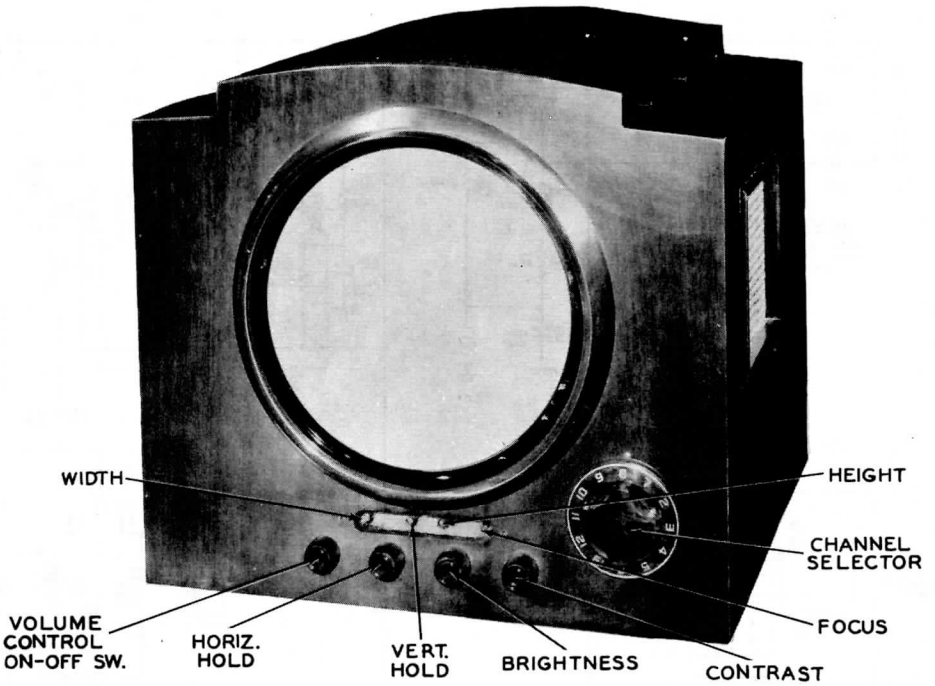
RAYTHEON MODELS A-10DX24, B-10DX22, 10AXF 3, 10DX21, 10DX22



RAYTHEON MODEL 10DX24

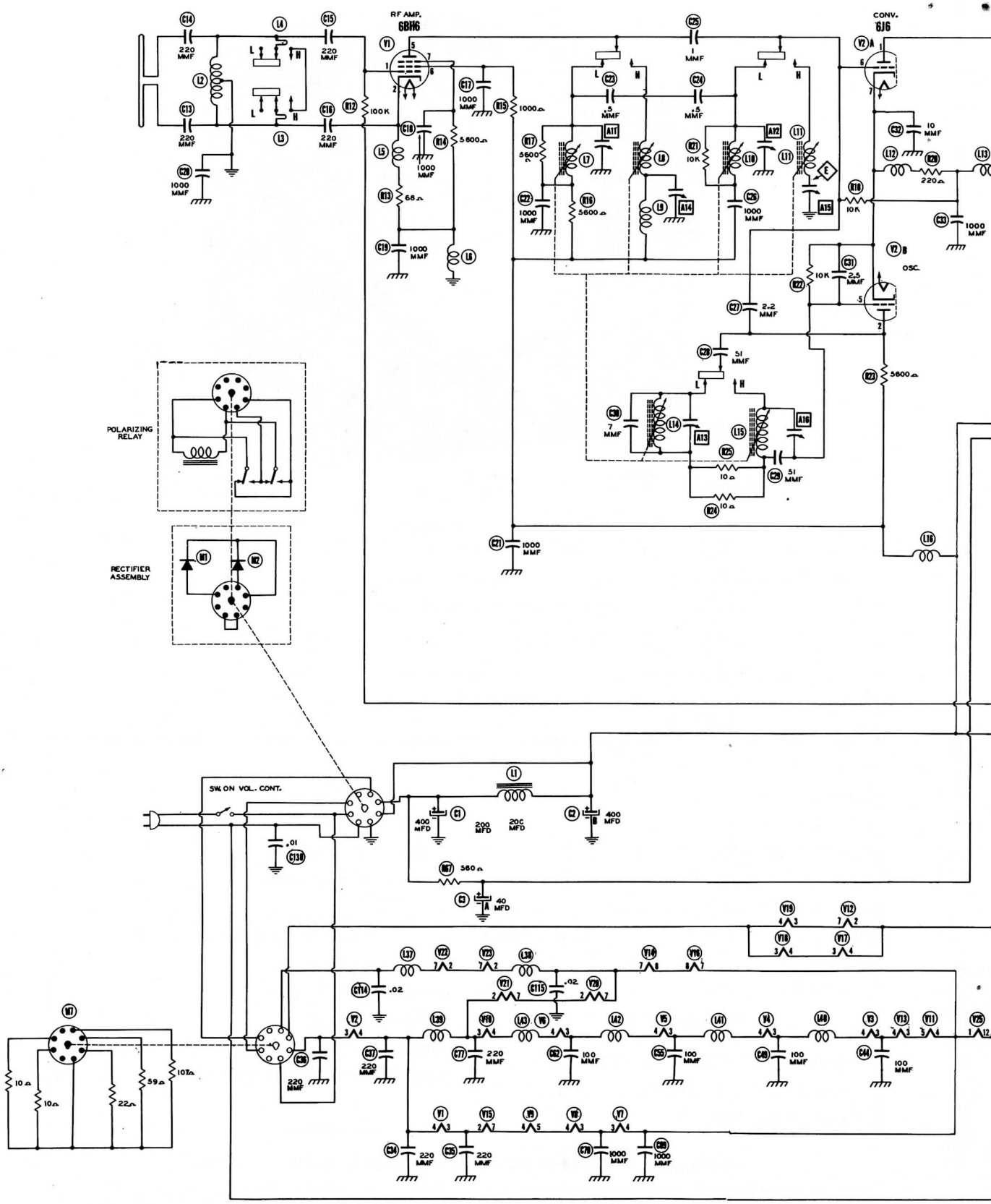
TRADE NAME	Raytheon-Models A-10DX24, B-10DX22, 10AXF43, 10DX21, 10DX22
MANUFACTURER	Belmont Radio Corp., 5921 W. Dickens Ave., Chicago 39, Illinois
TYPE SET	AM-FM-Phono-TV Receiver-Some Models TV only.
TUBES	Twenty Five-TV only Models. Thirty Two-Combination Models
POWER SUPPLY	105-125 Volts AC (DC with Polarizing Relay)
TUNING RANGE	TV Channel 2 thru 13 AM 530-1620KC FM 88-108MC
RATING:	TV-1.7 Amp. @ 117 Volts AC Radio-.43 Amp. @ 117 Volts AC

