

CABINET-REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a station signal. Allow the receiver to warm up. Connect a clip lead across the Horizontal Stabilizing coil (L20) to float back and forth across the screen.

Set the Horizontal Hold (R2) to the center of its range.

Adjust the Horizontal Centering control (R5B) until the picture appears

Remove the Clip lead and adjust the Horizontal Stabilizing Coil slug (B1) until the picture synchronizes horizontally.

FOLDER 1
SET 479

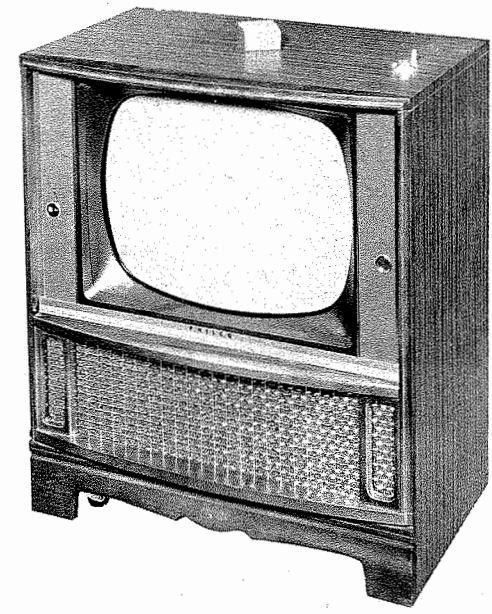
PHILCO CHASSIS 10L31,
10L31U, 10L32, 10L32U

PHOTOFACT® Folder
with CIRCUITRACE®



DISASSEMBLY INSTRUCTIONS

- CHASSIS REMOVAL**
1. Remove 3 push-on type knobs from top of cabinet.
 2. Remove 9 wood screws holding rear cover. Remove 1 push-on type knob from rear of cabinet. Remove antenna leads. Remove rear cover.
 3. Remove 2 tuner leads, 2 power tuner leads, yoke plug, HV lead, picture tube socket and speaker leads.
 4. Remove 2 wood screws holding upper control bracket.
 5. Remove nut holding Off-On Volume Contrast control.
 6. Remove 4 chassis bolts from bottom.
 7. Remove chassis.
 8. Remove 2 wood screws holding tuner mounting bracket. Remove tuner.
 9. Remove plug from Remote Control chassis, plug from preamplifier, and pilot lamp from its mounting bracket.
 10. Remove 3 bolts holding Remote Control chassis. Remove Remote Control chassis.
 11. Remove 2 nuts holding Preamplifier. Remove Preamplifier.



MODEL H4673MR (CH. 10132)

TRADE NAME	Philco	MODELS	CHASSIS
		H4248E, H4250, E, L, H4253, L, H4668, L, H4670, L, W, H4672, L, W.....	10L31
		UH4248E, UH4250, E, L, UH4253, L, UH4668, L, UH4670, L, W, UH4672, L, W.....	10L31U
		H4668LR, R, H4673LR, R (With Remote Control RC-50).....	10L32
		UH4668LR, R, UH4673LR, R (With Remote Control RC-50).....	10L32U
MANUFACTURER	Philco Corp., Tioga & "C" Streets, Philadelphia, Pa.		
TYPE SET	Television Receiver with Remote Control		
TUBES	TV: VHF-Sixteen, UHF-Seventeen, Remote Control Receiver: Six		
TRANSISTORS	Remote Control Transmitter: One		
POWER SUPPLY	105-120 Volts AC, 60 Cycle		
		RATING 235 Watts, 2.2 Amp. @ 117 Volts AC (With Remote Control)	
		270 Watts, 2.6 Amp. @ 117 Volts AC (With Remote Control, while tuning)	
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)		

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL

Remove 4 screws holding the trim strip at the top edge of the safety glass. Tilt glass out and remove.

FUSE

TV: A fuse is used for low voltage power supply protection. (For location, see "Cabinet - Rear View.")
A fuse wire is used for filament protection. (For location, see M3 in photo "Chassis - Top View".)
Remote Control Receiver: A fuse wire is used for filament protection. (For location, see M7 in photo "Chassis Bottom View".)

TUNER OSCILLATOR ADJUSTMENTS

To touch-up the VHF Oscillator, it is necessary to remove the chassis. (See "Disassembly Instructions".)

AGC

The AGC may be varied by means of a Range switch. (For location, see "Tube Placement Chart".)

FOCUS

The focus may be varied by the position of a strap, on the base of the picture tube.

HORIZONTAL OSCILLATOR FIELD ADJUSTMENTS

Coarse adjustment of the Horizontal Hold is accomplished by the proper setting of the Horiz.Centering(Horiz.Range) control. (For location, see "Tube Placement Chart".)

WIDTH

The width may be varied by a Width switch. (For location, see "Tube Placement Chart".)

CENTERING

Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

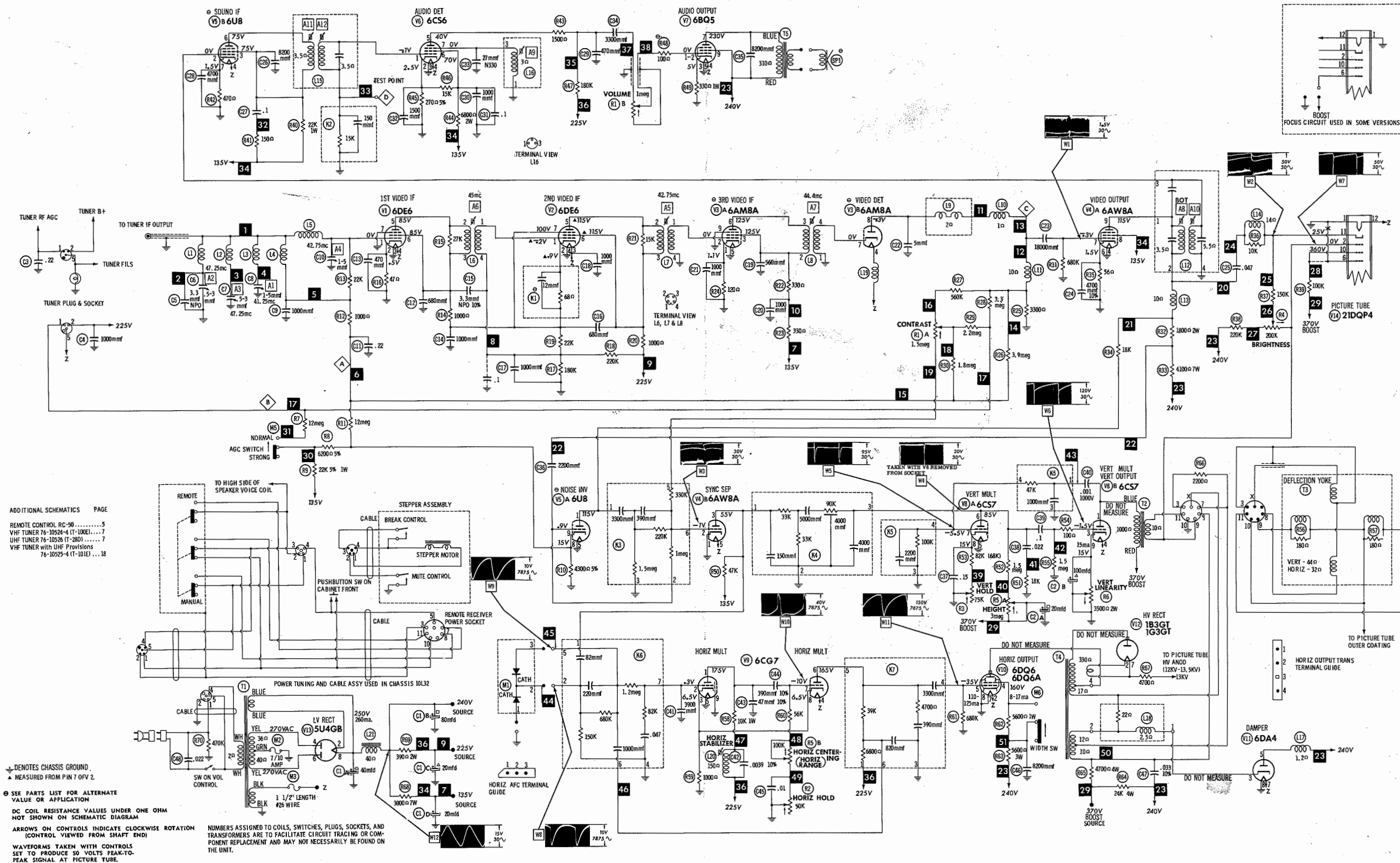
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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PHILCO CHASSIS 10L31,
10L31U, 10L32, 10L32U

