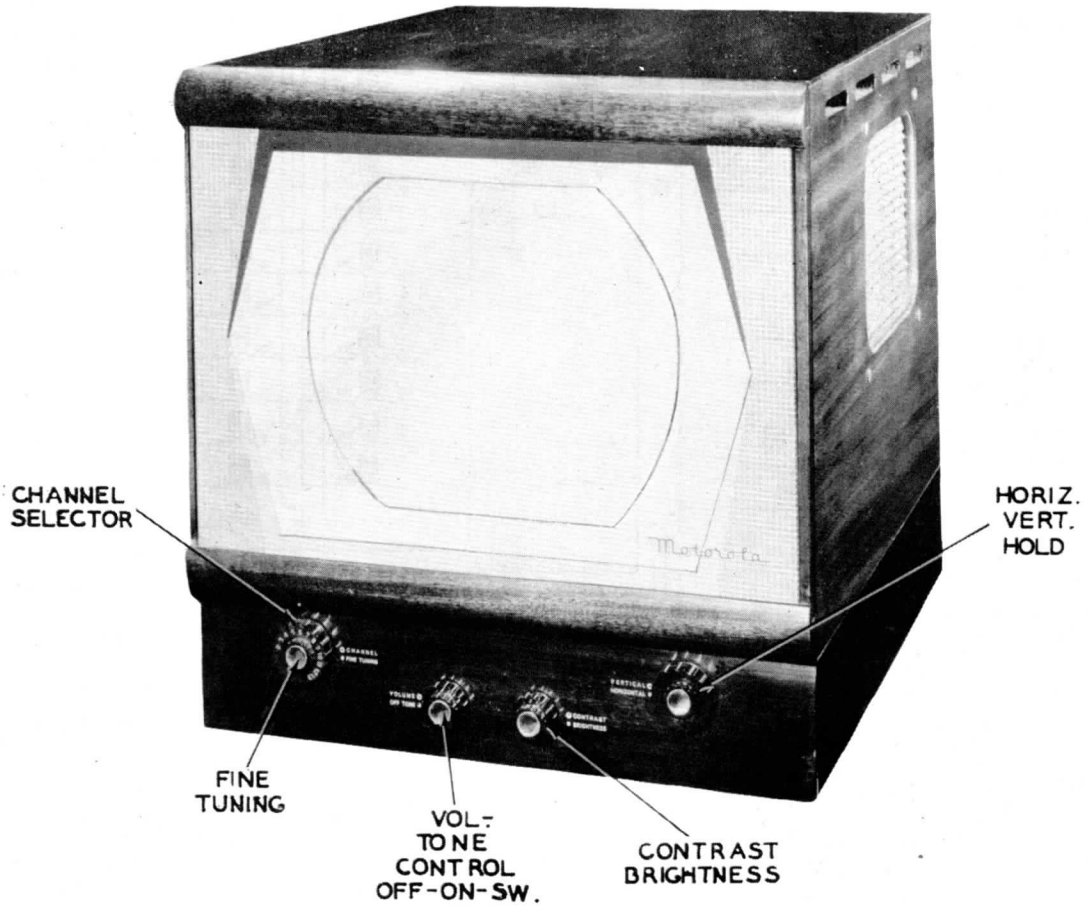
PHOTOFACT* Folder
*TRADE MARK

MOTOROLA MODELS VK-106, 107, 10VK9, 10VT3, 12VK18B, R, 12VT16, B, R



MOTOROLA MODELS VK-106, 107, 10VK9, 10VT3, 12VK18B, R, 12VT16, B, R

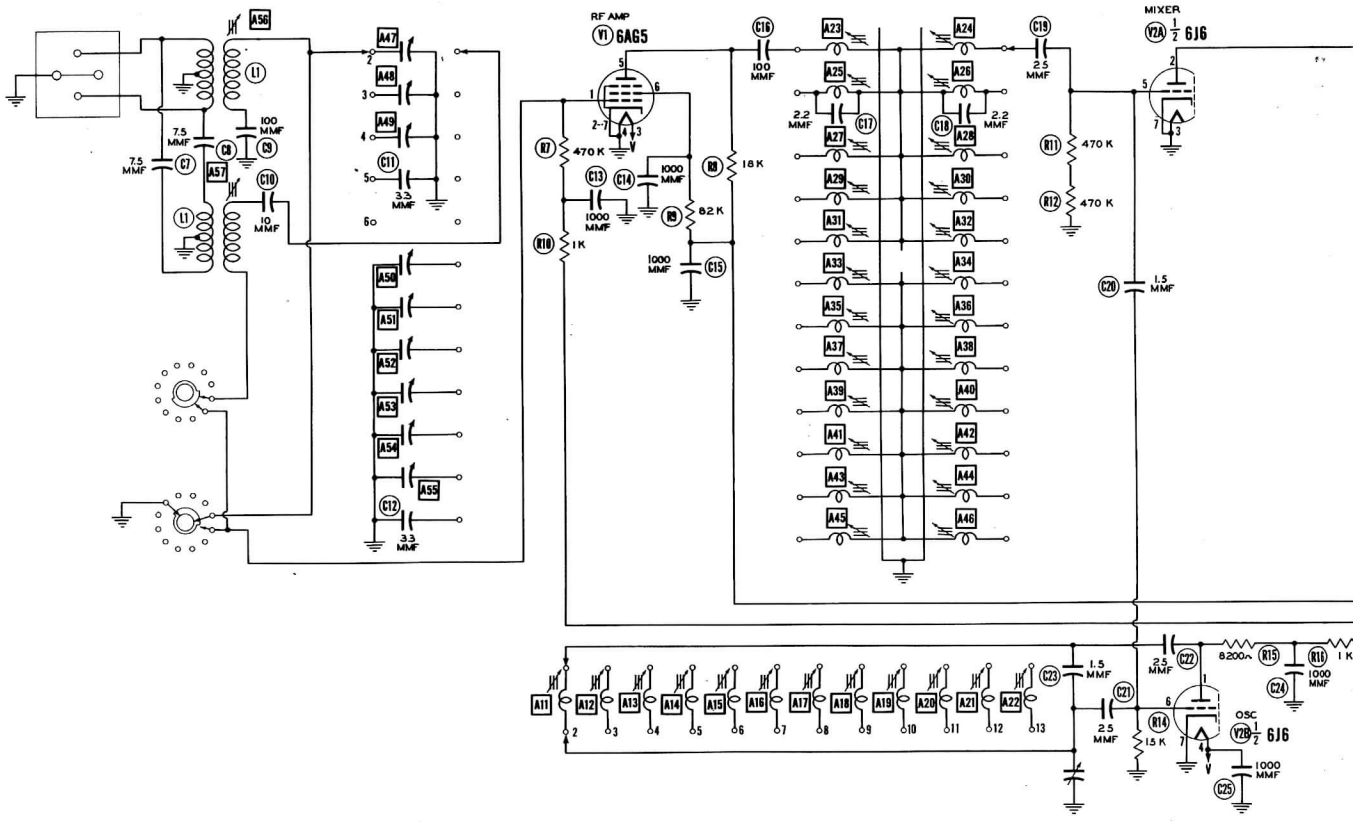
TRADE NAME	Motorola Models VK106, VK107 (Ch. TS-9E), 10VK9, 10VT3 (Ch. TS-9E, TS-9E1), 12VK18B, 12VK18R, 12VT16, 12VT16B, 12VT16R (Ch. TS-15C, TS-15C1)
MANUFACTURER	Motorola, Inc., 4545 Augusta Blvd., Chicago 51, Illinois
TYPE SET	TV Receiver
TUBES	Twenty Four
POWER SUPPLY	110-120 Volts AC-60 Cycles
TUNING RANGE	Channels 2 thru 13

RATING: 2.2 Amp. @ 117 Volts AC

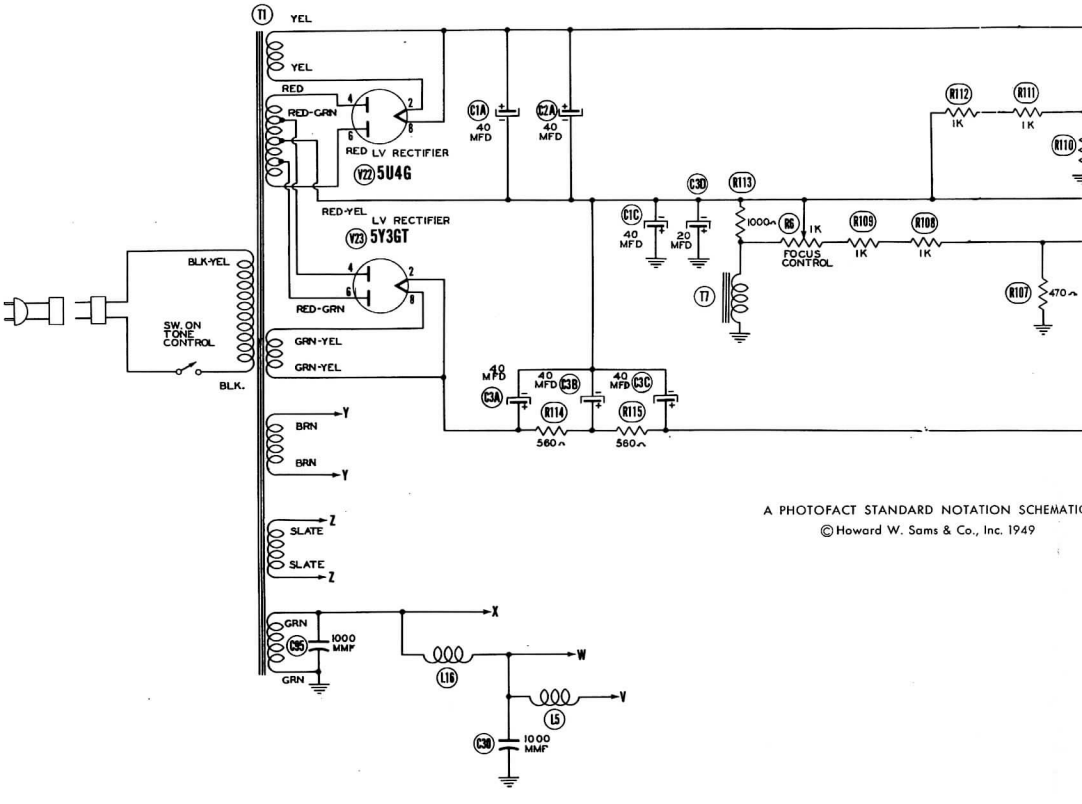
INDEX

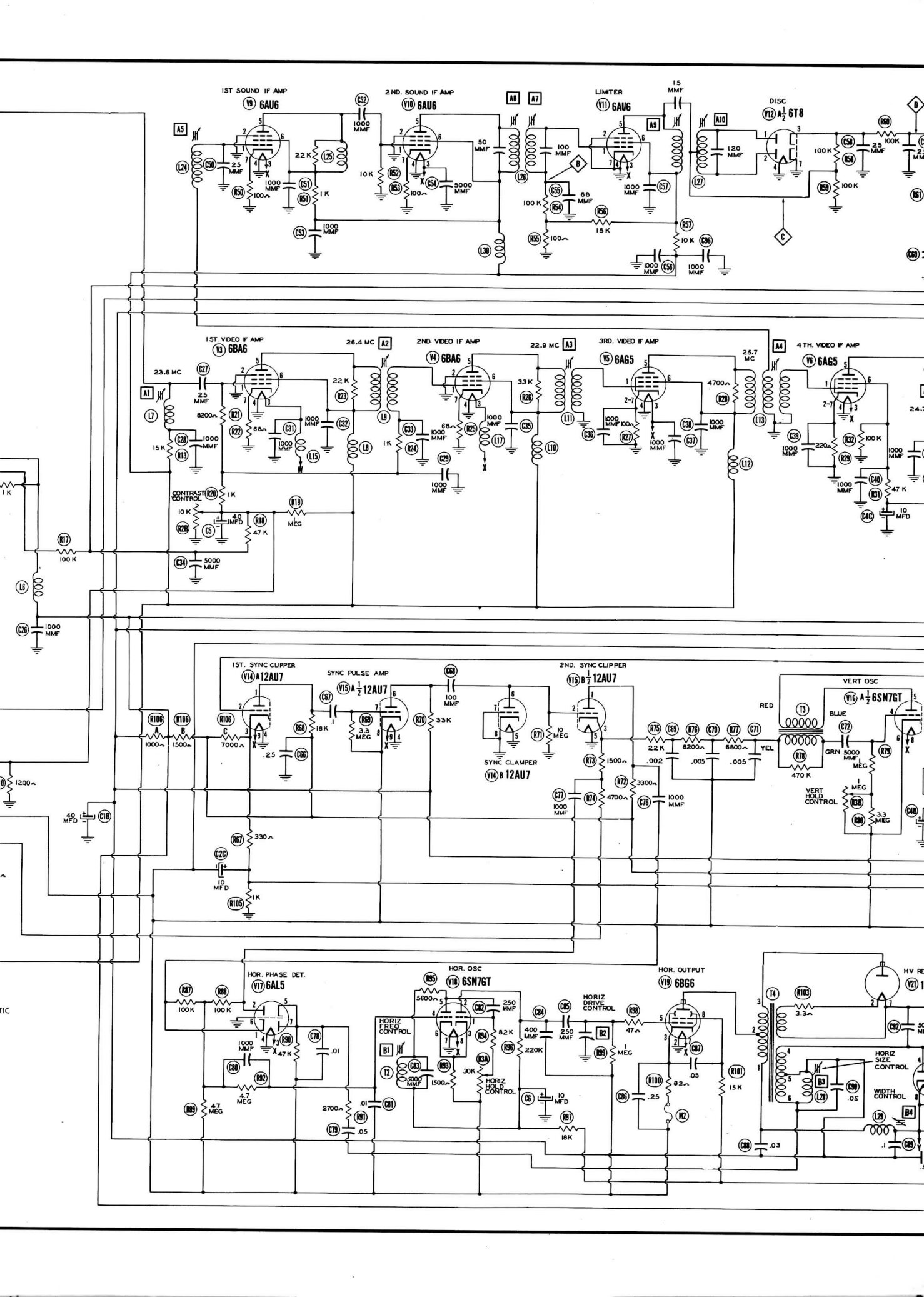
HOWARD W. SAMS & CO., INC. • Indianapolis 7, Indiana

