

PHILCO MODEL 50-T1404 (Code 125)

TRADE NAME	Philco, Models 50-T1403 (Code 125), 50-T1404 (Codes 123, 124, 125), 50-T1406 (Codes 123, 124, 125) 50-T1432(124)
MANUFACTURER	Philco Corp., Tioga and "C" Streets, Philadelphia, Pa.
TYPE SET	Television Receiver
TUBES	Twenty One

POWER SUPPLY 110-120 Volts AC-60 Cycle  
TUNING RANGE—Channels 2 thru 13

RATING 2 Amp. at 117 Volts AC

INDEX

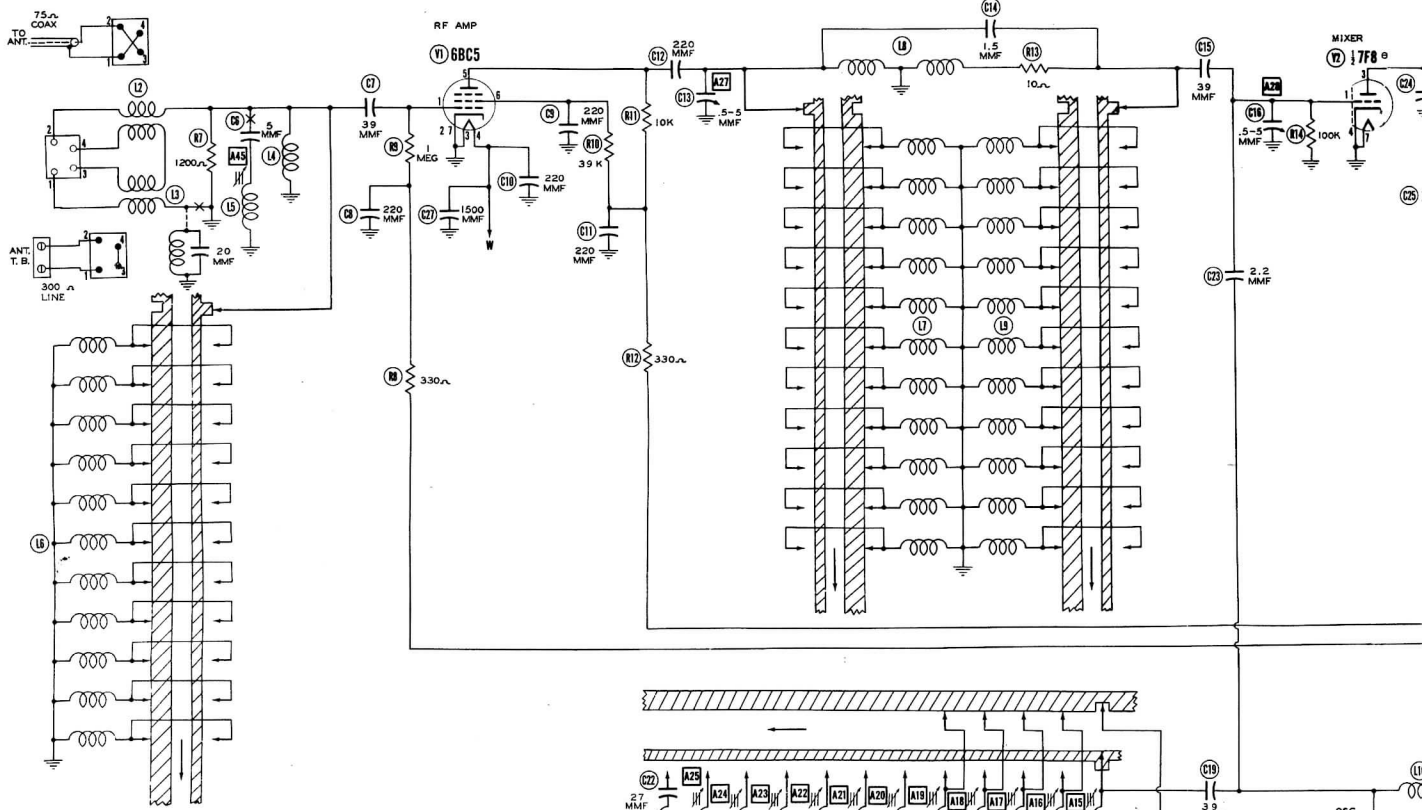
Alignment Instructions	6, 7, 8	Photographs (continued)	
Disassembly Instructions	8	RF Tuner	11
Fine Tuning Drive Cord Stringing	16	Resistor Identification	19, 20
Horiz. Sweep Circuit Adjustment	18	Trans., Inductor and Alignment Identification	4, 9
Parts List and Description	13 thru 16	Schematic (Main)	2
Photographs		Schematic (Turret Type Tuner)	18
Cabinet-Rear View	16	Tube Placement Chart	3
Capacitor Identification	12, 17	Voltage and Resistance Measurements	10
Chassis-Top View	5		

PHILCO MODELS 50-T1403 (Code 125) 50-T1404,  
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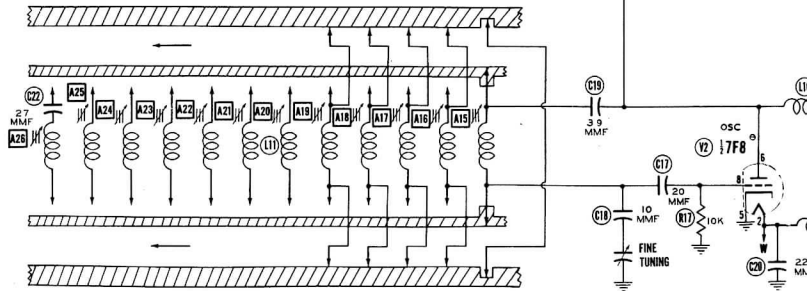
HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

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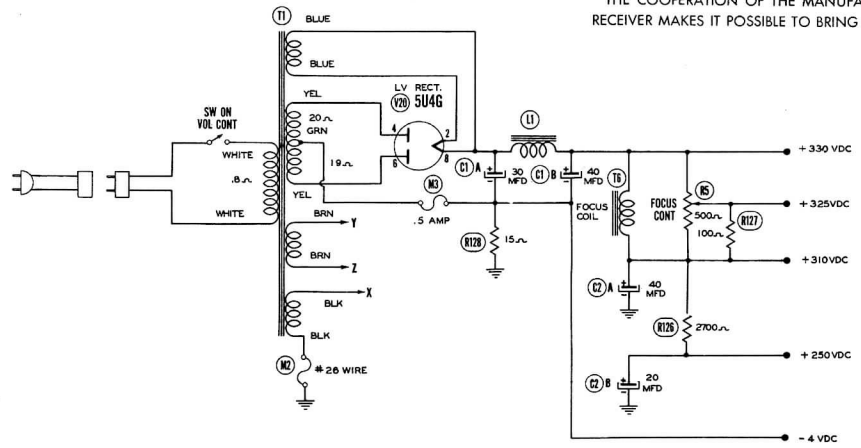
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CHANNEL SW. SHOWN IN CHANNEL 2 POSITION