SET 479
FOLDER 1



PHILCO
 CHASSIS 10L31, 10L31U

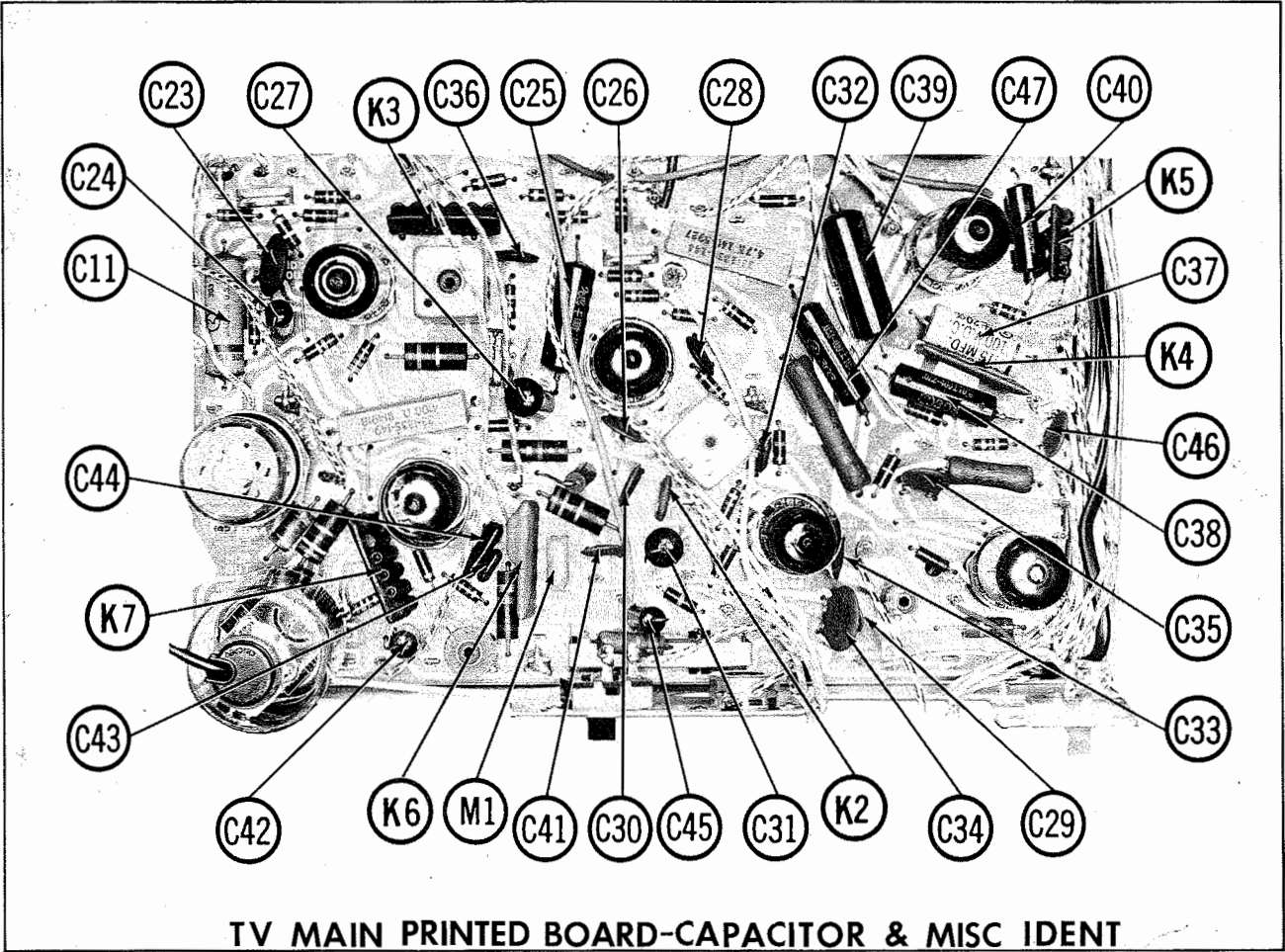
FOLDER 1

TV RESISTANCE MEASUREMENTS

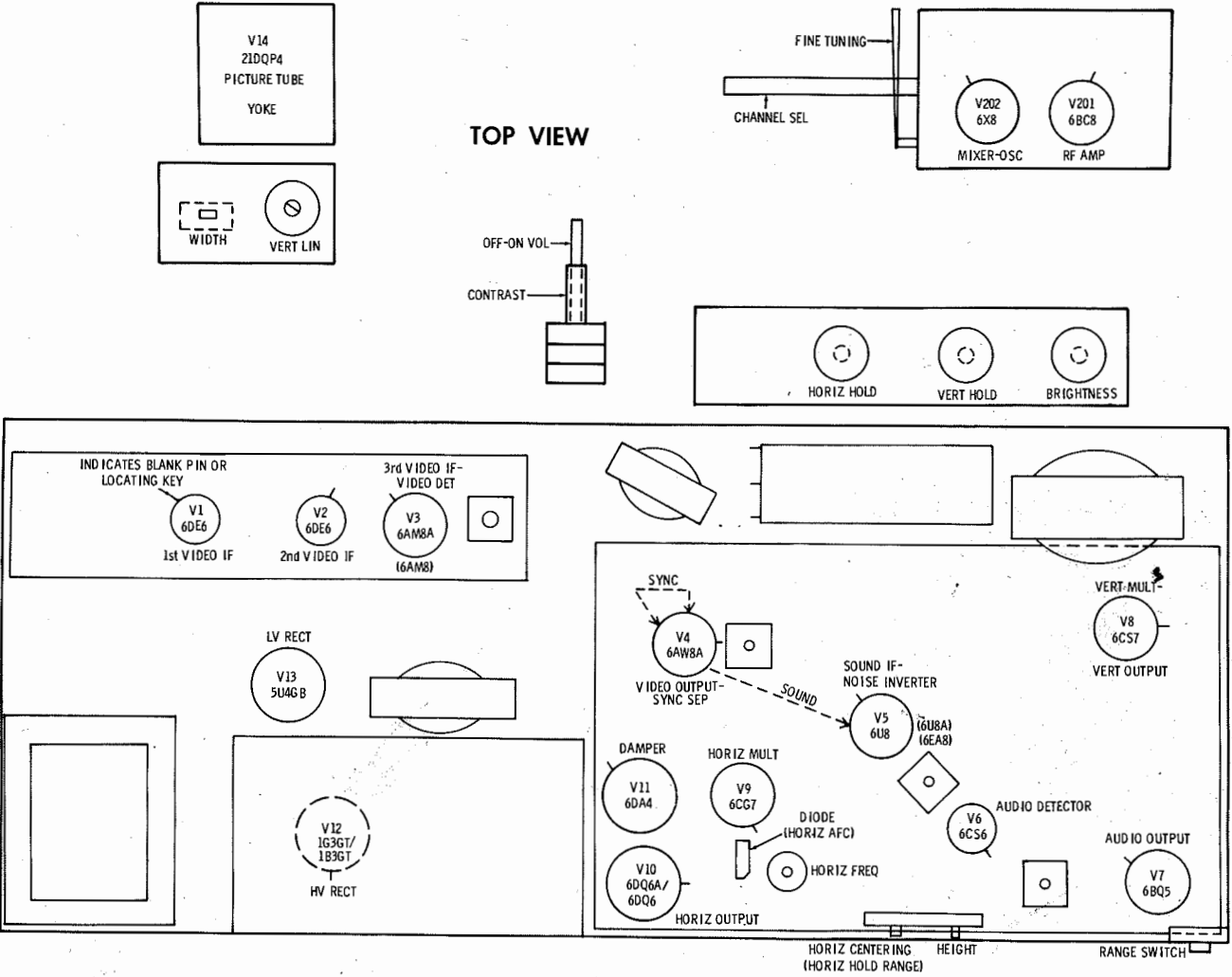
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6DE6	1.3meg	47Ω	0Ω	.1Ω	▲ 1000Ω	▲ 1000Ω	0Ω		
V2	6DE6	100K	▲ 68Ω	.1Ω	0Ω	† 1400Ω	† 1400Ω	120K		
V3	6AM8A	120Ω	.2Ω	† 3600Ω	.1Ω	0Ω	† 3600Ω	.2Ω	3300Ω	0Ω
V4	6AW8A	0Ω	1meg	† 40K	0Ω	.1Ω	56Ω	680K	† 3000Ω	† 5900Ω
V5	6U8	† 24K	6Ω	† 25K	.1Ω	0Ω	† 25K	470Ω	† 4300Ω	2meg
V6	6CS6	15K	270Ω	0Ω	.1Ω	† 180K	† 9000Ω	3.3Ω		
V7	6BQ5	100Ω	100Ω	330Ω	.1Ω	0Ω	NC	† 310Ω	NC	† 0Ω
V8	6CS7	† 5700Ω	NC	1.5meg	.1Ω	0Ω	● † 3.5meg	100K	● 120K	● 1400Ω
V9	6CG7	† 10K	2meg	1000Ω	.1Ω	0Ω	† 46K	● 120K	1000Ω	0Ω
V10	6DQ6A/ 6DQ6	NC	.1Ω	TP	† 5600Ω	680K	TP	0Ω	0Ω	TOP CAP † 35Ω
V11	6DA4	NC	NC	† 100K	NC	† 1.4Ω	NC	.1Ω	0Ω	
V12	1G3GT/ 1B3GT	PINS 1 THRU 8		HAVE INFINITE		RESISTANCE		TOP CAP † 365Ω		
V13	5U4GB	NC	†	NC	36Ω	NC	40Ω	NC	†	
V14	21DQP4	0Ω	11.5Ω	Pin 6 † 100K	Pin 10 † 100K	Pin 11 ● 170K	Pin 12 .1Ω			
V201	6BC8	† 2200Ω	280K	INF	.1Ω	0Ω	INF	1.5meg	0Ω	0Ω
V202	6X8	0Ω	10K	† 68K	0Ω	.1Ω	0Ω	220K	† 62K	† 47K

† THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
▲ THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
● MEASURED FROM PIN 7 OF V2.
† MEASURED FROM 240V SOURCE.
† MEASURED FROM PIN 3 OF V11.

NC NO CONNECTION
TP TIE POINT



TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

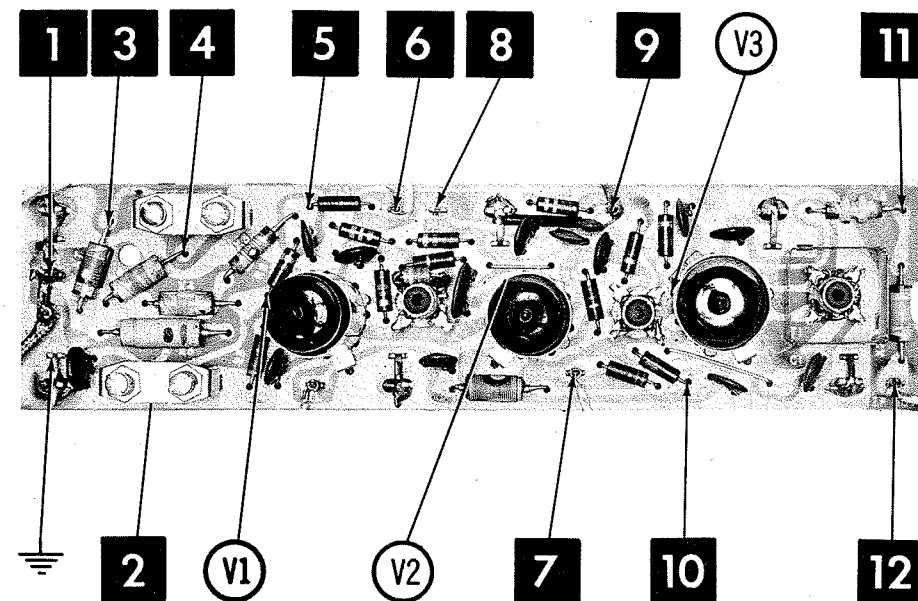
POWER SUPPLY FAILURE
No raster, no sound Fuse (LV Power), Fuse (Filament), V13

SWEEP FAILURE
No raster, has sound V9, V10, V11, V12, V14
No vertical deflection V8
Poor vert. linearity or foldover V8
Poor horiz. linearity or foldover V9, V10, V11
Narrow picture V9, V10, V11, V13
Vert. off freq. V8
Horiz. off freq. Diode (Horiz. AFC), V9

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3, V4
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V14
Has pic, no sound V5, V6, V7