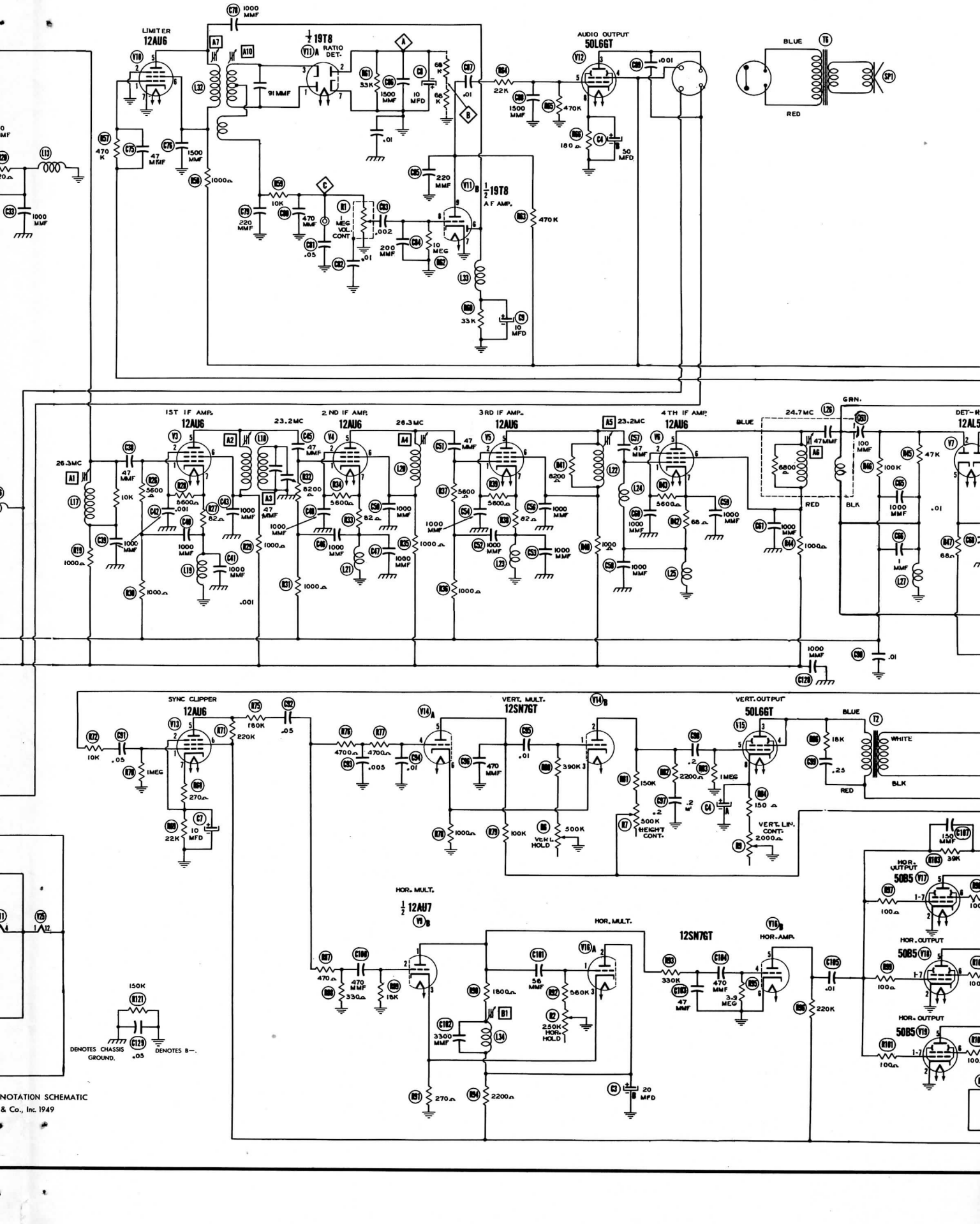
INDEX

RAYTHEON MODELS A-10DX24, B-10DX22, 10AXF 3, 10DX21, 10DX22

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

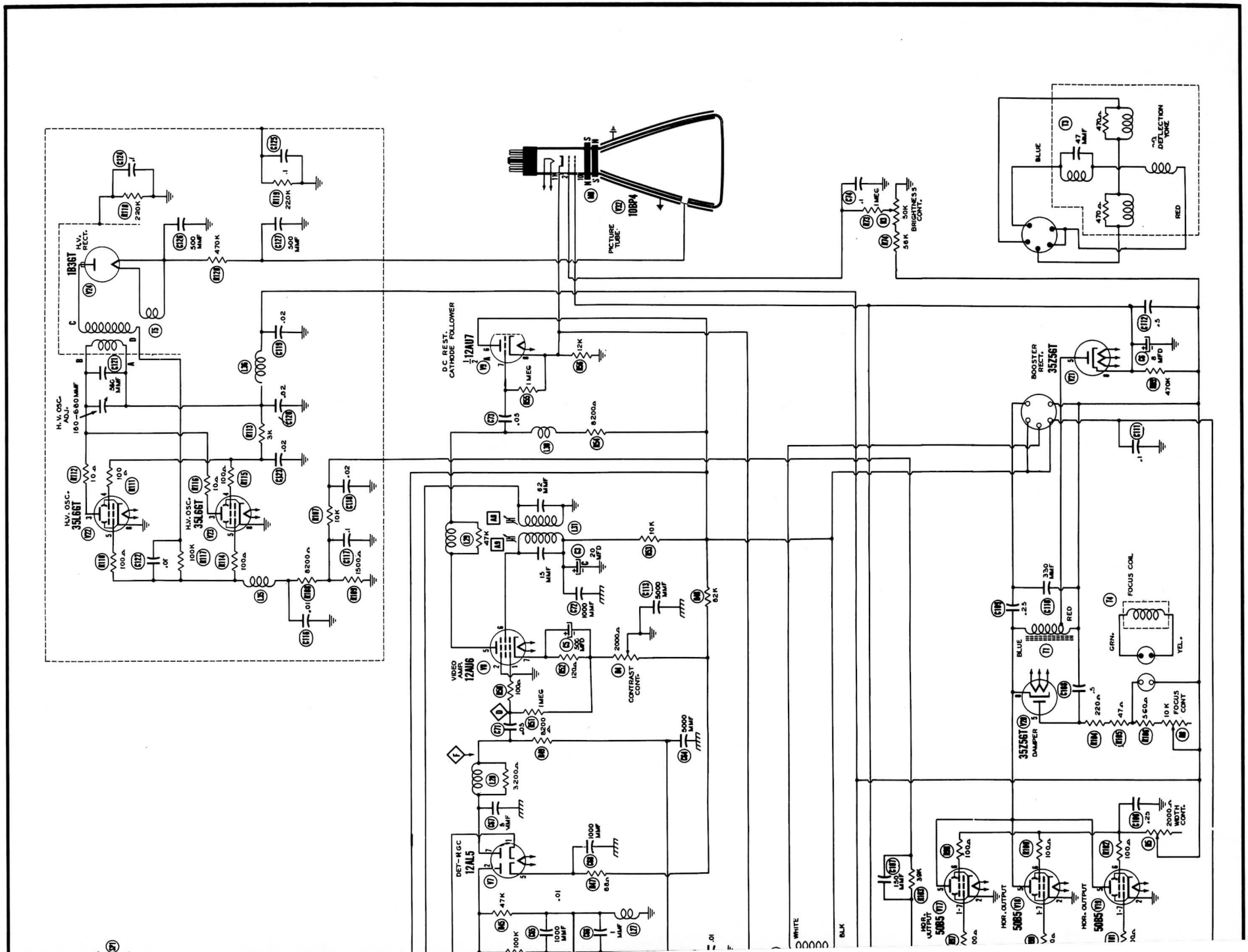
DATE 11/49 SET #75 FOLDER 14

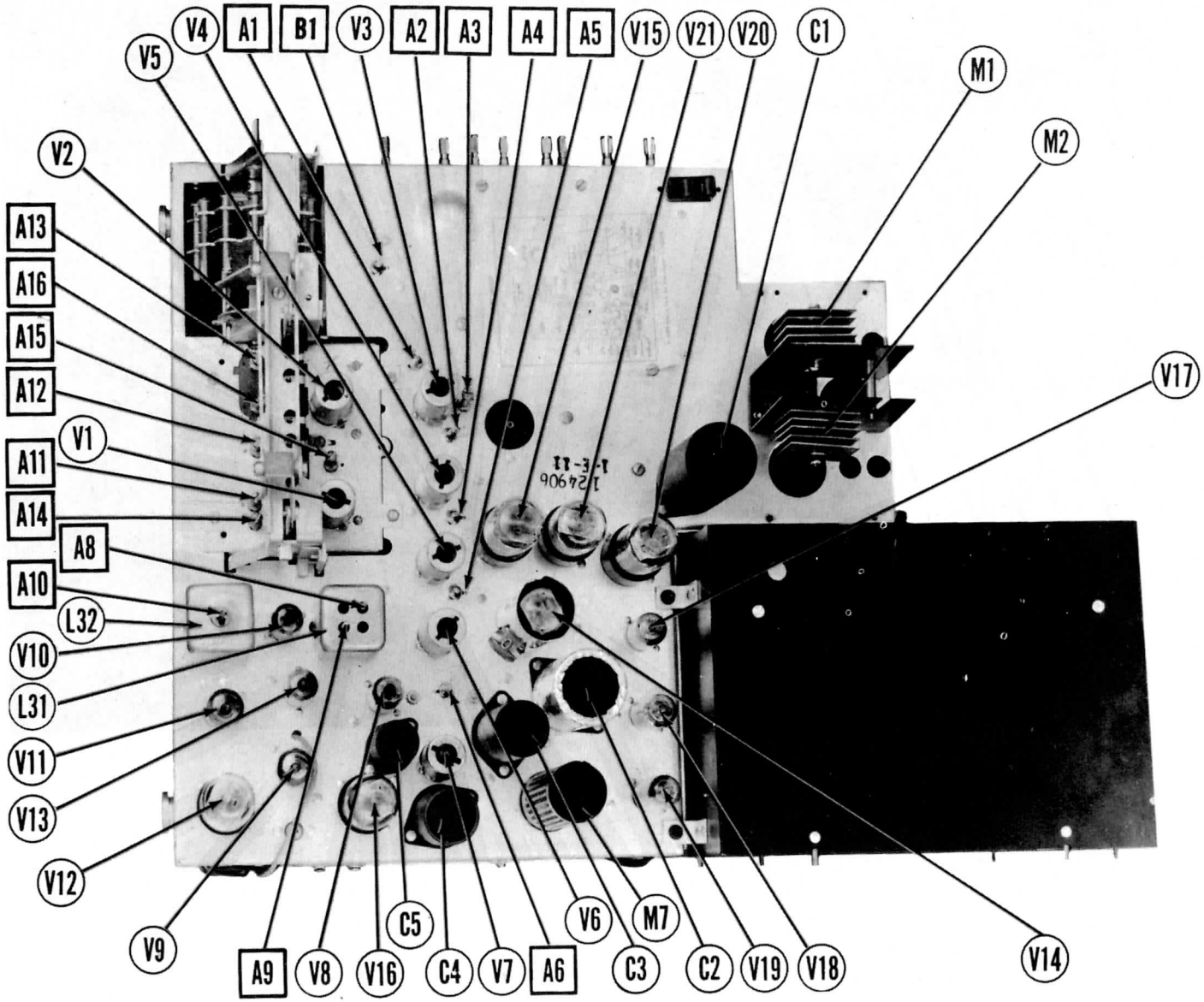




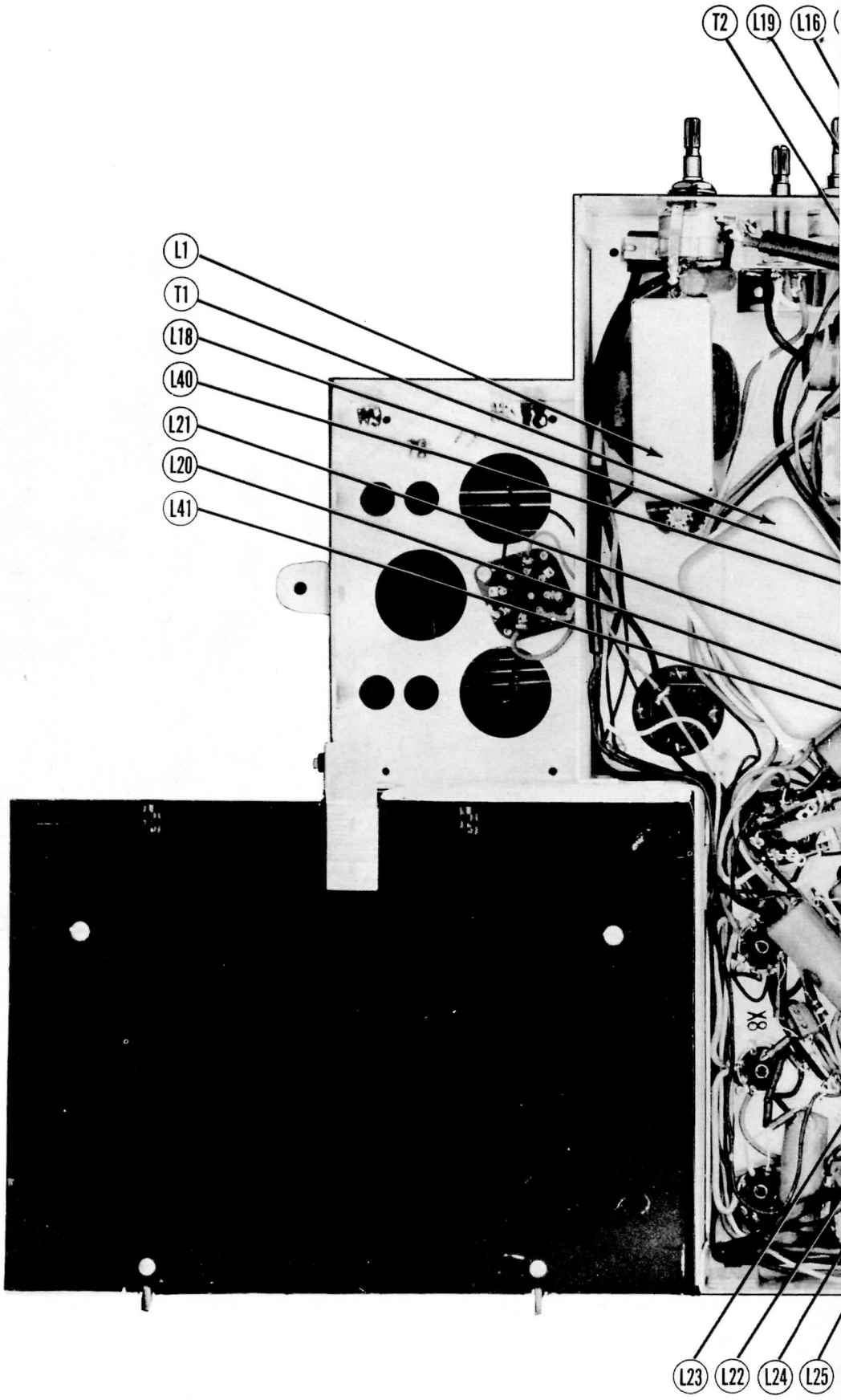
NOTATION SCHEMATIC

RAYTHEON MODELS A-10DX24, B-10DX22, 10AXF43, 10DX21, 10DX22

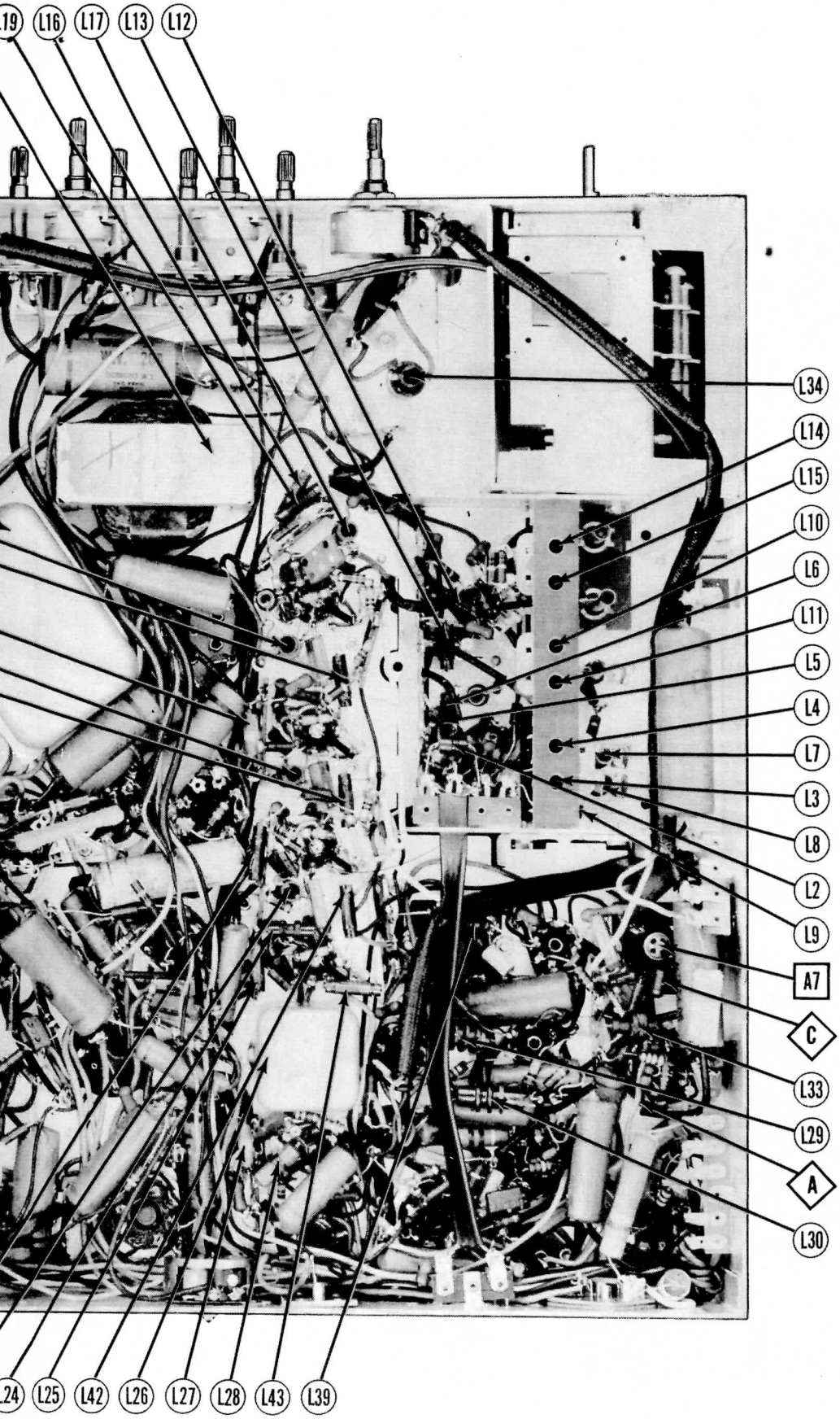




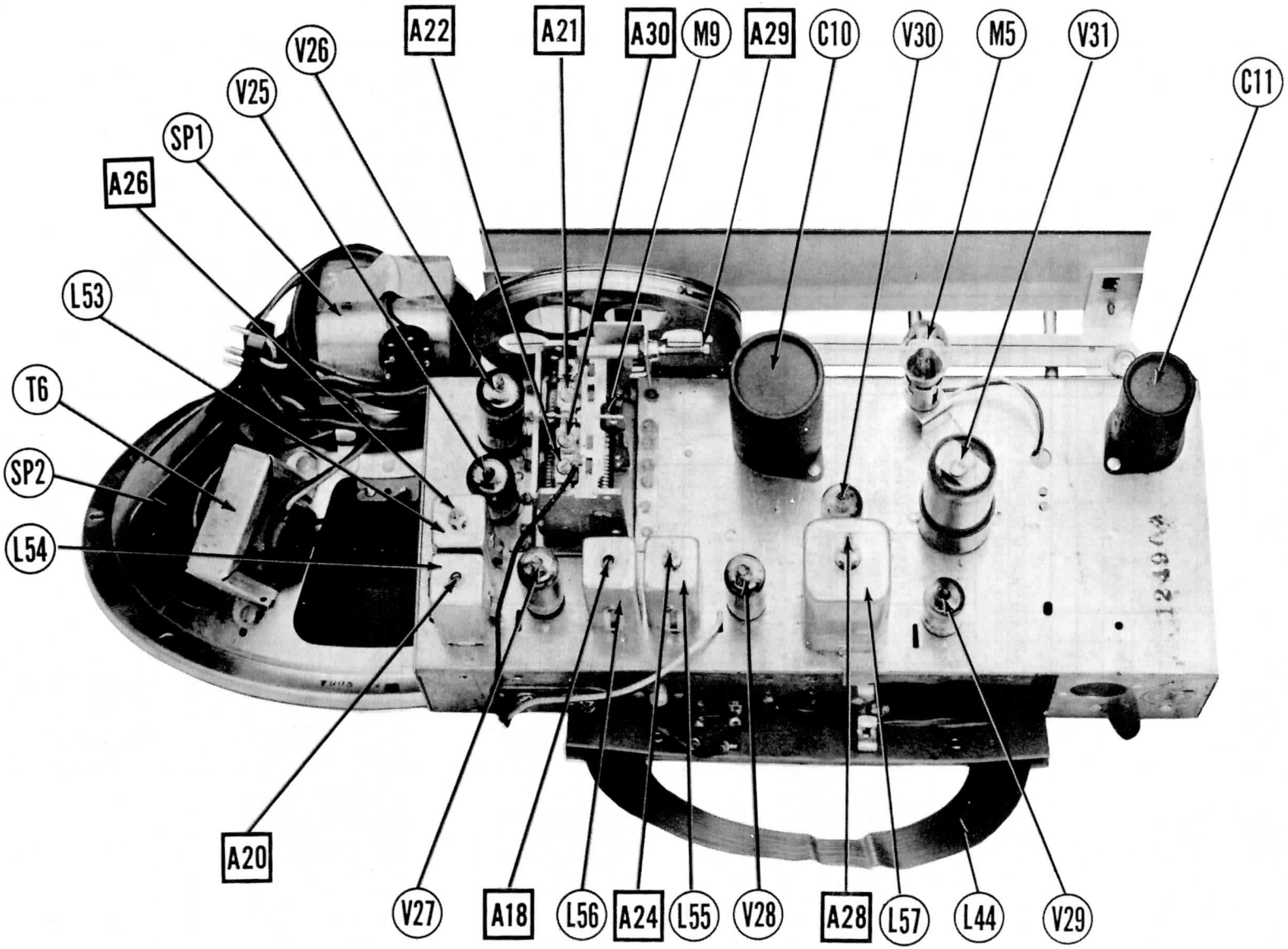
CHASSIS TOP VIEW



CHASSIS BOTTOM VIEW-TRANS., INDUCT



DUCTOR AND ALIGNMENT IDENTIFICATION



AM-FM CHASSIS-TOP VIEW

TV-ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Due to the fact that this receiver incorporates a series filament string, a 10Ω 10 Watt resistor may be substituted for the picture tube filament if it is desired to align the receiver with the picture tube removed. The high voltage lead should be taped and placed so as not to present a shock hazard.

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias battery to the AGC line and the positive lead to B-.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.		High side to ungrounded tube shield floating over converter tube (V2). Low side to tuner cover.	26.3MC	9	Across R49	A1	Adjust for maximum deflection.
2.		"	23.2MC	"	"	A2	"
3.		"	22.4MC	"	"	A3	Adjust for minimum deflection.
4.		"	26.3MC	"	"	A4	"
5.		"	23.2MC	"	"	A5	"
6.		"	24.7MC	"	"	A6	"

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
7.		High side to ungrounded tube shield floating over converter tube (V2). Low side to tuner cover.	25MC (10MC Sweep)	22.4MC 26.9MC	9	Across R49 with 10KΩ in series with the high side scope lead and 1000MMF across the scope input terminals.		Observe response curve and if necessary, slightly retouch A1 thru A6 for proper pattern and marker placement as per Fig 1.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from Point Ⓐ to B-. The junction of these two resistors is alignment Point Ⓑ as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
8.	.05MFD	High side to pin 1 (Grid) of 12AU6 (V8). Low side to B-.	4.5MC (Unmod.)	9	DC Probe to Point Ⓐ Common to B-.	A7,A8, A9	Adjust for maximum deflection.
9.	.05MFD	"	"	"	DC Probe to Point Ⓒ Common to Point Ⓑ.	A10	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

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
8.	.05MFD	High side to pin 1 (Grid) of 12AU6 (V8). Low side to B-.	4.5MC (1MC Sweep)	4.5MC	9	Vert.Amp. to Point Ⓐ Low side to B-.	A7,A8, A9	Disconnect stabilizer cap. C8 from Point A. Adjust A7, A8, A9 for maximum amplitude and symmetry as per Fig 2.
9.	.05MFD	"	"	"	"	Vert.Amp. to Point Ⓒ Low side to B-.	A10	Reconnect capacitor C8. Adjust A10 so 4.5MC marker is at center of pattern as per Fig 3. Slightly retouch A7 for maximum amplitude and straightness of diagonal line.

TUNER ALIGNMENT

Pre-set the trimmers to the approximate dimensions shown in Fig 4 and pre-set the slugs to the dimensions shown in Fig 5.

(A) LOW BAND ALIGNMENT

Turn the channel selector switch to channel 6 and turn the channel 6 station selector screw one turn out from its maximum "in" position.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
10.	Two 125Ω carbon res.	Across antenna terminals with 125Ω in each generator lead.	85MC (10MC Sweep.	83.25MC	6	Across R49 with 10KΩ in series with high side scope lead and 1000MMF across scope input terminals.	A11,A12 A13	Adjust A11 and A12 for maximum amplitude and symmetry as per Fig 6. Adjust A13 so marker appears at 50% down on the response curve. If necessary, repeat the adjustment of A11 and A12.
11.	"	"	79MC (10MC Sweep)		5	"		Check response on all low band channels. Slight readjustment of A11 and A12 may be necessary to obtain optimum response on all low band channels.
			69MC (10MC Sweep)		4			
			63MC (10MC Sweep)		3			
			57MC (10MC Sweep)		2			
12.	"	"	57MC (10MC Sweep)	55.25MC	2	"		If the 55.25MC marker can be moved to the 50% point by the channel 2 station selector screw with the screw at least 2 turns in from its maximum "out" position, the low band is properly aligned.

TV-ALIGNMENT INSTRUCTIONS (CONT.)

(B) HIGH BAND ALIGNMENT

Turn the channel selector switch to channel 13 and turn the channel 13 station selector screw 3/4" out from its maximum "in" position.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
13.	Two 125Ω carbon res.	Across antenna terminals with 125Ω in each generator lead.	213MC (10MC Sweep)	211.25MC	13	Across R49 with 10KΩ in series with high side scope lead and 1000MMF across scope input terminals.	A14, A15, A16	Adjust A14 and A15 for maximum amplitude and symmetry as per Fig 6. Adjust A16 so marker appears at 50% down on the response curve. If necessary, repeat the adjustment of A14, and A15.
14.	"	"	207MC (10MC Sweep)		12	"		Check response on all high band channels. Slight readjustment of A14 and A15 may be necessary to obtain optimum response on all high band channels.
			201MC (10MC Sweep)		11			
			195MC (10MC Sweep)		10			
			189MC (10MC Sweep)		9			
			183MC (10MC Sweep)		8			
			177MC (10MC Sweep)		7			
15.	"	"	177MC (10MC Sweep)	175.25MC	7	"		If the 175.25MC marker can be moved to the 50% point on the response curve by the channel 7 station selector screw at least one turn in from the maximum "out" position, the high band is properly aligned.

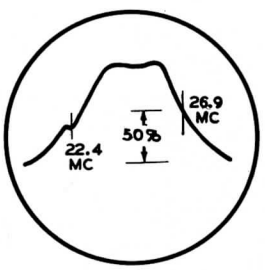


FIG. 1

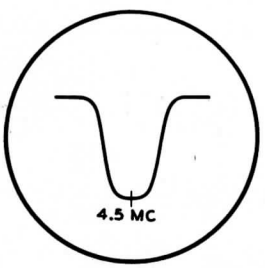


FIG. 2

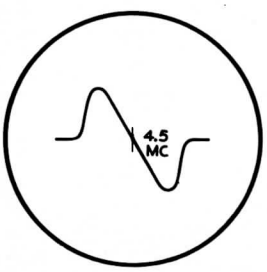


FIG. 3

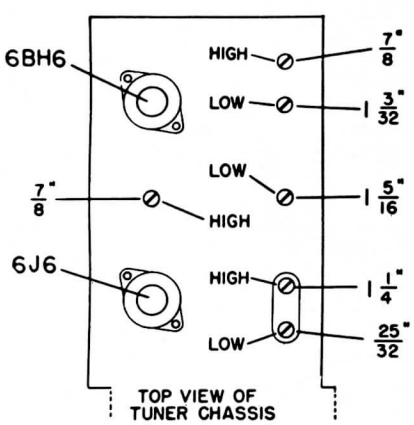


FIG. 4

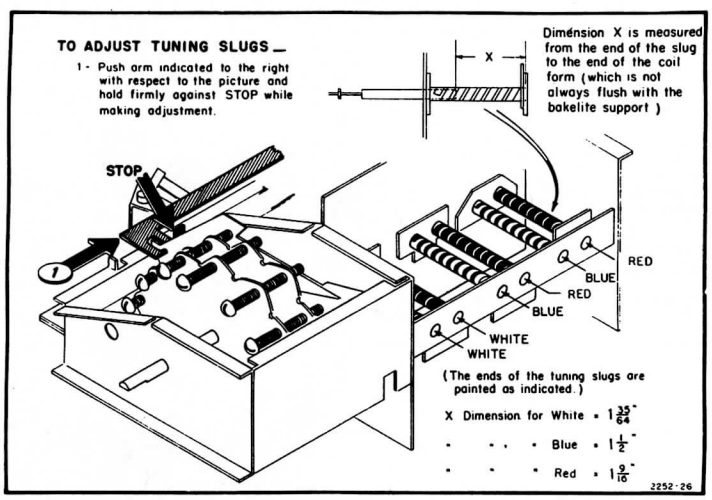


FIG. 5

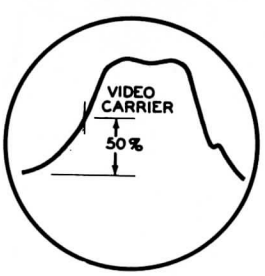


FIG. 6

RAYTHEON MODELS A-10DX24, B-10DX22, 10AXF43, 10DX21, 10DX22

RADIO ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set dial pointer, turn the tuning gang fully closed and set the right hand edge of the pointer saddle even with the calibration indentations at the extreme right hand end of pointer saddle slide bar.

The dial calibration marks located on the pointer slide bar are as follows reading left to right (front row): extreme left hand limit, 1620KC, 1400KC, 1000KC, 600KC, 535KC or extreme right hand limit. (Rear row): extreme left hand limit, 108MC, 98MC, 90MC, 88MC, extreme right hand limit.

