

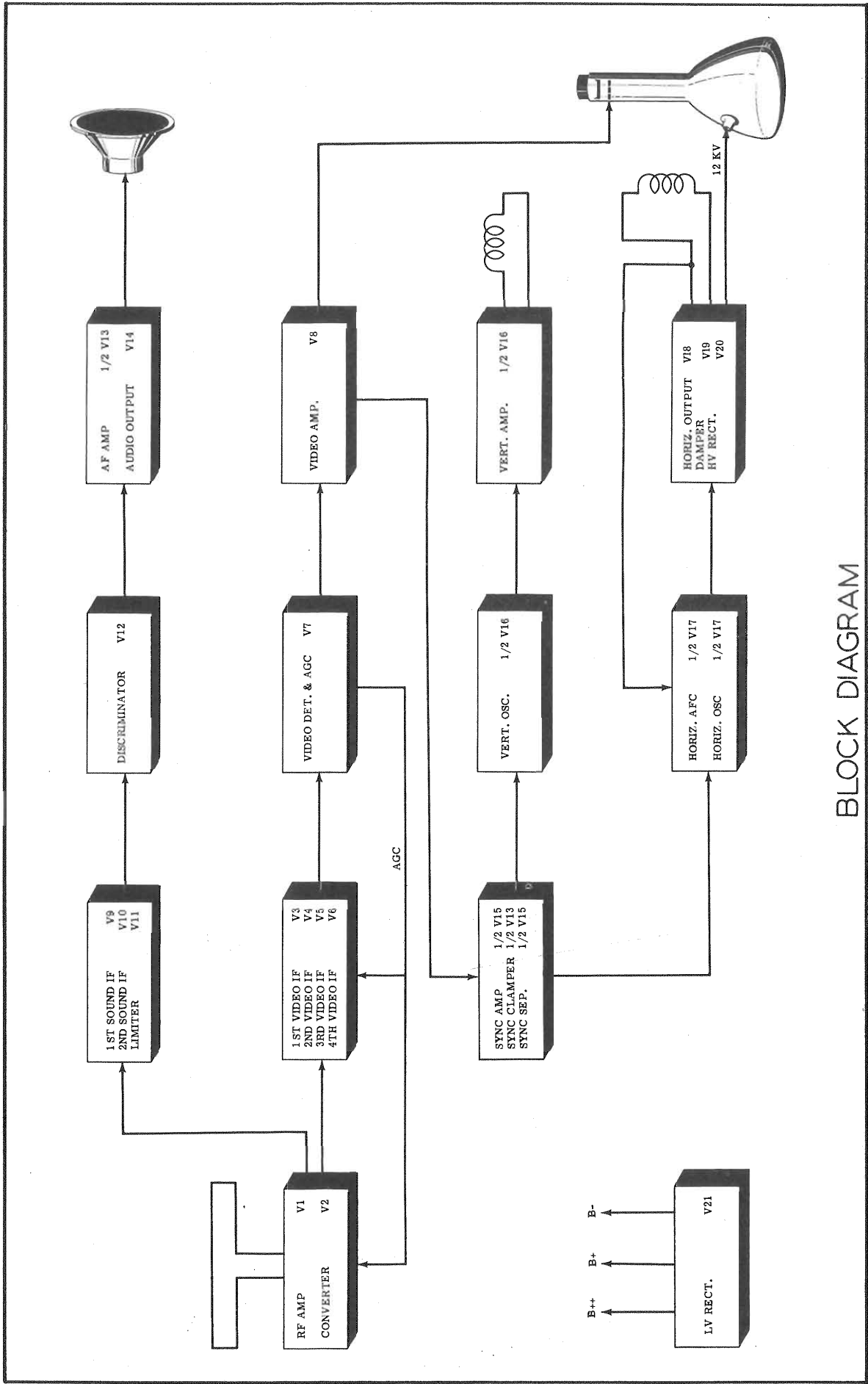
STARRETT MODELS "HENRY HUDSON,"
"HENRY PARKS," "ROBERT E. LEE"

STARRETT MODEL "HENRY PARKS"			
TRADE NAME	Starrett Models "Henry Hudson", "Henry Parks", "Robert E. Lee".		
SUPPLIER	Starrett Television Corp., 601 W. 25th St., New York, New York		
TYPE SET	Television Receiver		
TUBES	Twenty Two		
POWER SUPPLY	110-120 Volts AC-60 Cycle	RATING	2.05 Amp. at 117 Volts AC
TUNING RANGE—Channels 2 thru 13			
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HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

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BLOCK DIAGRAM

VERT.
HORIZ.
HOLD

BRIG
CON

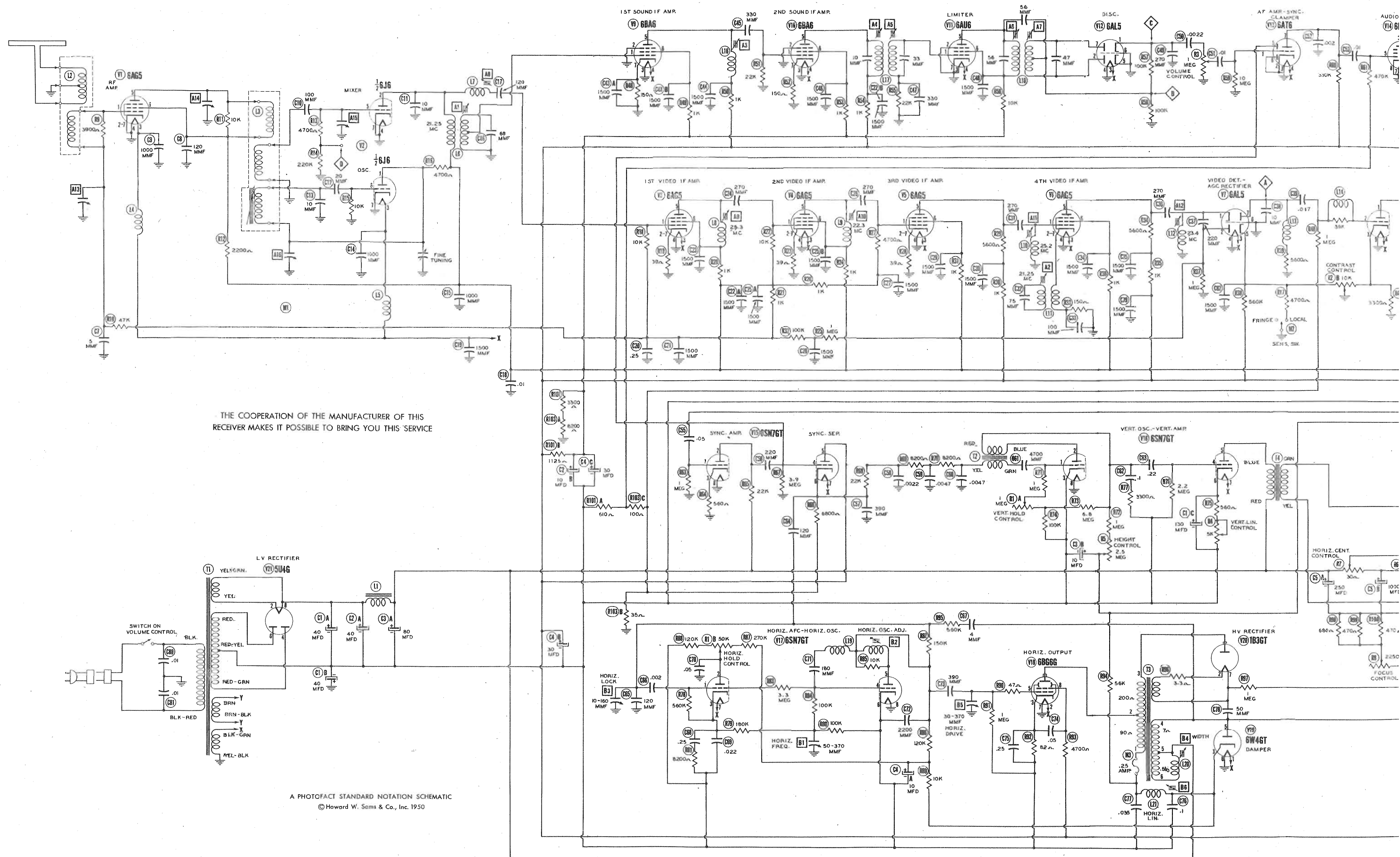
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SUPPLIER	Starrett
TYPE SET	Televi
TUBES	Twenty