SYNC FAILURE
No vert. sync V4
No horiz. sync V4
No vert. or horiz. sync V4

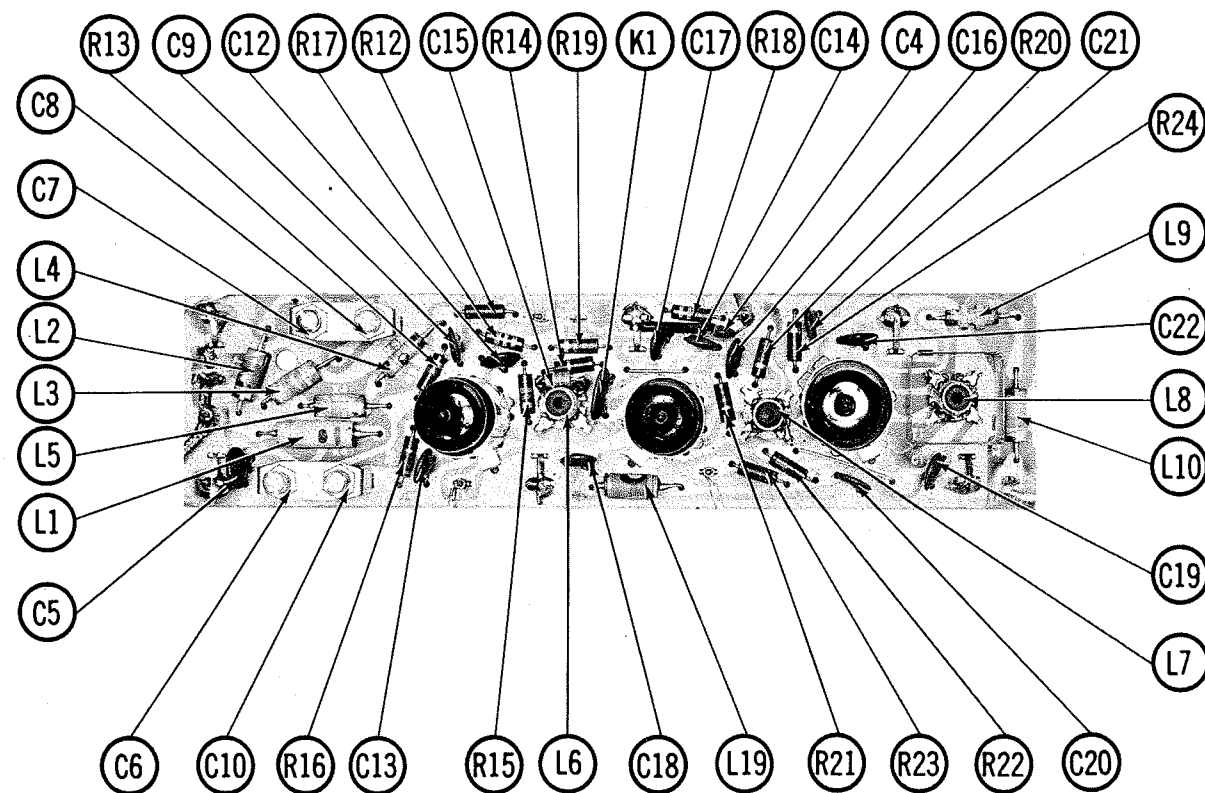
CircuiTrace Numbers 1 thru 12



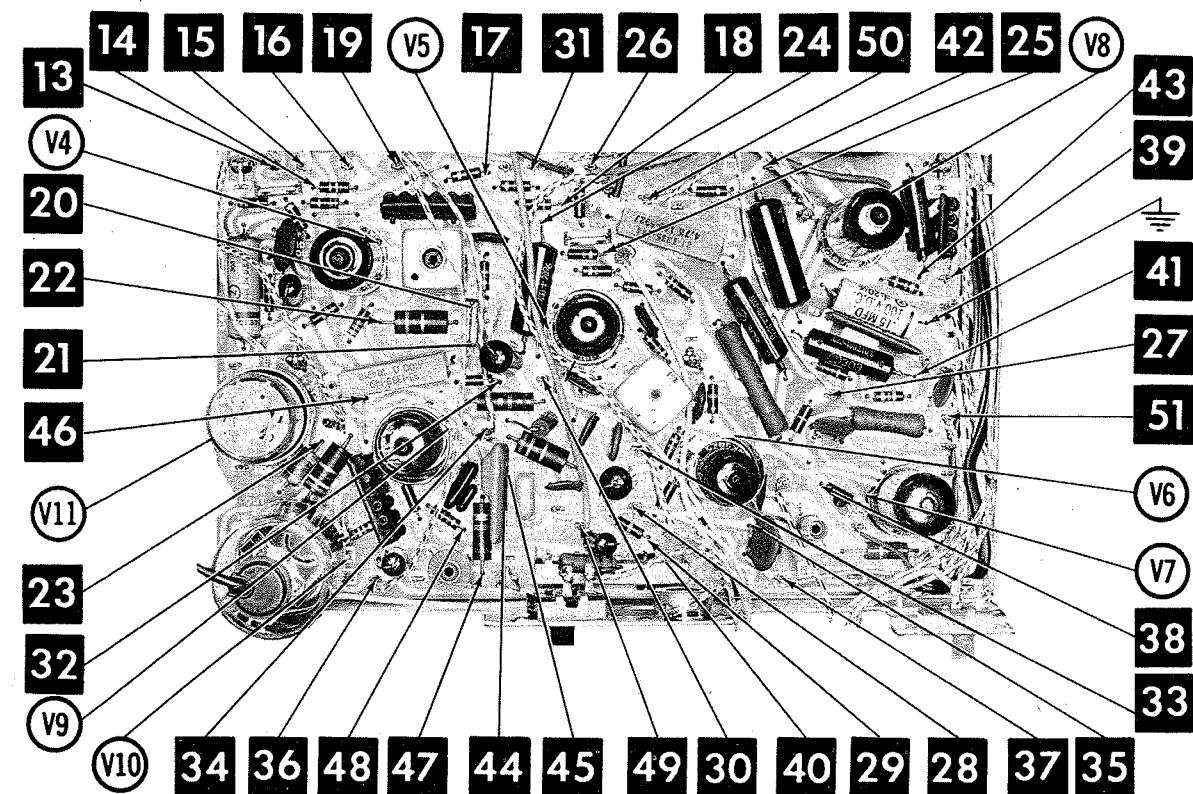
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VIDEO IF PRINTED BOARD

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



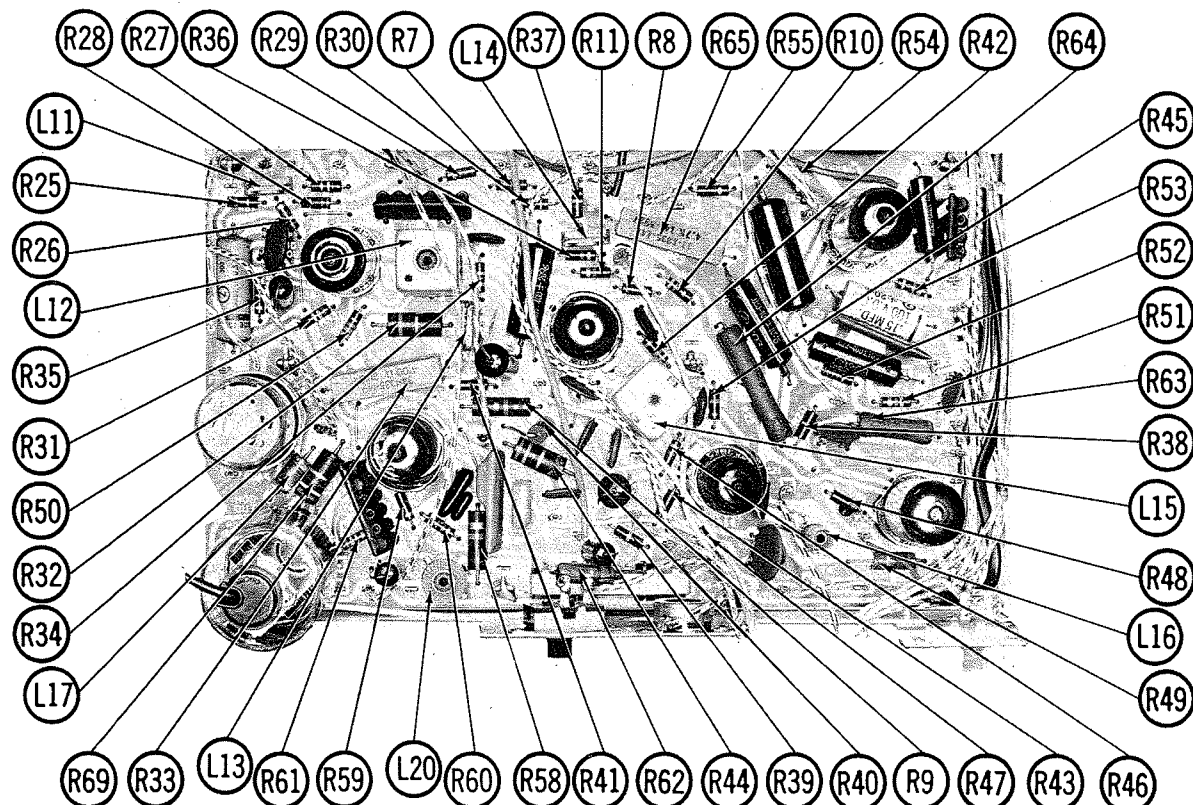
VIDEO IF PRINTED BOARD



A Howard W. Sams **CIRCUITRACE** Photo

TV MAIN PRINTED BOARD

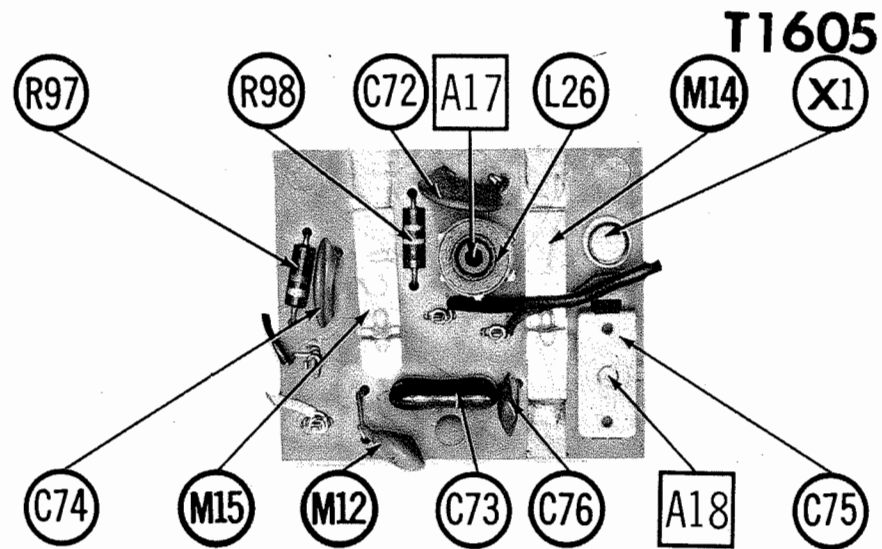
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



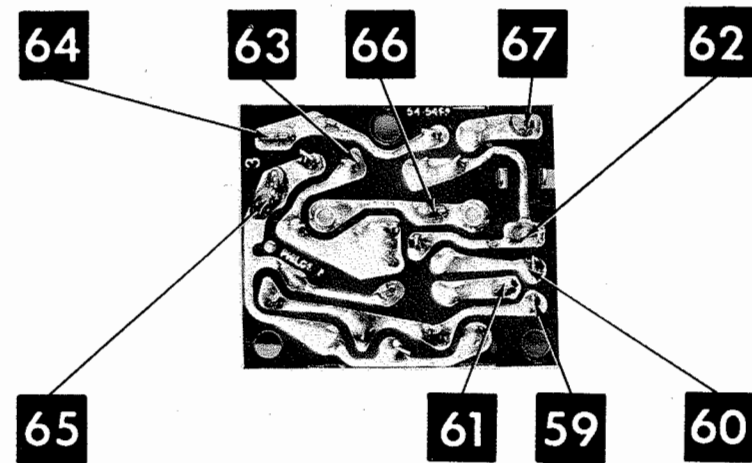
TV MAIN PRINTED BOARD - RESISTOR & INDUCTOR IDENT.

