

VOLUME
CONTROL
ON-OFF SW.

HORIZ.
VERT.
HOLD

BRIGHTNESS
CONTRAST

CHANNEL
SELECTOR
FINE TUNING

TELE-TONE
MODEL TV-285

TRADE NAME Tele-Tone Model TV-285
MANUFACTURER Tele-Tone Radio Co., 540 W. 58th St., New York 19, New York
TYPE SET Television Receiver
TUBES Twenty Four

POWER SUPPLY 110-120 Volts AC-60 Cycle
TUNING RANGE—Channels 2 thru 13
RATING 1.67 Amp. at 117 Volts AC

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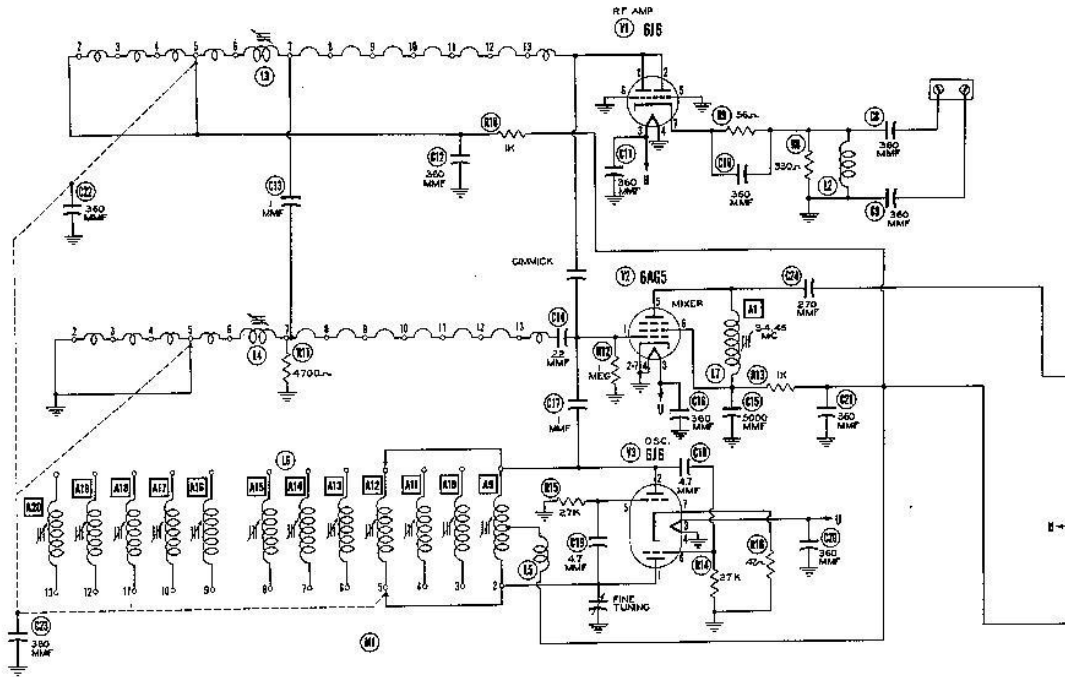
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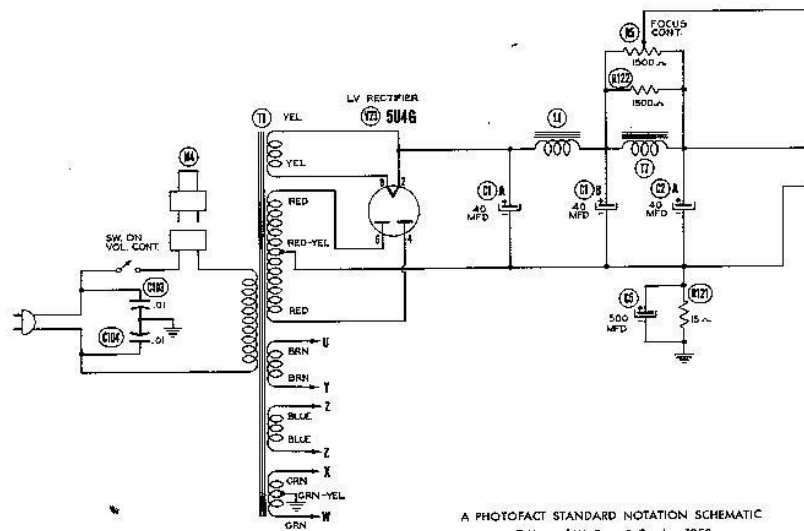
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SET 87

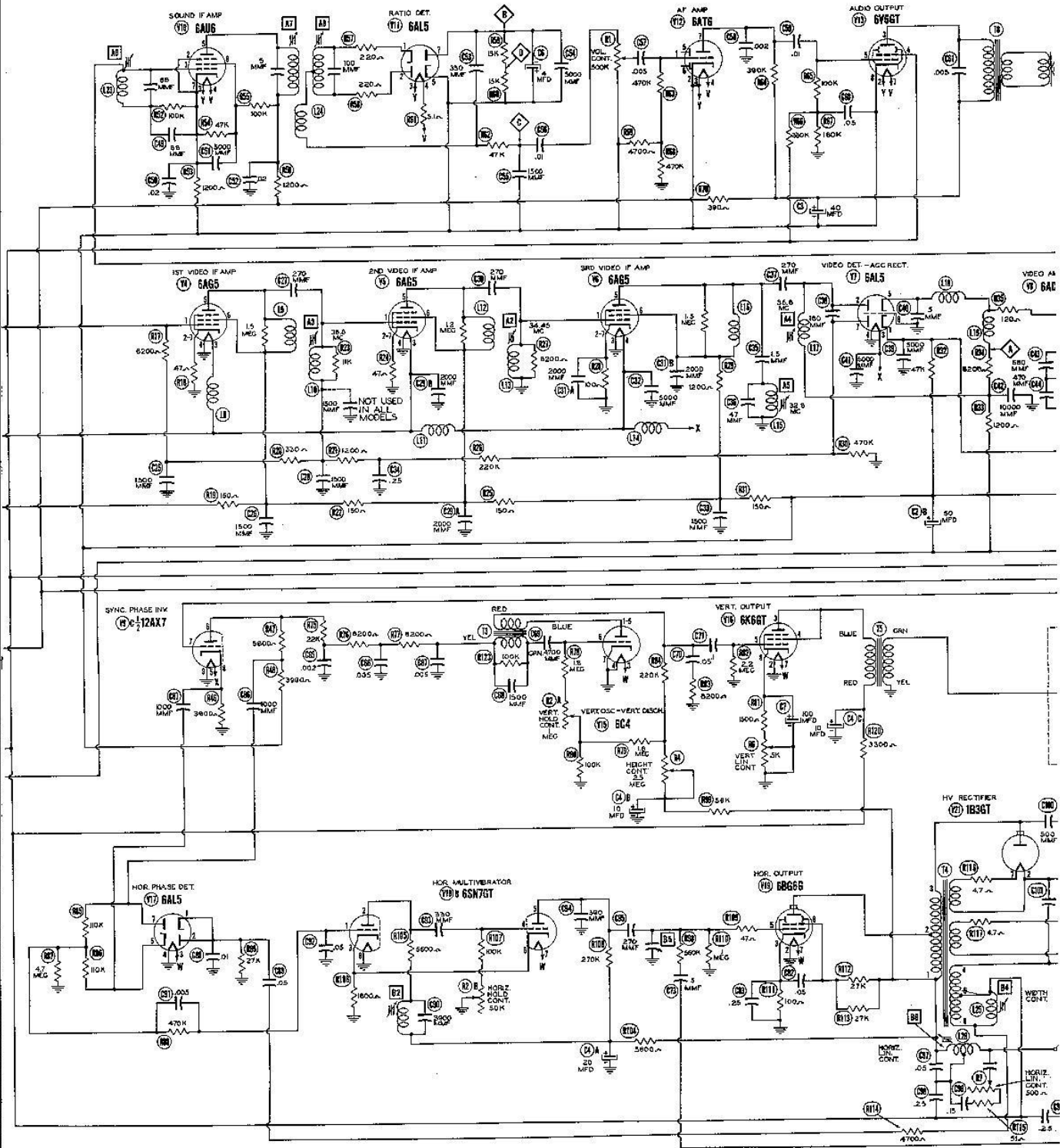
FOLDER 13

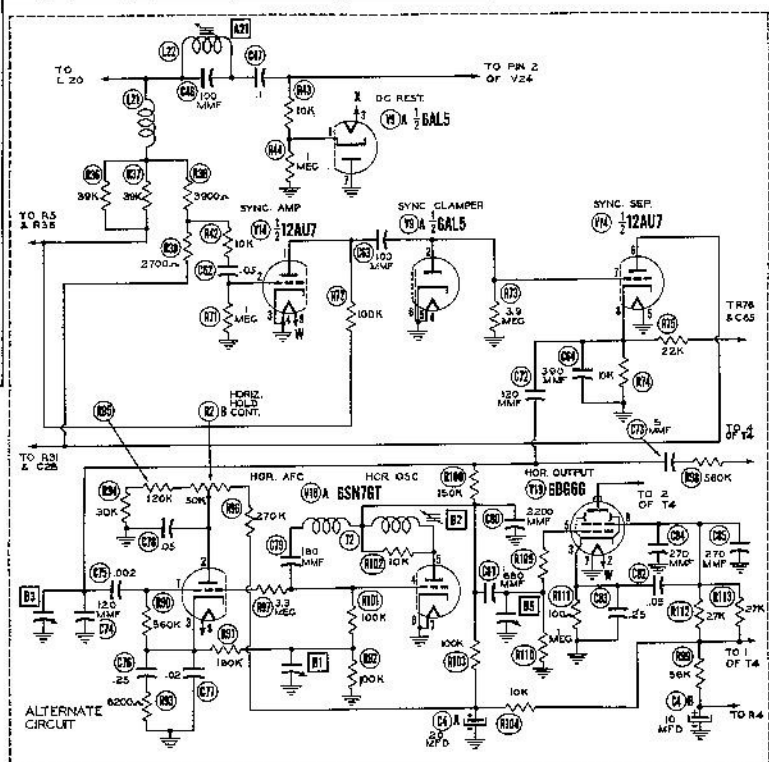
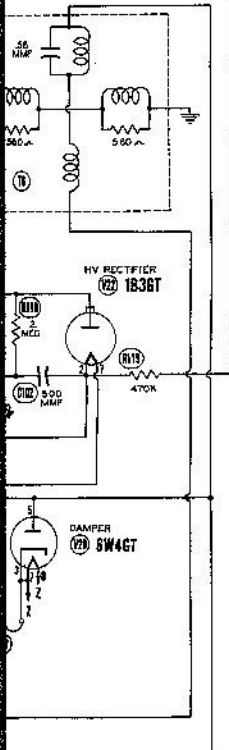
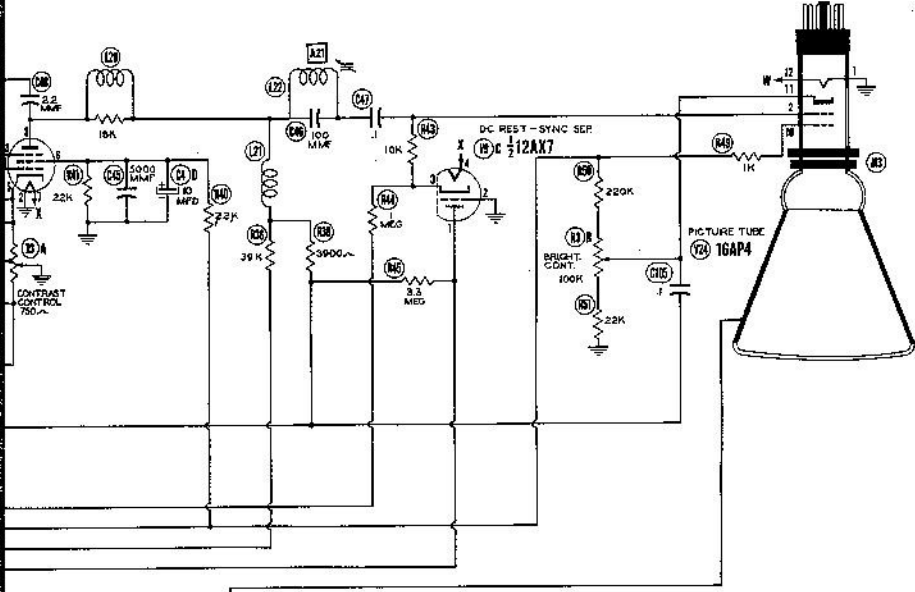


THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

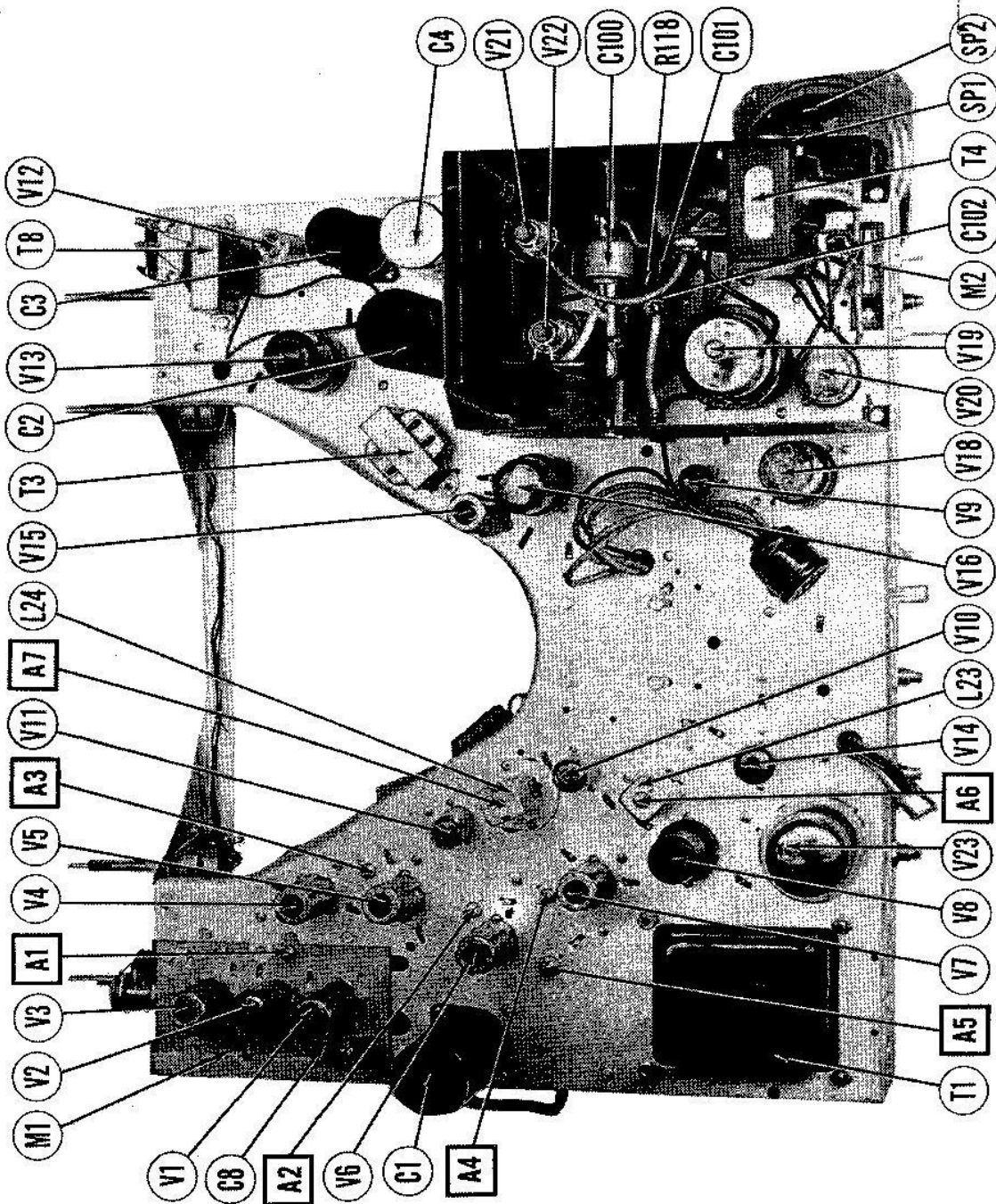


A PHOTOFAC STANDARD NOTATION SCHEMATIC
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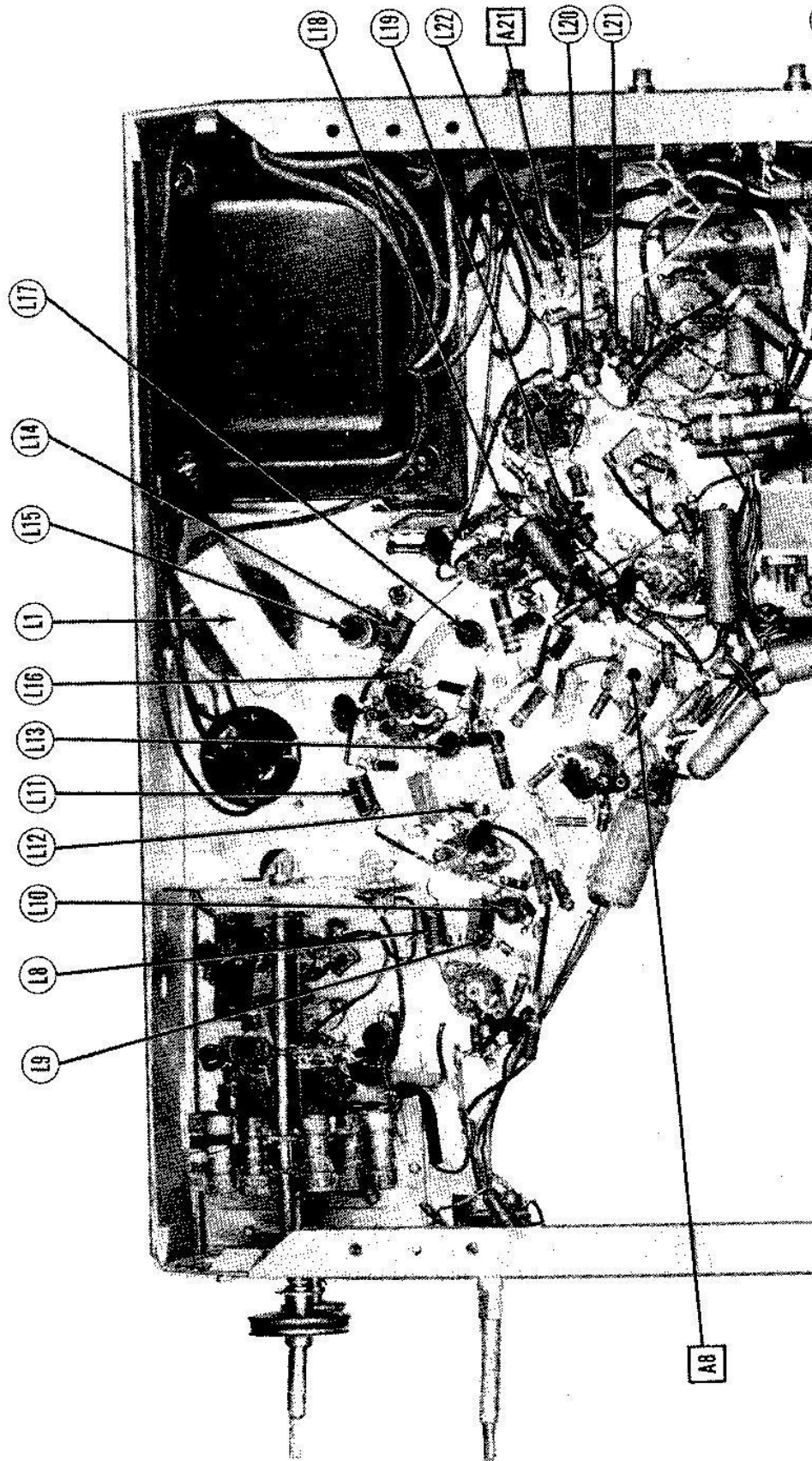