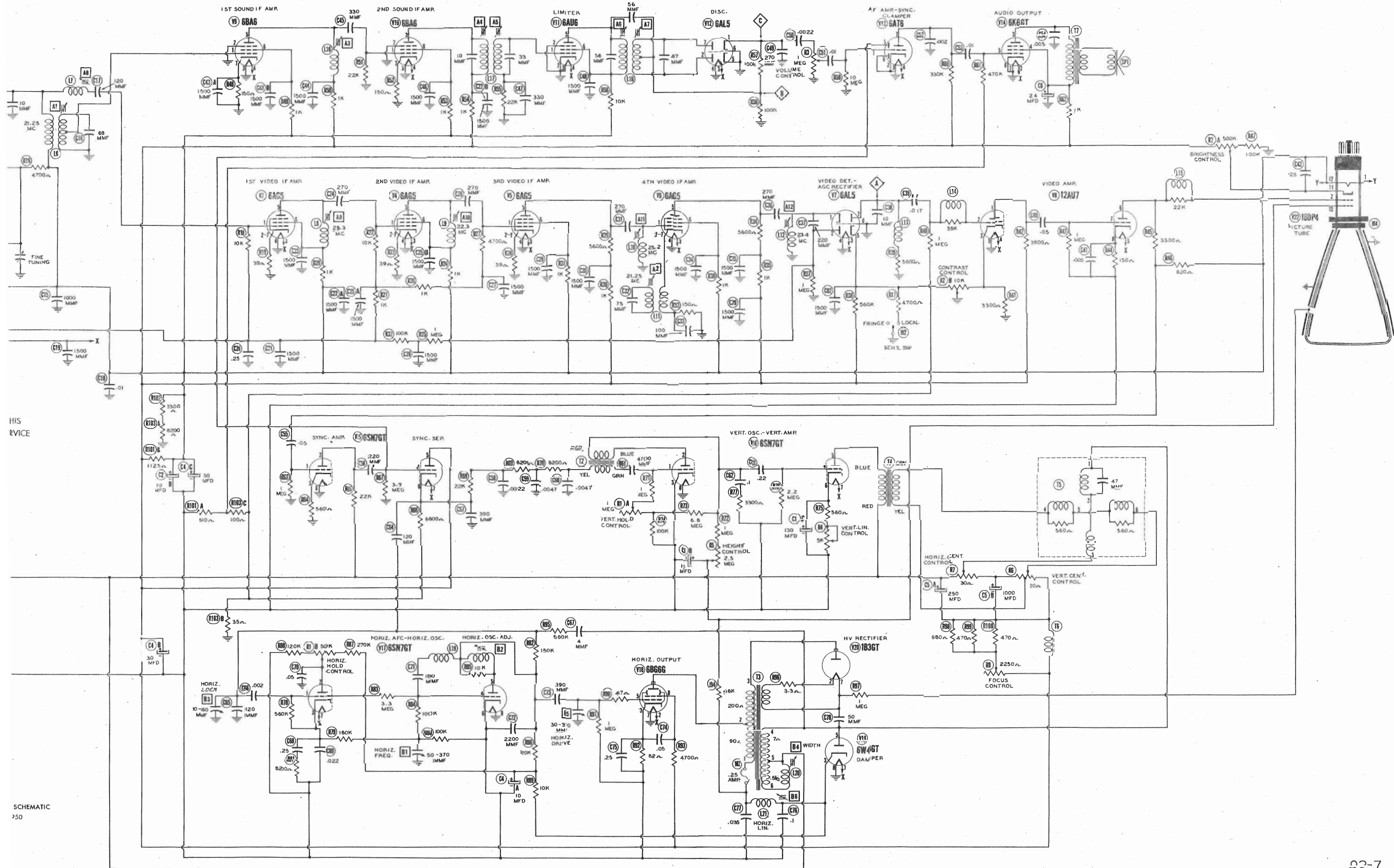
POWER SUPPLY 110-120
TUNING RANGE—Channels

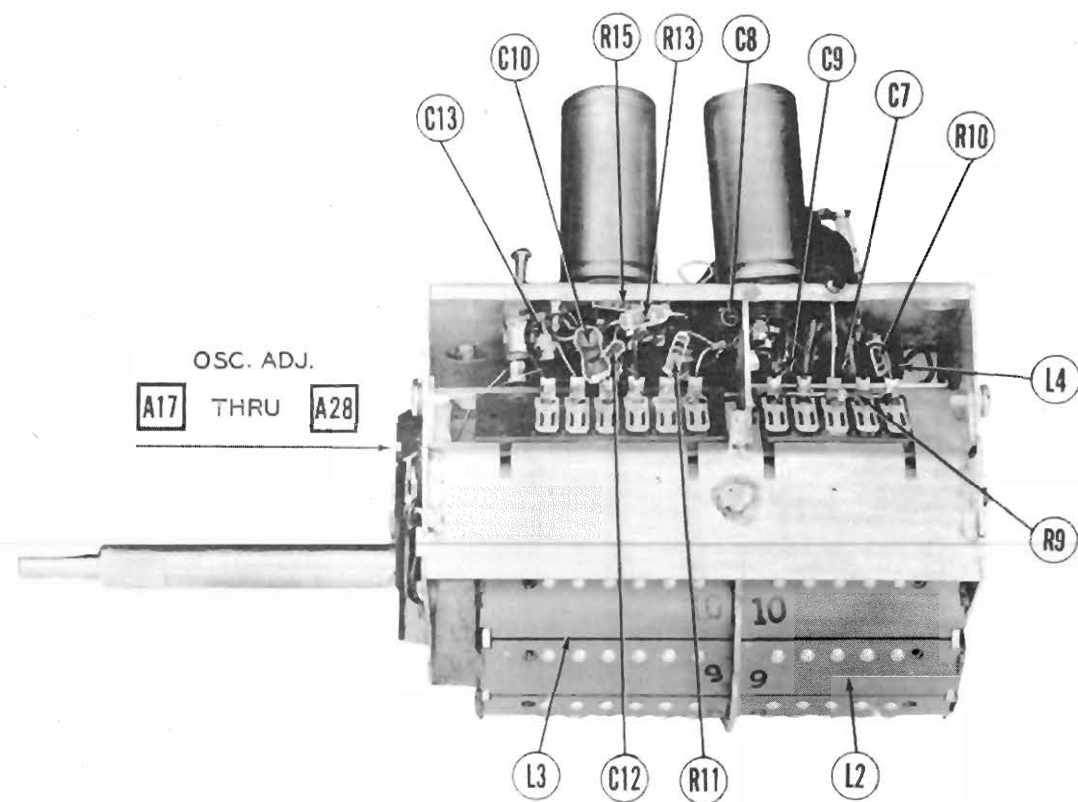
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Block Diagram
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Parts List and Description
Photographs
Capacitor Identification
Chassis—Top View
High Voltage Compartm

