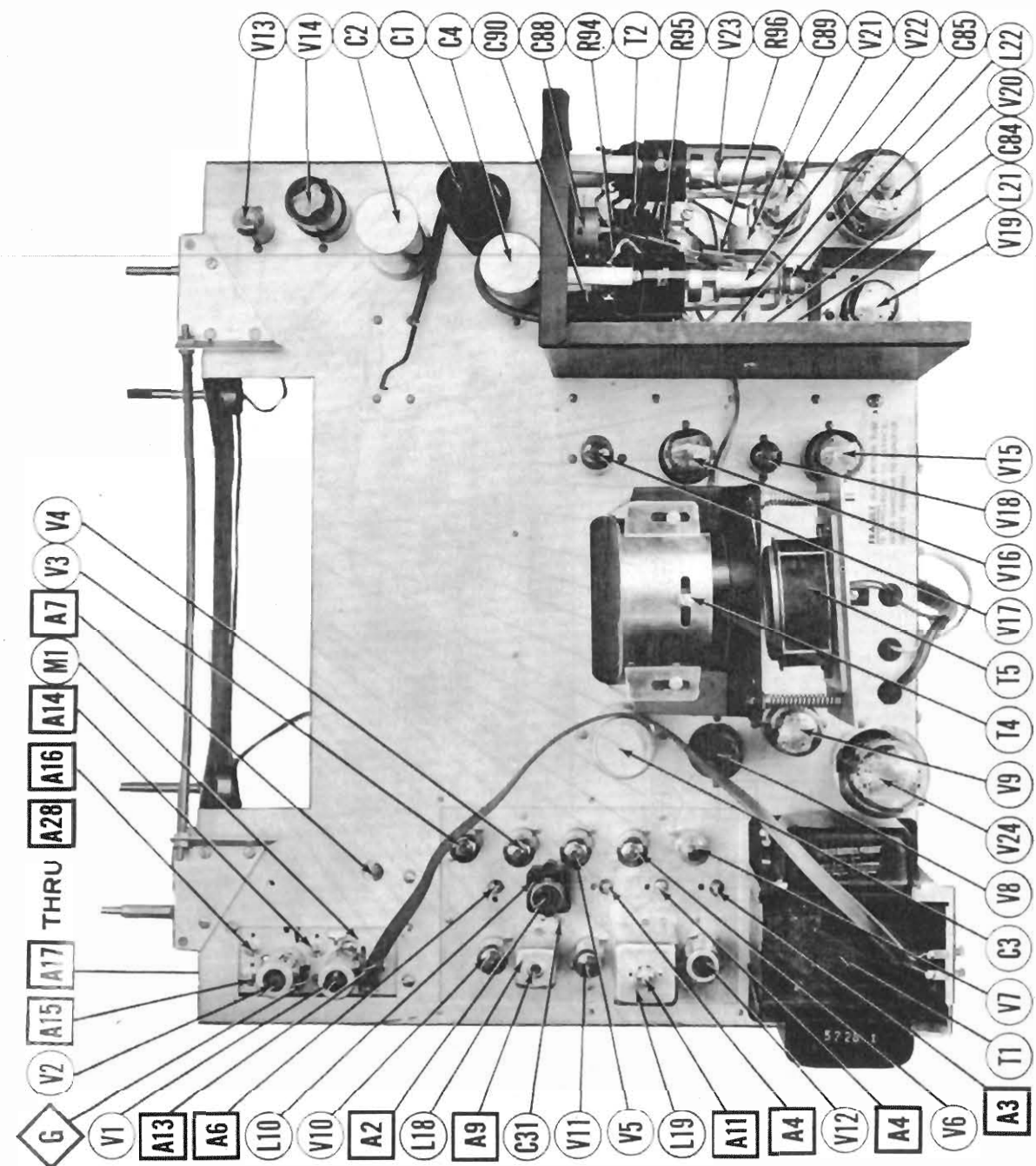
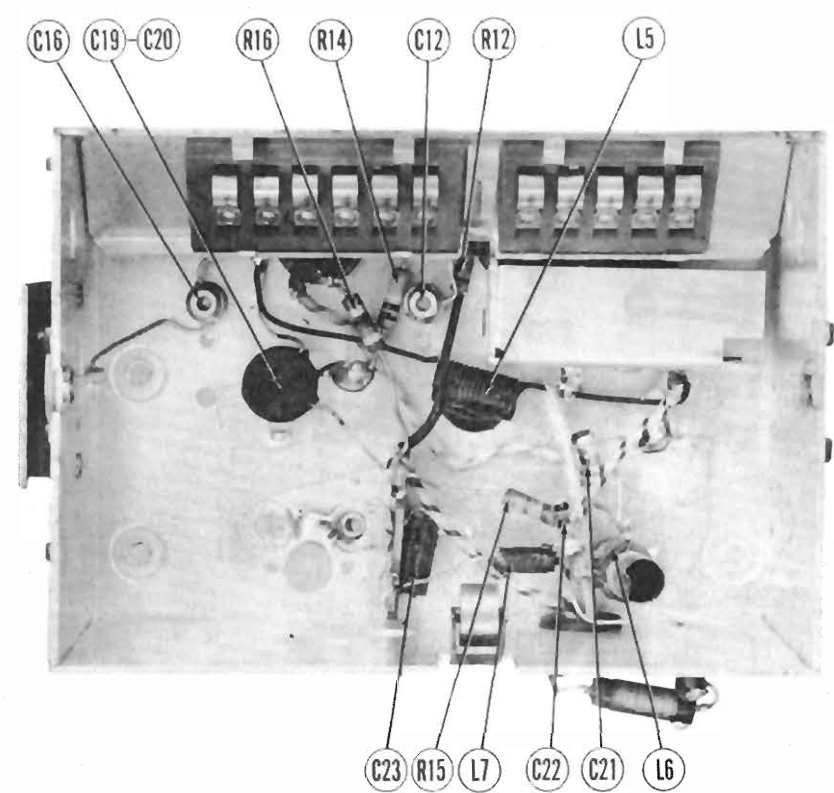
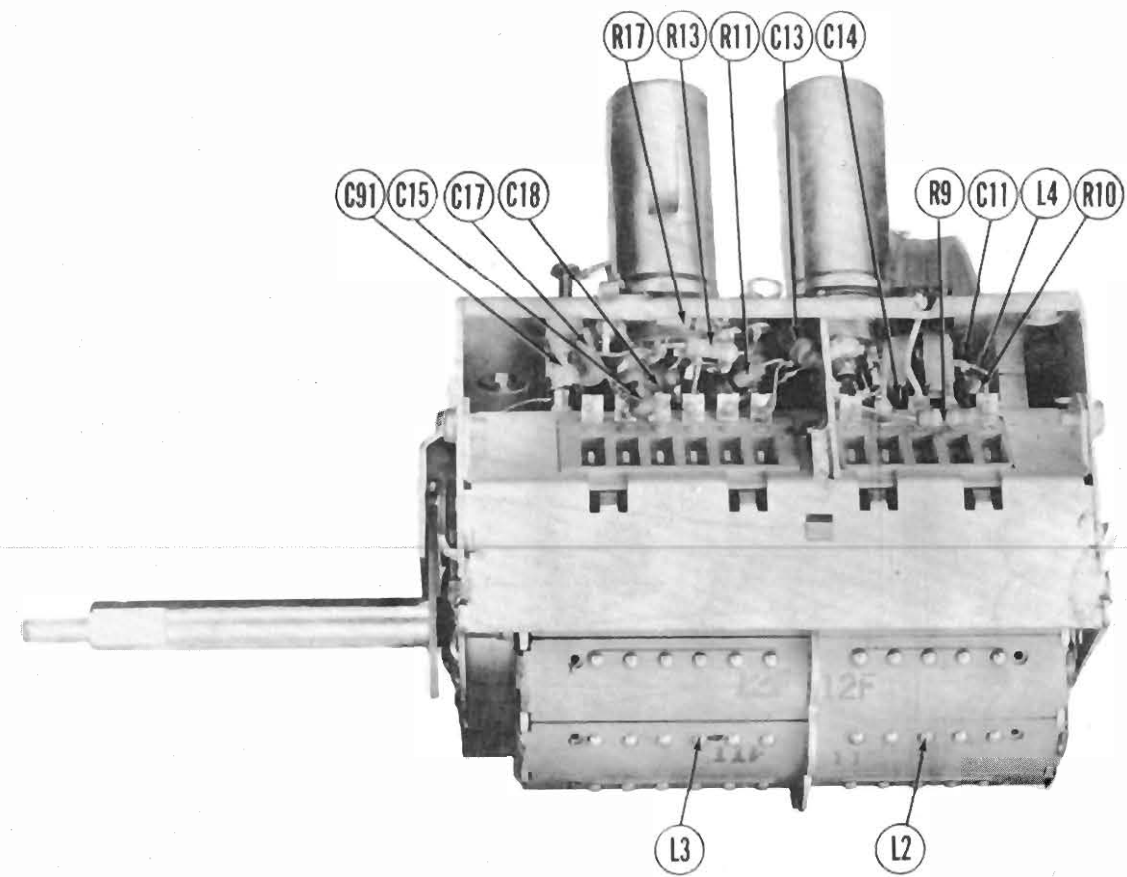


