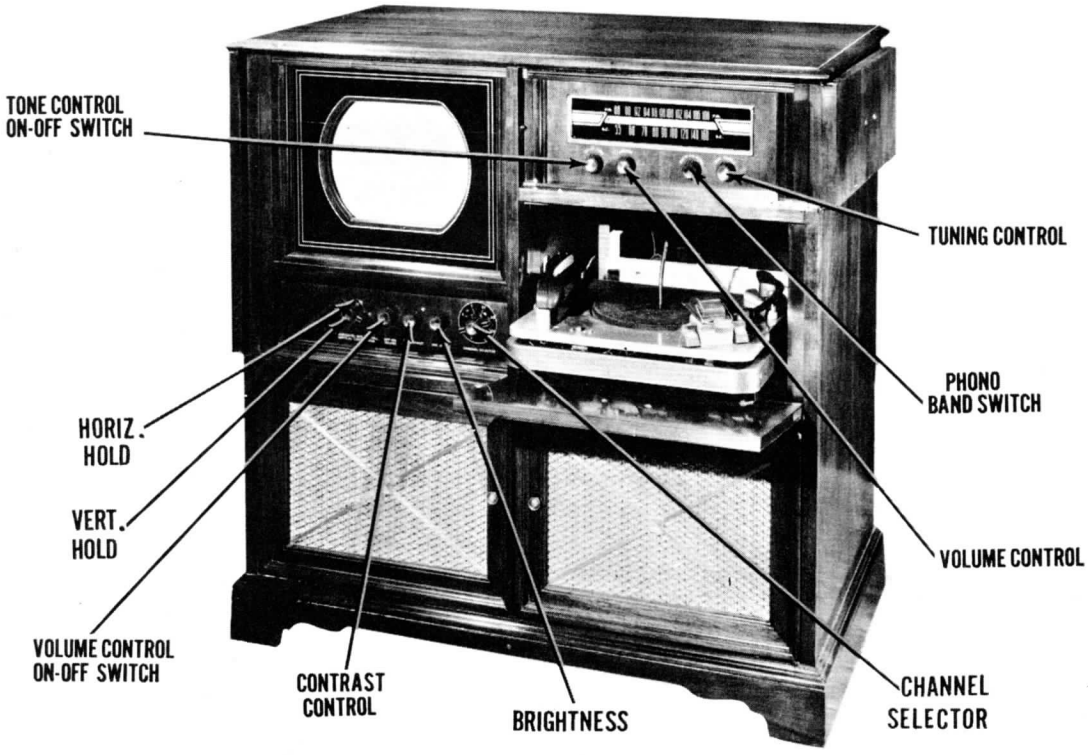
PHILCO
MODELS 49-1150, 49-1175



PHILCO MODEL 49-1175

TRADE NAME	Philco, Models 49-1150, 49-1175		
MANUFACTURER	Philco Corp., Tioga & "C" Streets, Philadelphia, Pa.		
TYPE SET	Model 49-1150 TV only. Model 49-1175 AM-FM-Phono-TV		
TUBES	Twenty Five-Model 49-1150 Thirty Two-Model 49-1175		
POWER SUPPLY	110-120 Volts AC		
TUNING RANGE	TV Channels 2 thru 13 AM 540-1620KC FM 88-108MC	RATING:	(TV) 2.0 Amp. @ 117 Volts AC (Radio) .55 Amp. @ 117 Volts AC

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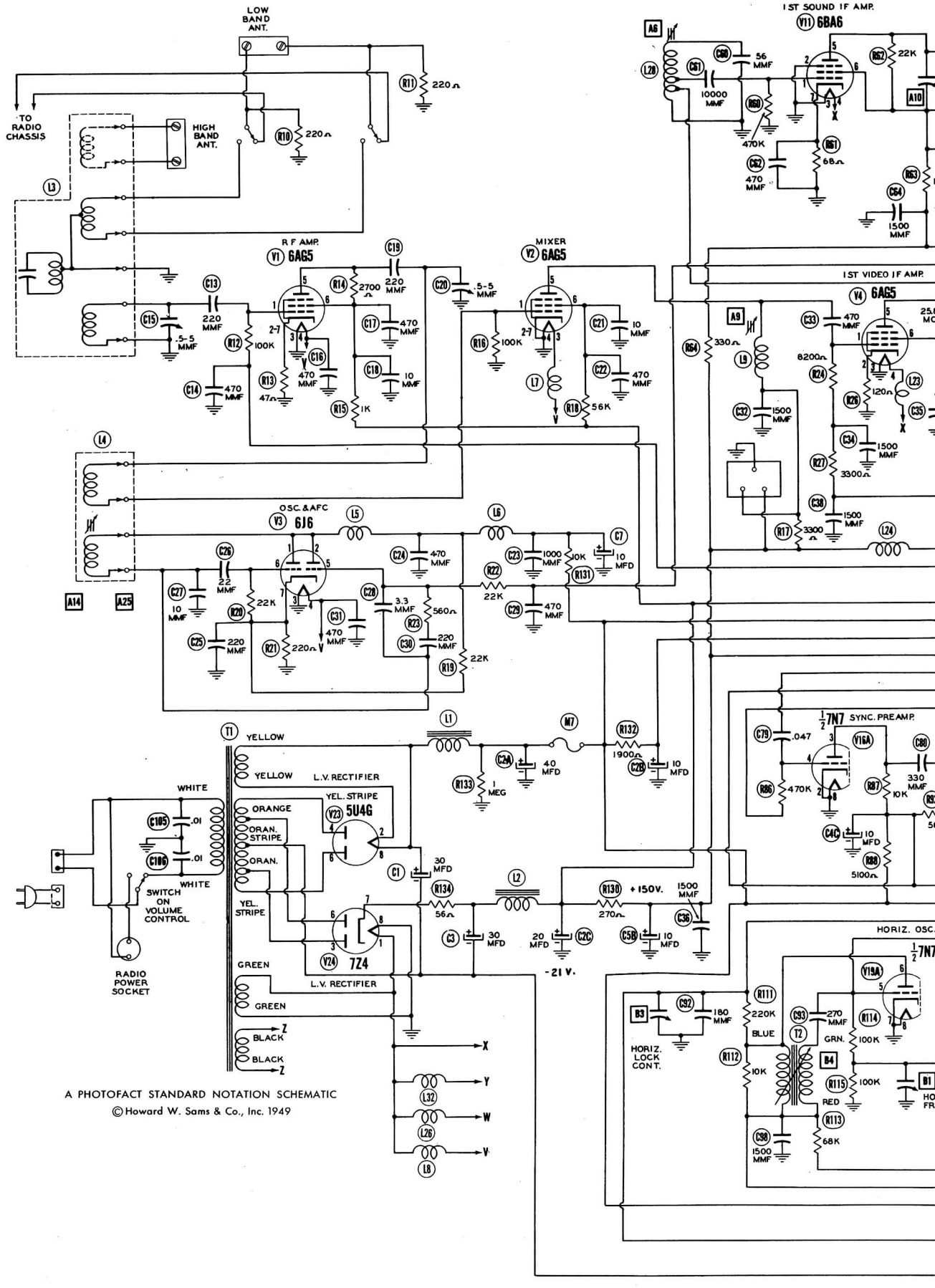
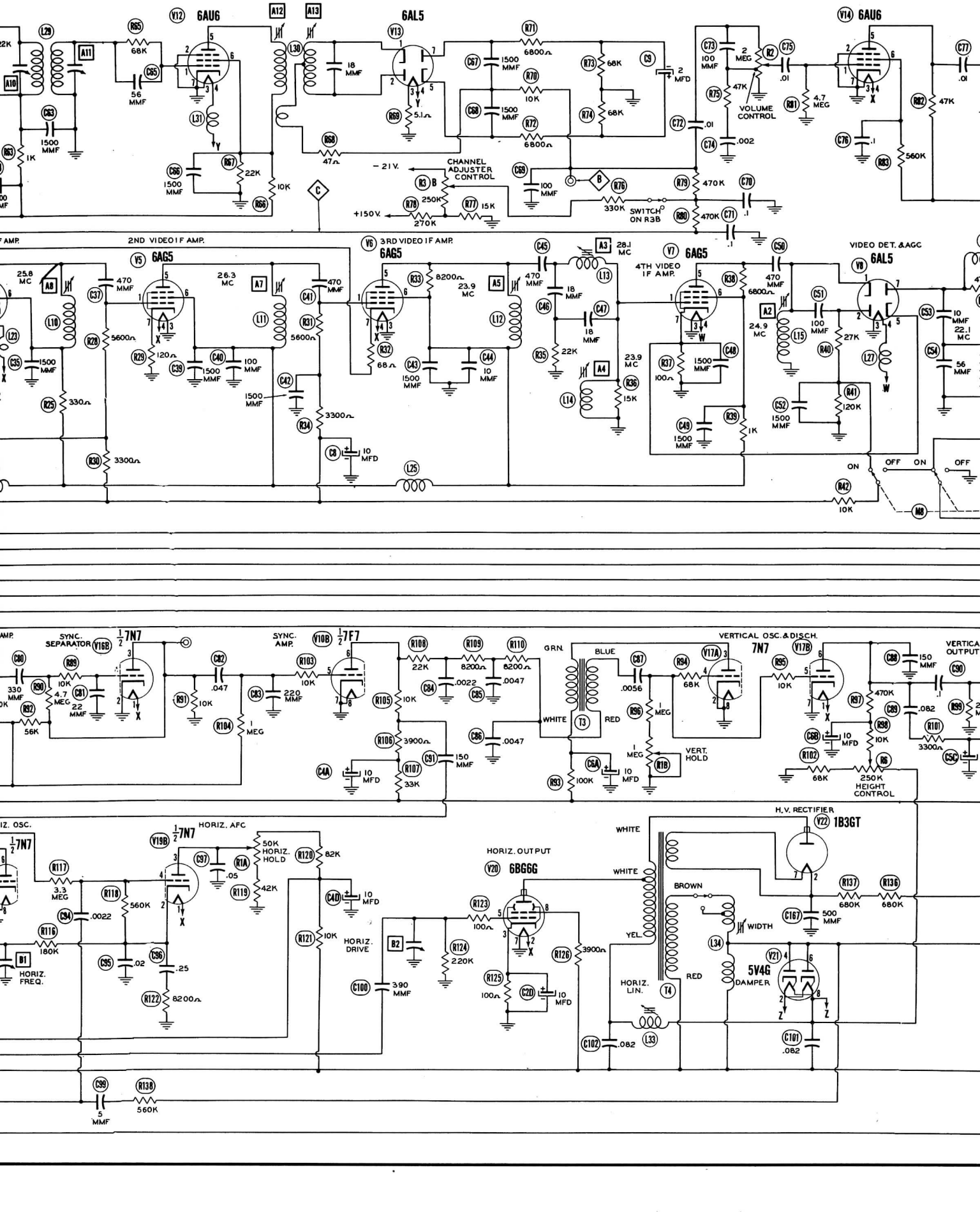
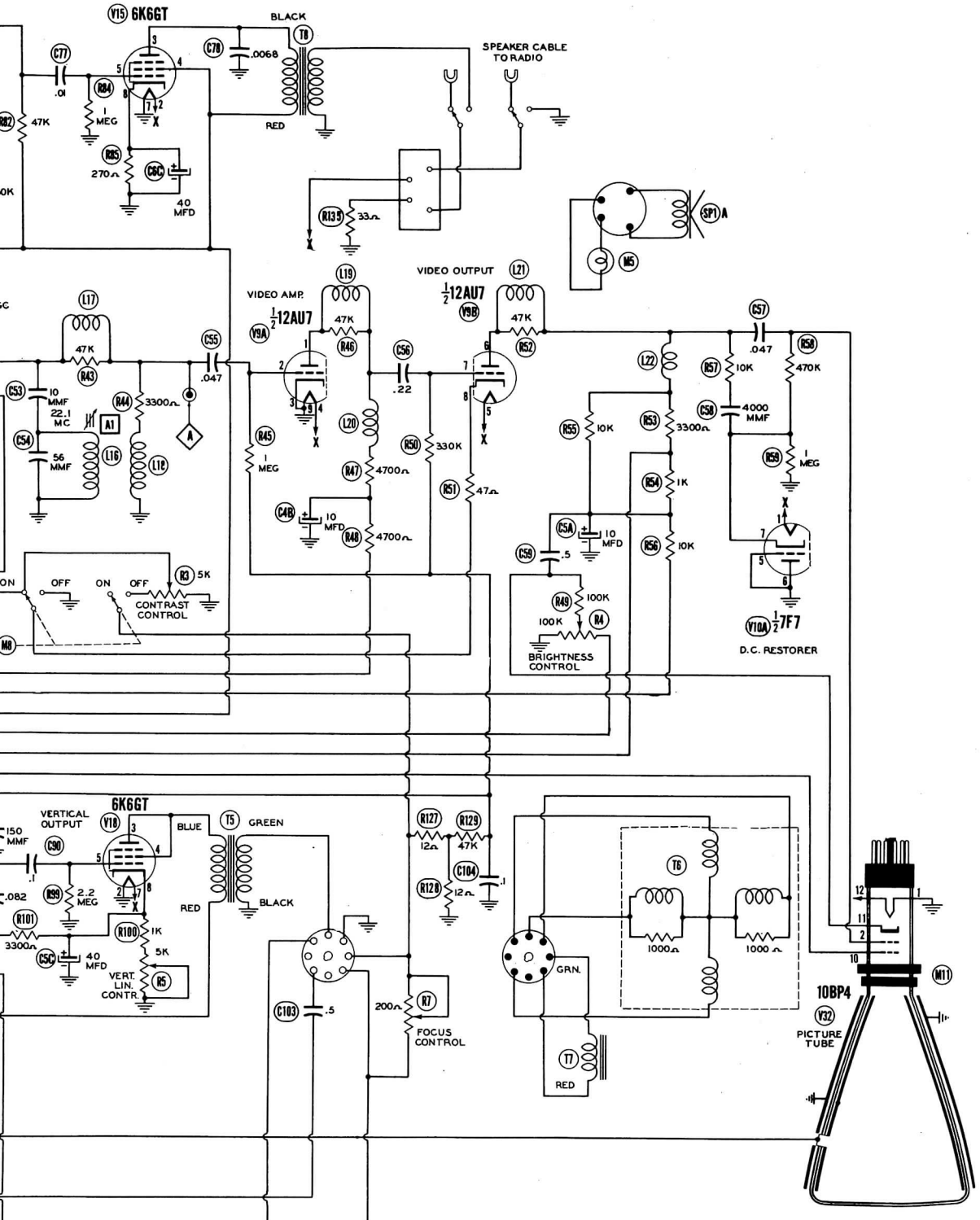
PHILCO
MODELS 49-1150, 49-1175

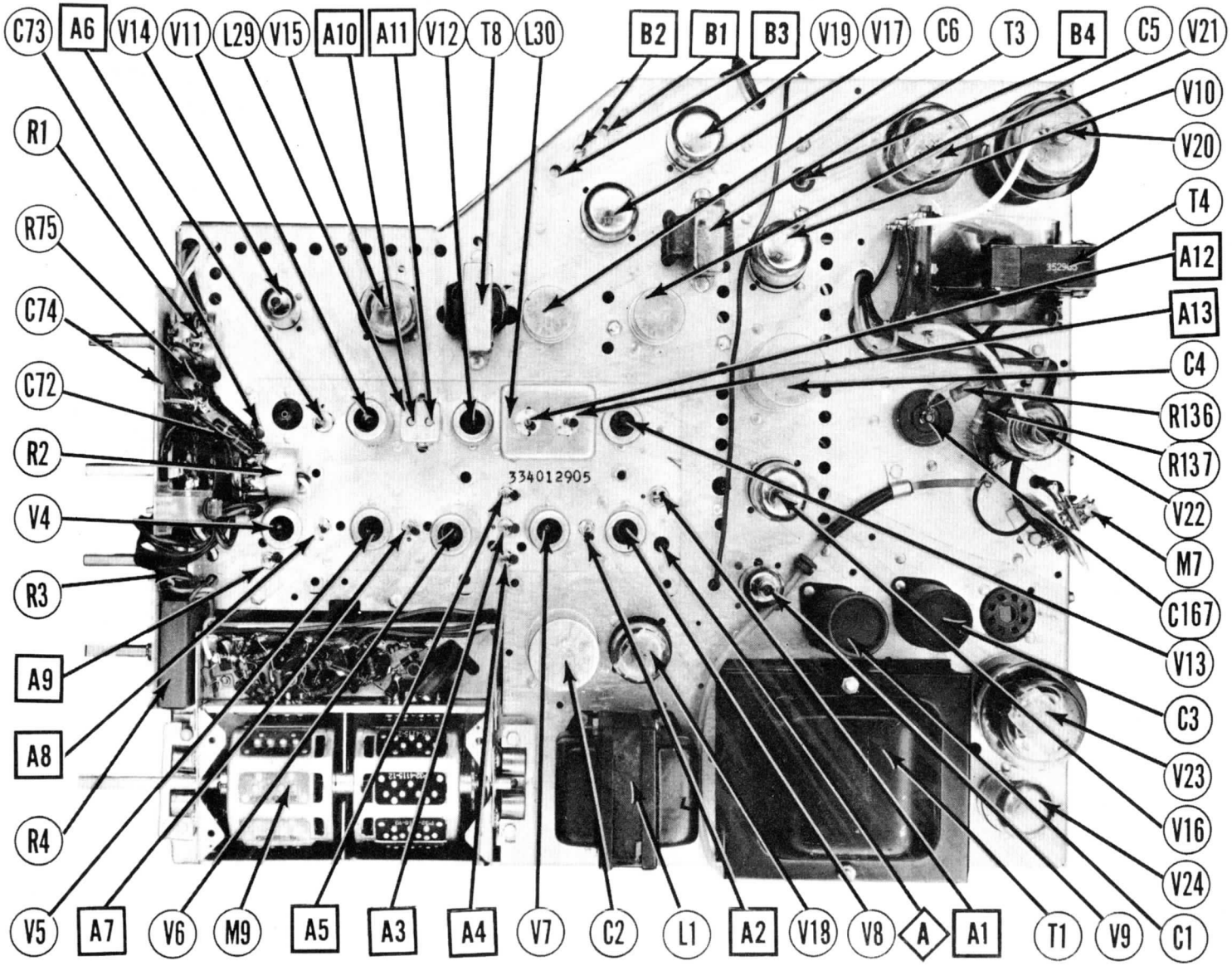
HOWARD W. SAMS & CO., INC. • Indianapolis 7, Indiana