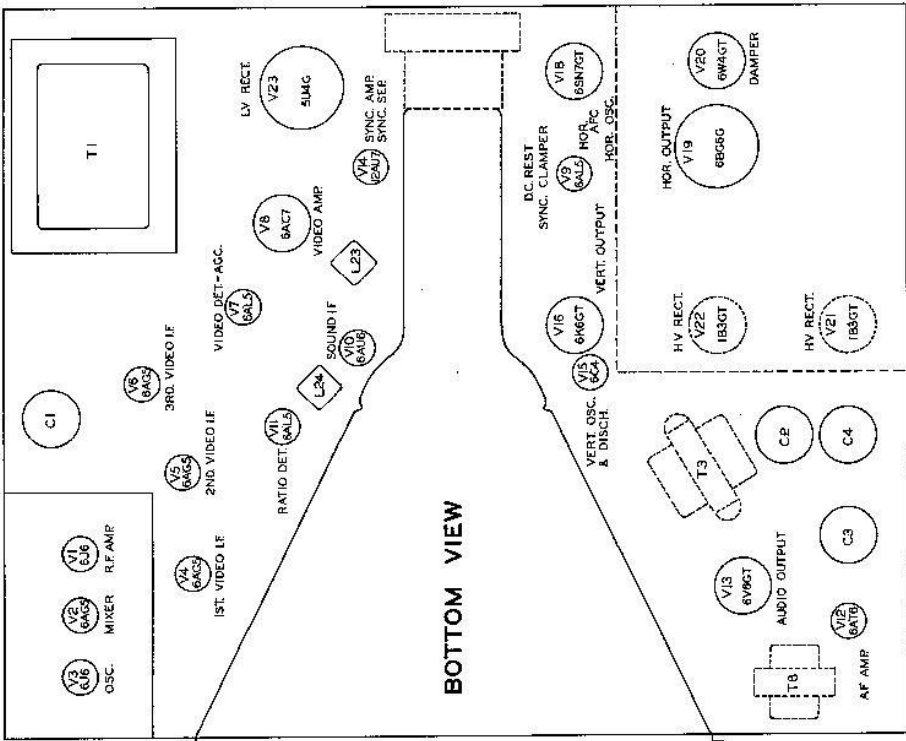
TELE-TONE
MODEL TV-285



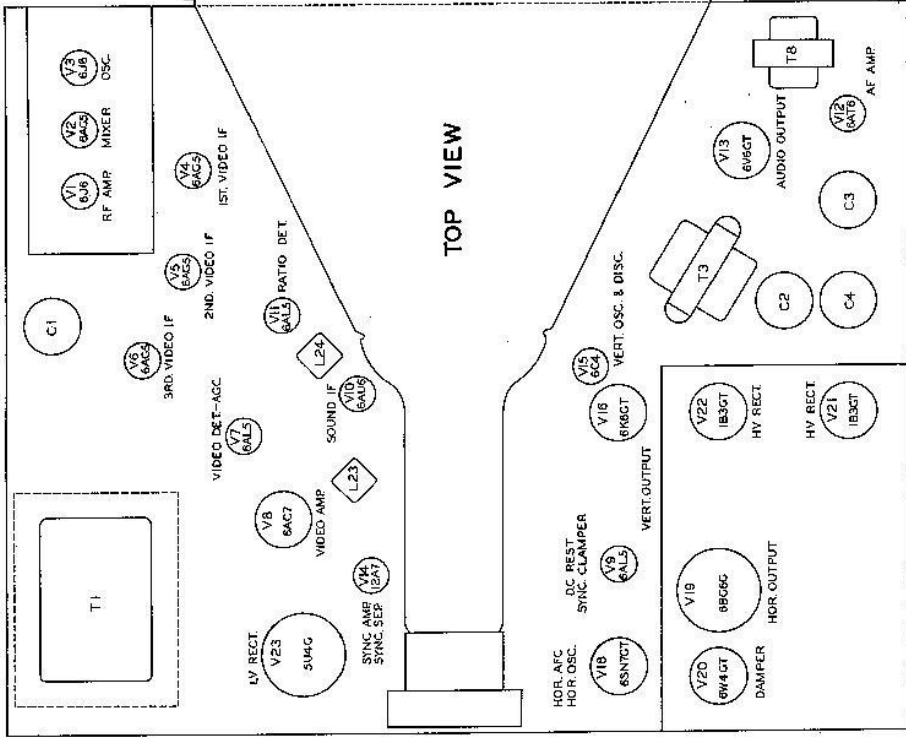
CHASSIS TOP VIEW

TELE-TONE
MODEL TV-285





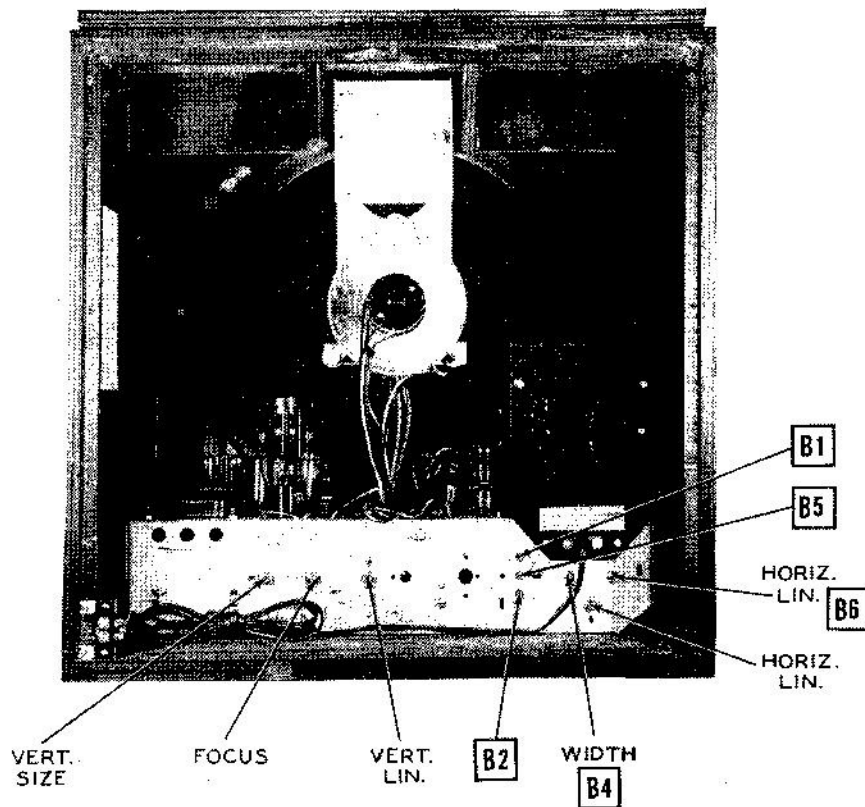
BOTTOM VIEW



TOP VIEW

TUBE PLACEMENT CHART

**TELE-TONE
MODEL TV-285**



CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

HORIZONTAL OSCILLATOR ALIGNMENT CHECK:

Tune in test pattern and turn horizontal hold control to extreme counter-clockwise position. Picture should remain in synchronization. Turn channel switch to another channel and then back to the original channel. Normally, the picture should be out of synchronization. Turn the control clockwise and the picture should slowly begin to synchronize and finally lock-in. This should occur when the control is approximately 90° from the extreme counter-clockwise position. The picture should remain in synchronization for another 90° in the clockwise direction of the control. At the extreme clockwise position the picture should again drop out of synchronization and 3½ to 4½ bars should be seen sloping downward to the right. If the receiver fails to hold synchronization during this check with the hold control at the extreme counter-clockwise position or fails to hold synchronization for at least 90° in the clockwise direction from the point when it drops into "sync" it will be necessary to align the horizontal oscillator circuit as follows:

(A) HORIZONTAL OSCILLATOR ALIGNMENT:

Turn horizontal hold control to extreme clockwise position. Tune in test pattern and adjust trimmer B1 until picture is out of sync. and shown 3½ to 4½ bars sloping downward to the right. If the trimmer has insufficient range, set it to its mid-position (one turn from tight) and adjust slug B2 until bars appear.

(B) HORIZONTAL LOCKING ALIGNMENT:

Turn the horizontal hold control to full counter-clockwise position. Switch to another channel and back to the original again.

Slowly turn horizontal hold control clockwise and note the least number of diagonal bars present just before picture syncs. If more than 4½ bars are present just before picture syncs adjust "horizontal lock" trimmer B3 slightly clockwise. If less than 3½ bars are present adjust B3 slightly counter-clockwise and switch channel selector to another channel and back again. Re-count bars present at the "lock-in" point. Repeat this procedure until 3½ to 4½ bars are present.

Repeat steps (A) and (B) until conditions exist as outlined under "Horizontal Oscillator Alignment Check".

WIDTH, DRIVE AND HORIZONTAL LINEARITY ADJUSTMENT:

Turn width control B4 to maximum clockwise position. Adjust "horizontal drive" trimmer B5 for maximum brightness and linearity. Adjust horizontal linearity B6 for best linearity in the right half of the picture. Readjust width control until picture fills the mask.

HEIGHT AND VERTICAL LINEARITY ADJUSTMENTS:

Adjust the height control until picture fills mask vertically. Adjust the vertical linearity control until the test pattern is symmetrical from top to bottom.

Due to interaction between these two controls it is necessary to repeat the adjustments. Adjust the vertical centering control to align the picture with the mask.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To eliminate the high voltage shock hazard, remove the horizontal oscillator tube (V18) from its socket.

VIDEO IF ALIGNMENT

Remove the local oscillator tube (V3) to prevent erroneous indications.
Note that the VTVM common lead is connected to -3 1/2 volts.
Do not allow the VTVM case to become grounded.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1. Direct	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	34.45MC (Unmod.)	Any	DC Probe and common leads across R34.	A1, A2	Adjust for maximum deflection.
2. Direct	"	36.8MC	"	"	A3, A4	Adjust for maximum deflection.
3. Direct	"	32.8MC	"	"	A5	Adjust for MINIMUM deflection.

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
4. Direct	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	34.8MC (10MC Sweep)	32.8MC 37.3MC	Any	Vert. Amp. to Point A Low side to chassis.		Check for response curve similar to Fig 1. If necessary retouch A1 thru A5 for proper response.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

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

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

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

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

OSCILLATOR ALIGNMENT

Replace the local oscillator tube (V2).
Set the fine tuning control to the mid-position of its range.
The RF and mixer portions of this receiver are pre-set at the factory and should not require adjustment in the field.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
7. Direct	High side to ungrounded antenna terminal. Low side to chassis.	57MC (10MC Sweep) 53MC (10MC SWP) 59MC (10MC SWP) 79MC (10MC SWP) 85MC (10MC SWP) 177MC (10MC SWP) 183MC (10MC SWP) 189MC (10MC SWP) 195MC (10MC SWP) 201MC (10MC SWP) 207MC (10MC SWP) 213MC (10MC SWP)	55.25MC 59.75MC 65.75MC 71.75MC 77.25MC 81.75MC 83.25MC 87.75MC 175.25MC 179.75MC 181.25MC 185.75MC 187.25MC 191.75MC 193.25MC 197.75MC 199.25MC 203.75MC 205.25MC 209.75MC 211.25MC 215.75MC	2 3 4 5 6 7 8 9 10 11 12 13	Vert. Amp. to Point A Low side to chassis.	A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 A20	Adjust to place sound marker as shown in Fig 4. The video marker should be at 50%.

4.5MC TRAP ADJUSTMENT

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8. .01MPD	High side to pin 4 (Grid) of 6AC7 (V8). Low side to chassis.	4.5MC (400 ~ Mod.)	Not used.	Any	Vert. Amp. to pin 2 (Grid) of picture tube (V24). Low side to chassis.	A21	Adjust for minimum 400 ~ indication on scope.

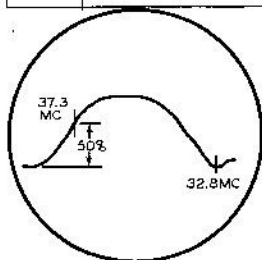


FIG. 1

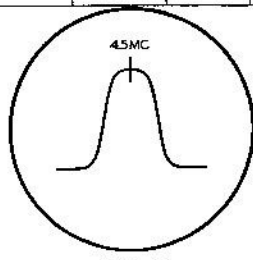


FIG. 2

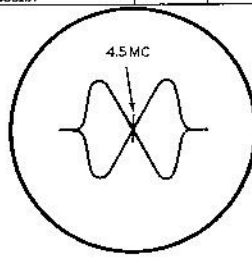


FIG. 3

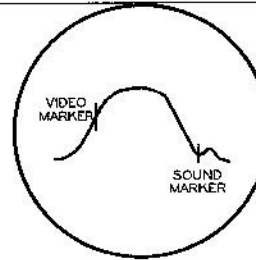


FIG. 4

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	6J6	150VDC	150VDC	6.3VAC	0V.	0V.	0V.	0V.		
V 2	6AG5	-3VDC	0V.	6.3VAC	0V.	105VDC	105VDC	0V.		
V 3	6T6	100VDC	100VDC	6.3VAC	0V.	6-1.7VDC	6-1.5VDC	4VDC		
V 4	6AG5	-2VDC	3VDC	6.3VAC	0V.	110VDC	110VDC	3VDC		
V 5	6AG5	-4VDC	3VDC	6.3VAC	0V.	115VDC	115VDC	3VDC		
V 6	6AG5	0V.	1VDC	0V.	6.3VAC	10VDC	10VDC	1VDC		
V 7	6AL5	1VDC	-1.8VDC	6.3VAC	0V.	-8VDC	0V.	-1.5VDC		
V 8	6AC7	0V.	0V.	2.1VDC	-1.3VDC	2.1VDC	160VDC	6.3VAC	170VDC	
V 9	6AL5	8VDC	-8.1VDC	6.3VAC	0V.	0V.	0V.	0V.		
V 10	6AU6	12.3VDC	14.3VDC	10V.	15.3VAC	1210VDC	155VDC	14.3VDC		
V 11	6AL5	1-.5VDC	1-.1VDC	10V.	15.4VAC	10V.	0V.	1-.8VDC		
V 12	6AT6	1-.6VDC	10V.	10V.	16.3VAC	0V.	0V.	115VDC		
V 13	6Y6GT	0V.	10V.	118VDC	1200VDC	1-.7.5VDC	117VDC	16.3VAC	10V.	
V 14	12AU7	42VDC	-3VDC	0V.	0V.	0V.	130VDC	-2VDC	3.1VDC	6.3VAC
V 15	6C4	88VDC	380VDC	6.3VAC	0V.	85VDC	330VDC	0V.		
V 16	6K6GT	0V.	0V.	250VDC	250VDC	0V.	27VDC	6.3VAC	22VDC	38VDC
V 17	6AL5	*	*	*	*	*	*	*		
V 18	12SN7GT	-2VDC	120VDC	1.4VDC	-55VDC	160VDC	0V.	0V.	6.3VAC	TOP CAP
V 19	6EG6G	0V.	6.3VAC	5.2VDC	0V.	-16VDC	0V.	0V.	250VDC	*
V 20	6W4GT	0V.	0V.	480VDC	0V.	340VDC	0V.	480VDC	480VDC	
V 21	1B3GT									
V 22	1B3GT									
V 23	5U4G	0V.	480VDC	0V.	380VAC	0V.	380VAC	0V.	480VDC	
V 24	16AP4	0V.	6VDC	340VDC	115VDC	6.3VAC				