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TO BRING YOU THIS SERVICE

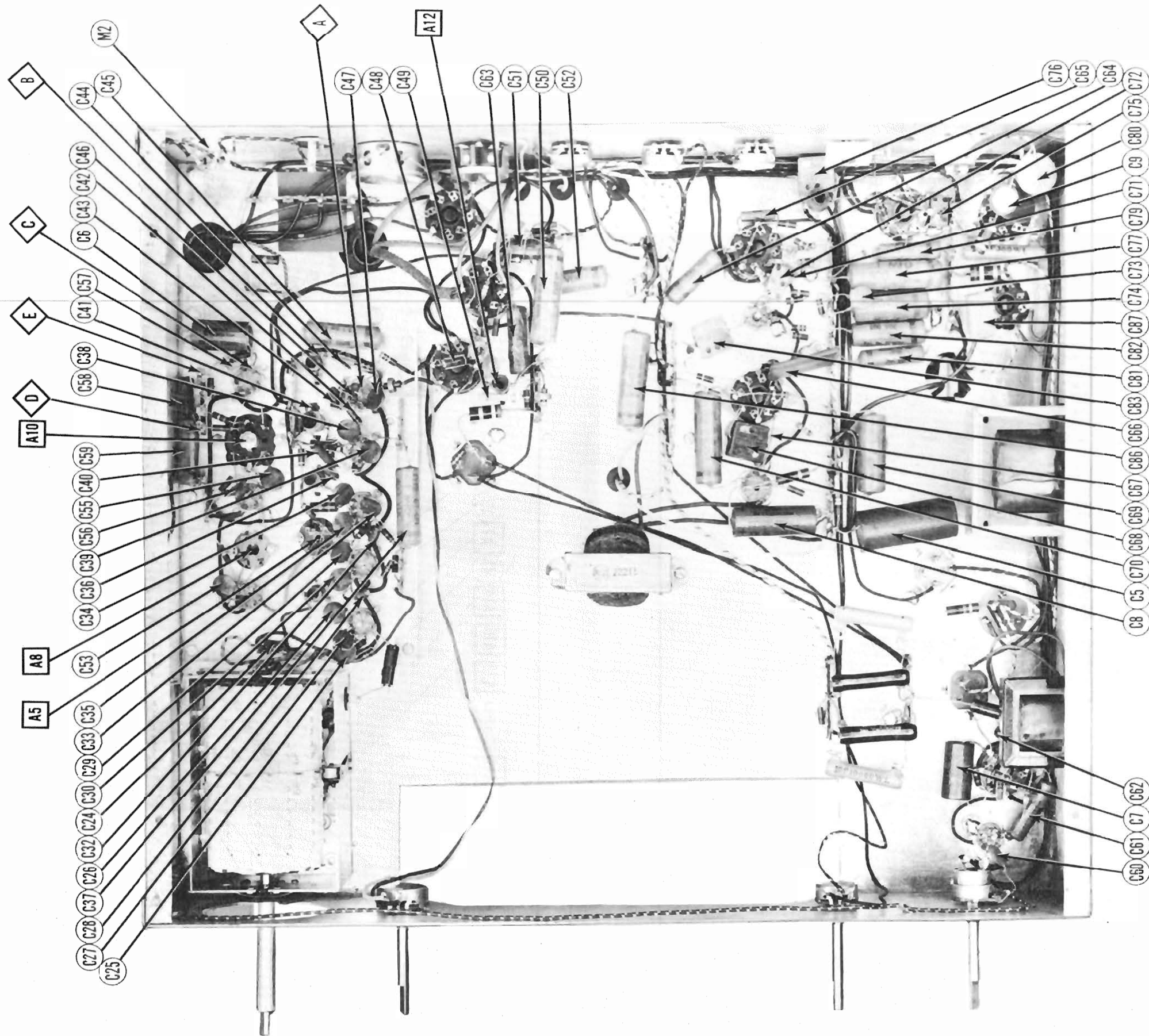
DOTTED IN PARTS ARE NOT USED IN ALL
MODELS. WHEN DOTTED IN PARTS ARE
USED POINTS MARKED X ARE BROKEN.