DATE 9/49 4918-6 SET #70 FOLDER 6

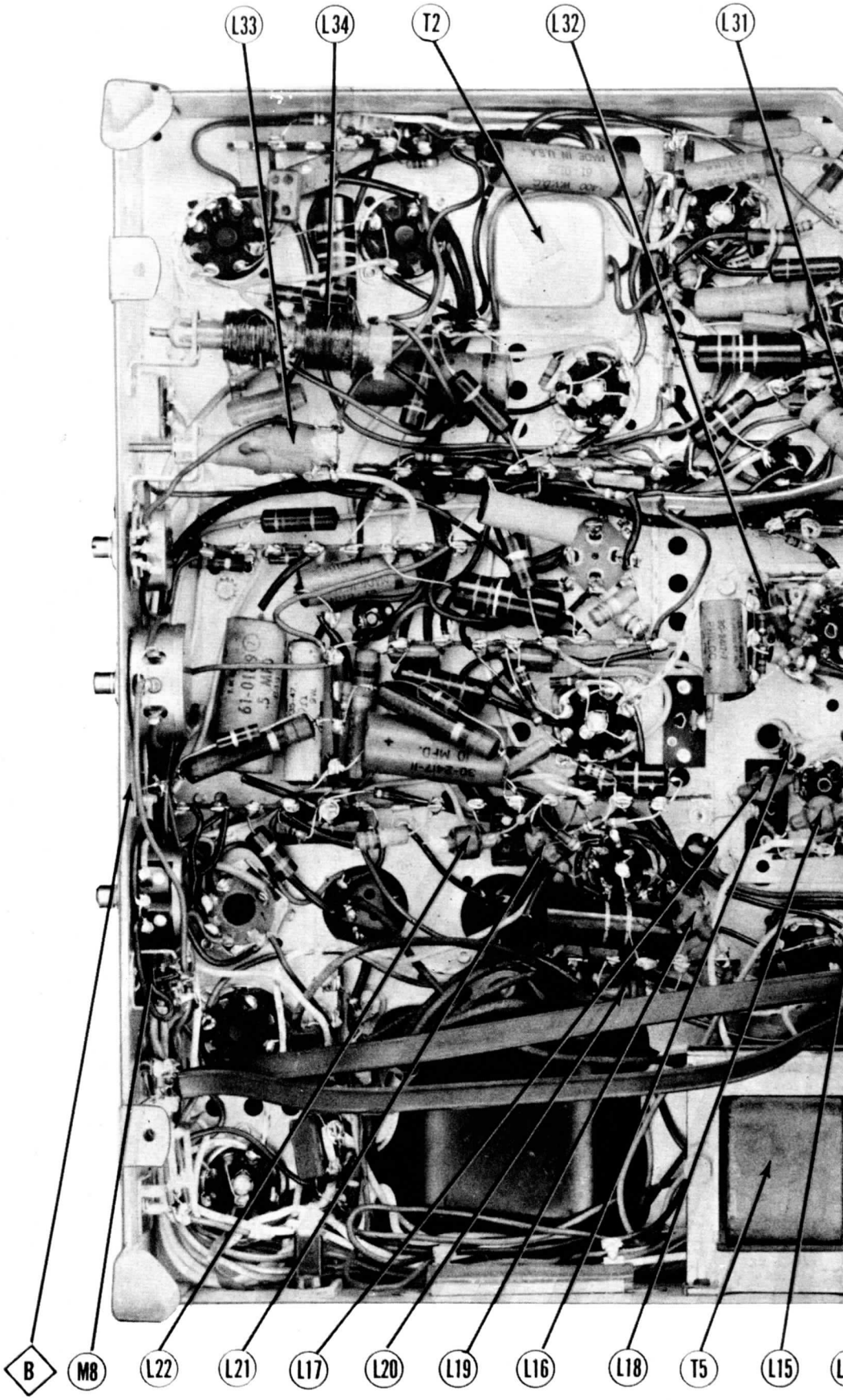

LOW BAND ANT.
HIGH BAND ANT.
TO RADIO CHASSIS
R11 220Ω
R10 220Ω
L3
L4
R.F AMP. V1 6AG5
MIXER V2 6AG5
OSC. & AFC V3 6J6
1ST SOUND I.F. AMP. V11 6BA6
1ST VIDEO I.F. AMP. V4 6AG5
1/2 7N7 SYNC. PREAMP. V16A
HORIZ. OSC.
V19A
V23 5U4G
V24 7Z4
T1
L1
L2
M7
A6
A9
A10
A14
A25
B3
B4
B1
T2
YELLOW
YEL. STRIPE
L.V. RECTIFIER
ORANGE
ORAN. STRIPE
ORAN.
WHITE
GREEN
BLACK
SWITCH ON VOLUME CONTROL
RADIO POWER SOCKET
HORIZ. LOCK CONT.
+150V.
-21V.
BLUE
GRN.
RED
A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1949


V12 6AU6
V13 6AL5
V14 6AU6
V5 6AG5
V6 6AG5
V7 6AG5
V8 6AL5
2ND VIDEO I F AMP.
3RD VIDEO I F AMP.
4TH VIDEO I F AMP.
VIDEO DET. & AGC
CHANNEL ADJUSTER CONTROL
VOLUME CONTROL
SWITCH ON R3B
OFF ON
SYNC. SEPARATOR
SYNC. AMP.
VERTICAL OSC. & DISCH.
VERT. HOLD
HEIGHT CONTROL
HORIZ. AFC
HORIZ. HOLD
HORIZ. FREQ.
HORIZ. DRIVE
HORIZ. OUTPUT
V20 6BG6G
H.V. RECTIFIER
V22 1B3GT
V21 5V4G
DAMPER
WIDTH
HORIZ. LIN.
VERTICAL OUTPUT

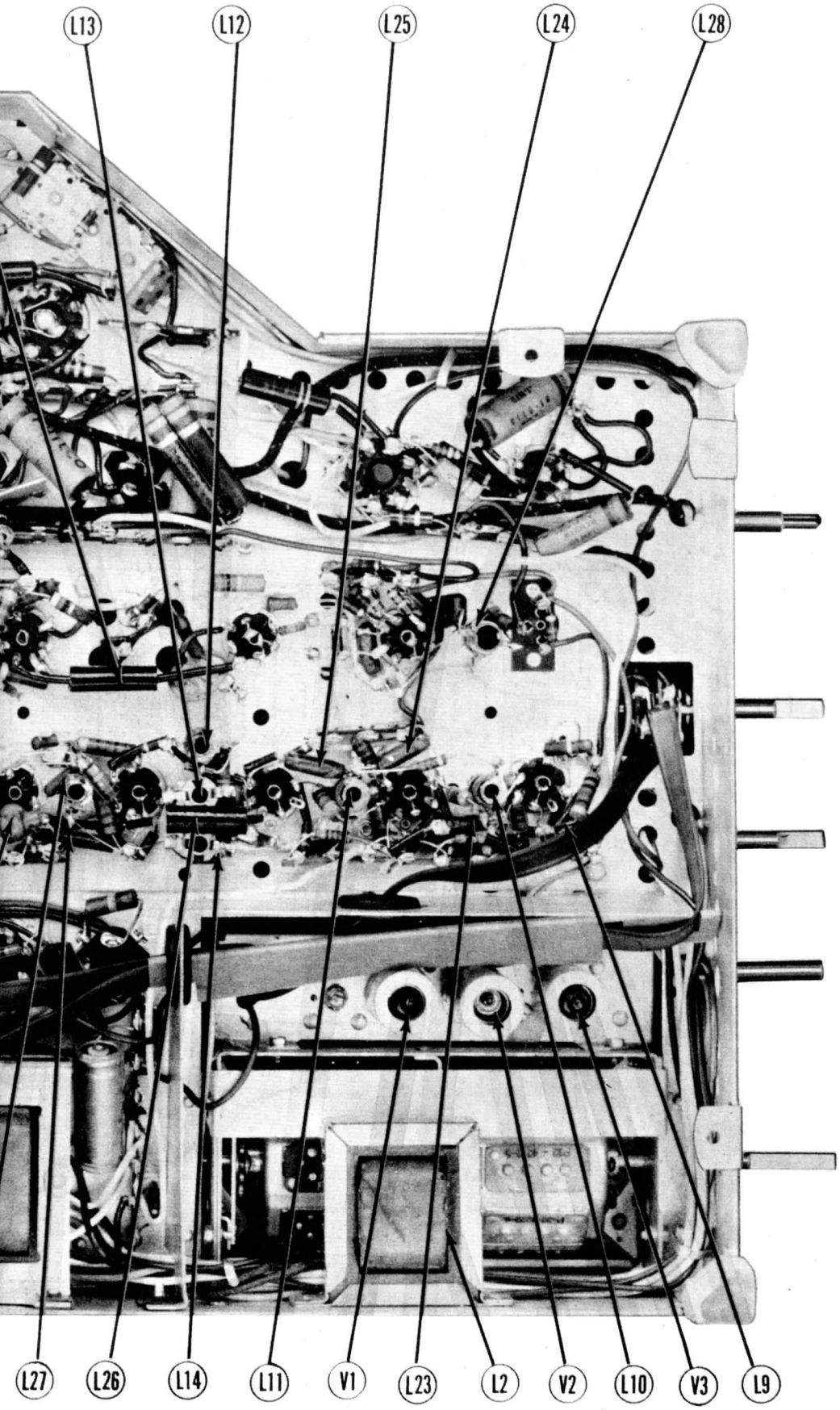

V15 6K6GT
BLACK
T8
C78 .0068
SPEAKER CABLE TO RADIO
C77 .01
R84 1 MEG
R82 47K
R85 270Ω
C6C 40 MFD
RED
R133 33Ω
SP1A
M5
VIDEO AMP.
½12AU7
V9A
L19
47K
R46
VIDEO OUTPUT
½12AU7
V9B
L21
47K
R52
C57 .047
R58 470K
L17
47K
R43
C55 .047
C53 10 MMF 22.1 MC.
R44 3300Ω
A1
A
C54 56 MMF
L16
L18
R45 1 MEG
C56 .22
L20
R50 330K
R47 4700Ω
R51 47Ω
C4B 10 MFD
R48 4700Ω
L22
R57 10K
C58 4000 MMF
R55 10K
R53 3300Ω
R54 1K
R56 10K
R58 1 MEG
C5A 10 MFD
C59 .5
R49 100K
R4 100K
BRIGHTNESS CONTROL
V10A ½7F7
D.C. RESTORER
ON OFF ON OFF R3 5K
CONTRAST CONTROL
M8
6K6GT
VERTICAL OUTPUT
V18
C90 150 MMF
.1
.082
R99 2.2 MEG
R101 3300Ω
R100 1K
5K
C5C 40 MFD
VERT. LIN. CONTR.
R5
BLUE
T5
GREEN
RED
BLACK
R127 12Ω
R129 47K
C104 .1
R128 12Ω
T6
1000Ω
1000Ω
GRN.
T7
RED
C103 .5
200Ω R7
FOCUS CONTROL
10BP4
V32
PICTURE TUBE
M11



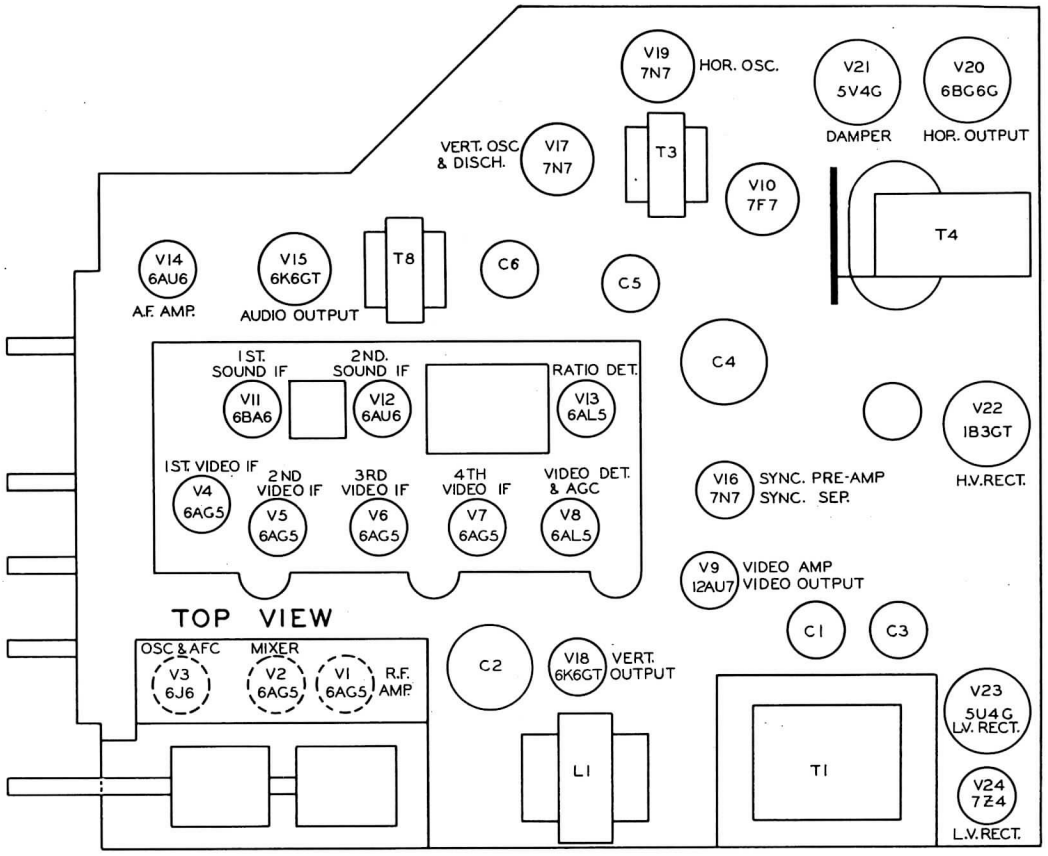
CHASSIS TOP VIEW

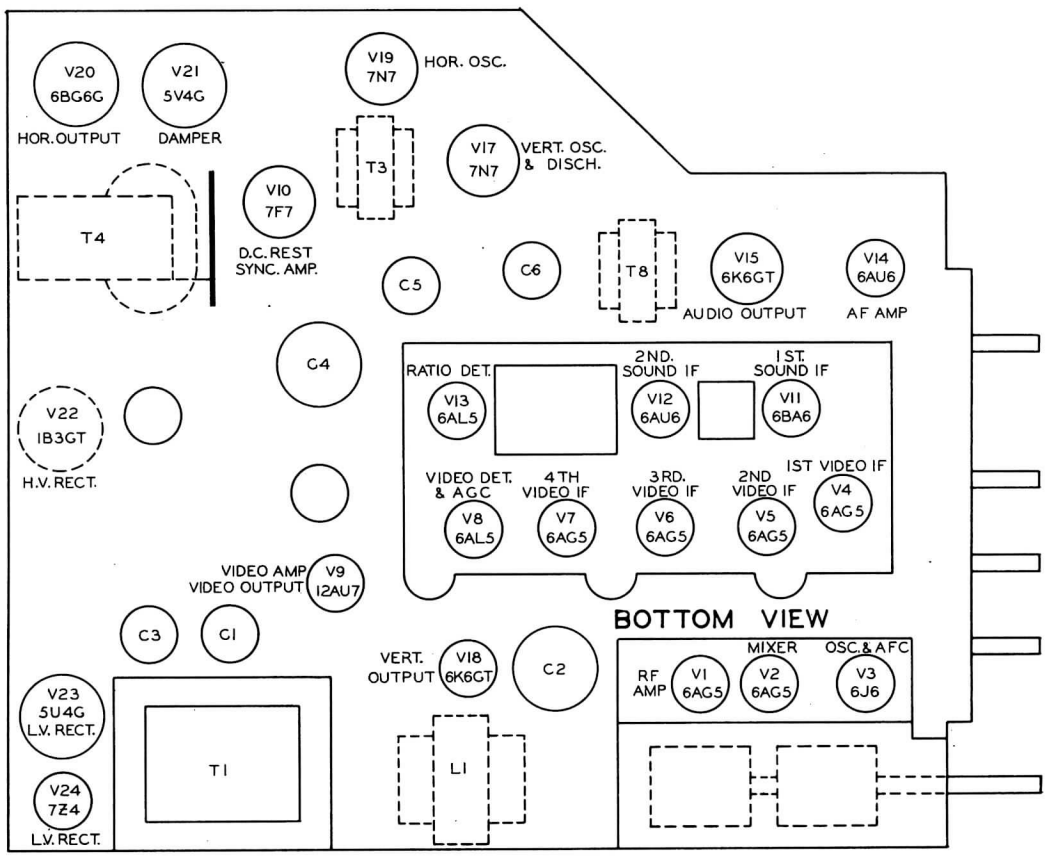


CHASSIS BOTTOM VIEW-TRANS., INDUC



UCTOR AND ALIGNMENT IDENTIFICATION





TUBE PLACEMENT CHART

TV ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Turn the AVC switch to the "off" position and set the contrast control at approximately 3/4 of its rotation in the clockwise direction.

Pull the horizontal oscillator tube (7N7-V19) to eliminate the high voltage shock hazard during the alignment procedure.

VIDEO IF ALIGNMENT

Remove the oscillator tube (6J6-V3) and remove the oscillator clip coil of any channel from the turret and switch the tuner to that channel.

Use an ungrounded tube shield over the mixer tube as a means of injecting the signal.

Attenuate the signal generator so as not to exceed 2 volts on the VTVM.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Tube Shield	High side to ungrounded tube shield over mixer tube (V2). Low side to chassis.	22.1MC (Unmod.)	Any	DC Probe to Point (A) Common to chassis.	A1	Adjust for minimum deflection.
2.	Tube Shield	"	24.9MC (Unmod.)	"	"	A2	Adjust for maximum deflection.
3.	Tube Shield	"	28.1MC (Unmod.)	"	"	A3	Adjust for minimum deflection.
4.	Tube Shield	"	23.9MC (Unmod.)	"	"	A4,A5	Adjust for maximum deflection.
5.	Tube Shield	"	22.1MC (Unmod.)	"	"	A6	Adjust for minimum deflection.
6.	Tube Shield	"	26.3MC (Unmod.)	"	"	A7	Adjust for maximum deflection.
7.	Tube Shield	"	25.8MC (Unmod.)	"	"	A8	Adjust for maximum deflection.

OVERALL VIDEO IF RESPONSE CHECK

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8.	Tube Shield	High side to ungrounded tube shield over mixer tube (V2). Low side to chassis.	25MC (10MC Sweep)	22.1MC 26.6MC 28.1MC	Any	Vert. Amp. thru 10KΩ resistor to point (A) Low side to chassis.	A1,A2, A3,A4, A5,A6, A7,A8, A9	Adjust for pattern and placement of markers as per Fig 1.

SOUND IF ALIGNMENT

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9.	Tube Shield	High side to ungrounded tube shield over mixer tube (V2). Low side to chassis.	22.1MC (1MC Sweep)	22.1MC	Any	Vert. Amp. thru 10KΩ resistor to Point (B) Low side to chassis.	A10,A11	Adjust for maximum indications.
10.	Tube Shield	"	"	"	"	"	A12,A13	Adjust A12 for maximum amplitude and straightness of diagonal line going from peak to peak. Adjust A13 so 22.1MC marker is located at center of diagonal line as per Fig 2. Replace oscillator tube (V3).

OSCILLATOR ALIGNMENT

The oscillator alignment should not be attempted until the sound IF channel has been accurately aligned.

The tuner of this receiver will receiver eight of the twelve available channels. The eight received will depend upon the coils which are in the tuner. Do not attempt to align a coil set for any channel other than that which it is intended. The alignment outline below lists the sound carrier frequencies for all twelve channels.

Disable the AFC system during the oscillator alignment by temporarily grounding Point C.