Use isolation transformer if available. If not connect a .1MFD capacitor in series with low side of signal generator and B-.

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

AM ALIGNMENT

Loop should be maintained in same relative position to chassis as when receiver is in cabinet.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
16	.1MFD	High side to pin 1 (Grid) of 12BA6 (V27). Low side to B-.	455KC (400∿ Mod.)	AM (center position)	Tuning gang fully open	Across voice coil	A17, A18	Adjust for maximum output. If isolation transformer is not used reduce dummy antenna to .001MFD to reduce hum modulation.
17	.1MFD	High side to pin 7 (Grid) of 12BA7 (V26). Low side to B-.	"	"	"	"	A19, A20	Adjust for maximum output.
18	Direct	High side to AM external antenna clip. Low side to B-.	1620KC	"	1620KC	"	A21	" " " "
19	Direct	"	1400KC	"	Tune for max. output.	"	A22	" " " "

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from Point (F) to B-. The junction of these two resistors is alignment Point (H) as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
20	.1MFD	High side to Point D. Low side to chassis.	10.7MC (Unmod.)	FM (fully clockwise)	Point of non-interference	DC Probe to Point (E) Common to B-.	A23, A24, A25, A26	Adjust for maximum deflection.
21	.1MFD	"	"	"	"	DC Probe to Point (F) Commom to B-.	A27	" " " "
22	.1MFD	"	"	"	"	DC Probe to Point (G) Common to Point (H)	A28	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Repeat steps 21 and 22.

FM 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	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
20	.1MFD	High side to Point D. Low side to chassis.	10.7MC (450KC Sweep)	FM	Point of non interference	Vert.Amp. to Point (E) Low side to chassis.	A23, A24, A25, A26	Adjust for maximum amplitude and symmetry as per Fig 7.
21	.1MFD	"	"	"	"	Vert.Amp. to Point (G) Low side to chassis.	A27, A28	Adjust A28 so crossover point occurs at center of pattern as per Fig 8. Adjust A27 for maximum amplitude and straightness of cross-over lines. Repeat the adjustments of A27 and A28. Continue with step 23.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
23	300Ω carbon res.	High side thru 300Ω to left hand FM antenna terminal. Low side to right hand terminal.	108MC	FM	108MC	DC Probe to Point (E) Common to B-.	A29	Adjust for maximum deflection.
24	"	"	98MC	"	Tune for max. signal	"	A30	" " " "

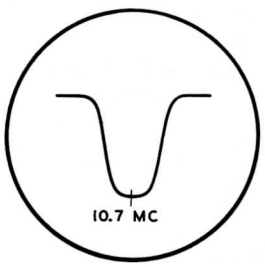


FIG. 7

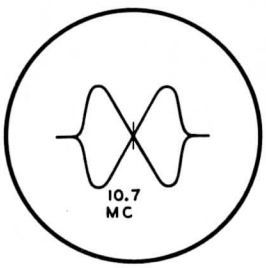
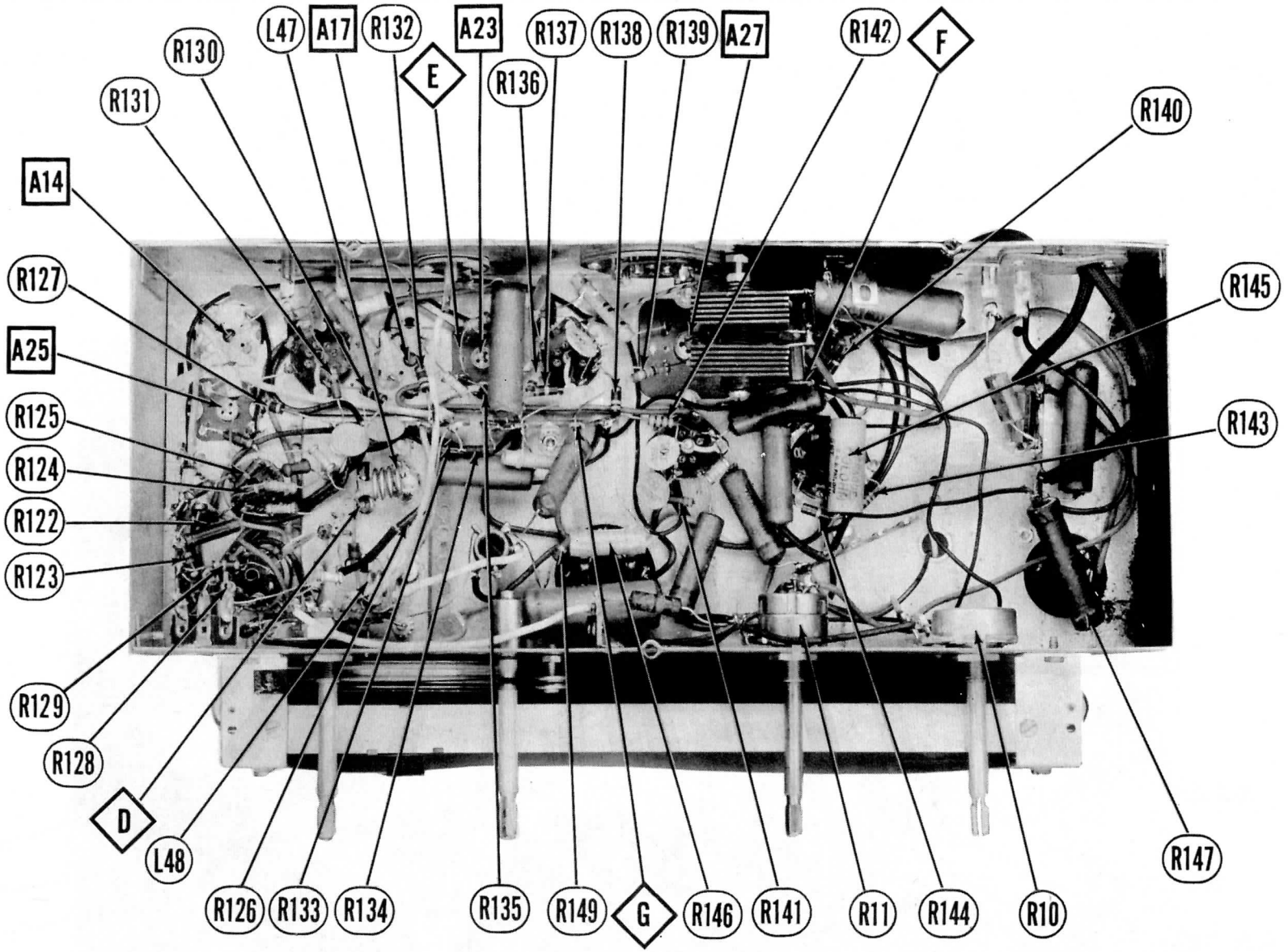
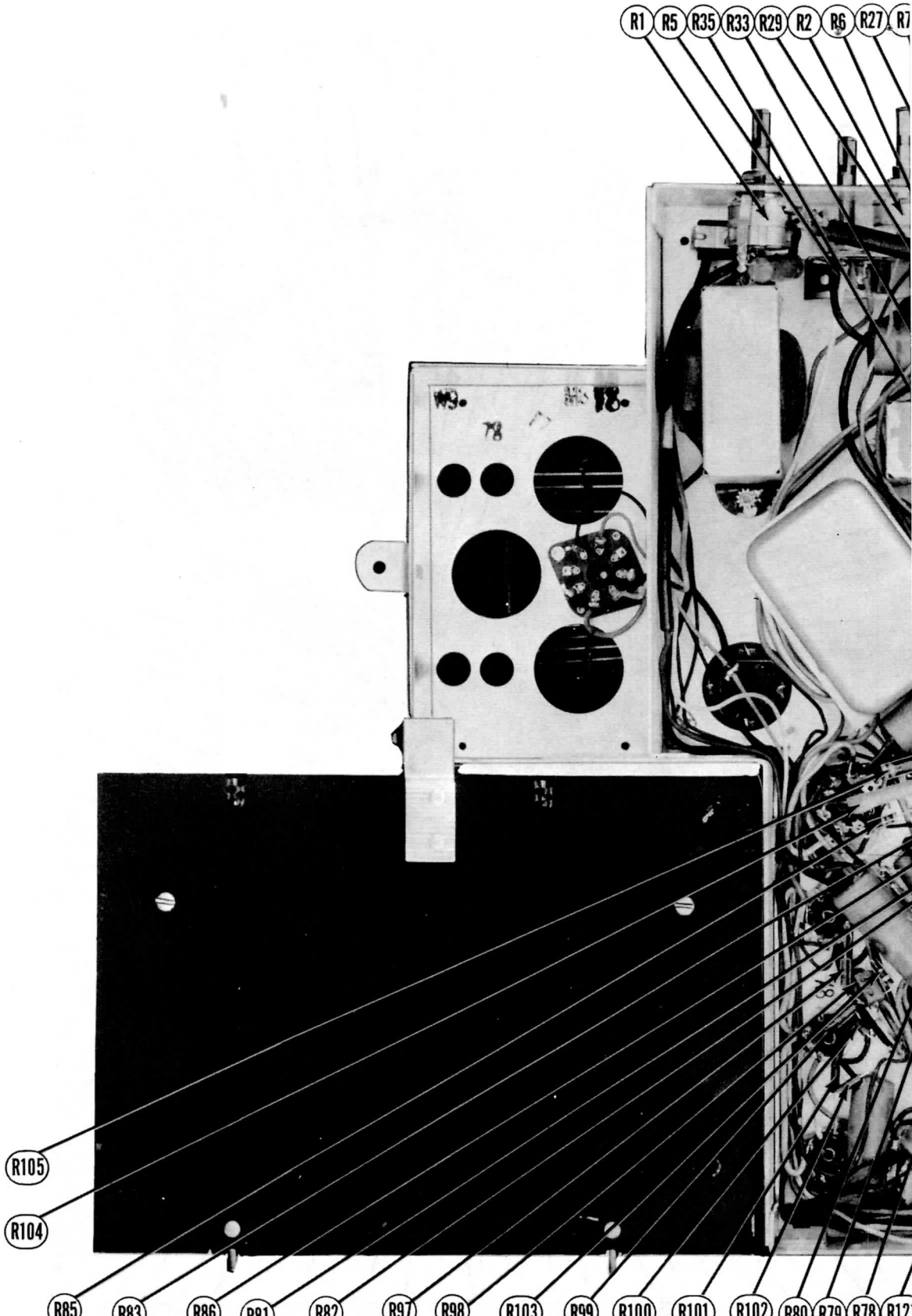


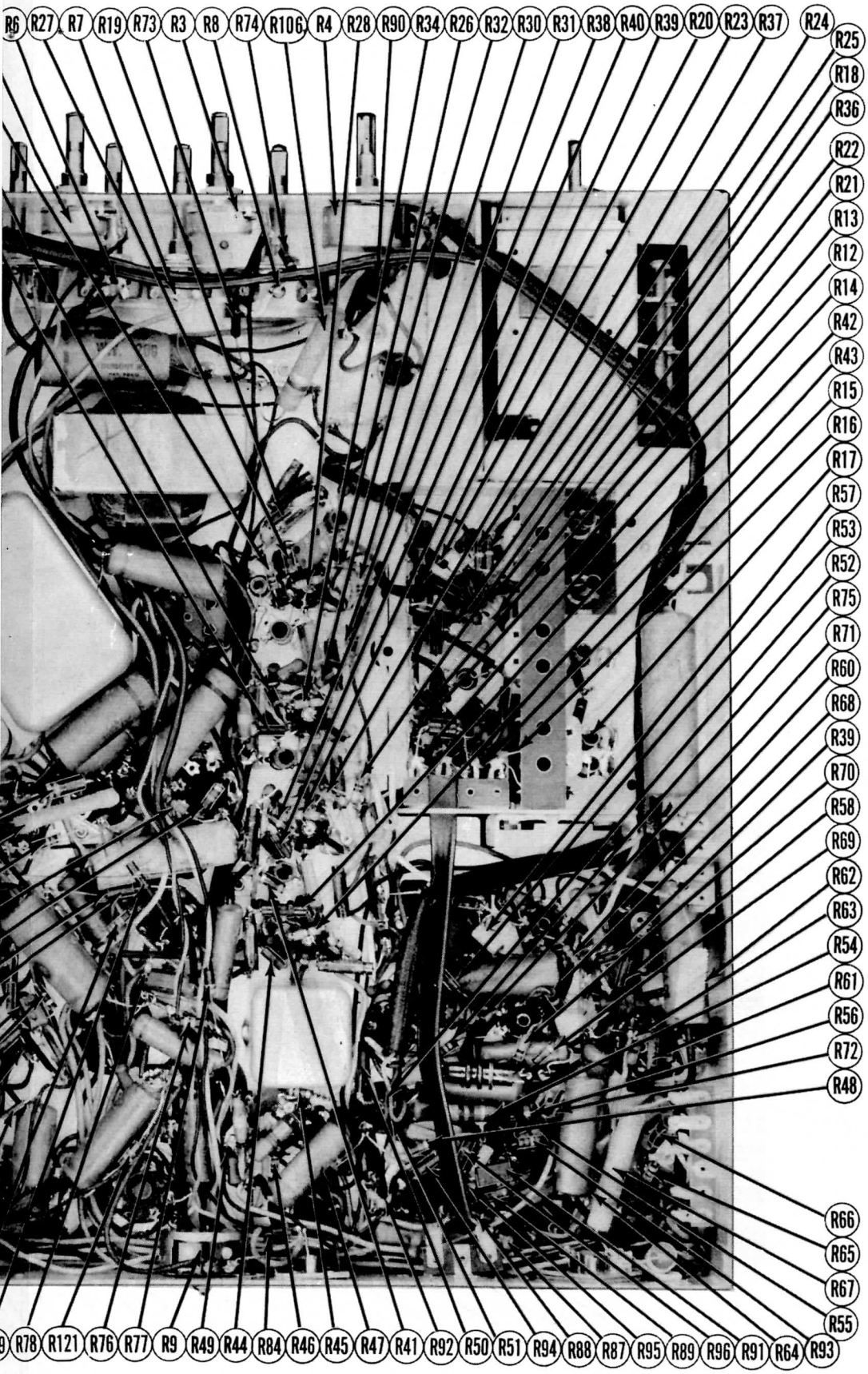
FIG. 8



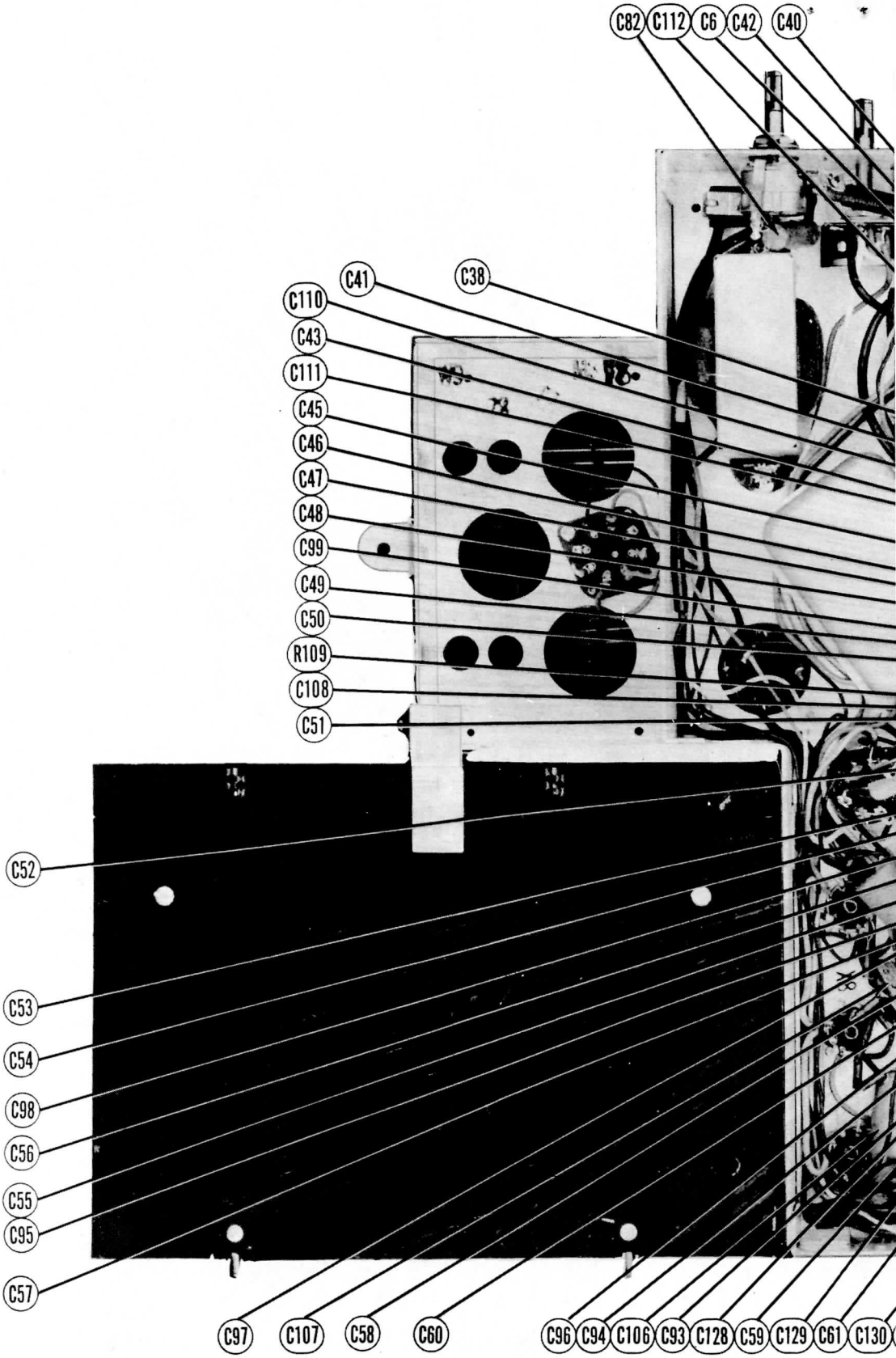
AM-FM CHASSIS-RESISTOR AND ALIGNMENT IDENTIFICATION