SEE PARTS LIST FOR ALTERNATE
VALUE OR APPLICATION

CONRAC
MODELS 36, 39



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MODELS 36, 39



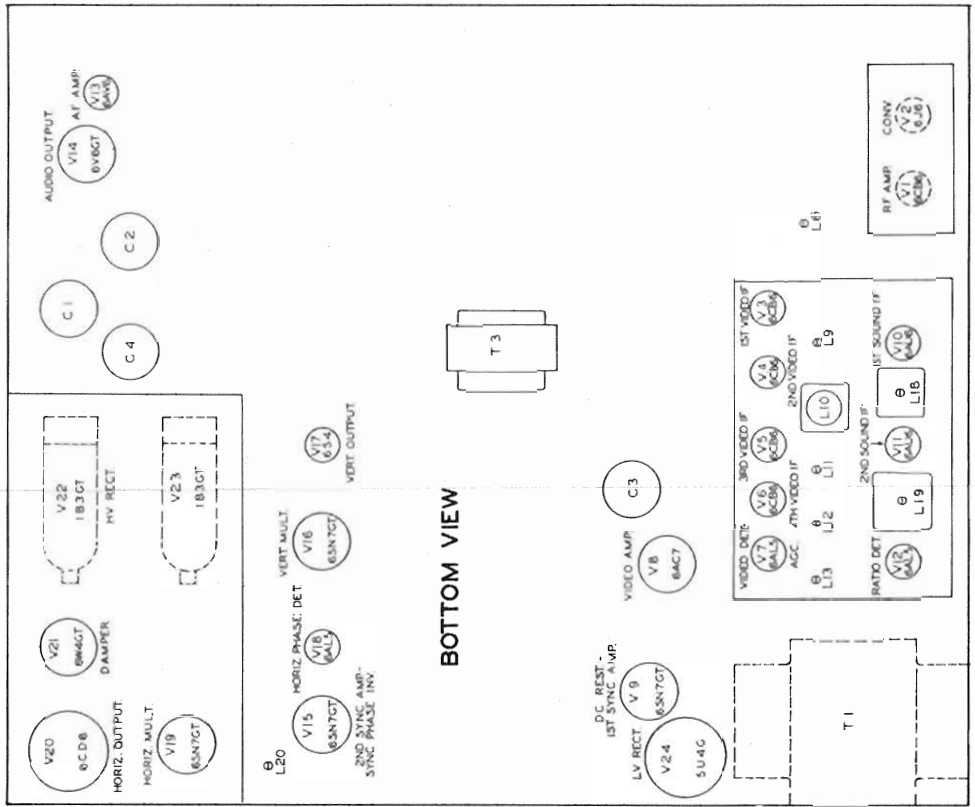
CHASSIS BOTTOM VIEW-CAPACITOR AND ALIGNMENT IDENTIFICATION

CONRAC
MODELS 36, 39

RESISTANCE READINGS										
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CD6	1.7 Meg.	0Ω	.1Ω	0Ω	14.8KΩ	14.8KΩ	0Ω		
V 2	6J6	17.3KΩ	118KΩ	.1Ω	0Ω	225KΩ	10KΩ	0Ω		
V 3	6CB6	1.7 Meg.	50Ω	.1Ω	0Ω	12.6KΩ	12.6KΩ	0Ω		
V 4	6CB6	10KΩ	50Ω	.1Ω	0Ω	12.5KΩ	12.5KΩ	0Ω		
V 5	6CB6	1.7 Meg.	50Ω	.1Ω	0Ω	18KΩ	12.3KΩ	0Ω		
V 6	6CB6	.6Ω	150Ω	.1Ω	0Ω	17.7KΩ	12.1KΩ	0Ω		
V 7	6AL5	0Ω	470KΩ	.1Ω	0Ω	470KΩ	0Ω	470KΩ		
V 8	6AC7	0Ω	0Ω	0Ω	470KΩ	1000Ω	134KΩ	.1Ω	15KΩ	
V 9	6SN7GT	1 Meg.	12KΩ	1 Meg.	1 Meg.	1225KΩ	0Ω	.1Ω	0Ω	
V 10	6AU6	0Ω	0Ω	.1Ω	0Ω	13KΩ	13KΩ	150Ω		
V 11	6AU6	.1Ω	0Ω	.1Ω	0Ω	124KΩ	124KΩ	150Ω		
V 12	6AL5	Inf.	Inf.	.1Ω	0Ω	0Ω	0Ω	20KΩ		
V 13	6AV6	10 Meg.	0Ω	.1Ω	0Ω	0Ω	0Ω	1240KΩ		
V 14	6V6GT	0Ω	0Ω	12.5KΩ	12KΩ	525KΩ	56KΩ	.1Ω	250Ω	
V 15	6SN7GT	2.2 Meg.	124KΩ	1000Ω	3.0 Meg.	19KΩ	6.8KΩ	.1Ω	0Ω	
V 16	6SN7GT	60KΩ	*240KΩ	2.2KΩ	240KΩ	41.2 Meg.	490KΩ	.1Ω	0Ω	
V 17	6SA	Inf.	4000Ω	1 Meg.	400KΩ	43.2 Meg.	2.2KΩ	4000Ω	0Ω	
V 18	6AL5	Inf.	1000Ω	1 Meg.	.1Ω	0Ω	1 Meg.	1000Ω	Inf.	1.3KΩ
V 19	6SN7GT	Inf.	Inf.	.1Ω	0Ω	47KΩ	Inf.	47KΩ		
V 20	6CD6G	Inf.	115KΩ	1.5KΩ	220KΩ	320KΩ	1.5KΩ	.1Ω	0Ω	
V 21	6W4GT	Inf.	.1Ω	300Ω	Inf.	240KΩ	Inf.	0Ω	19KΩ	TOP CAP #500
V 22	6B3GT	Inf.	Inf.	10 Meg.	Inf.	10Ω	Inf.	11Ω	11Ω	TOP CAP #2000
V 23	6B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP Inf.
V 24	6U4G	Inf.	11KΩ	Inf.	140Ω	Inf.	140Ω	Inf.	11KΩ	
V 25	16CP4	0Ω	1 Meg.	100	PIN 11 35KΩ	PIN 12 1Ω	Inf.	Inf.		

