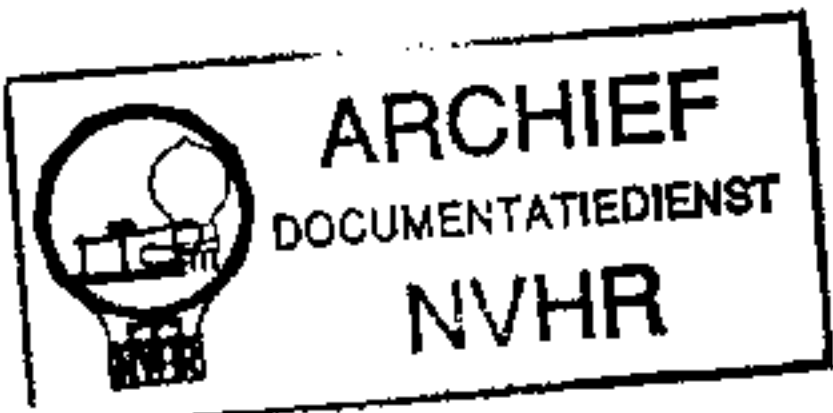




with CIRCUITRACE*

Met dank aan Jef Bos



MODEL H-685P8

TRADE NAME	Westinghouse Models H-685P8, H-686P8 (Ch. V-2396-1)		
MANUFACTURER	Westinghouse Electric Corp., TV-Radio Div., Metuchen, N.J.		
TYPE SET	Battery Operated Transistorized AM Receiver With Battery Operated Clock		
POWER SUPPLY	Radio: 6 Volts DC	RATING	Radio: 10MA @ 6 Volts DC (No Signal, Min. Vol.)
	Clock: 1.5 Volts DC		14MA @ 6 Volts DC (Signal, Normal Vol.)
TUNING RANGE—BROADCAST	540-1625KC		Clock: 1MA @ 1.5 Volts DC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