The oscillator coil slug adjustments are available through the hole in the front panel of the chassis. As each channel is switched in, the oscillator coil slug for that channel is in line with the hole in front of the chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11.	Two 125Ω carbon res.	Across high band antenna terminals with 125Ω resistor in each generator lead.	215.75MC	13	DC Probe to Point (B) Common to chassis.	A14	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
12.	"	"	209.75MC 203.75MC 197.75MC 191.75MC 185.75MC 179.75MC	12 11 10 9 8 7	"	A15 A16 A17 A18 A19 A20	"
13.	"	Across low band antenna terminals with 125Ω resistor in each generator lead.	87.75MC 81.75MC 71.75MC 65.75MC 59.75MC	6 5 4 3 2	"	A21 A22 A23 A24 A25	"

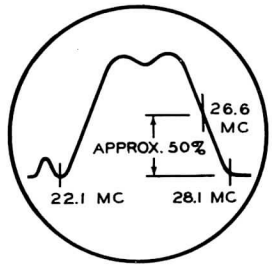


FIG. 1

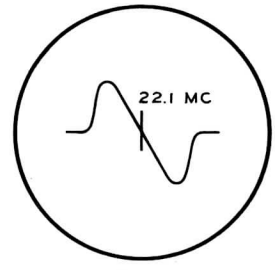


FIG. 2

RADIO ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

If alignment is to be done on both FM and AM bands, the AM alignment should be done first.
Use isolation transformer if available. If not connect a .1MFD capacitor in series with low side of signal generator and B-.
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
The calibration points should be marked by pencil on the dial backplate when the receiver is removed from the cabinet. The reference point from which the measurements are made is the left hand edge of the dial backplate. Pointer setting with tuning gang closed 3 11/16", 1500KC-9 1/16", 1600KC-9 7/16", 92MC-5 5/16", and 105MC-8 7/16".

AM ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
14	.1MFD	High side to terminal #1 of AM antenna terminal strip. Low side to B-.	455KC	AM	540KC	Across terminal #2 & #3 on AM antenna terminal strip	A26, A27, A28, A29, A30, A31	Adjust for maximum output. If isolation transformer is not used reduce dummy antenna to .001MFD to reduce hum modulation. Do not repeat adjustments.
15		Loop	1600KC	"	1600KC	"	A32	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
16		Loop	1500KC	"	1500KC	"	A33	Adjust for maximum output.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ resistor (± 5%) in series from pin 2 of 19T8 (V30) to chassis. The junction of these resistors is alignment Point E as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
17	.1MFD	High side to pin 1 (Grid) of 6BJ6 (V28). Low side to B-.	9.1MC (Unmod.)	FM	88MC	DC Probe to Point (D). Common to B-.	A34, A35, A36	Adjust for maximum deflection.
18	.1MFD	High side to pin 8 (Grid) of 7F8 (V26). Low side to B-.	"	"	"	"	A37, A38	" " " "
19	.1MFD	"	"	"	"	DC Probe to Point (E). Common to Point (F)	A39	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

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

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
17	.1MFD	High side to pin 1 (Grid) of 6BJ6 (V28). Low side to B-.	9.1MC (450KC Sweep)	FM	88MC	Vert. Amp. to Point (D). Low side to B-.	A34, A35, A36	Disconnect stabilizer cap. (C12). Adjust for maximum amplitude and symmetry as per Fig 3.
18	.1MFD	High side to pin 8 (Grid) of 7F8 (V26). Low side to B-.	"	"	"	"	A37, A38	"
19	.1MFD	"	"	"	"	Vert. Amp. to Point (F). Low side to B-.	A39	Reconnect stabilizer cap (C12). Adjust so crossover point occurs at center of pattern as per Fig 4. Slightly, retouch A34 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
20	Two 125Ω carbon res.	Across pins 1 and 4 of FM antenna socket with 125Ω resistor in each generator lead.	105MC	FM	105MC	DC Probe to Point (D). Common to B-.	A40	Adjust for maximum deflection.
21	"	"	"	"	"	"	A41, A42	Rock tuning gang and adjust for maximum deflection.
22	"	"	92MC	"	92MC	"	L40, L37, L35	Expand or compress the coil turns, which ever is necessary, until the insertion of either end of a tuning wand will cause a decrease in the VTVM reading. Repeat steps 20, 21, and 22 until no further improvement can be made.

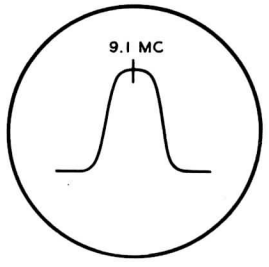


FIG. 3

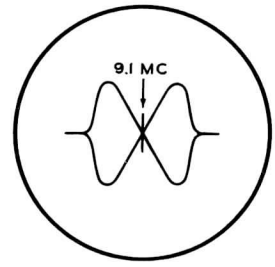


FIG. 4

PHILCO MODELS 49-1150, 49-1175

VOLTAGE AND RESISTANCE MEASUREMENTS

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	0V	.5VDC	0V	6.3VAC	120VDC	137VDC	.5VDC		
V 2	6AG5	0V	0V	6.3VAC	0V	130VDC	75VDC	0V		
V 3	6J6	85VDC	85VDC	0V	6.3VAC	.1VDC	§2VDC	2.5VDC		
V 4	6AG5	-2.8VDC	1.1VDC	0V	6.3VAC	125VDC	125VDC	1.1VDC		
V 5	6AG5	-.6VDC	1.1VDC	0V	6.3VAC	127VDC	127VDC	1.1VDC		
V 6	6AG5	-.3VDC	1VDC	0V	6.3VAC	127VDC	127VDC	1VDC		
V 7	6AG5	0V	1VDC	0V	6.3VAC	77VDC	125VDC	1VDC		
V 8	6AL5	0V	-3.6VDC	0V	6.3VAC	1.1VDC	0V	-2VDC		
V 9	12AU7	115VDC	-.7VDC	0V	6.3VAC	6.3VAC	300VDC	-1VDC	12.5VAC	
V 10	7F7	6.3VAC	0V	147VDC	.7VDC	0V	0V	.5VDC	0V	
V 11	6BA6	0V	0V	0V	6.3VAC	110VDC	110VDC	1.1VDC		
V 12	6AU6	-.4VDC	0V	0V	6.3VAC	50VDC	50VDC	0V		
V 13	6AL5	.1VDC	.1VDC	.8VDC	6.3VAC	10VDC	0V	-8.9VDC		
V 14	6AU6	-.5VDC	0V	0V	6.3VDC	187VDC	37VDC	0V		
V 15	6K6GT	0V	6.3VAC	217VDC	240VDC	0V	0V	0V	0V	
V 16	7N7	6.3VAC	0V	160VAC	-1VDC	-.5VDC	32VDC	0V	0V	
V 17	7N7	6.3VAC	0V	320VDC	-75VDC	-77VDC	450VDC 250VDC	0V	0V	
V 18	6K6GT	0V	0V	320VDC	320VDC	0V	6.3VAC	6.3VAC	28VDC 45VDC	
V 19	7N7	6.3VAC	9VDC	135VDC	-.4VDC	-1.6VDC	140VDC	0V	0V	
V 20	6BG6	0V	6.3VAC	9.3VDC	0V	-.2VDC	310VDC	0V	245VDC	*
V 21	5U4	0V	415VDC	0V	320VDC	0V	320VDC	0V	415VDC	
V 22	1B3GT	* DO NOT MEASURE.								
V 23	5U4G	0V	350VDC	0V	350VAC	0V	350VAC	0V	350VDC	
V 24	7Z4	6.3VAC	0V	230VAC	0V	0V	230VAC	165VDC	0V	
▲‡ V 25	12AU6	.4VDC	.7VDC	44VAC	55VDC	210VDC	165VDC	5VDC		
▲‡ V 26	14F8	§-1.3 VDC	32.5VAC	120VDC	3.2VDC	4.8VDC	107VDC	20VAC	2.5VDC	
▲V27	12AU7	41VDC	§-2VDC	2.9VDC	44VAC	32.5VAC	125VDC	0V	6.8VDC	
▲V28	6BJ6	0V	2.2VDC	55VDC	61VDC	145VDC	145VDC	1.7VDC		
▲V29	6BJ6	0V	.9VDC	61VDC	67VDC	200VDC	123VDC	0V		
▲‡ V 30	19T8	-.5VDC	-1.1VDC	-1.4VDC	0V	20VAC	-.7VDC	0V	-.7VDC	65VDC
▲V31	50C6G	0V	117VAC	200VDC	157VDC	0V	0V	67VAC	12.5VDC	
V32	10BP4	0V	.2VDC	PIN 10 250VDC	PIN 11 125VDC	PIN 12 6.3VDC				

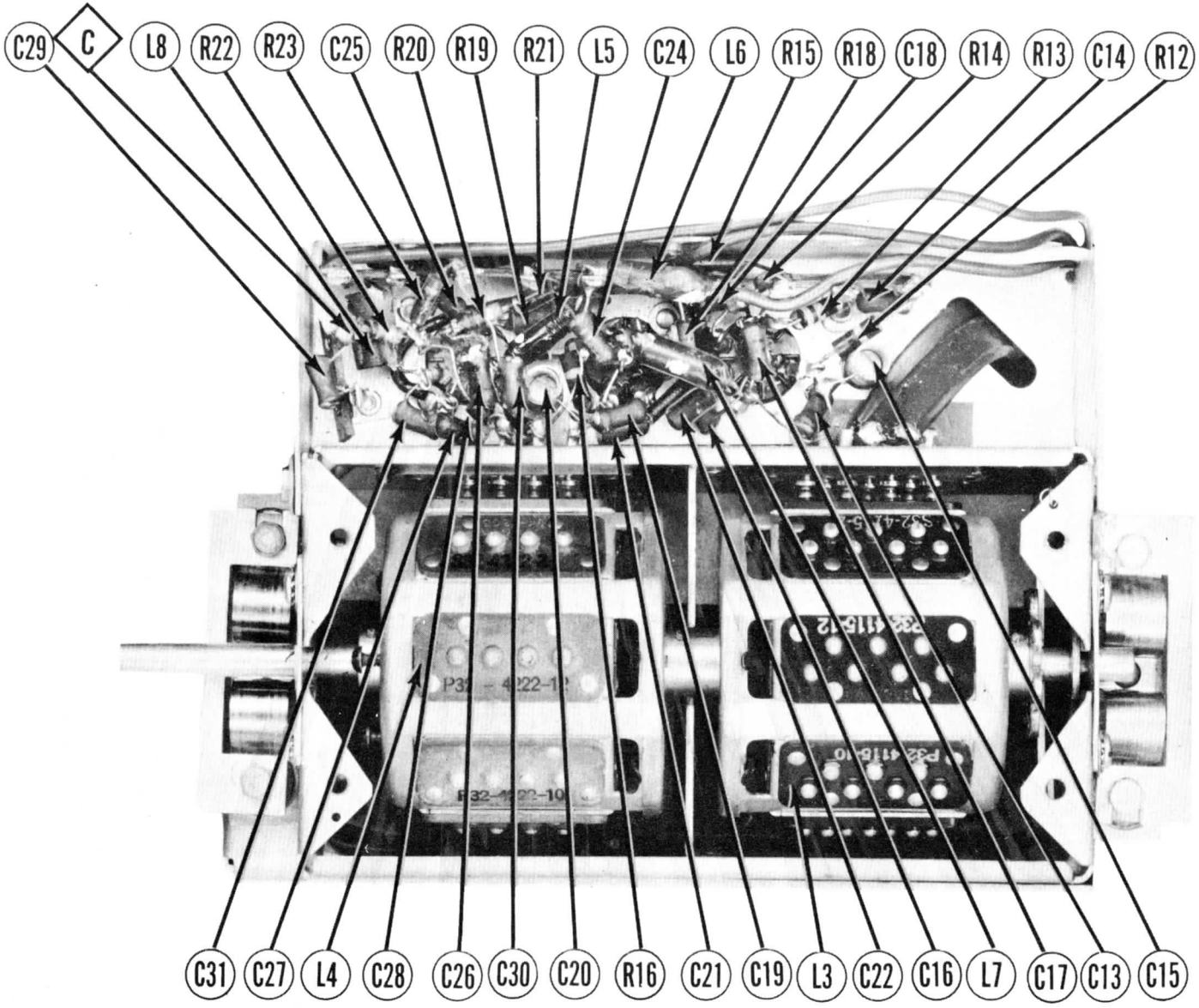
* Do Not Measure.
▲ B - Line At Switch Used As Negative.

RESISTANCE READINGS

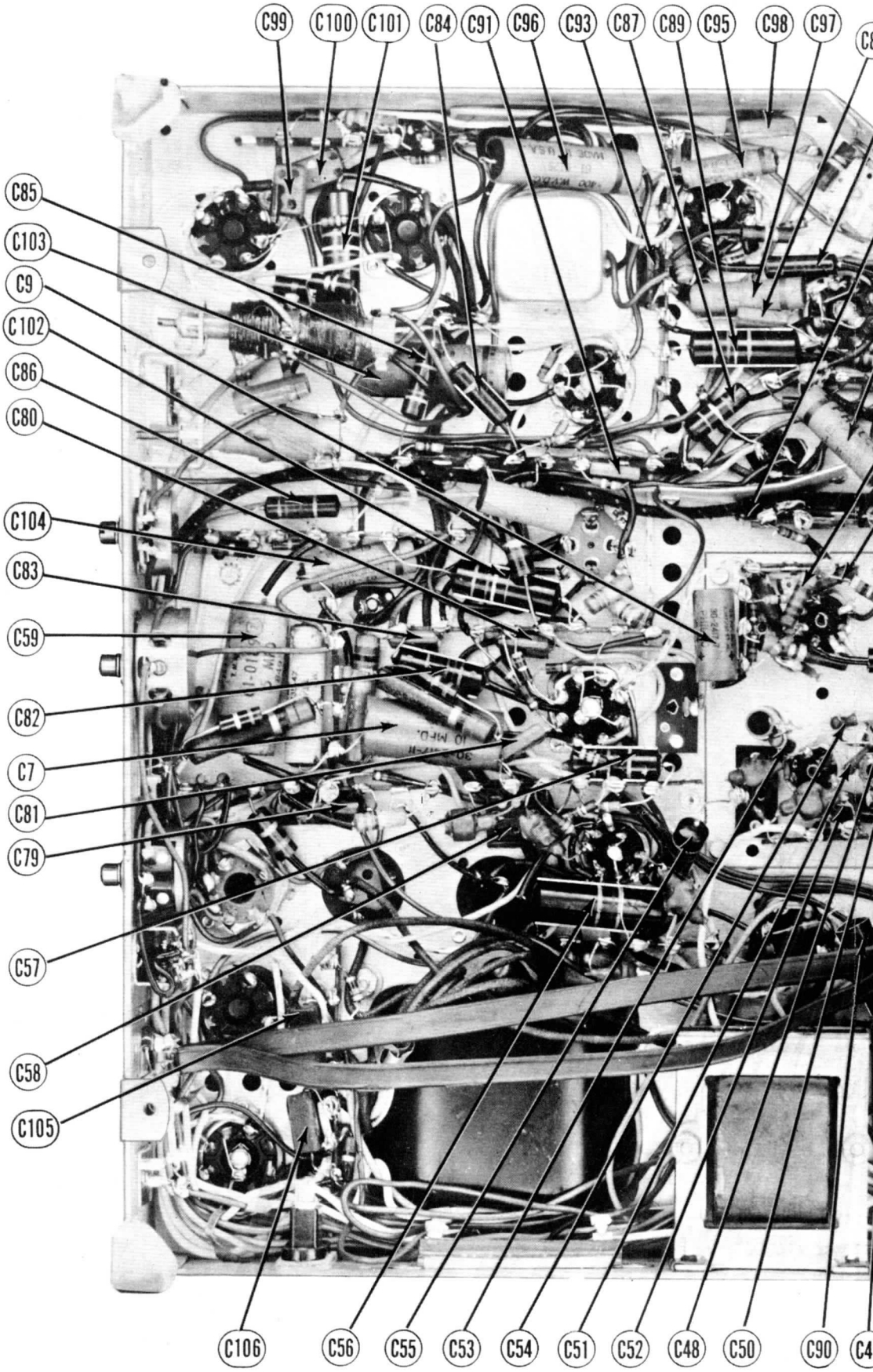
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	220KΩ	47Ω	0Ω	.1Ω	†4KΩ	†1000Ω	47Ω		
V 2	6AG5	100KΩ	0Ω	.1Ω	0Ω	†4KΩ	†60KΩ	0Ω		
V 3	6J6	#8KΩ	#8KΩ	0Ω	.1Ω	Inf.	22KΩ	220Ω		
V 4	6AG5	145KΩ	120Ω	0Ω	.1Ω	†800Ω	†800Ω	120Ω		
V 5	6AG5	145KΩ	120Ω	0Ω	.1Ω	†470Ω	†470Ω	120Ω		
V 6	6AG5	145KΩ	70Ω	0Ω	.1Ω	†470Ω	†470Ω	70Ω		
V 7	6AG5	.1Ω	100Ω	0Ω	.1Ω	†8KΩ	†1.5KΩ	100Ω		
V 8	6AL5	.2Ω	120KΩ	0Ω	.1Ω	100Ω	Inf.	3.5KΩ		
V 9	12AU7	†9.5KΩ	1.1 Meg.	0Ω	.1Ω	.1Ω	#14KΩ	330KΩ	5KΩ	0Ω
V 10	7F7	.1Ω	0Ω	#47KΩ	1 Meg.	0Ω	0Ω	1 Meg.	0Ω	
V 11	6BA6	470KΩ	0Ω	0Ω	.1Ω	†1.8KΩ	†1.8KΩ	68Ω		
V 12	6AU6	68KΩ	0Ω	0Ω	.1Ω	†10KΩ	†10KΩ	0Ω		
V 13	6AL5	Inf.	Inf.	1.8Ω	.1Ω	74KΩ	Inf.	74KΩ		
V 14	6AU6	4.7 Meg.	0Ω	0Ω	.1Ω	#48KΩ	#560KΩ	0Ω		
V 15	6K6GT	Inf.	.1Ω	#2.5KΩ	#2KΩ	1 Meg.	Inf.	0Ω	270Ω	
V 16	7N7	.1Ω	0Ω	#15KΩ	470KΩ	5 Meg.	#23KΩ	0Ω	0Ω	
V 17	7N7	.1Ω	0Ω	#100KΩ	2 Meg.	2 Meg.	♦ 76KΩ ♦ 48KΩ	0Ω	0Ω	
V 18	6K6GT	Inf.	0Ω	#750Ω	#750Ω	2.2 Meg	.1Ω	.1Ω	5.5KΩ 500Ω	
V 19	7N7	.1Ω	280KΩ	#45KΩ	750KΩ	200KΩ	#80KΩ	0Ω	0Ω	
V 20	6BG6G	Inf.	.1Ω	100Ω	230KΩ	230KΩ	56KΩ	0Ω	#4KΩ	♦53Ω
V 21	5V4G	Inf.	Inf.	Inf.	#88Ω	Inf.	#88Ω	Inf.	Inf.	
V 22	1B3GT	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	Inf.	♦275Ω
V 23	5U4G	Inf.	19KΩ	Inf.	150Ω	Inf.	150Ω	Inf.	19KΩ	
V 24	7Z4	.1Ω	Inf.	150Ω	Inf.	Inf.	150Ω	19KΩ	0Ω	
▲‡ V 25	12AU6	1 Meg.	200Ω	38Ω	48Ω	♦ 170Ω	♦ 15KΩ	320Ω		
▲‡ V 26	14F8	15KΩ	30Ω	♦ 10KΩ	135Ω	1.5KΩ	♦ 20KΩ	20Ω	10KΩ	
▲V27	12AU7	♦ 42KΩ	15KΩ	135Ω	38Ω	30Ω	♦ 20KΩ	5 Meg.	1.5KΩ	
▲V28	6BJ6	5 Meg.	115Ω	48Ω	52Ω	♦ 4.5KΩ	♦ 4.5KΩ	68Ω		
▲V29	6BJ6	11Ω	68Ω	52Ω	58Ω	♦ 1000Ω	♦12.5KΩ	0Ω		
▲‡ V 30	19T8	Inf.	47KΩ	Inf.	0Ω	18Ω	380KΩ	0Ω	10 Meg.	♦270KΩ
▲V31	50C6G	0Ω	80Ω	♦380Ω	♦3.2KΩ	470KΩ	0Ω	58Ω	220Ω	
V32	10BP4	0Ω	1.5 Meg.	PIN 10 5KΩ	PIN 11 150KΩ	PIN 12 .1Ω				

† Measured From Pin 7 Of V24.
# Measured From Pin 8 Of V23.
♦ Measured From Pin 8 Of V21.
♦ Measured From Output Of M2.
▲ B - Line At Switch Used As Negative.