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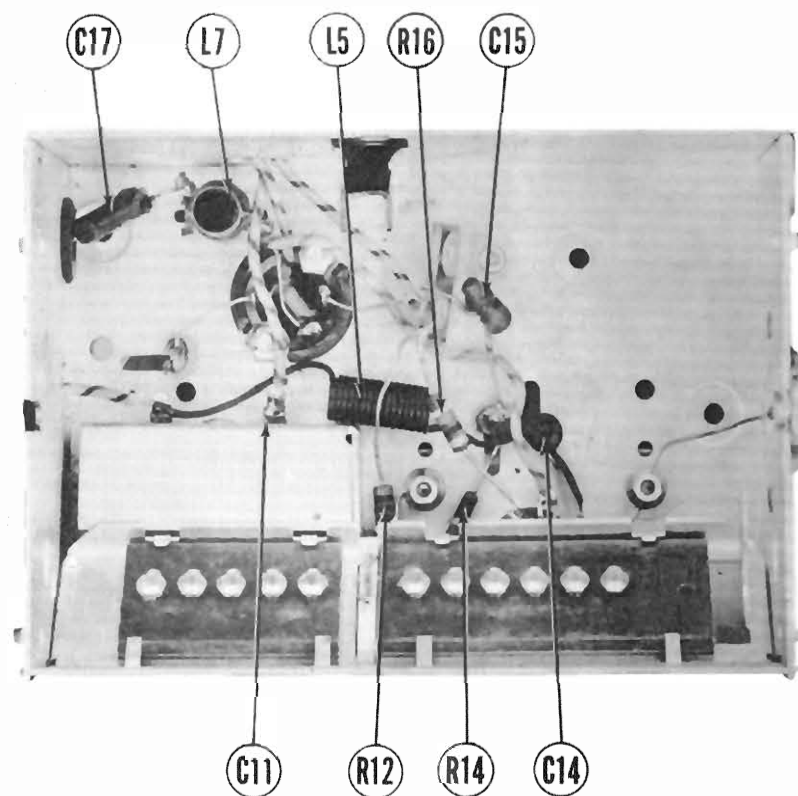
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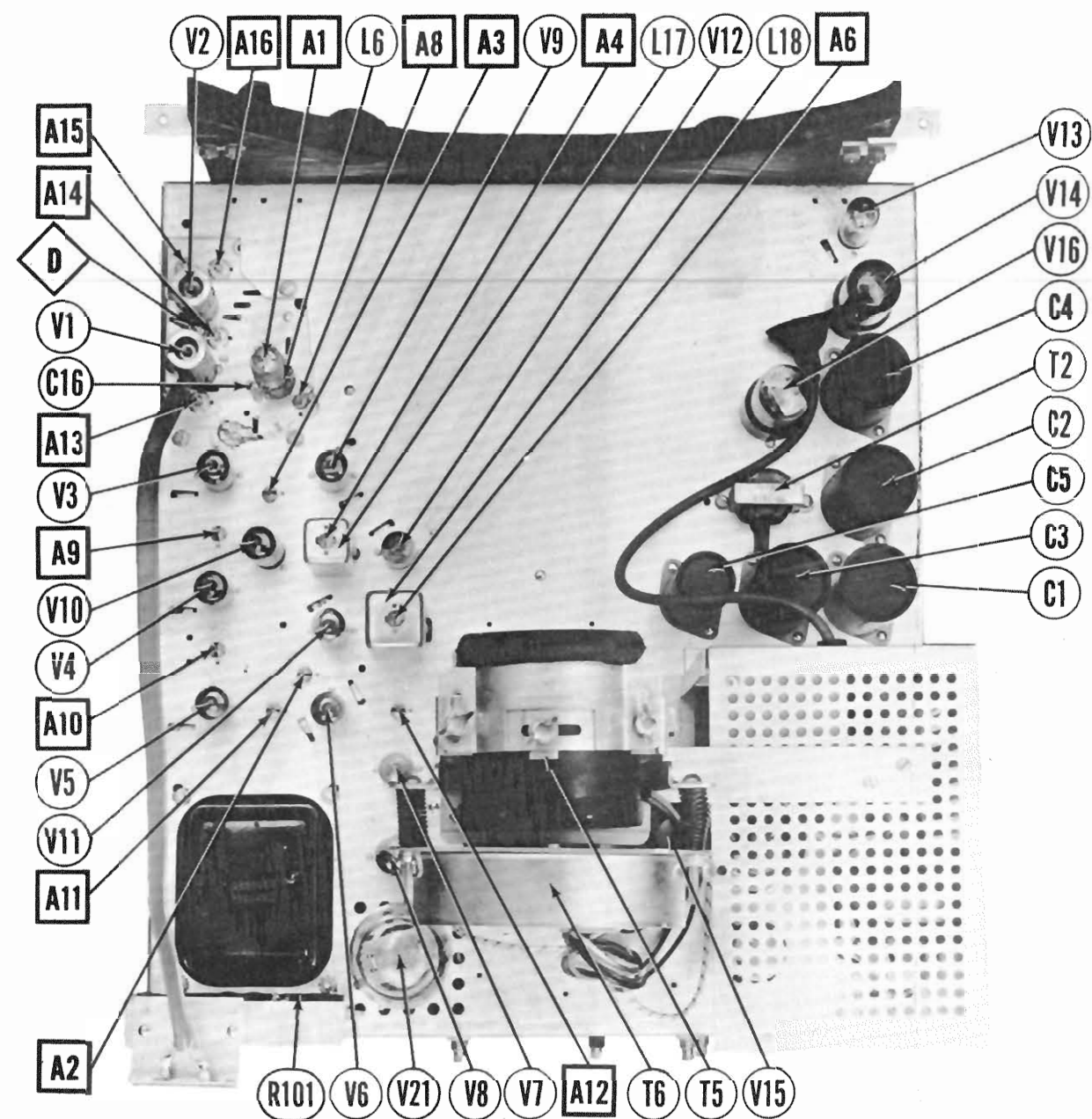




RF TUNER-RIGHT SIDE

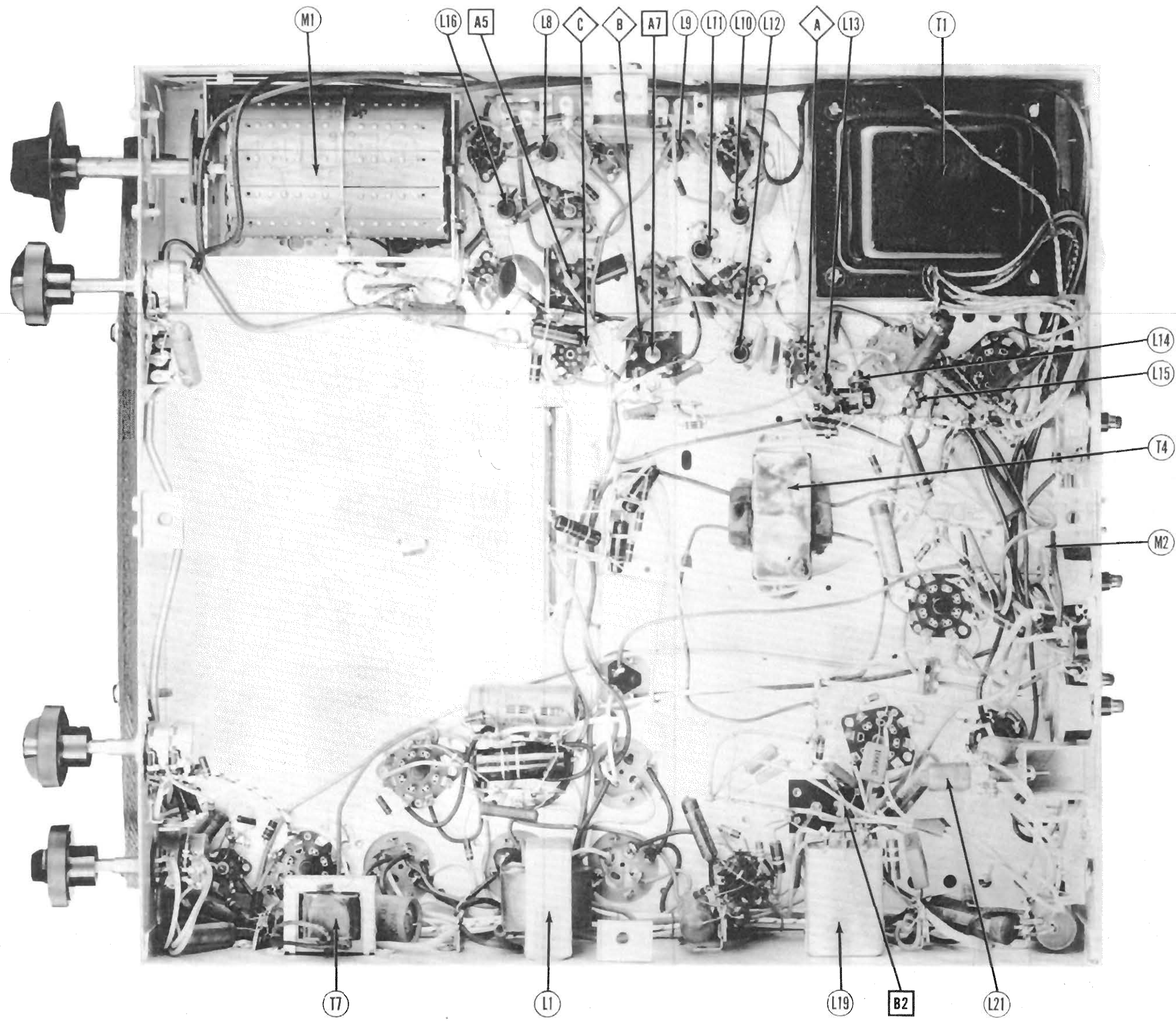


RF TUNER-BOTTOM VIEW



CHASSIS TOP VIEW

STARRETT MODELS "HENRY HUDSON,"
"HENRY PARKS," "ROBERT E. LEE"



CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

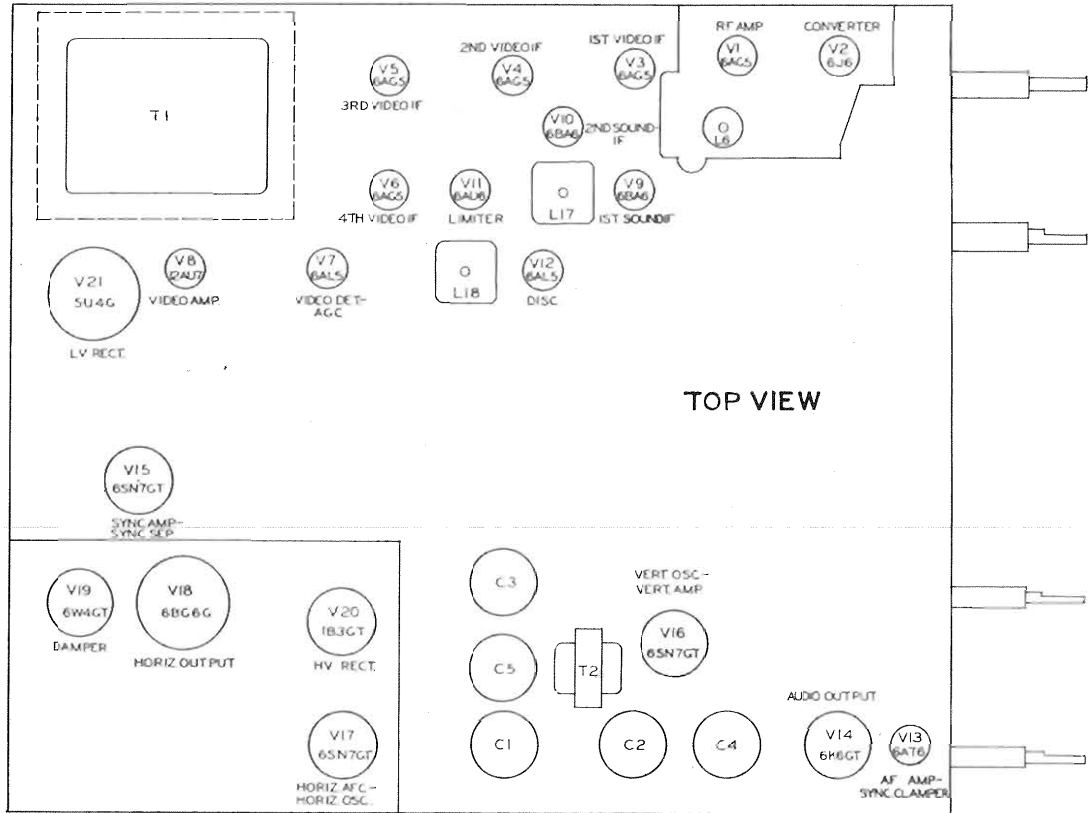
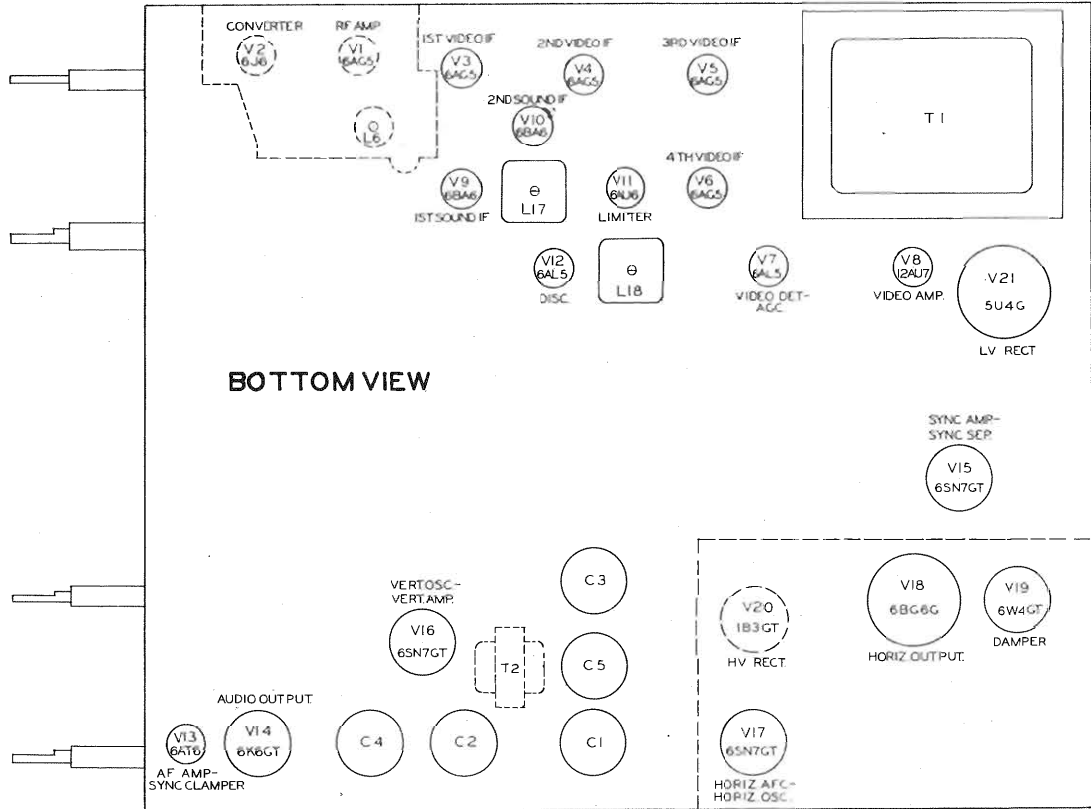
VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS										RESISTANCE READINGS											
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	-4VDC	0V.	6.3VAC	0V.	100VDC	100VDC	0V.			V 1	6AG5	2 Meg.	0Ω	.1Ω	0Ω	13.8KΩ	13.8KΩ	0Ω		
V 2	6J6	75VDC	135VDC	6.3VAC	0V.	5-1.5VDC	-2VDC	0V.			V 2	6J6	16KΩ	11.5KΩ	.1Ω	0Ω	220KΩ	10KΩ	0Ω		
V 3	6AG5	-2.6VDC	.3VDC	6.3VAC	0V.	115VDC	115VDC	.3VDC			V 3	6AG5	2 Meg.	39Ω	.1Ω	0Ω	12.6KΩ	39Ω	39Ω		
V 4	6AG5	-4VDC	.3VDC	6.3VAC	0V.	115VDC	115VDC	.3VDC			V 4	6AG5	2 Meg.	39Ω	.1Ω	0Ω	12.6KΩ	12.6KΩ	39Ω		
V 5	6AG5	-5VDC	.3VDC	6.3VAC	0V.	165VDC	115VDC	.3VDC			V 5	6AG5	2 Meg.	39Ω	.1Ω	0Ω	18KΩ	12.6KΩ	39Ω		
V 6	6AG5	0V.	1VDC	6.3VAC	0V.	165VDC	115VDC	1VDC			V 6	6AG5	.2Ω	150Ω	.1Ω	0Ω	18KΩ	12.6KΩ	150Ω		
V 7	6AL5	0V.	-1VDC	6.3VAC	0V.	3.3VDC	0V.	-1VDC			V 7	6AL5	.2Ω	1 Meg.	.1Ω	0Ω	120Ω	0Ω	5.6KΩ		
V 8	12AU7	165VDC	-9VDC	1VDC	6.3VAC	1175VDC	11.4VDC	0V.			V 8	12AU7	14.5KΩ	1 Meg.	3.3KΩ	.1Ω	15.5KΩ	1 Meg.	1150Ω	0Ω	
V 9	6BA6	0V.	0V.	0V.	6.3VAC	200VDC	120VDC	2VDC			V 9	6BA6	0Ω	0Ω	0Ω	.1Ω	11.5KΩ	12.5KΩ	150Ω		
V 10	6BA6	0V.	0V.	0V.	6.3VAC	200VDC	120VDC	2VDC			V 10	6BA6	22KΩ	0Ω	0Ω	.1Ω	11.5KΩ	12.5KΩ	150Ω		
V 11	6AU6	-3VDC	0V.	6.3VAC	0V.	65VDC	65VDC	0V.			V 11	6AU6	22KΩ	0Ω	0Ω	.1Ω	112KΩ	112KΩ	0Ω		
V 12	6AL5	-1VDC	-4VDC	6.3VAC	0V.	0V.	0V.	-4VDC			V 12	6AL5	200KΩ	100KΩ	.1Ω	0Ω	0Ω	0Ω	100KΩ		
V 13	6AT6	-4VDC	0V.	6.3VAC	0V.	-6.2VDC	0V.	65VDC			V 13	6AT6	10 Meg.	0Ω	0Ω	.1Ω	3.9 Meg.	0Ω	130KΩ		
V 14	6K6GT	0V.	6.3VAC	185VDC	0V.	-5.1VDC	-18VDC	0V.			V 14	6K6GT	Inf.	.1Ω	12KΩ	1.8KΩ	470KΩ	140Ω	0Ω	0Ω	
V 15	6SN7GT	0V.	140VDC	3.7VDC	-6VDC	210VDC	2.2VDC	6.3VAC	0V.		V 15	6SN7GT	1 Meg.	122KΩ	960Ω	3.9 Meg.	1500Ω	6.8KΩ	.1Ω	0Ω	
V 16	6SN7GT	1-3.8VDC	1150VDC	10V.	10V.	1340VDC	115VDC	6.3VAC	0V.		V 16	6SN7GT	1 Meg.	42.5 Meg.	40Ω	2.2 Meg.	1800Ω	15.5KΩ	.1Ω	0Ω	
V 17	6SN7GT	1-6VDC	1130VDC	112VDC	1-45VDC	1145VDC	10V.	6.3VAC	0V.		V 17	6SN7GT	840KΩ	280KΩ	280KΩ	200KΩ	140KΩ	10Ω	.1Ω	0Ω	
V 18	6BG6G	0V.	6.3VAC	110VDC	0V.	10V.	10V.	0V.		TOP CAP	V 18	6BG6G	Inf.	.1Ω	182Ω	Inf.	1 Meg.	1 Meg.	0Ω	14.7KΩ	120Ω
V 19	6W4GT	-95VDC	310VDC	350VDC	0V.	280VDC	0V.	6.3VAC			V 19	6W4GT	700Ω	160KΩ	160KΩ	Inf.	165Ω	Inf.	.1Ω	0Ω	TOP CAP #300Ω
V 20	1B3GT	* DO NOT MEASURE.				370VAC	370VAC	Inf.			V 20	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	TOP CAP #300Ω
V 21	5U4G	0V.	280VDC	0V.	370VAC	200VDC	370VAC	280VDC			V 21	5U4G	Inf.	13KΩ	Inf.	124Ω	13KΩ	422Ω	Inf.	13KΩ	
V 22	16DP4	125VDC	1175VDC	140VDC	33VDC	625VDC	33VDC	280VDC			V 22	16DP4	11.4KΩ	15.5KΩ	450KΩ	80KΩ	11.4KΩ	122Ω	Inf.	13KΩ	
1 TAKEN WITH VACUUM TUBE VOLTMETER. * DO NOT MEASURE. † MEASURED FROM PIN 8 OF V21. ‡ MEASURED FROM PIN 3 OF V19. § MEASURED FROM PIN 6 OF V17.																					

