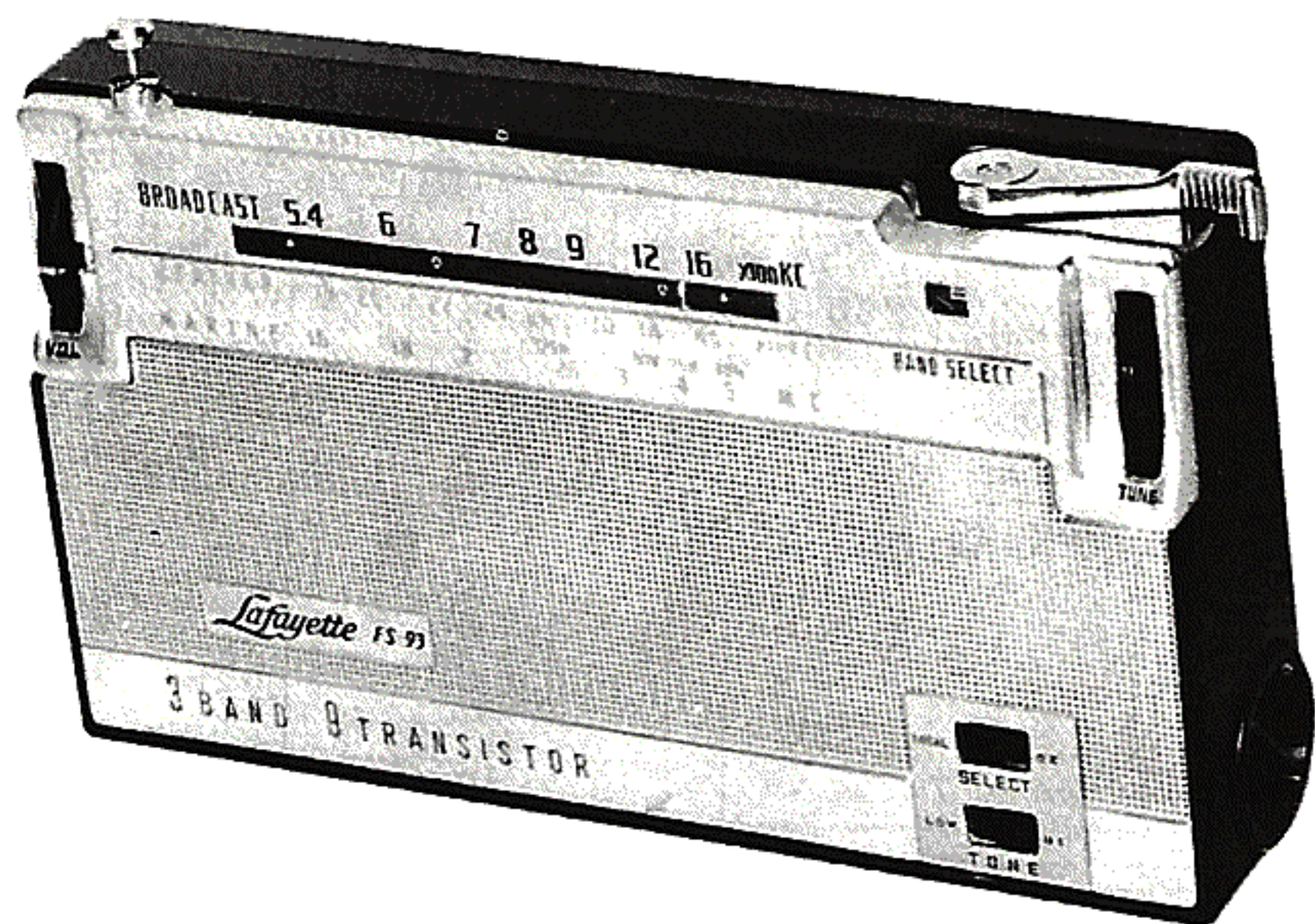
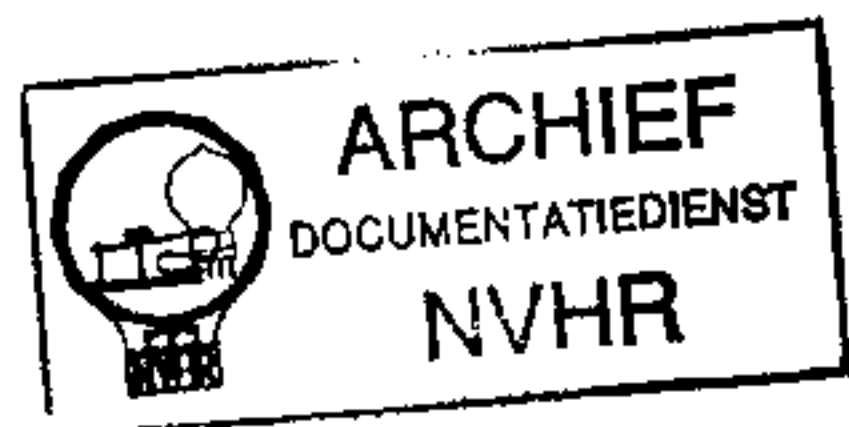