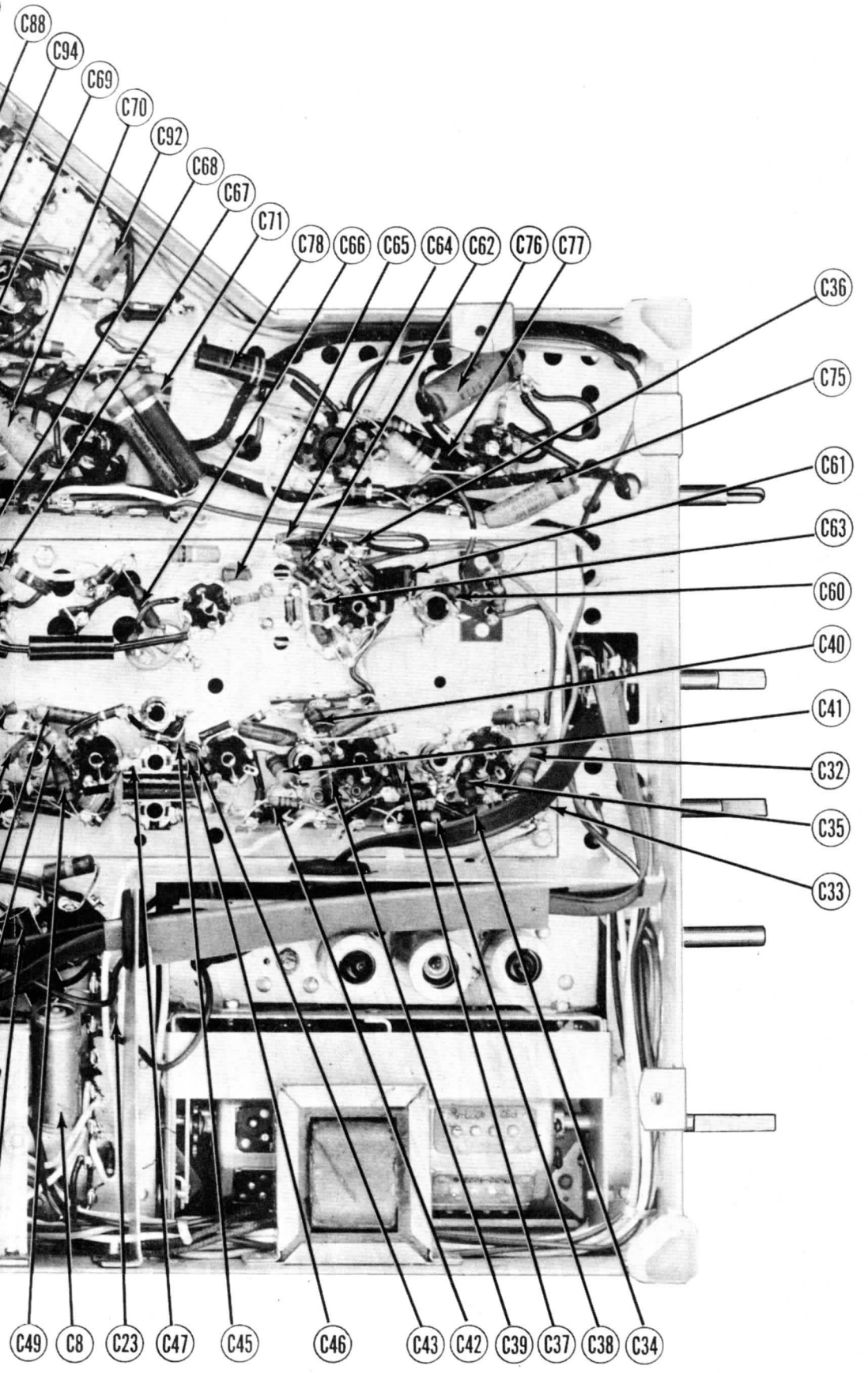
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltage measured at 1,000 ohms.
2. Pin numbers are counted in a clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line voltage maintained at 117 volts for voltage readings.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