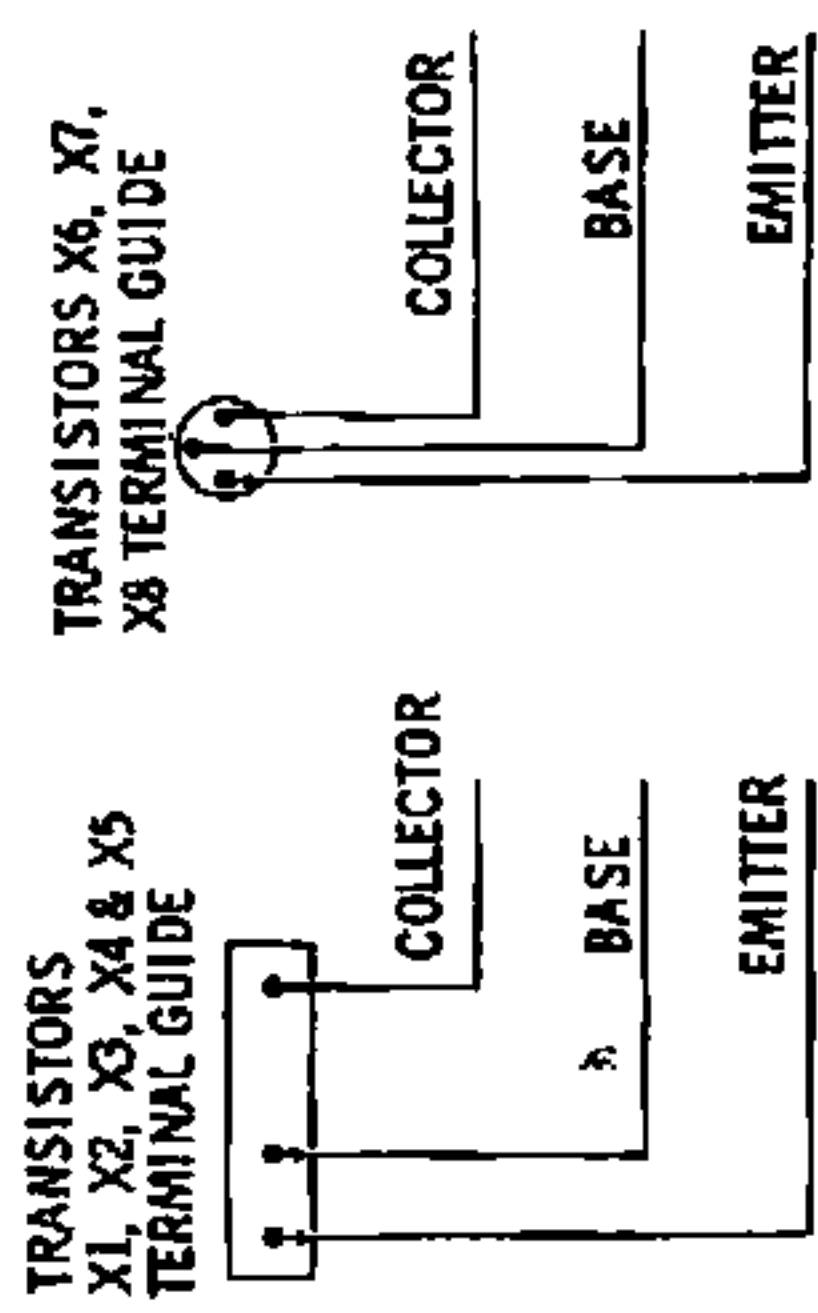
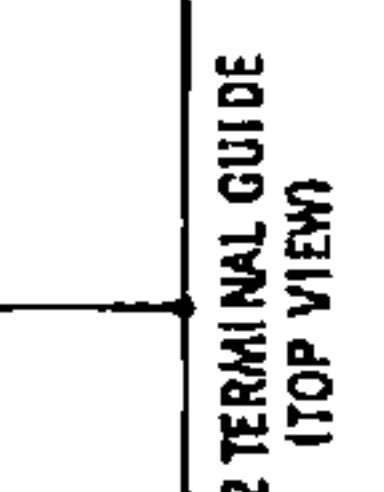
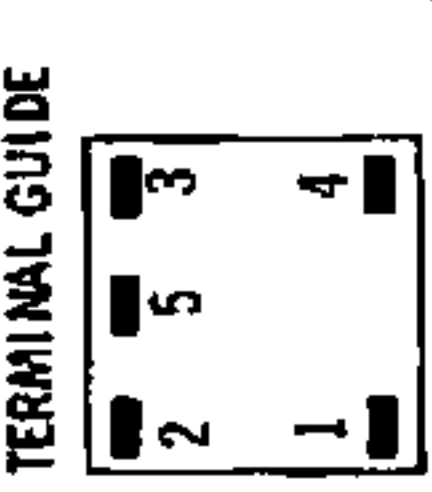
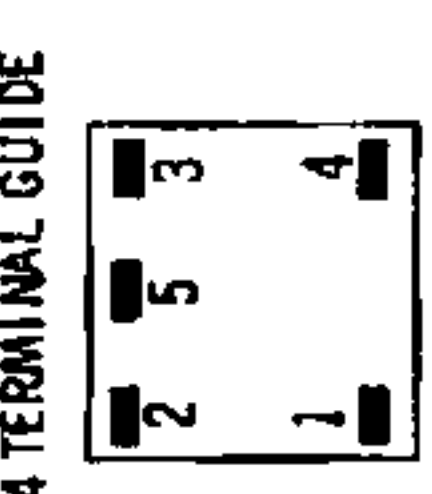
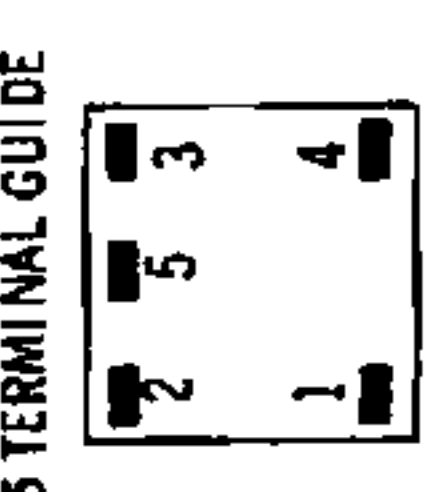
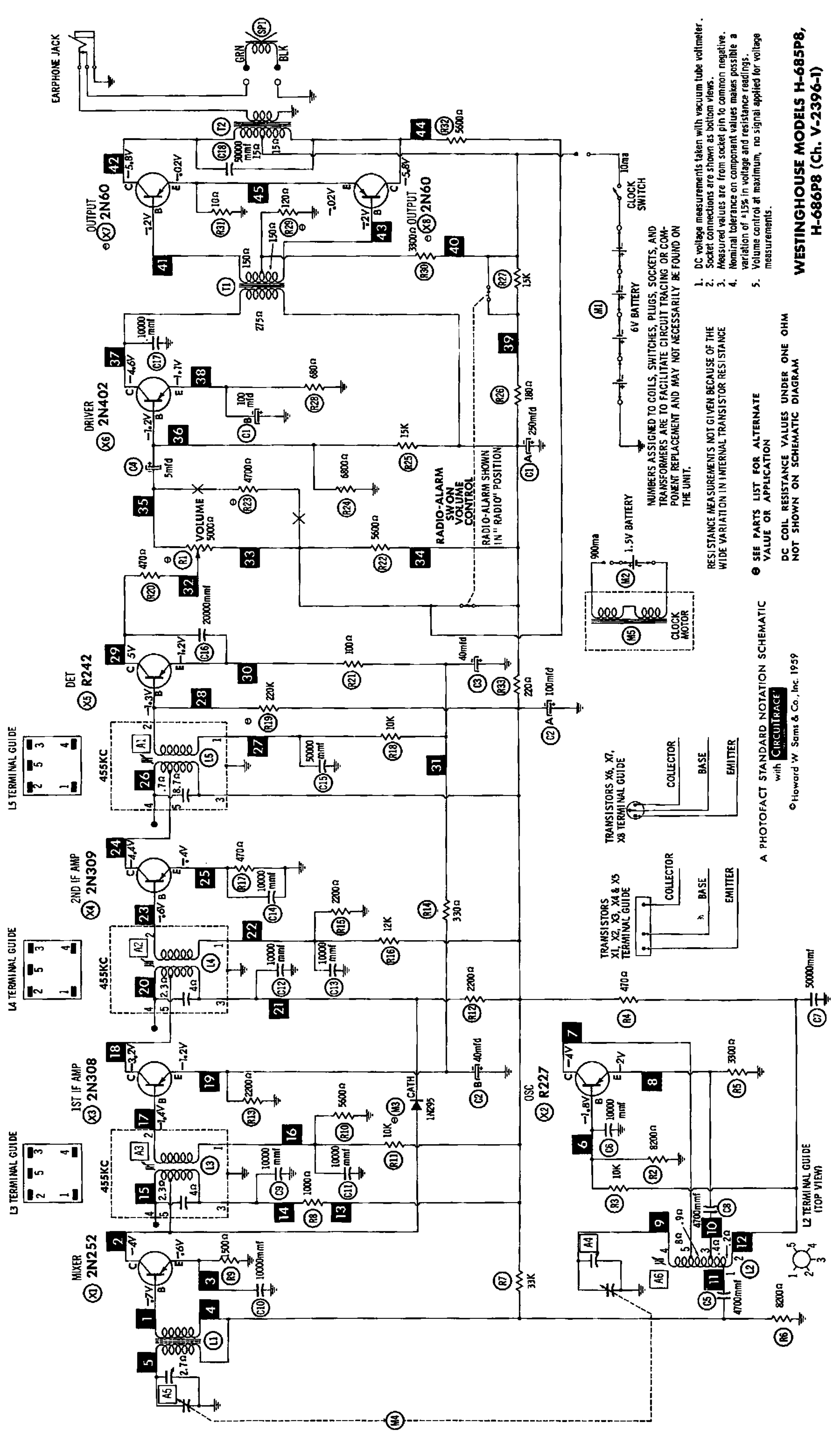
Suggested Alignment Tools: A1, A2, A3 GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987
 WALSCO #2531
 A4, A5 GENERAL CEMENT #5004, 5008, 5009
 WALSCO #2520
 A6 GENERAL CEMENT #8606, 8606L, 8282, 9295
 WALSCO #2526, 2543, 2544, 2545