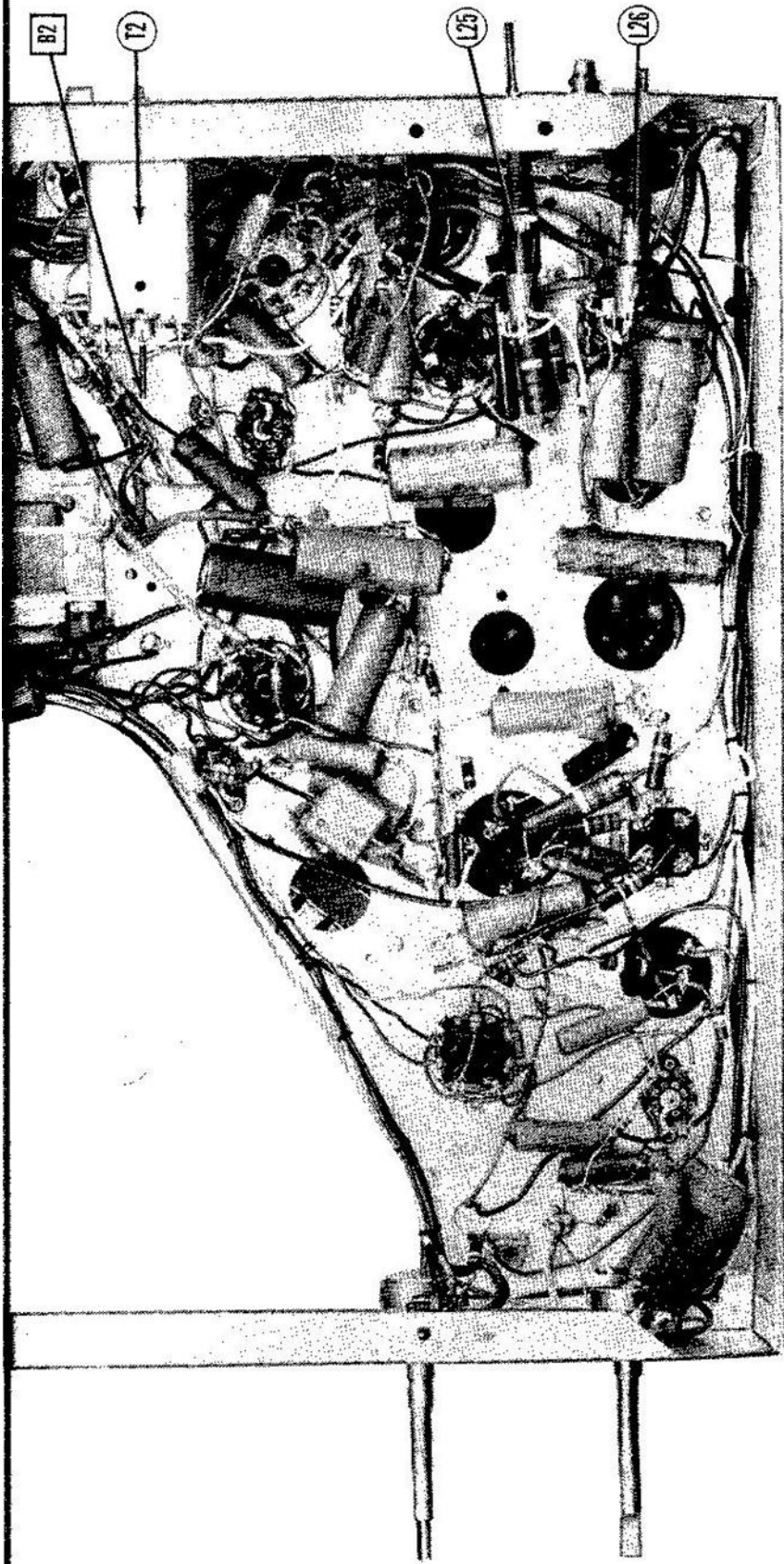
* DO NOT MEASURE.
 * DO NOT MEASURE.
 † TAKEN WITH VACUUM TUBE VOLTMETER.
 † MEASURED FROM PIN 8 OF V13.
 * DO NOT MEASURE.
 † MEASURED FROM PIN 3 OF V20.
 † NOT USED IN ALL MODELS.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6J6	1.5KΩ	1.5KΩ	1Ω	0Ω	0Ω	0Ω	50Ω		
V 2	6AG5	1 Meg.	0Ω	1Ω	0Ω	1.5KΩ	1.5KΩ	0Ω		
V 3	6T6	1500Ω	1500Ω	1Ω	0Ω	27KΩ	27KΩ	47Ω		
V 4	6AG5	700KΩ	47Ω	1Ω	0Ω	1450Ω	1450Ω	47Ω		
V 5	6AG5	700KΩ	47Ω	1Ω	0Ω	1300Ω	1300Ω	47Ω		
V 6	6AG5	2Ω	100Ω	0Ω	1Ω	1.3KΩ	1.3KΩ	100Ω		
V 7	6AL5	22Ω	1000Ω	1Ω	0Ω	10KΩ	0Ω	470KΩ		
V 8	6AC7	0Ω	0Ω	750Ω	10KΩ	750Ω	12KΩ	1Ω	15.8KΩ	
V 9	6AL5	1 Meg.	3.9 Meg.	1Ω	0Ω	0Ω	0Ω	0Ω		
V 10	6AU6	100KΩ	1100Ω	1.1Ω	10Ω	2KΩ	140KΩ	1100Ω		
V 11	6AL5	1MΩ	1MΩ	1Ω	1Ω	1Ω	1Ω	150KΩ		
V 12	6AT6	1500KΩ	10Ω	10Ω	1.1Ω	1MΩ	1MΩ	430KΩ		
V 13	6Y6GT	1MΩ	100	1.1KΩ	4750Ω	250KΩ	80KΩ	7.1Ω	10Ω	
V 14	12AU7	100KΩ	1 Meg.	0Ω	0Ω	0Ω	10Ω	3.9 Meg.	10KΩ	1Ω
V 15	6C4	1270Ω	10Ω	1Ω	0Ω	1270Ω	1.8 Meg.	0Ω	8.5KΩ	1.5KΩ
V 16	6K6GT	0Ω	0Ω	8.3KΩ	8.4KΩ	2.2Meg.	0Ω	1Ω	1.5KΩ	1.5KΩ
V 17	6AL5	*	*	*	*	*	*	*		
V 18	12SN7GT	800KΩ	1250Ω	250KΩ	200KΩ	110KΩ	0Ω	0Ω	1Ω	TOP CAP
V 19	6EG6G	1MΩ	1Ω	100Ω	1MΩ	1 Meg.	1MΩ	0Ω	13KΩ	280KΩ
V 20	6W4GT	1MΩ	1MΩ	200KΩ	1MΩ	470Ω	1MΩ	280KΩ	280KΩ	
V 21	1B3GT	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	TOP CAP
V 22	1B3GT	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	TOP CAP
V 23	5U4G	1MΩ	25KΩ	1MΩ	40Ω	1MΩ	40Ω	1MΩ	25KΩ	
V 24	16AP4	0Ω	1 Meg.	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	1MΩ	

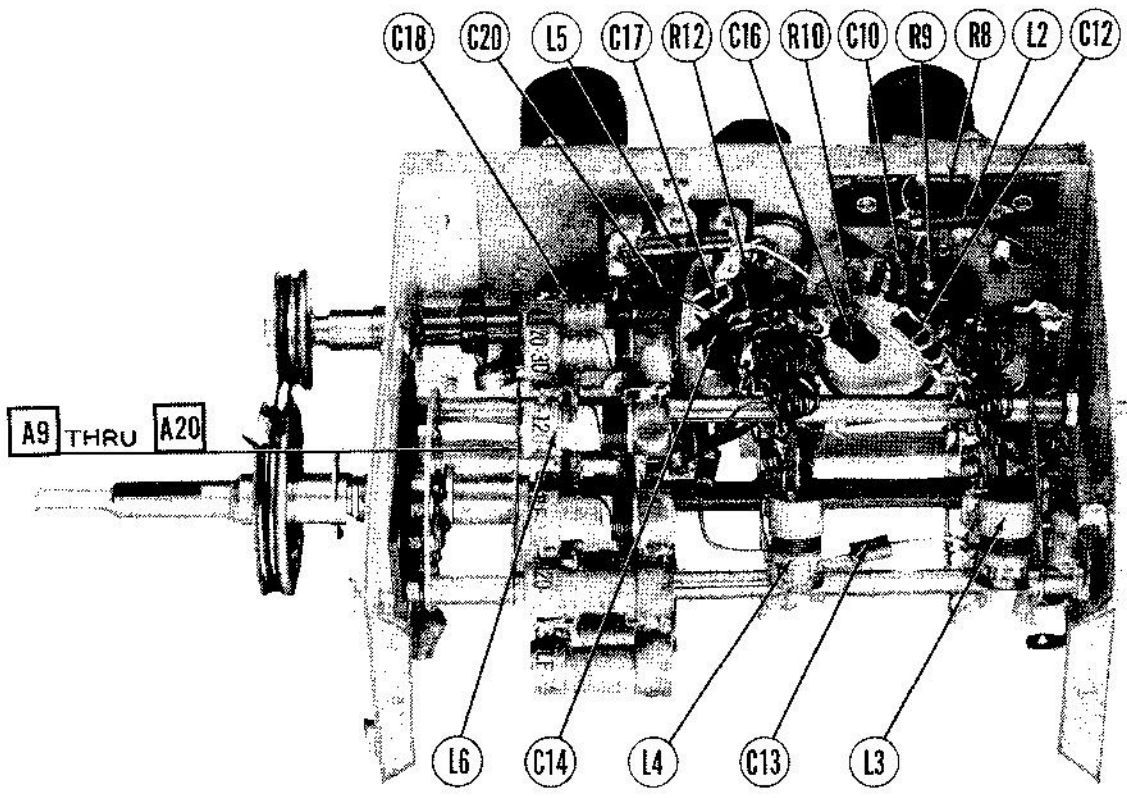
† MEASURED FROM PIN 8 OF V13.
 † MEASURED FROM PIN 2 OF V23.
 † MEASURED FROM PIN 3 OF V20.
 † NOT USED IN ALL MODELS.