TV-PHONO SWITCH IN "TV" POSITION.
FOCUS CONTROL SET FULLY COUNTERCLOCKWISE.
† MEASURED FROM PIN 8 OF V24.
MEASURED FROM PIN 3 OF V21.











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.



TUBE PLACEMENT CHART

MODELS 36, 39

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT							
To eliminate the high voltage shock hazard remove the horizontal output tube (V20) from its socket.							
VIDEO IF ALIGNMENT							
Remove the converter tube (V2) from its socket and replace with a 6J8 with pin 1 removed to prevent erroneous indications. Connect the negative terminal of a 3 volt battery to the junction of R24 and R25 and the positive terminal to chassis. 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
1. Direct	High side to ungrounded tube shield floating over dummy converter tube (V2). Low side to chassis.	Not used	21.25MC (Unmod.)	Any	Use VTVM. DC Probe to Point  Common to Point 	A1, A2	Adjust for MINIMUM deflection.
2. Direct	"	"	22.4MC	"	"	A3	Adjust for maximum deflection.
3. Direct	"	"	24.6MC	"	"	A4	"
4. Direct	"	"	21.9MC	"	"	A5	"
5. Direct	"	"	25.8MC	"	"	A6	"
6. Direct	"	23.5MC (10MC SWP)	21.25MC 22.25MC 25.75MC	"	Vert. Amp. to Point  Low side to Point 	A7	Adjust A7 for correct width and shape of response similar to one shown in figure 1 with markers as shown. The 22.25MC and 25.75MC markers should be at 50% response. If necessary, slightly retouch A3 thru A6 for proper response.
SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
7. .01MFD	High side to pin 1 (Grid) of 6CB6 (V4). Low side to chassis.	21.25MC (Unmod.)	Any	DC Probe to Point  Common to chassis.	A8, A9, A10	Adjust for maximum deflection.	
8. .01MFD	"	"	"	DC Probe to Point  Common to Point 	All	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
7. .01MFD	High side to pin 1 (Grid) of 6CB6 (V4). Low side to chassis.	21.25MC (450KC SWP)	21.25MC	Any	Vert. Amp. to Point  Low side to chassis.	A8, A9, A10	Disconnect stabilizer capacitor C6. Adjust for maximum amplitude and symmetry as per figure 2.
8. .01MFD	"	"	"	"	Vert. Amp. to Point  Low side to chassis.	All	Reconnect capacitor C6. Adjust A-11 to place 21.25MC at center of crossover lines as per figure 3. SLIGHTLY retouch A10 for maximum amplitude and straightness of crossover lines.
4.5MC TRAP ADJUSTMENT							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS	
9. .01MFD	High side to pin 4 (Grid) of 6AC7 (V8). Low side to chassis.	4.5MC (Unmod.)	Any	DC Probe thru detector probe as shown in figure 4 to Point  Common to chassis.	A12	Adjust for MINIMUM deflection.	