DATE 11/49 SET #77 FOLDER #6

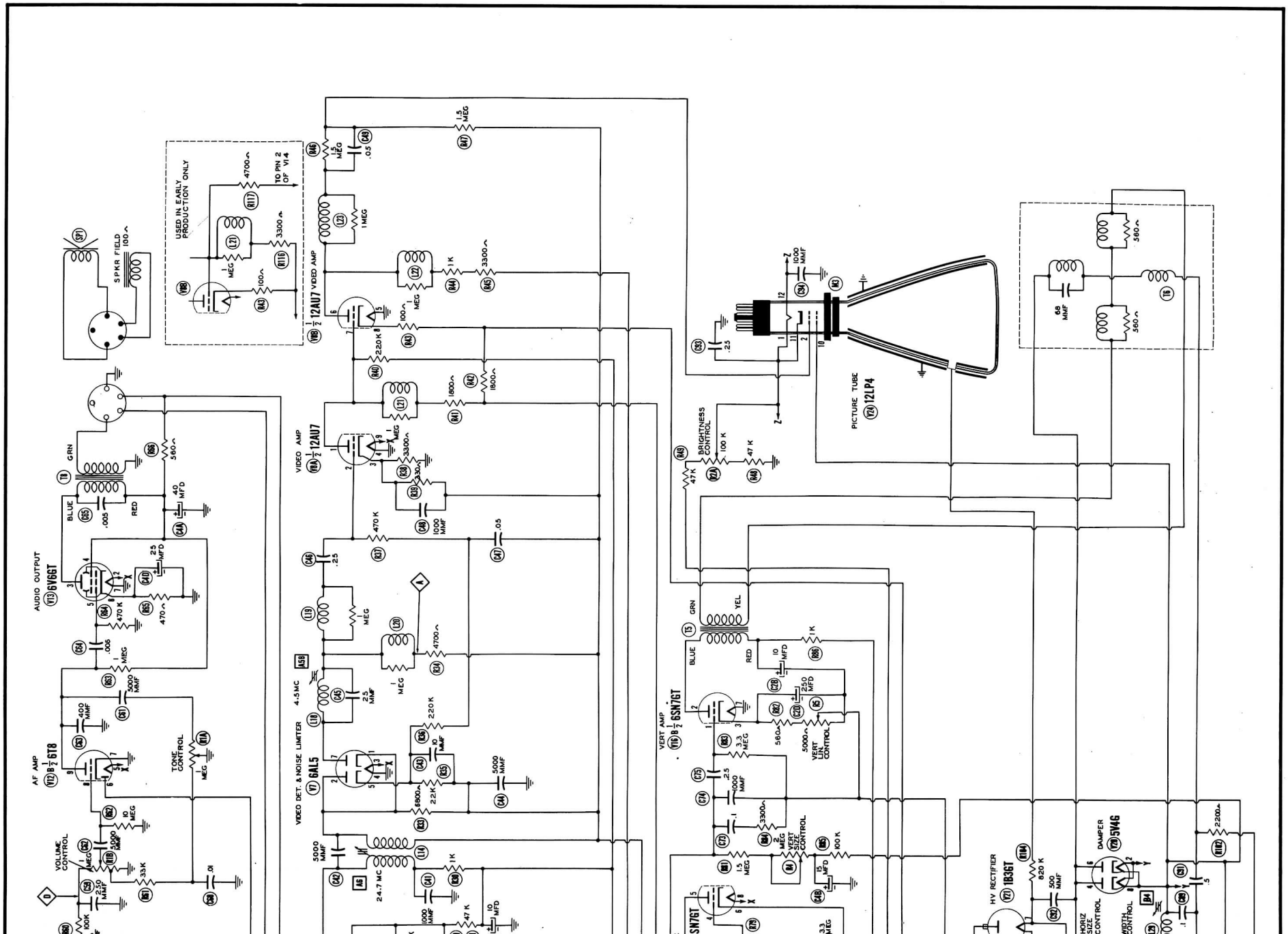


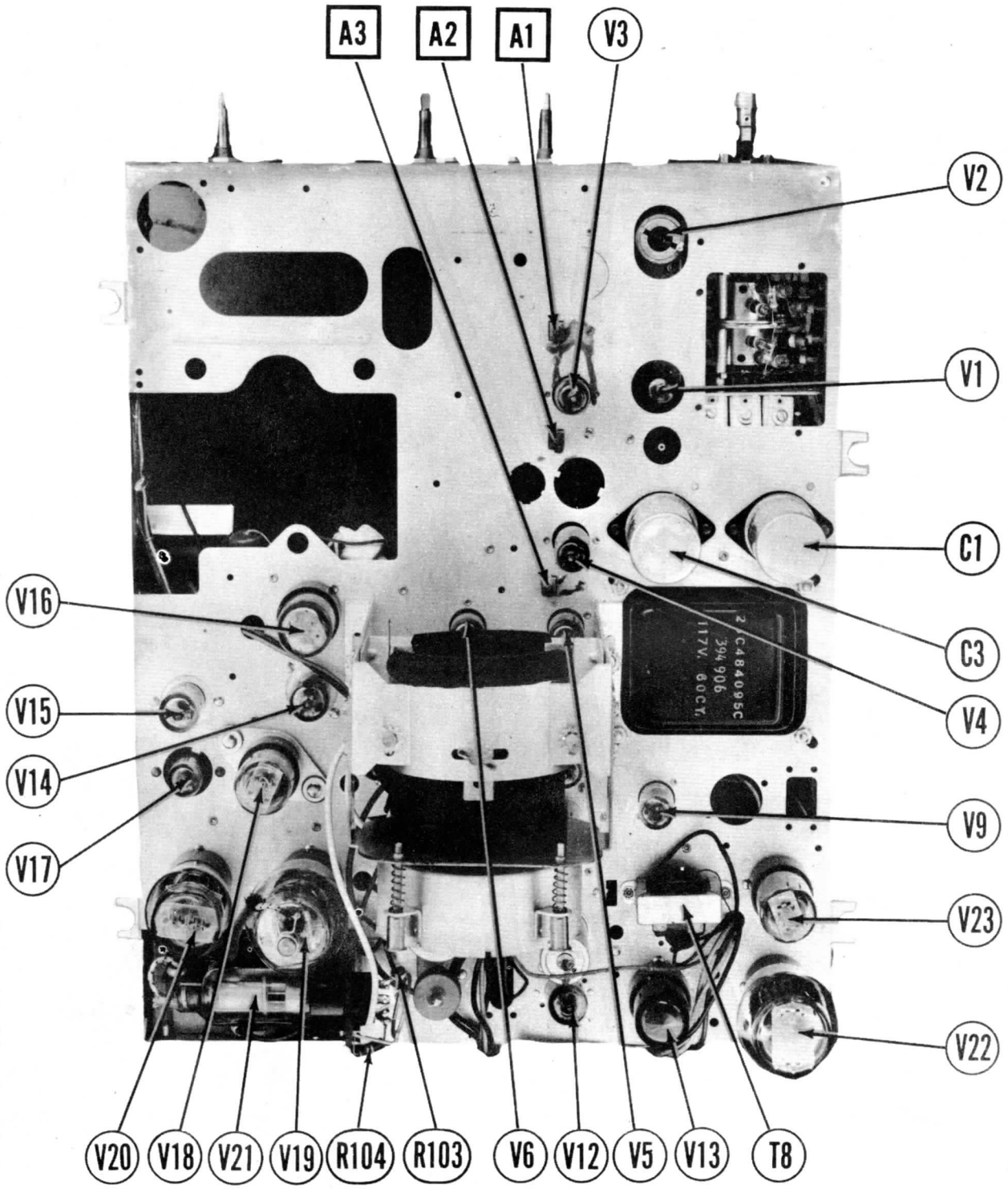
THE COOPERATION OF THE MANUFACTURER OF THIS
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE



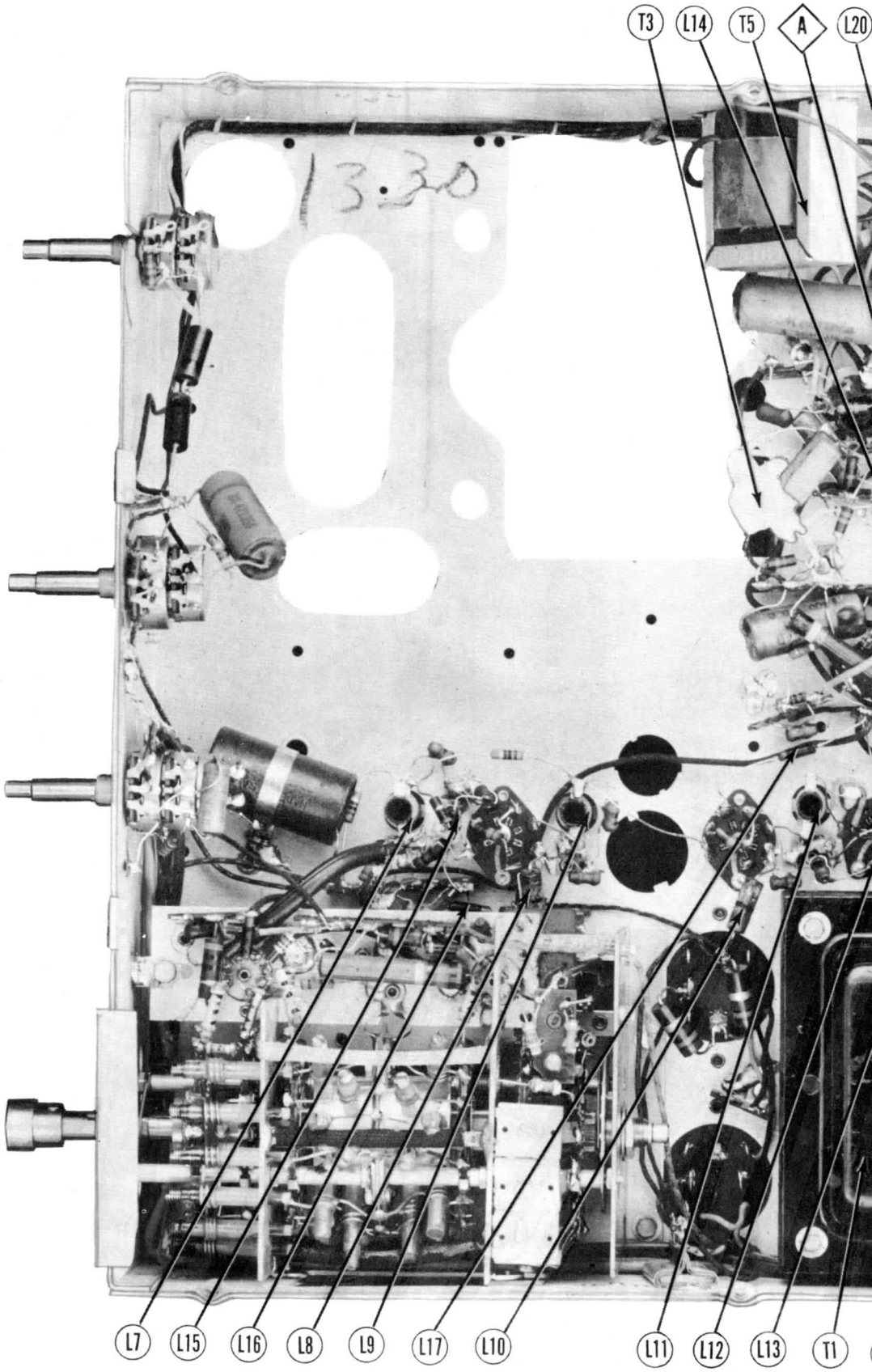

1ST SOUND IF AMP
V9 6AU6
2ND. SOUND IF AMP
V10 6AU6
LIMITER
V11 6AU6
DISC
V12 A½ 6T8
1ST. VIDEO IF AMP
V3 6BA6
2ND. VIDEO IF AMP
V4 6BA6
3RD. VIDEO IF AMP
V5 6AG5
4TH. VIDEO IF AMP
V6 6AG5
23.6 MC
26.4 MC
22.9 MC
25.7 MC
CONTRAST CONTROL
1ST. SYNC CLIPPER
V14 A 12AU7
SYNC PULSE AMP
V15 A½ 12AU7
2ND. SYNC CLIPPER
V15 B½ 12AU7
SYNC CLAMPER
V14 B 12AU7
VERT OSC
V16 A½ 6SN7GT
VERT HOLD CONTROL
HOR. PHASE DET.
V17 6AL5
HOR. OSC
V18 6SN7GT
HORIZ FREQ CONTROL
HORIZ HOLD CONTROL
HORIZ DRIVE CONTROL
HOR. OUTPUT
V19 6BG6
HORIZ SIZE CONTROL
WIDTH CONTROL
HV RE
V21
RED
BLUE
GRN
YEL