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.

† TAKEN WITH VACUUM TUBE VOLTMETER.
* DO NOT MEASURE.
‡ MEASURED FROM PIN 3 OF V19.
§ MEASURED FROM PIN 6 OF V17.
• 6.3VAC MEASURED ACROSS FILAMENTS.

STARRETT MODELS "HENRY HUDSON,"
"HENRY PARKS," "ROBERT E. LEE"



ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

If receiver is aligned with the picture tube removed, remove the horizontal oscillator tube V17 (6SN7GT) to eliminate the high voltage shock hazard.

The alignment procedure which follows is given in order which should be followed when complete alignment is performed.

VIDEO IF TRAP ADJUSTMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	21.25MC (Very accurately)	9 (If unused locally)	DC Probe to Point A. Common to chassis.	A1, A2	Adjust for minimum deflection.

SOUND IF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	21.25MC (Very accurately)	9 (If unused locally)	DC Probe to Point B. Common to chassis.	A3, A4, A5, A6	Adjust for maximum deflection. Attenuate signal generator to maintain a 2 volt VTVM reading.
	"	"	"	DC Probe to Point C. Common to chassis.	A7	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Repeat the adjustments of A6 and A7.

VIDEO IF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	21.8MC	9 (If unused locally)	DC Probe to Point A. Common to chassis.	A8	Adjust for maximum deflection.
	"	25.3MC	"	"	A9	"
	"	22.3MC	"	"	A10	"
	"	25.2MC	"	"	A11	"
	"	23.4MC	"	"	A12	"

VIDEO IF RESPONSE CHECK

Connect a 1 1/2 volt bias battery-negative to pin 2 of V7, positive to chassis.

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
	High side to ungrounded tube shield floating over mixer tube (V2). Low side to chassis.	25MC (10MC SWP)	21.25MC 22.25MC 25.75MC	9	Vert. Amp. to Point A. Low side to chassis.		Check response curve to see that it is similar to Fig 1. If slight retouching is necessary to reposition markers, adjust A1 and A2 until 21.25MC marker disappears. Adjust A9 and A11 to position the 25.75MC marker. Adjust A8 and A10 to position the 22.25MC marker. A12 will give the curve a flat top. Recheck the position of the 25.75 MC marker. Remove bias battery.

RF. AMP. ALIGNMENT (TUNER CL-1677)

Connect 1 1/2 volt bias battery as used in video IF alignment. Negative to pin 2 of V7, positive to chassis.

Set the fine tuning control to its midpoint. This particular tuner incorporates one of two types of fine tuning control.

Those tuners having the fine tuning bakelite disc located in back of the oscillator slug and adjustment hole, the midpoint of its range is when the fine tuning shaft is turned completely counter-clockwise.

Those models having the fine tuning bakelite disc located in front of the oscillator slug adjustment hole, the midpoint of the fine tuning range is attained when the bakelite disc faces directly downward.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
Two 125Ω carbon res.	Across antenna terminals with 125Ω resistor in each generator lead.	207MC (10MC SWP)	205.25MC 209.75MC	12	Vert. Amp. thru 10KΩ to Point D. Low side to chassis.	A13, A14, A15	Adjust for flat topped response curve as per Fig 2 with markers appearing not less than 70% of maximum amplitude of the curve.
"	"	213MC (10MC SWP) 201MC (10MC SWP) 195MC (10MC SWP) 189MC (10MC SWP) 183MC (10MC SWP) 177MC (10MC SWP) 85MC (10MC SWP) 79MC (10MC SWP) 69MC (10MC SWP) 63MC (10MC SWP) 57MC (10MC SWP)	211.25MC 215.75MC 199.25MC 203.75MC 193.25MC 197.75MC 187.25MC 191.75MC 181.25MC 185.75MC 175.25MC 179.75MC 83.25MC 87.75MC 77.25MC 81.75MC 67.25MC 71.75MC 61.25MC 65.75MC 55.25MC 59.75MC	13 11 10 9 8 7 6 5 4 3 2	"		Check response on all channels. A13 and A14 and A15 may be adjusted slightly to obtain optimum response on all channels.

ALIGNMENT INSTRUCTIONS (CONT.)

OSCILLATOR ALIGNMENT

Complete alignment of the oscillator circuit may not be necessary. This is determined by checking to see that a zero reading is obtained for each channel when the fine tuning control is tuned through the midpoint of its range. (Connect signal generator and VTVM as in steps 12 and 13. Sound carrier frequencies are listed in step 13.) If the majority of the channels seem to need oscillator alignment, this sometimes may be done in one operation step 12 by adjusting A16. If should be noted that this is an all-channel adjustment and should not be adjusted for individual channels. If step 12 fails to align the oscillator circuits sufficiently, it will be necessary to adjust the oscillator coil slugs. These are accessible one channel at a time. Set the fine tuning control to the midpoint of its range. (See RF Amp. Alignment for this setting.)

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
12.	Direct	High side to one antenna terminal. Low side to chassis.	209.75MC	12	DC Probe to Point C. Common to chassis.	A16	Adjust for zero reading between positive and negative peaks with fine tuning control at its midpoint. Rotate channel selector switch and adjust individual channels outlined in step 13. Then repeat step 12.
13.	Direct	"	215.75MC	13	"	A17	
			209.75MC	12		A18	
			203.75MC	11		A19	
			197.75MC	10		A20	
			191.75MC	9		A21	
			185.75MC	8		A22	
			179.75MC	7		A23	
			177.75MC	6		A24	
			171.75MC	5		A25	
			161.75MC	4		A26	
			151.75MC	3		A27	
			141.75MC	2		A28	