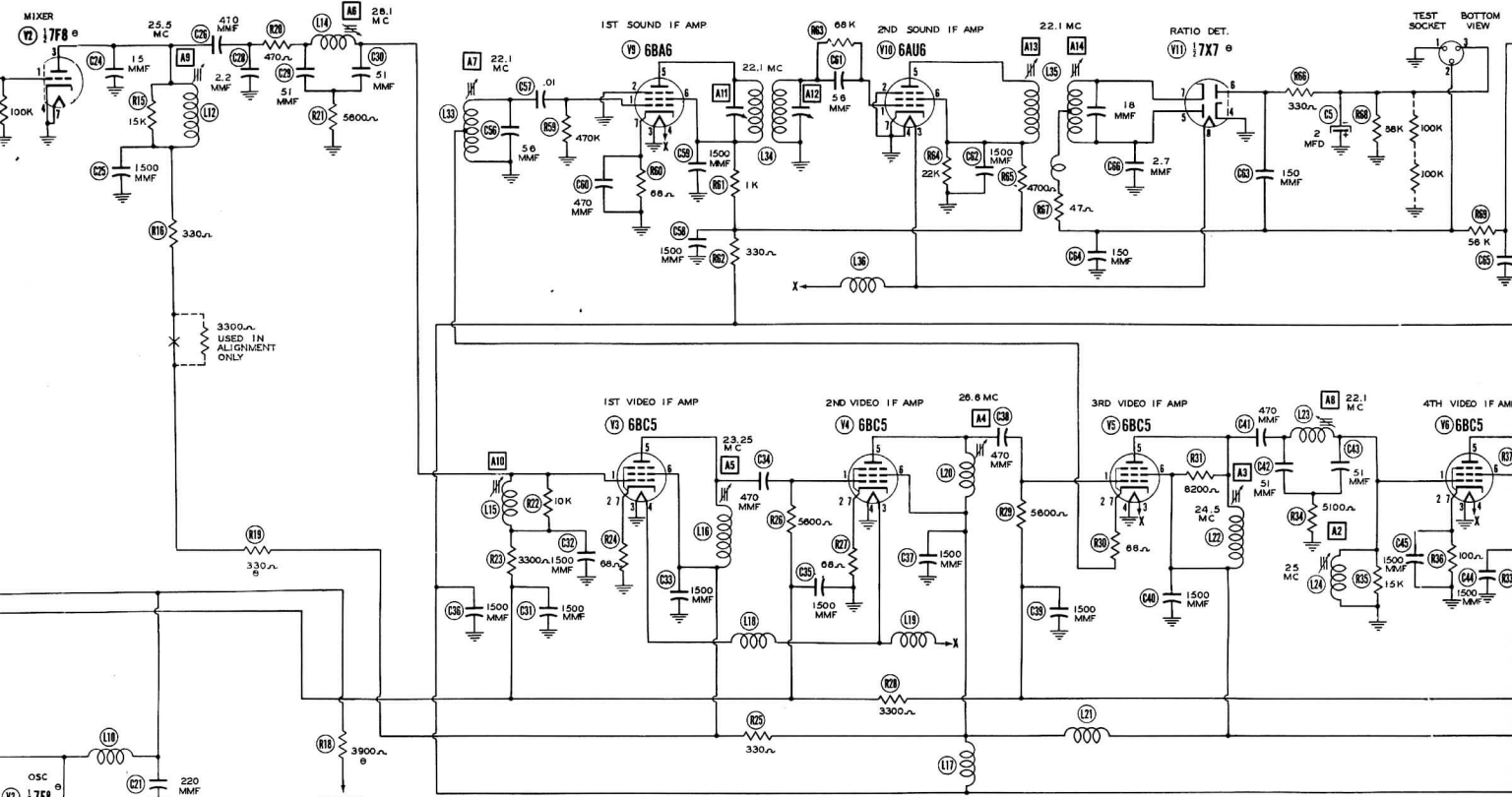


THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

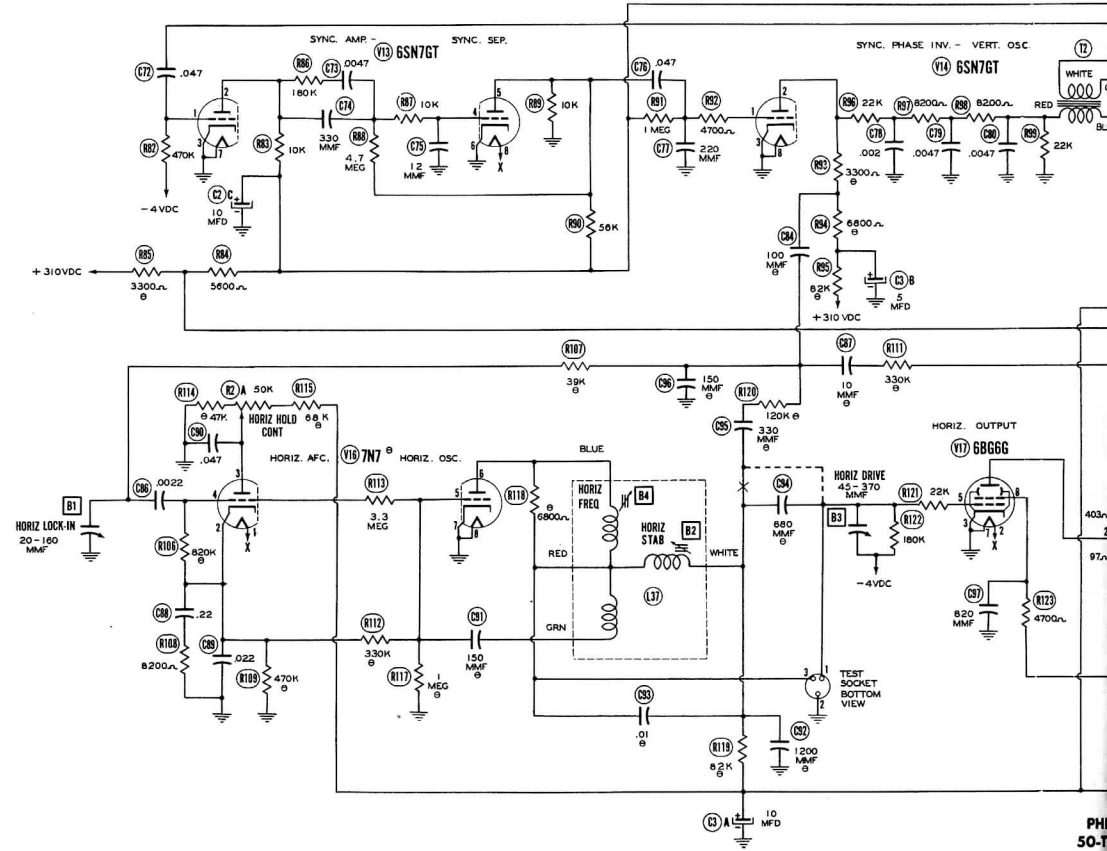


A PHOTOFAC STANDARD NOTATION SCHEMATIC  
© Howard W. Sams & Co., Inc. 1950

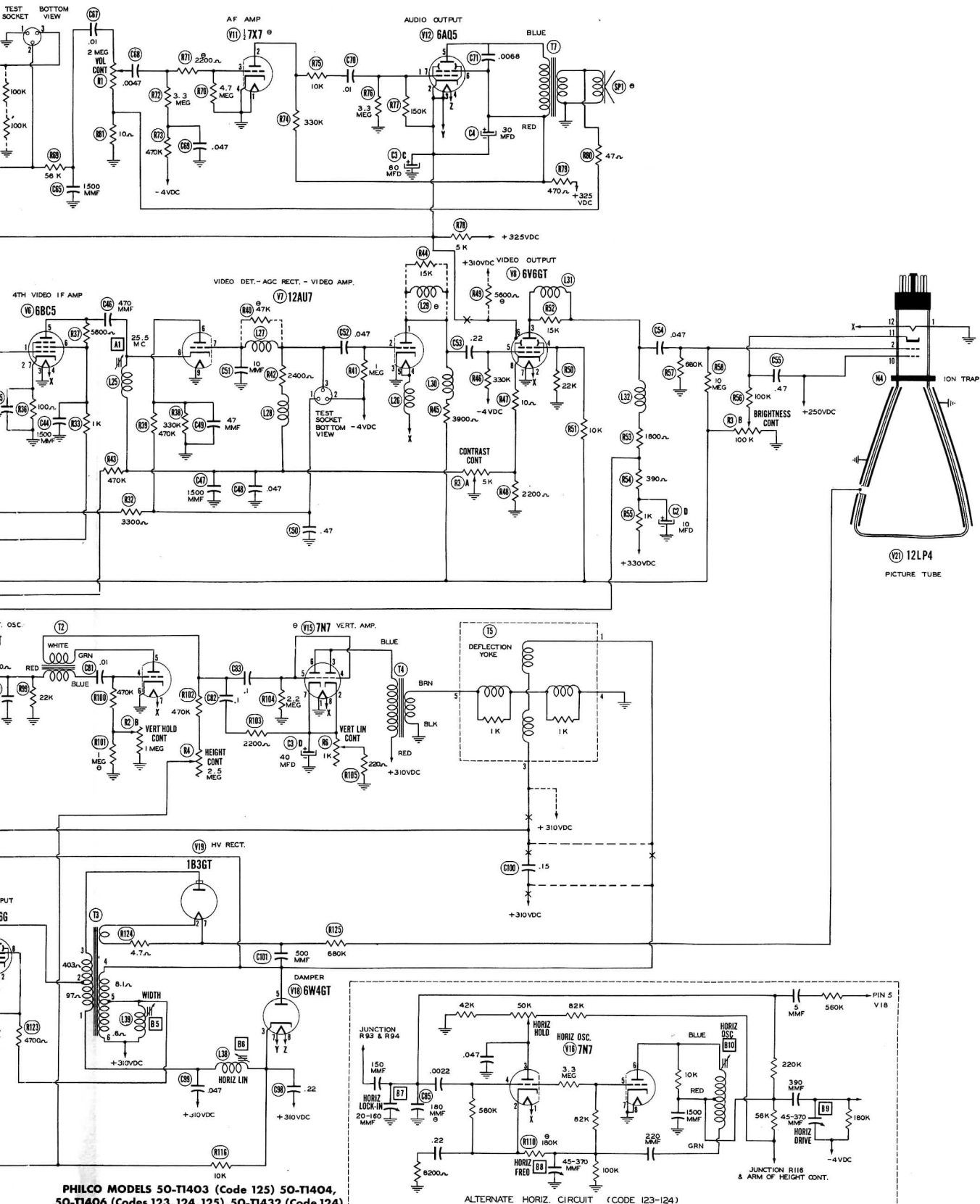
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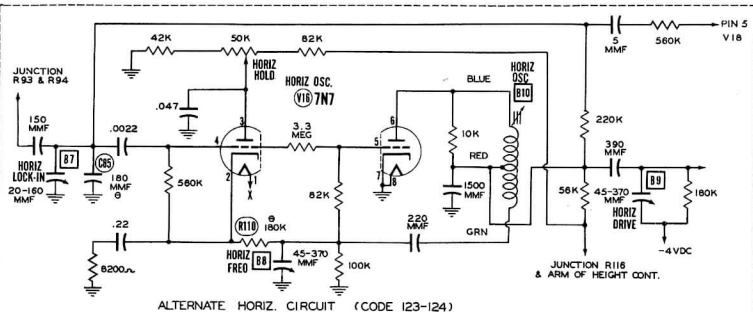
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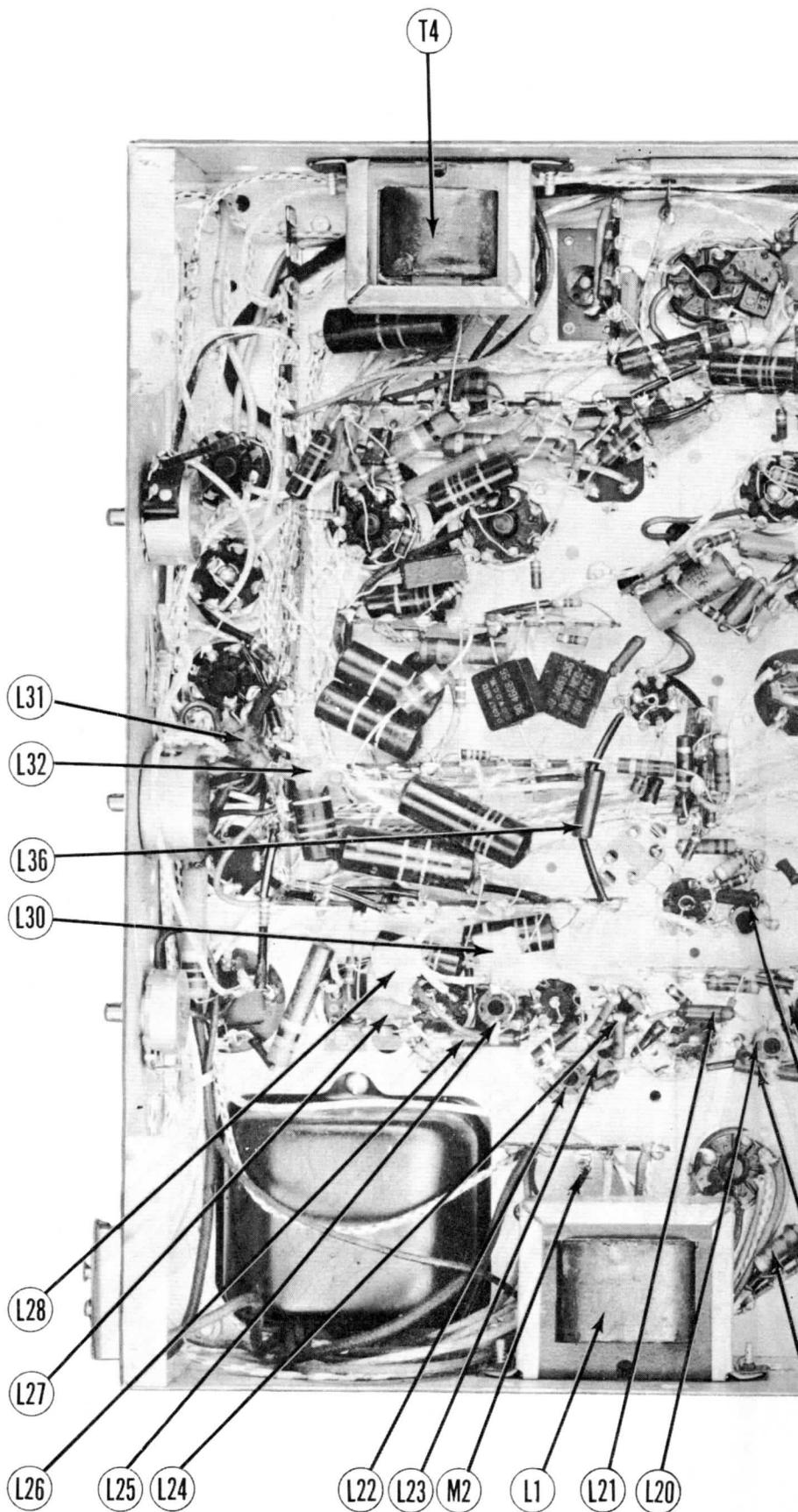
PHILCO MODELS 50-T1403 (Code 125) 50-T1404, 50-T1406 (Codes 123, 124, 125), 50-T1432 (Code 124)



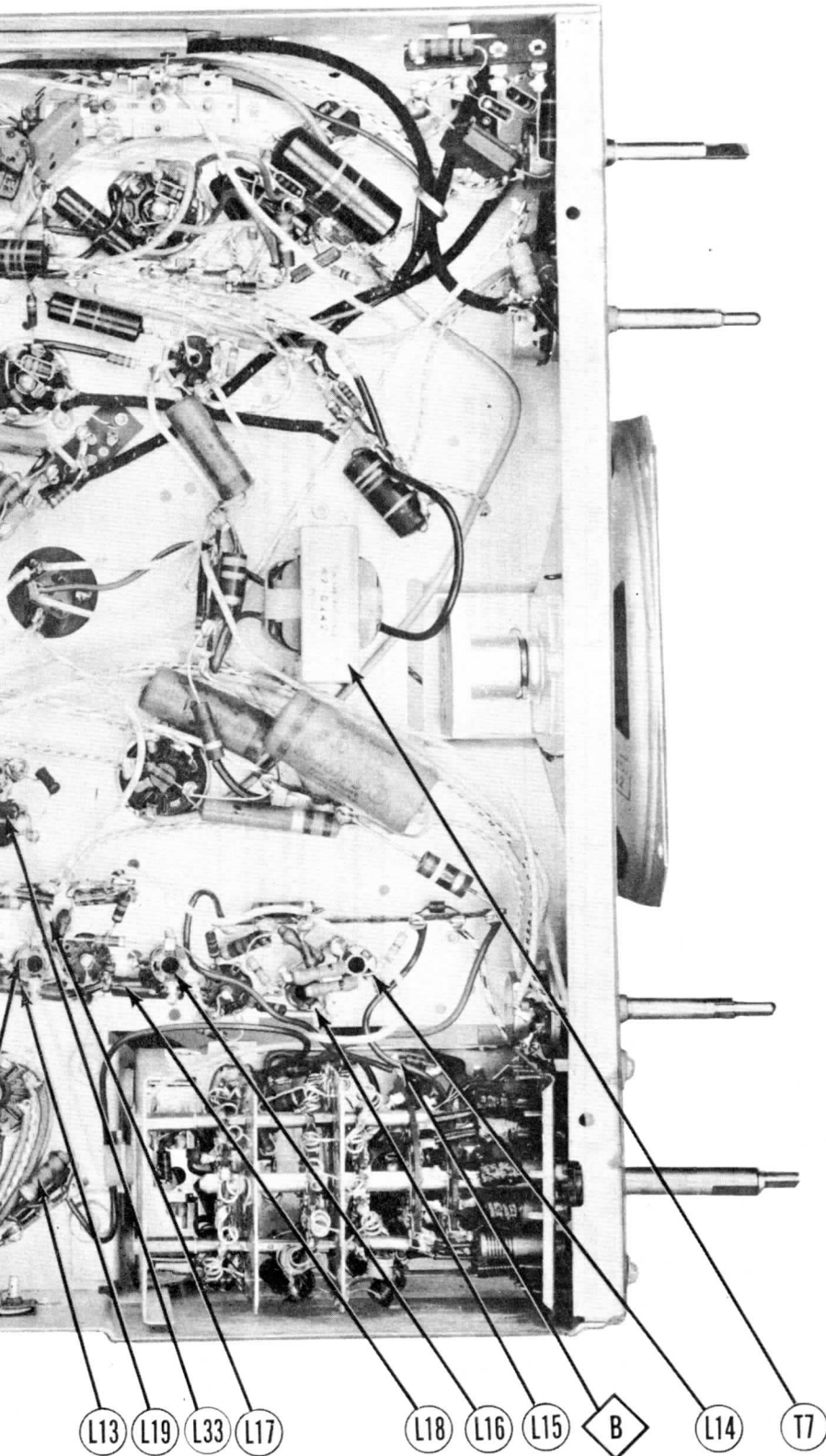
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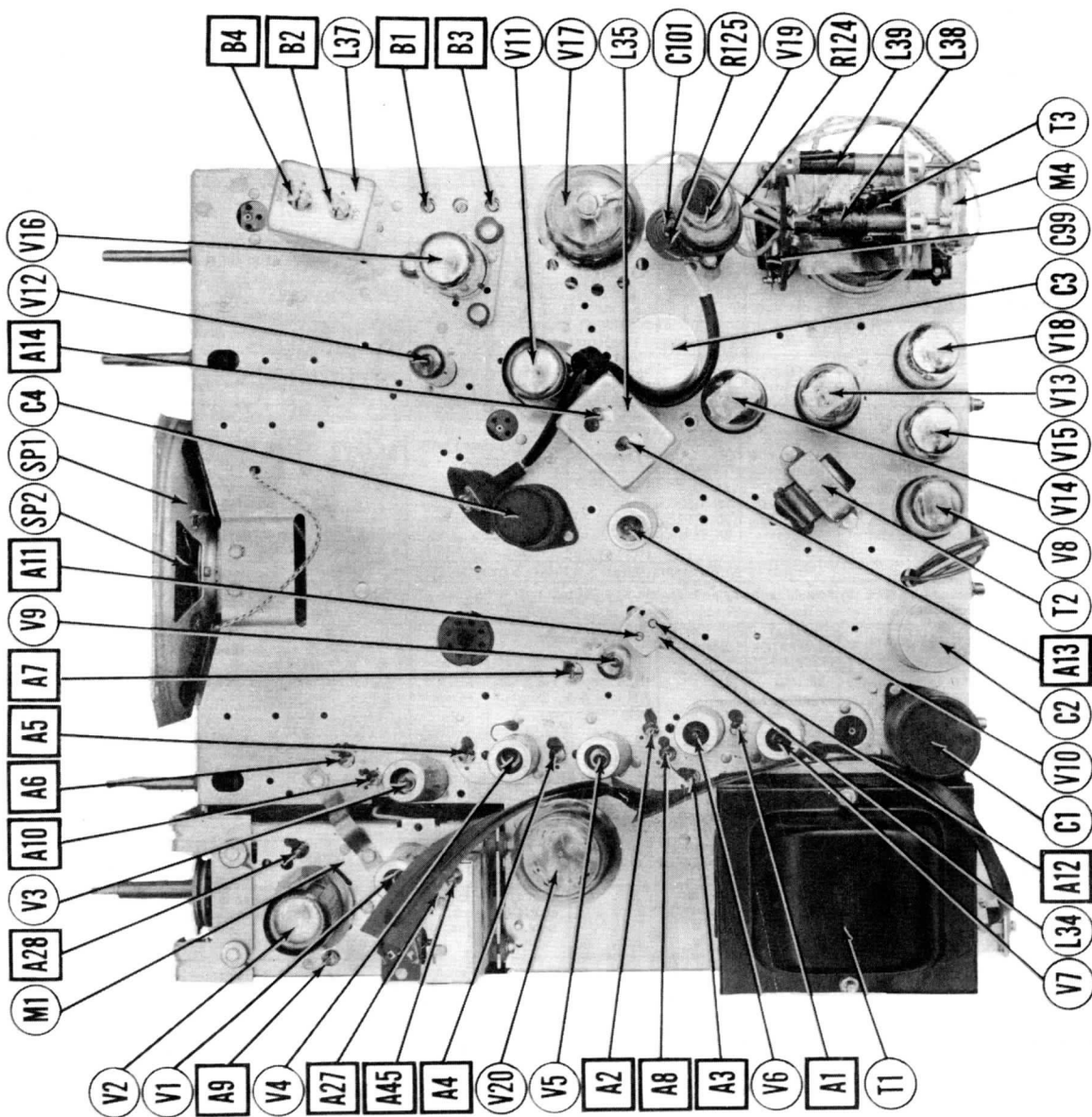
CHASSIS BOTTOM VIEW-TRANS., INDUC



- L13
- L19
- L33
- L17
- L18
- L16
- L15
- B
- L14
- T7

DUCTOR AND ALIGNMENT IDENTIFICATION

MEIN POL SISSVCH



# ALIGNMENT INSTRUCTIONS

## ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

If receiver is to be aligned with picture tube removed, the high voltage lead should be securely taped and dressed away from the chassis.