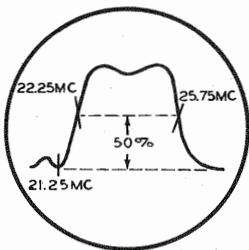


FIG. 1

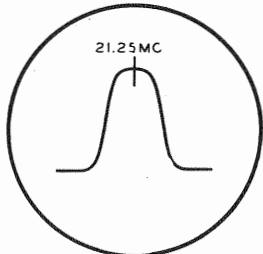


FIG. 2

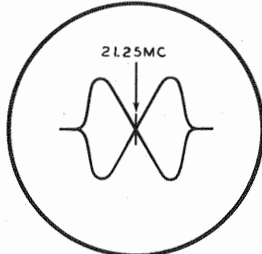


FIG. 3

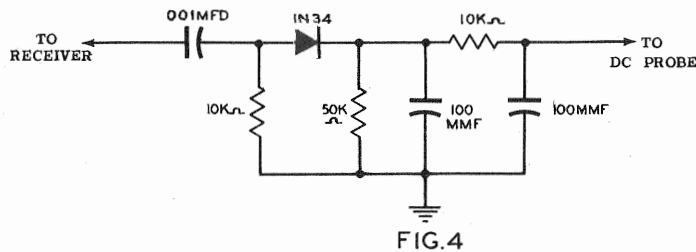


FIG. 4

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT

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
10.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	207MC (10MC SWP)	205.25MC 209.75MC	12	Vert. Amp. thru 10KΩ to Point C. Low side to chassis.	A13, A14, A15	Adjust for flat topped response curve similar to figure 5 with markers appearing not less than 70% of maximum amplitude of the curve.
11.	"	"	213MC (10MC SWP)	211.25MC 215.75MC	13	"	"	Check response on all channels. A slight adjustment of A12, A13 and A14 may be necessary to obtain optimum results.
			201MC (10MC SWP)	199.25MC 203.75MC	11			
			195MC (10MC SWP)	193.25MC 197.75MC	10			
			189MC (10MC SWP)	187.25MC 191.75MC	9			
			183MC (10MC SWP)	181.25MC 185.75MC	8			
			177MC (10MC SWP)	175.25MC 179.75MC	7			
			85MC (10MC SWP)	83.25MC 87.75MC	6			
			79MC (10MC SWP)	77.25MC 81.75MC	5			
			69MC (10MC SWP)	67.25MC 71.75MC	4			
			63MC (10MC SWP)	61.25MC 65.75MC	3			
			57MC (10MC SWP)	55.25MC 59.75MC	2			

OSCILLATOR ALIGNMENT

Remove the dummy converter tube and replace original 6J6 in its socket. The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms. Set the fine tuning control to the mid-position of its range. Complete alignment of the oscillator circuit may not be necessary. This is determined by checking to see that a zero reading is obtained for each channel when the fine tuning control is tuned through the mid-point of its range. (Connect signal generator and VTVM as in step 12 and 13. Sound carrier frequencies are listed in step 13.) If the majority of the channels seem to need oscillator alignment, this sometimes may be done in one operation—step 12 by using A16. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for individual channels. If step 12 fails to align the oscillator circuits sufficiently, it will be necessary to adjust the oscillator coil slugs. These are accessible through a hole to the right of the channel selector switch shaft as the channel selector is set to each channel.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
12.	Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	209.75MC (Unmod.)	12	DC Probe to Point C. Common to Point D.	A16	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Rotate channel selector switch and adjust individual channels outlined in step 13. Then repeat step 12.
13.	"	"	215.75MC	13	"	A17	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
			209.75MC	12		A18	
			203.75MC	11		A19	
			197.75MC	10		A20	
			191.75MC	9		A21	
			185.75MC	8		A22	
			179.75MC	7		A23	
			87.75MC	6		A24	
			81.75MC	5		A25	
			71.75MC	4		A26	
			65.75MC	3		A27	
			59.75MC	2		A28	

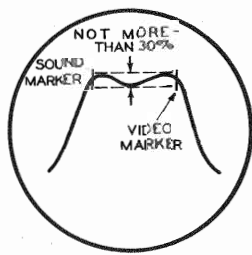


FIG. 5

CONRAC
MODELS 36, 39

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		CONRAC PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T6	7400Ω	4.5Ω	560Ω	.7Ω		A-3878 ①	A-3020	RO-13 ①	① Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
			CONRAC	JENSEN	QUAM	
	FIELD RES.	V. C. IMP.	PART No.	PART No.	PART No.	
SP1	PM	4.5Ω			12A4A	
SP2	CONE DIA. 11 1/2"	V. C. DIA. 1"				

FILTER CHOKE

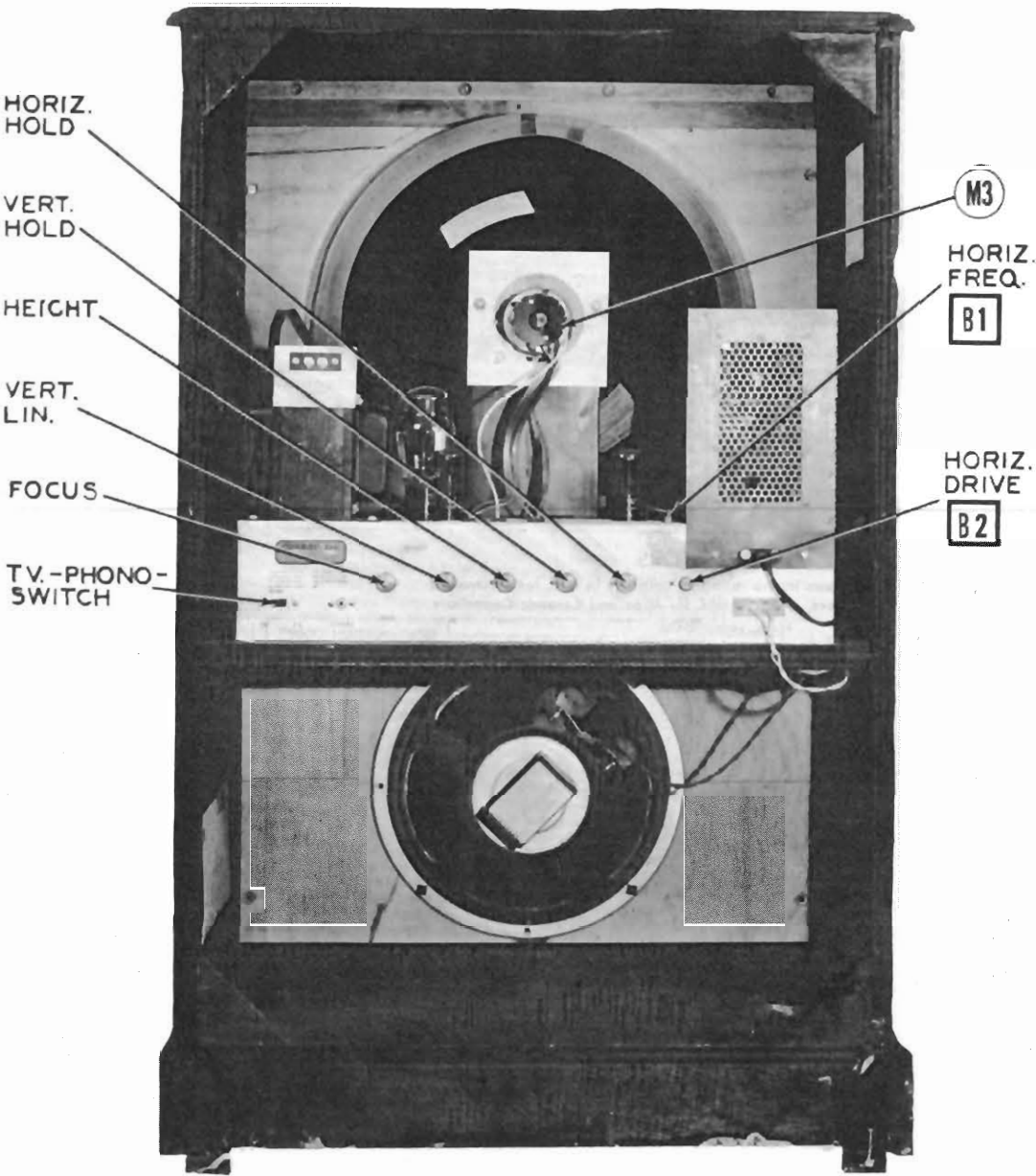
ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 cps)	CONRAC PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.280ADC	80Ω	4.5 Henries	13865	C-2326 ①	C-2991	TR-3300①	① Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	CONRAC	MEISSNER	
				PART No.	PART No.	
L2	Ant. Coils	0Ω	0Ω			
L3	RF, Mixer Grid & Osc.	0Ω				
L4	Flt. Choke	.1Ω				
L5	Flt. Choke	.1Ω				
L6	1st Video IF	.5Ω				
L7	Trap Coil	.5Ω				
L8	1st Video IF Coupling	1.1Ω				
L9	2nd Video IF	.6Ω				
L10	3rd Video IF					
	-Sound Take Off	.2Ω	0Ω			
L11	4th Video IF	.6Ω				
L12	Sound Trap	9Ω	0Ω			
L13	5th Video IF	.7Ω				
L14	Peaking	5.8Ω				55 microhenries
L15	Peaking	.3Ω			11-1921	120 microhenries
L16	4.5MC Trap	1.2Ω				
L17	Peaking	11Ω			11-1922	300 microhenries, may be wound on resistor.
L18	Sound IF	.1Ω	.1Ω			
L19	Ratio Det. Trans.	.1Ω	.1Ω			
L20	Horiz. Freq.	35Ω				
L21	Horiz. Lin.	5.8Ω				Tap at 1.5Ω
L22	Horiz. Size	.5Ω				