PHOTOFACT® Folder

with **CIRCUITRACE™**

**LAFAYETTE
MODEL FS-93**

Ned. Ver. v. Historie v/d Radio



Met dank aan Jef Bos

TRADE NAME	Lafayette Model FS-93		
SUPPLIER	Lafayette Radio, 165 - 08 Liberty Ave., Jamaica 33, N. Y.		
TYPE SET	Battery Operated Transistorized Portable 3 Band Receiver		
POWER SUPPLY	6 Volts DC	RATING	15 MA @ 6 Volts DC (No Signal, Min. Volume) 25MA @ 6 Volts DC (Signal, Normal Volume)
TUNING RANGE—BROADCAST	540 - 1600KC	WEATHER	190 - 400KC
		MARINE	1.6 - 5MC

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:

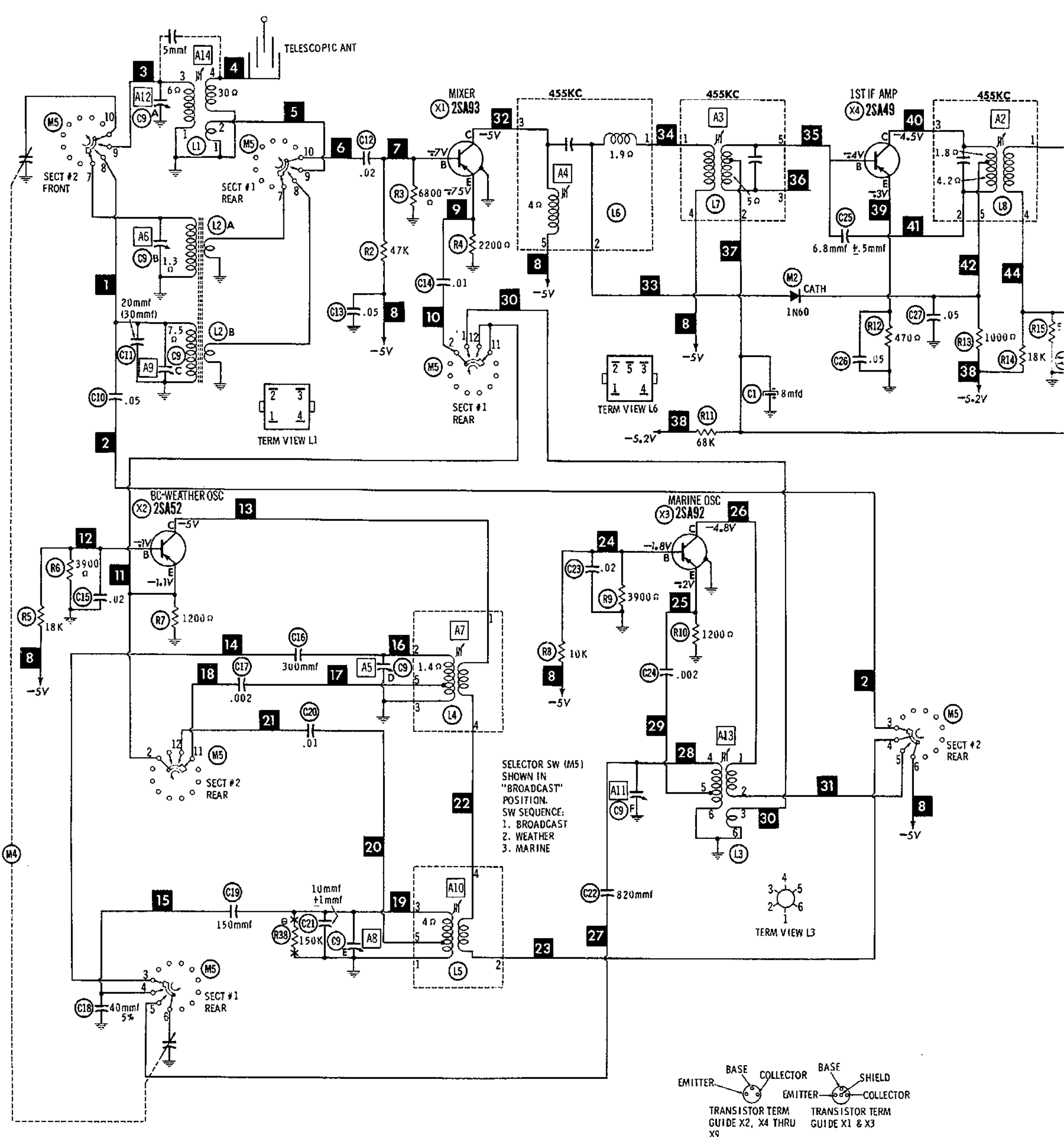
- A1, A2, A3, A4, A7, A10... GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537
- A5, A6, A8, A9, A11, A12.. GENERAL CEMENT #5000, 5003, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537
- A13, A14... GENERAL CEMENT #9440