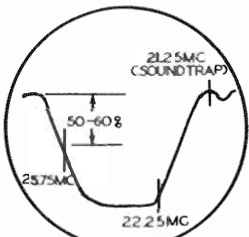


FIG. 1

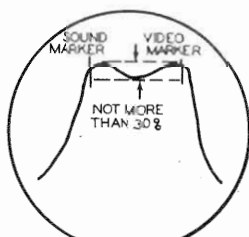
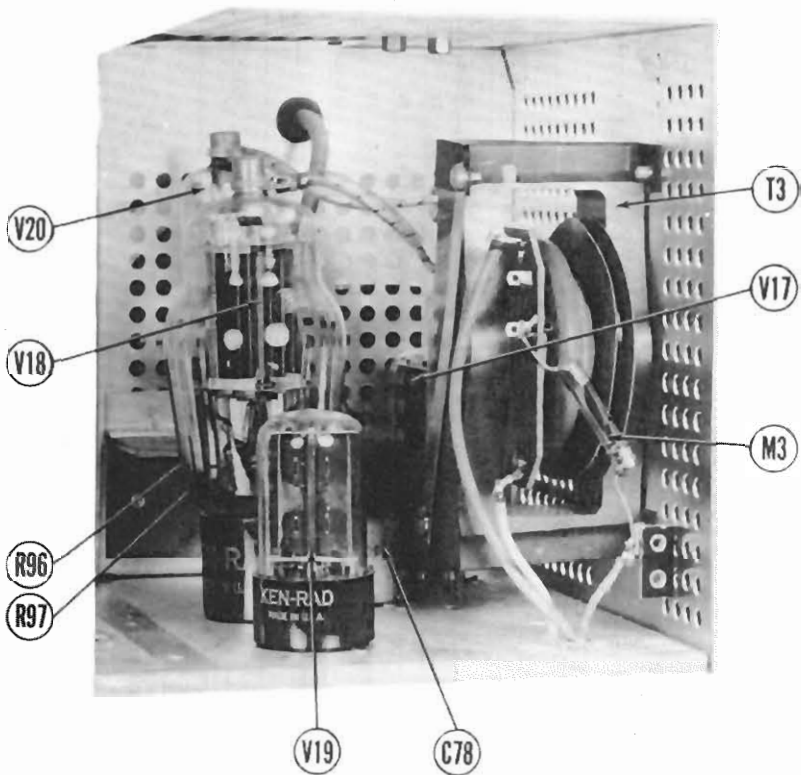
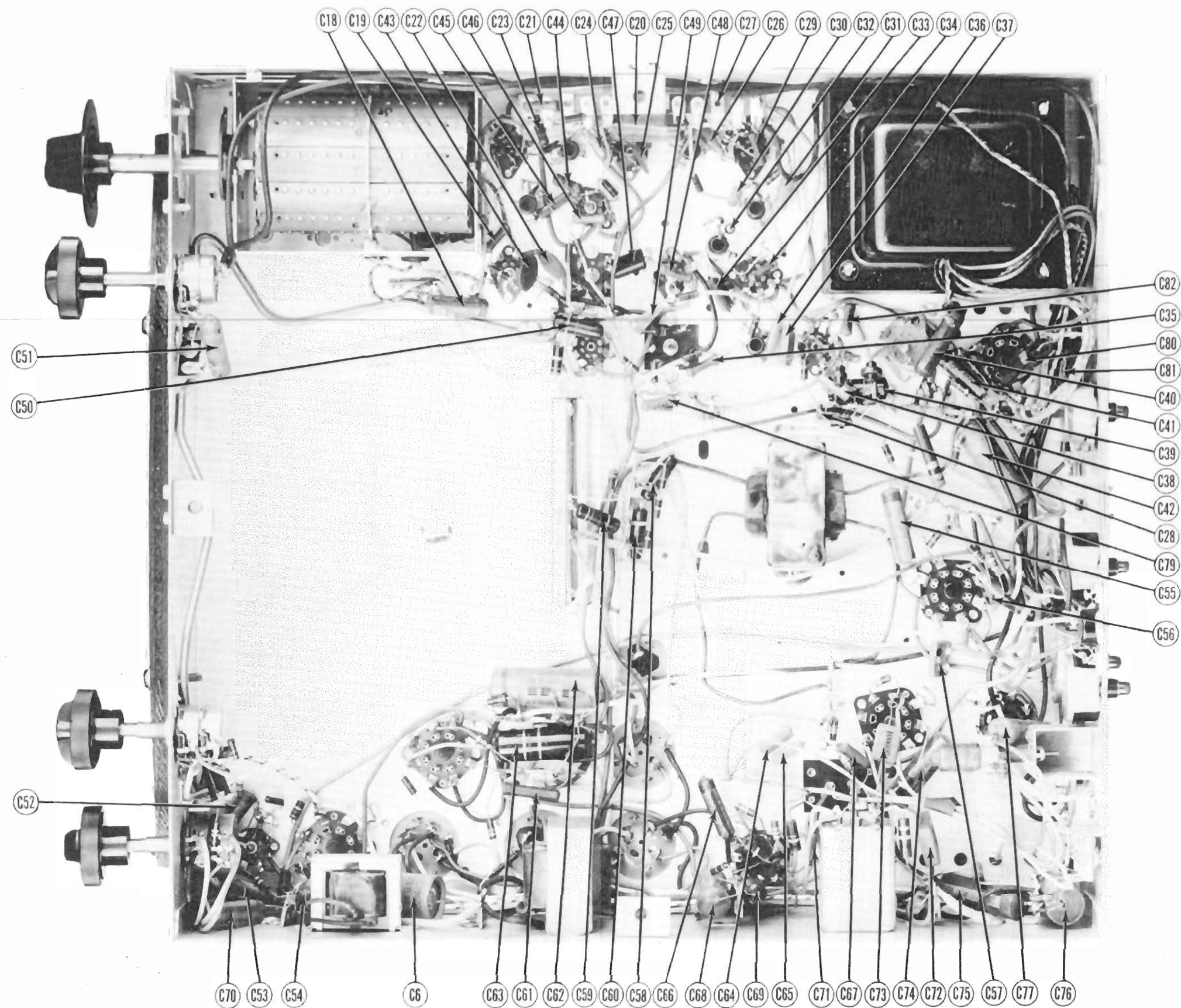


FIG. 2

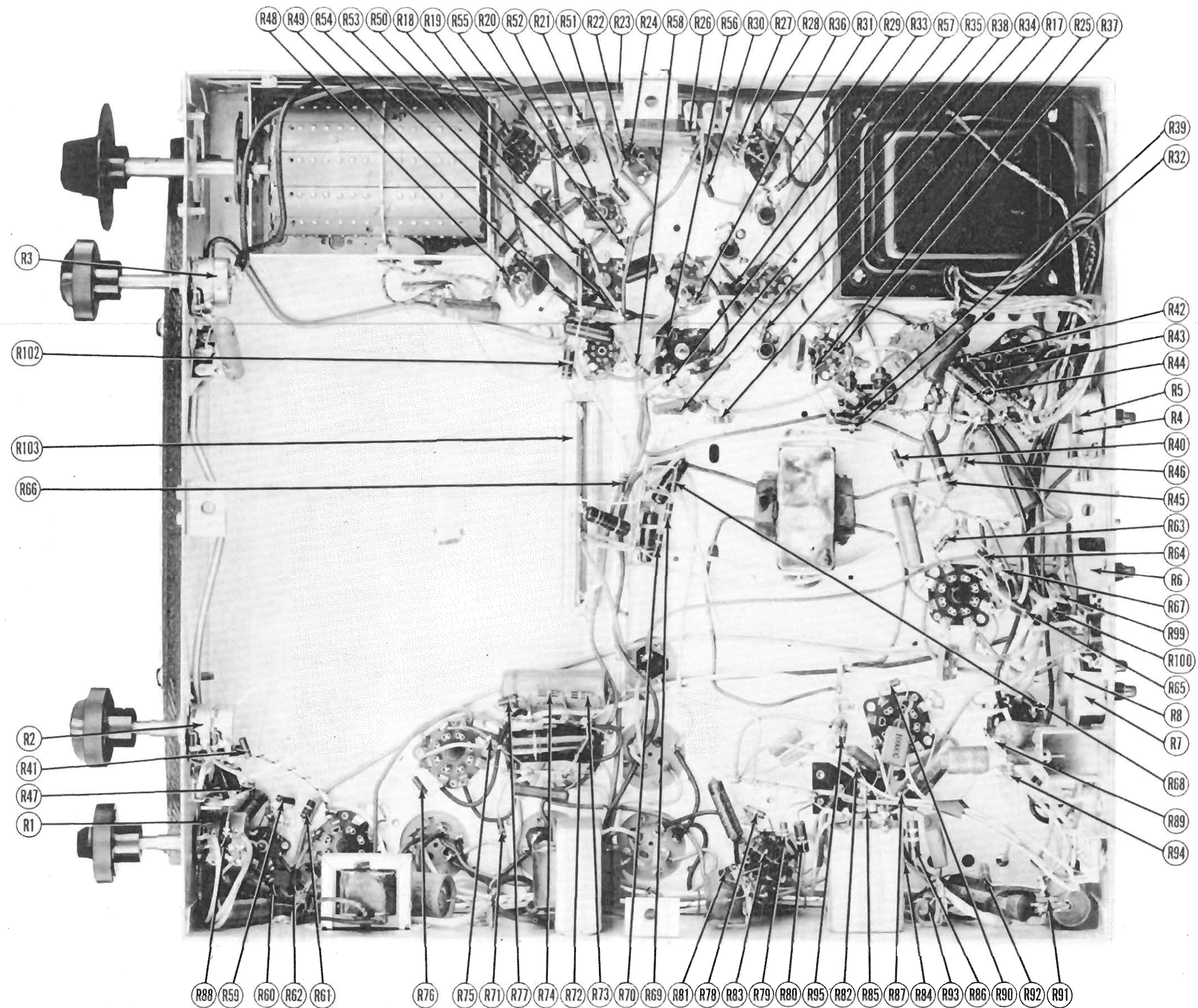


HIGH VOLTAGE COMPARTMENT

STARRETT MODELS "HENRY HUDSON,"
"HENRY PARKS," "ROBERT E. LEE"



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

STARRETT MODELS "HENRY HUDSON,"
 "HENRY PARKS," "ROBERT E. LEE"