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.		Loop	455KC (400% Mod)	Tuning gang fully closed	Across voice coil	A1, A2, A3	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
2.		"	1625KC	Tuning gang fully open	"	A4	"
3.		"	1400KC	1400KC	"	A5	"
4.		"	600KC	600KC	"	A6	"

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

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of JG188

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1959 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



A PHOTODUPLICATION NOTATION SCHEMATIC with CIRCUITRACE

© Howard W. Sams & Co., Inc. 1959

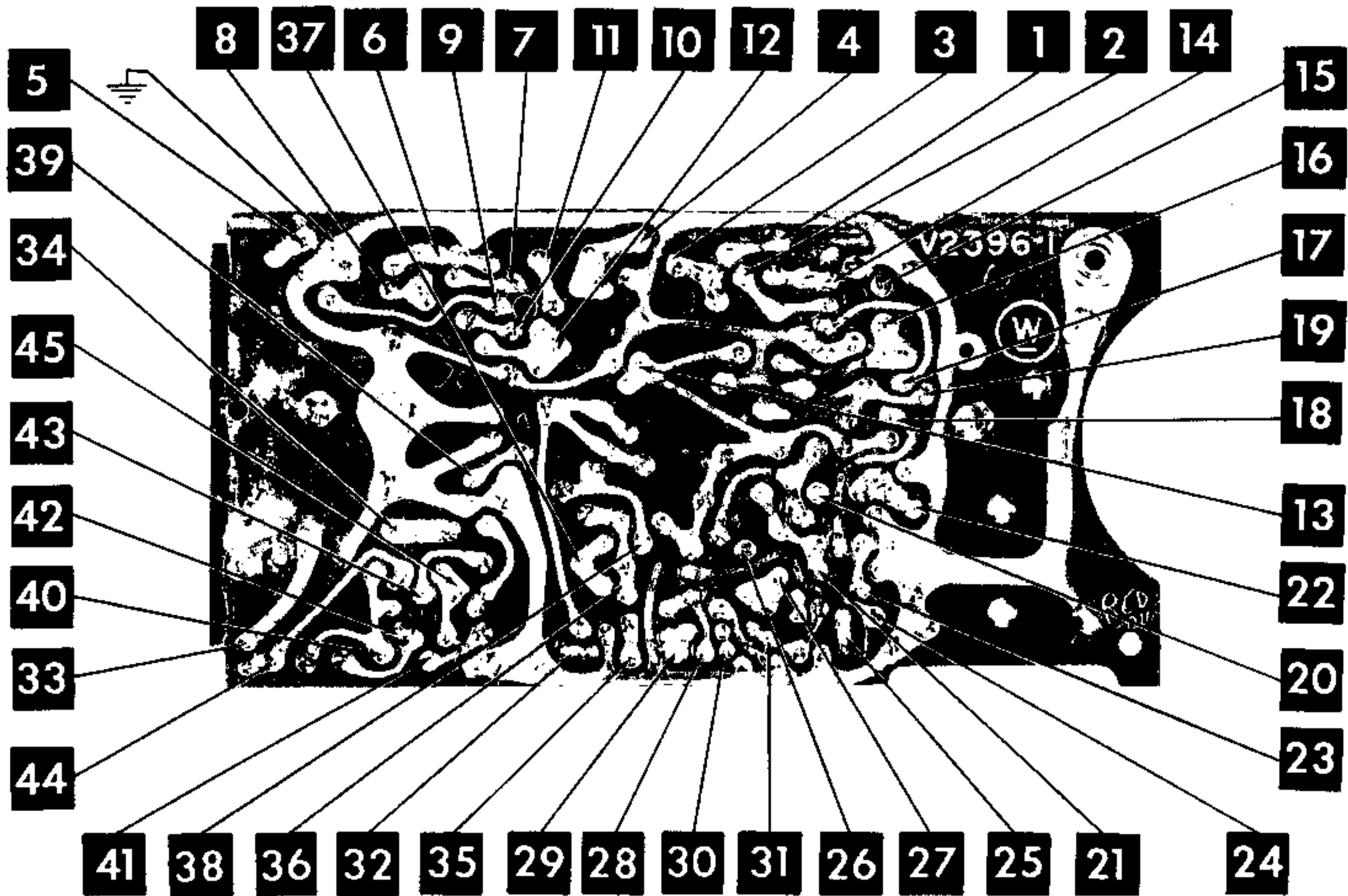
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