PHILCO
CHASSIS 10L31, 10L31U

FOLDER 1

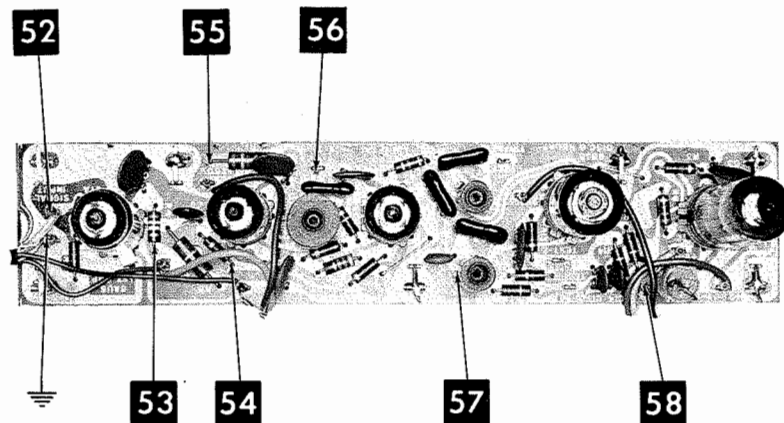


REMOTE CONTROL TRANSMITTER PRINTED BOARD - TOP VIEW

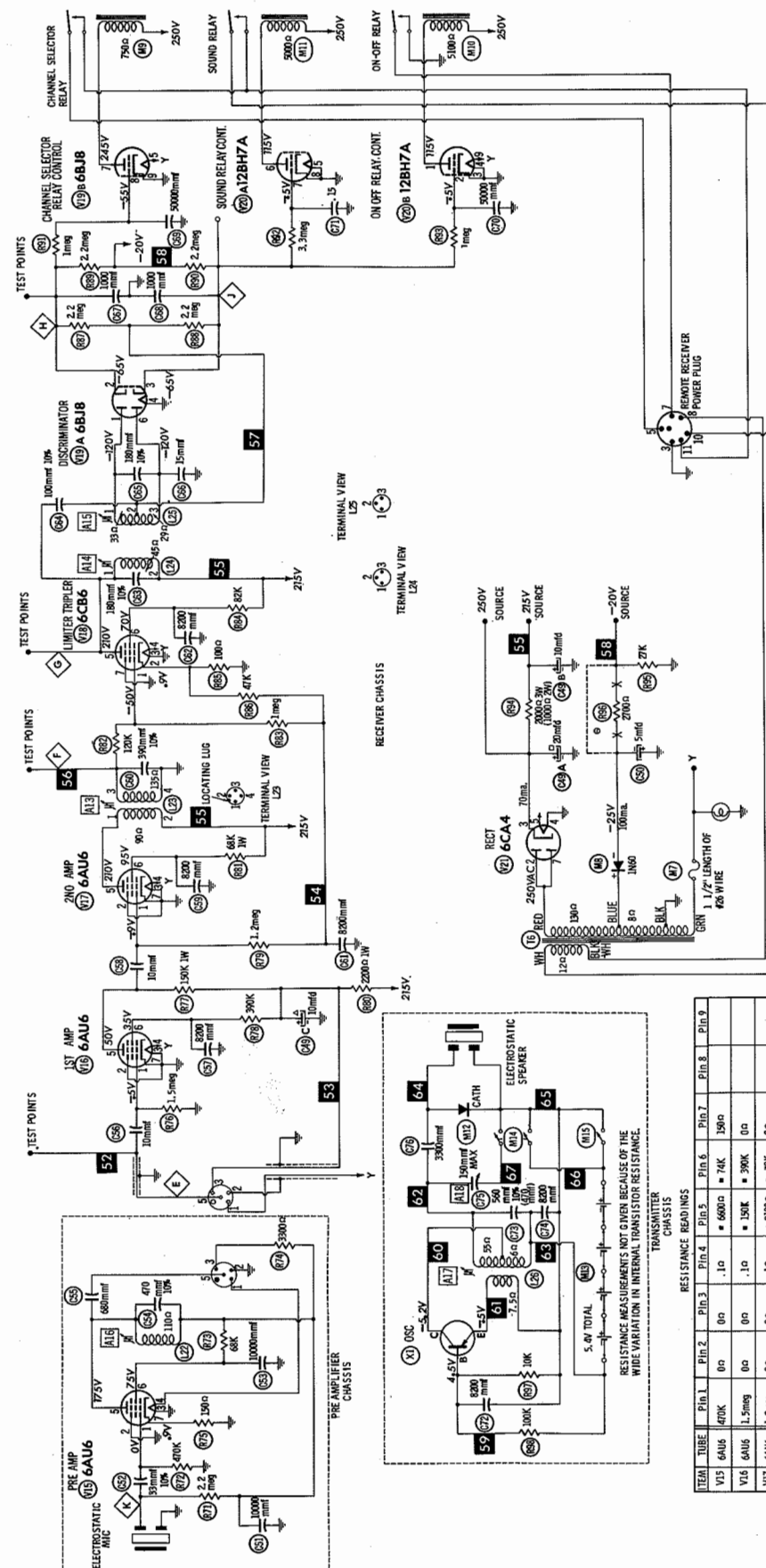


A Howard W. Sams CIRCUITRACE® Photo

REMOTE CONTROL TRANSMITTER PRINTED BOARD - BOTTOM VIEW



REMOTE CONTROL RECEIVER PRINTED BOARD - TOP VIEW



TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V15 6AU6	40K	0	0	0	0	6000	74K	150	0
V16 6AU6	1.5meg	0	0	0	0	15K	39K	0	0
V17 6AU6	1.2meg	0	0	0	0	2100	70K	0	0
V18 6B8	120K	300	0	0	0	2100	8K	0	0
V19 6B8	2.2meg	2meg	1.8meg	0	0	1.0	2.2meg	790	0
V20 12BH7A	5100	5.2meg	0	0	0	0	5000	3meg	0
V21 6CA4	130	NC	1	0	0	1.0	NC	130	NC

1. THIS TABLE WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
2. MEASURED FROM PIN 3 OF V2.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
with CIRCUITRACE®







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FOLDER 1

PHILCO
REMOTE CONTROL RC-50
CHASSIS 10L31, 10L31U

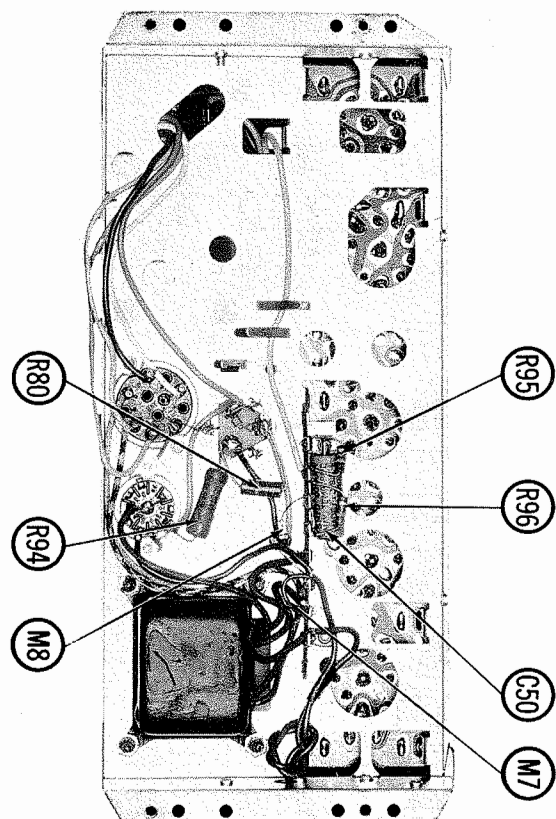
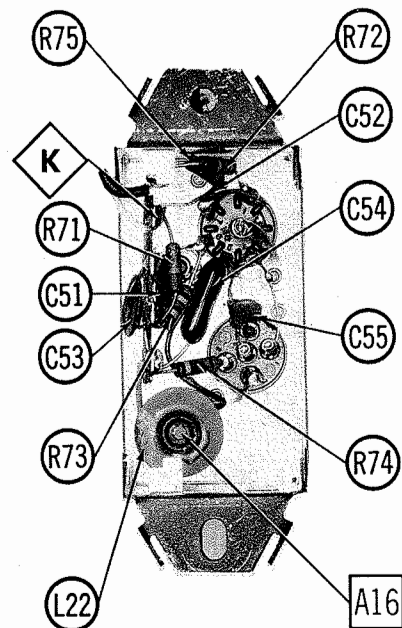
REMOTE CONTROL ALIGNMENT INSTRUCTIONS

REMOTE CONTROL RECEIVER ALIGNMENT

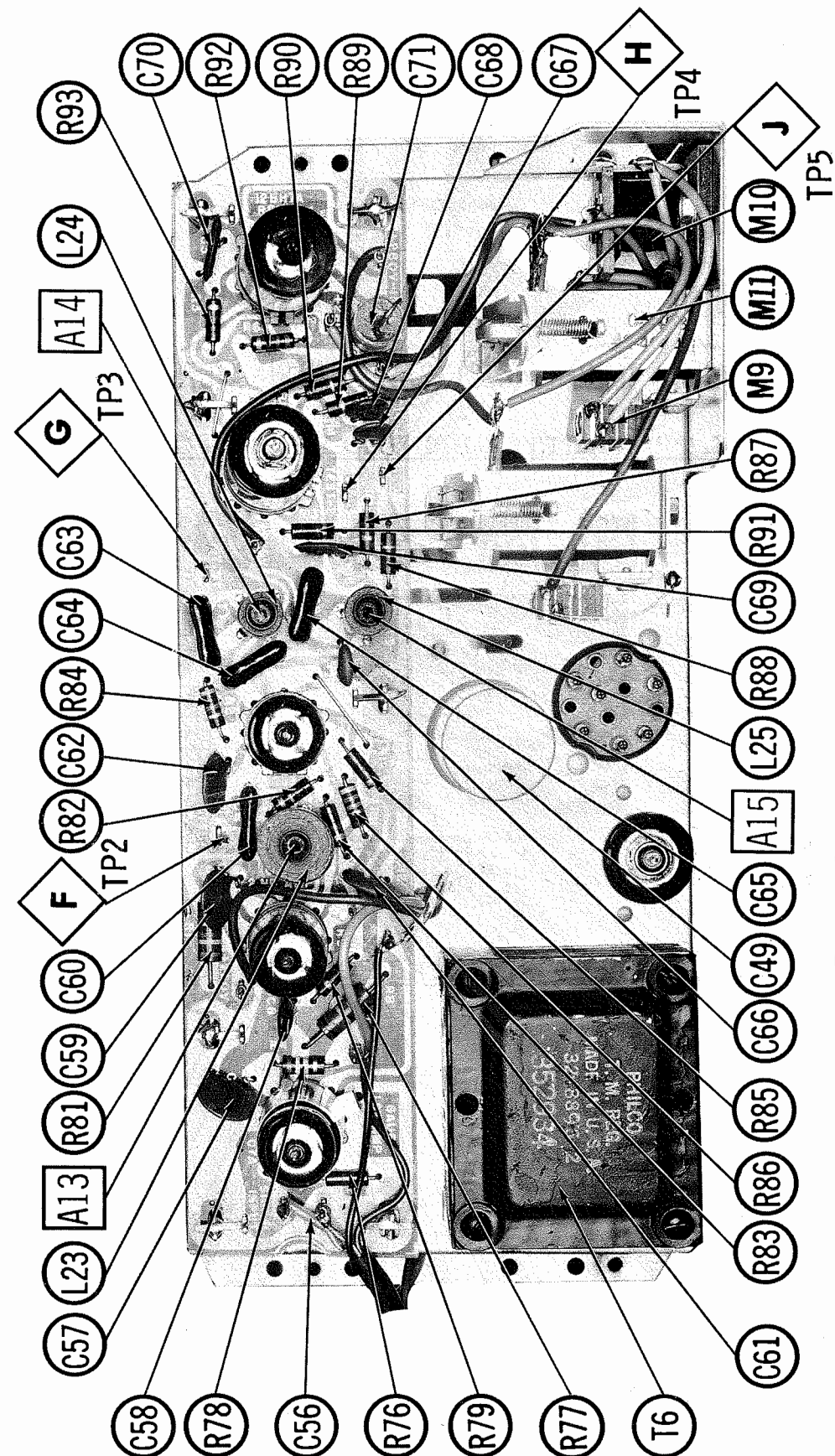
	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	.05mfd	High side to point  Low side to chassis.	39KC		AC probe to point  Common to chassis.	A13	Adjust for maximum deflection. Keep generator output adjusted for 5 volts on VTVM during this step, then increase generator output for 10 volt reading before going on to next step.
2.	"	"	"		AC probe to point  Common to chassis.	A14	Adjust for maximum deflection.
3.	"	"	"		DC probe to point  Common to point  .	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
4.	"	High side to point  Low side to chassis.	39KC (At .1 volt RMS).		Terminate output end of receiver input cable with 47K resistor. Connect VTVM (AC) across termination.	A16	Adjust for maximum deflection.