### VIDEO IF ALIGNMENT

In the codes 123 and 125 models, disconnect the yellow wire from the junction of R12, L10 and C21 to prevent erroneous indications.  
 In code 124 models, remove the converter tube (V2) from its socket and replace with a 6J7 with pin 1 removed to prevent erroneous indications.  
 Before attempting alignment pre-set the following adjustments:  
 A1 and A12 fully clockwise  
 A3 and A10 fully counter-clockwise  
 A7 and A8 until the top of the adjusting screws are approximately 5/8 inch from top of coil mount.  
 Turn the contrast control fully counter-clockwise.  
 Connect the negative terminal of a 1 1/2 volt battery to pin 2 of align test jack, connect the positive terminal to chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	.001MFD	High side to pin 1 (Grid) of 6BC5 (V6). Low side to chassis.	25.5MC (Unmod.)	Any	DC Probe to pin 3 of align test jack. Common to chassis.	A1	Adjust for maximum deflection.
2.	.001MFD	High side to pin 1 (Grid) of 6BC5 (V5). Low side to chassis.	25MC	"	"	A2	"
3.	.001MFD	"	24.5MC	"	"	A3	"
4.	.001MFD	High side to pin 1 (Grid) of 6BC5 (V4). Low side to chassis.	26.6MC	"	"	A4	"
5.	.001MFD	High side to pin 1 (Grid) of 6BC5 (V3). Low side to chassis.	23.25MC	"	"	A5	"
6.	Direct	High side to ungrounded tube shield floating over converter tube (V2). Low side to chassis.	28.1MC	3	"	A6	Adjust for MINIMUM deflection.
7.	Direct	"	22.1MC	"	"	A7, A8	"
8.	Direct	"	25.5MC	"	"	A9	Adjust for maximum 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
8.	Direct	High side to ungrounded tube shield floating over converter tube (V2). Low side to chassis.	25MC (10MC SWP)	23MC 23.5MC 25.5MC 26.6MC	Any	Vert. Amp. to pin 3 of align test jack. Low side to chassis.	A10	Adjust for response curve similar to figure 1. The 26.6MC marker should be at 50% response. If necessary, SLIGHTLY retouch A1 thru A5, A9 and A10 for proper response.

### SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from pin 2 of FM test jack to chassis. The junction of these two resistors is alignment Point A as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
9.	Direct	High side to ungrounded tube shield floating over converter tube (V2). Low side to chassis.	22.1MC (Unmod.)	3	DC Probe to Pin 2 of FM test jack. Common to chassis.	A11, A12, A13	Adjust for maximum deflection.
10.	Direct	"	"	"	DC Probe thru 10KΩ to pin 3 of FM test jack. Common to Point A.	A14	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
9.	Direct	High side to ungrounded tube shield floating over converter tube (V2). Low side to chassis.	22.1MC (450KC SWP)	22.1MC	3	Vert. Amp. to pin 2 of FM test jack. Low side to chassis.	A11, A12, A13	Disconnect stabilizer capacitor C5. Adjust for maximum amplitude and symmetry as per figure 2.
10.	Direct	"	"	"	"	Vert. Amp. thru 10KΩ to pin 3 of FM test jack. Low side to chassis.	A14	Reconnect stabilizer capacitor. Adjust A14 to place 22.1MC at center of diagonal line as per figure 3. SLIGHTLY retouch A13 for maximum amplitude and straightness of diagonal line.

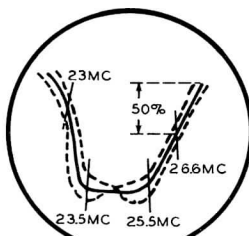


FIG. 1

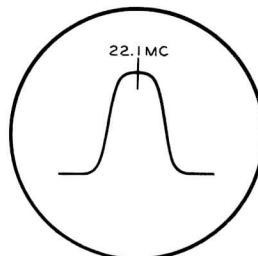


FIG. 2

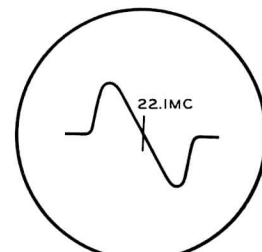


FIG. 3

# ALIGNMENT INSTRUCTIONS (CONT.)

## OSCILLATOR ALIGNMENT- TAPERED LINE TUNER (CODES 123 & 125)

Reconnect the yellow wire to the junction of R12, L10 and C21.  
 Set the fine tuning control to the mid-position of its range.  
 Connect two matched 100KΩ ( ± 1%) resistors in series from pin 2 of FM test jack to chassis. The junction of these two resistors is alignment Point A as shown on the schematic.  
 The signal generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11. Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	59.75MC (Unmod.)	2	DC Probe to pin 2 of FM test jack. Common to Point A.	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
12. "	"	65.75MC	3	"	A16	"
		71.75MC	4		A17	
		81.75MC	5		A18	
		87.75MC	6		A19	
		179.75MC	7		A20	
		185.75MC	8		A21	
		191.75MC	9		A22	
		197.75MC	10		A23	
		203.75MC	11		A24	
		209.75MC	12		A25	
		215.75MC	13		A26	

## RF ALIGNMENT- TAPERED LINE TUNER (CODES 123 & 125)

Connect a 3300Ω between the junction R16 and R19. The junction of R16 and the 3300Ω resistor will be designated as alignment Point B. Insert a piece of solder into hole adjacent to tuning core A9. Allow the solder to make contact with lug under the hole and chassis. The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms. Connect a short across capacitor C28.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
11. Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	57MC (10MC SWP)	55.25MC 59.75MC	2	Vert. Amp. to Point A. Low side to chassis.	A27	Adjust for maximum amplitude and band-pass as per figure 4 with markers as shown.
12. "	"	213MC (10MC SWP)	211.25MC 215.75MC	13	"	A28	"

## OSCILLATOR ALIGNMENT-12 POSITION TURRET TUNER (CODE 124)

Remove the dummy converter tube and replace original 6J6 in its socket.  
 Connect two matched 100KΩ ( ± 1%) resistors in series from pin 2 of FM test jack to chassis. The junction of these two resistors is alignment Point A as shown on the schematic.  
 Complete oscillator alignment may not be necessary. If the oscillator seems to be off frequency approximately the same amount for a majority of the channels, it may be possible to correct them in one step using A29-step 13. It should be noted that this is an all channel oscillator circuit adjustment and should not be adjusted for any individual channel. If adjustment of A29 will not bring all channels within the range of the fine tuning control, it will be necessary to adjust the individual channel oscillator adjustment for each channel that is off frequency. The individual channel oscillator adjustment screws are reached thru a hole just to the right of the channel switch shaft. The correct adjustment screw is accessible thru this hole as the channel switch is turned to each channel.  
 Set the fine tuning control to the mid-position of its range.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
13. Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	197.75MC (Unmod.)	10	DC Probe thru 10KΩ to pin 3 of FM test jack. Common to Point A.	A29	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
14. "	"	59.75MC	2	"	A30	"
		65.75MC	3		A31	
		71.75MC	4		A32	
		81.75MC	5		A33	
		87.75MC	6		A34	
		179.75MC	7		A35	
		185.75MC	8		A36	
		191.75MC	9		A37	
		197.75MC	10		A38	
		203.75MC	11		A39	
		209.75MC	12		A40	
		215.75MC	13		A41	

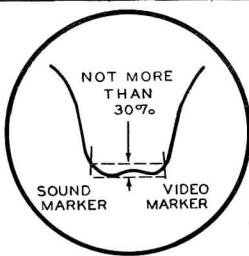


FIG. 4

**PHILCO MODELS 50-T1403 (Code 125) 50-T1404, 50-T1406 (Codes 123, 124, 125), 50-T1432 (Code 124)**



# ALIGNMENT INSTRUCTIONS (CONT.)

## RF ALIGNMENT-12 POSITION TURRET TUNER (CODE 124)

Connect a short from the Video output lead of the tuner to chassis.  
Remove the channel 10 antenna -RF coil.  
Remove the component cover plate from the tuner.  
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
15. .001MFD	High side to pin 1 (Grid) of 6BC5 (V1). (terminal 7 of contact-panel assembly). Low side to chassis.	195MC (12MC SWP)	192MC 198MC	10	Vert. Amp. to Point C. Low side to chassis.	A42, A43	Adjust for maximum amplitude and symmetry as per figure 5 with markers above 70% response. Disconnect generator and replace channel 10 antenna-RF coils and component cover plate.
16. Two 120Ω carbon res.	Across antenna terminals with 120Ω in each lead.	195MC (12MC SWP) 213MC (12MC SWP) 207MC (12MC SWP) 201MC (12MC SWP) 189MC (12MC SWP) 183MC (12MC SWP) 177MC (12MC SWP) 85MC (12MC SWP) 79MC (12MC SWP) 69MC (12MC SWP) 63MC (12MC SWP) 57MC (12MC SWP)	192MC 198MC 210MC 216MC 204MC 210MC 198MC 204MC 186MC 192MC 180MC 186MC 174MC 180MC 82MC 88MC 76MC 82MC 66MC 72MC 60MC 66MC 54MC 60MC	10 13 12 11 9 8 7 6 5 4 3 2	"	A44	Adjust for maximum amplitude and symmetry as per figure 5. Check all channels for response similar to figure 5. If marker fall below 70% on any channel, make slight adjustment of A42, A43 and A44 with channel switch set for that channel. Recheck all channels to see that they have not been seriously effected. Remove the scope from Point C and disconnect the short from video output lead and repeat step 13 of OSCILLATOR ALIGNMENT.
17. Two 120Ω carbon res.	"	Not used	Set gen. (mod) to sound RF carrier frequency of lowest frequency station in area.	Lowest frequency station in area.	Use VTVM. DC Probe thru 10KΩ to pin 3 of FM test jack. Common to Point A.		Adjust the fine tuning control for zero reading.
18. Two 120Ω carbon res.	"	Set to center frequency of lowest frequency station in area, using 10MC Sweep.	Set gen. to sound RF and picture RF carrier frequencies of lowest frequency station in area.	"	Vert. Amp. to pin 3 of align test jack. Low side to chassis.		Check for response curve similar to figure 6 with marker as shown. If overall response does not fall within the limits as in figure 6. Slightly readjust A9, A1, A2, A4 and A5 for proper response. Repeat steps 17 and 18 for each channel in area. If response is not within the limits on all channels in area, check tuner bandpass, and RF alignment.

## FM TRAP ADJUSTMENT (CODES 123 & 125)

The FM trap is adjusted at the factory to resonate at 100MC and should not require adjustment, except in the case where an FM station of a frequency other than 100MC causes interference. If an FM station of a frequency other than 100MC causes interference tune in the station on which the interference is present, adjust A45 for minimum interference.  
If the FM station is not on the air, connect an AM signal generator to the antenna terminals thru a 120Ω resistor in each lead and connect the vertical input lead to Point C, the low side to chassis. Set the generator frequency to the frequency of the FM station interfering and turn the channel selector switch to the channel with which the FM station interferes. Adjust A45 for minimum indication on the scope.

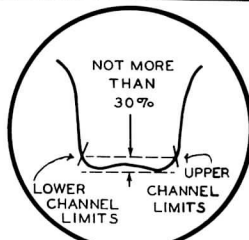


FIG.5

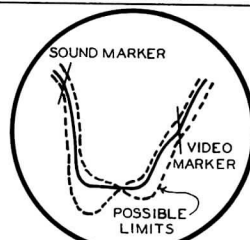


FIG.6

## DISASSEMBLY INSTRUCTIONS

1. Remove seven push-on type control knobs.
  2. Remove six wood screws holding rear cover in place.
  3. Disconnect built-in antenna.
  4. Remove power lead located at base of picture tube.
  5. Disconnect deflection yoke leads.
  6. Release ground clamp at rear of deflection yoke.
  7. Remove high voltage lead.
  8. Remove four 5/16" hex head screws from chassis. Remove chassis.
- FOR PICTURE TUBE REMOVAL FOLLOW INSTRUCTIONS ABOVE.