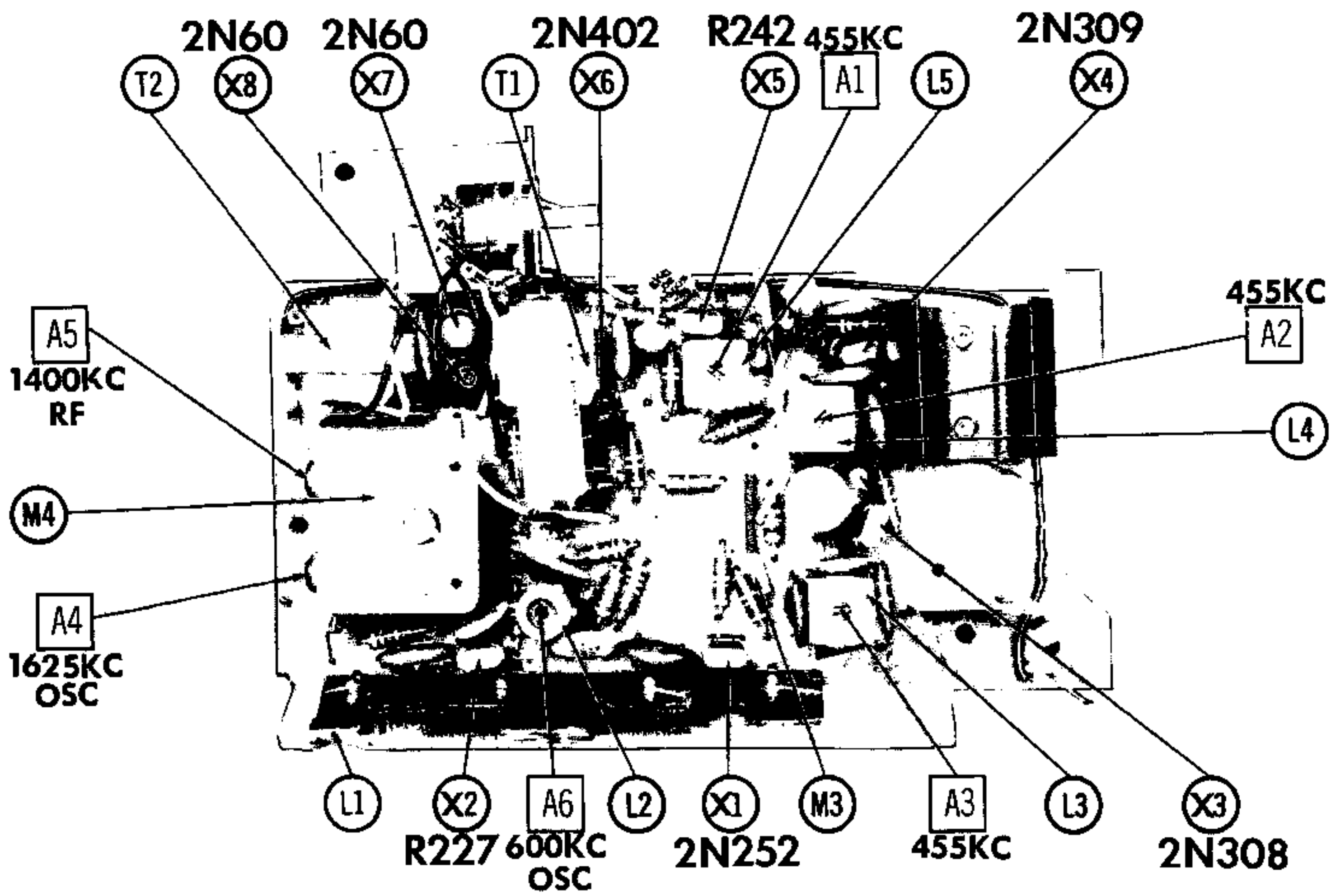
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