MOTOROLA MODELS VK-106, 107, 10VK9, 10VT3, 12VK18B, R, 12VT16, B, R

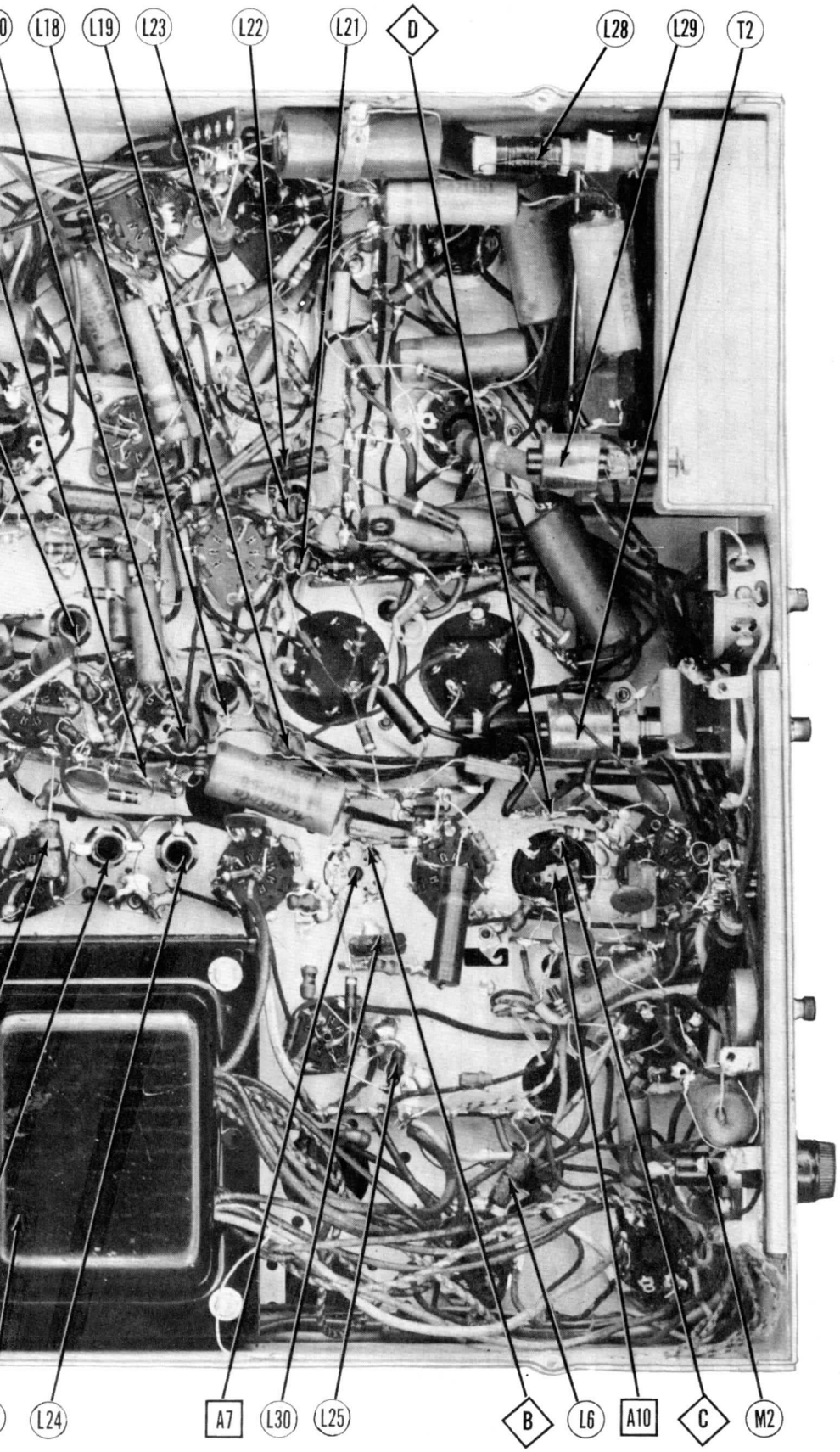




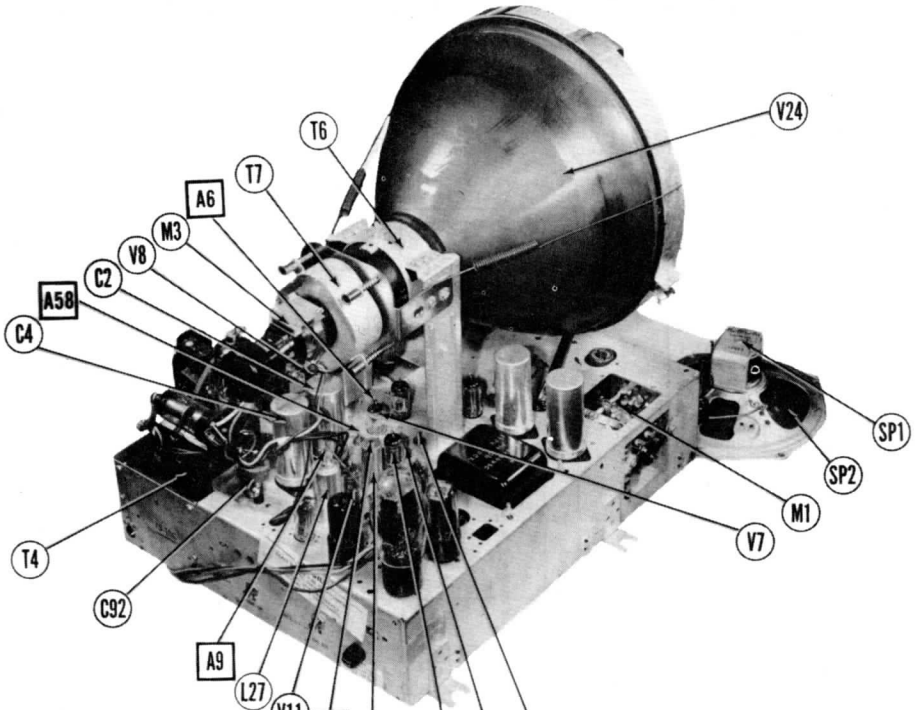
CHASSIS TOP VIEW



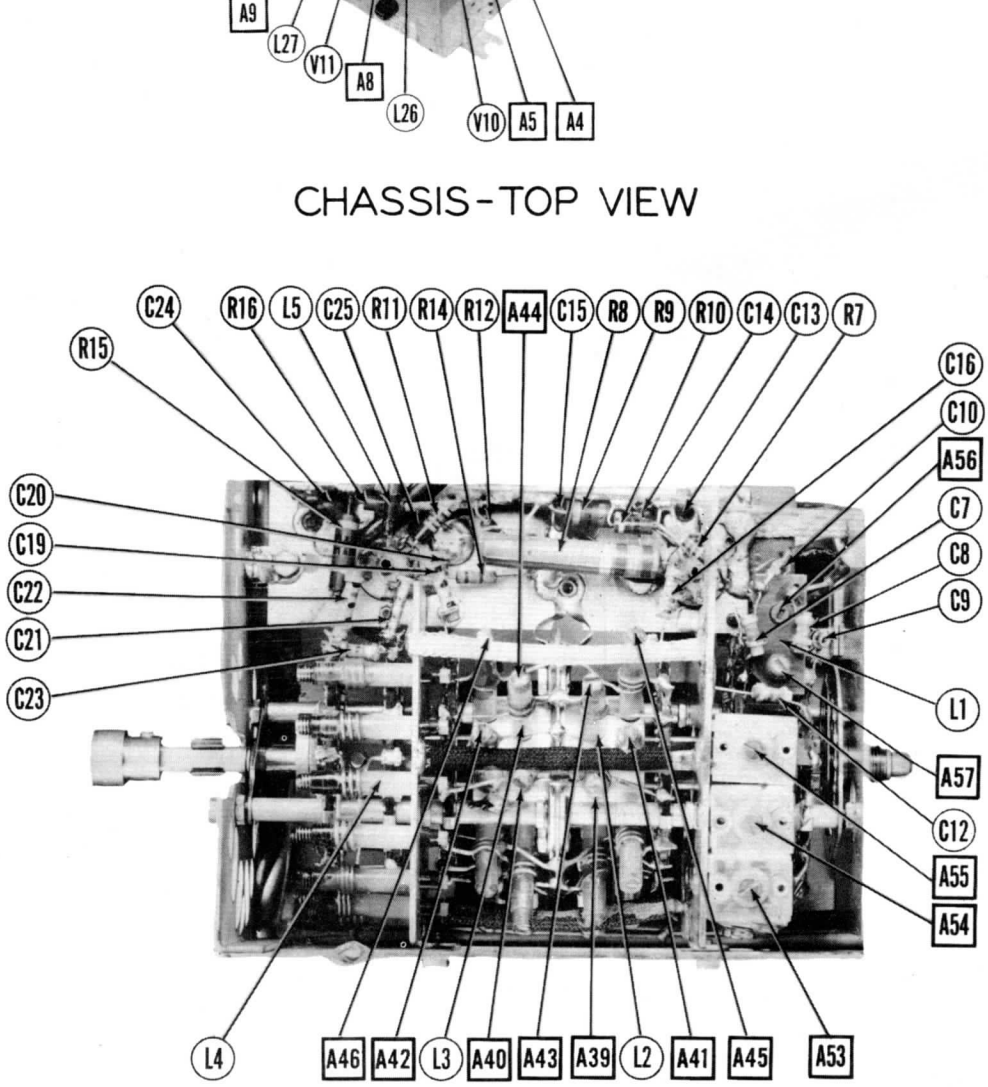
CHASSIS BOTTOM VIEW-TRANS., INDUCTO



TOR AND ALIGNMENT IDENTIFICATION



CHASSIS-TOP VIEW



RF TUNER-BOTTOM VIEW

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

It is necessary to remove the picture tube during alignment.
Remove the horizontal oscillator tube V18 to eliminate the high voltage shock hazard.
During alignment, avoid contact with the electrolytic capacitor cans as they are not at chassis potential.

VIDEO IF ALIGNMENT

Turn the channel selector switch to one of the blank positions between channel 2 and channel 13. This disables the local oscillator to prevent erroneous indications.
Turn the contrast control read -5 volts between the arm (center terminal) and chassis.
Connect the negative lead of a 3 volt battery to the junction of R11 and R12 and the positive lead to chassis.
The alignment frequencies for chassis TS-9E1 and TS-15C1 are different from the frequencies used for the TS-9E and TS-15C. Both frequencies are given in the signal generator frequency column and are identified as follows-† for chassis TS-9E and TS-15C and * for chassis TS-9E1 and TS-15C1.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	.01MFD	High side to pin 5 (Grid) of 6J6 (V2). Low side to chassis.	26.6MC † 23.4MC * (Unmod.)	See note above	DC Probe to Point (A) Common to B-.	A1	Adjust for maximum deflection.
2.	.01MFD	"	26.4MC † 22.9MC * (Unmod.)	"	"	A2	"
3.	.01MFD	"	22.9MC † 26.7MC * (Unmod.)	"	"	A3	"
4.	.01MFD	"	25.7MC † 25.5MC * (Unmod.)	"	"	A4	"
5.	.01MFD	"	21.7MC (Unmod.) maximum output.	"	"	A5	Adjust for MINIMUM deflection. Repeat step 4.
6.	.01MFD	"	24.7MC (Unmod.)	"	"	A6	Adjust for maximum deflection.

OVERALL VIDEO IF RESPONSE CHECK

See instructions under Video IF Alignment.
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.	.01MFD	High side to pin 5 (Grid) of 6J6 (V2). Low side to chassis.	24MC (10MC Sweep)	21.7MC 22.9MC 26.2MC	See note above	Vert. Amp. to Point (A) Low side to chassis.		Check for response curve as per Fig. 1 with markers as shown. If necessary slightly retouch A1 thru A6 for optimum response.

SOUND IF ALIGNMENT

See instructions under Video IF Alignment.
If complete video IF alignment is not performed, step 5 of video IF alignment must be performed before beginning sound IF alignment.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
8.	.01MFD	High side to pin 5 (Grid) of 6J6 (V2). Low side to chassis.	21.7MC (Unmod.)	See note above	DC Probe to Point (B) Common to chassis.	A7,A8	Adjust for maximum deflection.
9.	.01MFD	"	"	"	DC Probe thru 1 Meg. to point (C) Common to chassis.	A9	Adjust for maximum deflection.
10.	.01MFD	"	"	"	DC Probe to Point (D) Common to chassis.	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

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8.	.01MFD	High side to pin 1 (Grid) of 6AU6 (V10). Low side to chassis.	21.7MC (450KC Sweep)	21.7MC	See note above	Vert. Amp. to Point (B) Low side to chassis.	A7,A8, A9	Adjust for maximum amplitude and symmetry as per Fig 2.
9.	.01MFD	"	"	"	"	Vert. Amp. to Point (D) Low side to chassis.	A9,A10	Adjust A10 so 21.7MC marker occurs at center of crossover lines as per Fig 3. SLIGHTLY retouch A9 for maximum amplitude and straightness of crossover lines. Continue with step 11.

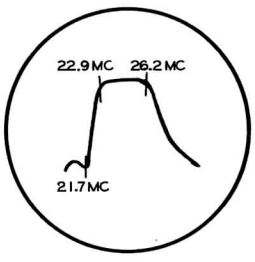


FIG. 1

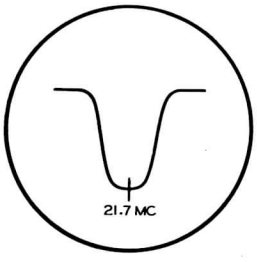


FIG. 2

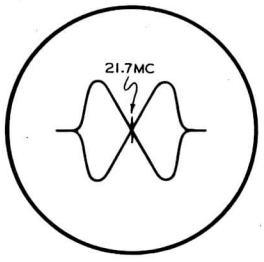


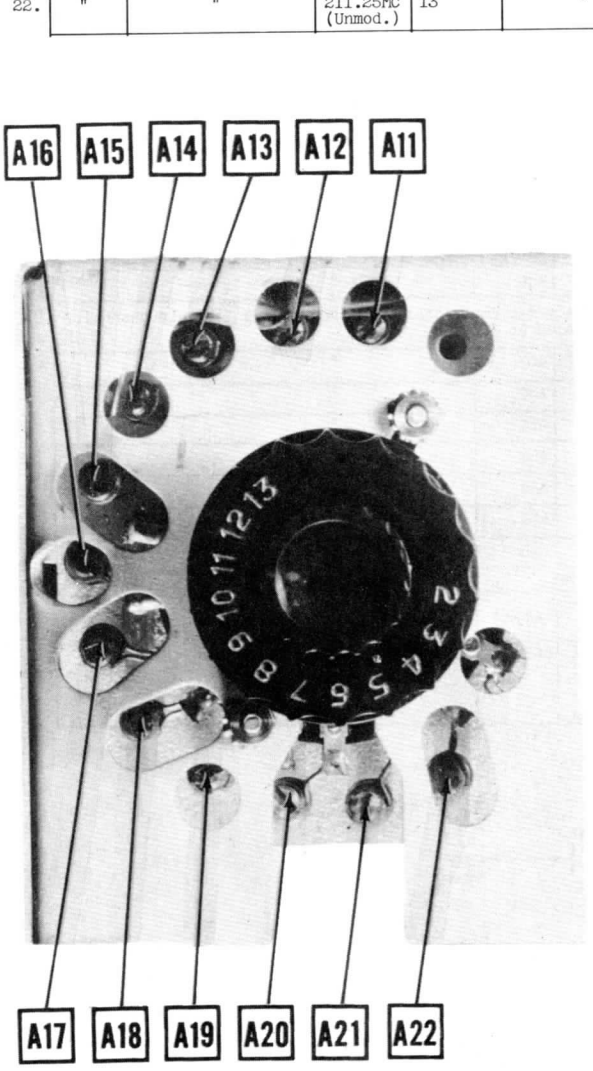
FIG. 3

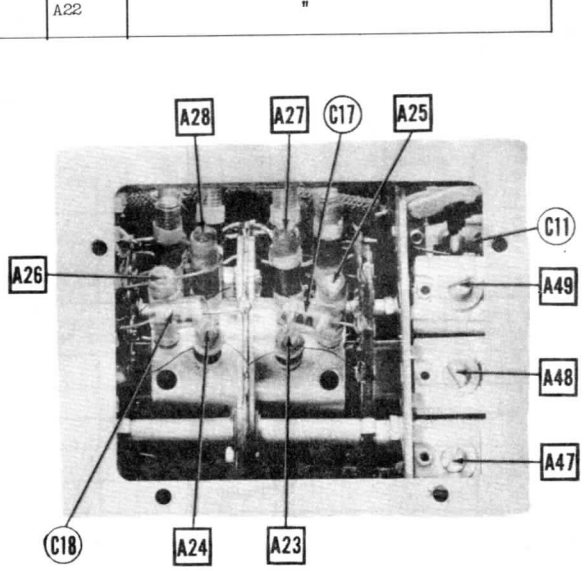
ALIGNMENT INSTRUCTIONS (CONT.)

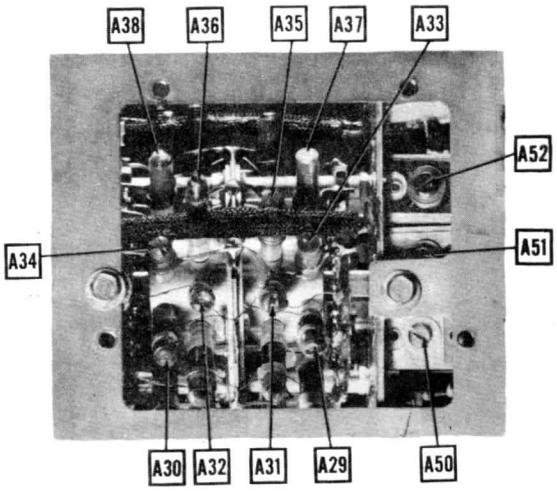
OSCILLATOR ALIGNMENT

Set the fine tuning control to the mid-position of its range.
Match the generator output to the 300Ω input. If generator has 50 ohms output use a 100Ω resistor in series with the high side and 150Ω in series with the low side. If generator has 30Ω output use a 120Ω resistor in series with the high side and 150Ω in series with the low side.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11.	See note above	Across 300Ω antenna terminals.	59.75MC (Unmod.)	2	DC Probe to Point ◇ Common to chassis.	A11	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
12.	"	"	61.25MC (Unmod.)	3	"	A12	"
13.	"	"	67.25MC (Unmod.)	4	"	A13	"
14.	"	"	77.25MC (Unmod.)	5	"	A14	"
15.	"	"	83.25MC (Unmod.)	6	"	A15	"
16.	"	"	175.25MC (Unmod.)	7	"	A16	"
17.	"	"	181.25MC (Unmod.)	8	"	A17	"
18.	"	"	187.25MC (Unmod.)	9	"	A18	"
19.	"	"	193.25MC (Unmod.)	10	"	A19	"
20.	"	"	199.25MC (Unmod.)	11	"	A20	"
21.	"	"	205.25MC (Unmod.)	12	"	A21	"
22.	"	"	211.25MC (Unmod.)	13	"	A22	"







MOTOROLA MODELS VK-106, 107, 10VK9, 10VT3, 12VK18B, R, 12VT16, B, R

ALIGNMENT INSTRUCTIONS (CONT.)