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

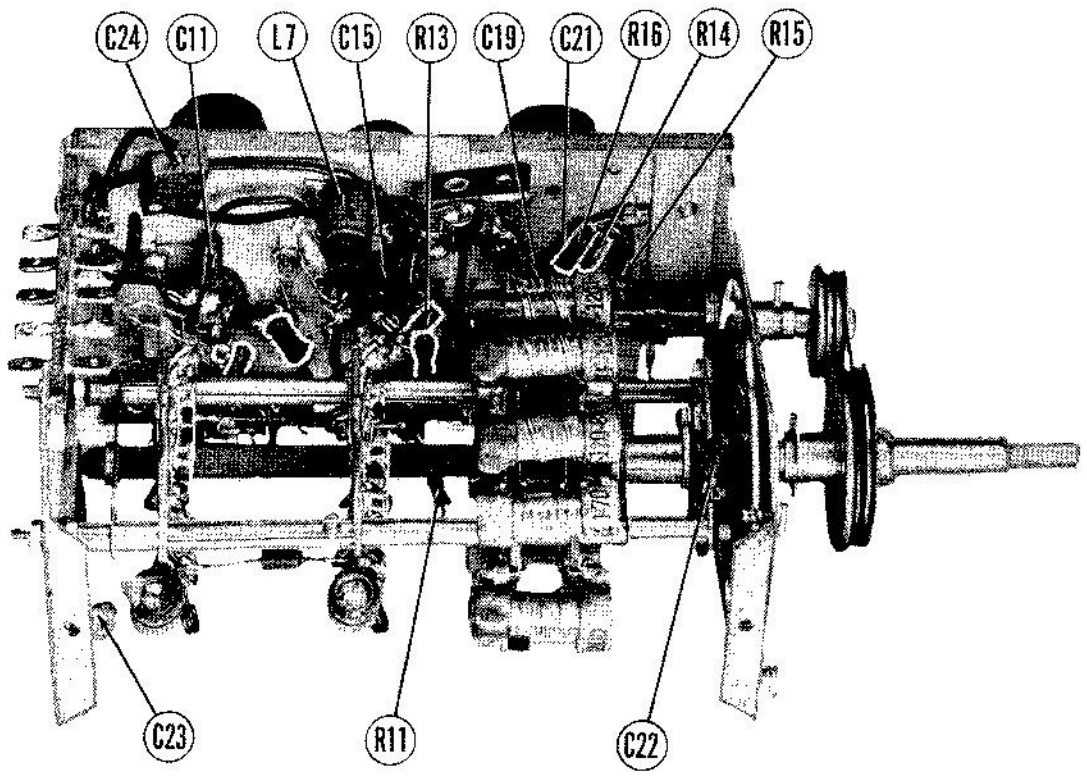


CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

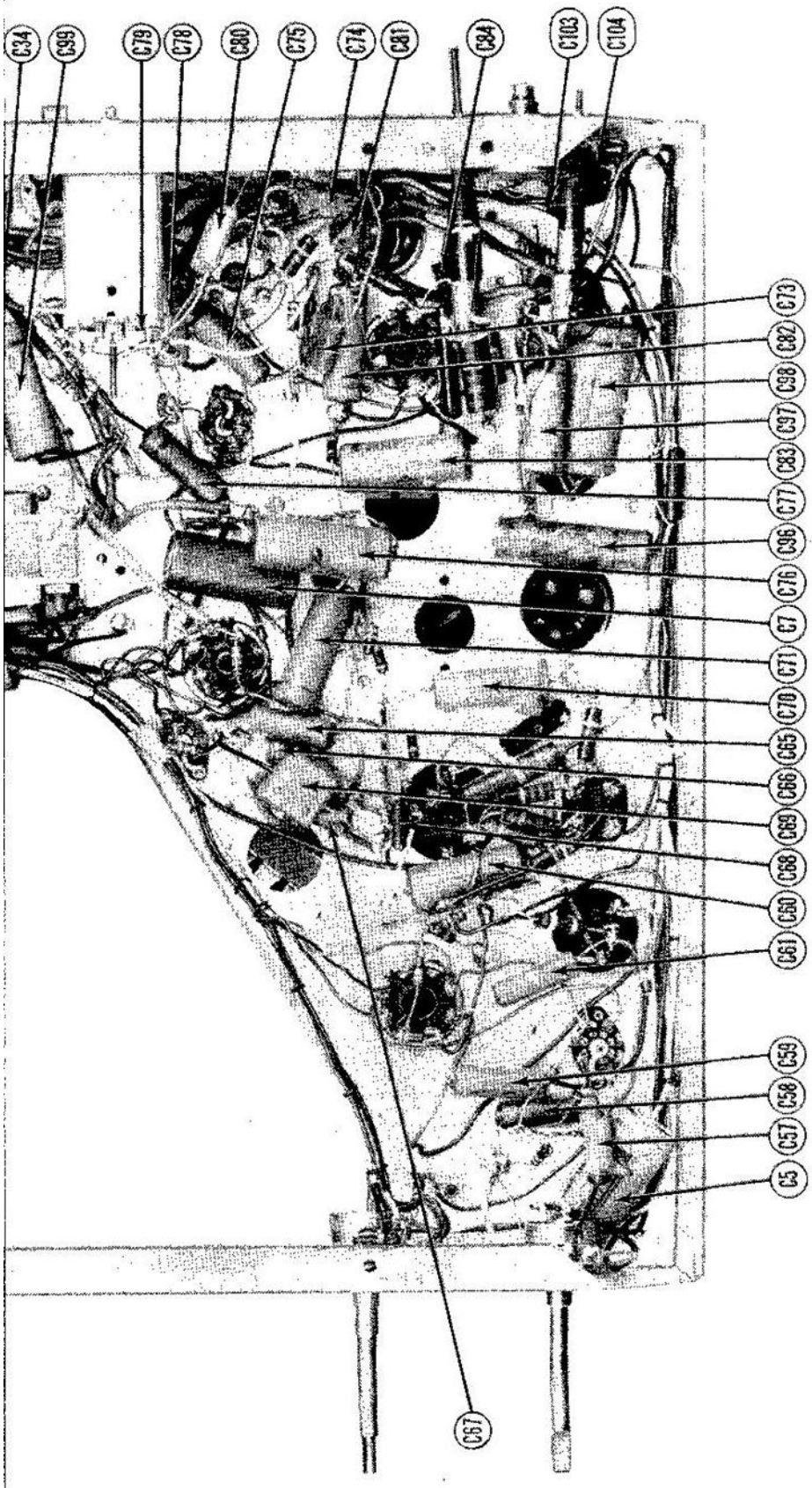
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RF TUNER-RIGHT SIDE