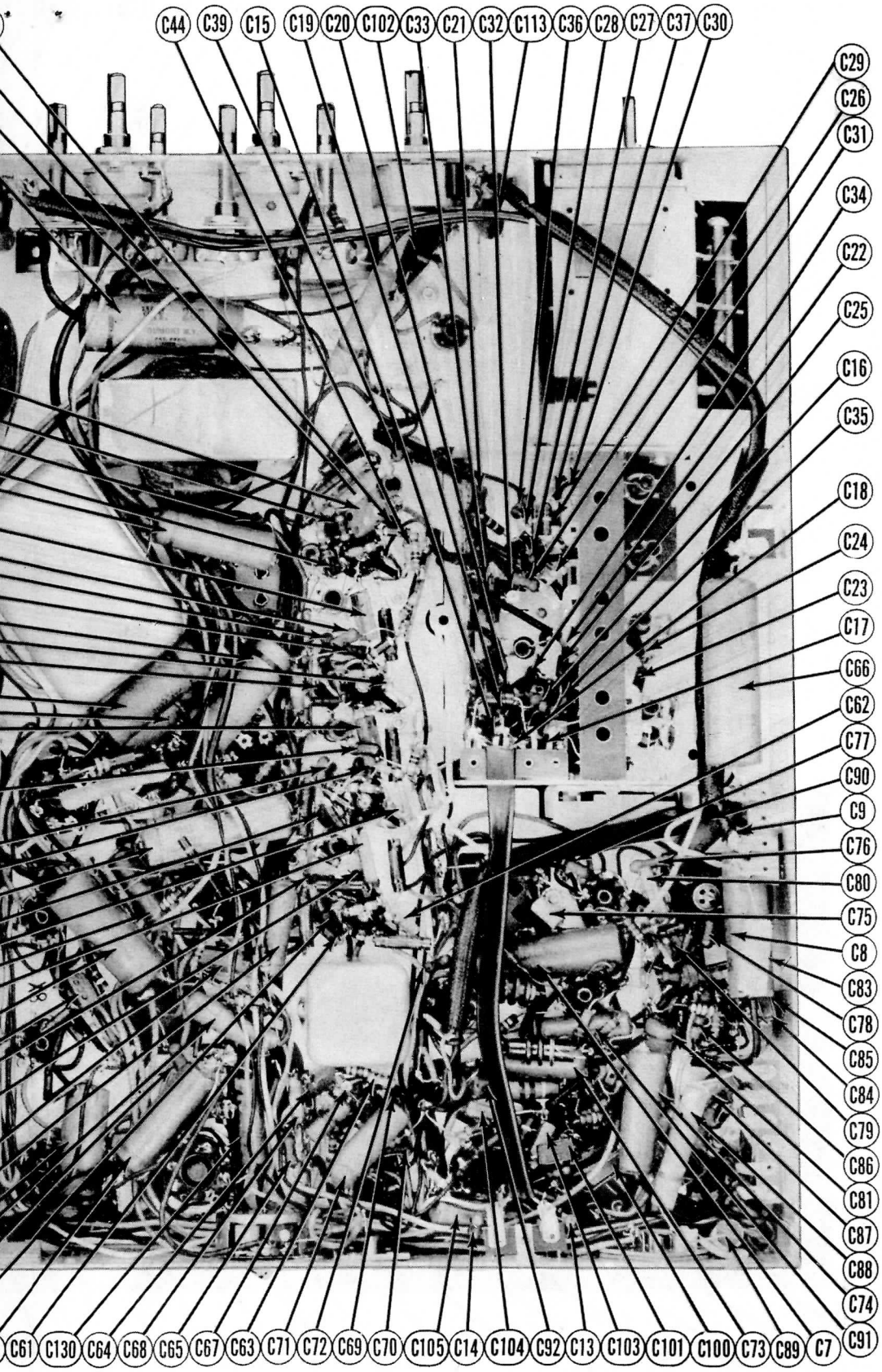
CHASSIS BOTTOM VIEW-RES



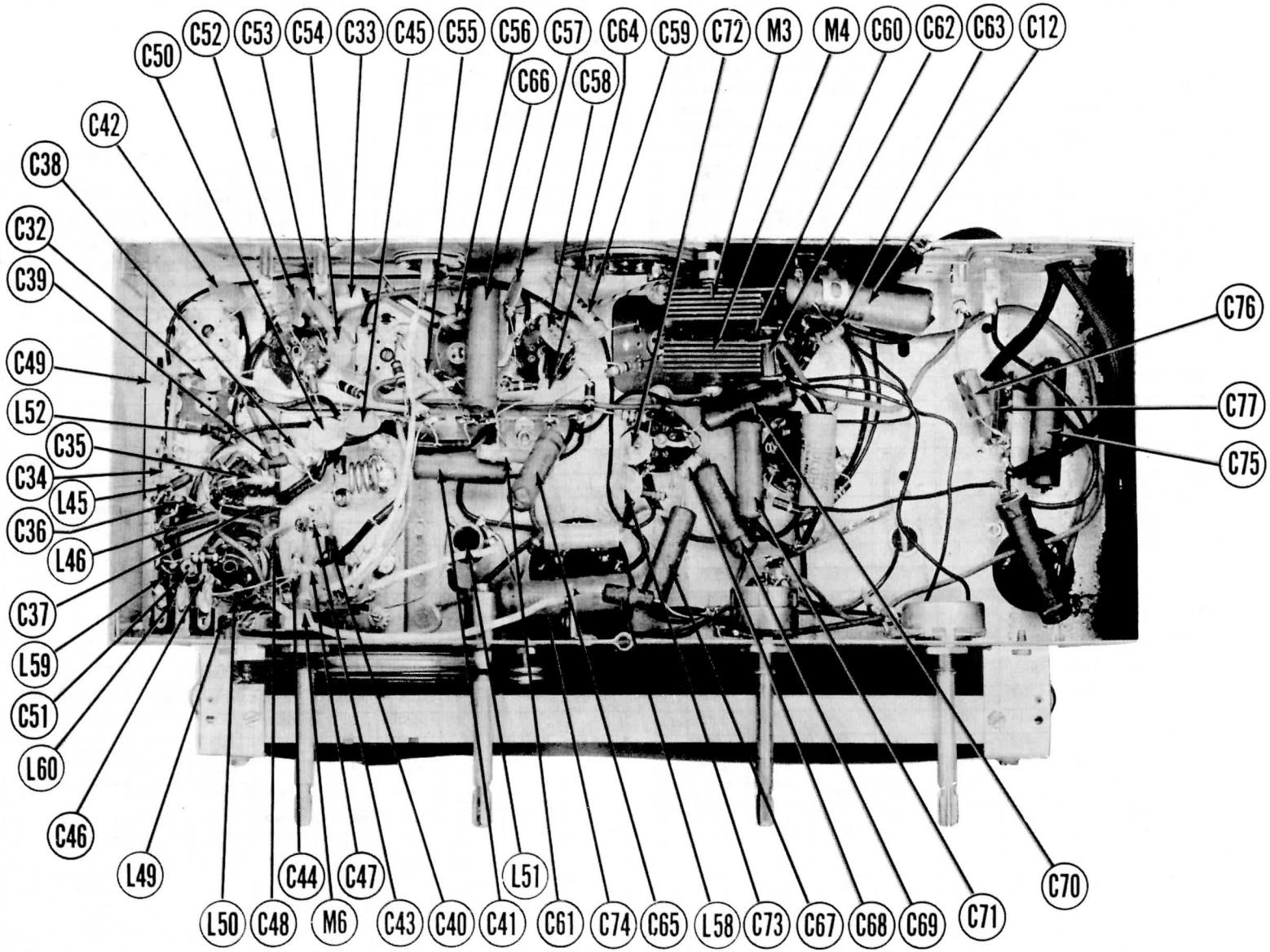
RESISTOR IDENTIFICATION



CHASSIS BOTTOM VIEW-CAP



CAPACITOR IDENTIFICATION



AM-FM CHASSIS-CAPACITOR AND INDUCTOR 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	Pin 9
V 1	6BH6	-.2VDC	.4VDC	95VAC	100VAC	100VDC	120VDC	0V		
V 2	6J6	120VDC	80VDC	106VAC	100VAC	§.2VDC	0V	2VDC		
V 3	12AU6	-.4VDC	.5VDC	38VAC	50VAC	115VDC	115VDC	.6VDC		
V 4	12AU6	-.3VDC	.5VDC	50VAC	60VAC	115VDC	115VDC	.6VDC		
V 5	12AU6	-.3VDC	.5VDC	60VAC	74VAC	115VDC	115VDC	.6VDC		
V 6	12AU6	0V	.5VDC	74VAC	86VAC	110VDC	110VDC	.6VDC		
V 7	12AL5	0V	-1.5VDC	18VAC	6VAC	0V	0V	-1VDC		
V 8	12AU6	.5VDC	0V	18VAC	31VAC	87VDC	100VDC	13VDC		
V 9	12AU7	95VDC	0V	1.3VAC	45VAC	31VAC	125VDC	1.8VDC	60VDC	39VAC
V 10	12AU6	-.7VDC	0V	100VAC	88VAC	117VDC	112VDC	0V		
V 11	19T8	-.4VDC	-.8VDC	-.5VDC	7VAC	25VAC	-.5VDC	0V	-.6VDC	45VDC
V 12	50L6GT	0V	0V	90VDC	120VDC	0V	0V	50VAC	7.3VDC	
V 13	12AU6	0V	0V	25VAC	39VAC	127VDC	132VDC	0V		
V 14	12SN7GT	-15VDC -20VDC	65VDC 90VDC	1VDC	0V	125VAC	1VDC	18VAC	5VAC	
V 15	50L6GT	0V	50VAC	127VDC	127VDC	.1VDC	127VDC	100VAC	3.5VDC 19VDC	
V 16	12SN7GT	0V	132VDC	0V	0V	122VDC	0V	6VAC	19VAC	
V 17	50B5	-6.5VDC	0V	50VAC	0V	120VDC	92VDC 120VDC	-6.5VDC		
V 18	50B5	-6.5VDC	0V	100VAC	50VAC	120VDC	92VDC 120VDC	-6.5VDC		
V 19	50B5	-6.5VDC	0V	45VAC	95VAC	120VDC	92VDC 120VDC	-6.5VDC		
V 20	35Z5GT	0V	65VAC	55VAC	122VDC	40VDC	65VDC	31VAC	120VDC	
V 21	35Z5GT	0V	100VAC	90VAC	62VDC	120VDC	65VAC	65VAC	245VDC	
V 22	35L6GT	0V	100VAC	120VDC	62VDC	-31VDC	-28VDC	65VAC	0V	
V 23	35L6GT	0V	65VAC	120VDC	62VDC	-31VDC	0V	30VAC	0V	
V 24	1B3GT	* DO NOT MEASURE								TOP CAP *
‡V25	12AT7	75VDC	-.1VDC	1.2VDC	47VAC	36VAC	85VDC	0V	.7VDC	40VAC
V26A	12BA7	70VDC	§-2 VDC.3	0V	36VAC	23VAC	0V	0V	0V	75VDC
‡ V26B	12BA7	85VDC	§-.1VDC	0V	36VAC	23VAC	0V	0V	0V	85VDC
V27	12BA6	-.1VDC	0V	47VAC	57VAC	85VDC	85VDC	.6VDC		
‡V28	12AU6	-.1VDC	-.1VDC	57VAC	70VAC	85VDC	85VDC	.4VDC		
‡V29	12AL5	-.7VDC	-.4VDC	0V	11VAC	0V	0V	-.9VDC		
V30	12AV6	-.5VDC	0V	23VAC	11VAC	0V	-.6VDC	55VDC		
V31	50L6GT	0V	70VAC	210VDC	90VDC	0V	0V	117VAC	4.7VDC	
V32	10BP4	0V	0V	PIN 10 240VDC	PIN 11 60VDC	PIN 12 6VAC				

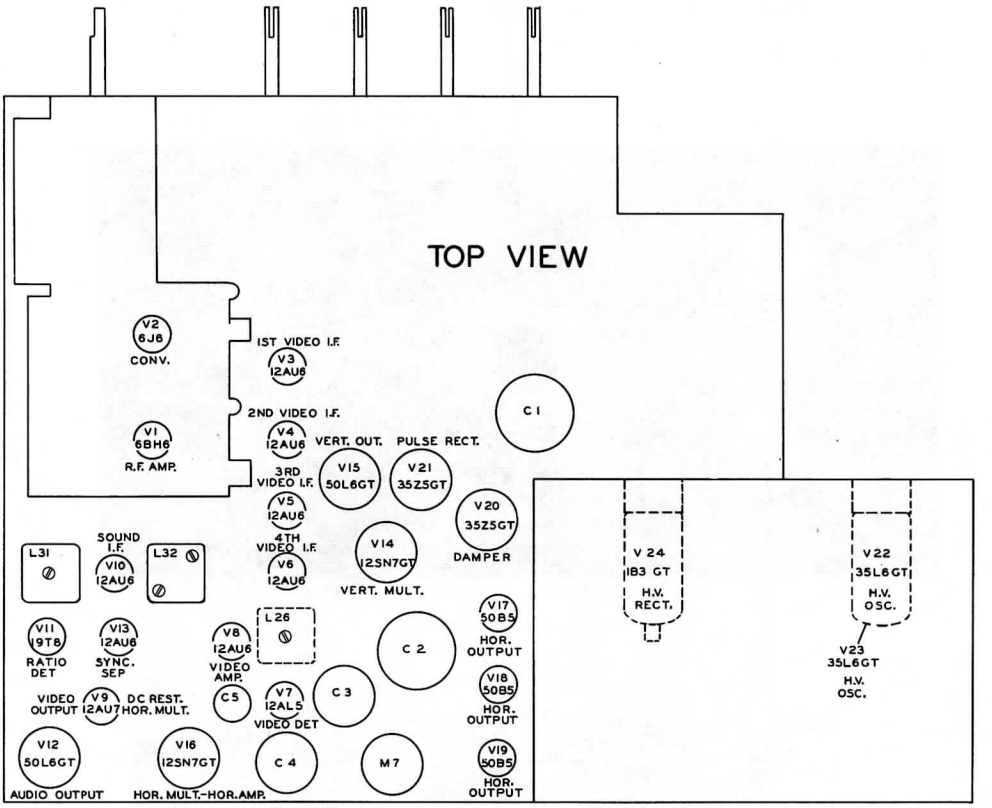
§TAKEN WITH VACUUM TUBE VOLTMETER.

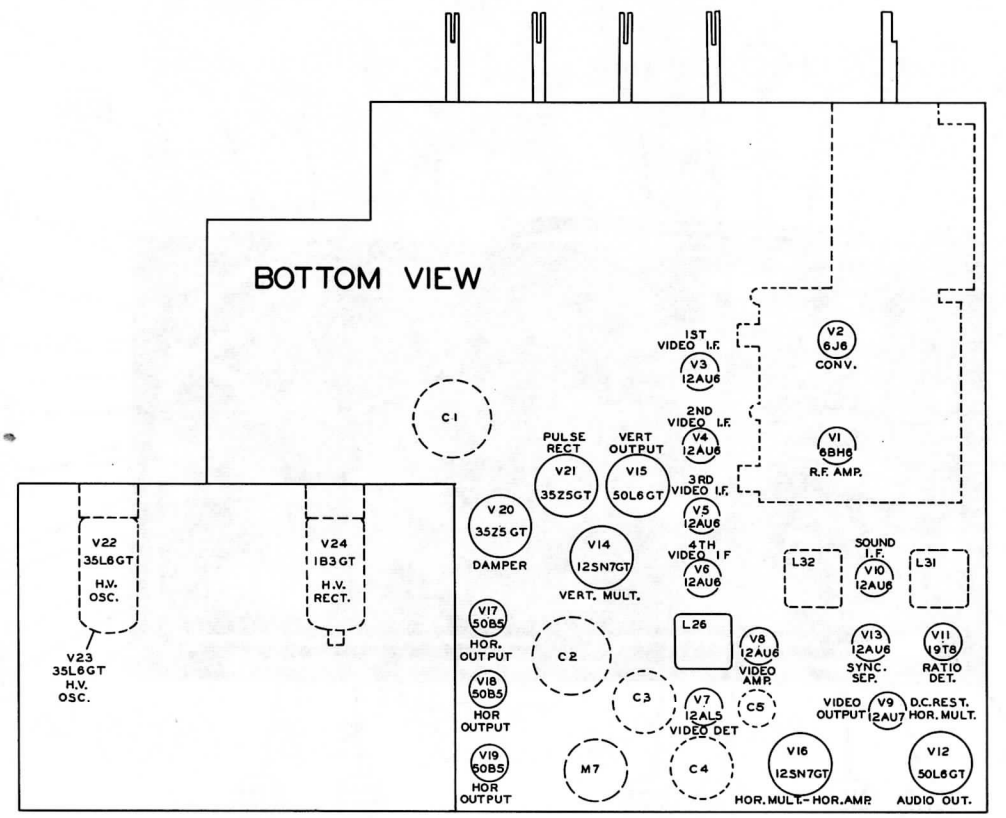
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BH6	247KΩ	68Ω	28Ω	25Ω	†5.5KΩ	†1000Ω	5.5KΩ		
V 2	6J6	†1000Ω	†5.5KΩ	26Ω	25Ω	10KΩ	10KΩ	220Ω		
V 3	12AU6	150KΩ	5.5KΩ	24Ω	29Ω	†1000Ω	†1000Ω	82Ω		
V 4	12AU6	150KΩ	5.5KΩ	29Ω	32Ω	†1000Ω	†1000Ω	82Ω		
V 5	12AU6	150KΩ	5.5KΩ	32Ω	32Ω	†1000Ω	†1000Ω	82Ω		
V 6	12AU6	3Ω	5.5KΩ	32Ω	30Ω	†1000Ω	†1000Ω	68Ω		
V 7	12AL5	4Ω	47KΩ	13Ω	1.5Ω	150Ω	Inf.	8KΩ		
V 8	12AU6	1 Meg.	0Ω	13Ω	24Ω	†8.5KΩ	†10KΩ	2KΩ		
V 9	12AU7	†4KΩ	18KΩ	270Ω	30Ω	24Ω	†10Ω	1 Meg.	12KΩ	25Ω
V 10	12AU6	470KΩ	0Ω	25Ω	30Ω	†1000Ω	†1000Ω	0Ω		
V 11	19T8	1 Meg.	33KΩ	1 Meg.	1.5Ω	17Ω	33KΩ	0Ω	10 Meg.	†470KΩ
V 12	50L6GT	Inf.	0Ω	†900Ω	†10Ω	470KΩ	470KΩ	34Ω	180Ω	
V 13	12AU6	1 Meg.	22KΩ	17Ω	24Ω	†220KΩ	†10Ω	22KΩ		
V 14	12SN7GT	1 Meg. 480KΩ	♦640KΩ ♦170KΩ	1000Ω	10KΩ	♦100KΩ	1000Ω	16Ω	10Ω	
V 15	50L6GT	Inf.	34Ω	♦470KΩ	♦470KΩ	1 Meg.	20KΩ	34Ω	2KΩ 150Ω	
V 16	12SN7GT	600KΩ	†2KΩ	270Ω	4 Meg.	†220KΩ	0Ω	1.5Ω	10Ω	
V 17	50B5	50KΩ	0Ω	32Ω	0Ω	†42Ω	†2KΩ †120Ω	50KΩ		
V 18	50B5	50KΩ	0Ω	34Ω	32Ω	†42Ω	†2KΩ †120Ω	50KΩ		
V 19	50B5	50KΩ	0Ω	30Ω	35Ω	†42Ω	†2KΩ †120Ω	50KΩ		
V 20	35Z5GT	Inf.	32Ω	30Ω	†10Ω	†800Ω	†520Ω	16Ω	20KΩ	
V 21	35Z5GT	Inf.	25Ω	28Ω	†580Ω	†13Ω	0Ω	32Ω	200KΩ	
V 22	35L6GT	Inf.	58Ω	†42Ω	†3KΩ	10KΩ	10KΩ	42Ω	0Ω	
V 23	35L6GT	Inf.	42Ω	†42Ω	†3KΩ	10KΩ	Inf.	16Ω	0Ω	
V 24	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf. .	Inf.	TOP CAP 110KΩ
‡V25	12AT7	♦5KΩ	150KΩ	680Ω	32Ω	28Ω	♦5KΩ	0Ω	220Ω	30Ω
V26A	12BA7	♦5KΩ	22KΩ	1Ω	28Ω	20Ω	0Ω	5.5 Meg.	0Ω	♦5KΩ
‡ V26B	12BA7	♦5KΩ	22KΩ	1.5Ω	28Ω	20Ω	0Ω	0Ω	0Ω	♦5KΩ
V27	12BA6	1.5 Meg	0Ω	32Ω	33Ω	♦5KΩ	♦5KΩ	68Ω		
‡V28	12AU6	150KΩ	220KΩ	33Ω	32Ω	♦5KΩ	♦5KΩ	68Ω		
‡V29	12AL5	Inf.	Inf.	0Ω	12Ω	0Ω	Inf.	22KΩ		
V30	12AV6	6.8 Meg.	0Ω	20Ω	12Ω	0Ω	1.5 Meg.	♦470KΩ		
V31	50L6GT	Inf.	32Ω	♦1000Ω	♦4.5KΩ	470KΩ	0Ω	3Ω	150Ω	
V32	10BP4	1.5Ω	PIN 10 ♦0Ω	PIN 11 †1 Meg.	PIN 12 0Ω					