RF AND MIXER ALIGNMENT

When adjusting RF coils, detune one adjustment counter-clockwise, adjust the other adjustment from maximum deflection. Then turn the formerly detuned adjustment for maximum. Do not readjust first adjustment.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
23.	See note above—Osc. alignment."	Across antenna terminals.	58MC (Unmod.)	2	DC Probe to Point (A) Common to B-.	A23, A24	See note above.
24.	"	"	64MC (Unmod.)	3	"	A25, A26	"
25.	"	"	70MC (Unmod.)	4	"	A27, A28	"
26.	"	"	80MC (Unmod.)	5	"	A29, A30	"
27.	"	"	86MC (Unmod.)	6	"	A31, A32	"
28.	"	"	178MC (Unmod.)	7	"	A33, A34	"
29.	"	"	184MC (Unmod.)	8	"	A35, A36	"
30.	"	"	190MC (Unmod.)	9	"	A37, A38	"
31.	"	"	196MC (Unmod.)	10	"	A39, A40	"
32.	"	"	202MC (Unmod.)	11	"	A41, A42	"
33.	"	"	208MC (Unmod.)	12	"	A43, A44	"
34.	"	"	214MC (Unmod.)	13	"	A45, A46	"

ANTENNA ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
35.	See note under "Osc. Align."	Across antenna terminals.	86MC (Unmod.)	6	DC Probe to Point (A). Common to chassis.	A56	Adjust for maximum deflection.
36.	"	"	58MC	2	"	A47	"
37.	"	"	64MC	3	"	A48	"
38.	"	"	70MC	4	"	A49	"
	A fixed trimmer has been used on channel 5 in some models thereby not necessitating an adjustment for this channel. However, those models having a variable trimmer should be adjusted at 80MC.						
39.	"	"	214MC	13	"	A57	"
40.	"	"	178MC	7	"	A50	"
41.	"	"	184MC	8	"	A51	"
42.	"	"	190MC	9	"	A52	"
43.	"	"	196MC	10	"	A53	"
44.	"	"	202MC	11	"	A54	"
45.	"	"	208MC	12	"	A55	"

4.5MC TRAP ADJUSTMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
46.	.01MFD	High side to pin 2 (Plate) of 6AL5 (V7). Low side to chassis.	4.5MC (Unmod. max. output)	Any	DC Probe thru detector (Fig. 4) to pin 1 (plate of 12AV7) (V8). Common to chassis.	A58	Adjust for MINIMUM deflection.

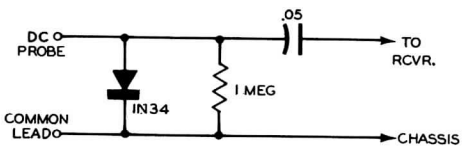


FIG. 4

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	6AG5	-.4VDC	0V	6.3VAC	0V	175VDC	100VDC	0V		
V 2	6J6	195VDC	57VDC	0V	6.3VAC	-2.4VDC	§-4.8VDC	0V		
V 3	6BA6	-.3VDC	0V	6.3VAC	0V	92VDC	92VDC	.8VDC		
V 4	6BA6	-.3VDC	0V	6.3VAC	0V	92VDC	92VDC	.8VDC		
V 5	6AG5	0V	.8VDC	6.3VAC	0V	92VDC	95VDC	.8VDC		
V 6	6AG5	0V	2VDC	6.3VAC	0V	250VDC	117VDC	2VDC		
V 7	6AL5	♦0V	♦0V	6.3VAC	0V	♦10VDC	♦4VDC	♦-10VDC		
V 8	12AU7	♦80VDC	♦2VDC	♦6.8VDC	0V	0V	260VDC	25VDC	35VDC	6.3VAC
V 9	6AU6	0V	0V	6.3VAC	0V	85VDC	85VDC	.6VDC		
V 10	6AU6	-.7VDC	0V	6.3VAC	0V	90VDC	95VDC	.7VDC		
V 11	6AU6	-.9VDC	0V	6.3VAC	0V	50VDC	50VDC	0V		
V 12	6T8	-1.3VDC	-4VDC	-4VDC	0V	6.3VAC	2.9VDC	0V	-.4VDC	50VDC
V 13	6V6GT	0V	6.3VAC	275VDC	290VDC	0V	300VDC	0V	19VDC	
V 14	12AU7	215VDC	29VDC	43.5VDC	0V	0V	-43VDC	0V	0V	6.3VAC
V 15	12AU7	225VDC	-43VDC	-5VDC	0V	0V	♦180VDC	♦-11VDC	♦0V	6.3VAC
V 16	6SN7GT	♦0V	♦340VDC	♦50VDC ♦95VDC	♦-15VDC	♦70VDC ♦150VDC	♦0V	0V	6.3VAC	
V 17	6AL5	♦5.4VDC	♦-6.3VDC	6.3VAC	0V	♦0V	0V	♦0V		
V 18	6SN7GT	♦-.4VDC	♦110VDC	♦10VDC	♦0V	♦250VDC	♦10VDC	0V	6.3VAC	
V 19	6BG6G	0V	0V	♦12VDC	♦12VDC	♦.1VDC	♦360VDC	6.3VAC	♦275VDC	TOP CAP *
V 20	5V4G	0V	380VDC	380VDC	310VDC	0V	310VDC	0V	380VDC	
V 21	1B3GT	* DO NOT MEASURE								
V 22	5U4G	0V	330VDC	330VDC	375VAC	290VDC	375VAC	-55VDC	330VDC	
V 23	5Y3GT	0V	160VDC	0V	225VAC	260VDC	225VAC	0V	160VDC	
V 24	12LP4	♦175VDC	80VDC	PIN 10 360VDC	PIN 11 175VDC	PIN 12 ♦175VDC				

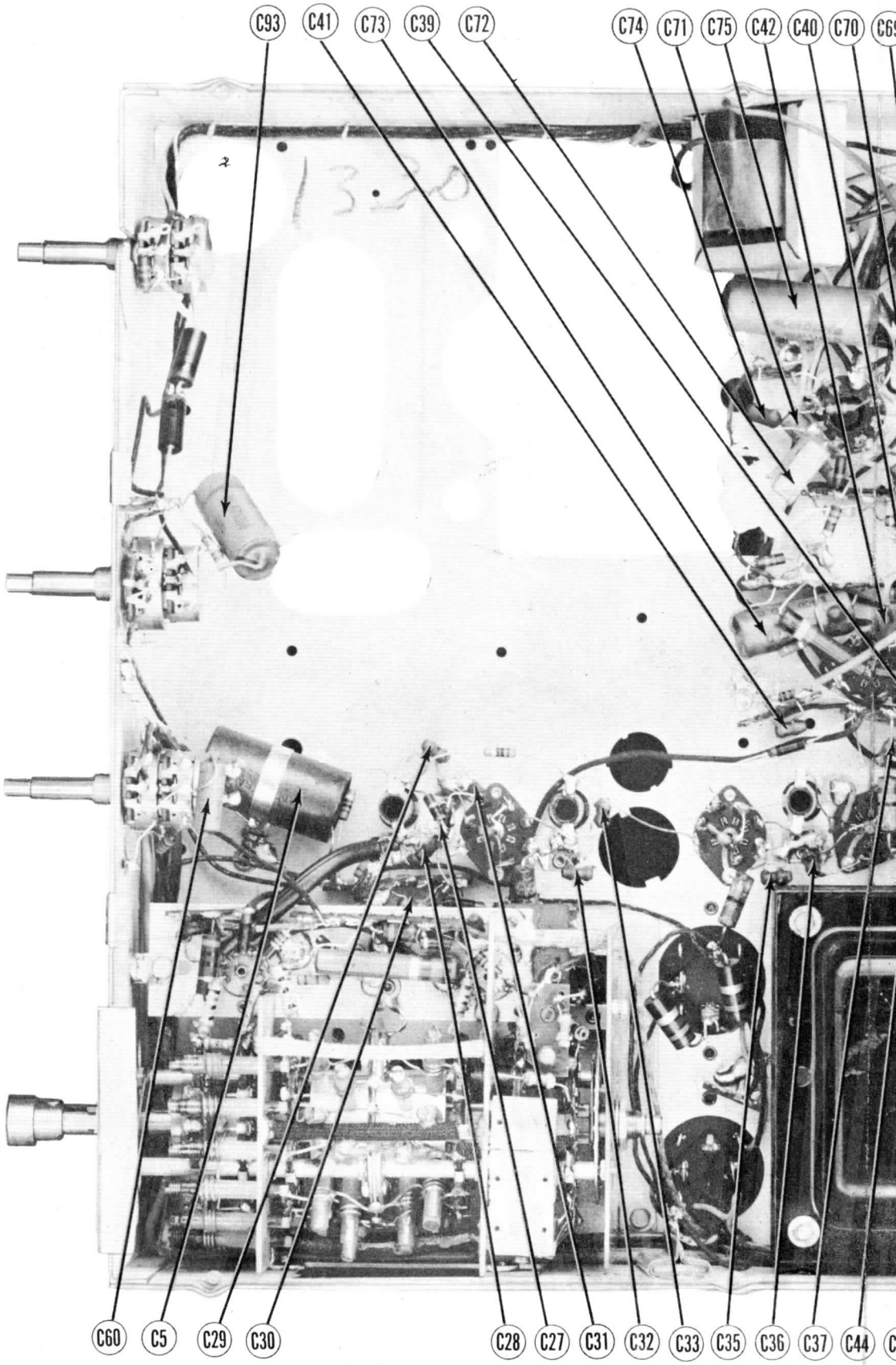
♦ Measured from pin 6 of V16
* Do not measure
♦ 6.3VAC measured across filament.
§ Taken with vacuum tube voltmeter.
Note: Contrast control set at maximum for these measurements.

RESISTANCE READINGS

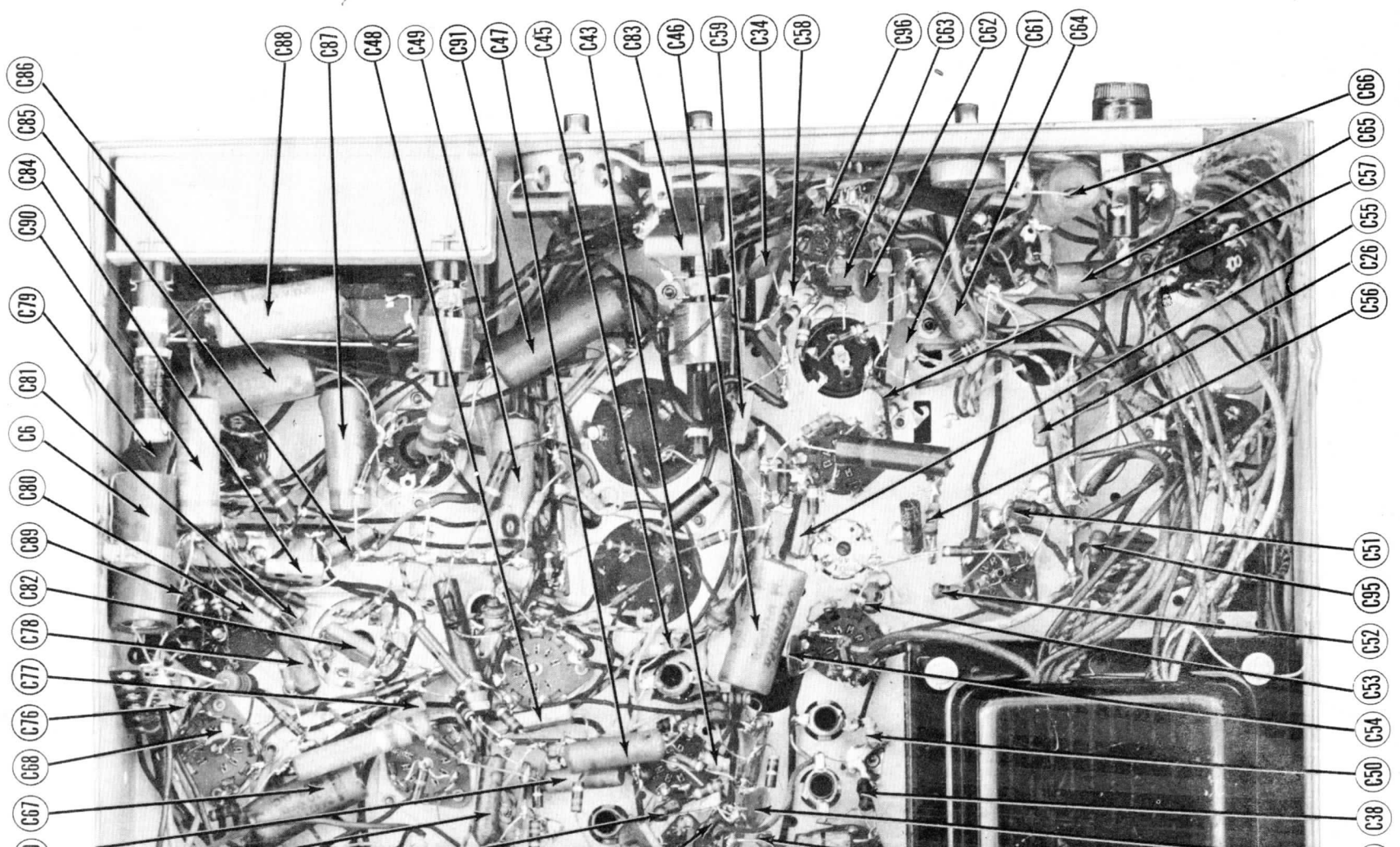
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	600KΩ	0Ω	.1Ω	0Ω	†19KΩ	†83KΩ	0Ω		
V 2	6J6	†10KΩ	♯16KΩ	0Ω	.1Ω	1 Meg.	15KΩ	0Ω		
V 3	6BA6	10KΩ	0Ω	.1Ω	0Ω	♯1.2KΩ	♯1.2KΩ	68Ω		
V 4	6BA6	3.2KΩ	0Ω	.1Ω	0Ω	♯1.2KΩ	♯1.2KΩ	68Ω		
V 5	6AG5	.1Ω	100Ω	.1Ω	0Ω	♯1.2KΩ	♯1.2KΩ	100Ω		
V 6	6AG5	.1Ω	220Ω	.1Ω	0Ω	†2KΩ	†48KΩ	220Ω		
V 7	6AL5	♦0Ω	♦0Ω	.1Ω	0Ω	♦22KΩ	♦22KΩ	♦4.7KΩ		
V 8	12AU7	4.5KΩ	710KΩ	♦330Ω	0Ω	0Ω	†4.5KΩ	4.5KΩ	1000Ω	.1Ω
V 9	6AU6	.2Ω	0Ω	.1Ω	0Ω	♯2.2KΩ	♯2.2KΩ	100Ω		
V 10	6AU6	10KΩ	0Ω	.1Ω	0Ω	♯1.2KΩ	♯1.2KΩ	100Ω		
V 11	6AU6	100KΩ	0Ω	.1Ω	0Ω	♯10KΩ	♯10KΩ	0Ω		
V 12	6T8	100KΩ	100KΩ	170KΩ	0Ω	.1Ω	48KΩ	0Ω	10 Meg.	†1 Meg.
V 13	6V6GT	0Ω	.1Ω	†900Ω	†700Ω	470KΩ	†100Ω	0Ω	470Ω	
V 14	12AU7	†20KΩ	3KΩ	1.3KΩ	0Ω	0Ω	10 Meg.	0Ω	0Ω	.1Ω
V 15	12AU7	†6KΩ	10 Meg.	7KΩ	0Ω	0Ω	†33KΩ	3.3 Meg.	♦0Ω	.1Ω
V 16	6SN7GT	3.3 Meg.	†2KΩ	♦5.5KΩ ♦570Ω	1 Meg.	◓3.6Meg. ◓1.6Meg.	♦0Ω	0Ω	.1Ω	
V 17	6AL5	4.8 Meg.	4.8 Meg.	.1Ω	0Ω	47KΩ	0Ω	47KΩ		
V 18	6SN7GT	82KΩ	◓240KΩ	♦1.5KΩ	10 Meg.	◓25KΩ	♦1.5KΩ	0Ω	.1Ω	
V 19	6BG6G	Inf.	0Ω	♦82Ω	♦82Ω	1 Meg.	†120Ω	.1Ω	◓15KΩ	TOP CAP ◓210Ω
V 20	5V4F	Inf.	650KΩ	650KΩ	†110Ω	Inf.	†110Ω	Inf.	650KΩ	
V 21	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP ◓400Ω
V 22	5U4G	Inf.	15KΩ	15KΩ	410Ω	15KΩ	420Ω	15KΩ	15KΩ	
V 23	5Y3GT	Inf.	30KΩ	Inf.	420Ω	10KΩ	415Ω	Inf.	30KΩ	
V 24	12LP4	47KΩ	800KΩ	PIN 10 ◓ 0Ω	PIN 11 47KΩ	PIN 12 47KΩ				