MISCELLANEOUS

ITEM No.	PART NAME	CONRAC PART No.	NOTES
M1	RF Tuner		
M2	Switch		
M3	Ion Trap		TV-Phono



CABINET- REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

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

Turn the horizontal hold control to mid-position of its range and adjust the horizontal frequency slug (B1) until 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 fits the mask horizontally. Adjust the horizontal linearity slug (B4) for best linearity from left to right. A slight readjustment of B2 may be necessary for optimum results.

CONRAC
MODELS 36, 39

PARTS LIST AND DESCRIPTIONS (Continued)

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		CONTRAC PART No.	STANDARD REPLACEMENT	RMA BASE TYPE	
V1	RF Amp.	6CB6	6CB6	6CK	
V2	Converter	6J6	6J6	7BF	
V3	1st Video IF	6CB6	6CB6	6CK	
V4	2nd Video IF	6CB6	6CB6	6CK	
V5	3rd Video IF	6CB6	6CB6	6CK	
V6	4th Video IF	6CB6	6CB6	6CK	
V7	Video Det. -AGC	6AL5	6AL5	6BT	
V8	Video Amp.	6AC7	6AC7	8N	
V9	DC Rest. -1st Sync. Amp.	6SN7	6SN7	8BD	
V10	1st Sound IF Amp.	6AU6	6AU6	7BK	
V11	2nd Sound IF	6AU6	6AU6	7BK	
V12	Ratio Det.	6AL5	6AL5	6BT	
V13	AF Amp.	6AV6	6AV6	7BT	
V14	Audio Output	6V6GT	6V6GT	7AV	
V15	2nd Sync. Amp. - Sync. Phase Inv.	6SN7GT	6SN7GT	8BD	
V16	Vert. Mult.	6SN7GT	6SN7GT	8BD	
V17	Vert. Output	6S4	6S4	5BT	
V18	Hor. Phase Det.	6AL5	6AL5	5BT	
V19	Hor. Mult.	6SN7GT	6SN7GT	8BD	
V20	Hor. Output	6CD6G	6CD6G	5BT	
V21	Damper	6W4GT	6W4GT	4CG	
V22	HV Rect.	1B3GT	1B3GT	3C	
V23	HV Rect.	1B3GT	1B3GT	3C	
V24	LV Rect.	5U4G	5U4G	5T	
V25A	Picture Tube	16GP4	16GP4	12D	
B	Picture Tube	19AP4A	19AP4A	12D	