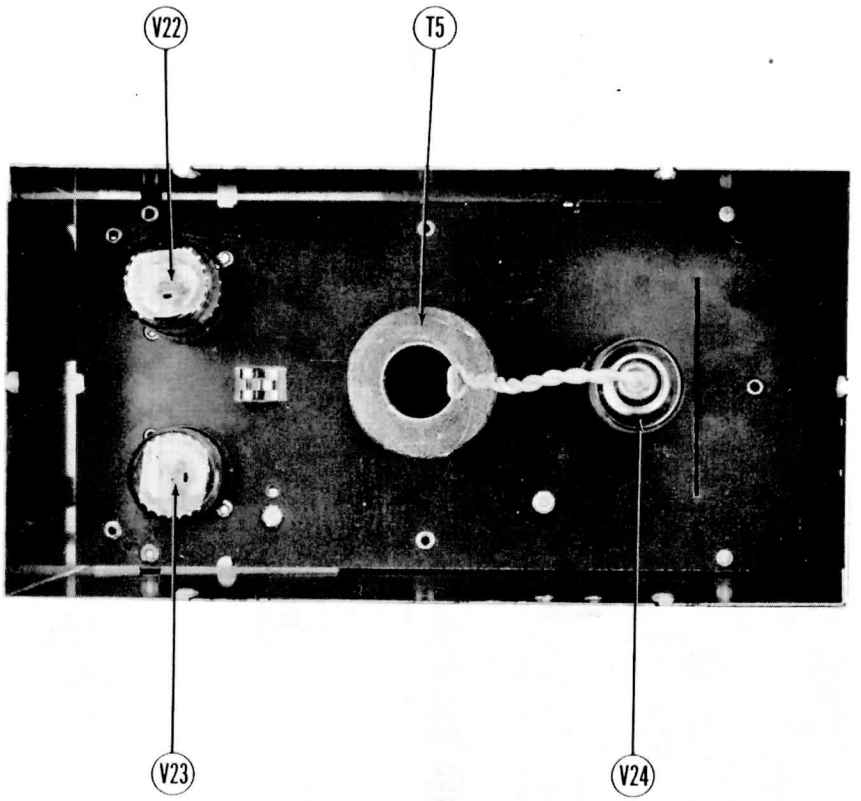
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.
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.

† Measured From Output Of M1 And M2.
▲ Reading Taken With Selector Sw. Set On Channel 4.
♦ Measured From Pin 8 Of V21.
♦ Measured From Output Of M3.
‡ Taken In FM Position.

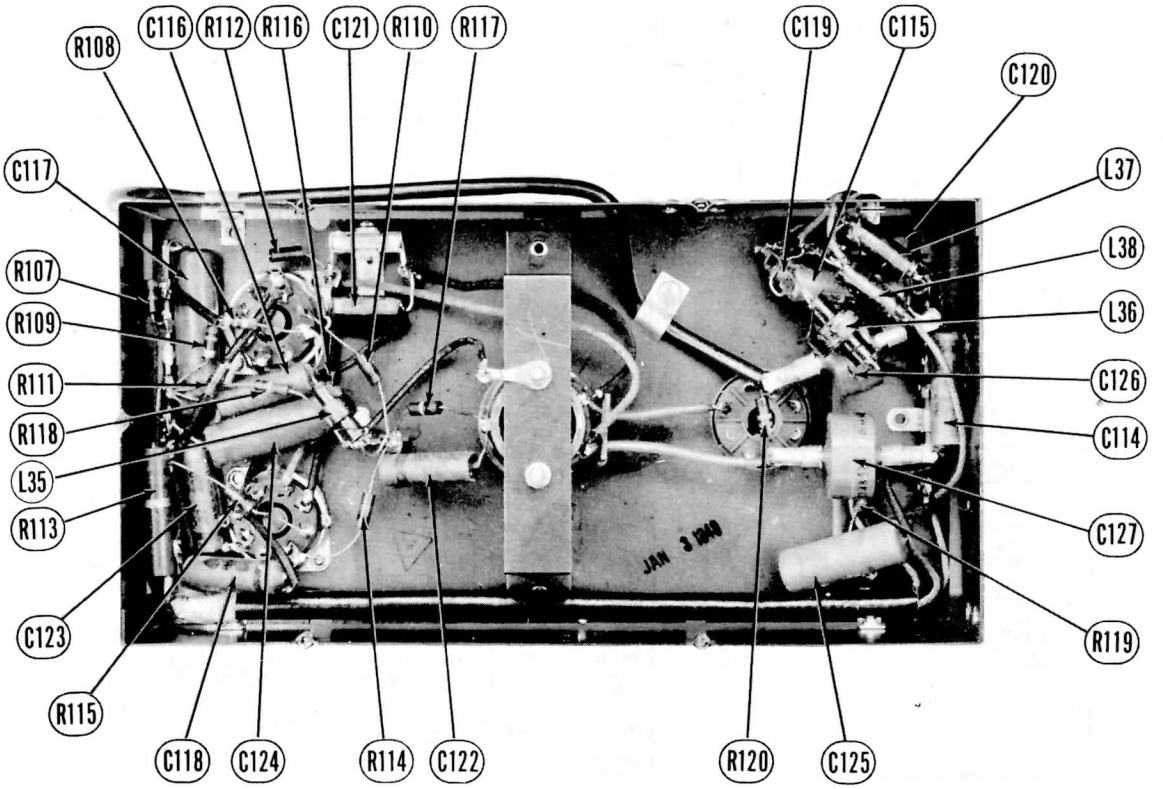




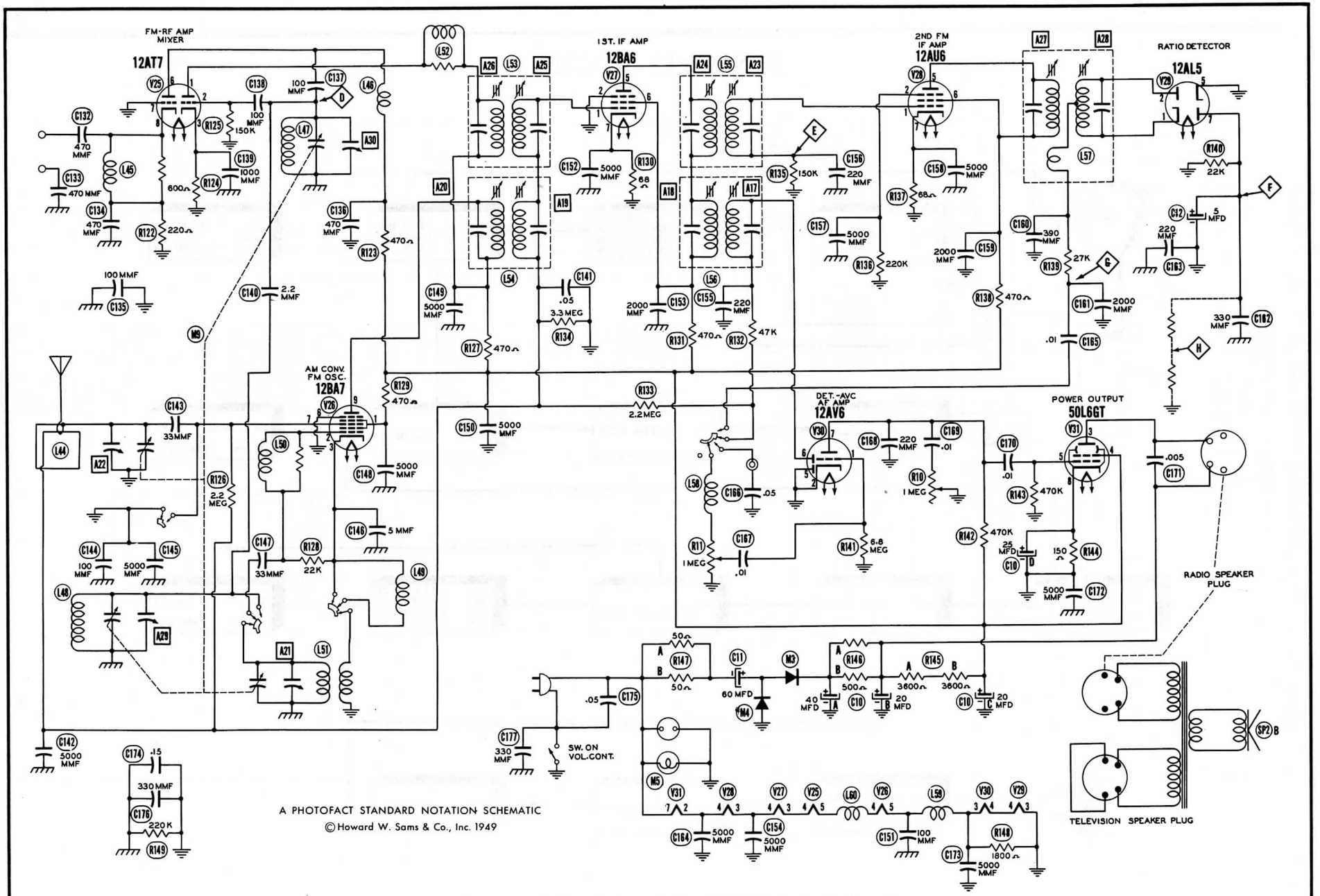
TUBE PLACEMENT CHART

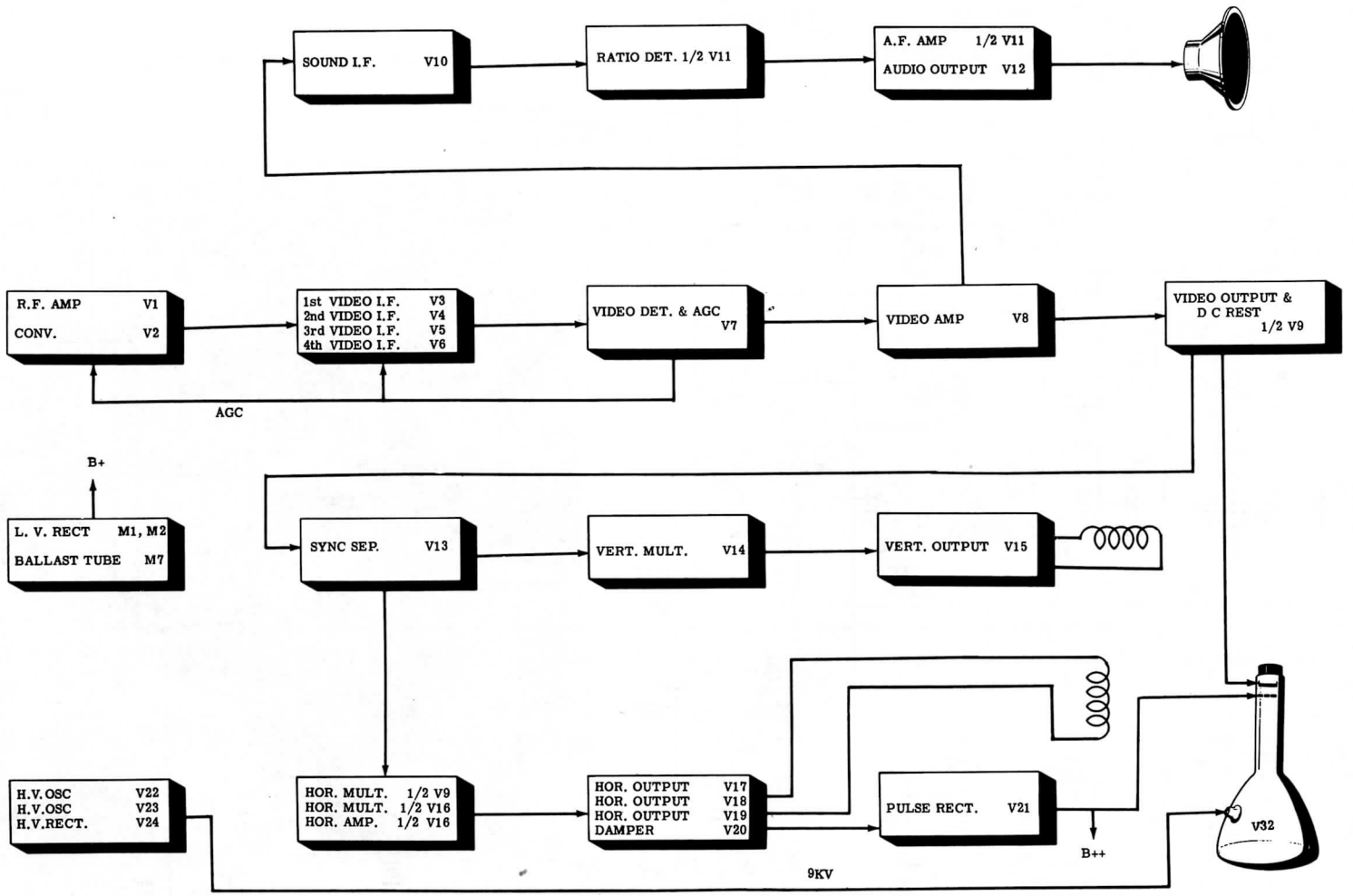


HIGH VOLTAGE SUPPLY - TOP VIEW



HIGH VOLTAGE SUPPLY - BOTTOM VIEW


FM-RF AMP MIXER
12AT7
1ST. IF AMP
12BA6
2ND FM IF AMP
12AU6
RATIO DETECTOR
12AL5
AM CONV. FM OSC.
12BA7
DET.-AVC AF AMP
12AV6
POWER OUTPUT
50L6GT
RADIO SPEAKER PLUG
TELEVISION SPEAKER PLUG
SW. ON VOL.-CONT.
A PHOTOFACT STANDARD NOTATION SCHEMATIC
©Howard W. Sams & Co., Inc. 1949



BLOCK DIAGRAM

DISASSEMBLY INSTRUCTIONS-COMBINATION MODELS ONLY

1. Remove 5 push-on type knobs from TV controls.
2. Remove 7 phillips head screws holding left rear cover.
3. Remove picture tube base socket.
4. Remove tape and clamps from wires.
5. Remove focus coil plug from TV chassis.
6. Remove screw holding speaker plug in TV chassis. Remove speaker plug.
7. Disconnect wire grounding picture tube to chassis.
8. Remove HV lead from picture tube.
9. Remove plug from middle of TV chassis.
10. Remove plug from front corner of TV chassis.
11. Pull out power plug from socket near bottom of left side of cabinet.
12. Remove 2 phillips head screws holding HV cover to cabinet.
13. Remove screw from bottom center of TV chassis.
14. Push up and back to remove TV chassis.
15. Remove 4 phillips head screws holding speaker. Remove speaker.
16. Remove Ion trap from picture tube neck.
17. Remove forward wing nut under picture tube focus coil yoke. Remove yoke.
18. Remove 2 5/16" hex nuts holding side braces to picture tube rear support.
19. Remove screws and half moon clamp over deflection coil yoke. Remove yoke.
20. Remove left side brace top screw and screw located 3 inches ahead of it.
21. Remove screw holding clamp around face of picture tube. Remove tube.
22. Remove 4 push-on type knobs from radio receiver controls.
23. Remove 7 tacks holding antenna to light rear cover.
24. Remove 18 screws holding right rear cover. Remove cover.
25. Remove 3 1/4" hex nuts from paper cover over receiver chassis.
26. Remove phono power plug from receiver chassis.
27. Remove phono audio plug from receiver chassis.
28. Remove FM antenna leads from receiver chassis.
29. Remove AM antenna leads from loop antenna.
30. Remove two mounting screws and pull out receiver chassis.

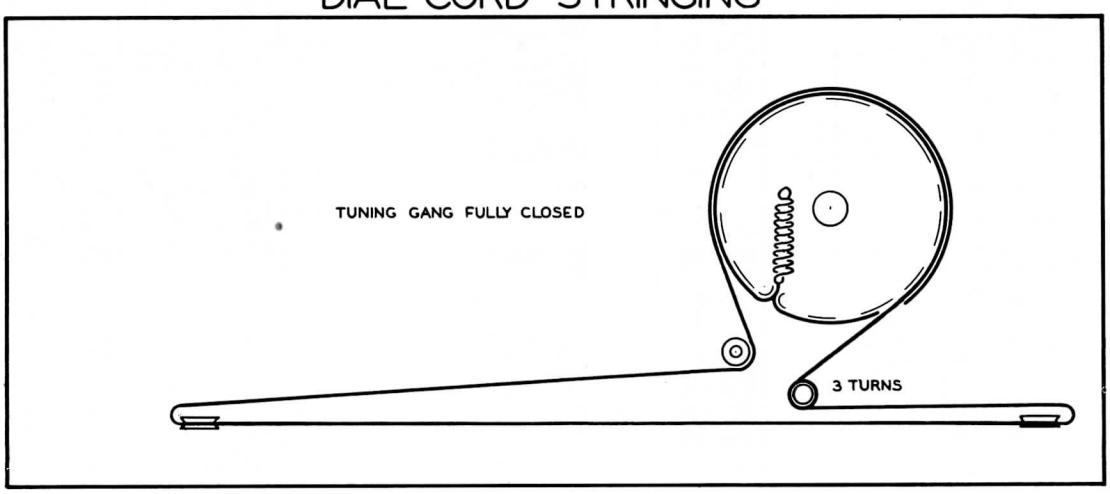
HORIZONTAL OSCILLATOR ADJUSTMENT

Set the horizontal hold control to the midpoint of its range. Turn the horizontal stability coil slug (B1) until the picture "syncs" horizontally.