† Measured from pin 8 of V22
♯ Measured from pin 2 of V23
◓ Measured from pin 8 of V20
♦ Measured from pin 6 of V16

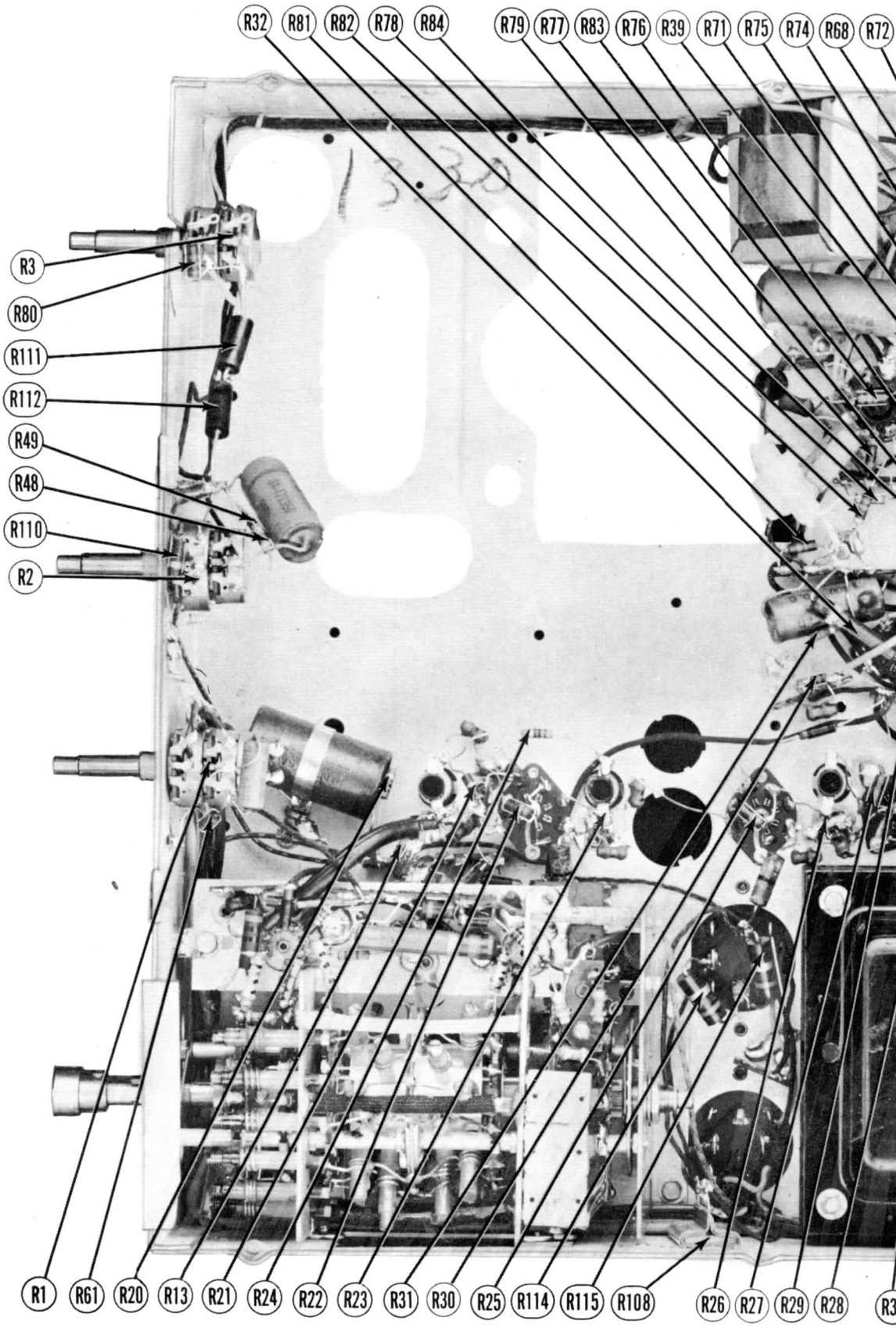
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.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



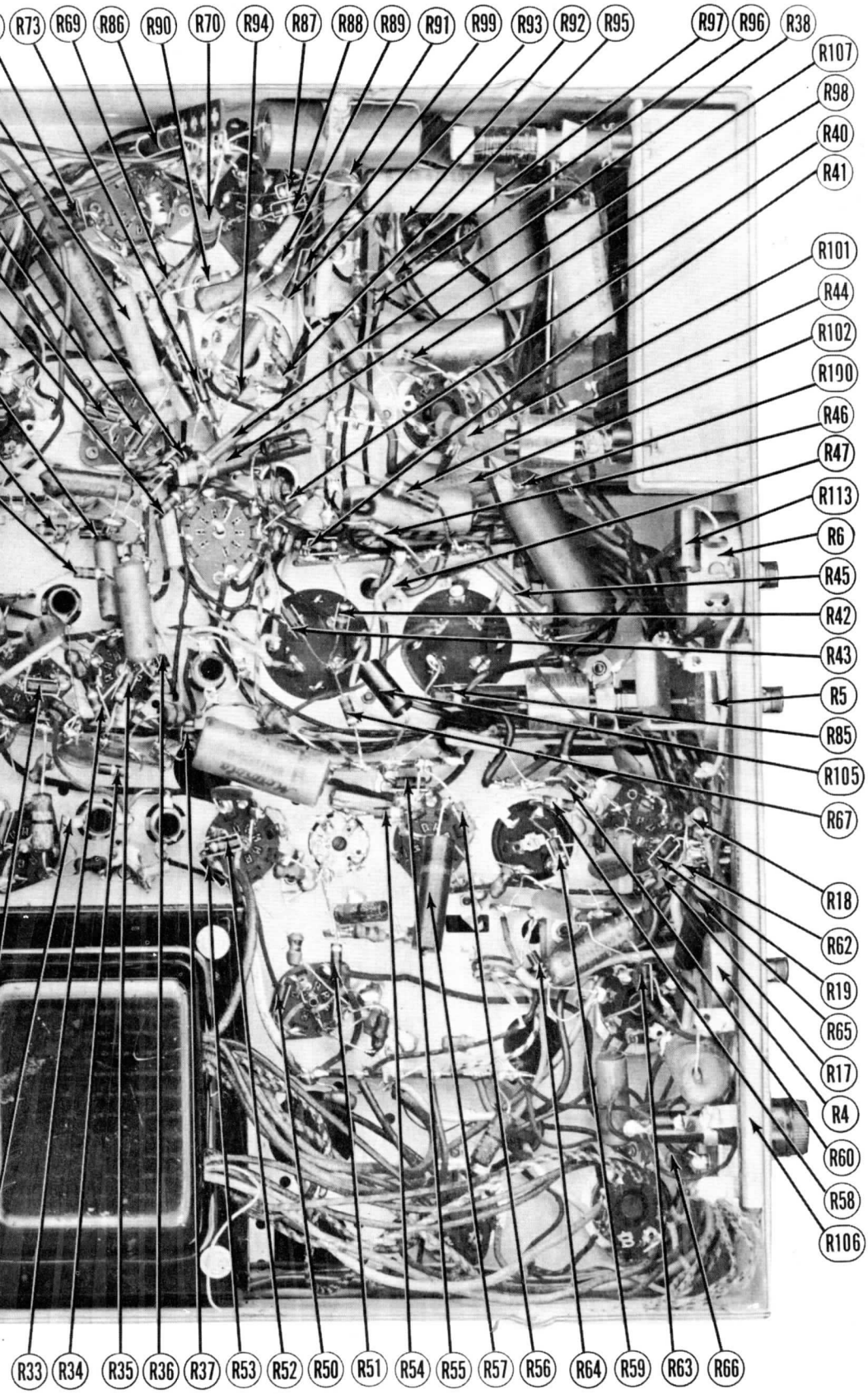
CHASSIS BOTTOM VIEW-CAPA



CAPACITOR IDENTIFICATION



CHASSIS BOTTOM VIEW-RES



RESISTOR IDENTIFICATION

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		MOTOROLA PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6AG5	6AG5	7BD	
V2	Converter	6J6	6J6	7BF	
V3	1st Video IF	6BA6	6BA6	7BK	
V4	2nd Video IF	6BA6	6BA6	7BK	
V5	3rd Video IF	6AG5	6AG5	7BD	
V6	4th Video IF	6AG5	6AG5	7BD	
V7	Video Det. and Noise Limiter	6AL5	6AL5	6BT	
V8	Video Amp.	12AU7	12AU7	9A	
V9	1st Sound IF	6AU6	6AU6	7BK	
V10	2nd Sound IF	6AU6	6AU6	7BK	
V11	Limiter	6AU6	6AU6	7BK	
V12	Disc.-AF Amp.	6T8	6T8	9E	
V13	Audio Output	6V6GT	6V6GT	7AC	
V14	1st Sync. Clipper	12AU7	12AU7	9A	
V15	Sync. Pulse Amp.-2nd Sync. Clipper	12AU7	12AU7	9A	
V16	Vert. Osc.-Vert. Amp.	6SN7GT	6SN7GT	8BD	
V17	Hor. Phase Det.	6AL5	6AL5	6BT	
V18	Hor. Osc.	6SN7GT	6SN7GT	8BD	
V19	Hor. Output	6BG6G	6BG6G	5BT	
V20A	Damper	5V4G	5V4G	5L	Used in chassis TS-9E and TS-15C.
B	Damper	6W4GT	6W4GT	4CG	Used in chassis TS-9E1 and TS-15C1.
V21	HV Rectifier	1B3GT	1B3GT	3C	
V22	LV Rectifier	5U4G	5U4G	5T	
V23	LV Rectifier	5Y3GT	5Y3GT	5T	
V24A	Picture Tube	12LP4	12LP4	12D	Used in chassis TS-15C and TS-15C1.
B	Picture Tube	10BP4	10BP4	12D	Used in chassis TS-9E and TS-9E1.

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
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	40	450	23A484197	AFH88J8D	UP11CJ		TVL-54	■ Filter
B	40	450			1067			◓ Filter
C	40	150						▲ Filter
C2A	40	450	23A484196	AFH822J50A	UP9DJ		D6292	◓ Filter
B	10	450			1068			■ Vert. Output Dec.
C	10	450						▲ Filter
D	250	25						Vert. Output Cath. Byp.
C3A	40	300	23A484194	AFH888G40	UP9DJ		D6286	■ Filter
B	40	300			1070			◓ Filter
C	40	300						▲ Filter
D	20	150						Filter
C4A	40	450	23A484195	AFH832J5A	UP9DJ		D6290	◓ Decoupling
B	15	450			1069			■ Vert. Osc. Dec.
C	10	450						▲ Decoupling
D	25	25						Output Cath. Bypass
C5	40	150	23A485454	PRS250/40	BR4015		UT-401	Bias Filter
C6	10	450	23K489031	PRS450/10	BR1045		TVA-21	Decoupling
C7	7.5		21K790454					Ant. Coupling
C8	7.5		21K790454					Ant. Coupling
C9	100		21K790651			GP1K-100		Isolation *
C10	10		21K790455			NP0K-10		Fixed Padder
C11	3.3		21A489052			NP0K-3.3		Fixed Trimmer
C12	3.3		21A489052			NP0K-3.3		Fixed Trimmer
C13	1000		21K478410			GP2L-001		Bias Filter
C14	1000		21K478410			GP2L-001		RF Screen Bypass
C15	1000		21K478410			GP2L-001		RF Bypass
C16	100		21K470736			N750L-100		RF Coupling
C17	2.2		21K471216					Fixed Trimmer
C18	2.2		21K471216					Fixed Trimmer
C19	25		21A470738			GP1K-25		RF Coupling
C20	1.5		21K482296			NP0K-1.5		Osc. Coupling
C21	25		21A470738			GP1K-25		Osc. Grid Cap.
C22	25		21A470738			GP1K-25		Osc. Feedback
C23	1.5		21K482296			NP0K-1.5		Fixed Trimmer
C24	1000		21K478410			GP2L-001		Osc. Plate Dec.
C25	1000		21K478410			GP2L-001		Conv. Fil. Bypass
C26	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C27	25		21K28816	1468-000025	5W5Q25	GP1K-25	MS-425	V. IF Coupling
C28	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Conv. Plate Dec.
C29	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Bias Filter
C30	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Filament Bypass
C31	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	1st V. IF Fil. Byp.
C32	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	1st V. IF Decoupling
C33	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Bias Filter
C34	5000		21A470789	1467-005	1D5D5	811-005	29C1	Bias Filter
C35	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	2nd V. IF Decoupling
C36	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	3rd V. IF Cath. Bypass
C37	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	3rd V. IF Fil. Bypass
C38	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	3rd V. IF Decoupling
C39	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	4th V. IF Cath. Bypass
C40	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	4th V. IF Screen Bypass
C41	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	4th V. IF Plate Decoup.
C42	5000		21A470789	1467-005	1D5D5	811-005	29C1	V. IF Coupling
C43	10		21A101778	1468-00001	5W5Q1	GP1K-10	MS-41	RF Bypass
C44	5000		21A470789	1467-005	1D5D5	811-005	29C1	RF Bypass
C45	25		21K28816	1469-000025	5R5Q25	NP0L-25	MS-425	Fixed Trimmer
C46	.25	200	8A471356	P488-25	GT2P25		TC-2	Video Coupling
C47	.05	100	8K471166	P288-05	GT2S5		TM-15	Limiter Filter
C48	1000	500	21R6663	1468-001	1W5D1	GP2L-001	1FM-21	1st V. Amp. Cath. Bypass
C49	.05	600	8K471151	P688-05	GT6S5		TM-15	Video Coupling
C50	25		21K28816	1469-000025	5R5Q25	NP0L-25	MS-425	Fixed Trimmer
C51	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	1st S. IF Decoupling
C52	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	IF Coupling
C53	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	2nd S. IF Decoupling
C54	5000		21A470789	1467-005	1D5D5	811-005	29C1	2nd S. IF Fil. Bypass
C55	68	500	21R2740	1468-000075	5W5Q7	GP1K-68	1FM-475	Bias Filter