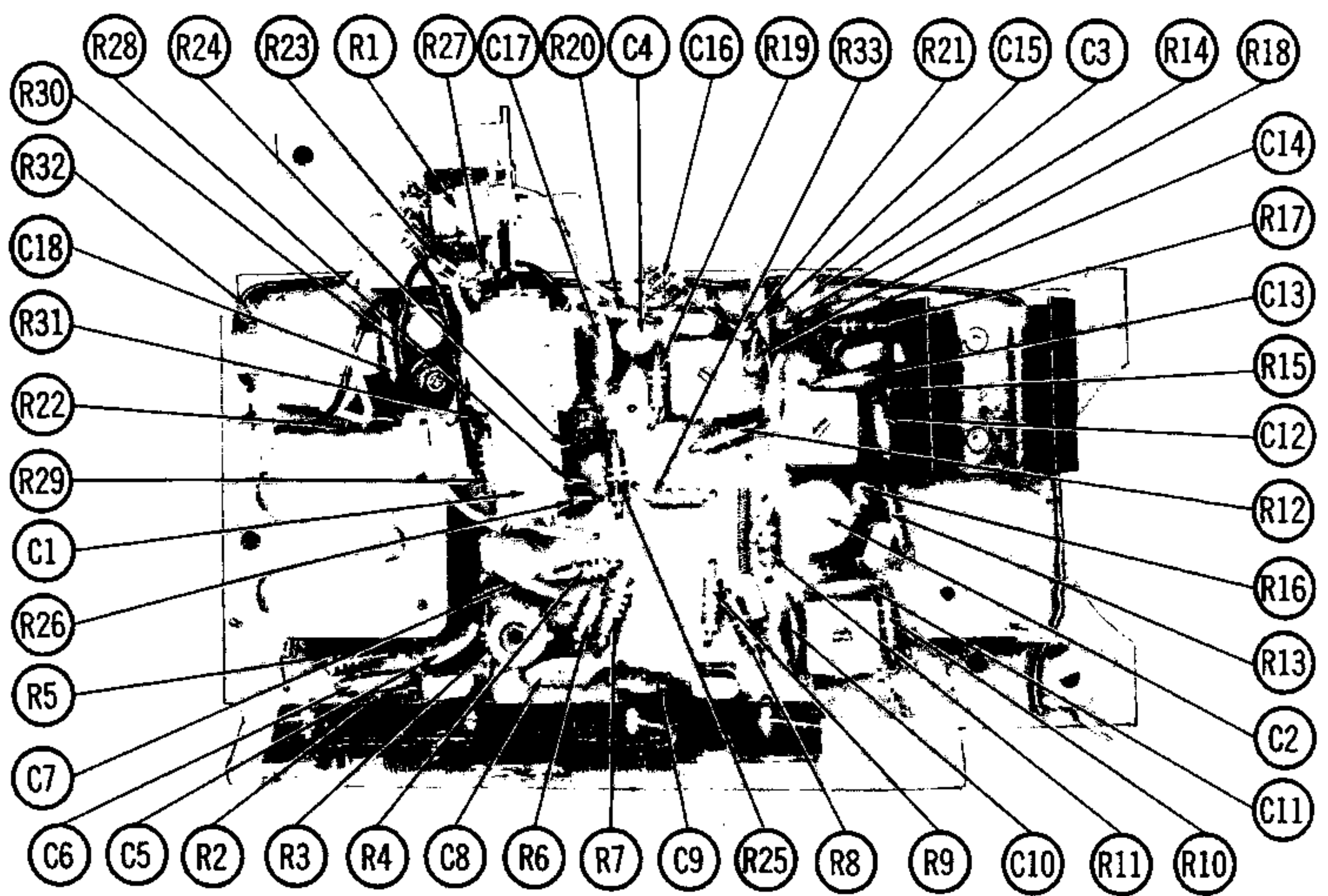
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