REMOTE CONTROL TRANSMITTER ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
5.		Connect to the vertical input terminals of an oscilloscope.	39KC		Connect an unshielded test lead to the horizontal input terminals. Remove cover from transmitter and place test lead near transmitter.	A17	Depress Channel Selector contact and adjust scope gain or position test lead for suitable Horizontal sweep. Adjust A17 for 1 to 1 ratio between Vertical and horizontal sweep.
6.		"	37KC		"	A18	Depress Sound and On-Off Selector and adjust for 1 to 1 ratio on scope.
7.		"	40KC		"		Place cover on transmitter but do not replace screws. Due to metal in the cover, frequency will shift so that scope should show 1 to 1 ratio now with Channel Selector depressed. Retouch A17 if necessary.
8.		"	38KC		"		Depress Sound and On-Off Selector and check for 1 to 1 ratio on scope. Retouch A18 if necessary.



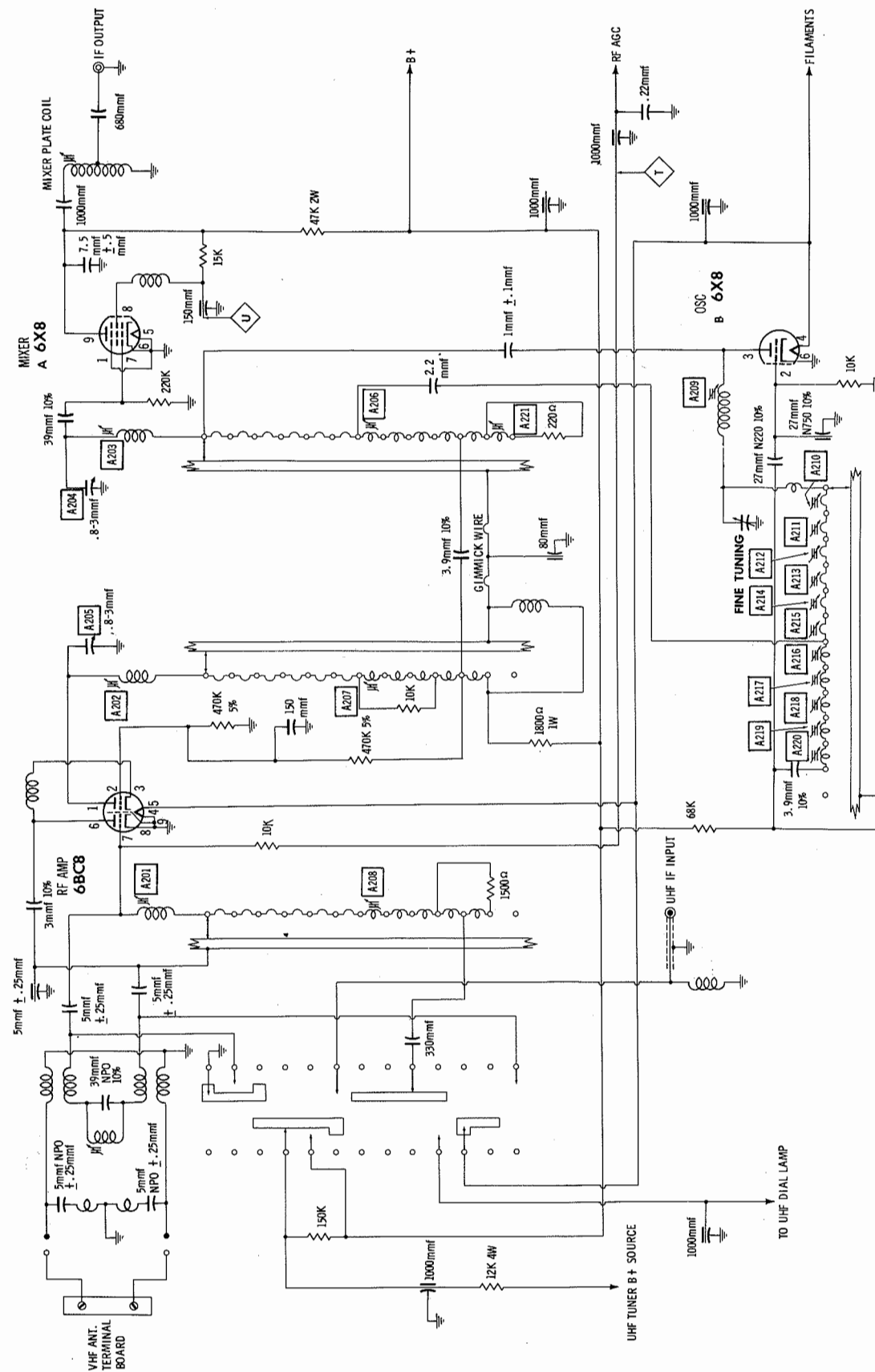
REMOTE CONTROL PRE AMP & RECEIVER –BOTTOM VIEW



TP2	-45V	LIMITER TRIPLER GRID
TP3	215V	LIMITER TRIPLER PLATE
TP4	-64V	DISC CATH (PIN 2)
TP5	4V	DISC CATH (PIN 3)

PHILCO
CHASSIS 10L31, 10L31U

FOLDER 1

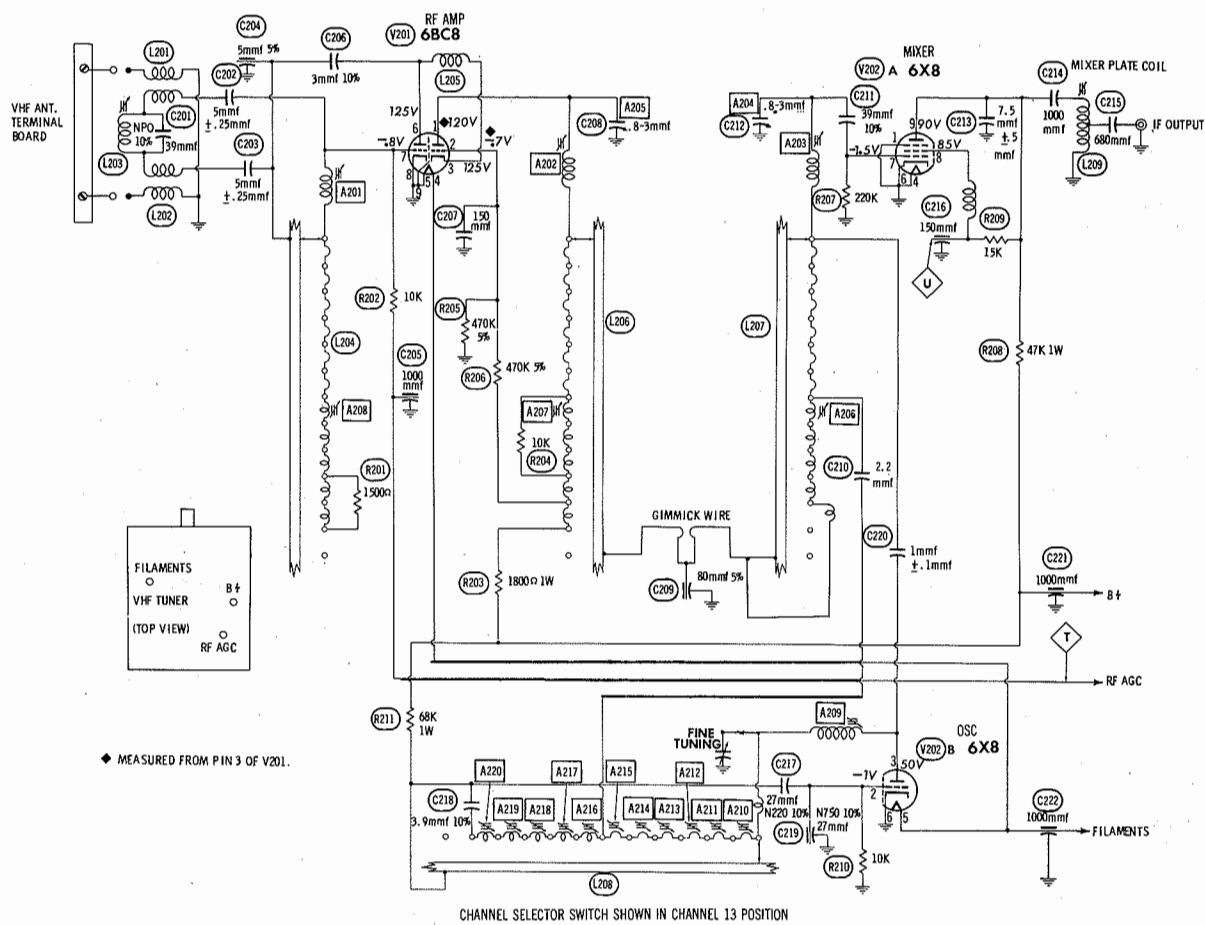


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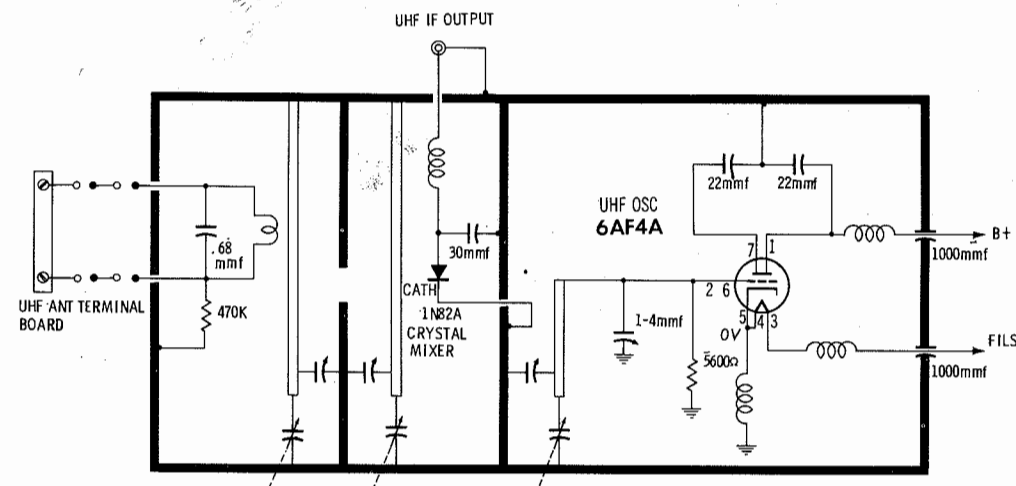
VHF TUNER WITH UHF PROVISIONS 76-10525-4 (T-101E)

CHANNEL SELECTOR SWITCH SHOWN IN CHANNEL 13 POSITION

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VHF TUNER 76-10524-4 (T-100E)



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UHF TUNER 76-10526 (T-28D)

TUNER ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS FOR TUNER T100, T101

The high voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested alignment tools: A201, A202, A203, A206, A207, A208, A221...General Cement #5009, 8195, 8274, 8275, 8278, 8987
Walsco #2531
A204, A205 General Cement #5000, 5003, 5009, 8290
Walsco #2520, 2523, 2525, 2537
A209 thru A220 General Cement #8729, 8988, 8989, 9294
Walsco #2532, 2538
Mixer Plate Coil General Cement #8606, 8606L, 8282, 9295
Walsco #2526, 2543, 2544, 2545

VHF RF AND MIXER ALIGNMENT

Set Range switch to "Normal".
Connect the negative lead of a 1.5 volt bias supply to point ∇ . Positive to chassis.
Detune the Mixer Plate coil by connecting a 10 to 20mmf capacitor across it.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Coils not containing adjustable cores are adjusted by expanding or compressing coil turns.

DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1. Two 120 Ω Carbon Resistors	Across VHF antenna terminals with 120 Ω in each lead.	213MC	210MC	13	Vert. Amp. thru 10K to point ∇ Low side to chassis.	A201	Adjust for maximum amplitude.
2. "	"	"	211.25MC	"	"	A202, A203	Adjust for maximum gain and symmetry of response similar to Fig. 201 with markers as shown. Adjust A202 to set marker level, A203 for proper tilt.
3. "	"	177MC	174.0MC 180.0MC	7	"	A204, A205	Adjust for tilt as shown in Fig. 202. Recheck step 2 and retouch, if necessary. Repeat step 3.
4. "	"	85MC	82.0MC 85.0MC 88.0MC	6	"	A206, A207, A208	Turn A206 counterclockwise until a single peak appears. Adjust A207 until peak falls at 85MC. Adjust A208 for maximum gain and symmetry of single peak. Retouch A206 and A207 for symmetrical response centered about 85MC.

VHF OSCILLATOR ALIGNMENT

Set the Fine Tuning to the center of its range.
This procedure uses the traps of the Video IF strip. Make certain Video IF Alignment is correct.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
5. Two 120 Ω Carbon Resistors	Across VHF antenna terminals with 120 Ω in each lead.	209.75MC (400 \pm 30% AM Mod)	13	Across Video Detector load	A209	Adjust for MINIMUM scope indication.
		203.75MC	12		A210	
		197.75MC	11		A211	
		191.75MC	10		A212	
		185.75MC	9		A213	
		179.75MC	8		A214	
		173.75MC	7		A215	
		81.75MC	6		A216	
		75.75MC	5		A217	
		65.75MC	4		A218	
		59.75MC	3		A219	
		53.75MC	2		A220	

UHF TUNER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

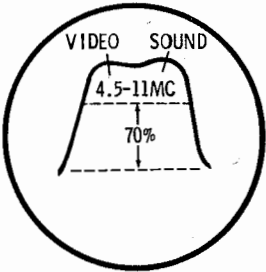


FIG. 201

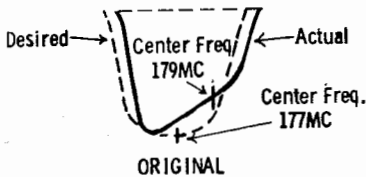
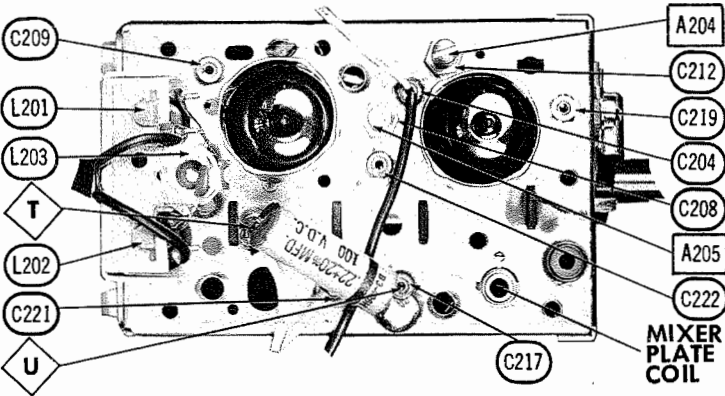
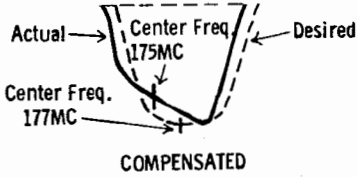
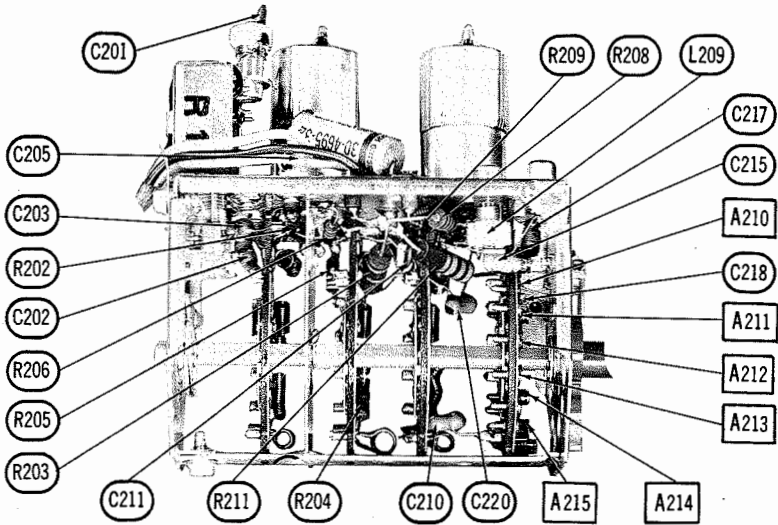


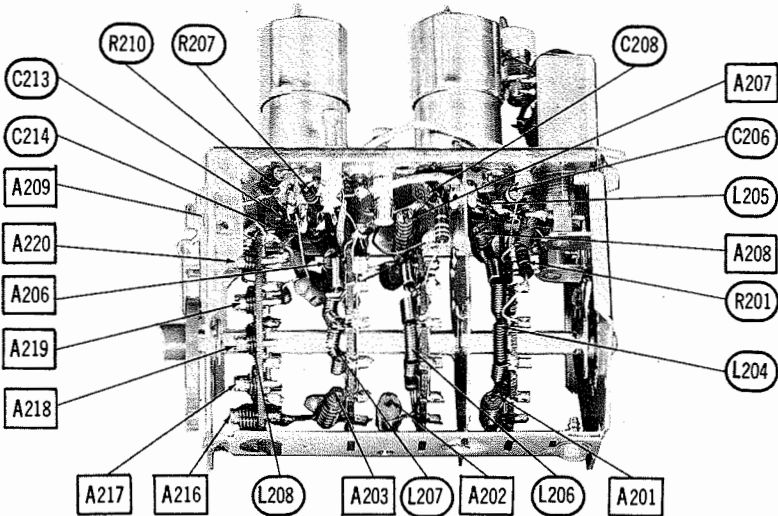
FIG. 202



TUNER 76-10524-4 (T-100E) - TOP VIEW



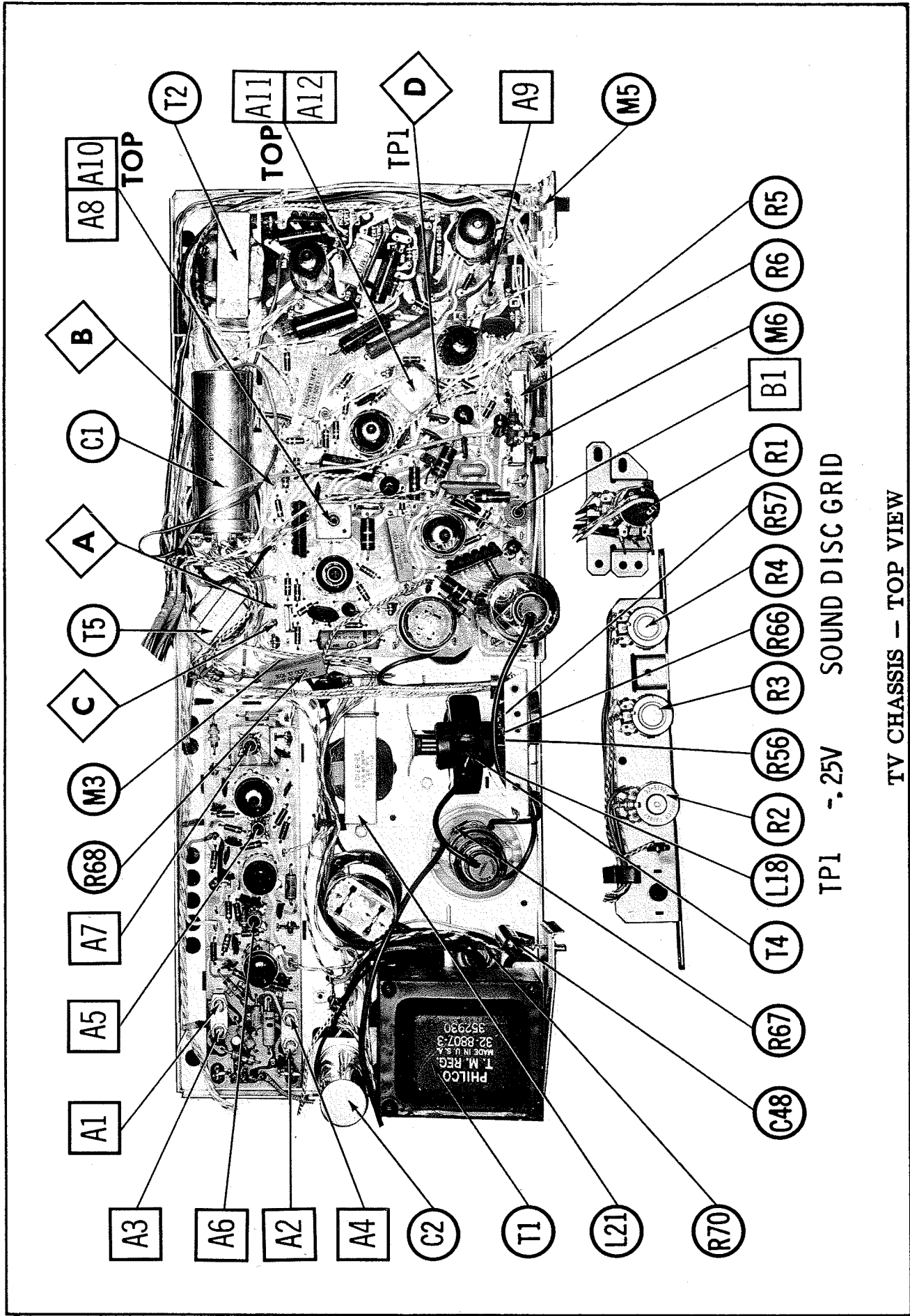
TUNER 76-10524-4 (T-100E) - LEFT SIDE



TUNER 76-10524-4 (T-100E) - RIGHT SIDE

PHILCO
CHASSIS 10L31, 10L31U

FOLDER 1



TUNER PARTS LIST AND DESCRIPTIONS

76-10524-4(T-100E)

TUBES

CBS			GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V201	RF Amplifier		6BC8			V202	Mixer-Osc.		6X8		