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 CAP. VOLT	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		CONTRAC PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C1	40	AF8K	AF10K	UP8050	UP222245	TVL-18201	Filter
C2	80	AF10K	AF10K	UP8050	UP222245	TVL-1850	Filter
C3A	20	AF4444J	AF4444J	UP222245	UP222245	TVL-4763	Filter
B	20						Filter
C	20						Filter
D	20						Filter
C4A	20	AF4444J	AF4444J	UP222245	UP222245	TVL-4763	V. Amp. Screen
B	20						Hor. MV Decoup.
C	20						Decoup.
D	20						Decoup.
C5	20	PR15450/20	PR15450/4	PR15450/25	PR15450/50	PR15450/4	Decoupling
C6	5	PR15450/4	PR15450/4	PR15450/25	PR15450/50	PR15450/4	Stabilizing Cap.
C7	25	PR15450/25	PR15450/25	PR15450/50	PR15450/50	PR15450/4	Output Cath. Byp.
C8	50	PR15450/50	PR15450/50	PR15450/50	PR15450/50	PR15450/4	Vert. Output Cath.
C9	5	PR15450/4	PR15450/4	PR15450/50	PR15450/50	PR15450/4	Hor. Output Cath.
C10	5	SISNPO	SISNPO	TCZ-4.7	TCZ-3	829-3	Fixed Trimmer *
C11	5-3			829-3	829-3	829-3	Variable Trimmer
C12	5-3			829-3	829-3	829-3	Variable Trimmer
C13	120	SI120	TCN-120	TCN-120	TCN-120	TCN-120	RF Coupling
C14	1000	SI100K	D6-102	D6-102	D6-102	D6-102	RF Fil. Bypass
C15	100	SI100K750	TCN-100	TCN-100	TCN-100	TCN-100	RF Coupling
C16	5-3						Variable Trimmer
C17	20	SI20NPO	TCN-20	TCN-20	TCN-20	TCN-20	Dec. Grid Cap.
C18	10	SI10N750	TCN-10	TCN-10	TCN-10	TCN-10	Fixed Trimmer
C19	1000	SI1000	D6-102	D6-102	D6-102	D6-102	RF Bypass
C20	1000	SI1000	D6-102	D6-102	D6-102	D6-102	Conv. Fil. Bypass
C21	10	SI10NPO	TCN-10	TCN-10	TCN-10	TCN-10	Fixed Trimmer
C22	72						Fixed Trimmer
C23	300	SI300	D6-301	D6-301	D6-301	D6-301	IF Coupling
C24	68	SI68	D6-680	D6-680	D6-680	D6-680	Filament Bypass *
C25	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	AGC Filter
C26	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	1st V. IF Dec.
C27	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	1st V. IF Fil.
C28	330	SI330	D6-331	D6-331	D6-331	D6-331	IF Coupling
C29	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	2nd V. IF Dec.
C30	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	2nd V. IF Fil.
C31	47	NPOM-47	TCZ-47	TCZ-47	TCZ-47	TCZ-47	Fixed Trimmer
C32	330	SI330	D6-331	D6-331	D6-331	D6-331	IF Coupling
C33	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	AGC Filter
C34	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	3rd V. IF Dec.
C35	500K	SI530	D6-531	D6-531	D6-531	D6-531	3rd V. IF Fil.
C36	330	SI330	D6-331	D6-331	D6-331	D6-331	IF Coupling
C37	1	P488-1	DF-104	DF-104	DF-104	DF-104	AGC Filter
C38	500K	BPD-005	DD-502	DD-502	DD-502	DD-502	4th V. IF Dec.
C39	500K	BPD-005	DD-502	DD-502	DD-502	DD-502	4th V. IF Fil.
C40	500K	BPD-005	DD-502	DD-502	DD-502	DD-502	4th V. IF Cath.
C41	100	1469-0001	TCZ-100	TCZ-100	TCZ-100	TCZ-100	Fixed Trimmer
C42	330	SI330	D6-331	D6-331	D6-331	D6-331	IF Coupling
C43	100	SI100	D6-101	D6-101	D6-101	D6-101	IF Coupling
C44	5000	BPD-005	DD-502	DD-502	DD-502	DD-502	RF Bypass
C45	1	P488-1	DF-104	DF-104	DF-104	DF-104	RF Bypass
C46	2	SI3NPO	TCZ-2.2	TCZ-2.2	TCZ-2.2	TCZ-2.2	V. Diode Filter
C47	500K	BPD-005	DD-502	DD-502	DD-502	DD-502	V. Det. -AGC Fil.
C48	100	SI100	D6-101	D6-101	D6-101	D6-101	V. Amp. Cath.
C49	56		TCZ-56	TCZ-56	TCZ-56	TCZ-56	Fixed Trimmer
C50	1	P488-1	DF-104	DF-104	DF-104	DF-104	Video Coupling
C51	01	P488-01	DF-104	DF-104	DF-104	DF-104	Video Coupling
C52	1	P488-1	DF-104	DF-104	DF-104	DF-104	IC Res. Cath.
C53	500K	SI500	D6-501	D6-501	D6-501	D6-501	1st S. IF Dec.
C54	100	SI100	D6-101	D6-101	D6-101	D6-101	1st S. IF Fil. *
C55	500K	SI500	D6-501	D6-501	D6-501	D6-501	2nd S. IF Dec.
C56	500K	SI500	D6-501	D6-501	D6-501	D6-501	2nd S. IF Cath.
C57	33	SI33	D6-330	D6-330	D6-330	D6-330	Diode Load Cap.
C58	400K	SI4000	D6-402	D6-402	D6-402	D6-402	De-emphasis
C59	02	P488-02	DF-203	DF-203	DF-203	DF-203	Audio Coupling
C60	5000	SI5000	D6-502	D6-502	D6-502	D6-502	Audio Coupling
C61	01	P488-01	D6-103	D6-103	D6-103	D6-103	Audio Coupling

CAPACITORS (CONT.)