WESTINGHOUSE MODELS H-685P8, H-686P8 (Ch. V-2396-1)





CHASSIS-TOP VIEW



CHASSIS-TOP VIEW

PARTS LIST A

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			CBS PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N252	Mixer			2N486	2N140	PNP
X2	R227	Oscillator			2N485		PNP
X3	2N308	1st IF Amp.			2N483	2N247	PNP
X4	2N309	2nd IF Amp.			2N482	2N247	PNP
X5	R242	Detector			2N482		PNP
X6	2N402	Driver			2N362		PNP
X7	2N80 *	Output			2N362		PNP
X8	2N80 *	Output			2N362		PNP } Matched

* Alternate Types 2N61, 0060, 0061.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	Westinghouse PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1A	250	7	218V025H28			PETA2300		VLS-2170	
B	100	3							
C2A	100	6	218V025H29	BCD6X10030		PTE2290		VLS-2125 *	
B	40	3							
C3	40	3	218V012H02	PWE3040	EC40-3	TT3X40		TE-1057	
C4	5	7	218V012H14	PWE10005	EC5-15	TT12X5	ML5-6	TE-1084	

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

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			REPLACEMENT DATA						NOTES
	CAP.	VOLT	TOL	Westinghouse PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	4700			215V300H04	BPD-0047	DD-472	BYA10D47M	B-247	5GA-D47	
C6	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C7	50000			215V303H03	BPD-05	DF-503	H-05S5	TA-150	TG-S50	
C8	4700			215V300H04	BPD-0047	DD-472	BYA10D47M	B-247	5GA-D47	
C9	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C10	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C11	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C12	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C13	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C14	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C15	50000			215V303H03	BPD-05	DF-503	H-05S5	TA-150	TG-S50	
C16	20000			215V303H04	BPD-02	DD-203	H-05S2	TA-120	TG-S20	
C17	10000			R2CC63Z5Z103P	BPD-01	DD-103	H-05S1	TA-110	TG-S10	
C18	50000			215V303H03	BPD-05		H-05S5	TA-150	TG-S50	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	Westinghouse PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
RIA B	5000Ω Switch	1/4	270V066H01					Volume, Note 1 Radio-Alarm

Note 1. Some versions use 2500Ω (Part #270V066H02).

D DESCRIPTIONS

RESISTORS

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

ITEM No.	RATING		Westinghouse PART No.	NOTES
	OHMS	WATT		
R2	8200Ω		RC20AE822K	
R3	10K		RC20AE103K	
R4	470Ω		250V224A71	
R5	3300Ω		RC20AE332K	
R6	8200Ω		RC20AE822K	
R7	33K		RC20AE333K	
R8	1000Ω		250V221A02	
R9	1500Ω		RC20AE152K	
R10	5600Ω		250V225A62	
R11	10K		RC20AE103K	
R12	2200Ω		RC20AE222K	
R13	2200Ω		RC20AE222K	
R14	330Ω		RC20AE331K	
R15	2200Ω		RC20AE222K	
R16	12K		RC20AE123K	
R17	470Ω		250V224A71	