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C56	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass
C57	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Limiter Decoupling
C58	25		21K28816	1468-000025	5W5Q25	GP1K-25	MS-425	RF Bypass
C59	250	500	21R6662	1468-00025	5W5T25	GP2K-250	1FM-325	De-emphasis
C60	.01	100	8K471163	P488-01	GT2S1	GP2-335-01	TM-11	Tone Comp.
C61	5000		21A470789	1467-005	1D5D5	811-005	29C1	Tone Comp.
C62	5000		21A470789	1467-005	1D5D5	811-005	29C1	Audio Coupling
C63	400	500	21R6664	1468-0004	5W5T4	GP2K-390	1FM-34	AF Plate Bypass
C64	.005	600	8K471162	P688-005	GT6D5	GP2M-005	TM-25	Audio Coupling
C65	.005	600	8K471162	P688-005	GT6D5	GP2M-005	TM-25	Output Plate Bypass
C66	.25	200	8A471356	P488-25	GT2P25		TC-2	Decoupling
C67	.1	600	8A471149	P688-1	GT6P1		TM-1	Sync. Coupling
C68	100		21K38224	1468-0001	5W5T1	GP1K-100	1FM-31	Sync. Coupling
C69	.002	400	8K780005	P688-002	GT6D2	GP2M-002	TM-22	Integrator Net.
C70	.005	200	8K780006	P688-005	GT6D5	GP2M-005	TM-25	Integrator Net.
C71	.005	200	8K780006	P688-005	GT6D5	GP2M-005	TM-25	Integrator Net.
C72	5000	500	21R6567	1467-005	1D5D5	GP2M-005	TM-25	Vert. Osc. Grid Cap.
C73	.1	400	8K471169	P488-1	GT4P1		TM-1	Vert. Discharge
C74	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Vert. Discharge
C75	.25	400	8K484148	P488-25	GT4P25		TC-2	Vert. Sweep Coupling
C76	1000	500	21R6663	1468-001	1W5D1	GP2L-001	1FM-21	Hor. Sync. Coupling
C77	1000	500	21R6663	1468-001	1W5D1	GP2L-001	1FM-21	Hor. Sync. Coupling
C78	.01	100	8K471163	P488-01	GT2S1	GP2-335-01	TM-11	AFC Filter
C79	.05	600	8K471151	P688-05	GT6S5		TM-15	AFC Feedback
C80	1000	500	21R6663	1468-001	1W5D1	GP2L-001	1FM-21	AFC Filter
C81	.01	100	8K471163	P488-01	GT2S1	GP2-335-01	TM-11	AFC Filter
C82	250	500	21R6662	1468-00025	5W5T25	GP2K-250	1FM-325	Hor. MV Feedback
C83	5000	500	21R6567	1467-005	1D5D5	GP2M-005	1FM-25	Fixed Trimmer
C84	400	500	21R6664	1468-0004	5W5T4	GP2K-390	1FM-34	Hor. Discharge
C85	250	500	21R6662	1468-00025	5W5T25	GP2K-250	1FM-325	Hor. Sweep Coupling
C86	.25	200	8A471356	P488-25	GT2P25		TC-2	Hor. Output Cath. Bypass
C87	.05	600	8A471151	P688-05	GT6S5		TM-15	Hor. Output Screen Byp.
C88	.03	1000	8K780430	P1088-03	GT16S3		MB-13	Damper Filter
C89	.1	600	8A471149	P688-1	GT6P1		TM-1	Damper Filter
C90	.05	600	8A471151	P688-05	GT6S5		TM-15	Fixed Trimmer
C91	.5	100	8K780158	P288-5	GT2P5		TC-5	Hor. Sweep Coupling
C92	500	10000	21A90013					HV Filter
C93	.25	200	8A471356	P488-25	GT2P25		TC-2	Pic. Tube Cath. Dec.
C94	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Pic. Tube Fil. Bypass †
C95	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	Filament Bypass
C96	1000		21K478410	1468-001	1W5D1	GP2L-001	1FM-21	RF Bypass †

* Some models use 200MMF in this application.
† Not used in all models.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
R1A	1 Meg.	½	18K489005			Tone control and switch (Dual Concentric)
B	1 Meg.	½				Volume control, tapped @ 250KΩ
R2A	100KΩ	½	18A484072			Brightness control (Dual Concentric)
B	10KΩ	½				Contrast control
R3A	30KΩ	½	18A484073			Horiz. hold control (Dual Concentric)
B	1 Meg.	½				Vert. hold control
R4	2 Meg.	½	18A484199	Q11-139	M-83-S	Vert. size control
R5	5000Ω	½	18A484800	Q11-114	M-19-S	Vert. linearity control
R6	1000Ω	4	18K780354		10-1000	Focus control, (Wire Wound)

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.
R7	470KΩ	½	6R6377		RF Grid
R8	18KΩ	2	6R476014	BT-2-18K	RF Plate
R9	82KΩ	1	6R5557		RF Screen
R10	1000Ω	½	6R6229		Bias Network
R11	470KΩ	½	6R6377		Conv. Grid
R12	470KΩ	½	6R6377		Conv. Grid
R13	15KΩ 20%	½	6R2119	BTS-15K	Conv. Plate Decoupling
R14	15KΩ 20%	½	6R2119	BTS-15K	Osc. Grid
R15	8200Ω	1	6R5610		Osc. Plate
R16	1000Ω 20%	½	6R6301		Osc. Plate Decoupling
R17	100KΩ	½	6R6031	BTS-100K	Bias Network
R18	47KΩ	½	6R6048	BTS-47K	Voltage Divider
R19	1 Meg.	½	6R6004	BTS-1 Meg.	Voltage Divider
R20	1000Ω	½	6R6229	BTS-1000	Bias Network
R21	8200Ω	½	6R2004		1st Video IF Grid
R22	68Ω 20%	½	6R6007		1st Video IF Cathode
R23	22KΩ	½	6R6397		2nd Video IF Transformer Shunt
R24	1000Ω	½	6R6229	BTS-1000	Bias Network
R25	68Ω	½	6R6007		2nd Video IF Cathode
R26	33KΩ	½	6R6410		3rd Video IF Transformer Shunt
R27	100Ω 20%	½	6R6018		3rd Video IF Cathode
R28	4700Ω	½	6R6080	BTS-4700	4th Video IF Transformer Shunt
R29	220Ω 20%	½	6R3933		4th Video IF Cathode
R30	1000Ω	½	6R6229		4th Video IF Plate Decoupling
R31	47KΩ	½	6R6048	BTS-47K	4th Video IF Screen Decoupling
R32	100KΩ	1	6R6031	BTA-100K	Voltage Divider See Note 1
R33	6800Ω	½	6R6428	BTS-6800	5th Video IF Transformer Shunt See Note 2
R34	4700Ω	½	6R6080	BTS-4700	Video Det. Diode Load
R35	22KΩ	½	6R6397	BTS-22K	Bias Network
R36	220KΩ	½	6R6407	BTS-220K	Voltage Divider
R37	470KΩ	½	6R6377	BTS-470K	Video Amp. Grid
R38	3300Ω	1	6R2029	BTA-3300	Voltage Divider
R39	330Ω	½	6R6022	BW-½-330	Video Amp. Cathode
R40	220KΩ	½	6R6407	BTS-220K	Video Amp. Plate
R41	1800Ω	½	6R2089	BTS-1800	Video Amp. Grid See Note 3
R42	1800Ω	½	6R2089	BTS-1800	Video Amp. Grid See Note 3
R43	100Ω 20%	½	6R6018	BW-½-100	Video Amp. Cathode
R44	1000Ω	1	6R6327	BTA-1000	Video Amp. Plate
R45	3300Ω	1	6R2029	BTA-3300	Video Amp. Plate

RESISTORS (CON

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MOTOROLA PART No.	IRC PART No.	
R46	1.5Meg.20%	½	6R3966	BTS-1.5 Meg.	Volt
R47	1.5Meg.20%	½	6R3966	BTS-1.5 Meg.	Pict
R48	47KΩ	½	6R6048	BTS-47K	Volt
R49	47KΩ	½	6R6048	BTS-47K	Volt
R50	100Ω 20%	½	6R6018		1st
R51	1000Ω	½	6R6229		1st
R52	10KΩ	½	6R6320		2nd
R53	100Ω 20%	½	6R6018		2nd
R54	100KΩ	½	6R6031		Limi
R55	100Ω 20%	½	6R6018	BW-½-100	Volt
R56	15KΩ 20%	½	6R2119	BTS-15K	Volt
R57	10KΩ 20%	2	6R476060	BT-2-10K	Volt
R58	100KΩ	½	6R6031	BTS-100K	Disc
R59	100KΩ	½	6R6031	BTS-100K	Disc
R60	100KΩ	½	6R6031	BTS-100K	De-e
R61	33KΩ	½	6R6410	BTS-33K	Tone
R62	10 Meg.20%	½	6R2109	BTS-10 Meg.	AF G
R63	1 Meg.20%	½	6R6004	BTS-1 Meg.	AF P
R64	470KΩ	½	6R6377	BTS-470K	Outp
R65	470Ω	2	6R2010	BW-2-470	Outp
R66	560Ω	1	6R488036	BTA-560	Filt
R67	330Ω	½	6R6022	BW-½-330	Volt
R68	18KΩ	2	6R476014	BT-2-18K	1st
R69	3.3Meg.20%	½	6R2118	BTS-3.3 Meg.	Sync
R70	33KΩ	2	6R5768	BT-2-33K	Sync
R71	10 Meg.20%	½	6R2109	BTS-10 Meg.	2nd
R72	3300Ω	½	6R5581	BTS-3300	2nd
R73	1500Ω 20%	½	6R6161	BTS-1500	2nd
R74	4700Ω	½	6R6080	BTS-4700	2nd
R75	22KΩ	½	6R6397	BTS-22K	Inte
R76	8200Ω	½	6R2004	BTS-8200	Inte
R77	6800Ω	½	6R6428	BTS-6800	Inte
R78	470KΩ	½	6R6377	BTS-470K	Vert
R79	1 Meg.20%	½	6R6004	BTS-1 Meg.	Vert
R80	3.3Meg20%	½	6R2118	BTS-3.3 Meg.	Volt
R81	1.5Meg20%	½	6R3966	BTS-1.5 Meg.	Vert
R82	560Ω	½	6R6291	BTS-560	Vert
R83	3.3Meg20%	½	6R2118	BTS-3.3 Meg.	Vert
R84	3300Ω	½	6R5581	BTS-3300	Vert
R85	100KΩ	1	6R6031	BTA-100K	Filt
R86	1000Ω	1	6R476004	BTA-1000	Filt
R87	100KΩ	½	6R6031	BTS-100K	Hori
R88	100KΩ	½	6R6031	BTS-100K	Hori
R89	4.7 Meg.	½	6R6446	BTS-4.7 Meg	Hori
R90	47KΩ	½	6R6048	BTS-47K	Feed
R91	2700Ω	1	6R5686	BTA-2700	Feed
R92	4.7 Meg.	½	6R6446	BTS-4.7 Meg.	Hori
R93	1500Ω 20%	½	6R6161	BTS-1500	Hori
R94	82KΩ	½	6R5644	BTS-82K	Hori
R95	5600Ω	½	6R6117	BTS-5600	Hori
R96	220KΩ	½	6R6407	BTS-220K	Hori
R97	18KΩ	1	6R5734	BTA-18K	Filt
R98	47Ω 20%	½	6R2108		Para
R99	1 Meg.20%	½	6R6004	BTS-1 Meg.	Hori
R100	82Ω	2	6R488222	BW-2-82	Hori
R101	15KΩ	2	6R5732	BT-2-15K	Hori
R102	2200Ω	2	6R5687	BT-2-2200	Hori
R103	3.3Ω	½	17K485412		HV R
R104	820KΩ	1	6R2053		HV F
R105	1000Ω 20%	2	6R476004	BW-2-1000	Blee
R106A	1000Ω			AB-1000	Filt
B	1500Ω	25	17A485413	AB-1500	Volta
C	7000Ω			AB-7000	Volta
R107	470Ω	2	6R2010	BW-2-470	Volta
R108	1000Ω 20%	13	17K780343	AB-1000	Volta
R109	1000Ω 20%	2	6R476004	BT-2-1000	Volta
R110	1200Ω	½	6R6393	BTS-1200	Volta
R111	1000Ω 20%	2	6R476004	BT-2-1000	Volta
R112	1000Ω 20%	2	6R476004	BT-2-1000	Volta
R113	1000Ω 20%	2	6R476004	BT-2-1000	Focus
R114	560Ω	2	6R488036	BW-2-560	Filte
R115	560Ω	2	6R488036	BW-2-560	Filte
R116	3300Ω	½	6R5581	BTS-3300	Video
R117	4700Ω	½	6R6080	BTS-4700	Sync.

Note 1. Used only in chassis TS-15C and TS-9E.
Note 2. Some models use 10KΩ resistor in this appl
Note 3. Chassis TS-9E uses 1500Ω resistor in this a
Note 4. Used in some TS-15C chassis, and TS-9E chas
Note 5. 680Ω resistor is used in some TS-15C chass
Note 6. Used only in early production of TS-15C cha

SPEAKER

ITEM No.	RATINGS FIELD RES.	RATINGS V. C. IMP.	REPLACEMENT DATA MOTOROLA PART No.	JENSEN PART No.	
SP1	10Ω	3.2Ω	50C780320		7E
	CONE DIA.	V. C. DIA.			
SP2	7 1/4"	3/4"			

TRANSFORMER (P

ITEM No.	RATING PRI.	SEC. 1	SEC. 2	SEC. 3	MOTOROLA PART No.	
T1	117VAC @ 2.2A	740VCT .24ADC 450VCT .050ADC	5VAC @ 3A	5VAC @ 2A	25C484095	P-8
		SEC. 4	SEC. 5	SEC. 6		
		5VAC @ 2A	6.3VAC @ 7.8A	6.3VAC @ .6A		

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (CONT.)