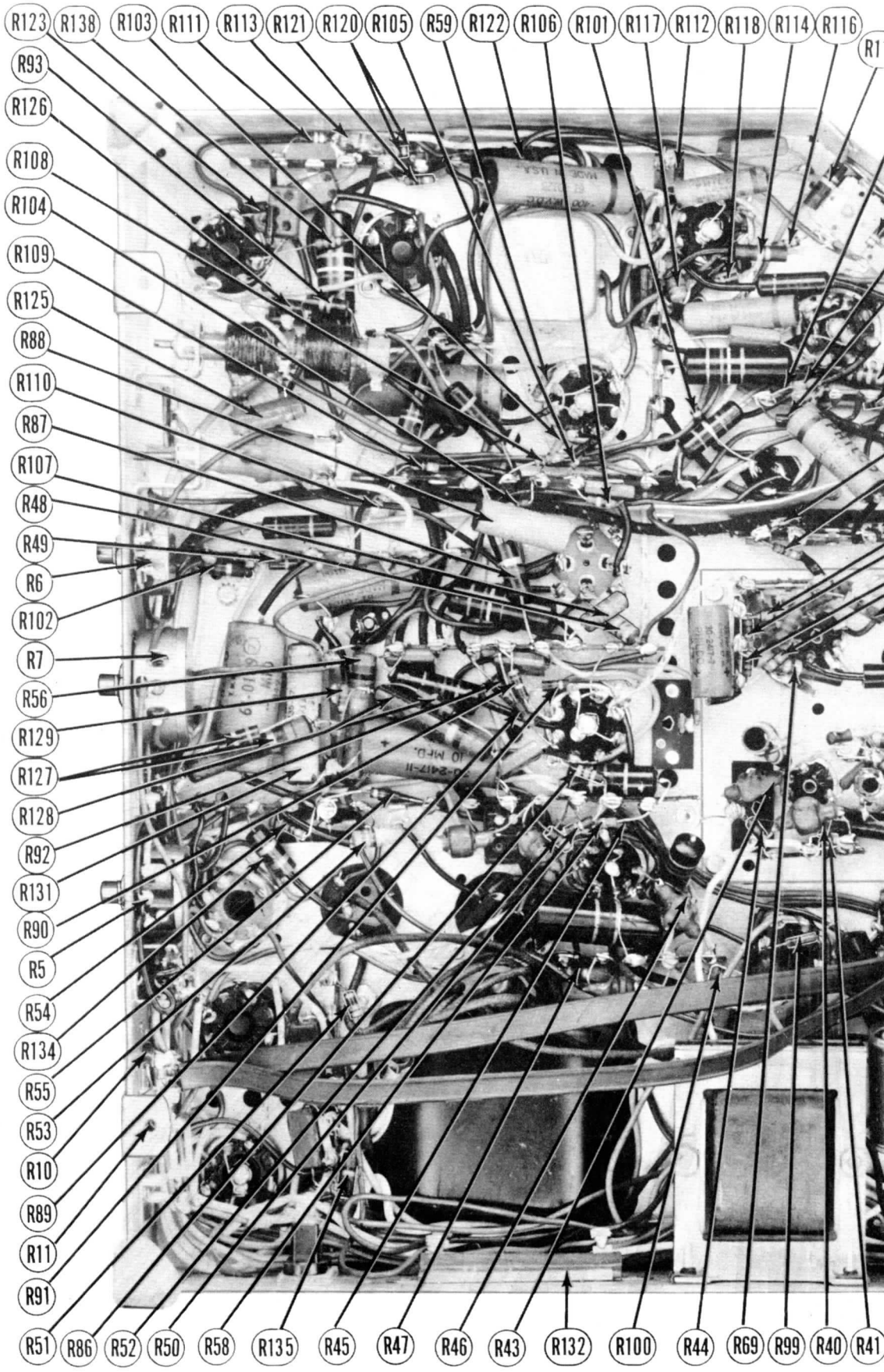
RF TUNER-BOTTOM VIEW



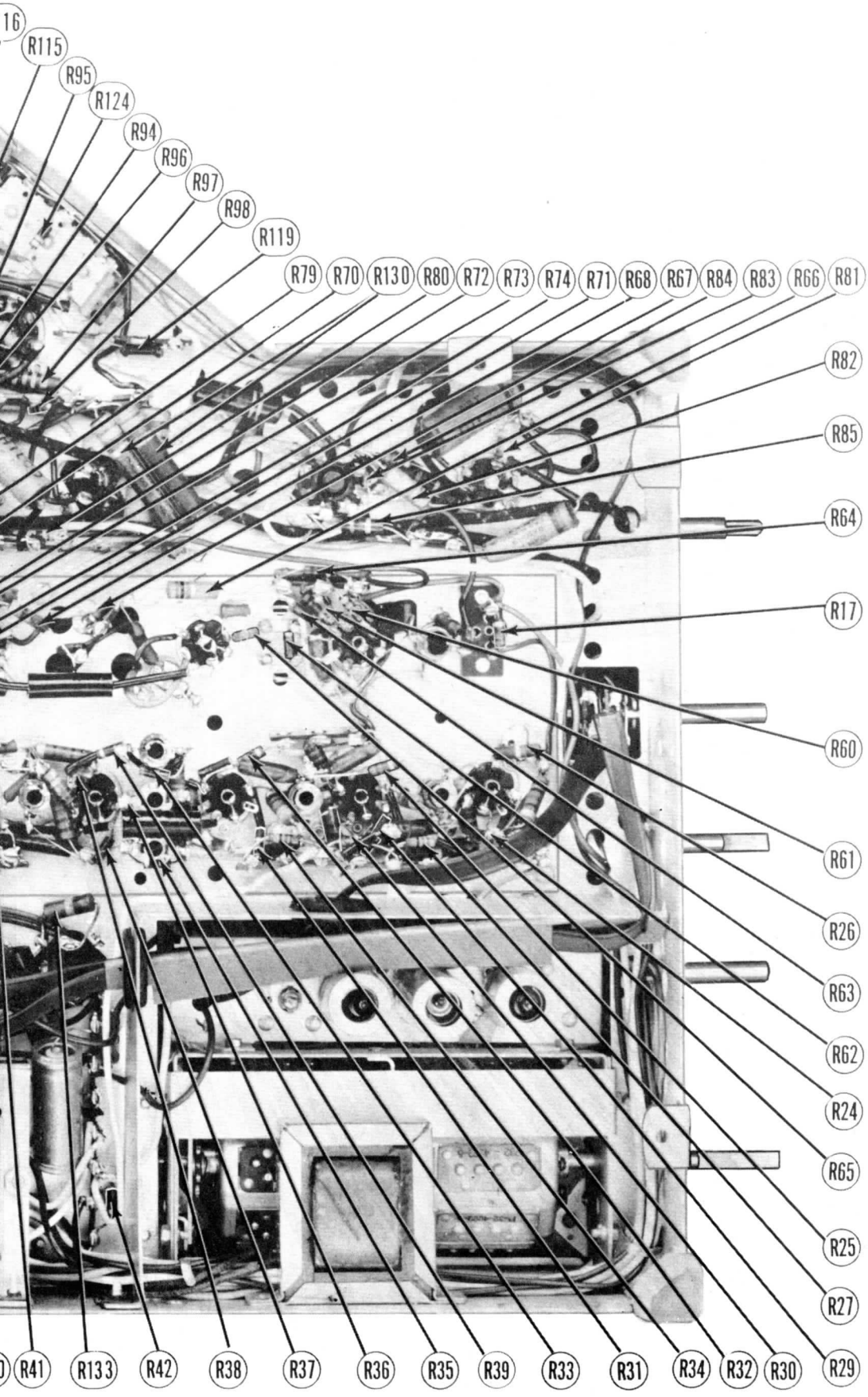
CHASSIS BOTTOM VIEW-CAP



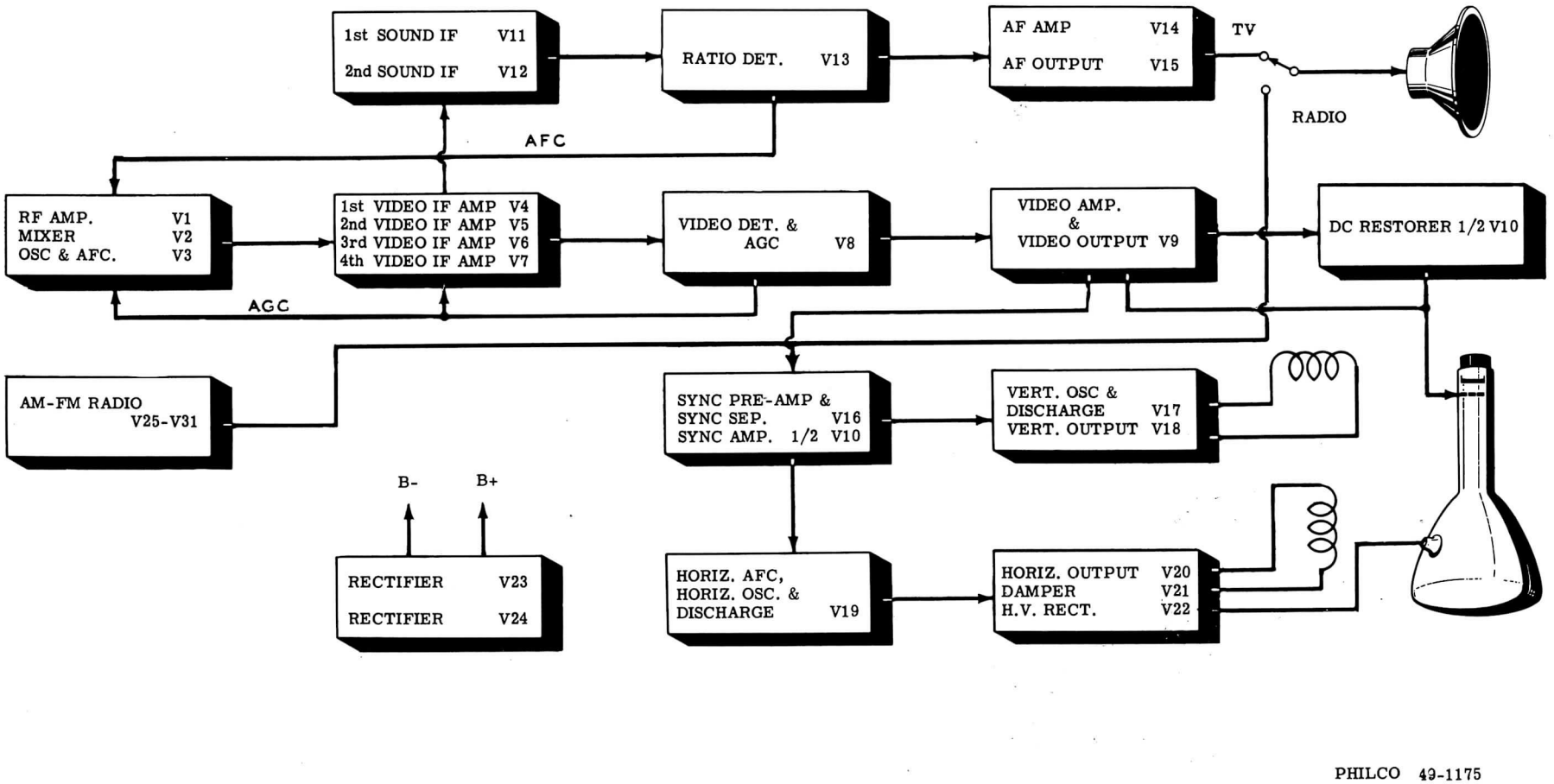
APACITOR IDENTIFICATION



CHASSIS BOTTOM VIEW-RE

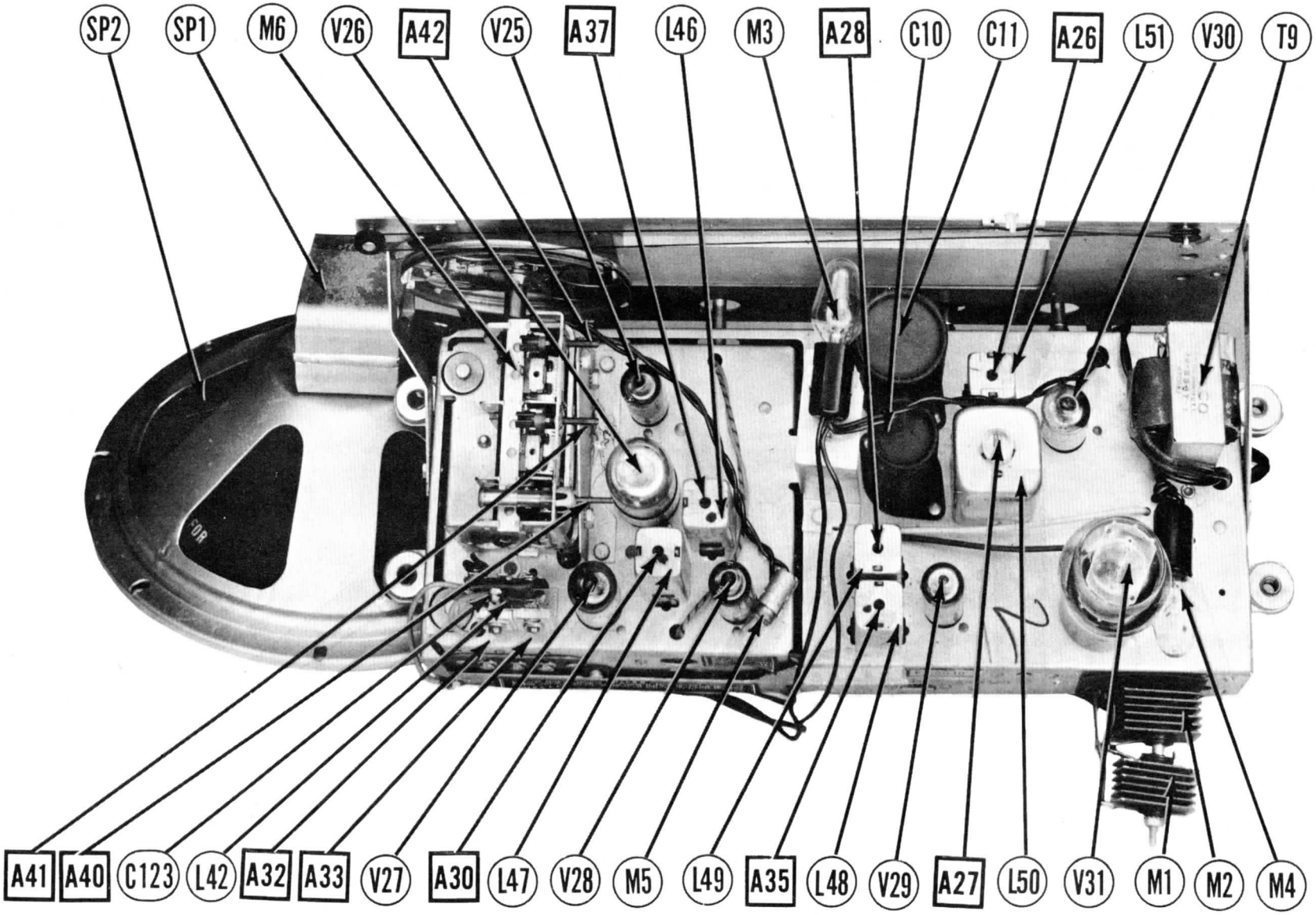


- RESISTOR IDENTIFICATION

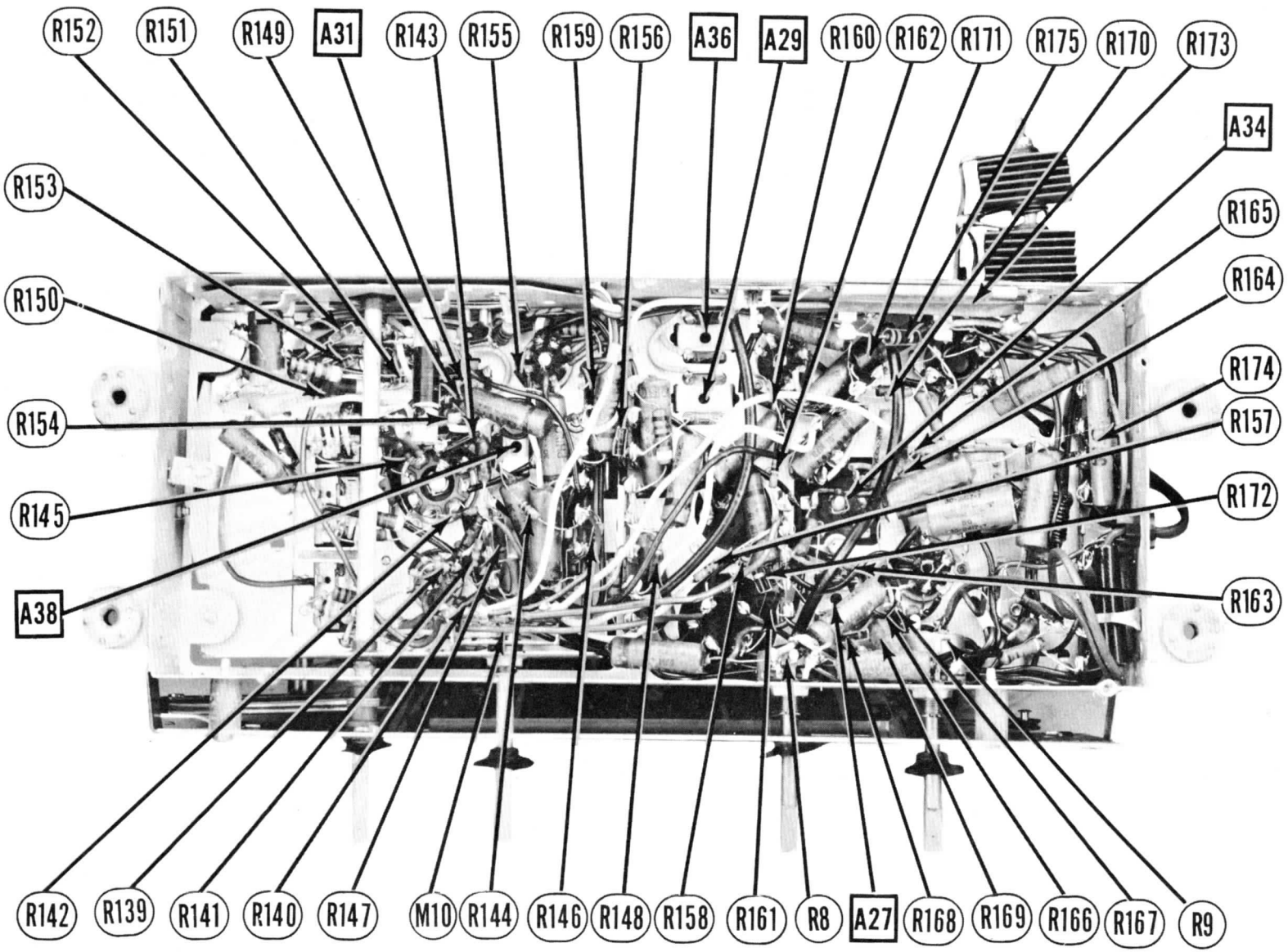


PHILCO 49-1175

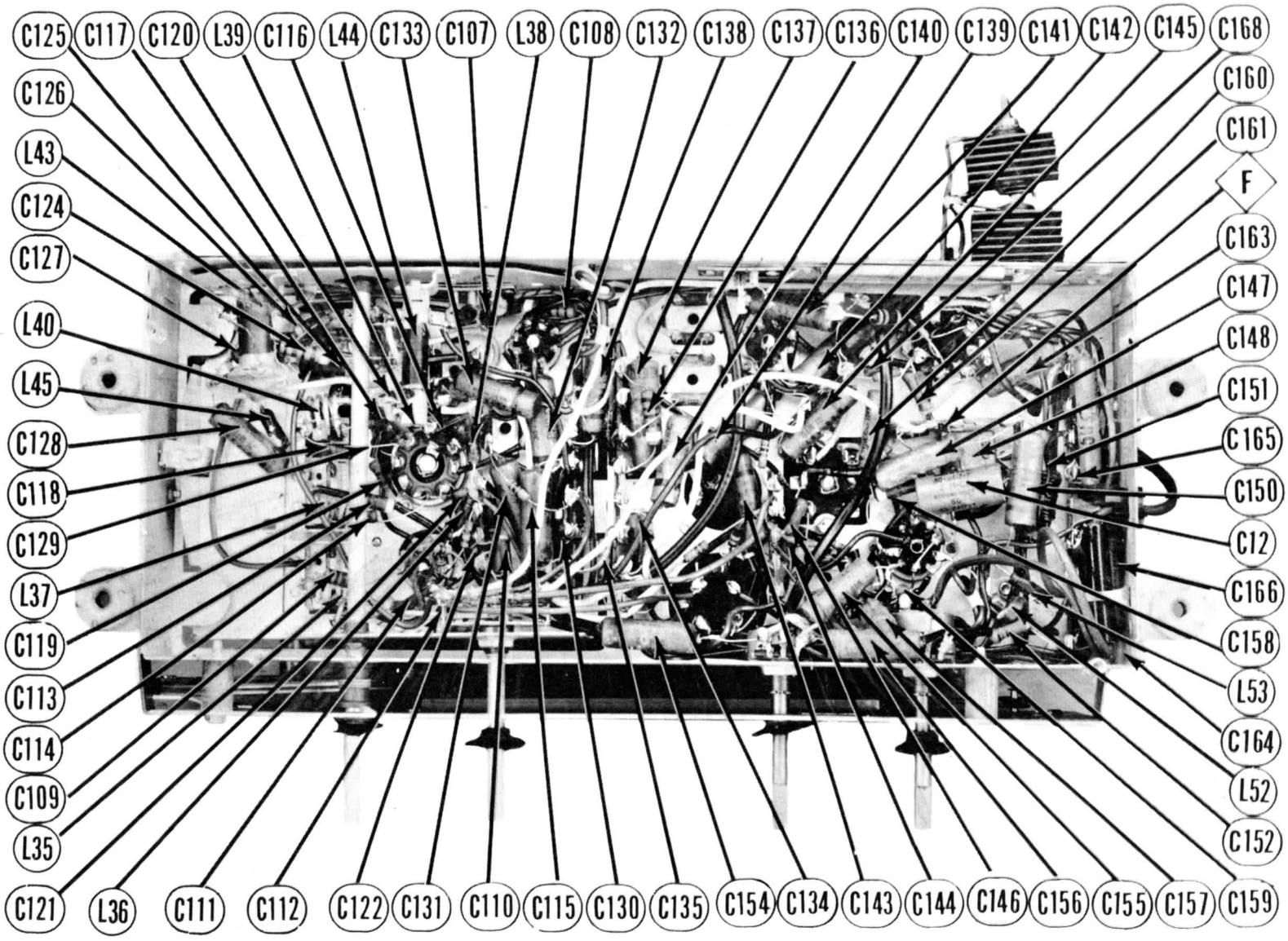
BLOCK DIAGRAM



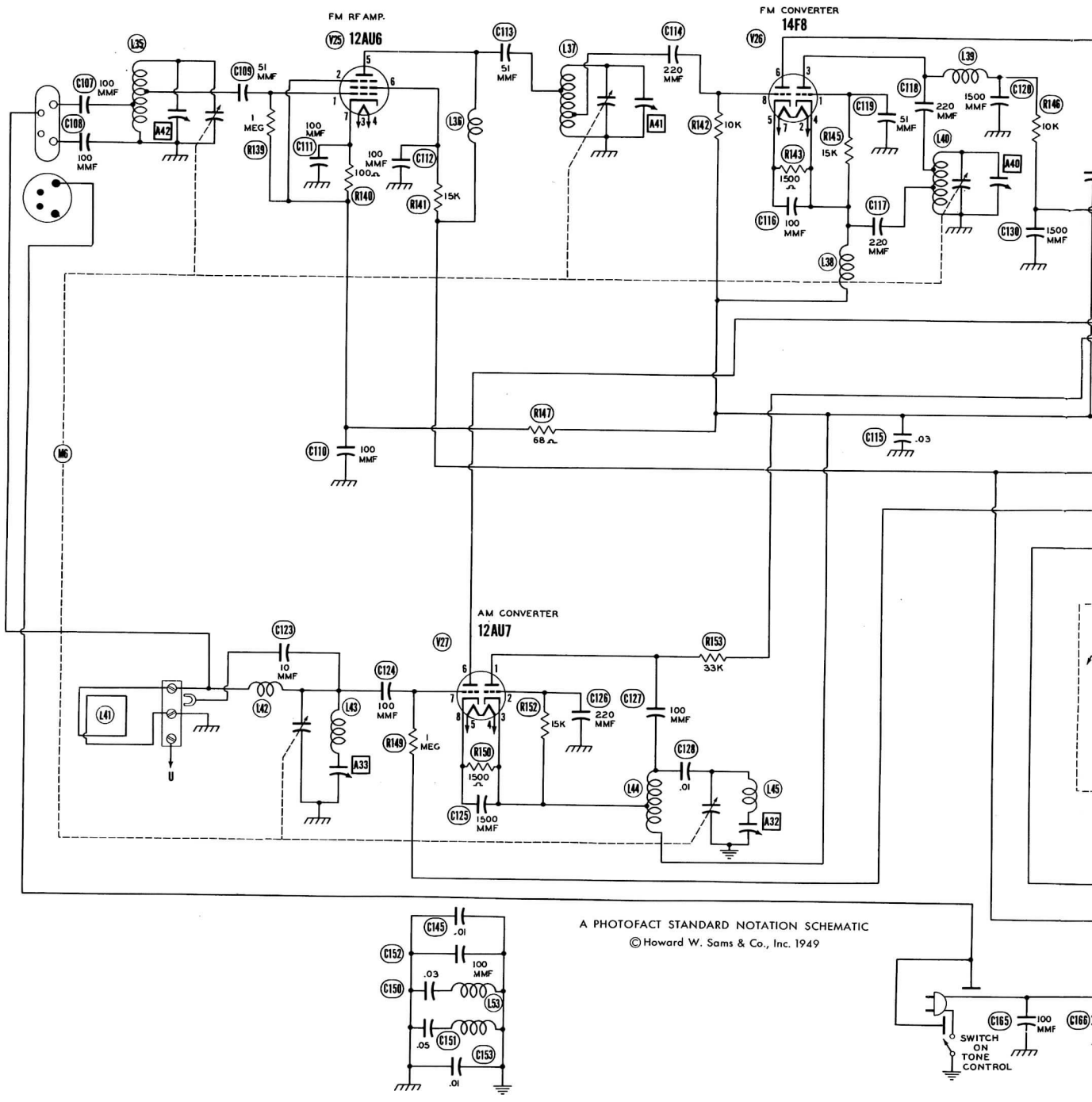
RADIO CHASSIS – TOP VIEW



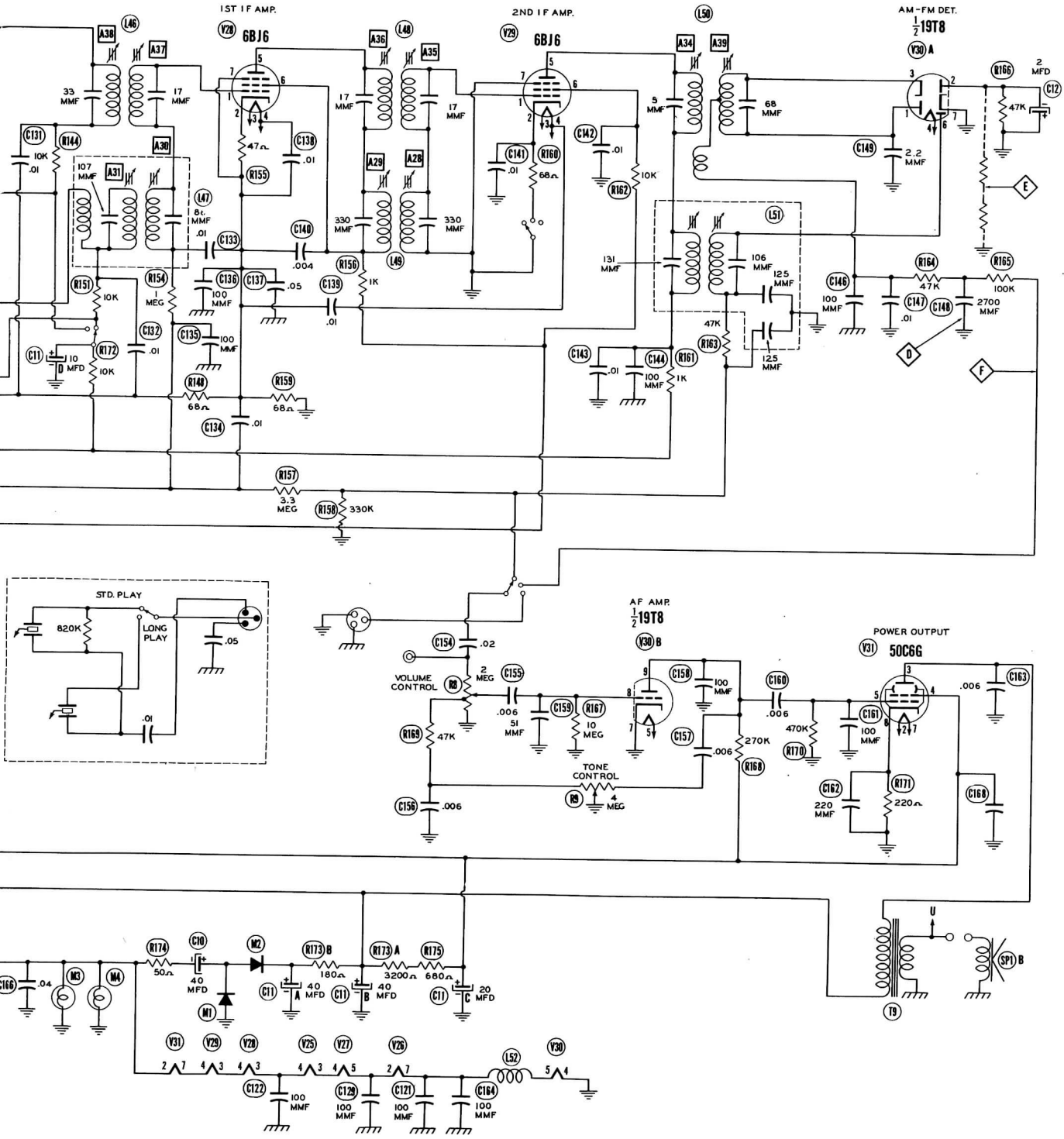
RADIO CHASSIS-BOTTOM VIEW-RESISTOR AND ALIGNMENT IDENTIFICATION

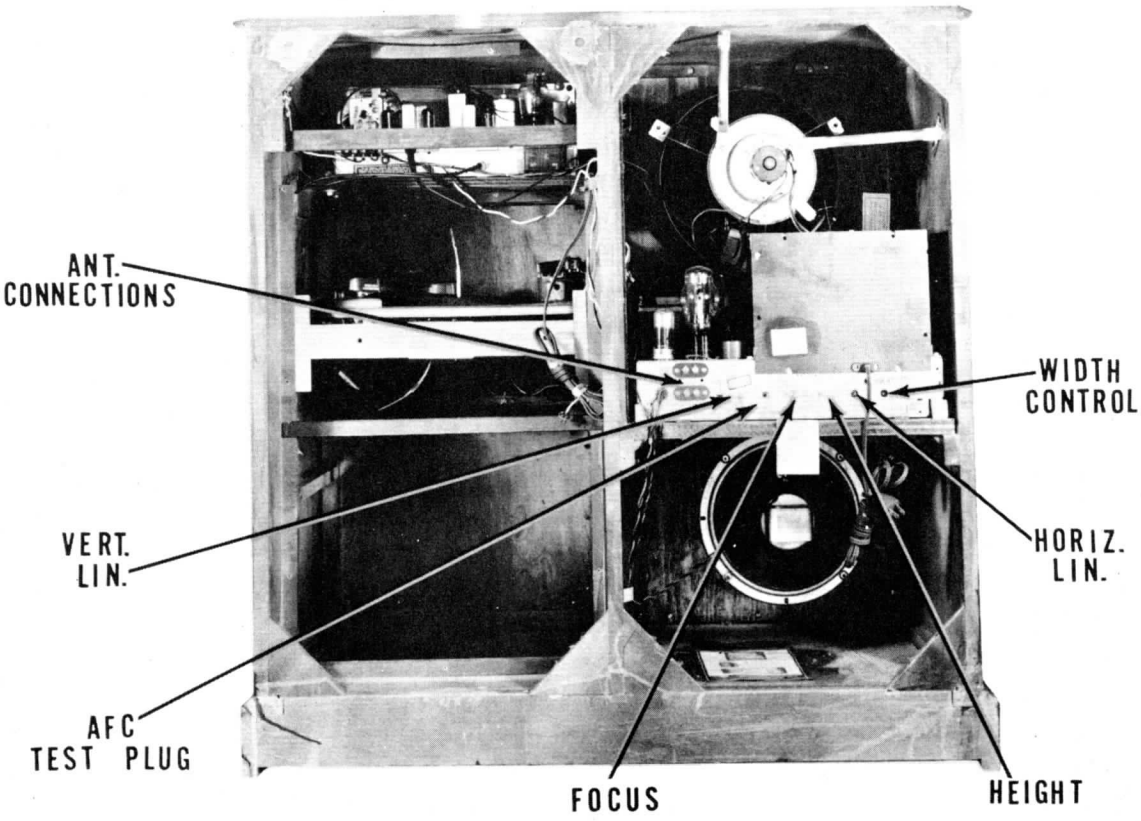


RADIO CHASSIS-BOTTOM VIEW-CAPACITOR IDENTIFICATION



A PHOTOFACT STANDARD NOTATION SCHEMATIC


1ST I F AMP.
V28 6BJ6
2ND I F AMP.
V29 6BJ6
AM-FM DET.
1/2 19T8
V30 A
AF AMP.
1/2 19T8
V30 B
POWER OUTPUT
V31 50C6G
STD. PLAY
LONG PLAY
VOLUME CONTROL
TONE CONTROL
T9
SP1 B



CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

1. Remove nine push-on type control knobs from TV and radio panels.
2. From front center bottom of cabinet, push back spring clamp and remove lamp housing with downward pull. Disengage lamp sockets (two) and wires and feed back up thru hole to rear of cabinet.
3. Remove seven phillips head screws from left rear back cover. Remove cover. (Radio and record player now visible.)
4. Remove seven phillips head screws from right rear back cover. Remove cover. (TV set is now visible).
5. Remove two screws from board across rear of phonograph. Spacers are between board and phonograph. (This enables phono front door to open.
6. Loosen 3 screws on terminal board at rear of receiver and slip off one white, two black, and one green wires.
7. Remove two cables from rear of receiver chassis with slight pull.
8. Remove four 3/8" bolts from under receiver mounting board.
9. Pull out receiver power cord from left rear side of TV chassis.
10. Remove rubber grommets from under two front corners of record player and rear center. Unscrew flat nuts. These nuts are spring loaded and springs will drop off studs when nuts are removed.
11. Remove tape and unsolder two leads spliced under record changer (red to white and black to brown).
12. Remove record player from cabinet.
13. Remove radio from cabinet.
14. Remove speaker plug from left rear of TV chassis.
15. Remove four 3/8" hex nuts and paper washers from speaker mounting. Remove speaker.
16. Remove HV cap from TV picture tube.
17. Remove TV picture tube socket.
18. Remove plug from top rear of TV chassis leading to picture tube.
19. Remove four 5/16" bolts from under side of TV chassis support board.
20. Slide out TV set.
21. Remove three 7/16" hex nuts from large end ring holding picture tube.
22. Remove two 7/16" hex nuts from picture tube neck braces.
23. Push back braces and remove picture tube by sliding back.

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	NOTES
		PHILCO PART No.	STANDARD REPLACEMENT		
V1	RF Amp.	6AG5	6AG5	7BD	
V2	Mixer	6AG5	6AG5	7BD	
V3	Oscillator	6J6	6J6	7BF	
V4	1st Video IF Amp.	6AG5	6AG5	7BD	
V5	2nd Video IF Amp.	6AG5	6AG5	7BD	
V6	3rd Video IF Amp.	6AG5	6AG5	7BD	
V7	4th Video IF Amp.	6AG5	6AG5	7BD	
V8	Video Det.-AGC	6AL5	6AL5	6BT	
V9	Video Amp.-Video Output	12AU7	12AU7	9A	
V10	DC Restorer-Sync. Amp.	7F7	7F7	8AC	
V11	1st Sound IF Amp.	6BA6	6BA6	7BK	
V12	2nd Sound IF Amp.	6AU6	6AU6	7BK	
V13	Ratio Detector	6AL5	6AL5	6BT	
V14	AF Amp.	6AU6	6AU6	7BK	
V15	Audio Output	6K6GT	6K6GT	7S	
V16	Sync. Pre Amp.-Sync. Sep.	7N7	7N7	8AC	
V17	Vert. Osc. & Disch.	7N7	7N7	8AC	
V18	Vert. Output	6K6GT	6K6GT	7S	
V19	Hor. AFC & Hor. Osc.	7N7	7N7	8AC	
V20	Hor. Output	6BG6G	6BG6G	5BT	
V21	Damper	5V4G	5V4G	5L	
V22	HV Rectifier	1B3GT	1B3GT	3C	
V23	LV Rectifier	5U4G	5U4G	5T	
V24	LV Rectifier	7Z4	7Z4	5T	
V25	FM RF Amp.	12AU6	12AU6	7BK	
V26	FM Converter	14F8	14F8	8BW	
V27	AM Converter	12AU7	12AU7	9A	
V28	1st IF Amp.	6BJ6	6BJ6	7CM	
V29	2nd IF Amp.	6BJ6	6BJ6	7CM	
V30	AM-FM Det.-AF Amp.	19T8	19T8	9E	
V31	Audio Output	50C6G	50C6G	7AC	
V32	Picture Tube	10BP4	10BP4	12D	

CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	
C1	30	475	30-2568-19	AFH6X	UP3050		TVL-7	Filter
C2A	40	475	30-2570-8	AFH824X2A	UP9DJ		TVL-38	◓ Filter
B	10	475			826			■ Filter
C	20	475						▲ Filter
D	10	25						Hor. Output Cath. Byp.
C3	30	250	30-2568-19	AF6F	UP3025		EL-42	Filter
C4A	10	475	30-2570-10	AFH2222X	UP7DJ		TVL-39	◓ Sync. Amp. Decoupling
B	10	475			825			■ Low Pass Filter
C	10	475						▲ Decoupling
D	10	475						Decoupling
C5A	10	450	30-2570-16	AF22J	UP5CJ		TVL-52	■ Low Pass Filter
B	10	450		PRS50/50	879			▲ Filter
C	40	50						Vert. Output Cath. Byp.
C6A	10	450	45-3006	AF22J	UP5CJ		TVL-52	Vert. Osc. Plate Dec.
B	10	450		PRS50/50	879			" " " "
C	40	50						Output Cath. Bypass
C7	10	300	30-2417-6	PRS350/12	BR1235		UT-123	Decoupling
C8	10	25	30-2417-1	PRS25/10	BR102A		TVA-5	AGC Filter
C9	2	50	30-2417-7		BR215		TVA-12	Stabilizing Cap.
C10	40	200	30-2568-28	AF8F	UP4025		TVL-3	Voltage Doubler Cap.
C11A	40	300	30-2568-24	AF8H84G4A ††	UP8DJ 907		D13307	◓ Filter
B	40	300		PRS350/12				■ Filter
C	20	300						▲ Filter
D	10	300						Filter
C12	2	50	30-2417-7		BR215		TVA-12	Stabilizing Cap
C13	220		62-122001001			GP2K-200		RF Coupling
C14	470		62-147001001			GP2K-500		AVC Filter
C15	.5-5		31-6511-1			532-.5-5		Variable Trimmer
C16	470		62-147001001			GP2K-500		RF Fil. Bypass
C17	470		62-147001001			GP2K-500		RF Decoupling
C18	10		62-010009001			GP1K-10		" "
C19	220		62-122001001			GP2K-200		RF Coupling
C20	.5-5		31-6511-1			532-.5-5		Variable Trimmer
C21	10		62-010009001			GP1K-10		Mixer Screen Bypass
C22	470		62-147001001			GP2K-500		" " "
C23	1000	500	45-3500-5			GP2L-001		RF Bypass
C24	470		62-010009001			GP2K-500		Osc. Plate Decoupling
C25	220		62-122001001			GP2K-200		Osc. Cath. Bypass
C26	22		62-022009001			GP1K-25		Osc. Grid Cap.
C27	10		30-1224-51			N750K-10		Fixed Padder
C28	3.3		30-1221			NP0K-3		Neutralizing
C29	470		62-147001001			GP2K-500		AFC Filter
C30	220		62-122001001			GP2K-200		Phase Shifter
C31	470		62-147001001			GP2K-500		Osc. Fil. Bypass
C32	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	Mixer Plate Dec.
C33	470		62-147001001	1468-0005	5W5T5	GP2K-500	1FM-35	IF Coupling
C34	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter
C35	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	1st V. IF Decoup.
C36	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	RF By pass
C37	470		62-147001001	1468-0005	5W5T5	GP2K-500	1FM-35	IF Coupling
C38	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C39	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd V. IF Decoupling
C40	100		62-010009001	1468-0001	5W5T1	GP1K-100	1FM-31	" " " "
C41	470		62-147001001	1468-0005	5W5T5	GP2K-500	1FM-35	IF Coupling
C42	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Filter
C43	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	3rd V. IF Decoupling
C44	10		62-010009001	1468-00001	5W5Q1	GP1K-10	MS-41	3rd V. IF Decoupling *
C45	470		62-147001001	1468-0005	5W5T5	GP2K-500	1FM-35	IF Coupling
C46	18		60-00185317					Fixed Trimmer
C47	18		60-00185317					" "
C48	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	4th V. IF Cath. Bypass
C49	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	4th V. IF Decoupling
C50	470		62-147001001	1468-0005	5W5T5	GP2K-500	1FM-35	IF Coupling
C51	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	Video Coupling
C52	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	AGC Diode Filter
C53	10		62-010009001	1468-00001	5W5Q1	GP1K-10	MS-41	Video Diode Filter
C54	56		62-056409001					Fixed Trimmer
C55	.047	400	61-0122	P488-047	GT4S5		TM-15	Video Coupling
C56	.22	400	45-3500-9	P488-22	GT4P25		TC-2	" "
C57	.047	400	45-3500-14	P488-047	GT4S5		TM-15	" "
C58	4000	500	45-3502	1467-004	1D5D4	GP2M-005	1FM-24	" " †
C59	.5	400	45-3500-4	484-5	GT4P5		TC-5	Pic. Tube Cath. Dec.
C60	56		62-056409001					Fixed Trimmer
C61	10000	500	30-1226-10	1467-01	1D3S1	GP2-335-01	1FM-11	S. IF Coupling
C62	470		62-147001001	1468-0005	5W5T5	GP2K-500	1FM-35	1st S. IF Cath. Byp.
C63	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	1st S. IF Decoupling
C64	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	" " " "
C65	56		62-056409001	1468-00005	5W5Q5	GP1K-50	1FM-45	S. IF Coupling
C66	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	2nd S. IF Decoupling
C67	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	Diode Load Cap **
C68	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	" " " **
C69	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	AFC Bypass
C70	.1	200	61-0113	P288-1	GT2P1		TM-1	AFC Filter
C71	.1	200	61-0113	P288-1	GT2P1		TM-1	AFC Filter
C72	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	Audio Coupling
C73	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	Tone Comp.
C74	.002	400	61-0062	P688-002	GT6D2	GP2M-002	TM-22	" "
C75	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	Audio Coupling
C76	.1	400	61-0113	P488-1	GT4P1		TM-1	AF Screen Bypass
C77	.01	600	61-0120	P688-01	GT6S1	GP2-335-01	TM-11	Audio Coupling
C78	.0068	1000	61-0105	P1088-0068	GT16D7		TM-26	Output Plate Bypass
C79	.047	400	61-0122	P488-047	GT4S5		TM-15	Sync. Coupling
C80	330	500	60-10335407	1468-00035	5W5T3	GP2K-300	1FM-335	" "
C81	22	500	60-00245307	1468-000025	5W5Q25	GP1K-25	MS-425	Sync. Sep. Grid Bypass
C82	.047	400	61-0122	P488-047	GT4S5		TM-15	Sync. Coupling
C83	220	500	62-122001001	1468-0002	5W5T2	GP2K-200	1FM-32	Voltage Divider
C84	.0022	600	61-0062	P688-0022	GT6D2	GP2M-002	TM-22	Integrator Net.
C85	.0047	600	45-3502	P688-0047	GT6D5	GP2M-005	TM-25	" "
C86	.0047	600	45-3502	P688-0047	GT6D5	GP2M-005	TM-25	" "
C87	.0056	400	45-3500-7					Vert.Osc. Grid Cap.
C88	150	500	60-10155407	1468-00015	5W5T15	GP2K-150	1FM-315	Vert. Osc. Plate Byp.
C89	.082	400	30-4651-3					Vert. Discharge
C90	.1	400	61-0113	P488-1	GT4P1		TM-1	Vert. Coupling
C91	150	500	60-10155407	1468-00015	5W5T15	GP2K-150	1FM-315	Sync. Coupling
C92	180	500	30-1220-30					Voltage Divider
C93	270	500	60-10275407					Hor. Osc. Grid Cap.
C94	.0022	600	61-0062	P688-0022	GT6D2	GP2M-002	TM-22	Hor. Sync. Coupling
C95	.02	400	61-0108	P488-02	GT4S2		TM-12	AFC Filter
C96	.25	400	61-0125	P488-25	GT4P25		TC-2	" "
C97	.05	400	61-0122	P488-05	GT4S5		TM-15	AFC Plate Bypass
C98	1500	500	60-20155404	1467-0015	1W5D15	GP2L-0015	1FM-215	Hor. Discharge
C99	5	500	60-90505007	1468-000005	5W5V5	NP0K-5	MS-55	AFC Feedback
C100	390	500	60-10305307	1468-0004	5W5T4		1FM-34	Hor. Coupling
C101	.082	400	30-4651-3					Damper Filter
C102	.082	400	30-4651-3					" "
C103	.5	200	61-0122	P288-5	GT2P5		TC-5	Hor. Coupling
C104	.1	200	61-0113	P288-1	GT2P1		TM-1	Bias Filter
C105	.01	600	30-1226-1	P688-01	GT6S1		TM-11	Line Filter
C106	.01	600	30-1226-1	P688-01	GT6S1		TM-11	" "
C107	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	Ant. Coupling
C108	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	" "
C109	51		30-1224-2	1468-00005	5W5Q5	GP1K-50	1FM-45	RF Coupling
C110	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C111	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	FM RF Cath. Bypass
C112	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	FM RF Screen Bypass
C113	51		30-1224-2	1468-00005	5W5Q5	GP1K-50	1FM-45	RF Coupling
C114	220		62-122001001	1468-0002	5W5T2	GP2K-200	1FM-32	" "
C115	.03	400	61-0119	P488-03	GT4S3		TM-13	RF Bypass ‡
C116	100		61-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	FM Conv. Cath. Byp.
C117	220		62-122001001	1468-0002	5W5T2	GP2K-200	1FM-32	FM Osc. Feedback
C118	220		62-122001001	1468-0002	5W5T2	GP2K-200	1FM-32	" " "
C119	51		30-1224-2	1468-00005	5W5Q5	GP1K-50	1FM-45	FM Osc. Grid Cap.
C120	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	FM Osc. Plate Dec.
C121	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	FM Osc. Fil. Bypass
C122	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	FM RF Fil. Bypass
C123	10		62-010009001	1469-00001	5R5Q1	NP0K-10	MS-41	Fixed Trimmer
C124	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	RF Coupling
C125	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	AM Conv. Cath. Bypass
C126	220		62-122001001	1468-0002	5W5T2	GP2K-200	1FM-32	AM Osc. Grid Cap.
C127	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	AM Osc. Feedback
C128	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	Isolation
C129	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	AM Conv. Fil. Bypass
C130	1500		62-215001011	1467-0015	1W5D15	GP2L-0015	1FM-215	RF Bypass
C131	.01	600	61-0120	P688-01	GT6S1	GP2-335-01	TM-11	FM Conv. Plate Dec.
C132	.01	600	61-0120	P688-01	GT6S1	GP2-335-01	TM-11	AM Conv. Plate Dec.
C133	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	AVC Filter
C134	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	" "
C135	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C136	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C137	.05	400	61-0122	P488-05	GT4S5		TM-15	" "
C138	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	Fil. Bypass
C139	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	" "
C140	.004	600	61-0179	P688-004	GT6D4	GP2M-005	TM-24	1st IF Decoupling
C141	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	2nd IF Cath. Bypass
C142	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	2nd IF Screen Bypass
C143	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	2nd IF Plate Dec.
C144	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	" " " "
C145	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	RF Bypass
C146	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	" "
C147	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	Diode Load Cap.
C148	2700	500	60-20275404	1467-0025	1W5D25	GP2M-0025	1FM-23	De-emphasis

CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA PHILCO PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No
C149	2.2		30-1221-4		
C150	.03	400	45-3500-1	P488-03	GT4S3
C151	.05	400	61-0170	P488-05	GT4S5
C152	100		62-110009001	1468-0001	5W5T1
C153	.01	400	61-0120	P488-01	GT4S1
C154	.02	400	61-0108	P488-02	GT4S2
C155	.006	400	45-3500-7	P488-006	GT6D6
C156	.006	400	45-3500-7	P488-006	GT6D6
C157	.006	400	45-3500-7	P488-006	GT6D6
C158	100		62-110009001	1468-0001	5W5T1
C159	51		30-1224-2	1468-00005	5W5Q5
C160	.006	400	45-3500-7	P488-006	GT6D6
C161	100		62-110009001	1468-0001	5W5T1
C162	220		62-110009001	1468-00025	5W5T25
C163	.006	600	45-3500-7	P688-006	GT6D6
C164	100		62-110009001	1468-0001	5W5T1
C165	100		62-110009001	1468-0001	5W5T1
C166	.04	400	45-3500-2	P488-04	GT6S4
C167	500	10000	30-1229-2		
C168	220		62-110009001	1468-00025	5W5T25

† Some models use 5000MMFD in this application.
‡ Some models use .02MFD in this application.
** When either item C67 or C68 are replaced, re
†† Omit bypass section.
* Not used in all models.