# 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	6BC5	-.6VDC	0V	0V	6.3VAC	80VDC	95VDC	0V		
V 2	7F8	-1.5VDC	6.3VAC	120VDC	0V	0V	175VDC	0V	8-.2.2VDC	
V 3	6BC5	-.9VDC	1VDC	0V	6.3VAC	120VDC	120VDC	1VDC		
V 4	6BC5	.4VDC	-.8VDC	0V	6.3VAC	125VDC	125VDC	.8VDC		
V 5	6BC5	.4VDC	-.8VDC	0V	6.3VAC	125VDC	125VDC	.8VDC		
V 6	6BC5	0V	-.8VDC	0V	6.3VAC	75VDC	120VDC	.8VDC		
V 7	12AU7	110VDC	-.8VDC	0V	6.3VAC	6.3VAC	-2.6VDC	-3.4VDC	0V	0V
V 8	6V6GT	0V	6.3VAC	320VDC	85VDC	-1.7VDC	130VDC	0V	4.6VDC	
V 9	6BA6	.1VDC	0V	0V	6.3VAC	110VDC	110VDC	.8VDC		
V 10	6AU6	-.4VDC	0V	6.3VAC	0V	70VDC	70VDC	0V		
V 11	7X7	0V	180VDC	-7VDC	0V	.2VDC	-35VDC	-2VDC	6.3VAC	
V 12	6AQ5	-3.8VDC	#0V	#0V	#6.3VAC	#145VDC	#165VDC	-3.8VDC		
V 13	6SN7GT	-1.4VDC	135VDC	0V	-1VDC	35VDC	210VDC	0V	6.3VAC	
V 14	6SN7GT	.2VDC	15VDC	0V	-3.7VDC	70VDC	0V	6.3VAC	0V	
V 15	7N7	0V	14VDC	300VDC	0V	0V	300VDC	14VDC	6.3VAC	
V 16	7N7	6.3VAC	-20VDC	90VDC	-2VDC	-45VDC	190VDC	0V	0V	TOP CAP
V 17	6BG6G	0V	6.3VAC	0V	0V	-13VDC	0V	0V	255VDC	*
V 18	6W4GT	0V	0V	375VDC	0V	305VDC	0V	130VDC	130VDC	†
V 19	1B3GT	* DO NOT MEASURE								
V 20	5U4G	0V	340VDC	0V	340VAC	130VDC	340VAC	0V	340VDC	
V 21	12LP4	0V	2.2VDC	250VDC	125VDC	6.3VAC	6.3VAC			

FOCUS CONTROL COUNTERCLOCKWISE

§ TAKEN WITH VACUUM TUBE VOLTMETER

\* MEASURED FROM PIN 2 OF V12

† 6.3VAC MEASURED ACROSS FILAMENTS

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BC5	1.8 Meg.	0Ω	0Ω	.2Ω	117KΩ	146KΩ	0Ω		
V 2	7F8	100KΩ	.1Ω	#990Ω	0Ω	0Ω	17KΩ	0Ω	10KΩ	
V 3	6BC5	810KΩ	68Ω	0Ω	.2Ω	#330Ω	#330Ω	68Ω		
V 4	6BC5	810KΩ	68Ω	.2Ω	0Ω	#.5Ω	#.2Ω	68Ω		
V 5	6BC5	810KΩ	68Ω	.2Ω	0Ω	#.7Ω	#.4Ω	68Ω		
V 6	6BC5	.3Ω	100Ω	0Ω	.2Ω	#6.6KΩ	#1KΩ	100Ω		
V 7	12AU7	#3.9KΩ	1 Meg.	0Ω	.2Ω	.2Ω	330KΩ	2.4KΩ	0Ω	0Ω
V 8	6V6GT	Inf.	.1Ω	13.4KΩ	#9KΩ	330KΩ	#0Ω	0Ω	1.6KΩ	
V 9	6BA6	470KΩ	0Ω	0Ω	.1Ω	#1.3KΩ	#1.3KΩ	68Ω		
V 10	6AU6	68KΩ	0Ω	.2Ω	0Ω	#4.2KΩ	#4.2KΩ	0Ω		
V 11	7X7	0Ω	1330KΩ	2 Meg.	0Ω	Inf.	68KΩ	Inf.	.2Ω	
V 12	6AQ5	#150KΩ	15KΩ	#0Ω	#.2Ω	11KΩ	160Ω	#150KΩ		
V 13	6SN7GT	470KΩ	17KΩ	0Ω	4 Meg.	18KΩ	480KΩ	0Ω	.1Ω	
V 14	6SN7GT	1 Meg.	140KΩ	0Ω	470KΩ	#3 Meg.	0Ω	.1Ω	0Ω	
V 15	7N7	0Ω	220Ω	180Ω	2.2 Meg.	2.2 Meg.	180Ω	220Ω	.1Ω	
V 16	7N7	.1Ω	400KΩ	130KΩ	1 Meg.	450KΩ	92KΩ	0Ω	0Ω	TOP CAP
V 17	6BG6G	Inf.	.1Ω	0Ω	Inf.	200KΩ	Inf.	0Ω	14.9KΩ	125Ω
V 18	6W4GT	Inf.	Inf.	160KΩ	Inf.	180Ω	Inf.	#0Ω	#.1Ω	TOP CAP
V 19	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	
V 20	5U4G	Inf.	12KΩ	Inf.	32Ω	14.5KΩ	32Ω	Inf.	12KΩ	
V 21	12LP4	0Ω	680KΩ	12.9KΩ	100KΩ					

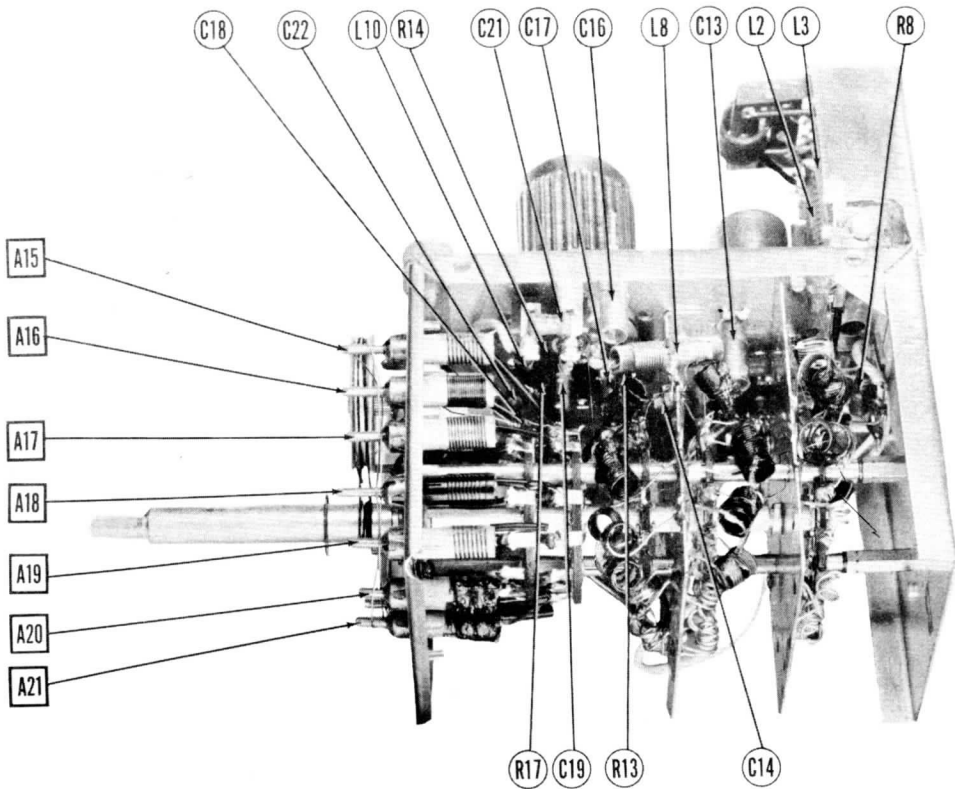
FOCUS CONTROL COUNTERCLOCKWISE

# MEASURED FROM PIN 2 OF V12

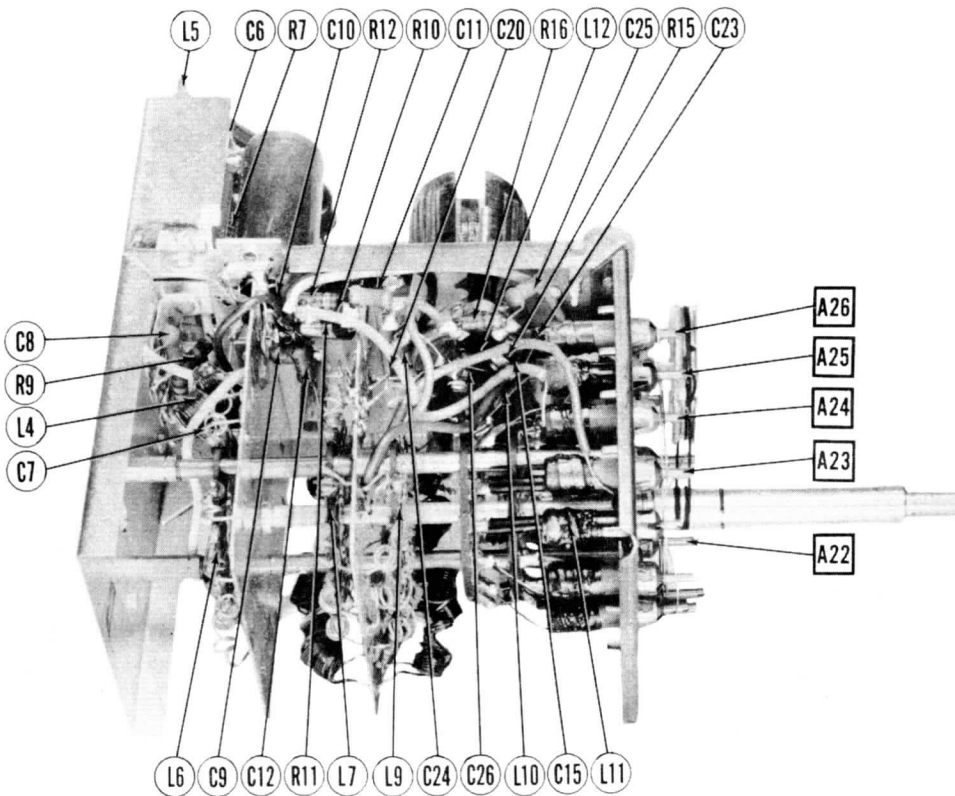
† MEASURED FROM PIN 8 OF V20

▲ MEASURED FROM PIN 3 OF V18

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.