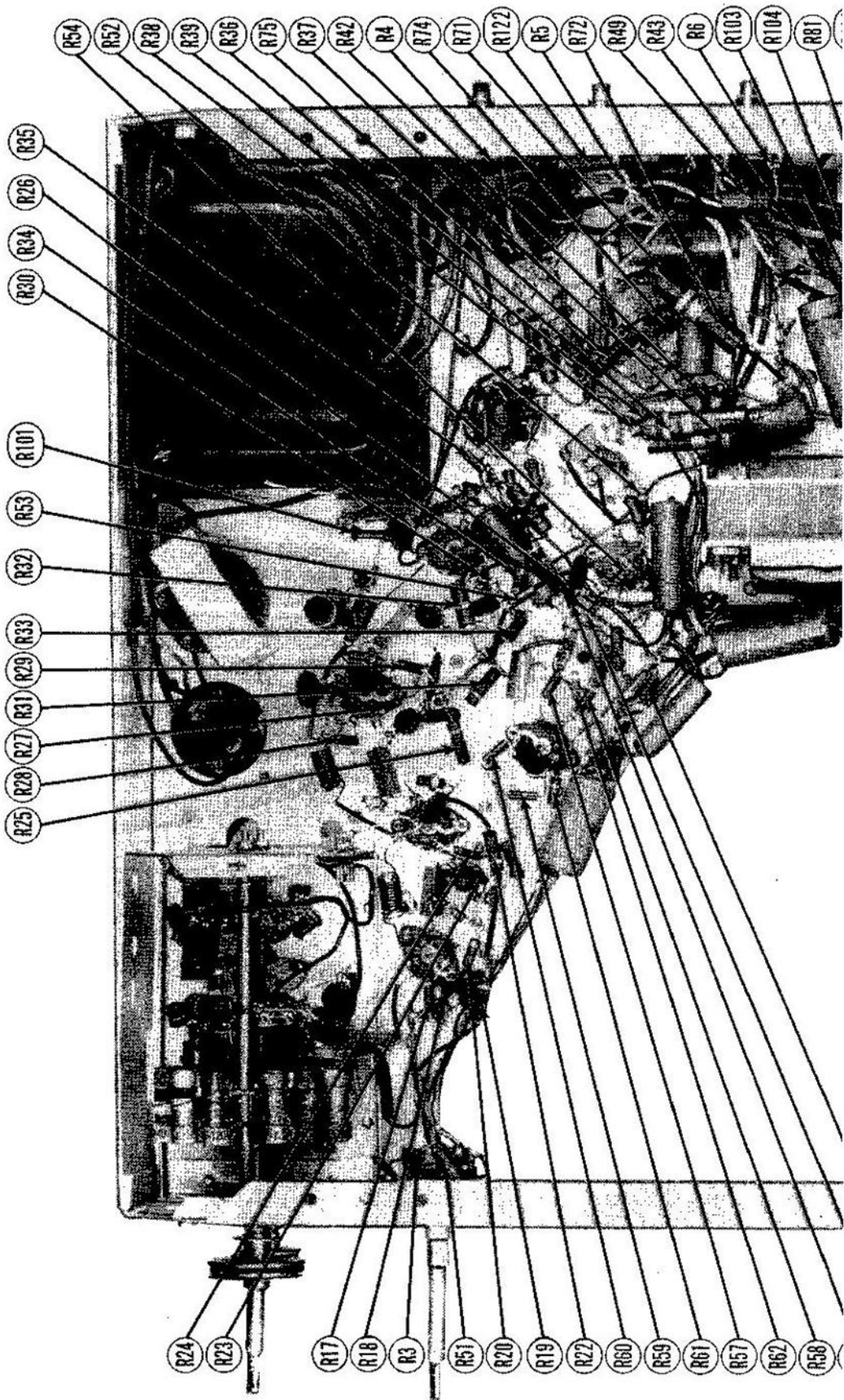


RF TUNER-LEFT SIDE

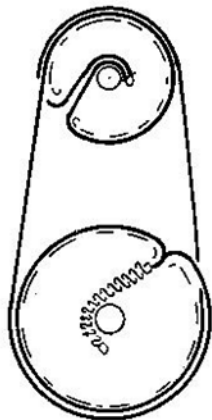


CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

TELE-TONE
MODEL TV-285



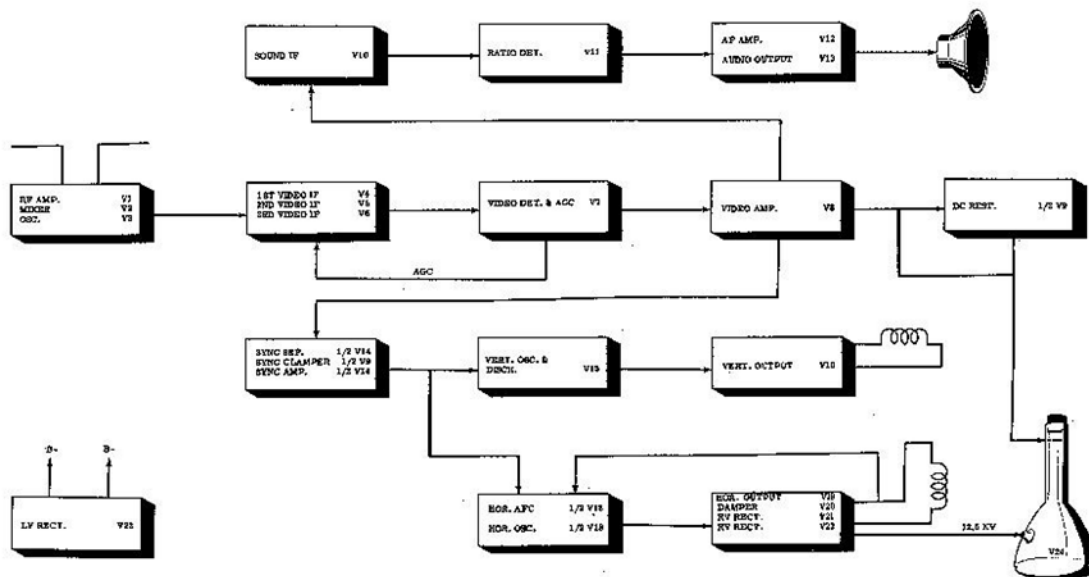
FINE TUNING CORD STRINGING



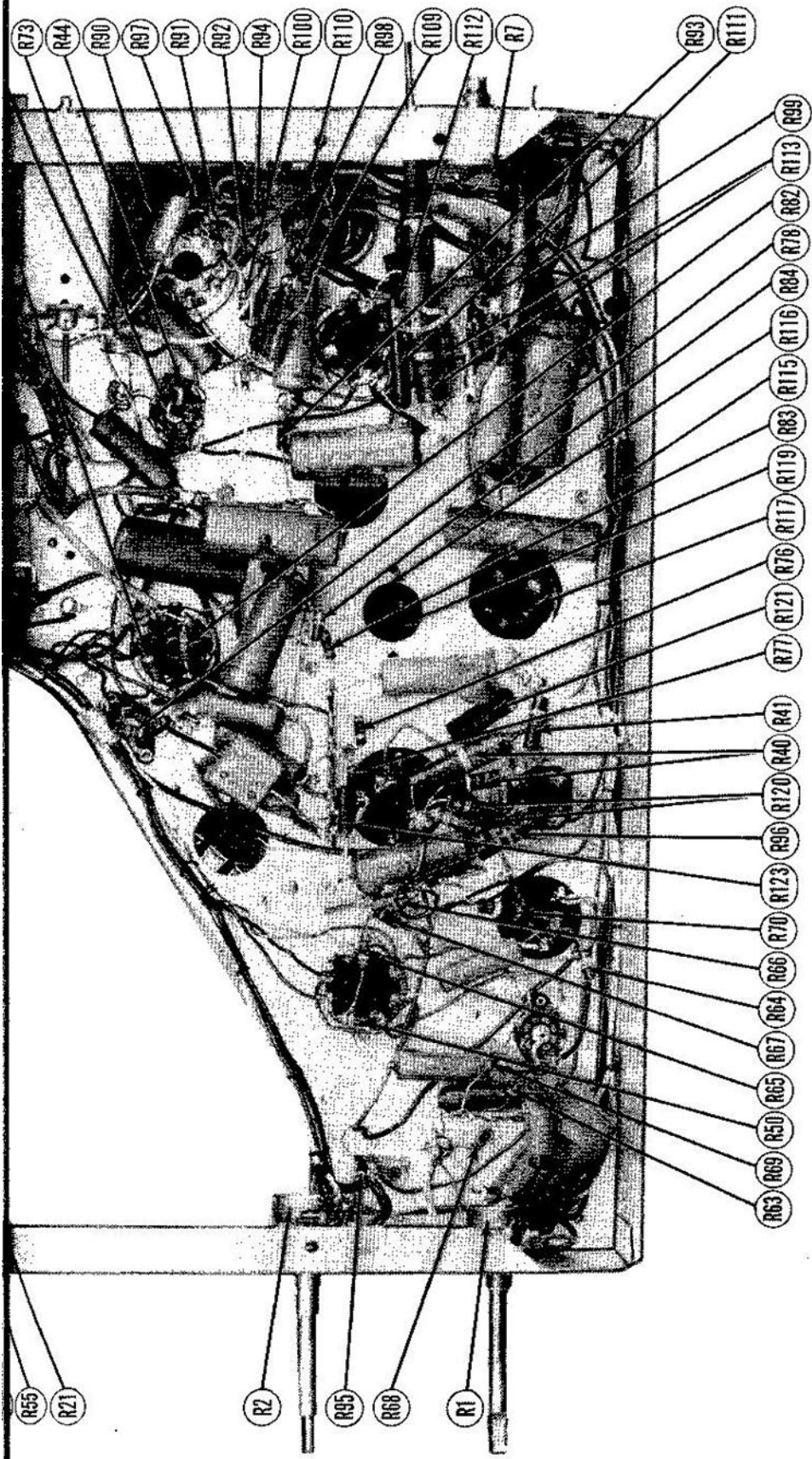
DISASSEMBLY INSTRUCTIONS

1. Remove four push-on type control knobs.
2. Remove seven screws holding rear cover. Remove cover.
3. Loosen two screws holding antenna terminal strip. Remove antenna terminal strip.
4. Remove speaker plug.
5. Remove picture tube base socket.
6. Disconnect yoke plug.
7. Remove picture tube HV cap.
8. Remove four 3/8" hex head bolts holding chassis. Remove chassis.
9. Remove two 3/8" hex head screws. (top rear). Remove top and front of cabinet.
10. Remove two 1/16" hex nuts holding top front ring support of picture tube. Remove top ring.
11. Remove five 5/16" hex head bolts holding rear picture tube support. Lift up on picture tube and remove.
12. Remove one 1/16" hex nut holding one side of lower picture tube front support. Swing support to one side.
13. Remove two phillips head screws holding speaker. Remove speaker.

**TELE-TONE
MODEL TV-285**

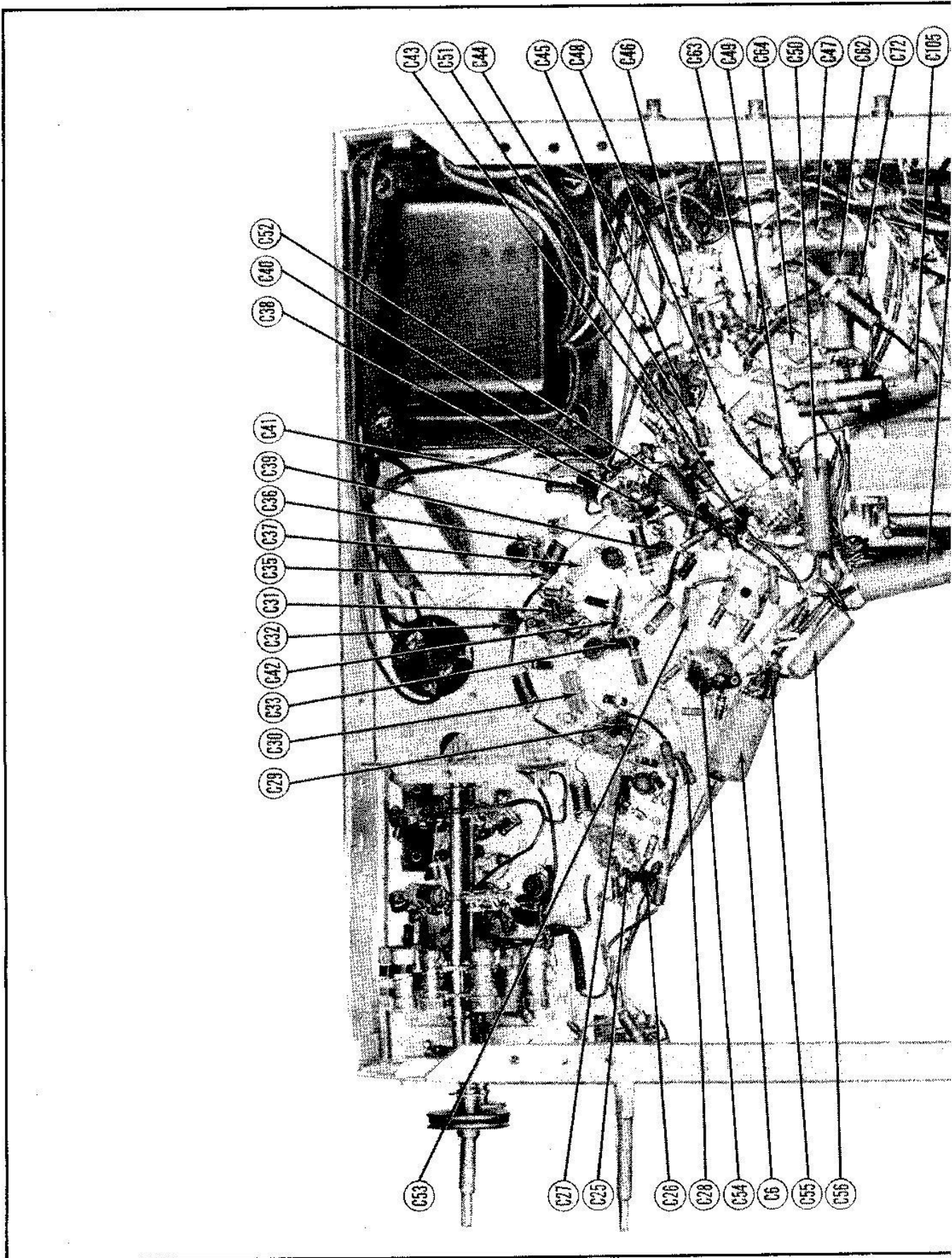


BLOCK DIAGRAM



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

TELE-TONE
 MODEL TV-285



PARTS LIST A

CAPACITORS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		TELE-TONE PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	8J8	6J8	7BD	
V2	Mixer	8AG5	8AG5	7BD	
V3	Oscillator	6J6	6J6	7BF	
V4	1st Video IF	8AG5	8AG5	7BD	
V5	2nd Video IF	8AG5	8AG5	7BD	
V6	3rd Video IF	8AG5	8AG5	7BD	
V7	Video Det. -AGC Rectifier	6AL5	6AL5	6BT	
V8	Video Amp.	6AC7	6AC7	8N	
V9A	DC Restorer-Sync. Clamp	6AL5	6AL5	6BT	
B	DC Rest. -Sync. Sep. -Phase Inv.	12AU7	12AU7	9A	
C	DC Rest. -Sync. Sep. -Phase Inv.	12AX7	12AX7	9A	
V10	Sound IF Amp.	6AU6	6AU6	7BK	
V11	Radio Det.	6AL5	6AL5	6BT	
V12	AF Amp.	6AT6	6AT6	7BT	
V13	Audio Output	6V6GT	6V6GT	7AC	
V14	Sync. Amp. -Sync. Sep.	12AU7	12AU7	9A	
V15	Vert. Osc. -Vert. Disc.	6C4	6C4	6BG	
V16	Vert. Output	6K6GT	6K6GT	7S	
V17	Hor. Phase Det.	6AL5	6AL5	6BT	
V18A	Hor. AFC-Hor. Osc.	6SN7GT	6SN7GT	8BD	
B	Hor. Multivibrator	6SN7GT	6SN7GT	8BD	
V19	Hor. Output	6BG6G	6BG6G	5BT	
V20	Damper	6W4GT	6W4GT	4CG	
V21	HV Rectifier	1B3GT	1B3GT	3C	
V22	HV Rectifier	1B3GT	1B3GT	3C	
V23	LV Rectifier	5U4G	5U4G	5T	
V24	Picture Tube	16AP4	16AP4	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		REPLACEMENT DATA				IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT.	TELE-TONE PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	ERIE PART No.		SPRAGUE PART No.
C1A	40	500		AF88K	UP4450		TVL-20	▲ Filter
B	40	500		AF88K10E	UP4450			▲ Filter
C2A	40	500						▲ Filter
B	50	200						▲ Filter
C3	40	300		AF10G	UP5030			Output Decoupling
C4A	20	450		AF4444J	UP8DJ112			▲ Decoupling
B	10	450						▲ Vert. Osc. Decoupling
C	10	450						▲ Vert. Output Decoupling
D	10	200						V. Amp. Screen Bypass
C5	500	8		PR85/500	BRH605A		TVL-10	Bias Filter
C6	4	50		PR850/4	BR550		TVA-18	Stabilizing Cap.
C7	100	50		PR850/100	BRH501		TVA-17	Vert. Output Cathode Bypass
C8	360					GP2K-390		Ant. Coupling
C9	360					GP2K-390		Ant. Coupling
C10	360					GP2K-390		RF Cathode Bypass
C11	360					GP2K-390		RF Filament Bypass
C12	360					GP2K-390		RF Plate Decoupling
C13	1							RF Coupling
C14	22					NPOK-22		RF Coupling
C15	5000					811-005		Mixer Screen Bypass
C16	360					GP2K-390		Mixer Filament Bypass
C17	1							Osc. Coupling
C18	4.7					NPOK-4.7		Osc. Feedback
C19	4.7					NPOK-4.7		Osc. Feedback
C20	360					GP2K-390		Osc. Filament Bypass
C21	360					GP2K-390		Decoupling
C22	360					GP2K-390		Switch Bypass
C23	360					GP2K-390		Switch Bypass
C24	270	1000	1468-00025	5W5T25		IFM-325		IF Coupling
C25	1500		1467-0015	1W5D15	GP2L-0015	IFM-215		AGC Filter
C26	1500		1467-0015	1W5D15	GP2L-0015	IFM-215		1st V. IF Decoupling
C27	270	1000	1468-00025	5W5T25	GP2K-270	IFM-325		IF Coupling
C28	1500		1467-0015	1W5D15	GP2L-0015	IFM-215		AGC Filter
C29A	2000		1467-002	1W5D2	GP2M-002			2nd V. IF Decoupling
B	2000		1467-002	1W5D2	GP2M-002			2nd V. IF Fil. Bypass
C30	270	1000	1468-00025	5W5T25	GP2K-270	IFM-325		IF Coupling
C31A	2000		1467-002	1W5D2	GP2M-002			3rd V. IF Cathode Bypass
B	2000		1467-002	1W5D2	GP2M-002			3rd V. IF Decoupling
C32	5000		1467-005	1D5D5	811-005	29C1		3rd V. IF Fil. Bypass
C33	1500		1467-0015	1W5D15	GP2L-0015	IFM-215		3rd V. IF Decoupling
C34	.25	200	P288-25	GT2P25		TC-2		AGC Filter
C35	1.5					NPOK-1.5		IF Coupling
C36	47							Fixed Trimmer
C37	270	1000	1468-00025	5W5T25	GP2K-270	IFM-325		IF Coupling
C38	180		1468-0002	5W5T2	GP2K-180	IFM-32		IF Coupling
C39	5000		1467-005	1D5D5	811-005	29C1		DAGC Decoupling
C40	5	300	1468-000005	5W5V5	NPOK-5	MS-55		V. Diode Filter
C41	5000		1468-00075	1D5D5	811-005	29C1		V. DET. -AGC Fil. Bypass
C42	10000		P488-01	PTE4S1	821-01	36C1		Bias Filter
C43	680		1468-00075	1W5T7	GP2K-680	IFM-37		V. Amp. Cathode Bypass
C44	470		1468-0005	5W5T5	GP2K-470	IFM-35		V. Amp. Cathode Bypass
C45	5000		1467-005	1D5D5	811-005	29C1		V. Amp. Screen Bypass
C46	100		1468-0001	5R5T1	N750L-100	MS-1		Fixed Trimmer
C47	.1	200	P288-1	PTE4P1		TM-31		Video Coupling
C48	2.2							S. IF Coupling
C49	68		1468-000075	5W5Q7	GP1K-68	IFM-475		S. IF Grid Filter
C50	.02	600	P688-02	PTE6S2		TM-12		S. IF Decoupling
C51	5000		1467-005	1D5D5	811-005	29C1		S. IF Screen Bypass
C52	.02	600	P688-02	PTE6S2		TM-12		S. IF Decoupling
C53	330	1000	1468-00035	5W5T3	GP2K-330	IFM-335		Diode Load Cap.
C54	5000		1467-005	1D5D5	811-005	29C1		RF Bypass
C55	1500		1467-0015	1W5D15	GP2L-0015	IFM-215		De-emphasis