CONT

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	IRC PART No.	CLAROS PART N
R1A	50KΩ	½	33-5563-3		
B	1 Meg.	½			
R2	2 Meg.	½	76-3964		
R3A	2500Ω	½	33-5563-14*		
B	250KΩ	½			
R4	100KΩ	½	33-5539-43	Q11-128	M-49-S
R5	5000Ω	2	33-5546-10	W-5000	58-5000
R6A	250KΩ	½	33-5546-42	Q11-130	M-55-S
B	Shaft		Not Req.	Not Req.	Not Re
R7	200Ω	4	33-5546-13		10-200
R8	2 Meg.	½	33-5535-17	Q18-139X	T-102
R9A	4 Meg.	½	33-5538-34	Q11-141	
B	Switch		Not Req.	76-1	

This control is mounted to rear of two wafe
* Some models use 5000Ω. 2 Watt contrast cont

RESIS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	IRC PART No.	A
R10	220Ω	½	62-1228340		A
R11	220Ω	½	62-1228340		
R12	100KΩ	½	62-4108340		R
R13	47Ω	½	62-0478340		R
R14	2700Ω	½		BTS-2700	R
R15	1000Ω	½	62-2108340		R
R16	100KΩ	½	62-4108340		M
R17	3300Ω	½	66-2338340	BTS-3300	M
R18	56KΩ	½	62-3568340	BTS-56K	M
R19	22KΩ	1	62-3228340	BTA-22K	V
R20	22KΩ	½	62-3228340	BTS-22K	O
R21	220Ω	½	62-1228340		O
R22	22KΩ	½	62-3228340	BTS-22K	A
R23	560Ω	½	62-1568340		A
R24	8200Ω	½	66-2828340		1
R25	330Ω	½	66-1334340		1
R26	120Ω	½	66-1128340	BW-½-120	1
R27	3300Ω	½	66-2338340	BTS-3300	A
R28	5600Ω	½	66-2568340		2
R29	120Ω	½	66-1128340	BW-½-120	2
R30	3300Ω	½	66-2338340	BTS-3300	A
R31	5600Ω	½	66-2568340		3
R32	68Ω	½	66-0688340		3
R33	8200Ω	½	66-2828340		3
R34	3300Ω	½	66-2338340	BTS-3300	A
R35	22KΩ	½	66-3228340		F
R36	15KΩ	½	66-3158340	BTS-15K	4
R37	100Ω	½	66-1108340		4
R38	6800Ω	½	66-2688340	BTS-6800	4
R39	1000Ω	½	66-2108340	BTS-1000	4
R40	27KΩ	½	66-3278340	BTS-27K	A
R41	120KΩ	½	66-4128340	BTS-120K	A
R42	10KΩ	½	66-3108340	BTS-10K	A
R43	47KΩ	½	66-3478340		P
R44	3300Ω	½	66-2338340	BTS-3300	V
R45	1 Meg.	½	66-5108340	BTS-1 Meg.	V
R46	47KΩ	½	66-3478340	BTS-47K	P
R47	4700Ω	1	66-2475340	BTA-4700	V
R48	4700Ω	1	66-2475340	BTA-4700	F
R49	100KΩ	½	66-4108340	BTS-100K	P
R50	330KΩ	½	66-4338340	BTS-330K	V
R51	47Ω	½	66-0478340		V
R52	47KΩ	½	66-3478340		P
R53	3300Ω	1	66-2338340	BTA-3300-5%	V
R54	1000Ω	½	66-2108340	BTS-1000-5%	
R55	10KΩ	½	66-3108340	BTS-10K	
R56	10KΩ	2	66-3105340	BT-2-10K	L
R57	10KΩ	½	66-4108340	BTS-10K	P
R58	470KΩ	½	66-4478340	BTS-470K	P
R59	1 Meg.	½	66-5108340	BTS-1 Meg.	V
R60	470KΩ	½	66-4478340		1
R61	68Ω	½	66-0688340		1
R62	22KΩ	½	66-3228340		1
R63	1000Ω	½	66-2108340		1
R64	330Ω	½	66-1338340		D
R65	68KΩ	½	66-3688340	BTS-68K	2
R66	10KΩ	1	66-3108340	BTA-10K	2

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (CONT.)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C149	2.2		30-1221-4					Compensation *
C150	.03	400	45-3500-1	P488-03	GT4S3		TM-13	Line Isolation
C151	.05	400	61-0170	P488-05	GT4S5		TM-15	" "
C152	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C153	.01	400	61-0120	P488-01	GT4S1	GP2-335-01	TM-11	" " *
C154	.02	400	61-0108	P488-02	GT4S2		TM-12	Audio Coupling
C155	.006	400	45-3500-7	P488-006	GT6D6	GP2M-005	TM-26	" "
C156	.006	400	45-3500-7	P488-006	GT6D6	GP2M-005	TM-26	Tone Comp.
C157	.006	400	45-3500-7	P488-006	GT6D6	GP2M-005	TM-26	" "
C158	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	AF Plate Bypass
C159	51		30-1224-2	1468-00005	5W5Q5	GP1K-50	1FM-45	AF Grid Bypass *
C160	.006	400	45-3500-7	P488-006	GT6D6	GP2M-005	TM-26	Audio Coupling
C161	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	Output Grid Bypass
C162	220		62-110009001	1468-00025	5W5T25	GP2K-250	1FM-32	Output Cath. Bypass *
C163	.006	600	45-3500-7	P688-006	GT6D6		TM-26	Output Plate Bypass
C164	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	Filament Bypass
C165	100		62-110009001	1468-0001	5W5T1	GP1K-100	1FM-31	RF Bypass
C166	.04	400	45-3500-2	P488-04	GT6S4		TM-14	Line Filter
C167	500	10000	30-1229-2			410-500		HV Filter
C168	220		62-110009001	1468-00025	5W5T25	GP2K-250	1FM-325	RF Bypass

† Some models use 5000MMFD in this application.
‡ Some models use .02MFD in this application.
** When either item C67 or C68 are replaced, replace both with capacitors of equal value.
†† Omit bypass section.
* Not used in all models.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
R1A	50KΩ	½	33-5563-3			Horiz. Hold Control (Dual Concentric)
B	1 Meg.	½				Vert. Hold Control (Dual Concentric)
R2	2 Meg.	½	76-3964			Volume Control and Switch #
R3A	2500Ω	½	33-5563-14*			Contrast Control (Dual Concentric)
B	250KΩ	½				Channel Adjuster Control (Dual Concentric)
R4	100KΩ	½	33-5539-43	Q11-128	M-49-S	Brightness Control
R5	5000Ω	2	33-5546-10	W-5000	58-5000	Vert. Linearity Control (Wire Wound)
R6A	250KΩ	½	33-5546-42	Q11-130	M-55-S	Height Control
B	Shaft			Not Req.	Not Req.	Attach to R6A Per Instructions
R7	200Ω	4	33-5546-13		10-200	Focus Control
R8	2 Meg.	½	33-5535-17	Q18-139X	T-102	Volume Control (Radio Chassis)
R9A	4 Meg.	½	33-5538-34	Q11-141		Tone Control
B	Switch		Not Req.	76-1		Attach to R9A Per Instructions.

This control is mounted to rear of two wafer Radio-TV change-over switch.
* Some models use 5000Ω. 2 Watt contrast control only, Part No. 33-5548-11.

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	IRC PART No.	IDENTIFICATION CODES ALL RESISTORS ARE ± 10% UNLESS OTHERWISE STATED.	
R10	220Ω	½	62-1228340		Ant. Shunt	
R11	220Ω	½	62-1228340		" "	
R12	100KΩ	½	62-4108340		RF Grid	20%
R13	47Ω	½	62-0478340		RF Cathode	
R14	2700Ω	½		BTS-2700	RF Plate	
R15	1000Ω	½	62-2108340		RF Decoupling	20%
R16	100KΩ	½	62-4108340		Mixer Grid	20%
R17	3300Ω	½	66-2338340	BTS-3300	Mixer Plate Decoupling	
R18	56KΩ	½	62-3568340	BTS-56K	Mixer Screen	
R19	22KΩ	1	62-3228340	BTA-22K	Voltage Divider	
R20	22KΩ	½	62-3228340	BTS-22K	Osc. Grid	
R21	220Ω	½	62-1228340		Osc. Cathode	
R22	22KΩ	½	62-3228340	BTS-22K	AFC Grid	
R23	560Ω	½	62-1568340		AFC Filter	
R24	8200Ω	½	66-2828340		1st Video IF Grid	
R25	330Ω	½	66-1334340		1st Video IF Decoupling	
R26	120Ω	½	66-1128340	BW-½-120	1st Video IF Cathode (Wire Wound)	
R27	3300Ω	½	66-2338340	BTS-3300	AGC Network	20%
R28	5600Ω	½	66-2568340		2nd Video IF Grid	
R29	120Ω	½	66-1128340	BW-½-120	2nd Video IF Cathode (Wire Wound)	
R30	3300Ω	½	66-2338340	BTS-3300	AGC Network	20%
R31	5600Ω	½	66-2568340		3rd Video IF Grid	
R32	68Ω	½	66-0688340		3rd Video IF Cathode	
R33	8200Ω	½	66-2828340		3rd Video IF Transformer Shunt	
R34	3300Ω	½	66-2338340	BTS-3300	AGC Network	20%
R35	22KΩ	½	66-3228340		Filter Network	
R36	15KΩ	½	66-3158340	BTS-15K	4th Video IF Grid Coil Shunt	
R37	100Ω	½	66-1108340		4th Video IF Cathode	
R38	6800Ω	½	66-2688340	BTS-6800	4th Video IF Plate	
R39	1000Ω	½	66-2108340	BTS-1000	4th Video IF Decoupling	
R40	27KΩ	½	66-3278340	BTS-27K	AGC Diode Filter	
R41	120KΩ	½	66-4128340	BTS-120K	AGC Diode Load	
R42	10KΩ	½	66-3108340	BTS-10K	AGC Network	
R43	47KΩ	½	66-3478340		Peaking Coil Shunt	20%
R44	3300Ω	½	66-2338340	BTS-3300	Video Det. Diode Load	
R45	1 Meg.	½	66-5108340	BTS-1 Meg.	Video Amp. Grid	20%
R46	47KΩ	½	66-3478340	BTS-47K	Peaking Coil Shunt	20%
R47	4700Ω	1	66-2475340	BTA-4700	Video Amp. Plate	
R48	4700Ω	1	66-2475340	BTA-4700	Filter	
R49	100KΩ	½	66-4108340	BTS-100K	Picture Tube Cathode	
R50	330KΩ	½	66-4338340	BTS-330K	Video Output Grid	
R51	47Ω	½	66-0478340		Video Output Cathode	
R52	47KΩ	½	66-3478340		Peaking Coil Shunt	20%
R53	3300Ω	1	66-2338340	BTA-3300-5%	Video Output Plate	5%
R54	1000Ω	½	66-2108340	BTS-1000-5%	" " "	5%
R55	10KΩ	½	66-3108340	BTS-10K	" " "	
R56	10KΩ	2	66-3105340	BT-2-10K	Low Pass Filter	
R57	10KΩ	½	66-4108340	BTS-10K	Phase Correction	
R58	470KΩ	½	66-4478340	BTS-470K	Picture Tube Grid	20%
R59	1 Meg.	½	66-5108340	BTS-1 Meg.	Voltage Divider	20%
R60	470KΩ	½	66-4478340		1st Sound IF Grid	20%
R61	68Ω	½	66-0688340		1st Sound IF Cathode	
R62	22KΩ	½	66-3228340		1st Sound IF Transformer Shunt	
R63	1000Ω	½	66-2108340		1st Sound IF Decoupling	
R64	330Ω	½	66-1338340		Decoupling	
R65	68KΩ	½	66-3688340	BTS-68K	2nd Sound IF Grid	20%
R66	10KΩ	1	66-3108340	BTA-10K	2nd Sound IF Plate	

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.
R67	22KΩ	½	66-3228340
R68	47Ω	½	66-0478340
R69	5.1Ω	2	66-9478340
R70	10KΩ	½	66-3108340
R71	6800Ω	½	66-2688340
R72	6800Ω	½	66-2688340
R73	68KΩ	½	66-3688340
R74	68KΩ	½	66-3688340
R75	47KΩ	½	66-3478340
R76	330KΩ	½	66-4338340
R77	15KΩ	½	66-3158340
R78	270KΩ	½	66-4278340
R79	470KΩ	½	66-4478340
R80	470KΩ	½	66-4478340
R81	4.7 Meg.	½	66-5478340
R82	47KΩ	1	66-3474340
R83	560KΩ	½	66-4564340
R84	1 Meg.	½	66-5108340
R85	270Ω	1	66-1274340
R86	470KΩ	½	66-4478340
R87	10KΩ	1	66-3108340
R88	5100Ω	5	33-1335-1
R89	10KΩ	½	66-3108340
R90	4.7 Meg.	½	66-5478340
R91	10KΩ	2	66-3108340
R92	56KΩ	1	66-3564340
R93	100KΩ	1	66-4104340
R94	68KΩ	½	66-3688340
R95	10KΩ	½	66-3108340
R96	1 Meg.	½	66-5108340
R97	470KΩ	1	66-4474340
R98	10KΩ	½	66-3108340
R99	2.2 Meg.	½	66-5228340
R100	1000Ω	1	66-2104340
R101	3300Ω	½	66-2338340
R102	68KΩ	1	66-3688340
R103	10KΩ	½	66-3108340
R104	1 Meg.	½	66-5108340
R105	10KΩ	½	66-3108340
R106	3900Ω	½	66-2398340
R107	33KΩ	1	66-3334340
R108	22KΩ	½	66-3228340
R109	8200Ω	½	66-2828340
R110	8200Ω	½	66-2828340
R111	220KΩ	½	66-4228340
R112	10KΩ	½	66-3108340
R113	68KΩ	½	66-3688340
R114	100KΩ	1	66-4104340
R115	100KΩ	1	66-4104340
R116	180KΩ	½	66-4188340
R117	3.3 Meg.	1	66-5334340
R118	560KΩ	½	66-4568340
R119	42KΩ	½	33-1343-2
R120	82KΩ	1	66-3824340
R121	10KΩ	½	66-3108340
R122	8200Ω	½	66-2828340
R123	100Ω	½	66-1108340
R124	220KΩ	½	66-4228340
R125	100Ω	5	66-1105340
R126	3900Ω	2	66-2395340
R127	12Ω	2	66-0125340
R128	12Ω	2	66-0125340
R129	47KΩ	½	66-3478340
R130	270Ω	4	66-1274340
R131	10KΩ	10	33-1336-21
R132	1900Ω	10	33-3435-15
R133	1 Meg.	1	66-5104340
R134	56Ω	2	66-0565340
R135	33Ω	½	66-0338340
R136	680KΩ	1	66-4684340
R137	680KΩ	1	66-4684340
R138	560KΩ	½	66-4568340
R139	1 Meg.	½	66-5108340
R140	100Ω	½	66-1108340
R141	15KΩ	½	66-3158340
R142	10KΩ	½	66-3108340
R143	1500Ω	½	66-2158340
R144	10KΩ	½	66-3108340
R145	15KΩ	½	66-3158340
R146	10KΩ	½	66-3108340
R147	68Ω	½	66-0688340
R148	68Ω	½	66-0688340
R149	1 Meg.	½	66-5108340
R150	1500Ω	½	66-2158340
R151	10KΩ	½	66-3108340
R152	15KΩ	½	66-3158340
R153	33KΩ	½	66-3338340
R154	1 Meg.	½	66-5108340
R155	47Ω	½	66-0478340
R156	1000Ω	½	66-2108340
R157	3.3 Meg.	½	66-5338340
R158	330KΩ	½	66-4338340
R159	68Ω	½	66-0688340
R160	68Ω	½	66-0688340
R161	1000Ω	½	66-2108340
R162	10KΩ	½	66-3108340
R163	47KΩ	½	66-3478340
R164	47KΩ	½	66-3478340
R165	100KΩ	½	66-4108340
R166	47KΩ	½	66-3478340
R167	10 Meg.	½	66-6108340
R168	270KΩ	½	66-4278340
R169	47KΩ	½	66-3478340
R170	470KΩ	½	66-4473340
R171	220Ω	2	66-1228340
R172	10KΩ	1	66-3104340
R173A	3200Ω	5	33-3435-23
B	180Ω	5	

IDENTIFICATION CODES AND INSTALLATION NOTES

2nd V. IF Decoupling
" " " "
IF Coupling
AGC Filter
3rd V. IF Decoupling
3rd V. IF Decoupling *
IF Coupling
Fixed Trimmer
" "
4th V. IF Cath. Bypass
4th V. IF Decoupling
IF Coupling
Video Coupling
AGC Diode Filter
Video Diode Filter
Fixed Trimmer
Video Coupling
" "
" "
" "
Pic. Tube Cath. Dec.
Fixed Trimmer
S. IF Coupling
1st S. IF Cath. Byp.
1st S. IF Decoupling
" " " "
S. IF Coupling
2nd S. IF Decoupling
Diode Load Cap **
" " " **
AFC Bypass
AFC Filter
AFC Filter
Audio Coupling
Tone Comp.
" "
Audio Coupling
AF Screen Bypass
Audio Coupling
Output Plate Bypass
Sync. Coupling
" "
Sync. Sep. Grid Bypass
Sync. Coupling
Voltage Divider
Integrator Net.
" "
" "
Vert.Osc. Grid Cap.
Vert. Osc. Plate Byp.
Vert. Discharge
Vert. Coupling
Sync. Coupling
Voltage Divider
Hor. Osc. Grid Cap.
Hor. Sync. Coupling
AFC Filter
" "
AFC Plate Bypass
Hor. Discharge
AFC Feedback
Hor. Coupling
Damper Filter
" "
Hor. Coupling
Bias Filter
Line Filter
" "
Ant. Coupling
" "
RF Coupling
RF Bypass
FM RF Cath. Bypass
FM RF Screen Bypass
RF Coupling
" "
RF Bypass ‡
FM Conv. Cath. Byp.
FM Osc. Feedback
" " "
FM Osc. Grid Cap.
FM Osc. Plate Dec.
FM Osc. Fil. Bypass
FM RF Fil. Bypass
Fixed Trimmer
RF Coupling
AM Conv. Cath. Bypass
AM Osc. Grid Cap.
AM Osc. Feedback
Isolation
AM Conv. Fil. Bypass
RF Bypass
FM Conv. Plate Dec.
AM Conv. Plate Dec.
AVC Filter
" "
RF Bypass
RF Bypass
" "
Fil. Bypass
" "
1st IF Decoupling
2nd IF Cath. Bypass
2nd IF Screen Bypass
2nd IF Plate Dec.
" " " "
IF Bypass
"
Diode Load Cap.
De-emphasis

TIONS (Continued)

.)

o.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
		Compensation *
	TM-13	Line Isolation
	TM-15	" "
0	1FM-31	RF Bypass
-01	TM-11	" " *
	TM-12	Audio Coupling
5	TM-26	" "
5	TM-26	Tone Comp.
5	TM-26	" "
0	1FM-31	AF Plate Bypass
	1FM-45	AF Grid Bypass *
5	TM-26	Audio Coupling
0	1FM-31	Output Grid Bypass
0	1FM-32	Output Cath. Bypass *
	TM-26	Output Plate Bypass
0	1FM-31	Filament Bypass
0	1FM-31	RF Bypass
	TM-14	Line Filter
		HV Filter
0	1FM-325	RF Bypass

ch with capacitors of equal value.

INSTALLATION NOTES
iz. Hold Control
t. Hold Control (Dual Concentric)
ume Control and Switch #
trast Control
nnel Adjuster Control (Dual Concentric)
ghtness Control
t. Linearity Control (Wire Wound)
ght Control
ach to R6A Per Instructions
us Control
ume Control (Radio Chassis)
e Control
ach to R9A Per Instructions.

V change-over switch.
Part No. 33-5548-11.