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		STARRETT PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T7	6.2KΩ	3.7Ω	275Ω	.4Ω		A-8114	A-2931	RO-13	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	STARRETT PART No.	JENSEN PART No.	QUAM PART No.	
SP1	PM	3.4Ω		ST-119 ① MOD. P10-T	10A31	① Replace output transformer to match 6-8Ω voice coil.
SP2	CONE DIA. 9 1/2"	V. C. DIA. 3/4"				

FILTER CHOKE

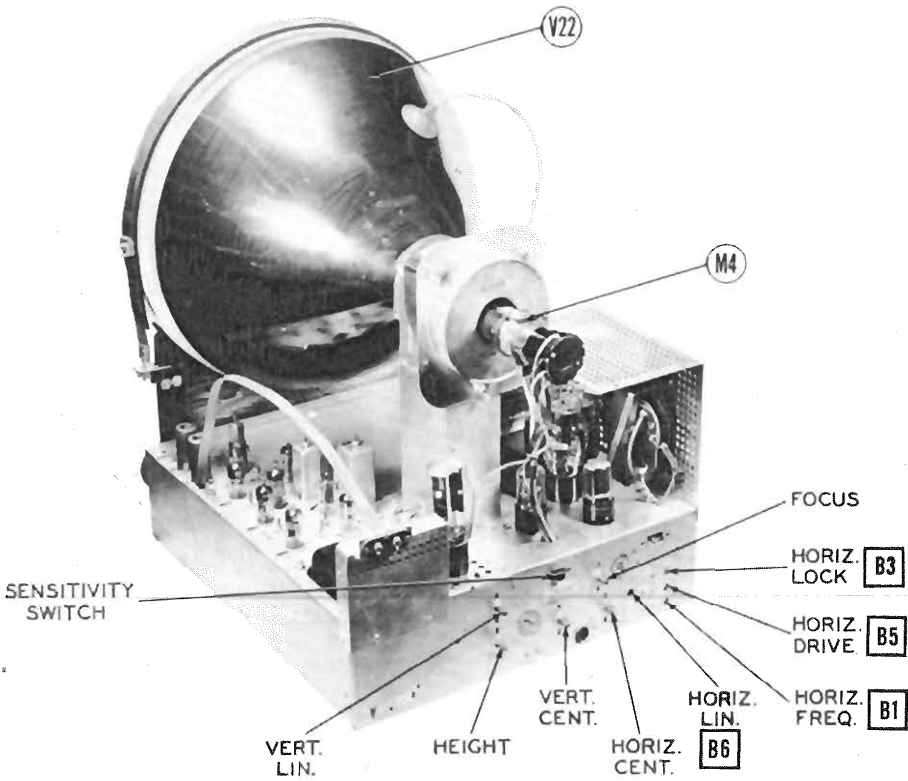
ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ω)	STARRETT	STANCOR	MERIT	CHICAGO	
				PART No.	PART No.	PART No.	PART No.	
L1	.275A	62 Ω	2.6 Henries		C-2326 ②	C-2991 ②	TR-3300 ②	② Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	STARRETT PART No.	MEISSNER PART No.	
L2	Ant. Coil	0Ω				
L3	RF, Mixer & Osc. Coils	0Ω				
L4	Fl. Choke	0Ω				
L5	Fl. Choke	0Ω				
L6	1st Video IF & Sound Trap	.2Ω	0Ω			
L7	Video Coupling	.1Ω				
L8	2nd Video IF	.2Ω				
L9	3rd Video IF	.2Ω				
L10	4th Video IF	.2Ω				
L11	Sound Trap	.2Ω	0Ω			
L12	5th Video IF	.2Ω				
L13	Peaking	.3Ω				
L14	Peaking	.8Ω				
L15	Peaking	5.5Ω				36 microhenries, black dot. 180 microhenries, wound on 39KΩ resistor, white dot. 122 microhenries, wound on 22KΩ resistor, blue dot.
L16	1st Sound IF	.2Ω				
L17	2nd Sound IF	.2Ω	.1Ω			
L18	Disc. Trans.	.1Ω	.1Ω			
L19	Horiz. Osc.	150Ω				
L20	Width Cont.	.2Ω				
L21	Horiz. Linearity	36Ω				Not used in all models.

MISCELLANEOUS

ITEM No.	PART NAME	STARRETT PART No.	NOTES
M1	RF Tuner		
M2	Switch		Sensitivity
M3	Fuse		.25A, 250V
M4	Ion Trap		Permanent magnet type



CHASSIS-TOP VIEW

HORIZONTAL OSCILLATOR AND LINEARITY 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 60° 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 shows 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 ADJUSTMENTS:

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 ins symmetrical from top to bottom.

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

STARRETT MODELS "HENRY HUDSON,"
"HENRY PARKS," "ROBERT E. LEE"

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		STARRETT PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6AG5	6AG5	7BD	
V2	Converter	6J6	6J6	7BF	
V3	1st Video IF	6AG5	6AG5	7BD	
V4	2nd Video IF	6AG5	6AG5	7BD	
V5	3rd Video IF	6AG5	6AG5	7BD	
V6	4th Video IF	6AG5	6AG5	7BD	
V7	Video Det. -AGC				
	Rectifier	6AL5	6AL5	6BT	
V8	Video Amp.	12AU7	12AU7	9A	
V9	1st Sound IF	6BA6	6BA6	7BK	
V10	2nd Sound IF	6BA6	6BA6	7BK	
V11	Limiter	6AU6	6AU6	7BK	
V12	Disc.	6AL5	6AL5	6BT	
V13	AF Amp. -Sync.				
	Clamper	6AT6	6AT6	7BT	
V14	Audio Output	6K6GT	6K6GT	7S	
V15	Sync. Amp. -Sync.				
	Sep.	6SN7GT	6SN7GT	8BD	
V16	Vert. Osc. -Vert.				
	Amp.	6SN7GT	6SN7GT	8BD	
V17	Hor. AFC-Hor.				
	Osc.	6SN7GT	6SN7GT	8BD	
V18	Hor. Output	6BG6G	6BG6G	5BT	
V19	Damper	6W4GT	6W4GT	4CG	
V20	HV Rectifier	1B3GT	1B3GT	3C	
V21	LV Rectifier	5U4G	5U4G	5T	
V22	Picture Tube	16DP4	16DP4	12D	

CAPACITORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA				IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	STARRETT PART No.	AEROVOX PART No.	ERIE PART No.	SPRAGUE PART No.	
C54	.005	600		P688-005	811-005	TM-25	Output Plate Bypass
C55	.05	400		P488-05		TM-15	Sync. Coupling
C56	220	500		1468-00025	GP2K-220	1FM-325	Sync. Coupling
C57	390	1000		1468-0004	GP2K-390	1FM-34	Sync. Sep. Cathode Bypass
C58	.0022	600		P688-0022	GP2M-0022	TM-22	Integrator Net.
C59	.0047	600		P688-0047	GP2M-0047	TM-25	Integrator Net.
C60	.0047	600		P688-0047	GP2M-0047	TM-25	Integrator Net.
C61	4700			GP4700M	GP2M-0047	1FM-25	Vert. Osc. Grid Cap.
C62	.1	1000		1084-1		PX-11	Vert. Discharge
C63	.22	400		P488-22		TC-2	Vert. Sweep Coupling
C64	120	1000		1468-00015	GP2K-120	1FM-315	Hor. Sync. Coupling
C65	120	1000		1468-00015	GP2K-120	1FM-315	Voltage Divider
C66	.002	600		P688-002	GP2M-002	TM-22	Hor. Sync. Coupling
C67	.4	1500					Hor. Feedback
C68	.25	400		P488-25		TC-2	AFC Filter
C69	.022	400		P488-022		TM-12	AFC Filter
C70	.05	400		P488-05		TM-15	AFC Plate Bypass
C71	180	1000		1468-0002	GP2K-180	1FM-32	Hor. Osc. Grid Cap.
C72	2200	1000			GP2M-0022		Hor. Discharge
C73	390	1000		1468-0004	GP2K-390	1FM-34	Hor. Sweep Coupling
C74	.05	600		P688-05		TM-15	Hor. Output Screen Bypass
C75	.25	400		P488-25		TC-2	Hor. Output Cath. Bypass
C76	.1	1000		1084-1		PX-11	Damper Filter
C77	.035	1000		P1088-033			Damper Filter
C78	500	15000			410-500		HV Filter
C79	1500			GP1500M	GP2L-0015	1FM-215	RF Bypass *
C80	.01	600		P688-01	821-01	TM-11	Line Filter
C81	.01	600		P688-01	821-01	TM-11	Line Filter
C82	1500			GP1500M	GP2L-0015	1FM-215	DAGC Decoupling *

* Not used in all models.

† Enlarge hole and install new mounting plate.