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	39 NPO 10%	#30-1268-1	NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C202	5 ±.25mmf		NPO-SI 5	TCZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C203	5 ±.25mmf		NPO-SI 5	TCZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C204	5 10%							
C205	1000	#30-1268-13	EF-001	MFT-1000		CCF-102	CT280A	
C206	3 10%		NPO-SI 3	TCZ-3R3	C10V3C	CCTO-3R3	CNO-533	10TCC-V33
C207	150		DI-150	DD-151	L10T15	CCD-151	GP315	10TS-T15
C208	.8-3			829-3		CV-1	CT565	
C209	80 5%	#30-1268-6						
C210	2.2		NPO-SI 2.2	TCZ-2R2	C10V22C	CCTO-2R2	CNO-522	10TCC-V22
C211	39 10%		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C212	.8-3			829-3		CV-1	CT565	
C213	7.5 ±.5mmf	#30-1271-3						
C214	1000		BPD-001	DD-102	C10V8C	CCD-102	GP580	5HK-D10
C215	680		SI 680	DD-681	BYA10D1	CCD-681	GP210	10TS-T68
C216	150				BYA10T68		GP368	
C217	27 N220 10%	#30-1268-4			C10V4C	*		10TCR-Q27
C218	3.9 10%							10TCC-V39
C219	27 N750 10%							
C220	1 ±.1mmf		NPO-SI 1	TCZ-1		CCTN-270	CNO-510	10TCC-V10
C221	1000		EF-001	MFT-1000		CCF-102	CT280A	
C222	1000		EF-001	MFT-1000		CCF-102	CT280A	

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Philco Part Number.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R201	1500Ω		R205	470K 5%		R209	15K	
R202	10K		R206	470K 5%		R210	10K	
R203	1800Ω 1W		R207	220K		R211	68K 1W	
R204	10K		R208	47K 1W				

COILS (RF-IF)

ITEM No.	USE	PHILCO PART No.	NOTES	ITEM No.	USE	PHILCO PART No.	NOTES
L201	Ant. Coil	32-4725-3	Channel 2-13, Includes Wafer Assy.	L207	Mixer Grid Coils	76-10602	Channel 2-13, Includes Wafer Assy.
L202	Ant. Coil	32-4725-3		L208	Osc. Coils	76-10108	Channel 2-13, Includes Wafer Assy.
L203	IF Trap	32-4719-2					
L204	Ant. Coils	76-10554					
L205	RF Choke	32-4652-52	Channel 2-13, Includes Wafer Assy.	L209	Mixer Plate Coil	32-4629-13	
L206	RF Coils	76-11711					

REMOTE CONTROL TRANSMITTER PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	PHILCO PART No.	USE	REPLACEMENT DATA				NOTES
			CBS PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	34-8001-25	Oscillator (T1605)					PNP

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C72	8200	(470mmf)*	DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80
C73	560 10%		1469-00056	DD-561	IR5T56	CM-19B-561K	MCJ247	MS-356
C74	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80
C75	150mmf Max.					424		
C76	3300	#13-6534-6	BPD-0033	DD-332	BYA10D33	CCD-332	GP233	5HK-D33

Philco Part No. *Alternate

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R97	10K		R98	100K				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		PHILCO PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L26	Osc. Coil	32-4781-1						

RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA					NOTES
		PHILCO PART No.	INTERNATIONAL PART No.	ITT PART No.	SARKES TARZIAN PART No.	SYLVANIA PART No.	
M12		34-8050-1					Silicon Type

BATTERIES

ITEM No.	VOLTAGE	PHILCO PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M13	1.1V	P640						RM640R	Mercury Type, 4 Required

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M14A	Switch	28-13026	Spring Contact Type (Upper) Spring Contact Type (Lower) Channel Selector Includes Electrostatic Speaker
B	Switch	28-13033	
M15	Switch	28-13026	
	Transducer Assy. Printed Board	36-1686 54-5469	

PHILCO CHASSIS 10L31, 10L31U, 10L32, 10L32U

FOLDER 1

REMOTE CONTROL RECEIVER
PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R71	2.2meg		R80	2200Ω 1W		R89	2.2meg	
R72	470K		R81	68K 1W		R90	2.2meg	
R73	68K		R82	120K		R91	1meg	
R74	3300Ω		R83	1meg		R92	3.3meg	
R75	150Ω		R84	82K		R93	1meg	
R76	1.5meg		R85	100Ω		R94	2000Ω 3W	(1000Ω 2W)*
R77	150K 1W		R86	47K		R95	27K	
R78	390K		R87	2.2meg		R96	2700Ω	Note 1.
R79	1.2meg		R88	2.2meg				

*Alternate Note 1. Not used in some versions.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						NOTES
		PHILCO PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L22	Amp. Output Coil	32-4782-1						
L23	39KC Interstage Trans.	32-4778-1						
L24	Discriminator Primary	32-4779-1						
L25	Discriminator Secondary	32-4779-2						

TRANSFORMER (POWER)

ITEM No.	RATING		REPLACEMENT DATA						
	PRI.	SEC. 1	PHILCO PART No.	Holldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T6	117V @ .66A	250V @ .070A tap @ 18V @ .001A tap @ 6.3V @ 2.9A	32-8696-2						

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PHILCO PART No.	LITTELFUSE PART No.	BUSS PART No.			
M7		1 1/2" length of #26 wire			FUSE	HOLDER	FUSE	HOLDER

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA				NOTES
		PHILCO PART No.	CBS PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M8	1N60	34-8022-3	1N60	1N60	1N60	Bias Rect. (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M9	Relay	42-4038-1	Channel Selector
M10	Relay	42-4039-1	Sound
M11	Printed Board	42-4039-1	Off-On (TV Chassis)
		54-5468	

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
	Transducer Assy.	36-1686	Includes Electrostatic Speaker

TV
PARTS LIST AND DESCRIPTIONS

TUBES

CBS			GENERAL ELECTRIC			RAYTHEON			SYLVANIA		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V1	1st Video IF Amp.		6DE6			V7	Audio Output		6BQ5		
V2	2nd Video IF Amp.		6DE6			V8	Vert. Mult. -Vert. Output		6CS7		
V3	3rd Video IF Amp. - Video Det.		6AM8A (6AM8)*			V9	Horiz. Mult.		6CG7		
V4	Video Output-Sync Sep.		6AW8A			V10	Horiz. Output		6DQ6A/6DQ6 (6DQ6A)*		
V5	Sound IF Amp. - Noise Inverter		6U8 (6U8A)* (6EA8)*			V11	Damper		8DA4		
V6	Audio Detector		6CS6			V12	HV Rect.		1G3GT/1B3GT		
						V13	LV Rect.		5U4GB		

* Alternate.

PICTURE TUBE

ITEM No.	REPLACEMENT DATA					NOTES
	PHILCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
V14	21DQP4			21DQP4	21DQP4 ①	① "Silver Screen 85"

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C1A	40	350	30-2590-48	AFH4-05-70	C0370	FP420.4	TMT-43	TVL-4635.7	
B	80	350			BR2035		TD-20-350		
C	20	350							
D	20	350							
C2A	40	475	30-2590-50	AFH3-156	C1120	FP399	TMS-67	TVL-1943	
B	100	50					TD-100-50	TVA-1310	

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	.22 100V		P288N-22	DD-102	CUB2P22	1DP-3-224	GEM-2022	2TM-P22	
C4	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C5	3.3 NPO	#31-6535-1	NPO-DI 3.3	DTZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33	
C6	.5-3	#31-6535-1		829-3		CV-1	CT565		
C7	.5-3	#31-6535-2		829-3		CV-1	CT565		
C8	1-5			829-6					
C9	1000	#31-6535-2	BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C10	1-5			829-6					
C11	.22 100V		P288N-22	DD-681	CUB2P22	1DP-3-224	GEM-2022	2TM-P22	
C12	680		BPD-00068	DD-471	BYA10T68	CCD-681	GP368	10TS-T68	
C13	470		BPD-00047	DD-102	BYA10T47	CCD-471	GP347	10TS-T47	
C14	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C15	3.3 NPO 10%		NPO-DI 3.3	TCZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V33	
C16	680		BPD-00068	DD-681	BYA10T68	CCD-681	GP368	10TS-T68	
C17	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C18	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C19	560		DI-560	DD-561	L10T56	CCD-561	GP356	10TS-T56	
C20	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C21	1000		BPD-001	DD-102	BYA10D1	CCD-105	GP210	5HK-D10	
C22	5		DI-5	DD-050	L10V5	CCD-050	GP550	10TS-V50	
C23	18000		BPD-02	DD-203	BYB6S2	CCD-203	GP120	5HK-S20	
C24	4700 400V 10%		V84C4D47-10%	PM6D47		6DP-1-472	JL-247	6TM-D47	
C25	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47	
C26	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80	
C27	.1 200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P1	
C28	4700		BPD-0047	DD-472	BYA10D47M	CCD-472	GP247	5HK-D47	
C29	470		BPD-00047	DD-471	BYA10T47	CCD-471	GP347	10TS-T47	
C30	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10	
C31	.1 200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P1	
C32	1500	#30-1263-46	BPD-0015	DD-152	BYA10D15	CCD-152	GP215	5HK-D15	
C33	27 N330							10TCS-Q27	
C34	3300		BPD-0033	DD-332	BYA10D33	CCD-332	GP233	5HK-D33	
C35	8200		DAC-008	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80	
C36	2200		BPD-0022	DD-222	BYA10D22	CCD-222	GP222	5HK-D22	
C37	.15 100V		P288N-15	DD-203	CUB2P15	1DP-3-154	GEM-2015	2TM-P15	
C38	.022 400V		P488N-022	DD-203	CUB4S22	4DP-2-223	GEM-4122	4TM-S22	
C39	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P1	
C40	.001 1000V		P1088N-001	DD-102	CUB10D1	16DP-1-102	GEM-1021	10TM-D1	
C41	3900		BPD-004	DD-392	L10D39	CCD-392	GP239	10TS-D39	
C42	.0039 600V 10%		V84C8D4-10%	TCZ-47	PM6D4	6DP-1-392	JL-239	10TS-D39	
C43	47 10%		1469-000047	DD-391	22R5Q47	CM-19B-470K	CNO-447	MS-447	
C44	390 10%		1469-000039	DD-391	5R5T39	CM-19B-391K	MS-447	MS-339	
C45	.01 200V		P288N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S1	
C46	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80	
C47	.033 400V 10%		V84C4S33-10%	DD-203	PM4S33	4DP-2-333	GEM-1613	4TM-S33	
C48	.022 600V		P888N-022	DD-203	CUB6S22	6DP-2-223	GEM-6122	6TM-S22	

Philco Part No. * Not normally in distributor's stock. Available thru distributor on order to manufacturer.