ITEM No.	RATING		REPLACEMENT DATA		
	CAP.	VOLT.	TELE-TONE PART No.	AEROVOX PART No.	CO DU PAR
C56	.01	600		P688-01	PTE
C57	.005	600		P688-005	PTE
C58	.002	600		P688-002	PTE
C59	.01	600		P688-01	PTE
C60	.05	600		P688-05	PTE
C61	.005	600		P688-005	PTE
C62	.05	600		P688-05	PTE
C63	100	500		1468-0001	5W5
C64	390	500		1468-0004	5W5
C65	.002	600		P688-002	PTE
C66	.005	600		P688-005	PTE
C67	.005	600		P688-005	PTE
C68	1500			1467-0015	1W5
C69	4700	500		1467-005	1D5
C70	.05	600		P688-05	PTE
C71	.1	400		P488-1	PTE
C72	120	300		1468-00015	5W5
C73	5	1500			
C74	120	500		1468-00015	5W5
C75	.002	600		P688-002	PTE
C76	.25	400		P488-25	GT4
C77	.02	400		P488-02	GT4
C78	.05	600		P688-05	PTE
C79	180	500		1468-0002	5W5
C80	2200	500			
C81	680	500			
C82	.05	600		P688-05	PTE
C83	.25	200		P488-25	GT2
C84	270	500		1467-00025	5W5
C85	270	500		1467-00025	5W5
C86	1000	500		1467-001	1W5
C87	1000	500		1467-001	1W5
C88	.01	600		P688-01	PTE
C89	.05	600		P688-05	PTE
C90	3900	500			
C91	.005	600		P688-005	PTE
C92	.05	600		P688-05	PTE
C93	330	500		1468-00035	5W5
C94	390	500		1468-0004	5W5
C95	270	500		1468-00025	5W5
C96	.15	400		P488-15	PTE
C97	.05	600		P688-05	PTE
C98	.25	600		684-25	GT4
C99	.25	400		P488-25	GT4
C100	500	10000			
C101	500	10000			
C102	500	10000			
C103	.01	400		P488-01	PTI
C104	.01	400		P488-01	PTI
C105	.1	400		P488-1	PTI

* Used only in models with serial numbers earlier than...
† Used only in models with serial numbers later than...
‡ Models earlier than serial number 16-935 uses 10M1...
§ Not used in all models.

CC

ITEM No.	RATING		REPLACEMENT DATA			
	RESISTANCE	WATTS	TELE-TONE PART No.	IRC PART No.	CL/ PA	
R1A	500K Ω		TVC-113D	Q13-133	M-6	
B	Switch		Not Req.	76-1	SW-	
R2A	1 Meg.		TVC-114D	B11-137 *	TVC	
B	50K Ω			B11-123 *		
C	Shaft End			E187 *		
R3A	75 Ω		TVC-115D		TVC	
B	100K Ω					
R4	2.5 Meg.		TVC-110D	Q11-239	M-8	
R5	1500 Ω		TVC-112D		10-1	
R6	5000 Ω		TVC-111D	Q11-114	M-1	
R7	500 Ω			W-400	43-1	

* Additional parts to be used with "Concentrik".

RF

ITEM No.	RATING		REPLACEMENT DATA	
	RESISTANCE	WATTS	TELE-TONE PART No.	IRC PART No.
R8	300 Ω			
R9	5 Ω			
R10	1000 Ω			BTS-1000
R11	4700 Ω 5%			BTS-4700-1
R12	1 Meg. 20%			
R13	1000 Ω 20%			BTS-1000
R14	27K Ω 20%			
R15	27K Ω 20%			
R16	47 Ω 20%			
R17	6200 Ω 5%			
R18	47 Ω			
R19	150 Ω 20%			BW- $\frac{1}{2}$ -150
R20	330 Ω			
R21	1000 Ω 20%			BTS-1000
R22	150 Ω 20%			BW- $\frac{1}{2}$ -150
R23	1K Ω 5%			
R24	47 Ω			
R25	150 Ω 20%			BW- $\frac{1}{2}$ -150
R26	220K Ω			BTS-220K
R27	8200 Ω 5%			
R28	100 Ω			
R29	1000 Ω 20%			BTS-1000
R30	470K Ω 20%			BTS-470K
R31	150 Ω 20%			BW- $\frac{1}{2}$ -150
R32	47K Ω			BTA-47K
R33	1000 Ω 20%			BTS-1000
R34	8200 Ω 5%			BTS-8200-1
R35	120 Ω			
R36	39K Ω 5%			BT-2-39K-

D DESCRIPTIONS

RS (CONT.)

ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
821-01	TM-11	Audio Coupling
811-005	TM-25	Audio Coupling
GP2M-002	TM-32	De-emphasis
821-01	TM-11	Audio Coupling
811-005	TM-15	Bias Filter
811-005	TM-25	Output Plate Bypass
811-005	TM-15	Sync. Coupling †
GP1K-100	IFM-31	Sync. Coupling †
GP2K-390	IFM-34	Sync. Sep. Cathode Bypass †
GP2M-002	TM-22	Integrator Net.
811-005	TM-25	Integrator Net.
811-005	TM-25	Integrator Net.
GP2L-0015	IFM-215	Fixed Trimmer
GP2M-0047	IFM-25	Vert. Osc. Grid Cap.
	TM-15	Vert. Discharge
	TM-1	Vert. Sweep Coupling
GP2K-120	IFM-315	Hor. Sync. Coupling †
	IFM-315	Hor. Feedback †
GP2K-120	IFM-315	Voltage Divider †
GP2M-002	TM-23	Hor. Sync. Coupling †
	TC-2	AFC Filter †
	TM-12	AFC Filter †
	TM-15	AFC Plate Bypass †
GP2K-180	IFM-32	Hor. Osc. Grid Cap. †
GP2M-0022		Hor. Discharge †
GP2K-680	IFM-37	Hor. Sweep Coupling †
	TM-15	Hor. Output Screen Bypass
	TC-2	Hor. Output Cath. Bypass
GP2K-270	IFM-325	Hor. Output Screen Bypass †
GP2K-270	IFM-325	Hor. Output Screen Bypass †
GP2L-001	IFM-21	Hor. Sync. Coupling *
GP2L-001	IFM-21	Hor. Sync. Coupling *
821-01	TM-11	AFC Filter *
	TM-15	Hor. Feedback *
		Fixed Trimmer *
811-005	TM-25	AFC Filter *
	TM-15	AFC Filter *
GP2K-330	IFM-335	Hor. MV Feedback *
GP2K-390	IFM-34	Hor. Discharge *
GP2K-270	IFM-325	Hor. Sweep Coupling *
		Damper Filter
	TM-15	Damper Filter
	TC-2	Damper Filter
	TC-2	Hor. Sweep Coupling
410-500		HV Filter
410-500		HV Filter
410-500		HV Filter
821-01	TM-11	Line Filter
821-01	TM-11	Line Filter
821-01	TM-1	Pic. Tube Cath. Dec.

At number 16-935.
number 16-935.
this application.