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	STARRETT PART No.	IRC PART No.	
R49	10000 20%			BTS-1000	1st Sound IF Screen Decoupling
R50	10000 20%			BTS-1000	1st Sound IF Plate Decoupling
R51	22K 20%				2nd Sound IF Grid
R52	1500				2nd Sound IF Cathode
R53	10000 20%			BTS-1000	2nd Sound IF Screen Decoupling
R54	10000 20%			BTS-1000	2nd Sound IF Plate Decoupling
R55	22K 20%				Limiter Grid
R56	10K				Limiter Decoupling
R57	100K			BTS-100K	Disc. Diode Load
R58	100K			BTS-100K	Disc. Diode Load
R59	10 Meg. 20%			BTS-10 Meg.	AF Grid
R60	330K			BTS-330K	AF Plate
R61	470K 20%			BTS-470K	Output Grid
R62	10000 20%			BTA-1000	Filter
R63	1 Meg. 20%			BTS-1 Meg.	Sync. Amp. Grid
R64	560K			BTS-560	Sync. Amp. Cathode
R65	22K 20%			BTA-22K	Sync. Amp. Plate
R66	68000 20%			BTS-68000	Sync. Sep. Cathode
R67	3.9 Meg.			BTS-3.9 Meg.	Sync. Sep. Grid
R68	22K 20%			BTS-22K	Integrator
R69	82000			BTS-82000	Integrator
R70	82000			BTS-82000	Integrator
R71	1 Meg.			BTS-1 Meg.	Vert. Osc. Grid
R72	1 Meg.			BTS-1 Meg.	Vert. Osc. Plate
R73	6.8 Meg.			BTS-6.8 Meg.	Voltage Divider
R74	100K			BTS-100K	Voltage Divider
R75	560K			BTS-560	Vert. Amp. Cathode
R76	2.2 Meg. 20%			BTS-2.2 Meg.	Vert. Amp. Grid
R77	33000 20%			BTS-33000	Vert. Peak
R78	560K			BTS-560K	Horiz. AFC Grid
R79	180K			BTS-180K	Horiz. AFC Cathode
R80	100K 5%			BTA-100K-5%	Horiz. AFC Cathode
R81	82000			BTS-82000	Horiz. AFC Filter Network
R82	150K			BTS-150K	Horiz. AFC Filter Network
R83	3.3 Meg.			BTA-3.3 Meg.	Voltage Divider
R84	100K 5%			BTA-100K-5%	Horiz. Osc. Grid
R85	10K			BTS-10K	Horiz. Osc. Transformer Shunt
R86	120K			BTA-120K	Horiz. Osc. Plate
R87	270K			BTA-270K	Voltage Divider
R88	120K			BTS-120K	Voltage Divider
R89	10K 20%			BTS-10K	Filter
R90	470 20%				Parasitic Supp.
R91	1 Meg. 20%			BTS-1 Meg.	Horiz. Output Grid
R92	820			BW-1-82	Horiz. Output Cathode
R93	47000			BTA-47000	Horiz. Output Screen
R94	560K			BTS-560K	Filter
R95	560K			BTS-560K	Feedback
R96	3.30				HV Rect. Filament-Wire Wound
R97	1 Meg. 20%				HV Filter
R98	6800			BTA-680	Focus Coil Shunt-See Note 1
R99	4700			BTA-470	Focus Coil Shunt-See Note 2
R100	4700			BTA-470	Focus Coil Shunt-See Note 2
R101A	6100	20			Bias Network-Wire Wound
R101B	11250	20			Filter-Wire Wound
R102	33000	1		BTA-33000	Bleeder
R103A	82000	5			Bleeder-Wire Wound
R103B	550	1			Bias Network-Wire Wound
R104	1000	2			Bias Network-Wire Wound

Note 1. Not used in all models.

Note 2. Some models use 6800, 1 watt resistor in this application.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	STARRETT PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC	760VCT	5VAC	6.3VAC				
	2.05A	.275ADC	3A	9.2A				
				6.3VAC				
				.6A				

① Drill new mounting holes.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		STARRETT PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
T2	1800			A-8111 ②	A-3000 ②	TBO-1 ②	Vert. Block Osc. Trans. Hor. Output Trans.
T3	2900			A-8128	HVO-3	TFB-3	
	Tap. ④						
	70 Tap.						
	900						
T4	7700			A-8112	A-3035 ③	TSO-5	Vert. Output Trans. Hor. Deflection Coil Focus Coil
T5A	140			DY-1			
T6	600						
	4100						

② Drill one new mounting hole.

③ Drill new mounting holes.

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	STARRETT PART No.	AEROVOX PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	40	450		AFH8J8D26B		TVL-57	Filter
B	40	150					Filter
C	130	50					Vert. Output Cath. Bypass
C2A	40	450		AFH8J2H		TVL-69	Filter
B	10	350					Filter
C3A	80	450		AFH162J		TVL-47	Filter
B	10	450					Decoupling
C4A	10	450		AFH2J6H6G		TVL-56	Decoupling
B	30	400					Decoupling
C	36	300					Filter
C5A	250	10		PRS12/250		TVL-66†	Filter
B	1000	6		PRS6/1000			Hor. Cent. Cont. Bypass
C6	24	300		PRS350/24		TVA-23	Vert. Cent. Cont. Bypass
C7	5			CNSDNP0	NPOK-5		Fixed Trimmer
C8	120			GP120M	GP2K-120		RF Decoupling
C9	1000			GP1000M	GP2L-001		Fixed Trimmer
C10	100			GP100K	GP1K-100		RF Filament Bypass
C11	10			CN100NP0	NPOK-10		RF Coupling
C12	20			CN20JNP0	NPOK-20		Fixed Trimmer
C13	10			CN100NP0	NPOK-10		Osc. Grid Cap.
C14	1000			GP1000M	GP2L-001		Fixed Trimmer
C15	1000			GP1000M	GP2L-001		Conv. Filament Bypass
C16	68			CN68JNP0	NPOL-68		RF Bypass
C17	120	500		1468-00015	GP2K-120	1FM-315	Fixed Trimmer
C18	.01	600		P688-01	821-01	TM-11	IF Coupling
C19	1500			GP1500M	GP2L-0015	1FM-215	RF Bypass
C20	25	400		P488-25		1FM-215	Filament Bypass
C21	1500			GP1500M	GP2L-0015	1FM-215	AGC Filter *
C22A	1500			GP1500M	GP2L-0015	1FM-215	AGC Filter *
B	1500			GP1500M	GP2L-0015	29C6	RF Bypass
C23	1500			GP1500M	GP2L-0015	1FM-215	2nd S. IF Plate Decoupling
C24	270	1000		1468-00025	GP2K-270	1FM-325	1st V. IF Decoupling
C25A	1500			GP1500M	GP2L-0015	1FM-325	IF Coupling
B	1500			GP1500M	GP2L-0015	29C6	IF Coupling
C26	270	1000		1468-00025	GP2K-270	1FM-325	2nd V. IF Decoupling
C27	1500			GP1500M	GP2L-0015	1FM-215	IF Coupling
C28	1500			GP1500M	GP2L-0015	1FM-215	AGC Filter
C29	1500			GP1500M	GP2L-0015	1FM-215	AGC Filter
C30	1500			GP1500M	GP2L-0015	1FM-215	3rd V. IF Screen Bypass
C31	270	1000		1468-00025	GP2K-270	1FM-325	3rd V. IF Plate Decoupling
C32	75						IF Coupling
C33	100	500		1468-0001	NPOM-75		Fixed Trimmer
C34	1500			GP1500M	GP1K-100	1FM-31	4th V. IF Cathode Bypass
C35	1500			GP1500M	GP2L-0015	1FM-215	4th V. IF Screen Bypass
C36	270	1000		1468-00025	GP2K-270	1FM-325	4th V. IF Plate Decoupling
C37	220	500		1468-00025	GP2K-220	1FM-325	IF Coupling
C38	10	500		1468-00001	GP1K-10	1FM-31	IF Coupling
C39	.047	400		P488-047		TM-15	V. Diode Filter
C40	.05	400		P488-05		TM-15	Video Coupling
C41	.005	600		P688-005		TM-25	Video Coupling
C42	.25	400		P488-25		TC-2	2nd V. Amp. Cath. Bypass
C43A	1500			GP1500M	GP2L-0015	1FM-215	Pic. Tube Cath. Dec.
B	1500			GP1500M	GP2L-0015	29C6	1st S. IF Cathode Bypass
C44	1500			GP1500M	GP2L-0015	1FM-215	1st S. IF Screen Bypass
C45	330	500		1468-00035	GP2K-330	1FM-335	1st S. IF Plate Decoupling
C46	1500			GP1500M	GP2L-0015	1FM-215	IF Coupling
C47	330	500		1468-00035	GP2K-330	1FM-335	2nd S. IF Screen Bypass
C48	1500			GP1500M	GP2L-0015	1FM-215	Limiter Grid Filter