PHILCO CHASSIS 10L31,
10L31U, 10L32, 10L32U

FOLDER 1

TV PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESIST-ANCE	WATTS	PHILCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	1.5meg	1/2	33-5592-52	F1-64	RTV-693	† QJ-1145	UE4084-S	Contrast Volume Off-On Horiz. Hold
B	1meg	1/2		R2-51				
C	Switch	1/2		KR-1				
R2A	50K	1/2	33-5593-30	B-31	A47-50K-S	QJ-123	TA54L	Vert. Hold
B	Shaft	1/2		Not Req.	FS-3	Not Req.	Not Req.	
R3A	75K	1/2	33-5593-25	B-35	A47-75K-S	QJ-125	RU753L	
B	Shaft	1/2		Not Req.	FS-3	Not Req.	SL3500	Brightness
C	Dashing	1/2		Not Req.	Not Req.	Not Req.	SL38	
R4A	200K	1/2	33-5593-24	B-46	A47-200K-S	QJ-129	U43	
B	Shaft	1/2		Not Req.	FS-3	Not Req.	Not Req.	Height Horiz. Cent (Horiz. Hold Range) Vert. Lin.
R5A	3meg	1/2	33-5595-3					
B	100K	1/2						
R6	3500Ω	2(WW)	33-5591-18		39-4000	112-4000	FL-4K	

† "Concentrict" Equivalent: K-6 Kit with Base Elements & Shafts: B11-136, P17-105 (Panel)
B11-137, R1-122 (Rear)
76-1 (Switch)

■ "STA-LOC" Equivalent: FA155L, RU16L, OS187, FSL812, US41.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R7	12meg		R29	2.2meg		R51	18K	
R8	6200Ω 5%		R30	1.5meg		R52	1.5meg	
R9	22K 5% 1W		R31	680K		R53	92K	
R10	4300Ω 5%		R32	1800Ω 2W		R54	100Ω	
R11	12meg		R33	4100Ω 7W	#33-1335-149	R55	1.5meg	
R12	1000Ω		R34	18K		R56	180Ω	
R13	22K		R35	56Ω		R57	180Ω	
R14	1000Ω		R36	10K		R58	10K 1W	
R15	27K		R37	150K		R59	1000Ω	
R16	47Ω		R38	220K		R60	56K	
R17	180K		R39	100K		R61	680K	
R18	220K		R40	22K 1W		R62	5600Ω 1W	
R19	22K		R41	150Ω		R63	5600Ω 3W	#33-1363-39
R20	1000Ω		R42	470Ω		R64	24K 4W	#33-1363-18
R21	15K		R43	1500Ω		R65	4700Ω 4W	#33-1335-144
R22	330Ω		R44	6800Ω 2W		R66	3200Ω	
R23	330Ω		R45	270Ω 5%		R67	4700Ω	
R24	120Ω		R46	15K		R68	3000Ω 7W	#33-1363-36
R25	3300Ω		R47	180K		R69	390Ω 2W	
R26	3.9meg		R48	100Ω		R70	470K	
R27	560K		R49	330Ω 1W				
R28	3.3meg		R50	47K				

* Alternate value. # Philco Part No. Note 1. May not be used in Run 1.

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PHILCO PART No.	REPLACEMENT DATA
K1	2nd Video IF Cathode	12mmf, 68Ω	30-6039-2 ①	
K2	Audio Detector Grid	150mmf, 15K	30-6031-1	Sprague PRC-7
K3	Sync Sep. Grid	390mmf, 3300mmf, 220K, 330K, 1meg, 1.5meg	30-6532-3	
K4	Vert. Integrator	150mmf, 4000mmf, 4000mmf, 5000mmf, 33K, 33K, 90K	30-6030-2	Sprague V10
K5	Vert. Feedback	1000mmf, 2200mmf, 47K, 100K	30-6509-4	
K6	Horiz. AFC	82mmf, 220mmf, 1000mmf, .047mf (50V), 82K, 150K, 680K, 1.2meg	30-6035-2	
K7	Horiz. Mult. Circuit	390mmf, 820mmf, 3300mmf, 4700Ω, 6800Ω, 39K	30-6531-2	

① Run 1 uses 15mmf, 68Ω (Part #30-6039-1).

COILS (RF-IF)

ITEM No.	USE	PHILCO PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	NOTES
L1	47.25MC Trap Coil	32-4645-32	19-1001	19-1001	BC-582	4604		1.5uh
L2	47.25MC Trap Coil	32-4645-19	19-1002	19-1002	BC-583	4602		2.6uh
L3	41.25MC Trap Coil	32-4645-34						3uh
L4	RF Choke	32-4645-41				4584		.23uh
L5	1st Video IF	32-4645-36	19-3001	19-3001	TV-189	6175		.88uh
L6	2nd Video IF	32-4686-22						
L7	3rd Video IF	32-4686-2						
L8	4th Video IF	32-4686-3						
L9	Resonant Choke	32-4674-1						22uh
L10	Resonant Choke	32-4645-7						3uh
L11	Shunt Peaking Coil	32-4762-8	19-4201	19-4201	TV-197	6154		220uh
L12A	Sound Take-Off .	32-4688-9						
B	4.5MC Trap							
L13	Shunt Peaking Coil	32-4762-8	19-4201	19-4201	TV-197	6154		220uh
L14	Series Peaking Coil	32-4762-10	19-3330	19-3330	TV-200	6132		330uh
L15	Sound IF	32-4745-2						
L16	Quadrature Coil	32-4644-20						
L17	RF Choke	32-4112-52	19-1005	19-1005	BC-586	4612		9uh
L18	RF Choke	32-4632-2	19-6022		TV192	4628		23uh, Note 1
L19	Flt. Choke	32-4645-40						

Note 1. Wound on a 22Ω resistor.

TRANSFORMER (HORIZ. OSC.)

ITEM No.	DC RES.	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Miller PART No.	Ram PART No.	Thordarson PART No.	NOTES
L20	150Ω	32-4754-3						Horiz. Stabilizer

FILTER CHOKE

ITEM No.	CURRENT (Measured)	DC RES.	INDUCTANCE (DC CURRENT 100mA)	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
L21	.260A	40Ω	1 Hy.	32-8710-8						

TRANSFORMER (POWER)

ITEM No.	RATING	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117V ② 2A 540VCT ② ② .260A 3A	32-8807-3				P-8356		R-75BA
	SEC. 3 6.3V ② 8A	SEC. 4 SEC. 5						

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Rogers PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T2	Vert. Output	32-8904-1	26875 ①	A-2815 ①	V308	VO33	A-8143	26875 ①	A-107X ②
T3	Yoke-Horiz. (21MH) (90°)-Vert. (49MH) Centering Device & Clamp Assembly	79-10119-9							
T4	Horiz. Output	76-11069-2 32-8903-1							

① Use 12:1 turns ratio.

② Drill new mounting hole(s).

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	PHILCO PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T5	4200Ω 3-4Ω	32-8747-4	24548	A-3026	AU-601	A-3877	24548	S-3X	

SPEAKER

ITEM No.	TYPE	SIZE	FIELD	V. C. IMP.	PHILCO PART No.	QUAM PART No.	NOTES
SP1	8"	PM	3-4Ω		36-1651-26	8A21	Models H4672, L, W, UH4672, L, W, H4673R, LR, UH4673R, LR
	5 1/4"	PM			36-1669-9		Models H4248E, UH4248E, H4668M, L, LR, R, UH4668L, M
	6"	PM			36-1671-3		Models H4250, L, UH4250, L
					36-1673-6		Models H4670, L, W, UH4670, L, W
					36-1680-4		Models H4670, L, W, UH4670, L, W

RECTIFIERS

ITEM No.	RATING	PHILCO PART No.	INTERNATIONAL PART No.	ITT PART No.	SARKES TAZIAN PART No.	SYLVANIA PART No.	NOTES
M1	CURRENT (Measured)	34-8037 †	SD-91 *	K1615 †			†Dual Selenium Diode *Silicon, 2 required

FUSES

ITEM No.	TYPE	RATING	PHILCO PART No.	LITTELFUSE PART No.	BUSS PART No.
M2	N	7/10A S/B 250V	27-6318-1	27-6317-6	333.600 (N 7/10A 250V S/B)
M3	N	1 1/2" Length of #26 wire			

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M4	Tuner	T-100E	VHF
	Tuner	T-101E	VHF with UHF Provisions
	Tuner	T-28D	UHF
	Switch	42-2075-1	Range (Normal-Strong) SPDT Slide Type
	Switch	42-2075-1	Width, SPDT Slide Type
	Magnet	76-6077-7	Focus
	Printed Board	54-6963	Video IF Panel
	Printed Board	54-8994-1	Main, Run 1
	Printed Board	54-8994-3	Main, Run 2

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	54-9213-81	Models H4248E, H4250, L, UH4248E, UH4250, L
Safety Glass	54-9213-89	Models H4670, L, W, H4672, L, W, UH4670, L, W, UH4672, L, W
Safety Glass	54-9213-89	Models H4668L, M, UH4668L, M
Mask	54-5285-5	Models H4248E, UH4248E
Mask	54-5285-6	Models H4250, L, UH4250, L
Mask	54-6296-4	Models H4672, UH4672
Mask	54-6296-1	Models H4672L, W, UH4672L, W
Mask	54-6296-8	Models H-4668L, M, UH4668L, M
Knob	76-11142-19	Channel Selector, Models H4248E, H4250, L, H4670, L, W, H4672, L, H4668L, M
Knob	76-11142-20	Channel Selector, Models UH4248E, UH4250, L, UH4670, L, W, UH4672, L, W, UH4668L, M
Knob	76-11142-21	UHF Channel Selector, Models UH4248E, UH4250, L, UH4670, L, W, UH4672, L, W, UH4668L, M
Knob	54-5534-1	Fine Tuning
Knob	54-6481-5	Off-On-Volume
Knob	54-6405-3	Brightness, Vert. Hold, Horiz. Hold
Knob	54-5532-1	Contrast
Cabinet Leg	424-0029-8	Models H4668L, M, UH4668L, M

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 6275
Antenna Rotor Cable	Use BELDEN No. 8484 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8486 (Round) - 8 Conductor

REMOTE CONTROL RECEIVER
PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V15	Preamp.	6AU6	V19	Discriminator-Channel	
V16	1st Amp.	6AU6		Sel. Relay Control	6BJ8
V17	2nd Amp.	6AU6	V20	Off-On Relay Control-	
V18	Limiter Tripler	6CB6		Sound Relay Control	12BH7A
			V21	Rectifier	6CA4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	NOTES
C49A	20 350	30-2590-51	AFB3-35	C0260	FP376.3	TMD-47	TVL-3779	
B	10 350					TD-20-350		
C	10 350					TD-5-50	TVA-1303	
C50	5 50	30-2417-29	PRSL310	BBR5-50	TC30			

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.
C51	10000		BPD-01	DD-103	BYA1081	CCD-103	GP110	5HK-S10
C52	33 10%		DI-33	DD-330	L10Q33	CCD-330	GP433	10TS-Q33
C53	10000		BPD-01	DD-103	BYA1081	CCD-103	GP110	5HK-S10
C54	470 10%		1469-00047	DD-471	5R5T47	CM-19B-471K	MCB245	MS-347
C55	680		BPD-00068	DD-681	BYA10T68	CCD-681	GP368	10TS-T68
C56	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C57	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80
C58	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C59	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80
C60	390 10%		1469-00039	DD-391	5R5T39	CM-19B-391K	MCB243	MS-339
C61	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80
C62	8200		DAC-26	DD-822	HVE16D8	CCD-822	UAC-280	BL-D80
C63	180 10%		1469-00018	DD-181	22R5T18	CM-19B-181K	CNO-318	MS-318
C64	100 10%		1469-00018	DD-101	22R5T1	CM-19B-101K	MCB235	MS-310
C65	180 10%		1469-00018	DD-181	22R5T18	CM-19B-181 K	CNO-318	MS-318
C66	15		DI-15	DD-150	L10Q15	CCD-150	GP415	10TS-Q15
C67	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10
C68	1000		BPD-001	DD-102	BYA10D1	CCD-102	GP210	5HK-D10
C69	50000		BPD-05	DD-503	H-05SS50	1DP-2-503	GP150	5HK-S50
C70	50000		BPD-05	DD-503	H-05SS50	1DP-2-503	GP150	5HK-S50
C71	.15 100V		P288N-15		CUB2P15	1DP-3-154	GEM-2015	2TM-P15