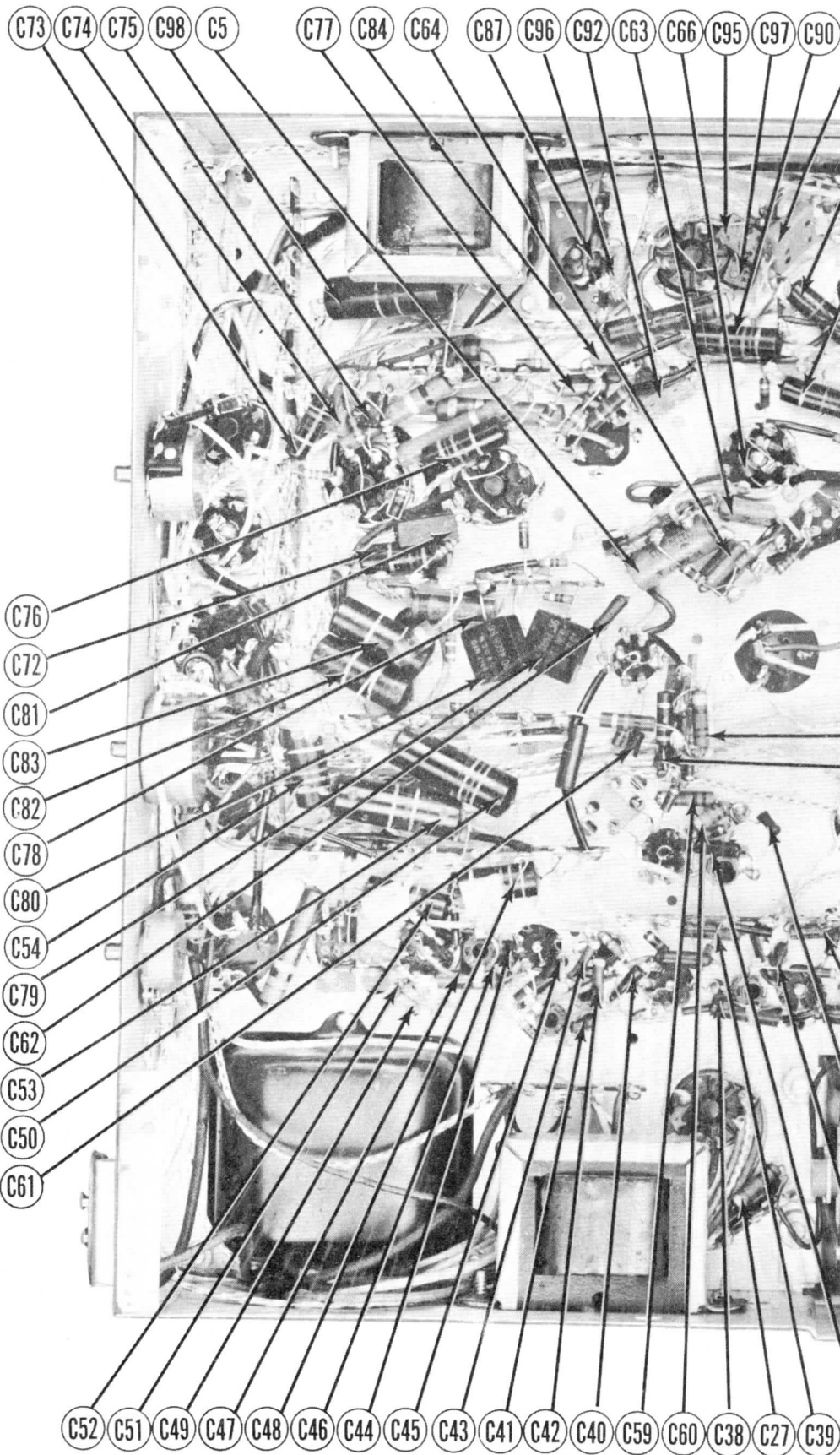


TAPERED LINE TUNER-RIGHT SIDE

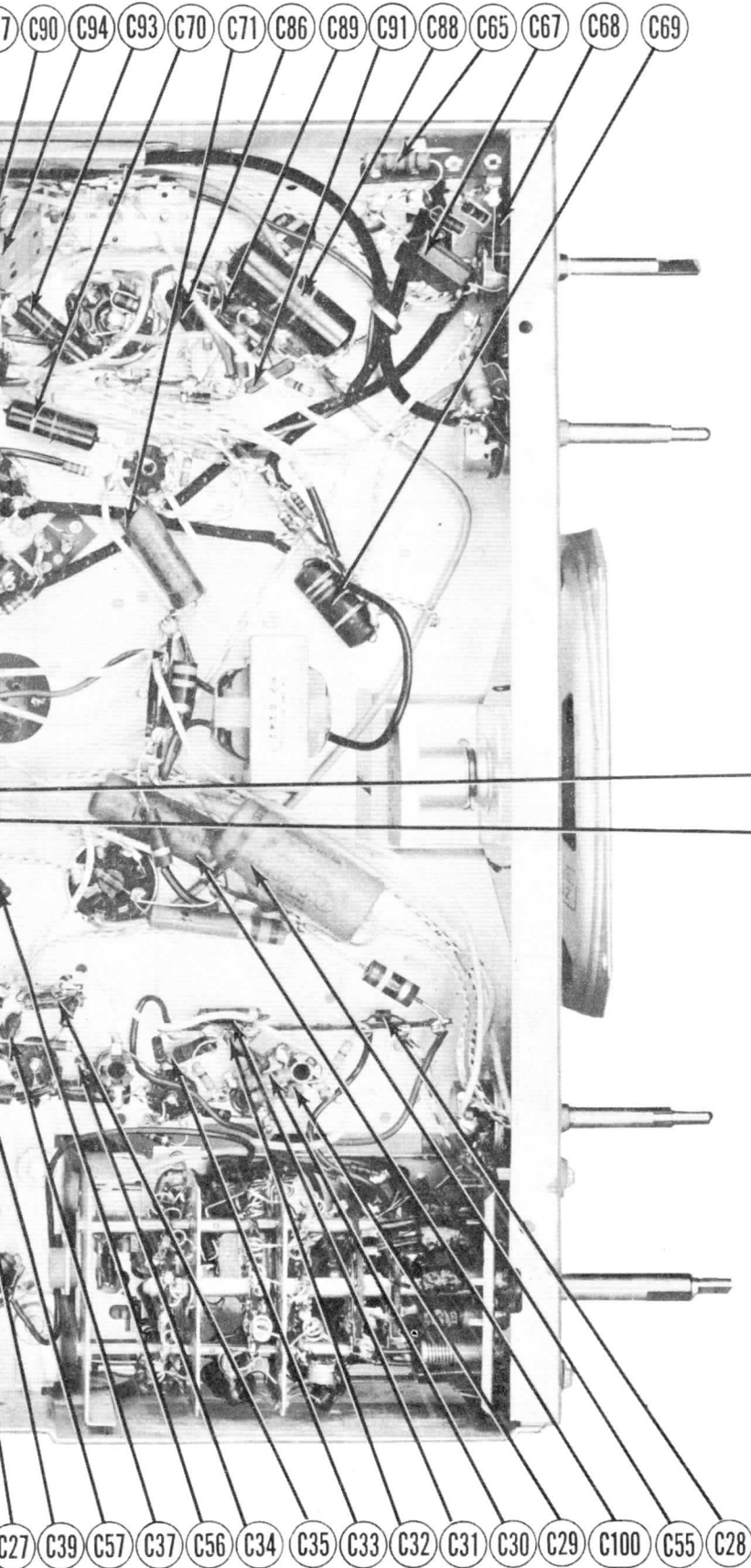


TAPERED LINE TUNER-LEFT SIDE

PHILCO MODELS 50-T1403 (Code 125), 50-T1404,  
50-T1406 (Codes 123, 124, 125), 50-T1432 (Code 124)



CHASSIS BOTTOM VIEW-CAF



-CAPACITOR IDENTIFICATION

# PARTS LIST AND DESCRIPTIONS

## TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		PHILCO PART No.	STANDARD REPLACEMENT		
V1	RF Amplifier	6BC5	6BC5	7BD	Used in Codes 123 and 125 Used in Code 124
V2A	Converter	7F8	7F8	8BW	
B	Converter	6J6	6J6	7BF	
V3	1st Video IF Amp.	6BC5	6BC5	7BD	
V4	2nd Video IF Amp.	6BC5	6BC5	7BD	
V5	3rd Video IF Amp.	6BC5	6BC5	7BD	
V6	4th Video IF Amp.	6BC5	6BC5	7BD	
V7	Video Det. - AGC				
	Rect. - Video Amp.	12AU7	12AU7	9A	
V8	Video Output	6V6GT	6V6GT	7AC	
V9	1st Sound IF Amp.	6BA6	6BA6	7BK	
V10	2nd Sound IF Amp.	6AU6	6AU6	7BK	
V11A	Ratio Det. - AF Amp	7X7	7X7	8BZ	Used in codes 123 and 125 Used in code 124.
B	Ratio Det. - AF Amp	6T8	6T8	9E	
V12	Audio Output	6AQ5	6AQ5	7BZ	
V13	Sync Amp. & Sep.	6SN7GT	6SN7GT	8BD	
V14	Sync Phase Inv. - Vert. Osc.	6SN7GT	6SN7GT	8BD	Used in code 125.
V15A	Vert. Amp.	7N7	7N7	8AC	
B	Vert. Amp.	6SN7GT	6SN7GT	8BD	Used in codes 123 and 124.
V16A	Hor. AFC - Hor. Osc	7N7	7N7	8AC	Used in code 125.
B	Hor. AFC - Hor. Osc	6SN7GT	6SN7GT	8BD	Used in codes 123 and 124.
V17	Horiz. Output	6BG6G	6BG6G	5BT	
V18	Damper	6W4GT	6W4GT	4CG	
V19	H V Rectifier	1B3GT	1B3GT	3C	
V20	L V Rectifier	5U4G	5U4G	5T	
V21	Picture Tube	12LP4	12LP4	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 AND INSTALLATION NOTES
	CAP.	VOLT	PHILCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1A	30	475	30-2568-40	AF68X		UP4450		TVL-2830	▲ Filter
B	40	475							▲ Filter
C2A	40	475	30-2570-41	AF8422X		UPT421145		TVL-4840	▲ Filter
B	20	475							▲ Decoupling
C	10	475							▲ Decoupling
D	10	475							Low Pass Filter
C3A	10	475	30-2570-55	AF21X16J8B		UPT423			▲ Decoupling
B	5	475							▲ Sync Inv. Dec.
C	80	450							▲ Decoupling
D	40	50							Vert. Output Cath.
C4	30	250	30-2568-23	AF6G		UP3025		TVL-1515	Decoupling
C5	2	50	30-2417-7	E26E6		BBR2-50T		TVA-1301	Stabilizing Capacitor
C6	5			SI5	TCZ-4.7		NPOK-5		Fixed Trimmer
C7	39			SI39	D6-390		GPIK-39		RF Coupling
C8	220		30-1225-11	SI220	D6-221		GP2K-220	19C13	AGC Filter
C9	220			SI220	D6-221		GP2K-220	19C13	RF Screen Bypass
C10	220		30-1225-11	SI220	D6-221		GP2K-220	19C13	RF Fil. Bypass
C11	220		30-1225-11	SI220	D6-221		GP2K-220	19C13	RF Bypass
C12	220			SI220	D6-221		GP2K-220	19C13	RF Coupling
C13	.5-5						532-08-.5-5		Variable Trimmer
C14	1.5			SI1.5NPO	TCZ-1.5		NPOK-1.5		RF Coupling
C15	39			SI39	D6-390		GPIK-39		RF Coupling
C16	.5-5						532-08-.5-5		Variable Trimmer
C17	20		62-022009001	SI20	TCZ-20		NPOK-20		Osc. Grid Cap.
C18	10			SI10NPO	TCZ-10		NPOK-10	19C3	Fixed Padder
C19	39			SI39	D6-390		GPIK-39		Osc. Feedback
C20	220			SI220	D6-221		GP2K-220	19C13	Conv. Fil. Bypass
C21	220		30-1225-11	SI220	D5-221		GP2K-220	19C13	RF Bypass
C22	27			SI27	D6-270		GPIK-27		Fixed Padder
C23	2.2				TCZ-2.2				Osc. Coupling
C24	15		62-015400021	SI15	D6-150		GPIK-15	19C22	Fixed Trimmer
C25	1500		30-1225-19	SI1500	D6-152		GP2L-0015	29C8	Conv. Plate Dec.
C26	470			SI470	D6-471		GP2K-470	19C15	IF Coupling
C27	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	Filament Bypass
C28	2.2				TCZ-2.2				RF Bypass
C29	51		30-1224-62				N220K-51		Fixed Trimmer
C30	51		30-1224-62				N220K-51		Fixed Trimmer
C31	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	AGC Filter
C32	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	AGC Filter
C33	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	1st Video IF Dec.
C34	470		62-147001001	SI470	D6-471	5W5T5	GP2K-470	19C15	IF Coupling
C35	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	AGC Filter
C36	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	RF Bypass
C37	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	2nd Video IF Dec.
C38	470		62-147001001	SI470	D6-471	5W5T5	GP2K-470	19C15	IF Coupling
C39	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	AGC Filter
C40	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	3rd Video IF Dec.
C41	470		62-147001001	SI470	D6-471	5W5T5	GP2K-470	19C15	IF Coupling
C42	51		30-1224-62				N220K-51		Fixed Trimmer
C43	51		30-1224-62				N220K-51		Fixed Trimmer
C44	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	4th Video IF Dec.
C45	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	4th Video IF Cathode
C46	470		62-147001001	SI470	D6-471	5W5T5	GP2K-470	19C15	IF Coupling
C47	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	RF Bypass
C48	.047	400	45-3505-62	P488-047	DF-503	PTE4S5			4TM-S47
C49	47		62-051009001	SI47	DF-470	5W5Q5	GPIK-47	19C25	Video Det. - AGC Plate
C50	.47	200	45-3505-34	P288-47		GT2P25		2TM-P47	AGC Filter
C51	10		62-010409021	SI10	D6-100	5W5Q1	GPIK-10	19C19	Video Diode Filter
C52	.047	400	45-3505-62	P488-047	DF-503	PTE4S5		4TM-S47	Video Coupling
C53	.22	400	45-3505-49	P488-22		GT4P25		4TM-P22	Video Coupling
C54	.047	400	45-3505-62	P488-047	DF-503	PTE4S5		4TM-S47	Video Coupling
C55	.47	400	45-3505-34	484-5		GT4P5		4TM-P5	Pic. Tube Cath.
C56	56		62-056409001	SI56	D6-560		GPIK-56		Fixed Trimmer
C57	.01	100	45-3505-58	P488-01	D6-103	PTE4S1	811-01	4TM-S1	Sound IF Coupling
C58	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	RF Bypass
C59	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	1st Sound IF Dec.

PHILCO MODELS 50-T1403 (Code 125) 50-T1404, 50-T1406 (Codes 123, 124, 125), 50-T1432 (Code 124)



CAPACITORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	PHILCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C60	470		62-147001001	SI470	D6-471	5W5T5	GP2K-470	19C15	1st Sound IF Cath.
C61	56		62-056409001	SI56	D6-560	5W5Q5	GP1K-56	19C28	Sound IF Coupling
C62	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	2nd Sound IF Dec.
C63	150	500	60-10155407	1468-00015	D6-151	5W5T15	GP2K-150	1FM-315	Diode Load Cap.
C64	150	500	60-10155407	1468-00015	D6-151	5W5T15	GP2K-150	1FM-315	Diode Load Cap.
C65	1500		62-215001001	SI1500	D6-152	1W5D15	GP2L-0015	29C8	De-Emphasis
C66	2.2		30-1221-4		TCZ-2.2				Balancing
C67	.01	600	45-3505-58	P688-01	D6-103	PTE 6S1	811-01	6TM-S1	Audio Coupling
C68	.0047	600	45-3505-56	P688-0047	D6-472	PTE 6D5	GP2M-0047	6TM-D47	Audio Coupling
C69	.047	400	45-3505-62	P488-047	DF-503	PTE 4S5		4TM-S47	Bias Filter
C70	.01	600	45-3505-58	P688-01	D6-103	PTE6S1	811-01	6TM-S1	Audio Coupling
C71	.0068	1000	45-3505-91	P1088-0068	DF-503	PTE16D7		MB-D68	Output Plate Bypass
C72	.047	400	45-3505-62	P488-047	DF-503	PTE4S5		4TM-S47	Sync. Coupling
C73	.0047	600	45-3505-56	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47	Sync. Coupling
C74	.330	500	60-10335407	1468-00035	D6-331	5W5T3	GP2K-330	1FM-335	Sync. Coupling
C75	12	500	30-1223-2	SI12	D6-120		GP1K-12		Sync. Sep. Grid Bypass
C76	.047	400	45-3505-62	P488-047	DF-503	PTE4S5		4TM-S47	Sync. Coupling
C77	220	500	62-122001001	1468-00025	D6-221	5W5T25	GP2K-220	1FM-325	Sync. Inv. Grid Bypass
C78	.002	600	45-3505-54	P688-002	D6-202	PTE6D2	GP2M-002	6TM-D2	Integrator Network
C79	.0047	600	45-3505-56	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47	Integrator Network
C80	.0047	600	45-3505-56	P688-0047	D6-472	PTE6D5	GP2M-0047	6TM-D47	Integrator Network
C81	.01	600	45-3505-58	P688-01	D6-103	PTE6S1	811-01	6TM-S1	Vert. Osc. Grid
C82	.1	400	45-3505-47	P488-1	DF-104	PTE4P1		4TM-P1	Vert. Disc. Coupling
C83	.1	400	45-3505-47	P488-1	DF-104	PTE4P1		4TM-P1	Vert. Sweep Coupling
C84	100	500	60-10155407	1468-0001	D6-101	5W5T1	GP1K-100	1FM-31	Hor. Sync. Coupling †
C85	180	500	30-1220-30	SI180	D6-181		GP2K-180		Voltage Divider *
C86	.0022	600	45-3505-54	P688-0022	D6-222	PTE6D2	GP2M-0022	6TM-D22	Hor. Sync. Coupling
C87	10	500	60-00105407	1468-00001	D6-100	5W5Q1	GP1K-10	MS-41	Hor. Feedback †
C88	.22	400	45-3505-49	P488-22	DF-203	GT4P25		4TM-P22	AFC Filter
C89	.022	400	45-3505-43	P488-022	DF-203	PTE4S2		4TM-S22	AFC Filter
C90	.047	400	45-3505-62	P488-047	DF-503	PTE4S5		4TM-S47	AFC Filter
C91	150	500	60-10155407	1468-00015	TCZ-150	5R5T15	NPOM-100	MS-315	Hor. AFC Plate Bypass
C92	1200	500	60-20125404		D6-122		GP2L-0012		Hor. Discharge †
C93	.01	600	45-3505-56	P688-01	D6-103	PTE6S1		6TM-S1	Fixed Trimmer †
C94	680	500	60-10685401	1468-00075	D6-681	1W5T7	GP2K-680	1FM-37	Hor. Sweep Coupling †
C95	330	500	60-10335407	1468-00035	D6-331	5W5T3	GP2K-330	1FM-335	Hor. Sweep Coupling †
C96	150	500	60-10155407	1468-00015	D6-151	5W5T15	GP2K-150	1FM-315	Voltage Divider †
C97	820	500	60-10825401	1467-001	D6-102	1W5T8	GP2L-001	1FM-21	Hor. Output Screen
C98	.22	400	45-3505-49	P488-22	DF-203	GT4P25		4TM-P22	Damper Filter
C99	.047	400	45-3505-62	P488-047	DF-503	PTE4S5		4TM-S47	Damper Filter
C100	.15	200	45-3505-31	P288-15				2TM-P15	Damper Coupling
C101	500	20000	30-1229-2	HV20B	TVI-502				H. V. Filter