PRODUCTION CHANGE

In early models of this receiver, the stabilizing oscillator coil was not used. The change of this horizontal-multivibrator circuit was incorporated to improve the horizontal synchronization.

DIAL CORD STRINGING



TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: BELMONT PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	NOTES
V1	RF Amp.	6BH6	6BH6	7CM	
V2	Converter	6J6	6J6	7BF	
V3	1st Video and Sound IF Amp.	12AU6	12AU6	7BK	
V4	2nd Video IF Amp.	12AU6	12AU6	7BK	
V5	3rd Video IF Amp.	12AU6	12AU6	7BK	
V6	4th Video IF Amp.	12AU6	12AU6	7BK	
V7	Video Detector	12AL5	12AL5	6BT	
V8	Video Amp.	12AU6	12AU6	7BK	
V9	Video Output-DC Restorer-Hor. Multivibrator	12AU7	12AU7	9A	
V10	Sound IF Amp.	12AU6	12AU6	7BK	
V11	Disc.-AF Amp.	19T8	19T8	9E	
V12	Audio Output	50L6GT	50L6GT	7AC	
V13	Sync. Sep.	12AU6	12AU6	7BK	
V14	Vertical Multivibrator	12SN7GT	12SN7GT	8BD	
V15	Vert. Output	50L6GT	50L6GT	7AC	
V16	Horizontal Multivibrator-Amp.	12SN7GT	12SN7GT	8BD	
V17	Hor. Output	50B5	50B5	7BZ	
V18	Hor. Output	50B5	50B5	7BZ	
V19	Hor. Output	50B5	50B5	7BZ	
V20	Damper	35Z5GT	35Z5GT	6AD	
V21	Pulse Rect.	35Z5GT	35Z5GT	6AD	
V22	HV Osc.	35L6GT	35L6GT	7AC	
V23	HV Osc.	35L6GT	35L6GT	7AC	
V24	HV Rectifier	1B3GT	1B3GT	3C	
V25	FM RF Amp.-Mixer	12AT7	12AT7	9A	
V26	AM Converter-FM Osc.	12BA7	12BA7	8CT	
V27	1st IF Amp.	12BA6	12BA6	7BK	
V28	2nd FM IF Amp.	12AU6	12AU6	7BK	
V29	Ratio Det.	12AL5	12AL5	6BT	
V30	DET.-AVC-AF Amp.	12AV6	12AV6	7BT	
V31	Power Output	50L6GT	50L6GT	7AC	
V32A	Picture Tube	10BP4	10BP4	12D	
B	Picture Tube	10FP4	10FP4	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.	RATING VOLT	REPLACEMENT DATA: BELMONT PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	REPLACEMENT DATA: ERIE PART No.	REPLACEMENT DATA: SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1	400	150	B-8C-16052	AFH80D			D-13041	Filter
C2	400	150	B-8C-16053	AFH80D			D-13041	Filter
C3A	40	150	A-8C-10077	AF844D	UP42215		D-13000	■ Filter ▲ Hor. Multi. Dec. V. Amp. Screen Dec.
B	20	150						
C	20	150						
C4A	150	25	A-8C-16159	AF3010A	UP4BJ 1057		D-13043	■ Vert. Output Cath. Byp ▲ Output Cath. Byp.
B	50	25						
C5	500	3	B-8C-16417	PRS6/500	UP1AJ 217		TVA-4	Video Amp. Cath. Bypass
C6	8	300	A-8C-16450	PRS350/8	BR835		UT-83	Pulse Rect. Filter
C7	10	50	A-8C-13132	PRS50/10	BBR10-50T		TVA-14	Sync. Sep. Cath. Byp.
C8	10	50	A-8C-16761	PRS50/10	BBR10-50T		TVA-14	Stabilizing Cap.
C9	10	150	A-8C-11495	PRS150/12	BR1015		UT-121	Dyn. Limiter Cap.
C10A	40	300	A-8C-16432-1	AFH844G5A	UP9DJ 56§			▬ Filter
B	20	300			BR252A			■ Filter
C	20	300						▲ Filter
D	25	25						Output Cath. Bypass
C11	60	150	A-8C-16370	AF12F	UP3315§			Voltage Doubler Cap.
C12	5	100	C-8C-16013	PRS150/4	BR415		TVA-13	Stabilizing Cap.
C13	220		C-8G-16045			GP2K-250		Ant. Coupling
C14	220		C-8G-16045			GP2K-250		" "
C15	220		C-8G-16045			GP2K-250		RF Coupling
C16	220		C-8G-16045			GP2K-250		" "
C17	1000		C-8G-13201			GP2L-001		RF Screen Bypass
C18	1000		C-8G-13201			GP2L-001		RF Supp. Bypass
C19	1000		C-8G-13201			GP2L-001		RF Bypass
C20	1000		C-8G-13201			GP2L-001		" "
C21	1000		C-8G-13201			GP2L-001		" "
C22	1000		C-8G-13201			GP2L-001		RF Plate Decoupling
C23	.5		A-8G-12495-7					RF Coupling
C24	.5		A-8G-12495-7					" "
C25	1		A-8G-12495-2					" "
C26	1000		C-8G-13201			GP2L-001		RF Bypass
C27	2.2		A-8G-12495-4					Osc. Coupling
C28	51		C-8G-11891			GP1K-50		Osc. Feedback
C29	51		C-8G-11891			GP1K-50		Osc. Grid Cap.
C30	7		C-8G-15224					Fixed Trimmer
C31	2.5		C-8G-15737					Osc. Feedback
C32	10		C-8G-11789			GP1K-10		Voltage Divider
C33	1000		C-8G-13201			GP2L-001		RF Bypass
C34	220		C-8G-16045			GP2K-250		RF Fil. Bypass
C35	220		C-8G-16045			GP2K-250		" " "
C36	220		C-8G-16045			GP2K-250		Conv. Fil. Bypass
C37	220		C-8G-16045			GP2K-250		" " "

PARTS LIST AN

CAPACITOF

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT: BELMONT PART No.	REPLACEMENT: AEROVOX PART No.	REPLACEMENT: CORNELL-DUBILIER PART No.	I
C38	47	500	C-8F3-109	1468-00005	5W5Q5	GP
C39	1000		C-8G-13201	1468-001	1W5D1	GP
C40	1000		C-8G-13201	1468-001	1W5D1	GP
C41	1000		C-8G-13201	1468-001	1W5D1	GP
C42	1000		C-8G-13201	1468-001	1W5D1	GP
C43	1000		C-8G-13201	1468-001	1W5D1	GP
C44	100		C-8G-11734	1468-0001	5W5T1	GP
C45	47	500	C-8F3-109	1468-00005	5W5Q5	GP
C46	1000		C-8G-13201	1468-001	1W5D1	GP
C47	1000		C-8G-13201	1468-001	1W5D1	GP
C48	1000		C-8G-13201	1468-001	1W5D1	GP
C49	100		C-8G-11734	1468-0001	5W5T1	GP
C50	1000		C-8G-13201	1468-001	1W5D1	GP
C51	47	500	C-8F3-109	1468-00005	5W5Q5	GP
C52	1000		C-8G-13201	1468-001	1W5D1	GP
C53	1000		C-8G-13201	1468-001	1W5D1	GP
C54	1000		C-8G-13201	1468-001	1W5D1	GP
C55	100		C-8G-11734	1468-0001	5W5T1	GP
C56	1000		C-8G-13201	1468-001	1W5D1	GP
C57	.47	500	C-8F3-109	1468-00005	5W5Q5	GP
C58	1000		C-8G-13201	1468-001	1W5D1	GP
C59	1000		C-8G-13201	1468-001	1W5D1	GP
C60	1000		C-8G-13201	1468-001	1W5D1	GP
C61	1000		C-8G-13201	1468-001	1W5D1	GP
C62	100		C-8G-11734	1468-0001	5W5T1	GP
C63	100		C-8G-11734	1468-0001	5W5T1	GP
C64	5000		A-8G-13962	1467-005	1D5D5	GP
C65	1000		C-8G-13201	1468-001	1W5D1	GP
C66	1.0	200	C-8D-16214	484-1.0	GT2W1	
C67	5		C-8G-12166	1468-000005	5W5V5	NP
C68	1000		C-8G-13201	1468-001	1W5D1	GP
C69	1000		C-8G-13201	1468-001	1W5D1	GP
C70	1000		C-8G-13201	1468-001	1W5D1	GP
C71	.05	200	C-8D-10770	P288-05	GT2S5	
C72	1000		C-8G-13201	1468-001	1W5D1	GP
C73	.05	200	C-8D-10770	P288-05	GT2S5	
C74	.1	200		P288-1	GT2P1	
C75	47		C-8G-12198	1468-00005	5W5Q5	GP
C76	1500		C-8G-11731	1467-0015	1W5D15	GP
C77	220		C-8G-16045	1468-00025	5W5T25	GP
C78	1000		C-8G-13201	1468-001	1W5D1	GP
C79	220	500	C-8F3-117	1468-0002	5W5T2	GP
C80	470	500	C-8F3-12	1468-0005	5W5T5	GP
C81	.05	200	C-8D-10770	P288-05	GT2S5	
C82	.01	200	C-8D-11738	P488-01	GT2S1	GP
C83	.002	600	C-8D-10778	P688-002	GT6D2	GP
C84	220	500	C-8F3-10	1468-0002	5W5T2	GP
C85	220	500	C-8F3-10	1468-0002	5W5T2	GP
C86	1500		C-8G-11731	1467-0015	1W5D15	GP
C87	.01	200	C-8D-11738	P488-01	GT2S1	GP
C88	1500		C-8G-11731	1467-0015	1W5D15	GP
C89	.001	600	C-8D-12020	P688-001	GT6D1	GP
C90	.01	200	C-8D-11738	P488-01	GT2S1	GP
C91	.05	200	C-8D-10770	P288-05	GT2S5	
C92	.05	200	C-8D-10770	P288-05	GT2S5	
C93	.005	600	C-8D-10935	P688-005	GT6D5	GP
C94	.01	200	C-8D-11738	P488-01	GT2S1	GP
C95	.01	400	C-8D-11738	P488-01	GT2S1	GP
C96	470	500	C-8F3-12	1468-0005	5W5T5	GP
C97	.2	400	C-8D-16681	P488-22	GT4P2	
C98	.2	400	C-8D-10942	P488-22	GT4P2	
C99	.25	200	C-8D-16680	P488-25	GT2P25	
C100	470	500	C-8F3-121	1468-0005	5W5T5	GP
C101	56	500	C-8F1-110			
C102	3300	500	C-8F1-131			
C103	47	500	C-8F3-109	1469-00005	5R5Q5	GP
C104	470	500	C-8F3-12	1468-0005	5W5T5	GP
C105	.01	200	C-8D-11738	P488-01	GT2S1	GP
C106	.25	400	C-8D-10775	P488-25	GT4P25	
C107	150	600	C-8F1-9	1468-00015	5W5T15	GP
C108	.5	200	C-8D-16679	P288-5	GT2P5	
C109	.25	200	C-8D-16680	P488-25	GT2P25	
C110	330	1000	C-8F14-119			
C111	.1	600		P688-1	GT6P1	
C112	.5	200	C-8D-16679	P288-5	GT2P5	
C113	5000		A-8G-13962	1467-005	1D5D5	GP
C114	.02	200	C-8D-11304	P488-02	GT2S2	
C115	.02	200	C-8D-11304	P488-02	GT2S2	
C116	.01	200	C-8D-16678	P488-01	GT2S1	GP
C117	.1	200	C-8D-10771	P288-1	GT2P1	
C118	.02	200	C-8D-11304	P488-02	GT2S2	
C119	.02	200	C-8D-11304	P488-02	GT2S2	
C120	.02	200	C-8D-16677	P488-02	GT2S2	
C121	560	500	C-8F6-122			
C122	.01	200	C-8D-16678	P488-01	GT2S1	GP
C123	.02	200	C-8D-16677	P488-02	GT2S2	
C124	.1	200	C-8D-16676	P288-1	GT2P1	
C125	.1	200	C-8D-16676	P288-1	GT2P1	
C126	500	10000	A-8G-16078			
C127	500	10000	A-8G-16078			
C128	1000		C-8G-13201	1468-001	1W5D1	GP
C129	.05	600	C-8D-10982	P688-05	GT2S5	
C130	.01	400	C-8D-10761	P488-01	GT4S1	
C131	.01	200	C-8D-11738	P488-01	GT2S1	GP
C132	470		C-8G-11732	1468-0005	5W5T5	GP
C133	470		C-8G-11732	1468-0005	5W5T5	GP
C134	470		C-8G-11732	1468-0005	5W5T5	GP
C135	100		C-8G-12166	1468-0001	5W5T1	GP
C136	470		C-8G-11732	1468-0005	5W5T5	GP
C137	100		C-8G-12166	1468-0001	5W5T1	GP
C138	100		C-8G-12166	1468-0001	5W5T1	GP
C139	1000		C-8G-13201	1468-001	1W5D1	GP
C140	2.2		C-8G-12495-4			
C141	.05	200	C-8D-10770	P288-05	GT2S5	
C142	5000		A-8G-13962	1467-005	1D5D5	GP
C143	33		C-8G-14172	1468-00004	5W5Q4	NP

PARTS LIST AND DESCRIPTIONS

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA BELMONT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C38	47	500	C-8F3-109	1468-00005	5W5Q5	GP1K-50	1FM-45	IF Coupling
C39	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	Conv. Plate Decoupling
C40	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	AGC Filter
C41	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C42	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	1st IF Supp. Bypass
C43	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	1st IF Decoupling
C44	100		C-8G-11734	1468-0001	5W5T1	GP1K-100	1FM-31	1st IF Fil. Bypass
C45	47	500	C-8F3-109	1468-00005	5W5Q5	GP1K-50	1FM-45	IF Coupling
C46	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	AGC Filter
C47	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C48	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	2nd IF Supp. Bypass
C49	100		C-8G-11734	1468-0001	5W5T1	GP1K-100	1FM-31	2nd IF Fil. Bypass
C50	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	2nd IF Decoupling
C51	47	500	C-8F3-109	1468-00005	5W5Q5	GP1K-50	1FM-45	IF Coupling
C52	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	AGC Filter
C53	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C54	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	3rd IF Supp. Bypass
C55	100		C-8G-11734	1468-0001	5W5T1	GP1K-100	1FM-31	3rd IF Fil. Bypass
C56	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	3rd IF Decoupling
C57	.47	500	C-8F3-109	1468-00005	5W5Q5	GP1K-50	1FM-45	IF Coupling
C58	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C59	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	4th IF Cath. Bypass
C60	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	4th IF Supp. Bypass
C61	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	4th IF Decoupling
C62	100		C-8G-11734	1468-0001	5W5T1	GP1K-100	1FM-31	4th IF Fil. Bypass
C63	100		C-8G-11734	1468-0001	5W5T1	GP1K-100	1FM-31	IF Coupling
C64	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	RF Bypass
C65	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	AGC Filter
C66	1.0	200	C-8D-16214	484-1.0	GT2W1		TC-10	" "
C67	5		C-8G-12166	1468-000005	5W5V5	NP0K-5	MS-55	V. Diode Filter
C68	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	AGC Filter
C69	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	V. Det. Fil. Bypass
C70	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	V. Det. Fil. Bypass
C71	.05	200	C-8D-10770	P288-05	GT2S5		TM-15	Video Coupling
C72	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	V. Amp. Screen Dec.
C73	.05	200	C-8D-10770	P288-05	GT2S5		TM-15	Video Coupling
C74	.1	200		P288-1	GT2P1		TM-1	Pic. Tube Grid Filter
C75	47		C-8G-12198	1468-00005	5W5Q5	GP1K-50	1FM-45	S. IF Coupling
C76	1500		C-8G-11731	1467-0015	1W5D15	GP2L-0015	1FM-215	S. IF Decoupling
C77	220		C-8G-16045	1468-00025	5W5T25	GP2K-250	1FM-325	S. IF Fil. Bypass
C78	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	S. IF Coupling
C79	220	500	C-8F3-117	1468-0002	5W5T2	GP2K-200	1FM-32	Diode Load Cap.
C80	470	500	C-8F3-12	1468-0005	5W5T5	GP2K-500	1FM-35	RF Bypass
C81	.05	200	C-8D-10770	P288-05	GT2S5		TM-15	Isolation
C82	.01	200	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	Vol. Cont. Isolation
C83	.002	600	C-8D-10778	P688-002	GT6D2	GP2M-002	TM-22	Audio Coupling
C84	220	500	C-8F3-10	1468-0002	5W5T2	GP2K-200	1FM-325	AF Grid Bypass
C85	220	500	C-8F3-10	1468-0002	5W5T2	GP2K-200	1FM-325	AF Plate Bypass
C86	1500		C-8G-11731	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C87	.01	200	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	Audio Coupling
C88	1500		C-8G-11731	1467-0015	1W5D15	GP2L-0015	1FM-215	De-emphasis
C89	.001	600	C-8D-12020	P688-001	GT6D1	GP2L-001	TM-21	Output Plate Bypass
C90	.01	200	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	AGC Filter *
C91	.05	200	C-8D-10770	P288-05	GT2S5		TM-15	Video Coupling
C92	.05	200	C-8D-10770	P288-05	GT2S5		TM-15	Sync. Coupling
C93	.005	600	C-8D-10935	P688-005	GT6D5	GP2M-005	TM-25	Integrator Net.
C94	.01	200	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	" "
C95	.01	400	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	Vert. Multi. Feedback
C96	470	500	C-8F3-12	1468-0005	5W5T5	GP2K-500	1FM-35	Vert. Multi. Plate Byp.
C97	.2	400	C-8D-16681	P488-22	GT4P2		68P38	Vert. Discharge
C98	.2	400	C-8D-10942	P488-22	GT4P2		68P38	Vert. Sweep Coupling
C99	.25	200	C-8D-16680	P488-25	GT2P25		TC-2	Vert. Pulse Forming
C100	470	500	C-8F3-121	1468-0005	5W5T5	GP2K-500	1FM-35	Hor. Sync. Coupling
C101	56	500	C-8F1-110					Hor. Multi. Feedback
C102	3300	500	C-8F1-131					Fixed Trimmer ‡
C103	47	500	C-8F3-109	1469-00005	5R5Q5	GP1K-50	MS-45	Hor. Discharge †
C104	470	500	C-8F3-12	1468-0005	5W5T5	GP2K-500	1FM-35	Hor. Sweep Coupling
C105	.01	200	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	" " "
C106	.25	400	C-8D-10775	P488-25	GT4P25		TC-2	Hor. Output Screen Byp.
C107	150	500	C-8F1-9	1468-00015	5W5T15	GP2K-150	1FM-315	Hor. Sync. Coupling ‡
C108	.5	200	C-8D-16679	P288-5	GT2P5		TC-5	Damper Filter
C109	.25	200	C-8D-16680	P488-25	GT2P25		TC-2	Hor. Sweep Coupling
C110	330	1000	C-8F14-119					Fixed Trimmer
C111	.1	600		P688-1	GT6P1		TM-1	RF Bypass
C112	.5	200	C-8D-16679	P288-5	GT2P5		TC-5	" "
C113	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	Cont. Control Bypass
C114	.02	200	C-8D-11304	P488-02	GT2S2		TM-12	HV Osc. Fil. Bypass
C115	.02	200	C-8D-11304	P488-02	GT2S2		TM-12	" " " "
C116	.01	200	C-8D-16678	P488-01	GT2S1	GP2-335-01	TM-11	HV Osc. Grid Cap.
C117	.1	200	C-8D-10771	P288-1	GT2P1		TM-1	Bias Filter
C118	.02	200	C-8D-11304	P488-02	GT2S2		TM-12	" "
C119	.02	200	C-8D-11304	P488-02	GT2S2		TM-12	RF Bypass
C120	.02	200	C-8D-16677	P488-02	GT2S2		TM-12	HV Osc. Decoupling
C121	560	500	C-8F6-122					Fixed Trimmer
C122	.01	200	C-8D-16678	P488-01	GT2S1	GP2-335-01	TM-11	HV Osc. Feedback
C123	.02	200	C-8D-16677	P488-02	GT2S2		TM-12	HV Osc. Screen Byp.
C124	.1	200	C-8D-16676	P288-1	GT2P1		TM-1	Isolation
C125	.1	200	C-8D-16676	P288-1	GT2P1		TM-1	"
C126	500	10000	A-8G-16078					HV Filter
C127	500	10000	A-8G-16078					" "
C128	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C129	.05	600	C-8D-10982	P688-05	GT2S5		TM-15	Line Isolation
C130	.01	400	C-8D-10761	P488-01	GT4S1		TM-11	Line Filter
C131	.01	200	C-8D-11738	P488-01	GT2S1	GP2-335-01	TM-11	RF Bypass *
C132	470		C-8G-11732	1468-0005	5W5T5	GP2K-500	1FM-35	Ant. Coupling
C133	470		C-8G-11732	1468-0005	5W5T5	GP2K-500	1FM-35	Ant. Isolation
C134	470		C-8G-11732	1468-0005	5W5T5	GP2K-500	1FM-35	FM RF Cath. Bypass
C135	100		C-8G-12166	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C136	470		C-8G-11732	1468-0005	5W5T5	GP2K-500	1FM-35	FM RF Plate Dec.
C137	100		C-8G-12166	1468-0001	5W5T1	GP1K-100	1FM-31	RF Coupling
C138	100		C-8G-12166	1468-0001	5W5T1	GP1K-100	1FM-31	" "
C139	1000		C-8G-13201	1468-001	1W5D1	GP2L-001	1FM-21	FM Mixer Cath. Bypass
C140	2.2		C-8G-12495					Osc. Coupling
C141	.05	200	C-8D-10770	P288-05	GT2S5		TM-15	AVC Filter
C142	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	" "
C143	33		C-8G-14172	1468-00004	5W5Q4	NP0L-33	1FM-44	RF Coupling