ROLS

INSTALLATION NOTES
Volume control
Attach to R1A per instructions
Vert. hold control, front
Horiz. hold control, rear
Attach per instructions in "Concentrikit".
Contrast control, tapped at 500Ω
Brightness control
Height control
Focus control-Wire Wound
Vert. linearity control
Horiz. linearity control, Wire Wound

TORS

IDENTIFICATION CODES
RF Cathode
Parasitic Supp.
RF Plate Decoupling
Mixer Grid Coil Shunt
Mixer Grid
Mixer Decoupling
Osc. Grid
Osc. Grid
Osc. Cathode
1st Video IF Grid
1st Video IF Cathode
Decoupling-Wire Wound
AGC Network
AGC Network
1st Video IF Decoupling-Wire Wound
2nd Video IF Grid Coil Shunt
2nd Video IF Cathode
2nd Video IF Decoupling-Wire Wound
AGC Network
3rd Video IF Grid Coil Shunt
3rd Video IF Cathode
3rd Video IF Decoupling
AGC Rect. Diode Load
Decoupling Wire Wound
Voltage Divider
Bias Network
Video Det. Diode Load
Parasitic Supp.
Video Amp. Plate See Notes 1 and 4

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	TELE-TONE PART No.	IRC PART No.	
R37	89KΩ	5%	2	BT-2-36K-5%	Video Amp. Plate
R38	3900Ω		1	BTA-3900	Voltage Divider See Note 2
R39	270Ω		1	BTA-2700	Voltage Divider
R40	22KΩ		3		Video Amp. Screen See Note 3
R41	22KΩ		1		Bleeder
R42	22KΩ		1	BTA-22K	Isolation
R43	10KΩ	20%	1	BTS-10K	Picture Tube Grid See Note 4
R43	10KΩ		1	BTS-10K	DC Rest. Load See Note 5
R44	1 Meg.		1	BTS-1 Meg.	Sync. Phase Inv. Grid See Note 6
R45	3.3 Meg.		1	BTS-3.3 Meg.	Sync. Phase Inv. Cathode See Note 6
R46	3900Ω		1	BTS-3900	Sync. Phase Inv. Plate See Note 6
R47	5600Ω		1	BTS-5600	Acc. Anode Decoupling
R48	3900Ω		1	BTS-3900	Voltage Divider
R49	1000Ω	20%	1	BTA-1000	Voltage Divider
R50	220KΩ		1	BTS-220K	Sound IF Grid
R51	22KΩ	20%	1	BTA-22K	Voltage Divider
R52	100KΩ		1		Sound IF Cathode
R53	1000Ω	20%	1	BTS-1000	Voltage Divider
R54	47KΩ	20%	1	BTS-47K	Sound IF Screen
R55	100KΩ		1	BTS-100K	Voltage Divider
R56	1000Ω	20%	1	BTS-1000	Sound IF Decoupling
R57	220Ω	20%	1		Balancing
R58	220Ω	20%	1		Balancing
R59	15KΩ	5%	1	BTS-15K-5%	Ratio Det. Diode Load
R60	15KΩ	5%	1	BTS-15K-5%	Ratio Det. Diode Load
R61	5.1Ω		1		Ratio Det. Filament
R62	47KΩ	20%	1	BTS-47K	De-emphasis
R63	470KΩ	20%	1	BTS-470K	AF Grid
R64	390KΩ	20%	1	BTS-390K	AF Plate
R65	100KΩ		1	BTS-100K	Output Grid
R66	330KΩ	5%	1	BTS-330K-5%	Voltage Divider
R67	180KΩ	5%	1	BTS-180K-5%	Voltage Divider
R68	470KΩ	20%	1	BTS-470K	Voltage Divider
R69	4700Ω		1	BTS-4700	Voltage Divider
R70	990Ω		1	BW-1-990	Filter
R71	1 Meg.	20%	1	BTS-1 Meg.	Sync. Amp. Grid
R72	100KΩ		2	BT-3-100K	Sync. Amp. Plate
R73	3.9 Meg.		4	BTS-3.9 Meg.	Sync. Sep. Grid
R74	10KΩ		1	BTS-10K	Sync. Sep. Cathode
R75	22KΩ	20%	1	BTA-22K	Integrator
R76	8200Ω		1	BTS-8200	Integrator
R77	8200Ω		1	BTS-8200	Integrator
R78	1.8 Meg.		1	BTS-1.8 Meg.	Vert. Osc. Grid See Note 7
R79	2.2 Meg.		1	BTS-2.2 Meg.	Voltage Divider See Note 6
R80	100KΩ		1	BTS-100K	Voltage Divider See Note 6
R81	1500Ω		1	BTS-1500	Vert. Output Cathode
R82	2.2 Meg.		1	BTS-2.2 Meg.	Vert. Output Grid
R83	8200Ω	5%	1	BTS-8200-5%	Vert. Peaking See Note 8
R84	220KΩ		1	BTS-220K	Vert. Osc. Plate
R85	10KΩ		1	BTS-10K	Horiz. Phase Det. Load See Note 6
R86	10KΩ		1	BTS-10K	Horiz. Phase Det. Load See Note 6
R87	4.7 Meg.		1	BTS-4.7 Meg.	Horiz. Phase Det. Load See Note 6
R88	470KΩ		1	BTS-470K	Horiz. AFC Filter Network See Note 6
R89	27KΩ		1	BTS-27K	Feedback See Note 6
R90	560KΩ		1	BTS-560K	Horiz. AFC Grid
R91	130KΩ	5%	1	BTS-130K-5%	Horiz. AFC Cathode
R92	100KΩ	5%	1	BTS-100K-5%	Horiz. AFC Cathode
R93	8200Ω	5%	1	BTS-8200-5%	Horiz. AFC Filter Network
R94	30KΩ		1		Voltage Divider Temp. Comp.
R95	120KΩ		1	BTS-120K	Voltage Divider
R96	270KΩ		1	BTA-270K	Voltage Divider
R97	3.3 Meg.	5%	1	BTA-3.3 Meg. 5%	Voltage Divider
R98	560KΩ		1	BTS-560K	Feedback See Note 5
R99	560KΩ	20%	1	BTS-56K	Filter
R100	150KΩ		1	BTS-150K	Horiz. AFC Filter Network
R101	100KΩ	1%	1		Horiz. Osc. Grid
R102	10KΩ		1	BTS-10K	Horiz. Osc. Transformer Shunt
R103	100KΩ	5%	1	BTA-100K-5%	Horiz. Osc. Plate
R104	10KΩ		1	BTS-10K	Filter See Note 9
R105	5600Ω		1	BTS-5600	Horiz. Osc. Plate See Note 6
R106	1500Ω		1	BTS-1500	Horiz. Osc. Cathode See Note 6
R107	100KΩ		1	BTS-100K	Horiz. Discharge Grid See Note 6
R108	270KΩ		1	BTS-270K	Horiz. Discharge Plate See Note 6
R109	47Ω		1		Parasitic Supp. See Note 10
R110	1 Meg.		1	BTS-1 Meg.	Horiz. Output Grid
R111	100Ω		1	BW-2-100	Horiz. Output Cathode, Wire Wound
R112	27KΩ		2	BT-2-27K	Horiz. Output Screen
R113	27KΩ		2	BT-2-27K	Horiz. Output Screen See Note 3
R114	4700Ω		2	BTS-4700	Feedback See Note 6
R115	5Ω		2		Horiz. Linearity Network-Wire Wound
R116	4.7Ω		2		HV Rect. Filament
R117	4.7Ω		2		HV Rect. Filament
R118	2 Meg.		4		HV Rect. Load See Note 11
R119	4700Ω		4		HV Filter
R120	3300Ω	20%	1	BTA-3300	Vert. Output Decoupling See Note 2
R121	15Ω		1	BW-1-15	Bias Network, Wire Wound See Note 12
R122	1500Ω		2	BT-2-1500	Focus Coil Shunt
R123	100KΩ	20%	2	BTS-100K	Vert. Osc. Transformer Shunt See Note 13

- Note 1. Models earlier than serial number 16-935 use 22KΩ 4 watt resistor in this application.
- Note 2. Models earlier than serial number 16-935 use 22KΩ 1 watt resistor in this application.
- Note 3. Some models use two resistors in parallel to obtain required resistance and wattage.
- Note 4. Models earlier than serial number 16-935 use 2200Ω resistor in this application.
- Note 5. Models earlier than serial number 16-935 use 270KΩ resistor in this application.
- Note 6. Used in model earlier than serial number 16-935 only.
- Note 7. Some models use 2 Meg. resistor in this application.
- Note 8. Some models use 8800Ω resistor in this application.
- Note 9. Models earlier than serial number 16-935 use 22KΩ resistor in this application.
- Note 10. Models earlier than serial number 16-935 use 100Ω resistor in this application.
- Note 11. Some model use two resistors in series to obtain required resistance and wattage.
- Note 12. Some model use 2Ω resistor in this application.
- Note 13. Not used in all models.

**TELE-TONE
MODEL TV-285**

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	TELE-TONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC at 1.67A	800VCT 180ADC	5VAC at 3A	6.3VAC at 1.5A	TTR-170D			
		SEC. 4 6.3VAC at 1.35A	SEC. 5 12.6VCT at 3.6A					

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING				REPLACEMENT DATA				NOTES
	DC RESISTANCE	PRI.	SEC.	TELE-TONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.		
								TELE-TONE PART No.	
T2	150Ω Tap at 41Ω			TTR-157				Hor. Osc. Trans.	
T3	92Ω			TTR-161-D	A-8111	A-3000	TBO-1	Vert. Block Osc. Trans.	
T4	120Ω Tap at 85Ω	1000Ω	SEC. 1	TTR-172	A-8119	HVO-5	TFB-4	Hor. Output Trans.	
		10.5Ω Tap at .4Ω	SEC. 2						
		0Ω	SEC. 3						
T5	590Ω	7.2Ω		TTR-153-2D	A-8116	A-3035 ⊕	TSO-4	Vert. Output Trans.	
T6A	13Ω			TLF-522-D	DY-1	MD-1		Hor. Deflection Coil	
T6B	62Ω					MF-2		Vert. Deflection Coil	
T7	480Ω							Focus Coil	

⊕ Drill two new mounting holes.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE	PRI.	SEC.	DC RES.	TELE-TONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T8	5.5KΩ	3.4Ω	310Ω	.5Ω	TTR-165-D	A-3877	A-2980	RO-9 ⊕	⊕ Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	TELE-TONE PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	3.4Ω			46A1	
SP2	5 7/8" x 5 7/8"	9/16"				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE TO CURRENT 1000 mA	TELE-TONE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.180A	88Ω	.8 Henry		C-2325 ⊕	C-2974 ⊕	TR-42000 ⊕	⊕ Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	TELE-TONE PART No.	MESSNER PART No.	
L2	RF Choke	.1Ω				
L3	RF End Inductance	0Ω				
L4	RF End Inductance	0Ω				
L5	RF Choke	.1Ω				
L6A	Osc. Coils	0Ω		TLF120-1D		Channel #2
B	Osc. Coils	0Ω		TLF120-2D		Channel #3
C	Osc. Coils	0Ω		TLF120-3D		Channel #4
D	Osc. Coils	0Ω		TLF120-4D		Channel #5
E	Osc. Coils	0Ω		TLF120-5D		Channel #6
F	Osc. Coils	0Ω		TLF120-6D		Channel #7
G	Osc. Coils	0Ω		TLF120-7D		Channel #8
H	Osc. Coils	0Ω		TLF120-8D		Channel #9
I	Osc. Coils	0Ω		TLF120-9D		Channel #10
J	Osc. Coils	0Ω		TLF120-10D		Channel #11
K	Osc. Coils	0Ω		TLF120-10D		Channel #12
L	Osc. Coils	0Ω		TLF120-10D		Channel #13
L7	1st Video IF	.2Ω				
L8	Fl. Choke	0Ω				
L9	1st Video IF Plate Choke	1.5Ω				Wound on 1.5 Meg. resistor.
L10	2nd Video IF	.2Ω				
L11	Fl. Choke	0Ω				
L12	2nd Video IF Plate Choke	1.5Ω				Wound on 1.2 Meg. resistor.
L13	3rd Video IF	.2Ω				
L14	Fl. Choke	0Ω				
L15	Sound Trap	0Ω				
L16	3rd Video IF Plate Choke	1.5Ω				
L17	4th Video IF	.2Ω				
L18	Peaking	4.5Ω				Inductance-120 microhenries
L19	Peaking	1Ω				Inductance-600 microhenries
L20	Peaking	6.6Ω				210 microhenries, wound on 18KΩ resistor.
L21	Peaking	10Ω				Inductance-300 microhenries
L22	4.5MC Trap	Ω				
L23	Sound IF	1.6Ω				
L24	Ratio Det. Trans.	4.5Ω	2.5Ω			
L25	Width Cont.	.5Ω				
L26	Hor. Linearity	5Ω				

MISCELLANEOUS

ITEM No.	PART NAME	TELE-TONE PART No.	NOTES
M1	RF Tuner		
M2	Fuse		Type AGC .25A
M3	Ion Trap		Permanent Magnet Type
M4	Switch		Interlock
	Trimmer Strip		Hor. Lock. (10-160MMF), Hor. Freq. (40-370MMF), Hor. Drive. (40-370MMF)