\* Use only in codes 123 and 124.  
 † Use only in codes 125.  
 ‡ Codes 123 and 124 use 150MMF in this application. Mgr's part #60-10155407.  
 § Codes 123 and 124 use 5MMF in this application. Mgr's part #60-90505007.  
 ¶ Codes 123 and 124 use 220MMF in this application. Mgr's part #60-10225417.  
 †† Codes 123 and 124 use 1500MMF in this application. Mgr's part #60-20155314.  
 ††† Codes 123 and 124 use 390MMF in this application. Mgr's part #60-10395417.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	PHILCO PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	
RIA	2 Meg.		33-5566-16	Q13-139	AG-66-Z	B-76-S	Volume Control
Shaft			Not Req.	Not Req.	F9-3	Not Req.	Attach to RIA per instructions
C	Switch		Not Req.	76-1	SWB	Not Req.	Attach to RIA per instructions
R2A	50KΩ		33-5563-23	"Concentrikit" B11-123 * B11-137 * E-187 *	RTV-133	SBB-567	Horiz. Hold Control - Front
R2B	1 Meg.						Vert. Hold Control - Rear
R3A	5000Ω		33-5663-22	RTV-132	SBB-567	Attach per instructions in "Concentrikit"	
R3B	100KΩ					Contrast Control - Wire Wound-Front	
R4A	2.5 Meg.		33-5565-10	Q11-239	AM-84-S	AN-83	Brightness Control - Rear
R4B	Shaft		Not Req.	Not Req.	FKS- 1/4	AK-1	Height Control
R5	500Ω		33-5546-28	RTV-126	SVP-985		Attach to R4A per instructions
R6	1000Ω		33-5546-31	W-1000	43-1000	VK-129	Focus Control - Wire Wound
							Vert. Linearity Control - Wire Wound

\* Additional parts to be used with "Concentrikit".

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES AND INSTALLATION NOTES
	RESISTANCE	WATTS	PHILCO PART No.	IRC PART No.	
R7	1200Ω		66-2128340	BTS-1200	Antenna Loading
R8	330Ω 20%		66-1338340	BTS-330	AGC Network
R9	1 Meg. 20%		66-5108340		RF Amp. Grid
R10	39KΩ		66-3398340		RF Amp. Screen
R11	10KΩ		66-3108340		RF Amp. Plate
R12	330Ω 20%		66-1338340	BTS-330	RF Amp. Decoupling
R13	10Ω				Parasitic Suppressor
R14	100KΩ		66-4109340		Mixer Grid
R15	15KΩ		66-3158340		Mixer Plate Coil Shunt
R16	330Ω 20%		66-1338340	BTS-330	Mixer Plate Decoupling
R17	10KΩ		66-3108340		Oscillator Grid
R18	3900Ω		66-2395340	BTS-3900	Decoupling - See note 1.
R19	330Ω		66-1338340	BTS-330	Decoupling - See note 2.
R20	470Ω		66-1478340		Parasitic Suppressor
R21	5600Ω		66-2568240	BTS-5600	Trap Network
R22	10KΩ		66-3108340		1st Video IF Grid
R23	3300Ω 20%		66-2338340	BTS-3300	AGC Network
R24	88Ω		66-0688340		1st Video IF Cathode
R25	330Ω		66-1338340	BTS-330	1st Video IF Decoupling
R26	5600Ω		66-2568340		2nd Video IF Grid
R27	68Ω		66-0688340		2nd Video IF Cathode
R28	3300Ω 20%		66-2338340	BTS-3300	AGC Network
R29	5600Ω		66-2568340	BTS-5600	3rd Video IF Grid
R30	68Ω		66-0688340		3rd Video IF Cathode
R31	820Ω		66-2828340		3rd Video IF Plate Coil Shunt
R32	3300Ω 20%		66-2338340	BTS-3300	AGC Network
R33	1000Ω		66-2108340	BTS-1000	Decoupling
R34	5100Ω 5%		66-2518240		Trap Network
R35	15KΩ		66-3158340		4th Video IF Grid Coil Shunt
R36	100Ω		66-1108340	BTS-100	4th Video IF Cathode
R37	5600Ω		66-2568340		4th Video IF Plate

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES AND INSTALLATION NOTES
	RESISTANCE	WATTS	PHILCO PART No.	IRC PART No.	
R38	330KΩ		66-4338340		
R39	470KΩ		66-4478340	BTS-470K	
R40	47KΩ		66-3478340	BTS-47K	
R41	1 Meg.		66-5108340	BTS-1 Meg.	
R42	2400Ω 5%		66-2248240		
R43	470KΩ		66-4478340	BTS-470K	
R44	15KΩ		66-3158340	BTS-15K	
R45	3900Ω		66-2394340	BTA-3900	
R46	330KΩ		66-4338340	BTS-330K	
R47	10Ω		66-0108340		
R48	2200Ω		66-2228340	BTS-2200	
R49	5600Ω		66-2565340	BTA-5600	
R50	22KΩ		66-3228340	BTA-22K	
R51	10KΩ		66-3108340	BTA-10K	
R52	15KΩ		66-3158340	BTS-15K	
R53	1800Ω		66-2185340	BTS-1800	
R54	390Ω		66-3398340	BTS-390	
R55	1000Ω		66-2105340	BTS-1000	
R56	100KΩ 20%		66-4108340	BTS-100K	
R57	880KΩ		66-4088340	BTS-880K	
R58	10 Meg. 20%		66-6108340	BTS-10 Meg.	
R59	470KΩ		66-4478340		
R60	68Ω		66-0688340		
R61	1000Ω		66-2108340	BTS-1000	
R62	330Ω		66-1338340	BTS-330	
R63	68KΩ 20%		66-3688340		
R64	22KΩ		66-3228340		
R65	4700Ω		66-2478340	BTA-4700	
R66	330Ω		66-1338340	BTS-330	
R67	47Ω		66-0478340		
R68	68KΩ		66-3688340	BTS-68K	
R69	56KΩ		66-3568340	BTS-56K	
R70	4.7 Meg. 20%		66-5478340	BTS-4.7 Meg.	
R71	2200Ω 20%		66-2228340	BTS-2200	
R72	3.3 Meg.		66-5338340	BTS-3.3 Meg.	
R73	470KΩ		66-4478340	BTS-470K	
R74	330KΩ		66-4338340	BTS-330K	
R75	10KΩ		66-3108340	BTS-10K	
R76	3.3 Meg.		66-5338340	BTS-3.3 Meg.	
R77	150KΩ		66-4158340	BTS-150K	
R78	5000Ω		33-3435-20	1 3/4A-5000	
R79	470Ω		66-1475340	BTA-470	
R80	47Ω		66-0478340		
R81	10Ω		66-0108340		
R82	470KΩ 20%		66-4478340	BTS-470K	
R83	10KΩ		66-3108340	BTS-10K	
R84	5600Ω		66-2565340	BTA-5600	
R85	3300Ω 20%		66-2338340	BTS-3300	
R86	180KΩ		66-4188340	BTS-180K	
R87	10KΩ		66-3108340	BTS-10K	
R88	4.7 Meg.		66-5478340	BTS-4.7 Meg.	
R89	10KΩ		66-3108340	BTS-10K	
R90	56KΩ		66-2565340	BTS-56K	
R91	1 Meg.		66-5108340	BTS-1 Meg.	
R92	4700Ω		66-2478340	BTS-4700	
R93	3300Ω		66-2338340	BTS-3300	

# PARTS LIST AND DESCRIPTIONS (Continued)

## RESISTORS (CONT.)

PRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9C15	1st Sound IF Cath.
9C28	Sound IF Coupling
9C8	2nd Sound IF Dec.
FM-315	Diode Load Cap.
FM-315	Diode Load Cap.
9C8	De-Emphasis
TM-S1	Audio Coupling
TM-S47	Audio Coupling
TM-S47	Bias Filter
TM-S1	Audio Coupling
IB-D68	Output Plate Bypass
TM-S47	Sync. Coupling
TM-D47	Sync. Coupling
FM-335	Sync. Coupling
TM-S47	Sync. Sep. Grid Bypass
FM-325	Sync. Coupling
FM-D25	Sync. Inv. Grid Bypass
FM-D47	Integrator Network
FM-D47	Integrator Network
FM-S1	Vert. Osc. Grid
TM-P1	Vert. Discharge
FM-P1	Vert. Sweep Coupling
FM-P1	Hor. Sync. Coupling †
TM-D22	Voltage Divider
IS-41	Hor. Sync. Coupling
TM-P22	Hor. Feedback ‡
TM-S22	AFC Filter
TM-S47	AFC Filter
FM-315	Hor. AFC Plate Bypass
IS-315	Hor. Osc. Grid †
TM-S1	Hor. Discharge ‡
FM-37	Fixed Trimmer †
FM-335	Hor. Sweep Coupling †
FM-315	Hor. Sweep Coupling †
FM-21	Voltage Divider †
TM-P22	Hor. Output Screen
TM-S47	Damper Filter
TM-P15	Damper Filter
TM-P15	Hor. Sweep Coupling
TM-P15	H. V. Filter

ITEM No.	RATING	REPLACEMENT DATA		IDENTIFICATION CODES		
		RESISTANCE	WATTS		PHILCO	IRC
					PART No.	PART No.
R38	330KΩ			66-4338340	AGC Diode Load	
R39	470KΩ			66-4478340	AGC Network	
R40	47KΩ			66-3478340	BTS-470K	
R41	1 Meg.			66-5108340	BTS-47K	
R42	2400Ω 5%			66-2248240	BTS-1 Meg.	
R43	470KΩ			66-4478340	BTS-470K	
R44	15KΩ			66-3158340	BTS-15K	
R45	3900Ω			66-2394340	BTA-3900	
R46	330KΩ			66-4338340	BTS-330K	
R47	10Ω			66-0108340	BTS-2200	
R48	2200Ω			66-2228340	BTB-5600	
R49	5600Ω			66-2565340	BTA-22K	
R50	22KΩ			66-3228340	BTA-10K	
R51	10KΩ			66-3108340	BTS-15K	
R52	15KΩ			66-3158340	BTA-1800	
R53	1800Ω			66-2185340	BTS-390	
R54	390Ω			66-1398340	BTA-1000	
R55	1000Ω			66-2105340	BTS-100K	
R56	100KΩ 20%			66-4108340	BTS-680K	
R57	680KΩ			66-4688340	BTS-10 Meg.	
R58	10 Meg. 20%			66-6108340	BTS-10 Meg.	
R59	470KΩ			66-4478340	BTS-1000	
R60	68Ω			66-0688340	BTS-330	
R61	1000Ω			66-2108340	BTA-4700	
R62	330Ω			66-1338340	BTS-330	
R63	68KΩ 20%			66-3688340	BTS-68K	
R64	22KΩ			66-3228340	BTS-56K	
R65	4700Ω			66-2478340	BTS-56K	
R66	330Ω			66-1338340	BTS-4.7 Meg.	
R67	47Ω			66-0478340	BTS-2200	
R68	68KΩ			66-3688340	BTS-3.3 Meg.	
R69	56KΩ			66-3568340	BTS-470K	
R70	4.7 Meg. 20%			66-5478340	BTS-330K	
R71	2200Ω 20%			66-2228340	BTS-10K	
R72	3.3 Meg.			66-5338340	BTS-3.3 Meg.	
R73	470KΩ			66-4478340	BTS-470K	
R74	330KΩ			66-4338340	BTS-330K	
R75	10KΩ			66-3108340	BTS-10K	
R76	3.3 Meg.			66-5338340	BTS-3.3 Meg.	
R77	150KΩ			66-4158340	BTS-150K	
R78	5000Ω			33-3435-20	1 3/4A-5000	
R79	470Ω			66-1475340	BTB-470	
R80	47Ω			66-0478340	BTS-470K	
R81	10Ω			66-0108340	BTB-10K	
R82	470KΩ 20%			66-4478340	BTB-5600	
R83	10KΩ			66-3108340	BTS-3300	
R84	5600Ω			66-2565340	BTS-180K	
R85	3300Ω 20%			66-2338340	BTS-10K	
R86	180KΩ			66-4188340	BTS-4.7 Meg.	
R87	10KΩ			66-3108340	BTS-10K	
R88	4.7 Meg.			66-5478340	BTS-10K	
R89	10KΩ			66-3108340	BTB-56K	
R90	56KΩ			66-2565340	BTS-1 Meg.	
R91	1 Meg.			66-5108340	BTS-4700	
R92	4700Ω			66-2478340	BTS-3300	
R93	3300Ω			66-2338340	BTS-6800	
R94	6800Ω			66-2688340	BTB-82K	
R95	82KΩ			66-3825340	BTS-22K	
R96	22KΩ			66-3228340	BTS-8200	
R97	8200Ω			66-2828340	BTS-8200	
R98	8200Ω			66-2828340	BTS-22K	
R99	22KΩ			66-3228340	BTS-470K	
R100	470KΩ			66-4478340	BTS-1 Meg.	
R101	1 Meg.			66-5108340	BTS-470K	
R102	470KΩ			66-4478340	BTS-2200	
R103	2200Ω			66-2228340	BTS-2.2 Meg.	
R104	2.2 Meg.			66-5228340	BTS-220	
R105	220Ω			66-1228340	BTS-820K	
R106	820KΩ			66-4828340	BTS-39K	
R107	39KΩ			66-3398340	BTS-8200	
R108	8200Ω			66-2828340	BTS-470K	
R109	470KΩ			66-4478340	BTS-100K	
R110	180KΩ			66-4108340	BTS-330K	
R111	330KΩ			66-4338340	BTS-330K	
R112	330KΩ			66-4338340	BTA-47K	
R113	3.3 Meg.			66-5338340	BTA-68K	
R114	47KΩ			66-3474340	BTS-10K	
R115	68KΩ			66-3684340	BTS-1 Meg.	
R116	10KΩ			66-3108340	BTS-6800	
R117	1 Meg.			66-5108340	BTA-82K-5%	
R118	6800Ω			66-2688340	BTS-120K	
R119	82KΩ 5%			66-3824240	BTS-22K	
R120	120KΩ			66-4128340	BTS-180K	
R121	22KΩ			66-3228340	BTB-4700	
R122	180KΩ			66-4188340	BTS-2700	
R123	4700Ω			66-2475340	BTA-100	
R124	4.7Ω			66-9478340	BW-2-15	
R125	680KΩ 20%			66-4684340		
R126	2700Ω			66-2275340		
R127	100Ω			66-1104340		
R128	15Ω			66-0155340		