ITEM No.	RATING CAP. VOLT	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		CONTRAC PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	
C62	4000		SI4000	D6-402	D6-402	D6-402	Output Plate Bypass
C63	02	600	P688-02	DF-203	DF-203	DF-203	Sync. Coupling
C64	02	600	P688-02	DF-203	DF-203	DF-203	Sync. Coupling
C65	100		SI100	D6-101	D6-101	D6-101	Sync. Coupling
C66A	10000		BPD-01	PC-101	PC-101	PC-101	Vert. Sync. Coupling
B	2000		BPD-002				Integrator Net.
C	5000		BPD-005				Integrator Net.
D	10000		1467-01				Vert. MV Feedback
C67	10000		1467-006				Vert. MV Grid
C68	6000		P688-05				Vert. Discharge
C69	05	600	P688-1	DF-104	DF-104	DF-104	Vert. Sweep Coupling
C70	1	600	1468-0005	D6-501	D6-501	D6-501	Hor. Sync. Coupling
C71	500	500	1468-0005	D6-501	D6-501	D6-501	Hor. Sync. Coupling
C72	500	500	BPD-005	DD-502	DD-502	DD-502	AFC Filter
C73	5000		P688-05	DF-503	DF-503	DF-503	AFC Filter
C74	05	600	1468-0003	D6-271	D6-271	D6-271	Hor. MV Feedback
C75	270	500	1467-006				Fixed Trimmer
C76	6000		1467-006				Fixed Trimmer
C77	1	600	P688-1	DF-104	DF-104	DF-104	Hor. MV Decoupling
C78	500	500	1468-0005	D6-501	D6-501	D6-501	Hor. Discharge *
C79	01	600	P688-01	D6-103	D6-103	D6-103	Hor. Sweep Coupling
C80	25	600	P688-01	D6-103	D6-103	D6-103	Hor. Output Screen
C81	01	600	P688-01	D6-103	D6-103	D6-103	Fixed Trimmer *
C82	035	600	P688-03				Fixed Trimmer
C83	6000		1467-006				Fixed Trimmer
C84	03	400	P488-03				Fixed Trimmer
C85	1	600	P488-1	DF-104	DF-104	DF-104	Hor. Sweep Coupling
C86	1	600	P488-1	DF-104	DF-104	DF-104	Fixed Trimmer
C87	240	2500	HV10C	TV2-501	TV2-501	TV2-501	Fixed Trimmer
C88	500	10000	HV10C	TV2-501	TV2-501	TV2-501	Voltage Doubler Cap.
C89	500	10000	HV10C	TV2-501	TV2-501	TV2-501	HV Filter
C90	500	20000	HV20C	TV2-502	TV2-502	TV2-502	HV Filter
C91	5-3						Variable Trimmer

* Not used in all models.
† Install new mounting plate.

CONTROLS

ITEM No.	RATING RESIST. WATTS	REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
		CONTRAC PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES	
R1A	500KΩ	274-R30	Q13-133	AG-60-Z	B-60-S	Not Req.	Volume control
B	500KΩ	Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R1A per instructions
C	500KΩ	Not Req.	76-1	SWB	Not Req.	Not Req.	Attach to R1A per instructions
R2A	500KΩ	270-R18	Q11-133	AG-58-S	B-59	Not Req.	Brightness control
B	500KΩ	Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R2A per instructions
R3A	1000Ω	R401	Not Req.	AM-8-S	AN-8-S	Not Req.	Contrast control
B	1000Ω	Not Req.	Not Req.	FS-3	AN-8-S	Not Req.	Attach to R3A per instructions
R4A	100KΩ	270-R54	Q11-128	AG-49-S	AN-40	Not Req.	Horiz. hold control
B	100KΩ	Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R4A per instructions
R5A	250KΩ	270-R69	Q11-130	AG-55-S	AN-50	Not Req.	Vert. hold control
B	250KΩ	Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R5A per instructions
R6A	2 Meg.	460-R510	Q11-139	AG-83-S	AN-75	Not Req.	Height control
B	2 Meg.	Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R6A per instructions
R7	3000Ω	270-R71	WK-3000	43-3000	VK-133	Not Req.	Vert. linearity control-Wire Wound
R8	3000Ω	500-R305	RTY-61	SVP-988			Focus control-Wire Wound

RESISTORS

ITEM No.	RATING	REPLACEMENT DATA			IDENTIFICATION CODES
		CONTRAC	IRC		
	RESISTANCE	WATTS	PART No.	7-2001-140	ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED
R9	3900Ω			BTS-3900	Ant. Coil Shunt
R10	47KΩ				AGC Network
R11	10KΩ				RF Coil Shunt
R12	2200Ω 20%			BTS-2200	RF Decoupling
R13	4700Ω			BTS-4700	Mixer Grid
R14	220KΩ 20%				Mixer Grid
R15	15KΩ 20%				Mixer Plate Load
R16	4700Ω			BTS-4700	Osc. Plate Load
R17	10KΩ				Osc. Grid
R18	10KΩ 5%				1st Video IF Amp. Grid
R19	50Ω				1st Video IF Amp. Cathode
R20	150Ω			BTS-150	Decoupling
R21	10KΩ 5%				2nd Video IF Amp. Grid
R22	50Ω				2nd Video IF Amp. Cathode
R23	150Ω			BTS-150	Decoupling
R24	1000Ω			BTS-1000	AGC Network
R25	1000Ω			BTS-1000	AGC Network
R26	4700Ω 5%			BTS-4700-5%	3rd Video IF Amp. Grid
R27	50Ω				3rd Video IF Amp. Cathode
R28	5600Ω 5%				3rd Video IF Amp. Plate Load
R29	150Ω			BTS-150	Decoupling
R30	150Ω			BTS-150	4th Video IF Amp. Cathode
R31	5600Ω 5%				4th Video IF Amp. Plate Load
R32	150Ω			BTS-150	Decoupling
R33	1 Meg. 20%			BTS-1 Meg.	AGC Network-See Note 1
R34	470KΩ 20%			BTS-470K	AGC Diode Load
R35	2700Ω 5%			BTS-2700-5%	Video Det. Diode Load
R36	470KΩ 20%			BTS-470K	Voltage Divider
R37	33KΩ 20%			BTS-33K	Video Amp. Screen
R38	10KΩ			BTS-10K	Peaking Coil Shunt-See Note 2
R39	500Ω			ETD-500Ω	Video Amp. Plate Load
R40	68KΩ 20%			BTS-68K	Picture Tube Cathode
R41	56KΩ			BTS-56K	Picture Tube Cathode
R42	22KΩ 20%			BTS-22K	Isolation
R43	1 Meg. 20%			BTS-1 Meg	DC Restorer Grid
R44	1 Meg.			BTS-1 Meg	DC Restorer Cathode
R45	1 Meg.			BTS-1 Meg	Voltage Divider
R46	150Ω			BTS-150	1st Sound IF Cathode
R47	1000Ω			BTS-1000	1st Sound IF Decoupling
R48	150Ω			BTS-150	2nd Sound IF Cathode
					2nd Sound IF Decoupling
R49	22KΩ 20%				Balancing
R50	270Ω			BTS-270	De-emphasis
R51	22KΩ 20%			BTS-22K	