ITEM No.	RATING CAP.	RATING VOLT	BELMONT PART No.	AER(PAR
C144	100		C-8G-12166	1468-
C145	5000		A-8G-13962	1467-
C146	5		A-8G-13962	1468-
C147	33		C-8G-14172	1468-
C148	5000		A-8G-13962	1467-
C149	5000		A-8G-13962	1467-
C150	5000		A-8G-13962	1467-
C151	100		C-8G-12166	1468-
C152	5000		A-8G-13962	1467-
C153	2000		C-8G-16049	1467-
C154	5000		A-8G-13962	1467-
C155	220		C-8G-11733	1468-
C156	220		C-8G-11733	1468-
C157	5000		A-8G-13962	1467-
C158	5000		A-8G-13962	1467-
C159	2000		C-8G-12166	1467-
C160	390	500	C-8F3-120	1468-
C161	2000		C-8G-13962	1467-
C162	330	500	C-8F3-11	1468-
C163	220		C-8G-11733	1468-
C164	5000		A-8G-13962	1467-
C165	.01	400	C-8D-10761	P488-
C166	.05	400	C-8D-10770	P488-
C167	.01	400	C-8D-10761	P488-
C168	220		C-8G-11733	1468-
C169	.01	400	C-8D-10761	P488-
C170	.01	400	C-8D-10761	P488-
C171	.005	600	C-8D-10935	P688-
C172	5000		A-8G-13962	1467-
C173	5000		A-8G-13962	1467-
C174	.15	400	C-8D-16791	P488-
C175	.05	400	C-8D-10813	P488-
C176	330	500	C-8F3-11	1468-
C177	330	500	C-8F3-11	1468-

* Not used in all models.
† Early production models
‡ Not used in early produc
§ Parallel sections to obt

ITEM No.	RATING RESIST-ANCE	RATING WATTS	REPLA BELMONT PART No.	
R1A	1 Meg.	½	A-10A-16168	Q1
B	Shaft		Not Req.	No
C	Switch		Not Req.	76
R2A	250KΩ	½	A-10B-16165	Q1
B	Shaft		Not Req.	No
R3A	50KΩ	½	A-10B-16167	Q1
B	Shaft		Not Req.	No
R4	2000Ω	2	B-10B-16555	
R5	2000Ω	2	A-10B-16163	W-
R6	500KΩ	½	A-10B-16164	Q1
R7	500KΩ	½	A-10B-16164	Q1
R8	10KΩ	4	A-10B-16629	
R9	2000Ω	2	A-10B-16162	W-
R10A	1 Meg.	½	A-11B-16502	Q1
B	Shaft		Not Req.	No
R11A	1 Meg.	½	A-10A-16503	Q1
B	Shaft		Not Req.	No
C	Switch		Not Req.	76

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLAC BELMONT PART No.
R12	100KΩ	½	C-9B1-86
R13	68Ω	½	C-9B1-48
R14	5600Ω	½	C-9B1-71
R15	1000Ω	½	C-9B1-13
R16	5600Ω	½	C-9B1-71
R17	5600Ω	½	C-9B1-71
R18	10KΩ	½	C-9B1-74
R19	1000Ω	½	C-9B1-13
R20	220Ω	½	C-9B1-54
R21	10KΩ	½	C-9B1-74
R22	10KΩ	½	C-9B1-74
R23	5600Ω	½	C-9B1-71
R24	10Ω	½	C-9B1-38
R25	10Ω	½	C-9B1-38
R26	5600Ω	½	C-9B1-71
R27	82Ω	½	C-9B1-49
R28	5600Ω	½	C-9B1-71
R29	1000Ω	½	C-9B1-13
R30	1000Ω	½	C-9B1-13
R31	1000Ω	½	C-9B1-13
R32	8200Ω	½	C-9B1-73
R33	82Ω	½	C-9B1-49
R34	5600Ω	½	C-9B1-71
R35	1000Ω	½	C-9B1-13
R36	1000Ω	½	C-9B1-13
R37	5600Ω	½	C-9B1-71
R38	82Ω	½	C-9B1-49
R39	5600Ω	½	C-9B1-71
R40	1000Ω	½	C-9B1-13
R41	8200Ω	½	C-9B1-73
R42	68Ω	½	C-9B1-48
R43	5600Ω	½	C-9B1-71
R44	1000Ω	½	C-9B1-13
R45	47KΩ	½	C-9B1-82
R46	100KΩ	½	C-9B1-25
R47	68Ω	½	C-9B1-48
R48	82KΩ	½	C-9B1-85

NOTES

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CATION CODES AND
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DESCRIPTIONS

(CONT.)

	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
	1FM-45	IF Coupling
	1FM-21	Conv. Plate Decoupling
	1FM-21	AGC Filter
	1FM-21	RF Bypass
	1FM-21	1st IF Supp. Bypass
	1FM-21	1st IF Decoupling
	1FM-31	1st IF Fil. Bypass
	1FM-45	IF Coupling
	1FM-21	AGC Filter
	1FM-21	RF Bypass
	1FM-21	2nd IF Supp. Bypass
	1FM-31	2nd IF Fil. Bypass
	1FM-21	2nd IF Decoupling
	1FM-45	IF Coupling
	1FM-21	AGC Filter
	1FM-21	RF Bypass
	1FM-21	3rd IF Supp. Bypass
	1FM-31	3rd IF Fil. Bypass
	1FM-21	3rd IF Decoupling
	1FM-45	IF Coupling
	1FM-21	RF Bypass
	1FM-21	4th IF Cath. Bypass
	1FM-21	4th IF Supp. Bypass
	1FM-21	4th IF Decoupling
	1FM-31	4th IF Fil. Bypass
	1FM-31	IF Coupling
	1FM-25	RF Bypass
	1FM-21	AGC Filter
	TC-10	" "
	MS-55	V. Diode Filter
	1FM-21	AGC Filter
	1FM-21	V. Det. Fil. Bypass
	1FM-21	V. Det. Fil. Bypass
	TM-15	Video Coupling
	1FM-21	V. Amp. Screen Dec.
	TM-15	Video Coupling
	TM-1	Pic. Tube Grid Filter
	1FM-45	S. IF Coupling
5	1FM-215	S. IF Decoupling
	1FM-325	S. IF Fil. Bypass
	1FM-21	S. IF Coupling
	1FM-32	Diode Load Cap.
	1FM-35	RF Bypass
	TM-15	Isolation
01	TM-11	Vol. Cont. Isolation
	TM-22	Audio Coupling
	1FM-325	AF Grid Bypass
	1FM-325	AF Plate Bypass
5	1FM-215	RF Bypass
01	TM-11	Audio Coupling
5	1FM-215	De-emphasis
	TM-21	Output Plate Bypass
01	TM-11	AGC Filter *
	TM-15	Video Coupling
	TM-15	Sync. Coupling
	TM-25	Integrator Net.
01	TM-11	" "
01	TM-11	Vert. Multi. Feedback
	1FM-35	Vert. Multi. Plate Byp.
	68P38	Vert. Discharge
	68P38	Vert. Sweep Coupling
	TC-2	Vert. Pulse Forming
	1FM-35	Hor. Sync. Coupling
		Hor. Multi. Feedback
		Fixed Trimmer ‡
	MS-45	Hor. Discharge †
	1FM-35	Hor. Sweep Coupling
1	TM-11	" " "
	TC-2	Hor. Output Screen Byp.
	1FM-315	Hor. Sync. Coupling ‡
	TC-5	Damper Filter
	TC-2	Hor. Sweep Coupling
		Fixed Trimmer
	TM-1	RF Bypass
	TC-5	" "
	1FM-25	Cont. Control Bypass
	TM-12	HV Osc. Fil. Bypass
	TM-12	" " " "
1	TM-11	HV Osc. Grid Cap.
	TM-1	Bias Filter
	TM-12	" "
	TM-12	RF Bypass
	TM-12	HV Osc. Decoupling
		Fixed Trimmer
1	TM-11	HV Osc. Feedback
	TM-12	HV Osc. Screen Byp.
	TM-1	Isolation
	TM-1	"
		HV Filter
		" "
	1FM-21	RF Bypass
	TM-15	Line Isolation
	TM-11	Line Filter
	TM-11	RF Bypass *
	1FM-35	Ant. Coupling
	1FM-35	Ant. Isolation
	1FM-35	FM RF Cath. Bypass
	1FM-31	RF Bypass
	1FM-35	FM RF Plate Dec.
	1FM-31	RF Coupling
	1FM-31	" "
	1FM-21	FM Mixer Cath. Bypass
		Osc. Coupling
	TM-15	AVC Filter
	1FM-25	" "
	1FM-44	RF Coupling

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA BELMONT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C144	100		C-8G-12166	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C145	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	" "
C146	5		A-8G-13962	1468-000005	5W5V5	NP0K-5	MS-55	Osc. Feedback
C147	33		C-8G-14172	1468-00004	5W5Q4	NP0L-33	1FM-44	Osc. Grid Cap.
C148	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	Osc. Anode Bypass
C149	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	Conv. Plate Decoupling
C150	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	RF Bypass
C151	100		C-8G-12166	1468-0001	5W5T1	GP1K-100	1FM-31	Conv. Fil. Bypass
C152	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	1st IF Cath. Bypass
C153	2000		C-8G-16049	1467-002	1W5D2	GP2M-002	1FM-22	1st IF Decoupling
C154	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	1st IF Fil. Bypass
C155	220		C-8G-11733	1468-00025	5W5T25	GP2K-250	1FM-325	Diode RF Filter
C156	220		C-8G-11733	1468-00025	5W5T25	GP2K-250	1FM-325	2nd IF Grid Filter
C157	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	2nd IF Supp. Bypass
C158	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	2nd IF Cath. Bypass
C159	2000		C-8G-12166	1467-002	1W5D2	GP2M-002	1FM-22	2nd IF Decoupling
C160	390	500	C-8F3-120	1468-0004	5W5T4	GP2K-300	1FM-34	Diode Load Cap.
C161	2000		C-8G-13962	1467-002	1W5D2	GP2M-002	1FM-22	De-emphasis
C162	330	500	C-8F3-11	1468-00035	5W5T3	GP2K-300	1FM-335	RF Bypass
C163	220		C-8G-11733	1468-00025	5W5T25	GP2K-250	1FM-325	" "
C164	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	2nd IF Fil. Bypass
C165	.01	400	C-8D-10761	P488-01	GT4S1	GP2-335-01	TM-11	Audio Coupling
C166	.05	400	C-8D-10770	P488-05	GT4S5		TM-15	Phono Isolation
C167	.01	400	C-8D-10761	P488-01	GT4S1	GP2-335-01	TM-11	Audio Coupling
C168	220		C-8G-11733	1468-00025	5W5T25	GP2K-250	1FM-325	AF Plate Bypass
C169	.01	400	C-8D-10761	P488-01	GT4S1	GP2-335-01	TM-11	Tone Compensation
C170	.01	400	C-8D-10761	P488-01	GT4S1	GP2-335-01	TM-11	Audio Coupling
C171	.005	600	C-8D-10935	P688-005	GT6D5	GP2M-005	TM-25	Output Plate Bypass
C172	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	RF Bypass
C173	5000		A-8G-13962	1467-005	1D5D5	GP2M-005	1FM-25	AM DET-AF Fil. Bypass
C174	.15	400	C-8D-16791	P488-15	GT4P2		72P53	Line Isolation
C175	.05	400	C-8D-10813	P488-05	GT4S5		TM-15	Line Filter
C176	330	500	C-8F3-11	1468-00035	5W5T3	GP2K-300	1FM-335	RF Bypass *
C177	330	500	C-8F3-11	1468-00035	5W5T3	GP2K-300	1FM-335	" " *

* Not used in all models.
† Early production models use 82MMF in this application.
‡ Not used in early production models.
§ Parallel sections to obtain desired capacity.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA BELMONT PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
R1A	1 Meg.	½	A-10A-16168	Q13-137	AM-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	KSS-3	Attach to R1A Per Instructions
C	Switch		Not Req.	76-1	SW-A	" " " " "
R2A	250KΩ	½	A-10B-16165	Q11-130	AM-55-S	Horiz. Hold Control
B	Shaft		Not Req.	Not Req.	KSS-3	Attach to R2A Per Instructions.
R3A	50KΩ	½	A-10B-16167	Q11-123	AM-44-S	Brightness Control
B	Shaft		Not Req.	Not Req.	KSS-3	Attach to R3A Per Instructions
R4	2000Ω	2	B-10B-16555			Contrast Control (Wire Wound)
R5	2000Ω	2	A-10B-16163	W-2000	43-2000	Width Control Wire Wound
R6	500KΩ	½	A-10B-16164	Q11-133		Vert. Hold Control
R7	500KΩ	½	A-10B-16164	Q11-133		Height control
R8	10KΩ	4	A-10B-16629			Focus Control Wire Wound
R9	2000Ω	2	A-10B-16162	W-2000	43-2000	Vert. Linearity Control Wire Wound
R10A	1 Meg.	½	A-11B-16502	Q13-137	AM-63-Z	Tone Control
B	Shaft		Not Req.	Not Req.	KSS-3	Attach to R10A Per Instructions
R11A	1 Meg.	½	A-10A-16503	Q13-137	AM-63-Z	Volume Control
B	Shaft		Not Req.	Not Req.	KSS-3	Attach to R11A Per Instructions
C	Switch		Not Req.	76-1	SW-A	" " " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA BELMONT PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.	
R12	100KΩ	½	C-9B1-86		RF Grid	
R13	68Ω	½	C-9B1-48		RF Cathode	
R14	5600Ω	½	C-9B1-71		RF Supp. Grid	
R15	1000Ω	½	C-9B1-13		RF Screen Decoupling	20%
R16	5600Ω	½	C-9B1-71		RF Plate Decoupling	
R17	5600Ω	½	C-9B1-71		RF Coil Shunt	
R18	10KΩ	½	C-9B1-74		Conv. Grid	
R19	1000Ω	½	C-9B1-13		Conv. Plate Decoupling	20%
R20	220Ω	½	C-9B1-54		Conv. Cathode	
R21	10KΩ	½	C-9B1-74		Conv. Grid Coil Shunt	
R22	10KΩ	½	C-9B1-74		Osc. Grid	
R23	5600Ω	½	C-9B1-71		Osc. Plate	
R24	10Ω	½	C-9B1-38		Parasitic Supp.	
R25	10Ω	½	C-9B1-38		" "	
R26	5600Ω	½	C-9B1-71		1st Video IF Grid	
R27	82Ω	½	C-9B1-49		1st Video IF Cathode	
R28	5600Ω	½	C-9B1-71	BTS-5600	1st Video IF Supp. Grid	
R29	1000Ω	½	C-9B1-13	BTS-1000	1st Video IF Decoupling	
R30	1000Ω	½	C-9B1-13	BTS-1000	AGC Network	
R31	1000Ω	½	C-9B1-13	BTS-1000	" "	
R32	82000Ω	½	C-9B1-73		2nd Video IF Grid	
R33	82Ω	½	C-9B1-49		2nd Video IF Cathode	
R34	5600Ω	½	C-9B1-71	BTS-5600	2nd Video IF Supp. Grid	
R35	1000Ω	½	C-9B1-13	BTS-1000	2nd Video IF Decoupling	20%
R36	1000Ω	½	C-9B1-13	BTS-1000	AGC Network	
R37	5600Ω	½	C-9B1-71	BTS-5600	3rd Video IF Grid	
R38	82Ω	½	C-9B1-49		3rd Video IF Cathode	
R39	5600Ω	½	C-9B1-71	BTS-5600	3rd Video IF Supp. Grid	
R40	1000Ω	½	C-9B1-13	BTS-1000	3rd Video IF Decoupling	20%
R41	82000Ω	½	C-9B1-73		3rd Video IF Transformer Shunt	
R42	68Ω	½	C-9B1-48		4th Video IF Cathode	
R43	5600Ω	½	C-9B1-71	BTS-5600	4th Video IF Supp. Grid	
R44	1000Ω	½	C-9B1-13	BTS-1000	4th Video IF Decoupling	20%
R45	47KΩ	½	C-9B1-82	BTS-47K	AGC Diode Load	
R46	100KΩ	½	C-9B1-25	BTS-100K	AGC Network	
R47	68Ω	½	C-9B1-48		Isolation	
R48	82KΩ	½	C-9B1-85	BTS-82K	Voltage Divider	