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MOTOROLA PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
R46	1.5Meg.20%	½	6R3966	BTS-1.5 Meg.	Voltage Divider
R47	1.5Meg.20%	½	6R3966	BTS-1.5 Meg.	Picture Tube Grid
R48	47KΩ	½	6R6048	BTS-47K	Voltage Divider
R49	47KΩ	½	6R6048	BTS-47K	Voltage Divider
R50	100Ω 20%	½	6R6018		1st Sound IF Cathode
R51	1000Ω	½	6R6229		1st Sound IF Decoupling
R52	10KΩ	½	6R6320		2nd Sound IF Grid
R53	100Ω 20%	½	6R6018		2nd Sound IF Cathode
R54	100KΩ	½	6R6031		Limiter Grid
R55	100Ω 20%	½	6R6018	BW-½-100	Voltage Divider
R56	15KΩ 20%	½	6R2119	BTS-15K	Voltage Divider
R57	10KΩ 20%	2	6R476060	BT-2-10K	Voltage Dropping
R58	100KΩ	½	6R6031	BTS-100K	Disc. Load
R59	100KΩ	½	6R6031	BTS-100K	Disc. Load
R60	100KΩ	½	6R6031	BTS-100K	De-emphasis
R61	33KΩ	½	6R6410	BTS-33K	Tone Compensation
R62	10 Meg.20%	½	6R2109	BTS-10 Meg.	AF Grid
R63	1 Meg.20%	½	6R6004	BTS-1 Meg.	AF Plate
R64	470KΩ	½	6R6377	BTS-470K	Output Grid
R65	470Ω	2	6R2010	BW-2-470	Output Cathode (Wire Wound)
R66	560Ω	1	6R488036	BTA-560	Filter
R67	330Ω	½	6R6022	BW-½-330	Voltage Divider
R68	18KΩ	2	6R476014	BT-2-18K	1st Sync. Clipper Plate
R69	3.3Meg.20%	½	6R2118	BTS-3.3 Meg.	Sync. Amp. Grid
R70	33KΩ	2	6R5768	BT-2-33K	Sync. Amp. Plate
R71	10 Meg.20%	½	6R2109	BTS-10 Meg.	2nd Sync. Clipper Grid
R72	3300Ω	½	6R5581	BTS-3300	2nd Sync. Clipper Plate
R73	1500Ω 20%	½	6R6161	BTS-1500	2nd Sync. Clipper Cathode
R74	4700Ω	½	6R6080	BTS-4700	2nd Sync. Clipper Cathode
R75	22KΩ	½	6R6397	BTS-22K	Integrator
R76	8200Ω	½	6R2004	BTS-8200	Integrator
R77	6800Ω	½	6R6423	BTS-6800	Integrator
R78	470KΩ	½	6R6377	BTS-470K	Vert. Osc. Transformer Shunt
R79	1 Meg.20%	½	6R6004	BTS-1 Meg.	Vert. Osc. Grid
R80	3.3Meg20%	½	6R2118	BTS-3.3 Meg.	Voltage Divider
R81	1.5Meg20%	½	6R3966	BTS-1.5 Meg.	Vert. Osc. Plate
R82	560Ω	½	6R6291	BTS-560	Vert. Output Cathode
R83	3.3Meg20%	½	6R2118	BTS-3.3 Meg.	Vert. Output Grid
R84	3300Ω	½	6R5581	BTS-3300	Vert. Peaking
R85	100KΩ	1	6R6031	BTA-100K	Filter
R86	1000Ω	1	6R476004	BTA-1000	Filter
R87	100KΩ	½	6R6031	BTS-100K	Horiz. Phase Det. Load
R88	100KΩ	½	6R6031	BTS-100K	Horiz. Phase Det. Load
R89	4.7 Meg.	½	6R6446	BTS-4.7 Meg.	Horiz. Phase Det. Load
R90	47KΩ	½	6R6048	BTS-47K	Feedback Network
R91	2700Ω	1	6R5686	BTA-2700	Feedback Network
R92	4.7 Meg.	½	6R6446	BTS-4.7 Meg.	Horiz. AFC Filter Network
R93	1500Ω 20%	½	6R6161	BTS-1500	Horiz. Osc. Cathode
R94	82KΩ	½	6R5644	BTS-82K	Horiz. Osc. Grid
R95	5600Ω	½	6R6117	BTS-5600	Horiz. Osc. Plate
R96	220KΩ	½	6R6407	BTS-220K	Horiz. Osc. Plate
R97	18KΩ	1	6R5734	BTA-18K	Filter
R98	47Ω 20%	½	6R2108		Parasitic Supp.
R99	1 Meg.20%	½	6R6004	BTS-1 Meg.	Horiz. Output Grid
R100	82Ω	2	6R488222	BW-2-82	Horiz. Output Cathode (Wire Wound)
R101	15KΩ	2	6R5732	BT-2-15K	Horiz. Output Screen
R102	2200Ω	2	6R5687	BT-2-2200	Horiz. Centering
R103	3.3Ω	½	17K485412		HV Rect. Filament (Wire Wound)
R104	820KΩ	1	6R2053		HV Filter
R105	10000Ω 20%	2	6R476004	BW-2-1000	Bleeder
R106A	1000Ω			AB-1000	Filter (Wire Wound)
B	1500Ω	25	17A485413	AB-1500	Voltage Divider (Wire Wound)
C	7000Ω			AB-7000	Voltage Divider (Wire Wound)
R107	470Ω	2	6R2010	BW-2-470	Voltage Divider See Note 5
R108	10000Ω 20%	13	17K780343	AB-1000	Voltage Divider (Wire Wound)
R109	10000Ω 20%	2	6R476004	BT-2-1000	Voltage Divider See Note 4
R110	1200Ω	½	6R6393	BTS-1200	Voltage Divider
R111	10000Ω 20%	2	6R476004	BT-2-1000	Voltage Divider
R112	10000Ω 20%	2	6R476004	BT-2-1000	Voltage Divider
R113	10000Ω 20%	2	6R476004	BT-2-1000	Focus Coil Shunt
R114	560Ω	2	6R488036	BW-2-560	Filter
R115	560Ω	2	6R488036	BW-2-560	Filter
R116	3300Ω	½	6R5581	BTS-3300	Video Amp. Grid See Note 6
R117	4700Ω	½	6R6080	BTS-4700	Sync. Coupling See Note 6

Note 1. Used only in chassis TS-15C and TS-9E.
Note 2. Some models use 10KΩ resistor in this application.
Note 3. Chassis TS-9E uses 1500Ω resistor in this application.
Note 4. Used in some TS-15C chassis, and TS-9E chassis.
Note 5. 680Ω resistor is used in some TS-15C chassis, and TS-9E chassis.
Note 6. Used only in early production of TS-15C chassis.

SPEAKER

ITEM No.	RATINGS FIELD RES.	RATINGS V. C. IMP.	REPLACEMENT DATA MOTOROLA PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA QUAM PART No.	NOTES
SP1	100Ω	3.2Ω	50C780320		7E §	§ Supplied on order. State field resistance and current.
	CONE DIA.	V. C. DIA.				
SP2	7 1/4"	3/4"				

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA MOTOROLA PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA MERIT PART No.	REPLACEMENT DATA CHICAGO PART No.
T1	117VAC @ 2.2A	740VCT .24ADC 450VCT .050ADC	5VAC @ 3A	5VAC @ 2A	25C484095	P-8157		TP-450
		SEC. 4	SEC. 5	SEC. 6				
		5VAC @ 2A	6.3VAC @ 7.8A	6.3VAC @ .6A				

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ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC.	MOTOROL PART N
T2	168Ω		24B79005
T3	56Ω	160Ω	24B48541
T4	330Ω	SEC. 1	25C90052
	Tap @ 170Ω	10.5Ω	
		Tap @ .6Ω	
		SEC. 2	
		0Ω	
T5	775Ω	9Ω	25B79001
T6A	14Ω		24K48547
B	64Ω		
T7	540Ω		24B48546

‡ Drill new mounting holes

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ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	
T8	5300Ω	3.5Ω	310Ω	.4Ω	2

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.
L1	High and Low Band Ant. Trans.	Hi.0Ω Lo.0Ω	0Ω 0Ω
L2A	RF Coil	0Ω	
B	RF Coil	0Ω	
C	RF Coil	0Ω	
D	RF Coil	0Ω	
E	RF Coil	0Ω	
F	RF Coil	0Ω	
G	RF Coil	0Ω	
H	RF Coil	0Ω	
I	RF Coil	0Ω	
J	RF Coil	0Ω	
K	RF Coil	0Ω	
L	RF Coil	0Ω	
L3A	Mixer Grid	0Ω	
B	Mixer Grid	0Ω	
C	Mixer Grid	0Ω	
D	Mixer Grid	0Ω	
E	Mixer Grid	0Ω	
F	Mixer Grid	0Ω	
G	Mixer Grid	0Ω	
H	Mixer Grid	0Ω	
I	Mixer Grid	0Ω	
J	Mixer Grid	0Ω	
K	Mixer Grid	0Ω	
L	Mixer Grid	0Ω	
L4A	Osc. Coil	0Ω	
B	Osc. Coil	0Ω	
C	Osc. Coil	0Ω	
D	Osc. Coil	0Ω	
E	Osc. Coil	0Ω	
F	Osc. Coil	0Ω	
G	Osc. Coil	0Ω	
H	Osc. Coil	0Ω	
I	Osc. Coil	0Ω	
J	Osc. Coil	0Ω	
K	Osc. Coil	0Ω	
L	Osc. Coil	0Ω	
L5	Fil. Choke	0Ω	
L6	RF Choke	1Ω	
L7	1st Video IF	.1Ω	
L8	RF Choke	1Ω	
L9	2nd Video IF	.1Ω	.1Ω
L10	RF Choke	1Ω	
L11	3rd Video IF	.1Ω	.1Ω
L12	RF Choke	1Ω	
L13	4th Video IF and Sound Take-Off	.1Ω	.1Ω
L14	5th Video IF	.1Ω	.1Ω
L15	Fil. Choke	0Ω	
L16	Fil. Choke	0Ω	
L17	Fil. Choke	0Ω	
L18	4.5MC Trap	2.3Ω	
L19	Peaking	6Ω	
L20	Peaking	6Ω	
L21	Peaking	6Ω	
L22	Peaking	2Ω	
L23	Peaking	6Ω	
L24	1st Sound IF	.1Ω	
L25	2nd Sound IF	5Ω	
L26	3rd Sound IF	1Ω	.1Ω
L27	Disc.Trans.	.3Ω	.1Ω

IDENTIFICATION CODES AND INSTALLATION NOTES

RF Bypass
Limiter Decoupling
RF Bypass
De-emphasis
Tone Comp.
Tone Comp.
Audio Coupling
AF Plate Bypass
Audio Coupling
Output Plate Bypass
Decoupling
Sync. Coupling
Sync. Coupling
Integrator Net.
Integrator Net.
Integrator Net.
Vert. Osc. Grid Cap.
Vert. Discharge
Vert. Discharge
Vert. Sweep Coupling
Hor. Sync. Coupling
Hor. Sync. Coupling
AFC Filter
AFC Feedback
AFC Filter
AFC Filter
Hor. MV Feedback
Fixed Trimmer
Hor. Discharge
Hor. Sweep Coupling
Hor. Output Cath. Bypass
Hor. Output Screen Byp.
Damper Filter
Damper Filter
Fixed Trimmer
Hor. Sweep Coupling
HV Filter
Pic. Tube Cath. Dec.
Pic. Tube Fil. Bypass †
Filament Bypass
RF Bypass †

LLATION NOTES

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coupling
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mer Shunt See Note 2
ote 3
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PTIONS (Continued)

NT.)

IDENTIFICATION CODES
tage Divider
ture Tube Grid
tage Divider
tage Divider
Sound IF Cathode
Sound IF Decoupling
Sound IF Grid
Sound IF Cathode
iter Grid
tage Divider
tage Divider
tage Dropping
c. Load
c. Load
emphasis
e Compensation
Grid
Plate
put Grid
put Cathode (Wire Wound)
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Sync. Clipper Plate
ic. Amp. Grid
ic. Amp. Plate
Sync. Clipper Grid
Sync. Clipper Plate
Sync. Clipper Cathode
Sync. Clipper Cathode
tegrator
tegrator
tegrator
rt. Osc. Transformer Shunt
rt. Osc. Grid
ltage Divider
rt. Osc. Plate
rt. Output Cathode
rt. Output Grid
rt. Peaking
lter
lter
riz. Phase Det. Load
riz. Phase Det. Load
riz. Phase Det. Load
edback Network
edback Network
riz. AFC Filter Network
riz. Osc. Cathode
riz. Osc. Grid
riz. Osc. Plate
riz. Osc. Plate
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rasitic Supp.
riz. Output Grid
riz. Output Cathode (Wire Wound)
riz. Output Screen
riz. Centering
Rect. Filament (Wire Wound)
Filter
eeder
lter (Wire Wound)
ltage Divider (Wire Wound)
ltage Divider (Wire Wound)
ltage Divider See Note 5
ltage Divider (Wire Wound)
ltage Divider See Note 4
ltage Divider
ltage Divider
ltage Divider
cus Coil Shunt
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lter
deo Amp. Grid See Note 6
nc. Coupling See Note 6

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QUAM PART No.	NOTES
7E §	§ Supplied on order. State field resistance and current.