- Note 1. Code 124 models use two 10KΩ resistor in parallel to obtain required resistance and wattage.
- Note 2. Not used in code 124 models.
- Note 3. Not used in all models.
- Note 4. Some models use a 10KΩ resistor in this application.
- Note 5. Not used in code 125 models.
- Note 6. Code 123 and 124 models use a 5600Ω resistor in this application.
- Note 7. Code 123 and 124 models use a 4700Ω resistor in this application.
- Note 8. Some models use a 8200Ω resistor in this application.
- Note 9. Some models use two resistors in parallel to obtain required resistance and wattage.
- Note 10. Code 123 and 124 models use a 560KΩ resistor in this application.
- Note 11. Not used in code 123 and 124 models.
- Note 12. Code 123 and 124 models use a 100KΩ resistor in this application.
- Note 13. Used only in code 123 and 124 models.
- Note 14. Code 123 and 124 models use a 42KΩ temperature compensating resistor in this application.
- Note 15. Code 123 and 124 models use a 82KΩ resistor in this application.
- Note 16. Code 123 and 124 models use a 10KΩ resistor in this application.
- Note 17. Code 123 and 124 models use 56KΩ resistor in this application.
- Note 18. Code 123 and 124 models use a 220KΩ resistor in this application.

IDENTIFICATION CODES AND INSTALLATION NOTES
Control
RIA per instructions
RIA per instructions
Control - Front
ld Control - Rear
Instructions in "Concentrikit"
Control - Wire Wound-Front
Control - Rear
Control
RIA per instructions
Control - Wire Wound
Control - Wire Wound

IDENTIFICATION CODES AND INSTALLATION NOTES
OTHERWISE NOTED

ITEM No.	RATING			
	PRI.	SEC. 1	SEC. 2	SEC. 3
T1	117VAC 2A	750VCT .260ADC	5VAC 3A	6.3V 1A 3V 6.3V 7A

- ⑤ Drill new mounting holes.
- ⑥ Mount where space is available and

ITEM No.	RATING		PHILCO PART No.
	DC RESISTANCE	SEC.	
T2	175Ω	335Ω	32-8442
T3	500Ω	8.7Ω	32-8437
T4	Tap @	Tap @	
T5A	615Ω	18.5Ω	32-8422-1
T5B	13.5Ω		32-9622
T6	68Ω		
T6	170Ω		76-2622-3

ITEM No.	RATING			
	IMPEDANCE	DC RES.	PRI.	SEC.
T7	5000Ω	4Ω	435Ω	.7Ω

ITEM No.	RATINGS		PHILCO PART No.
	FIELD RES.	V. C. IMP.	
SP1A	PM	4Ω	36-163
B	PM		36-161
	CONE DIA.		V. C. DIA.
SP2A	4" x 6"		9/16"
B	10"		

ITEM No.	RATINGS		
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 HENRI)
L1	.260ADC	62Ω	2.8 Henr

ITEM No.	USE	DC RES.	
		PRI.	SEC.
L2	Ant. Coil	.7Ω	.7Ω
L3	Ant. Coil	.7Ω	.7Ω
L4	Ant. Loading Coil	0Ω	
L5	FM Trap	0Ω	
L6	RF Grid Coils	0Ω	
L7	RF Plate Coils	0Ω	
L8	RF Coil	0Ω	0Ω
L9	Mixer Grid Coils	0Ω	
L10	RF Choke	.2Ω	
L11	Osc. Coils	0Ω	
L12	Conv. Plate	.1Ω	
L13	File. Choke	.1Ω	
L14	Adj. Channel Video Trap	.1Ω	
L15	1st Video IF	.3Ω	
L16	2nd Video IF	.3Ω	
L17	RF Choke	.2Ω	
L18	File. Choke	.1Ω	
L19	File. Choke	.1Ω	
L20	3rd Video IF	.3Ω	
L21	RF Choke	.2Ω	
L22	4th Video IF Plate Coil	.3Ω	
L23	Sound Trap	.1Ω	
L24	4th Video IF Grid Coil	.3Ω	
L25	5th Video IF	.3Ω	
L26	File. Choke	.1Ω	
L27	Peaking	2.7Ω	
L28	Peaking	6Ω	
L29	Peaking	.6Ω	
L30	Peaking	6Ω	
L31	Peaking	5.2Ω	
L32	Peaking	5.2Ω	
L33	1st Sound IF	.1Ω	
L34	2nd Sound IF	.8Ω	.8Ω
L35	Ratio Det.		
L36	Trans. File. Choke	.1Ω	.1Ω
L37	Horiz. Osc. Coil	93Ω	50Ω
L38	Horiz. Lin.	.3Ω	
L39	Width Coil	25Ω	



# DESCRIPTIONS (Continued)

RS (CONT.)

IDENTIFICATION CODES	
AGC Diode Load	
AGC Network	
Peaking Coil Shunt - See note 5.	
Video Amp. Grid	
Video Det. Diode Load	
Voltage Divider	
Peaking Coil Shunt	
Video Amp. Plate	
Video Output Grid	
Video Output Cathode	
Voltage Divider	
Bleeder - See note 3.	
Voltage Divider	
Video Output Screen	
Peaking Coil Shunt	
Video Output Plate	
Video Output Plate	
Low Pass Filter	
Voltage Divider	
Picture Tube Grid	
Voltage Divider	
1st Sound IF Grid	
1st Sound IF Cathode	
1st Sound IF Decoupling	
Decoupling	
2nd Sound IF Grid	
Voltage Divider	
2nd Sound IF Decoupling	
Balancing	
Balancing	
Ratio Det. Diode Load	
De-emphasis	
AF Amp. Grid	
Bias Network - See note 4.	
Bias Network	
Bias Network	
AF Amp. Plate	
Tone Compensation	
Audio Output Grid	
Bias Network	
Decoupling - Wire Wound	
Decoupling	
Feedback	
Feedback	
Sync Amp. Grid	
Sync Amp. Plate	
Decoupling	
Centering Network - See note 3.	
Phase Shifting	
Isolation	
Sync Separator Grid	
Voltage Divider	
Sync Separator Plate	
Voltage Divider	
Sync Phase Inverter Grid	
Sync Phase Inverter Plate - See note 6.	
Sync Phase Inverter Plate - See note 7.	
Sync Phase Inverter Plate Decoupling - See note 8.	
Integrator Network	
Integrator Network	
Integrator Network	
Voltage Divider	
Vert. Oscillator Grid	
Vert. Hold Control Shunt - See note 9.	
Vert. Oscillator Plate	
Vert. Peaking	
Vert. Amp. Grid	
Vert. Amp. Cathode	
Horiz. AFC Grid - See note 10.	
Horiz. AFC Filter Network - See note 11.	
Horiz. AFC Filter Network	
Horiz. AFC Cathode - See note 12.	
Horiz. AFC Cathode - See note 13.	
Feedback - See note 10	
Voltage Divider - See note 11.	
Voltage Divider	
Voltage Divider - See note 14.	
Voltage Divider - See note 15.	
Filter	
Horiz. Oscillator Grid - See note 11.	
Horiz. Oscillator Transformer Shunt - See note 16.	
Horiz. Oscillator Plate - See note 17.	
Horiz. AFC Filter Network - See note 18.	
Parasitic Suppressor	
Horiz. Output Grid	
Horiz. Output Screen - Wire Wound	
High Voltage Rectifier Filament - Wire Wound	
High Voltage Filter	
Filter	
Focus Coil Shunt	
Bias Network - Wire Wound	

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in this application.

in this application.

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in this application.

his application.

in this application.

## TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	PHILCO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC ④ 2A	750VCT .260ADC	④ 3A	6.3VAC ④ 1.7A SEC. 4 6.3VAC ④ 7.6A	32-8423-2	P-6315 P-5014 ⑥	P-3059	TP-360 ⑤

⑤ Drill new mounting holes.

⑥ Mount where space is available and use for SEC. #3.

## TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		PHILCO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.					
T2	175Ω	335Ω	32-8442				Vert. Block Osc. Trans. Hor. Output Trans.
T3	500Ω	8.7Ω	32-8437		HVO-6	TFB-3	
T4	Tap ④ 97Ω	Tap ④ .6Ω					Vert. Output Trans. Hor. Deflection Coil Vert. Deflection Coil Focus Coil
T5A	615Ω	18.5Ω	32-8422-1		A-3036		
T5B	13.5Ω		32-9622	DY-1	MD-3		
T6	68Ω		76-2622-3		MF-1		

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		PHILCO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
	PRI.	SEC.	PRI.	SEC.					
T7	5000Ω	4Ω	435Ω	.7Ω	32-8242	A-3877 ①	A-3019	RO-9	① Drill one new mounting hole.

## SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	PHILCO PART No.	VIKING PART No.	QUAM PART No.	
SP1A B	PM PM	4Ω	36-1633-2 ② 36-1610-6 ③	4676 ④	46A15 ④	② Used in models 50-T1404, 50-T1406, 50-T1403. ③ Used in models 50-T1432. ④ Drill and tap magnet frame.
SP2A B	CONE DIA. 4" x 6" 10"	V. C. DIA. 9/16"				

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (Ø CURRENT 1000 ✓)	PHILCO PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	
L1	.260ADC	62Ω	2.8 Henries	32-8438	C-2326 ①	C-2991 ①	TR-3300①	① Drill one new mounting hole.

## COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	PHILCO PART No.	MEISSNER PART No.	
L2	Ant. Coil	.7Ω	.7Ω	32-4432		* Part of tuner #76-5433-1
L3	Ant. Coil	.7Ω	.7Ω	32-4432		
L4	Ant. Loading Coil	0Ω		*		
L5	FM Trap	0Ω		32-4438-1		
L6	RF Grid Coils	0Ω		*		
L7	RF Plate Coils	0Ω		*		
L8	RF Coil	0Ω	0Ω	*		
L9	Mixer Grid Coils	0Ω		*		
L10	RF Choke	.2Ω		32-4112-2		
L11	Osc. Coils	0Ω				
L12	Conv. Plate	.1Ω		32-4359-8		
L13	Fil. Choke	.1Ω		32-4112-15		
L14	Adj. Channel Video Trap	.1Ω		32-4234-8		
L15	1st Video IF	.3Ω		32-4233-4		
L16	2nd Video IF	.3Ω		32-4359		
L17	RF Choke	.2Ω		32-4112-15		
L18	Fil. Choke	.1Ω		32-4112-15		
L19	Fil. Choke	.1Ω		32-4112-15		
L20	3rd Video IF	.3Ω		32-4359		
L21	RF Choke	.2Ω		32-4112-15		
L22	4th Video IF Plate Coil	.3Ω		32-4234-1		
L23	Sound Trap	.1Ω		32-4234-7		
L24	4th Video IF Grid Coil	.3Ω		32-4233-4		
L25	5th Video IF	.3Ω		32-4234-1		
L26	Fil. Choke	.1Ω		32-4112-15		
L27	Peaking	2.7Ω		32-4143-16		
L28	Peaking	6Ω		32-4143-14	19-1922	
L29	Peaking	6Ω		32-4143-14	19-1922	
L30	Peaking	6Ω		32-4143-14	19-1922	
L31	Peaking	5.2Ω		32-4143-13	19-1921	
L32	Peaking	5.2Ω		32-4143-13	19-1921	
L33	1st Sound IF	.1Ω		32-4303-2		
L34	2nd Sound IF	.8Ω	.8Ω	32-4236		
L35	Ratio Det. Trans.	.1Ω	.1Ω	32-4317-4		
L36	Fil. Choke	.1Ω		32-4112-15		
L37	Horiz. Osc. Coil	93Ω	50Ω	32-4470-3		
L38	Horiz. Lin.	.3Ω		32-4211-1		
L39	Width Coil	25Ω		32-4419-3		

40 microhenries  
250 microhenries  
250 microhenries, not used in all models.  
250 microhenries  
180 microhenries  
180 microhenries