IDENTIFICATION CODES	
TORS ARE ± 10% UNLESS OTHERWISE STATED.	
t	
	20%
e	
ling	20%
d	20%
te Decoupling	
een	
ivider	
ode	
IF Grid	
IF Decoupling	
IF Cathode (Wire Wound)	
rk	20%
IF Grid	
IF Cathode (Wire Wound)	
rk	20%
IF Grid	
IF Cathode	
IF Transformer Shunt	
rk	20%
work	
IF Grid Coil Shunt	
IF Cathode	
IF Plate	
IF Decoupling	
Filter	
Load	
k	
il Shunt	20%
Diode Load	
Grid	20%
il Shunt	20%
Plate	
be Cathode	
ut Grid	
ut Cathode	
il Shunt	20%
ut Plate	5%
"	5%
"	
ilter	
ection	
be Grid	20%
vider	20%
IF Grid	20%
IF Cathode	
IF Transformer Shunt	
IF Decoupling	
IF Grid	20%
IF Plate	

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES	
	RESISTANCE	WATTS	PHILCO PART No.	IRC PART No.		
R67	22KΩ	½	66-3228340	BTS-22K	Voltage Divider	
R68	47Ω	½	66-0478340	BW-½-47	Balancing (Wire Wound)	
R69	5.1Ω	2	66-9478340		Disc. Filament (Wire Wound)	5%
R70	10KΩ	½	66-3108340	BTS-10K	De-emphasis	
R71	6800Ω	½	66-2688340	BTS-6800	Balancing	
R72	6800Ω	½	66-2688340	BTS-6800	"	
R73	68KΩ	½	66-3688340	BTS-68K	Disc. Load	
R74	68KΩ	½	66-3688340	BTS-68K	Disc. Load	
R75	47KΩ	½	66-3478340	BTS-47K	Tone Compensation	
R76	330KΩ	½	66-4338340	BTS-330K	Bias Filter	
R77	15KΩ	½	66-3158340	BTS-15K	Voltage Divider	
R78	270KΩ	½	66-4278340	BTS-270K	" "	
R79	470KΩ	½	66-4478340	BTS-470K	AFC Network	20%
R80	470KΩ	½	66-4478340	BTS-470K	" "	20%
R81	4.7 Meg.	½	66-5478340	BTS-4.7 Meg.	1st AF Grid	20%
R82	47KΩ	1	66-3474340	BTA-47K	1st AF Plate	
R83	560KΩ	½	66-4564340	BTS-560K	1st AF Screen	
R84	1 Meg.	½	66-5108340	BTS-1 Meg.	Output Grid	20%
R85	270Ω	1	66-1274340	BW-1-270	Output Cathode	
R86	470KΩ	½	66-4478340	BTS-470K	Sync. Pre-Amp. Grid	20%
R87	10KΩ	1	66-3108340	BTA-10K	Sync. Pre-Amp. Plate	
R88	5100Ω	5	33-1335-18	AB-5000	Filter (Wire Wound)	
R89	10KΩ	½	66-3108340	BTS-10K	Sync. Sep. Grid	
R90	4.7 Meg.	½	66-5478340	BTS-4.7 Meg.	Sync. Sep. Grid	
R91	10KΩ	½	66-3108340	BTS-10K-5%	Voltage Divider	5%
R92	56KΩ	1	66-3564340	BTA-56K	Sync. Sep. Plate	
R93	100KΩ	1	66-4104340	BTA-100K	Vert. Osc. Decoupling	
R94	68KΩ	½	66-3688340	BTS-68K	Vert. Osc. Grid	
R95	10KΩ	½	66-3108340	BTS-10K	Vert. Discharge Grid	
R96	1 Meg.	½	66-5108340	BTS-1 Meg.	" " "	
R97	470KΩ	1	66-4474340	BTA-470K	Vert. Discharge Plate	
R98	10KΩ	½	66-3108340	BTS-10K	Vert. Discharge Decoupling	
R99	2.2 Meg.	½	66-5228340	BTS-2.2 Meg.	Vert. Output Grid	20%
R100	1000Ω	1	66-2104340	BTA-1000	Vert. Output Cathode	
R101	3300Ω	½	66-2338340	BTS-3300	Vert. Peaking	
R102	68KΩ	1	66-3688340	BTA-68K	Voltage Divider	
R103	10KΩ	½	66-3108340	BTS-10K	Sync. Amp. Grid	20%
R104	1 Meg.	½	66-5108340	BTS-1 Meg.	Voltage Divider	
R105	10KΩ	½	66-3108340	BTS-10K	Sync. Amp. Plate	
R106	3900Ω	½	66-2398340	BTS-3900	Sync. Amp. Plate Decoupling	
R107	33KΩ	1	66-3334340	BTA-33K	Filter	
R108	22KΩ	½	66-3228340	BTS-22K	Integrator	
R109	8200Ω	½	66-2828340	BTS-8200	"	
R110	8200Ω	½	66-2828340	BTS-8200	"	
R111	220KΩ	½	66-4228340	BTS-220K	AFC Feedback	
R112	10KΩ	½	66-3108340	BTS-10K-5%	Horiz. Osc. Transformer Shunt	5%
R113	68KΩ	½	66-3688340	BTS-68K	Horiz. Osc. Plate	
R114	100KΩ	1	66-4104340	BTA-100K-5%	Horiz. Osc. Grid	5%
R115	100KΩ	1	66-4104340	BTA-100K-5%	Voltage Divider	5%
R116	180KΩ	½	66-4188340	BTS-180K	Horiz. AFC Filter	
R117	3.3 Meg.	1	66-5334340	BTA-3.3 Meg.	Voltage Divider	
R118	560KΩ	½	66-4568340	BTS-560K	Horiz. AFC Grid	
R119	42KΩ	½	33-1343-2		Voltage Divider Temp. Comp.	
R120	82KΩ	1	66-3824340	BTA-82K	Voltage Divider See Note 1	
R121	10KΩ	½	66-3108340	BTS-10K	Filter	
R122	8200Ω	½	66-2828340	BTS-8200	Horiz. Peaking	
R123	100Ω	½	66-1108340		Parasitic Suppressor	20%
R124	220KΩ	½	66-4228340	BTS-220K	Horiz. Output Grid	
R125	100Ω	5	66-1105340	AB-100	Horiz. Output Cathode (Wire Wound)	
R126	3900Ω	2	66-2395340	BT-2-3900-5%	Horiz. Output Screen	5%
R127	12Ω	2	66-0125340	BW-2-12	Bias Network See Note 1	
R128	12Ω	2	66-0125340	BW-2-12	" " " " "	
R129	47KΩ	½	66-3478340	BTS-47K	Bias Filter	
R130	270Ω	4	66-1274340		Filter (Wire Wound) See Note 1	
R131	10KΩ	10	33-1336-21	AB-10K	"	
R132	1900Ω	10	33-3435-15	AB-2000	Filter (Wire Wound)	
R133	1 Meg.	1	66-5104340	BTA-1 Meg.	Bleeder	
R134	56Ω	2	66-0565340		Surge Limiter	
R135	33Ω	½	66-0338340	BW-½-33	Pilot Lamp Shunt (Wire Wound)	
R136	680KΩ	1	66-4684340	BTA-680K	HV Filter	
R137	680KΩ	1	66-4684340	BTA-680K	" "	
R138	560KΩ	½	66-4568340	BTS-560K	Feedback	
R139	1 Meg.	½	66-5108340	BTS-1 Meg.	FM RF Grid	20%
R140	100Ω	½	66-1108340	BW-½-100	FM RF Cathode	20%
R141	15KΩ	½	66-3158340	BTS-15K	FM RF Screen	20%
R142	10KΩ	½	66-3108340	BTS-10K	FM Conv. Grid	20%
R143	1500Ω	½	66-2158340	BTS-1500	FM Conv. Cathode	20%
R144	10KΩ	½	66-3108340	BTS-10K	FM Conv. Plate	20%
R145	15KΩ	½	66-3158340	BTS-15K	FM Osc. Grid	20%
R146	10KΩ	½	66-3108340	BTS-10K	FM Osc. Plate	20%
R147	68Ω	½	66-0688340	BW-½-68	Bias Network (Wire Wound)	20%
R148	68Ω	½	66-0688340	BW-½-68	Bias Network (Wire Wound)	20%
R149	1 Meg.	½	66-5108340	BTS-1 Meg.	AM Conv. Grid	20%
R150	1500Ω	½	66-2158340	BTS-1500	AM Conv. Cathode	20%
R151	10KΩ	½	66-3108340	BTS-10K	AM Conv. Plate	20%
R152	15KΩ	½	66-3158340	BTS-15K	AM Osc. Grid	20%
R153	33KΩ	½	66-3338340	BTS-33K	AM Osc. Plate	20%
R154	1 Meg.	½	66-5108340	BTS-1 Meg.	1st IF Grid	20%
R155	47Ω	½	66-0478340	BW-½-47	1st IF Cathode	20%
R156	1000Ω	½	66-2108340	BTS-1000	1st IF Decoupling	20%
R157	3.3 Meg.	½	66-5338340	BTS-3.3 Meg.	AVC Network	20%
R158	330KΩ	½	66-4338340	BTS-330KΩ	" "	20%
R159	68Ω	½	66-0688340	BW-½-68	Bias Network (Wire Wound)	20%
R160	68Ω	½	66-0688340	BW-½-68	2nd IF Cathode (Wire Wound)	20%
R161	1000Ω	½	66-2108340	BTS-1000	2nd IF Decoupling	20%
R162	10KΩ	½	66-3108340	BTS-10K	2nd IF Screen	20%
R163	47KΩ	½	66-3478340	BTS-47K	Diode Filter	20%
R164	47KΩ	½	66-3478340	BTS-47K	De-emphasis	20%
R165	100KΩ	½	66-4108340	BTS-100K	AVC Network	20%
R166	47KΩ	½	66-3478340	BTS-47K	Ratio Det. Diode Load	20%
R167	10 Meg.	½	66-6108340	BTS-10 Meg.	1st AF Grid	20%
R168	270KΩ	½	66-4278340	BTS-270K	1st AF Plate	20%
R169	47KΩ	½	66-3478340	BTS-47K	Tone Compensation	20%
R170	470KΩ	½	66-4473340	BTS-470K	Output Grid	20%
R171	220Ω	2	66-1228340	BW-2-220	Output Cathode (Wire Wound)	
R172	10KΩ	1	66-3104340	BTA-10K	Filter	
R173A	3200Ω	5	33-3435-23		Filter (Wire Wound)	
B	180Ω	5			Filter (Wire Wound)	

PHILCO
MODELS 49-1150, 49-1175

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (CONT.)

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	PHILCO PART No.	IRC PART No.	
R174	50Ω	5	33-1335-84		Surge Limiter (Wire Wound)
R175	680Ω	1	66-1684340	BW-1-680	Filter
R176	100Ω	5	66-1105340		Horiz. Output Cathode See Note 2 (Wire Wound)

Note 1. Some models use two resistors in parallel to obtain required resistance and wattage.
Note 2. Used in model 49-1150, Code 121A or B, only.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	PHILCO PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.
T1	117VAC @ 2.0A	660VCT @ .22 ADC 410VCT @ .084 ADC	5VAC @ 3A	5VAC @ 2A SEC. 4 6.3VAC @ 9.4A	32-8376		TP-450 #	

Add series resistor to reduce plate voltage.

TRANSFORMER (SWEEP CIRCUITS)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	DC RESISTANCE		PHILCO PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
	PRI.	SEC.					
T2	39Ω	98Ω	32-4367				Hor.Block Osc. Trans.
T3	166Ω	320Ω	32-8304-3				Vert. Block Osc. Trans.
T4	260Ω	SEC. 1	32-8398				Hor. Output Transfromer
	Tap @	2.5Ω					
	40Ω	SEC. 2					
		0Ω					
T5	650Ω	9.4Ω	32-8306-1	A-8115	TSO-1	A-3035	Vert. Output Transformer.
T6A	10Ω		32-9604				Hor. Deflection Yoke
B	35Ω						Vert. Deflection Yoke
T7	120Ω		76-2622				Focus Coil

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		PHILCO PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
	PRI.	SEC.	PRI.	SEC.					
T8	4600Ω	3.7Ω	510Ω	.4Ω	32-8356	A-3877	RO-302	A-2930	
T9	2700Ω	3.7Ω	188Ω	.4Ω	32-8367-1	A-3849	RO-305♦	A-2902	♦ Drill one mounting hole

SPEAKER

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	FIELD RES.	V. C. IMP.	PHILCO PART No.	JENSEN PART No.	QUAM PART No.	
SP1A	PM	3.7Ω	36-1610-2§	ST-120 MOD.P10-S■	10A31	■ Replace output transformer. to match 6-8Ω voice coil.
B			36-1507-3♦			§ Used in model 49-1175.
	CONE DIA.	V. C. DIA.				♦ Used in model 49-1150.
SP2A	9 1/2"	1"	§ ♦			
B						

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D. C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ~)	PHILCO PART No.	STANCOR PART No.	CHICAGO PART No.	MERIT PART No.	
L1	.220A	88Ω	6 Henries	32-8366	C-1721††	R-7200	C-3196	†† Drill new mounting holes.
L2	.084A	145Ω	5.5Henries	32-8355-1	C-1709♦	R-885	C-2974	♦ Drill one new mounting hole.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	PHILCO PART No.	MEISSNER PART No.	
L3A	Ant. Coil	0Ω		32-4115		Add channel number as a suffix to this part number.
B	RF Coupling	0Ω				
C	RF Coil	0Ω				
L4A	Osc. Coil	0Ω		32-4222		Add channel number as a suffix to this part number.
B	Mixer	0Ω				
L5	Osc.Plate Choke	.1Ω		32-4112-2		
L6	Osc.Plate Choke	.1Ω		32-4112-11		
L7	Fil.Choke	.1Ω		32-4112-11		
L8	Fil.Choke	.1Ω		32-4112-4		
L9	1st Video IF	.2Ω		32-4359-4		
L10	2nd Video IF	.2Ω		32-4359		
L11	3rd Video IF	.2Ω		32-4359		
L12	4th Video IF	.2Ω		32-4234-3		
L13	Adj.Channel Sound Trap	.1Ω		32-4234-4		
L14	4th Video IF Grid	.1Ω		32-4322-2		
L15	5th Video IF	.2Ω		32-4324-1		
L16	Sound Trap	0Ω		32-4302		
L17	Series Peaking	4.5Ω		32-4303		

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF) CONT.

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	PHILCO PART No.	MEISSNER PART No.	
L18	Shunt Peaking	6.1Ω		32-4143-7		
L19	Series Peaking	6Ω		32-4143-7		
L20	Shunt Peaking	6Ω		32-4143-7		
L21	Series Peaking	5Ω		32-4143-5		
L22	Shunt Peaking	6Ω		32-4143-7		
L23	Fil. Choke	.1Ω		32-4112-11		
L24	RF Choke	.1Ω		32-4112-11		
L25	RF Choke	.1Ω		32-4112-11		
L26	Fil.Choke	.1Ω		32-4112-11		
L27	Fil.Choke	.1Ω		32-4112-11		
L28	1st Sound IF	.1Ω		32-4303		
L29	2nd Sound IF Trans.	.8Ω	.8Ω	32-4236		
L30	Ratio Det. Trans.	.1Ω	0Ω	32-4317		
L31	Fil.Choke	.1Ω		32-4112-11		
L32	Fil.Choke	.1Ω		32-4112-11		
L33	Hor. Linearity Control	18Ω		32-4211		
L34	Width Control	2.5Ω		45-9527		
L35	FM Ant.	0Ω		32-4158-1		
L36	FM RF Plate	.5Ω		32-4061-2		
L37	FM RF	0Ω		32-4159-1		
L38	RF Choke	.5Ω		32-4061-2		
L39	FM Osc. Plate	.5Ω		32-4061-2		
L40	FM Osc.	0Ω		32-4018-5		
L41	AM Loop Ant.	0Ω		32-4273-1		
L42	AM Ant. Loading	1Ω		32-4217-1		
L43	FM RF Isolating	.5Ω		32-4061-2		
L44	AM Osc.	10.5Ω		32-4221-1		
L45	FM RF Isolating	.5Ω		32-4061-2		
L46	FM 1st IF Trans.	1Ω	1Ω	32-4257		
L47	AM 1st IF Trans.	24Ω	20Ω	32-4258		
L48	FM 2nd IF Trans.	1Ω	1Ω	32-4257-1		
L49	AM 2nd IF Trans.	10Ω	10Ω	32-4160-3	16-6678	
L50	Ratio Det. Trans.	1.3Ω	.1Ω	32-4261		
L51	AM 3rd IF Trans.	15.5Ω	15.5Ω	32-4240-2	16-6670	
L52	Fil. Choke	1.1Ω				
L53	RF Choke	.5Ω		32-4061-2		

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA			NOTES
	CURRENT	PHILCO PART No.			
M1	.105A	34-8003-2			
M2	.105A	34-8003-2			

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		NOTES
					PHILCO PART No.		
M3	Screw	120					120V 7W
M4	Screw	120					120V 7W
M5	Bayonet	6.8	.15	Brown			Type #47

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M6	Tuning Cap	31-2724-7	23-522MMF, 10-247MMF W/T
M7	Fuse	45-2656-10	3/8 Amp. Type AGX
M8	Switch	42-1863	AVC on-off switch
M9	Tuner	76-3109-2	Complete
M10	Switch	42-1874	BC-FM-Phono switch
M11	Ion Trap	76-3913	PM
	Knob	54-4376	Control, Mahogany
	Knob	54-4248	Control, Blonde
	Knob	54-4925-1	Hor. Hold Control, Mahogany
	Knob	56-4925-5	Hor. Hold Control, Blonde
	Knob	54-4567	Vert. Hold Control, Mahogany
	Knob	54-4567-1	Vert. Hold Control, Blonde
	Knob	56-4925-3	Tuner, Mahogany
	Knob	56-4925-4	Tuner, Blonde
	Core	56-3915	Tuning core for L9, L10, L11, L12,L13,L14,L15, & L16
	Back	54-7748	For radio in 49-1175
	Back	54-7711-1	For Television chassis in 49-1175
	Window	54-7848	For model 49-1175

HORIZONTAL HOLD ADJUSTMENTS

1. Turn B1 (Frequency Adj.) one and a half turns from the maximum clockwise position.
2. Turn B2 (Driver Adj.) two turns from the maximum clockwise position.
3. Turn B3 (Horiz. Lock Trimmer) one half turn from the maximum clockwise position.
4. Set the horizontal hold control R1A to the center of its rotation.
5. Turn in a station and adjust B4 until picture "sync".
6. Turn the AVC "off" and adjust the contrast control (R3) for normal contrast.
7. Turn the horizontal hold control fully clockwise and adjust B4 until 8 to 10 blanking bars appear on the picture tube, sloping downward from the left side.
8. If this cannot be done turn B1 one turn counterclockwise and repeat step 7.
9. Turn the horizontal hold control in the counterclockwise direction until picture "sync".
10. Keep turning the horizontal hold control in the counterclockwise direction until the picture falls out of "sync".
11. If the picture will not fall out of "sync" with the horizontal hold control turned fully counterclockwise, turn the contrast control counterclockwise until picture falls out of "sync" and then clockwise to the point where the picture reappears, but not in "sync".
12. Advance the horizontal hold control clockwise and count the number of balnking bars present. This number should decrease and synchronization is neared.
13. Just before the picture drops into "sync" there should be $3\frac{1}{2}$ to $4\frac{1}{2}$ bars sloping upward from the left side of the picture.
14. If more than $4\frac{1}{2}$ bars were present as outlined in step 13, turn B3 clockwise 1/4 turn and repeat steps 7 through 14. If less than $3\frac{1}{2}$ bars were present, turn B3 counterclockwise 1/4 turn and repeat steps 7 through 14.