(POWER)

REPLACEMENT DATA		
STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
P-8157		TP-450

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING DC RESISTANCE PRI.	RATING DC RESISTANCE SEC.	REPLACEMENT DATA MOTOROLA PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	NOTES
T2	168Ω		24B790055				Hor.Osc. Coil
T3	56Ω	160Ω	24B485416	A-8111 ‡	A-3000 ‡	TBO-1 ‡	Vert.Block Osc.Trans.
T4	330Ω	SEC. 1	25C90052	A-8117		TFB-1	Hor.Output Trans.
	Tap.ⓐ 170Ω	10.5Ω Tap. ⓐ .6Ω					
		SEC. 2 0Ω					
T5	775Ω	9Ω	25B790015				Vert.Output Trans.
T6A	14Ω		24K485475	DY-1			Hor.Deflection Coil
B	64Ω						Vert.Deflection Coil
T7	540Ω		24B485467				Focus Coil

‡ Drill new mounting holes.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA MOTOROLA PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T8	5300Ω	3.5Ω	310Ω	.4Ω	25B489030	A-3877 #	A-2930 #	RO-9 #	# Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA MOTOROLA PART No.	REPLACEMENT DATA MEISSNER PART No.	NOTES
L1	High and Low Band Ant. Trans.	H1.0Ω Lo.0Ω	0Ω 0Ω	1X790492		Complete with C7, C8, C9, C10 and tuning cores.
L2A	RF Coil	0Ω		24K485428		Channel #2. Includes winding, form & core
B	RF Coil	0Ω		24K485429		Channel #3. Includes winding, form & core
C	RF Coil	0Ω		24K485430		Channel #4. Includes winding, form & core
D	RF Coil	0Ω		24K485431		Channel #5. Includes winding, form & core
E	RF Coil	0Ω		24K485432		Channel #6. Includes winding, form & core
F	RF Coil	0Ω		24A470764		Channel #7. Winding only.
G	RF Coil	0Ω		24A470764		Channel #8. Winding only.
H	RF Coil	0Ω		24K485426		Channel #9. Winding only.
I	RF Coil	0Ω		24A470763		Channel #10.Winding only.
J	RF Coil	0Ω		24A470763		Channel #11.Winding only.
K	RF Coil	0Ω		24A470763		Channel #12.Winding only.
L	RF Coil	0Ω		24A470763		Channel #13. Winding only.
L3A	Mixer Grid	0Ω		24K485428		Channel #2. Includes winding, form & core.
B	Mixer Grid	0Ω		24K485429		Channel #3. Includes winding, form & core.
C	Mixer Grid	0Ω		24K485430		Channel #4. Includes winding, form & core.
D	Mixer Grid	0Ω		24K485431		Channel #5. Includes winding, form & core.
E	Mixer Grid	0Ω		24K485432		Channel #6. Includes winding, form & core.
F	Mixer Grid	0Ω		24A470763		Channel #7. Winding only.
G	Mixer Grid	0Ω		24K471335		Channel #8. Winding only.
H	Mixer Grid	0Ω		24K471335		Channel #9. Winding only.
I	Mixer Grid	0Ω		24K471335		Channel #10. Winding only.
J	Mixer Grid	0Ω		24A470765		Channel #11. Winding only.
K	Mixer Grid	0Ω		24K485427		Channel #12. Winding only.
L	Mixer Grid	0Ω		24K485427		Channel #13. Winding only.
L4A	Osc. Coil	0Ω		24K485433		Channel #2. Includes winding, form & core.
B	Osc. Coil	0Ω		24K485434		Channel #3. Includes winding, form & core.
C	Osc. Coil	0Ω		24K485434		Channel #4. Includes winding, form & core.
D	Osc. Coil	0Ω		24K485435		Channel #5. Includes winding, form & core.
E	Osc. Coil	0Ω		24K485435		Channel #6. Includes winding, form & core.
F	Osc. Coil	0Ω		24A485436		Channel #7. Winding only.
G	Osc. Coil	0Ω		24A485437		Channel #8. Winding only.
H	Osc. Coil	0Ω		24A485437		Channel #9. Winding only.
I	Osc. Coil	0Ω		24K485438		Channel #10. Winding only.
J	Osc. Coil	0Ω		24K485440		Channel #11. Winding only.
K	Osc. Coil	0Ω		24K485440		Channel #12. Winding only.
L	Osc. Coil	0Ω		24K485440		Channel #13. Winding only.
L5	Fil. Choke	0Ω		24A90064		
L6	RF Choke	1Ω		24A780127		1 Microhenry
L7	1st Video IF	.1Ω		24B780394		Complete with iron core.
L8	RF Choke	1Ω		24A780127		1 Microhenry.
L9	2nd Video IF	.1Ω	.1Ω	24B489071		Complete with iron core.
L10	RF Choke	1Ω		24A780127		1 Microhenry.
L11	3rd Video IF	.1Ω	.1Ω	24B489071		Complete with iron core.
L12	RF Choke	1Ω		24A780127		1 Microhenry.
L13	4th Video IF and Sound Take-Off	.1Ω	.1Ω	24B489073		Complete with iron core. Sound Take-Off coil 0Ω.
L14	5th Video IF	.1Ω	.1Ω	24K780390		Complete with iron core.
L15	Fil. Choke	0Ω		24A90064		
L16	Fil. Choke	0Ω		24A90064		
L17	Fil. Choke	0Ω		24A90064		
L18	4.5MC Trap	2.3Ω		24B484077		Complete with iron core.
L19	Peaking	6Ω		24K780388		Wound on 1 Meg, resistor. Orange-Orange Dot.
L20	Peaking	6Ω		24K780388		Wound on 1 Meg. resistor. Orange-Orange Dot.
L21	Peaking	6Ω		24K780388		Wound on 1 Meg. resistor. Orange-Orange Dot.
L22	Peaking	2Ω		24K780386		Wound on 1 Meg. resistor. Blue-Blue Dot.
L23	Peaking	6Ω		24K780388		Wound on 1 Meg. resistor. Orange-Orange Dot.
L24	1st Sound IF	.1Ω		24K484082		Complete with iron core.
L25	2nd Sound IF	5Ω		24K780019		Wound on 22KΩ resistor.
L26	3rd Sound IF	1Ω	.1Ω	24B780319		Complete, but less shield can.
L27	Disc.Trans.	.3Ω	.1Ω	24B471340		Complete, but less shield can.

MOTOROLA MODELS VK-106, 107, 10VK9, 10VT3, 12VK18B, R, 12VT16, B, R

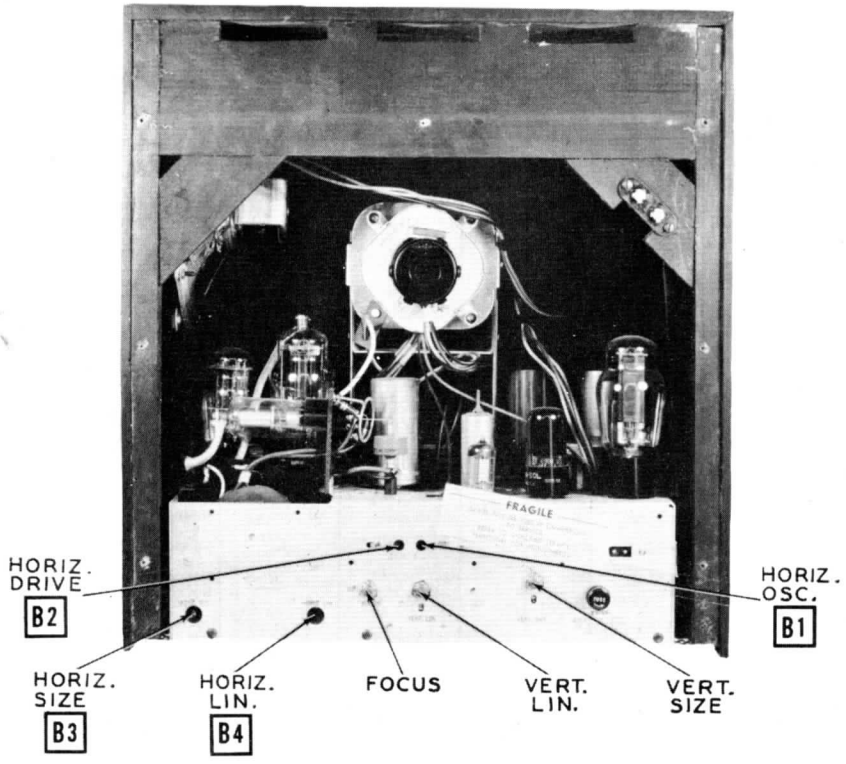
PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF) CONT.

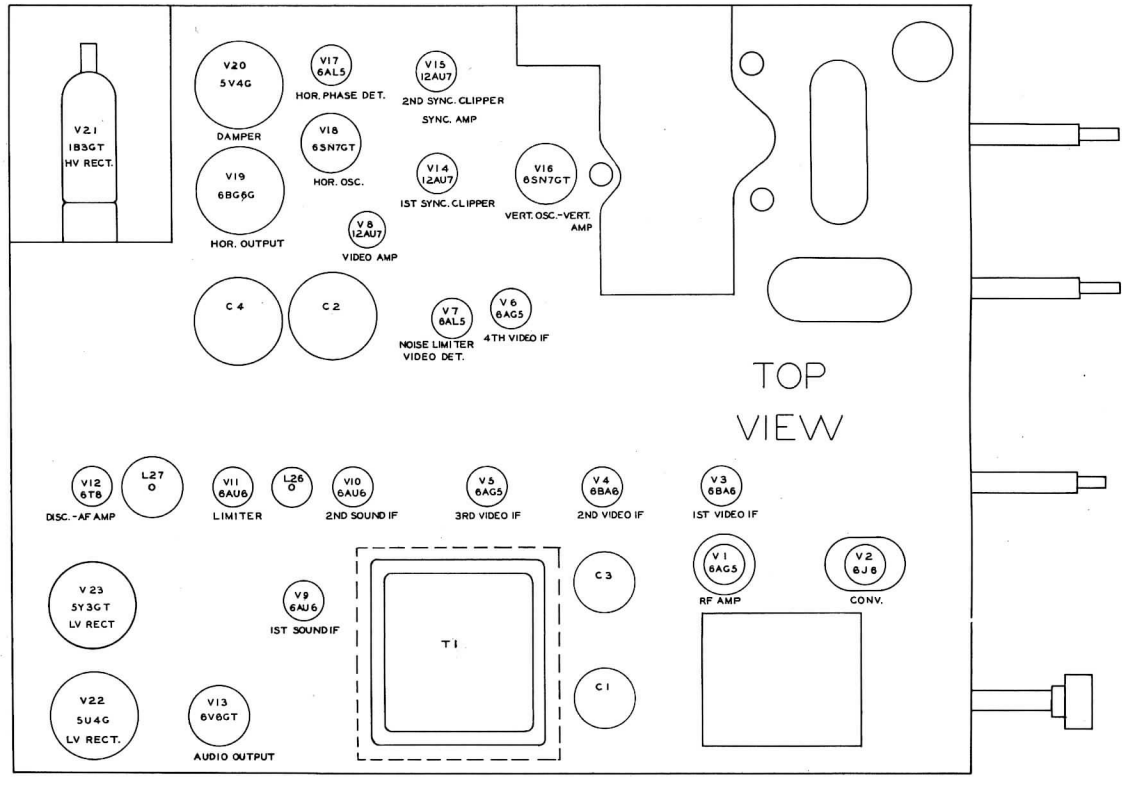
ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	MOTOROLA PART No.	MEISSNER PART No.	
L28	Hor. Size	.2Ω		24K790689		Complete with iron core.
L29	Hor. Linearity	40Ω		24B470796		Complete with iron core.
L30	RF Choke	1Ω		24A780127		1 Microhenry.

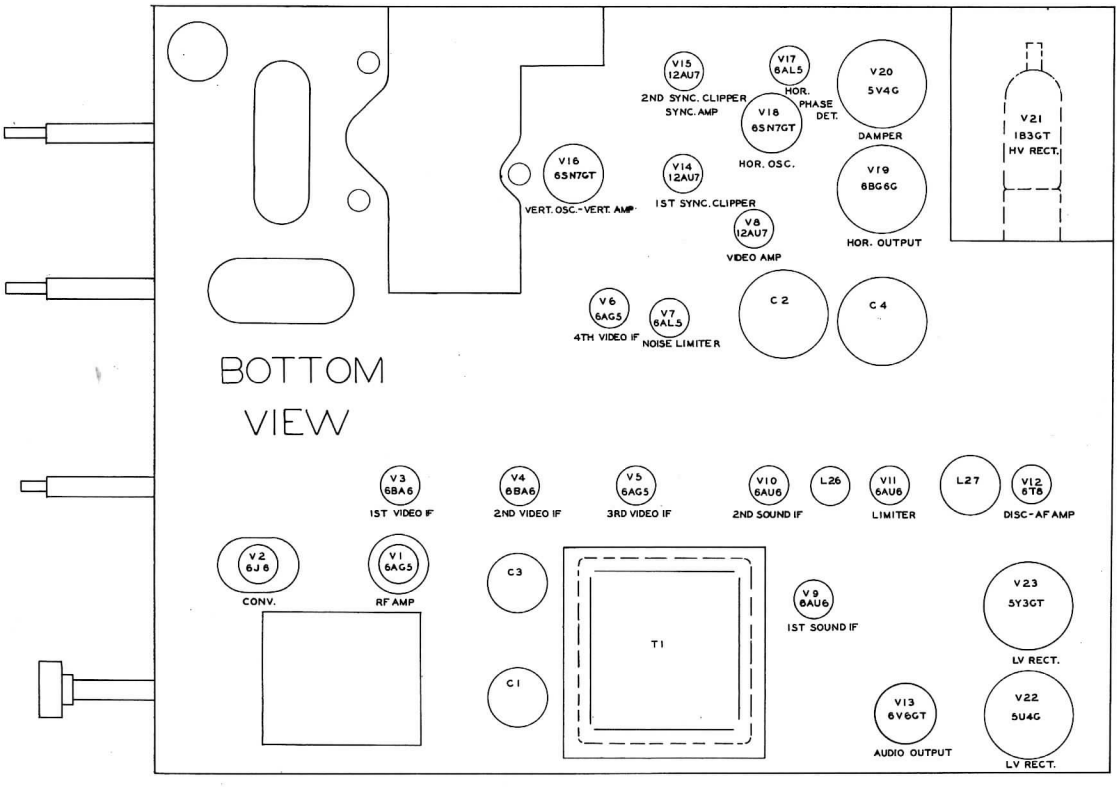
MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M1A	RF Tuner TT-3	1X484850	Complete
B	RF Tuner TT-5	1X790460	Complete
M2	Fuse	65K474899	Type AGC 1/8 Amp.
M3	Ion Trap	24B484822	PM
	Core	46K471143	Iron and Screw for L29
	Core	46A780344	Iron-Ceramic and screw for L28
	Core	46A70023	Iron and screw for L9, L11, L14 and L7 and L18
	Core	46K471337	Iron and screw for L27 primary and secondary & L24
	Core	46A484198	Iron: Threaded for L26 primary and secondary
	Back Cover	1X780413	Includes line cord and shield for model 12VT16
	Cabinet	16K790414	Table model, red mahogany model 12VT16R
	Cabinet	16K790415	Consolette, limed oak model 12VT16B
	Back Cover	1X790096	Includes line cord and shield assy. for model 10VK9
	Cabinet	16K790047	Table Model: Red mahogany, model 10VT3R
	Cabinet	16K790051	Table model: limed oak, model 10VT3B
	Cabinet	16K790048	Console: red mahogany, model 10VK9R
	Cabinet	16K790411	Console limed oak, model 10VK9B
	Safety Glass	1X790523	Includes rubber gasket, for model 12VT16
	Safety Glass	1X790009	Includes rubber gasket, for model 10VT3
	Safety Glass	1X790095	Includes rubber gasket, for model 10VK9
	Knob	36B489176	Channel Selector, Mahogany plastic model 12VT16R
	Knob	36B489179	Vert. hold mahogany plastic model 12VT16R
	Knob	36B485489	Contrast and volume mahogany plastic model 12VT16R
	Knob	36A790050	Brightness, Horiz. hold and off-tone mahogany plastic model 12VT16R.
	Knob	36A790005	Fine tuning, mahogany plastic, model 12VT16R
	Knob	36K489178	Channel Selector tan plastic model 12VT16B
	Knob	36K489178	Vert. hold tan plastic, model 12VT16B
	Knob	36K485491	Contrast and volume, tan plastic model 12VT16B
	Knob	36K790433	Brightness, Hor. hold and off-tone, tan plastic, model 12VT16B
	Knob	36K790432	Fine tuning, tan plastic model 12VT16B
	Knob	36A790050	Brightness, Hor. hold and off-tone, mahogany plastic for models 10VT3R and 10VK9R
	Knob	36K790433	Brightness, Hor. hold and off-tone, tan plastic for models 10VT3B and 10VK9B
	Knob	36A790005	Fine tuning, mahogany plastic for models 10VT3R and 10VK9R
	Knob	36K790432	Fine tuning, tan plastic for models 10VT3B and 10VK9B



CABINET-REAR VIEW





TUBE PLACEMENT CHART