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES	
	RESISTANCE	WATTS	BELMONT PART No.	IRC PART No.		
R49	8200Ω	½	C-9B1-73	BTS-8200	Video Det. Diode Load	
R50	100Ω	½	C-9B1-7		Parasitic Supp.	
R51	1 Meg.	½	C-9B1-31	BTS-1 Meg.	Video Amp. Grid	
R52	120Ω	½	C-9B1-51		Video Amp. Cathode	
R53	10KΩ	½	C-9B1-19	BTS-10K	Filter	20%
R54	8200Ω	1	C-9B1-73	BTA-8200	Video Amp. Plate	
R55	1 Meg.	½	C-9B1-31	BTS-1 Meg.	Video Output Grid	20%
R56	12KΩ	½	C-9B1-75	BTS-12K	Video Output Cathode	
R57	470KΩ	½	C-9B1-29		Sound IF Grid	20%
R58	1000Ω	½	C-9B1-13		Sound IF Decoupling	20%
R59	10KΩ	½	C-9B1-19	BTS-10K	De-emphasis	
R60	33KΩ	½	C-9B1-80	BTS-33K	Ratio Det. Diode Load	
R61	33KΩ	½	C-9B1-80	BTS-33K	" " " "	
R62	10 Meg.	½	C-9B1-37	BTS-10 Meg.	AF Grid	
R63	470KΩ	½	C-9B1-29	BTS-470K	AF Plate	
R64	22KΩ	½	C-9B1-78	BTS-22K	Tone Compensation	
R65	470KΩ	½	C-9B1-29	BTS-470K	Output Grid	20%
R66	180Ω	1	C-9B2-53	BW-1-180	Output Cathode	
R67	560Ω	2	C-9B4-59	BT-2-560	Filter	
R68	270Ω	½	C-9B1-55	BW-½-270	Sync. Sep. Cathode	
R69	22KΩ	½	C-9B1-78	BTS-22K	" " "	
R70	1 Meg.	½	C-9B1-31	BTS-1 Meg.	Sync. Sep. Grid	20%
R71	220KΩ	½	C-9B1-27	BTS-220K	Sync. Sep. Plate	20%
R72	10KΩ	½	C-9B1-19	BTS-10K	Phase Correction	20%
R73	1 Meg.	½	C-9B1-31	BTS-1 Meg.	Voltage Divider	
R74	56KΩ	½	C-9B1-83	BTS-56K	" "	
R75	180KΩ	½	C-9B1-89	BTS-180K	Sync. Coupling Network	
R76	4700Ω	1	C-9B1-17	BTS-4700	Integrator	20%
R77	4700Ω	½	C-9B1-17	BTS-4700	Integrator	20%
C78	1000Ω	½	C-9B1-13	BTS-1000	Vert. MV Cathode	
R79	100KΩ	½	C-9B1-13	BTS-100K	Vert. MV Plate	20%
R80	390KΩ	½	C-9B1-221	BTS-390K	Vert. MV Grid	
R81	150KΩ	½	C-9B1-26	BTS-150K	Vert. MV Plate	
R82	2200Ω	½	C-9B1-15	BTS-2200	Vert. Peaking	20%
R83	1 Meg.	½	C-9B1-31	BTS-1 Meg.	Vert. Output Grid	20%
R84	150Ω	½	C-9B1-52	BW-½-150	Vert. Output Cathode	
R85	470KΩ	½	C-9B1-29	BTS-470K	Vert. Output Plate	
R86	18KΩ	½	C-9B1-77	BTS-18K	Feedback	
R87	470Ω	½	C-9B1-29	BTS-470	Voltage Divider	
R88	330Ω	½	C-9B1-56	BW-½-330	Differentiator See Note 1	
R89	18KΩ	½	C-9B1-77	BTS-18K	Horiz. MV Grid	
R90	1800Ω	½	C-9B1-65	BTS-1800	Horiz. MV Plate See Note 2	
R91	270Ω	½	C-9B1-55	BW-½-270	Horiz. MV Cathode	
R92	560KΩ	½	C-9B1-225	BTS-560K-5%	Horiz. MV Grid	5%
R93	330KΩ	½	C-9B1-92	BTS-330K	Voltage Divider See Note 3	
R94	2200Ω	½	C-9B1-15	BTS-2200	Filter	20%
R95	3.9 Meg.	½	C-9B1-105	BTS-3.9 Meg.	Horiz. Amp. Grid	
R96	220KΩ	½	C-9B1-27	BTS-220K	Horiz. Amp. Plate See Note 4	20%
R97	100Ω	½	C-9B1-7		Parasitic Supp.	20%
R98	100Ω	½	C-9B1-7		" "	20%
R99	100Ω	½	C-9B1-7		Parasitic Supp.	20%
R100	100Ω	½	C-9B1-7		" "	20%
R101	100Ω	½	C-9B1-7		" "	20%
R102	100Ω	½	C-9B1-7		" "	20%
R103	39KΩ	½	C-9B1-81	BTS-39K	Horiz. Output Grid See Note 5	
R104	220Ω	5	C-9C12-1091	AB-225	Damper Filter (Wire Wound)	
R105	47Ω	1	C-9B2-5	BW-1-47	" "	
R106	560Ω	2	C-9B4-59	BT-2-560	Focus Coil Shunt	
R107	10KΩ	½	C-9B1-19	BTS-10K	Filter	20%
R108	8200Ω	½	C-9B1-73	BTS-8200	HV Osc. Grid	
R109	1500Ω	½	C-9B1-73	BTS-1500	HV Osc. Grid	
R110	100Ω	½	C-9B1-7		Parasitic Supp.	20%
R111	100Ω	½	C-9B1-7		" "	20%
R112	10Ω	½	C-9B1-1		" "	20%
R113	3000Ω	2	C-9B4-170		HV Osc. Screen	5%
R114	100Ω	½	C-9B1-7		Parasitic Supp.	20%
R115	100Ω	½	C-9B1-7		" "	20%
R116	10Ω	½	C-9B1-1		" "	20%
R117	100KΩ	½	C-9B1-25	BTS-100K	Feedback	20%
R118	220KΩ	½	C-9B1-27	BTS-220K	Isolation	20%
R119	220KΩ	½	C-9B1-27	BTS-220K	"	20%
R120	470KΩ	½	C-9B1-29		HV Filter	20%
R121	150KΩ	½	C-9B1-26	BTS-150K	Isolation	
R122	220Ω	1	C-9B1-54		FM RF Cathode	
R123	470Ω	½	C-9B1-58	BTS-470	FM RF Plate Decoupling	
R124	680Ω	½	C-9B1-60	BTS-680	FM Mixer Cathode	
R125	150KΩ	½	C-9B1-26	BTS-150K	FM Mixer Grid	
R126	2.2 Meg.	½	C-9B1-33	BTS-2.2 Meg.	AM Conv. Grid	
R127	470Ω	½	C-9B1-58	BTS-470	Decoupling Network	
R128	22KΩ	½	C-9B1-58	BTS-22K	Osc. Grid	
R129	470Ω	½	C-9B1-58	BTS-470	Osc. Plate Decoupling	
R130	68Ω	½	C-9B1-48	BW-½-68	1st IF Cathode	
R131	470Ω	½	C-9B1-58	BTS-470	1st IF Decoupling	
R132	47KΩ	½	C-9B1-82	BTS-47K	Diode Filter	
R133	2.2 Meg.	½	C-9B1-33	BTS-2.2 Meg.	AVC Network	20%
R134	3.3 Meg.	½	C-9B1-34	BTS-3.3 Meg.	Diode Load	20%
R135	150KΩ	½	C-9B1-26	BTS-150K	2nd FM IF Grid	20%
R136	220KΩ	½	C-9B1-27	BTS-220K	2nd FM IF Supp. Grid	20%
R137	68Ω	½	C-9B1-48	BW-½-68	2nd FM IF Cathode	
R138	470Ω	½	C-9B1-58	BTS-470	2nd FM IF Decoupling	
R139	27KΩ	½	C-9B1-79	BTS-27K	De-emphasis	
R140	22KΩ	½	C-9B1-78	BTS-22K	Ratio Det. Diode Load	
R141	6.8 Meg.	½	C-9B1-36	BTS-6.8 Meg.	AF Grid	20%
R142	470KΩ	½	C-9B1-94	BTS-470K	AF Plate	
R143	470KΩ	½	C-9B1-94	BTS-470K	Output Grid	
R144	150Ω	½	C-9B1-52	BW-½-150	Output Cathode	
R145	3600Ω	5		AB-3500	Filter (Wire Wound)See Note 6	
R146	500Ω	5		AB-500	" (Wire Wound)See Note 7	
R147	50Ω	5			Surge Limiter (Wire Wound) See Note 7	
R148	1800Ω	½	C-9B1-65	BTS-1800	Filament Shunt See Note 8	
R149	220KΩ	½	C-9B1-27	BTS-220K	Isolation	

Note 1. Early production models used 180Ω resistor in this application.
Note 2. Early production models used 33KΩ resistor in this application.
Note 3. Early production models used 120KΩ resistor in this application.
Note 4. Early production models used 33KΩ resistor in this application.
Note 5. Early production models used 100KΩ resistor in this application.
Note 6. Some models use two 1800Ω, 2W resistors in series to obtain correct resistance and wattage.
Note 7. Some models use two 1000Ω, 2W resistors in parallel to obtain correct resistance and wattage.
Note 8. Not used in all models.

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC.	REPLACEMENT DATA BELMONT PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	NOTES
T1	32Ω Tap @ 3Ω		B-16M-16157				Hor. Output Chk. Coil
T2	97Ω	6.3Ω	B-12C-16050		TSO-4		Vert.Output Trans.
T3A	14.4Ω		B-13M-13590	DY-1			Hor.Deflection Coil
B	55Ω						Vert.Deflection Coil
T4	540Ω		B-13M-13589-2	FC-10			Focus Coil

TRANSFORMER (H.V. OSC.)

ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC. 1	RATING DC RESISTANCE SEC. 2	REPLACEMENT DATA BELMONT PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	NOTES
T5	2.1Ω	450Ω	0Ω	B-201-16149				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.1	RATING IMPEDANCE SEC.	RATING DC RES. PRI.1	RATING DC RES. SEC.	REPLACEMENT DATA BELMONT PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	INSTALLATION NOTES
T6	2700Ω PRI.2 3200Ω	3.6Ω	305Ω PRI.2 340Ω	.5Ω	Part of B-18A-16702				

FILTER CHOKE

ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D. C. RESISTANCE	RATINGS INDUCTANCE (0 CURRENT 1000 ~)	REPLACEMENT DATA BELMONT PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	INSTALLATION NOTES
L1	.400A	10Ω	.37Henries	B-16A-1605-1				

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA BELMONT PART No.	MEISSNER PART No.	NOTES
L2	Ant. Coil	0Ω		A-201-15676		
L3	Inductors	0Ω				No 18 Tinned Copper Wire, Straight Bare
L4	Inductors	0Ω				" " " " " "
L5	RF Choke	.2Ω		A-16A-16637		
L6	RF Choke	.2Ω		A-16A-16637		
L7	RF Plate	0Ω		B-13E-12046		Low Band
L8	RF Plate	0Ω		B-13D-12155		High Band
L9	RF Choke	.2Ω		A-16A-16773		
L10	Mixer Grid	0Ω		B-13E-12046		Low Band
L11	Mixer Grid	0Ω		B-13D-12155		High Band
L12	RF Choke	.2Ω		A-16A-16637		
L13	RF Choke	.2Ω		A-16A-16637		
L14	Osc. Coil	0Ω		B-13D-12155		Low Band
L15	Osc. Coil	0Ω		A-13D-12045		High Band
L16	RF Choke	.2Ω		A-201-15609		
L17	1st Video IF	.1Ω		B-201-15612		
L18	2nd Video IF	0Ω	0Ω	A-201-16329		Includes 47MMF condenser
L19	RF Choke	1Ω		A-201-15609		
L20	3rd Video IF	0Ω		B-201-15612		
L21	RF Choke	1Ω		A-201-15609		
L22	4th Video IF	0Ω		B-201-15612		
L23	RF Choke	1Ω		A-201-15609		
L24	RF Choke	1Ω		A-201-15608		
L25	RF Choke	1Ω		A-201-16379		
L26	5th Video IF	0Ω		B-201-16412		
L27	RF Choke	1Ω		A-201-15609		
L28	Peaking	5.5Ω		A-16A-16514		50 Microhenries. Wound on 3.3KΩ resistor.
L29	Peaking	30Ω		A-16A-16515		650 Microhenries wound on 47KΩ resistor.
L30	Peaking	22Ω		A-16A-16516		400 Microhenries.
L31	Sound IF	1.5Ω	2.8Ω	C-201-16411		
L32	Ratio Det. Trans.	4.5Ω	0Ω	B-13M-16335		
L33	RF Choke	12Ω		A-201-16379		
L34	Hor. Osc.	67Ω		A-13D-16943		Incorporated in sets which have "C" stamped on back, only.
L35	RF Choke	24Ω		A-201-16158		807 Microhenries
L36	RF Choke	24Ω		B-16A-13524		2.5 Microhenries
L37	Fil. Choke	.1Ω		A-201-16405		
L38	Fil. Choke	.1Ω		A-201-16405		
L39	Fil. Choke	0Ω		A-201-15608		
L40	Fil. Choke	0Ω		A-201-15608		
L41	Fil. Choke	0Ω		A-201-15608		
L42	Fil. Choke	0Ω		A-201-15608		
L43	Fil. Choke	0Ω		A-201-15608		
L44	Loop Ant.	1Ω		C-13E-16496		
L45	Par. Supp.	0Ω		A-16B-16616		14 turns wound on a resistor
L46	RF Choke	1.5Ω		A-16B-16613		
L47	FM Mixer	0Ω		A-13E-16618		
L48	FM Osc.	0Ω		A-13D-16611		
L49	RF Choke	2.5Ω		A-16B-16023		
L50	Par. Supp.	0Ω		A-16B-16615		2 1/2 turns wound on 22Ω resistor.
L51	AM Osc.	1Ω	5Ω	B-13D-16611	14-1060	
L52	Par. Supp.	0Ω		A-16B-16614		4 Turns wound on resistor.
L53	FM 1st IF	.5Ω	.1Ω	B-13A-16612		
L54	AM 1st IF	14Ω	14Ω	B-13A-16662	16-6678	
L55	FM 2nd IF	1.2Ω	1Ω	B-13B-16000		
L56	AM 2nd IF	14Ω	14Ω	B-13B-16302	16-6678	
L57	Ratio Det. Trans.	.8Ω	.1Ω	B-13M-16001		
L58	RF Choke	2.5Ω		A-16A-16637		
L59	Fil. Choke	0Ω		A-16B-16023		
L60	Fil. Choke	0Ω		A-16B-16023		

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			BELMONT PART No.	JENSEN PART No.	QUAM PART No.	
	FIELD	V. C. IMP.		ST-102		♯ Replace output transformer to match 6-8Ω voice coil.
SP1A	PM	3.6Ω	B-18A-16702††	MOD.P12-S♯	12A6A	†† Used in model D1992
B	PM		C-18A-16473‡‡			‡‡ Used in model D1990
C	PM		B-18A-16440##			## Used in model D2987
	CONE DIA.	V. C. DIA.				
SP2A	11 3/4"	1"	††			
B	8"		‡‡			
C	5"		##			

SELENIUM RECTIFIER

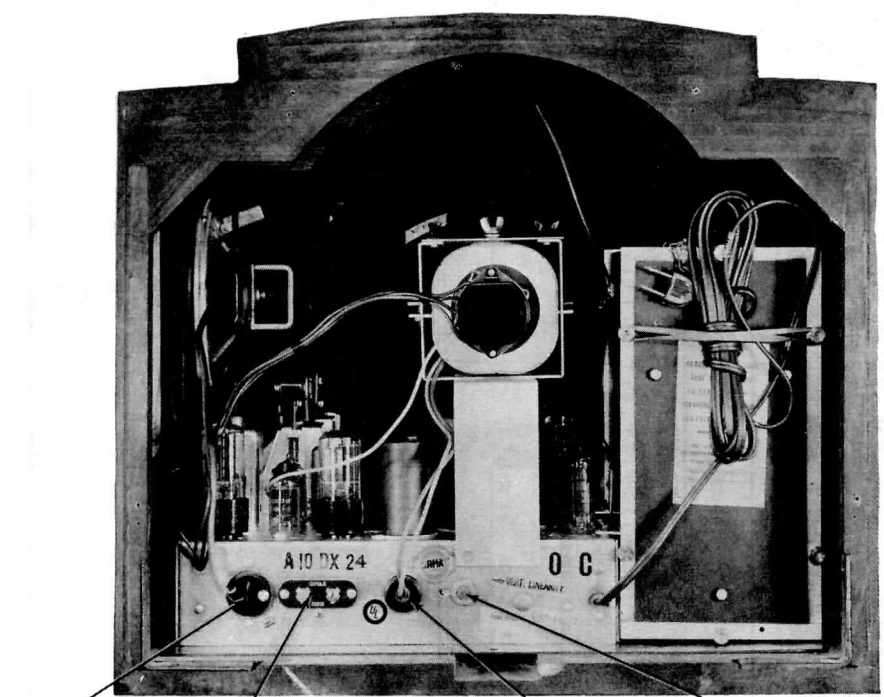
ITEM No.	RATING	REPLACEMENT DATA			NOTES
	CURRENT	BELMONT PART No.			
M1	.179A	B-21J-16196			
M2	.179A	B-21J-16196			
M3	.069A	A-21J-12775			
M4	.069A	A-21J-12775			

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					BELMONT PART No.		
M5	Bayonet				A-46A-16545		115V-125V 10W.

MISCELLANEOUS

ITEM No.	PART NAME	BELMONT PART No.	NOTES
M6	Band Switch	B-20A-16663	
M7	Ballast Tube	B-9M-16534	
M8	Ion Trap	B-16M-16195	
M9	Tuning Cap.	B-8A-16592	(16-477MMF, 17-178MMF) W/T
	Knob	B-5B-16698-57	Tuning, Radio Chassis, Model D1992
	Knob	B-5B-16699-57	Volume, Radio Chassis, Model D1992
	Knob	B-5B-16700-57	Tone, Radio Chassis, Model D1992
	Knob	B-5B-16701-57	FM-AM-PH, Radio Chassis, Model D1992
	Knob	B-5B-16348-57	Contrast, Brightness, Hor. Hold, Off-Volume TV Chassis, Models D1992 and D1990
	Knob	B-5B-16292-57	Station Selector, TV Chassis, Models D1992 and D1990.
	Knob	B-5B-16289-57	Contrast, Brightness, Hold Hold, Off-Volume. Model D2987.
	Knob	B-5B-16291-57	Station Selector, Model D2987
	Safety Glass	C-30M-16280-1	For Models D1992 and D1990
	Safety Glass	B-30M-16381	For Model D2987



CABINET-REAR VIEW