ITEM No.	RATING		Westinghouse PART No.	NOTES
	OHMS	WATT		
R18	10K		RC20AE102K	Note 1
R19	220K		250V222A24	
R20	470Ω		RC20AE123K	
R21	100Ω		250V221A01	Note 2
R22	5600Ω		250V225A62	
R23	4700Ω			
R24	6800Ω		RC20AE682J	
R25	15K		RC20AE153J	Note 3
R26	180Ω		250V221A81	
R27	15K		RC20AE153J	
R28	680Ω		RC20AE681J	
R29	120Ω		RC20AE121K	
R30	3300Ω		RC20AE332K	
R31	10Ω		RC20AE100K	
R32	5600Ω		250V225A62	
R33	220Ω		RC20AE221M	

Note 1. Early versions use a 100K in this application.
Note 2. Not used when R1 is 2500Ω.

Note 3. Early versions use 100Ω in this application.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Westinghouse PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	
L1	Loopstick	310V046H01					
L2	Osc. Coil	230V074H01					
L3	1st IF Trans.	235V045H01					
L4	2nd IF Trans.	235V045H01					
L5	3rd IF Trans.	235V041H03					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Westinghouse PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T1	1 : 1		430V061H02					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES		
	PRI.	SEC.	Westinghouse PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.		Thordarson PART No.	Triad PART No.
T2	350Ω CT	3-4Ω	430V073H01	TR22 ①			TA-41 ①	TR22 ①	TY-57X①	① Bend ears under or cut off.

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	Westinghouse PART No.	QUAM PART No.	
SP1	3"	PM	3-4Ω	570V058H01		

PARTS LIST AND DESCRIPTIONS (Continued)

BATTERIES

ITEM No.	VOLTAGE	Westinghouse PART No.	REPLACEMENT DATA				NOTES
			BURGESS		MALLORY		
			"A"	"B"	"A"	"B"	
M1	6V		Z J	1015 J E9 2 A100	M-15R J ZM-9 2 M-13R	M-15R J ZM-9 2 M-13R	1 4 used. 2 Mercury Type, 4 used.
M2	1.5V		2R		RM-42R 2		

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		Westinghouse PART No.	CBS PART No.	SYLVANIA PART No.	
M3	1N295 *	286V002H01	1N60	1N295	Over load (Pigtail)

* Some versions may use 1N87G in this application.

MISCELLANEOUS

ITEM No.	PART NAME	Westinghouse PART No.	NOTES
M4	Tuning Cap.	330V028H01	2 Gang (Ant. 11-127mmf, Osc. 12-90mmf)
M5	Clock	850V014H01	

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Knob Ass'y.	559V044H01	Tuning, Includes Compression Spring Volume-On-Off Clock, 2 used AM Dial, Includes Compression Spring
Knob Ass'y.	550V104H01	
Knob Ass'y.	550V107H01	
Knob Ass'y.	559V045H01	
Clock Dial	558V195H01	
Cabinet Front	558V199H01	
Cabinet Back	513V037H01	Brown, Model H-685P8 Pink, Model H-686P8
Cabinet Back	513V037H02	
Clock Crystal	558V198H01	

WIRING DATA

General-use Unshielded Hook-up Wire Use Belden No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

DISASSEMBLY

CHASSIS REMOVAL

1. Remove screw from center of cabinet back.
2. Remove 2 screws from bottom of cabinet.
3. Separate cabinet front from rear.
4. Remove tuning knob and dial. (Insert a loop of string under dial and pull.)
5. Remove 3 hex head screws holding printed board to cabinet.
6. Unsolder black wire from radio battery holder.

7. Disconnect speaker leads, clock battery lead and the printed board terminal near the output transformer.
8. Remove printed board from cabinet.

CLOCK REMOVAL

1. Remove printed board (see chassis removal).
2. Unsolder 4 leads from underside of clock case.
3. Remove clock knobs.
4. Remove 4 clock mounting nuts. Remove clock.