Alternate part #32-4317-2

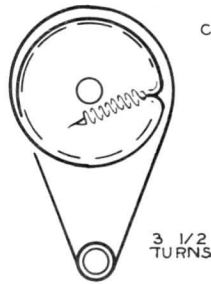
Alternate part #32-4367

PHILCO MODELS 50-T1403 (Code 125) 50-T1404, 50-T1406 (Codes 123, 124, 125), 50-T1432 (Code 124)

# PARTS LIST AND DESCRIPTIONS (Continued)

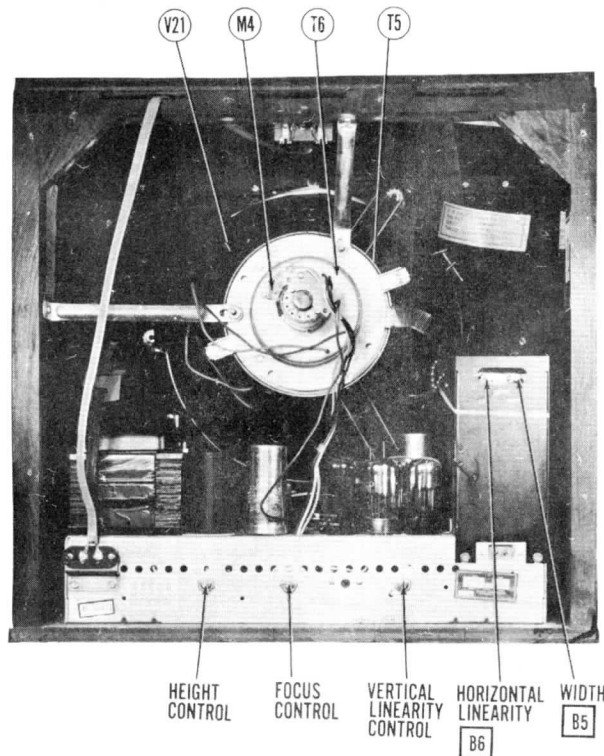
## MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M1A	RF Tuner	76-5433-1	Tapered line tuner
B	RF Tuner	76-5411-1	Turret tuner
M2	Fuse		Length of #26 wire
M3	Fuse	45-2656-17	.5A 250V Type MDL
M4	Ion Trap	76-3913-2	
B9, B7, B8	Trimmer	31-6477-12	3 section, Horiz. drive 45-370MMF, Horiz. lock 20-160MMF, Horiz. range 45-370MMF
	Safety Glass	54-4755-1	Model 50-T1404
	Safety Glass	54-8068	Model 50-T1406
	Safety Glass	54-7943-8	Model 50-T1432
	Escutcheon	56-7854	
	Knob	56-6596-11	Channel selector Model 50-T1404
	Knob	56-6596-12	Channel selector, Models 50-T1406, 50-T1432
	Knob	54-4662-1	Fine tuning, Model 50-T1404
	Knob	54-4662-2	Fine tuning, Models 50-T1406, 50-T1432
	Knob	54-4699-3	Brightness, Model 50-T1404
	Knob	54-4699	Brightness, Models 50-T1406, 50-T1432
	Knob	54-4707-2	Contrast, Model 50-T1404
	Knob	54-4707	Contrast, Models 50-T1406, 50-T1432
	Knob	54-4703-2	Volume, Model 50-T1404
	Knob	54-4703	Volume, Models 50-T1406, 50-T1432
	Knob	54-4707-2	Horiz. hold, Model 50-T1404
	Knob	54-4707	Horiz. hold, Models 50-T1406, 50-T1432
	Knob	54-4699-3	Vert. hold, Model 50-T1404
	Knob	54-4699	Vert. hold, Models 50-T1406, 50-T1432
	Knob	54-4750	Antenna tuning



TAPERED LINE TUNER

### FINE TUNING DRIVE CORD STRINGING



CABINET-REAR VIEW

# HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS (CODE 125)

If a tube or circuit components are changed and the range of the horizontal hold control is not sufficient to compensate for normal variations in the frequency of the horizontal oscillator, it may be necessary to make the following adjustments.

- Pre-set the adjustments as follows: Turn the horizontal lock-in trimmer (B1) fully clockwise, then one turn counter-clockwise. Turn the stabilizing slug (B2) fully counter-clockwise. Turn the horizontal drive trimmer (B3) fully clockwise, then one turn counter-clockwise. Turn the horizontal hold control to the mid-position of its range.
- Turn the set on and tune in a TV station, preferably a test pattern, and adjust the horizontal frequency slug (B4) until the picture synchronizes horizontally.
- Connect the vertical input lead of an oscilloscope to pin 3 of the horizontal oscillator test socket and chassis. Adjust B2 until the broad and narrow peaks are of equal amplitude as shown in figure 7. If necessary readjust B4 to keep picture in sync. Turn B3 counter-clockwise until variation of the brightness control just effects the horizontal linearity.
- Turn the horizontal hold control fully clockwise and adjust B4 until the horizontal blanking bar is visible at the left edge of the picture. Turn the hold control counter-clockwise until picture is in sync and then out again. Turn the hold control clockwise slowly and note the number of blanking bars sloping downward to the left just before the picture pulls into sync. There should be  $2\frac{1}{2}$  to  $3\frac{1}{2}$  bars present just before pull-in. If there is more than  $3\frac{1}{2}$  bars present turn B1 slightly clockwise, if less than  $2\frac{1}{2}$  bars are present turn B1 slightly counter-clockwise. Turn the hold control fully counter-clockwise, if receiver does not lose sync, momentarily remove signal by switching to another channel and back again. If picture does not pull-in when  $2\frac{1}{2}$  to  $3\frac{1}{2}$  bars are present, repeat step 4.
- Turn the hold control fully clockwise and adjust B4 until 4 to 6 bars are present sloping downward to the left. Turn the hold control counter-clockwise slowly, noting whether the picture goes in and out of sync, then turn the hold control slowly clockwise until picture is in synchronization. If this sequence is not obtained, repeat steps 4 and 5.

## HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS (CODES 123 and 124)

Pre-set the following adjustments:

Horizontal lock-in trimmer (B7) 1/2 turn counter-clockwise from a fully clockwise position.  
 Horizontal frequency trimmer (B8) 1 1/2 turns counter-clockwise from a fully clockwise position.  
 Horizontal drive trimmer (B9) two turns counter-clockwise from a fully clockwise position.  
 Turn the set on and tune in a TV station preferably a test pattern.  
 Turn the horizontal hold control to the mid-position of its range.  
 Adjust the horizontal oscillator slug (B10) until the picture synchronizes horizontally.  
 Turn the contrast control to approximately its normal position.  
 Turn the hold control fully clockwise.  
 Adjust B10 until 8 to 10 stationary bars sloping downward to the right are observed. If this condition can not be obtained, turn B8 one full turn counter-clockwise and repeat this step.  
 Turn the hold control fully counter-clockwise and momentarily remove the signal by switching to another channel and back again. Slowly turn the hold control clockwise and carefully note the least number of bars present just before the picture falls into "sync". If more than  $4\frac{1}{2}$  bars are present just before pull-in, turn B7 1/4 turn clockwise, if less than  $3\frac{1}{2}$  bars are present, turn B7 1/4 turn counter-clockwise. Repeat this procedure until  $3\frac{1}{2}$  to  $4\frac{1}{2}$  bars are present just before pull-in.

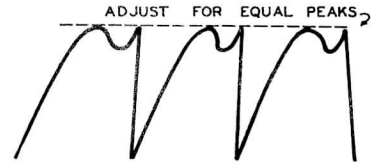
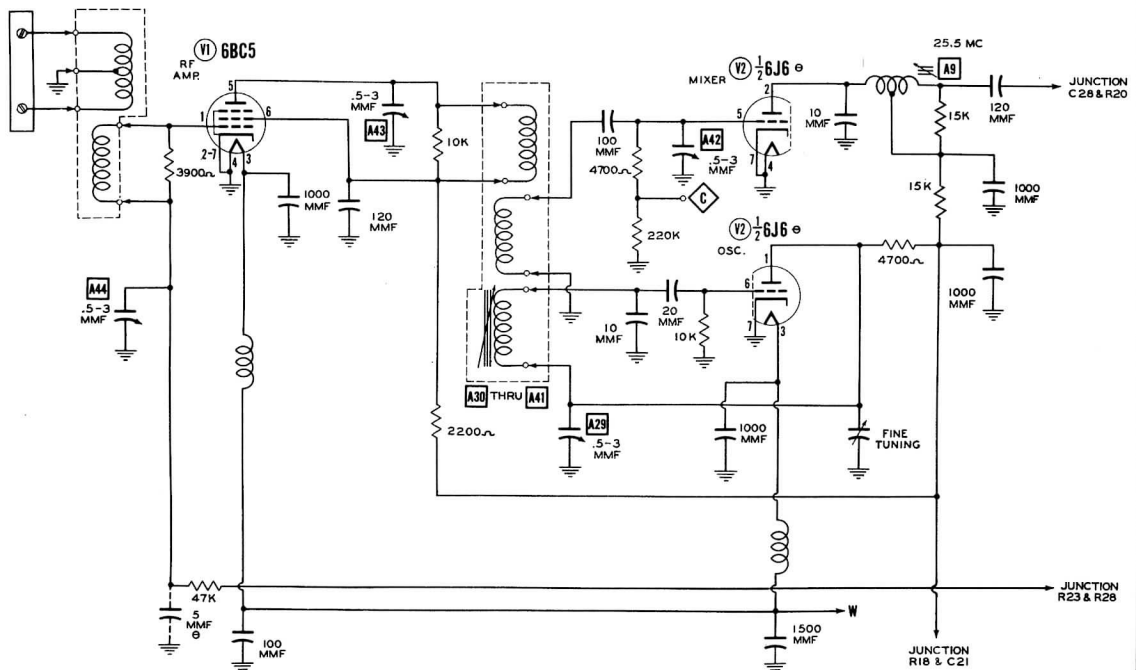


FIG. 7

## HORIZONTAL LINEARITY AND WIDTH ADJUSTMENTS

Adjust the width slug (B5), until the picture fills the mask horizontally. Adjust the horizontal linearity slug (B6) until picture is symmetrical from left to right.



A PHOTOFACIT STANDARD NOTATION SCHEMATIC

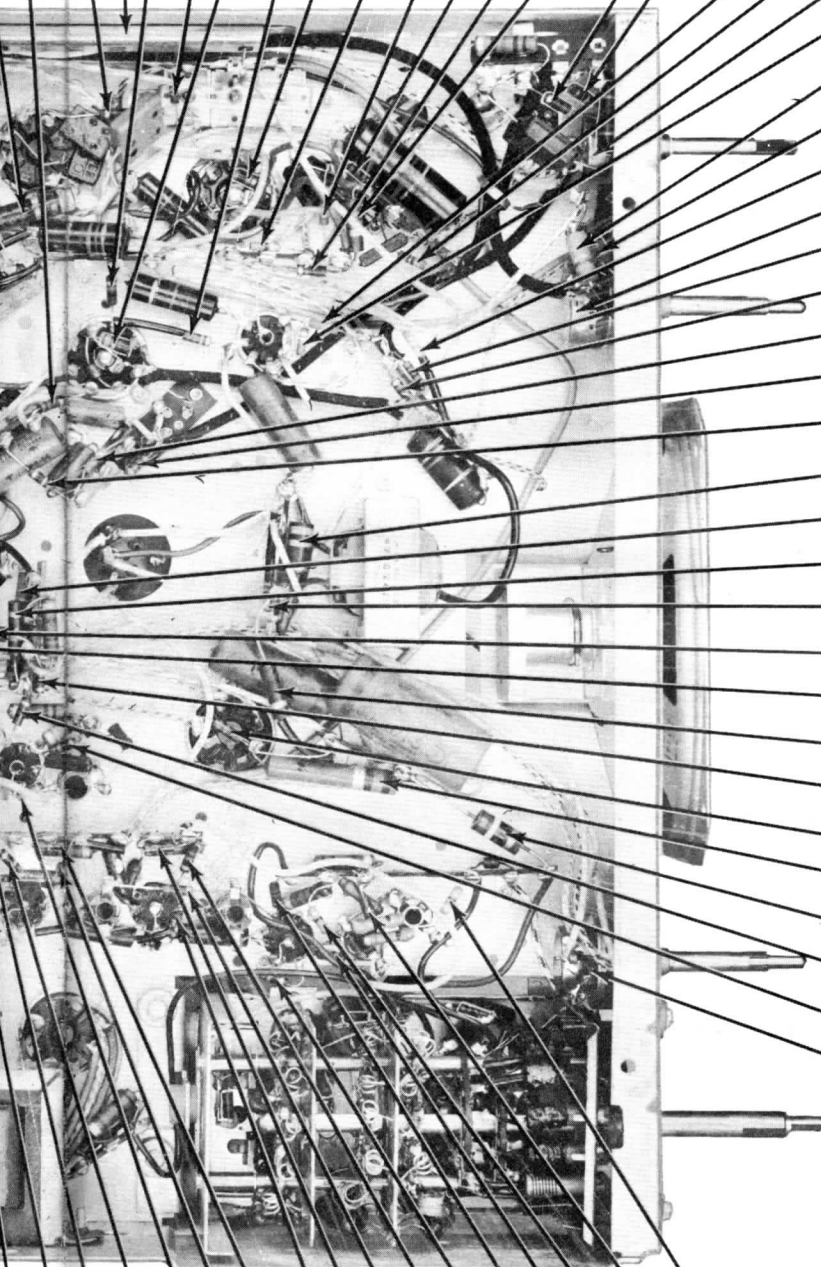
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# TURRET TYPE TUNER



CHASSIS BOTTOM VIEW-RES

R66 R121 R78 R75 R122 R70 R74 R106 R118 R112 R109 R117 R113 R81 R80



R76  
R108  
R1  
R77  
R115  
R114  
R73  
R2  
R71  
R72  
R69  
R68  
R67  
R79  
R64  
R65  
R56  
R51  
R63  
R127  
R62  
R85  
R126  
R18  
R61  
R60  
R3

R35 R34 R97 R30 R59 R29 R32 R27 R28 R25 R26 R24 R19 R22 R21 R23 R20

VIEW-RESISTOR IDENTIFICATION