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to base of Mixer transistor. Low side to chassis.	455KC (400v Mod.)	(BC) Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1600KC	1600KC	"	A5, A6	"
3.	"	600KC	600KC	"	A7	Adjust for maximum output while rocking tuning gang.
4.	"	400KC	(W) 400KC	"	A8, A9	Adjust for maximum output.
5.	"	190KC	190KC	"	A10	Adjust for maximum output while rocking tuning gang.
6.	High side thru .001mfd to external antenna. Low side to chassis.	5MC	(M) 5MC	"	A11, A12	Adjust for maximum output.
7.	"	1.6MC	1.6MC	"	A13, A14	Rock tuning gang and adjust for maximum output. Repeat steps 2 thru 7.

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 LF051

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. ©1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

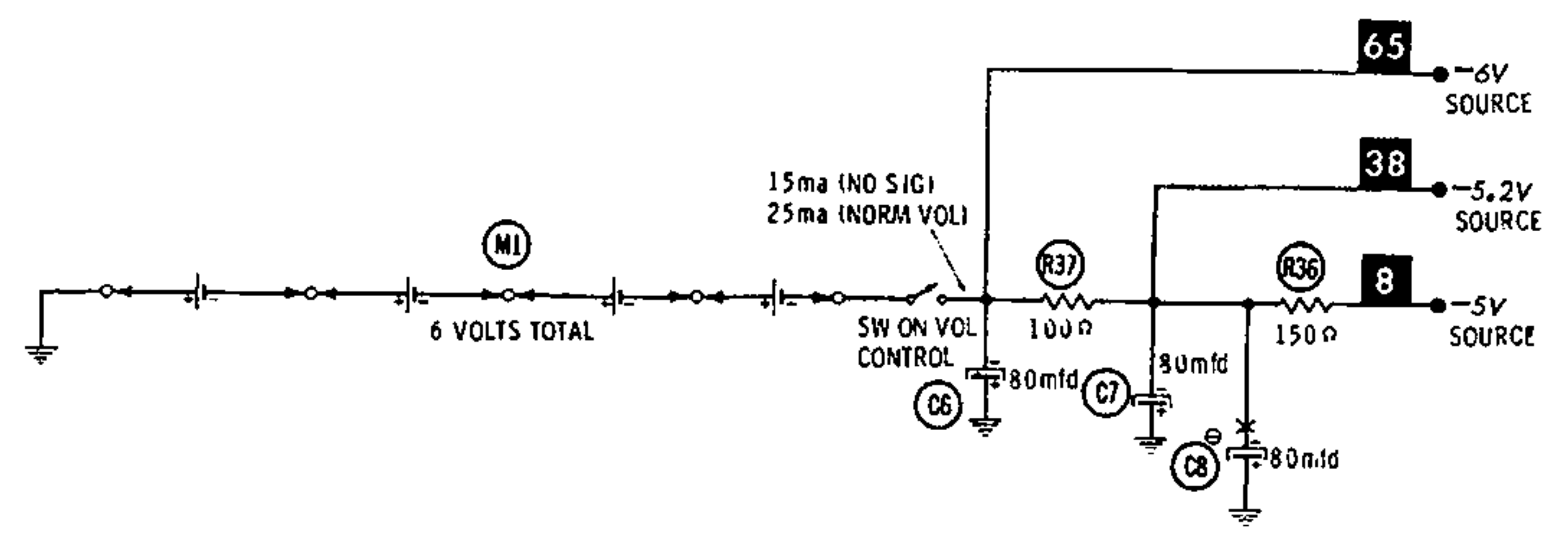
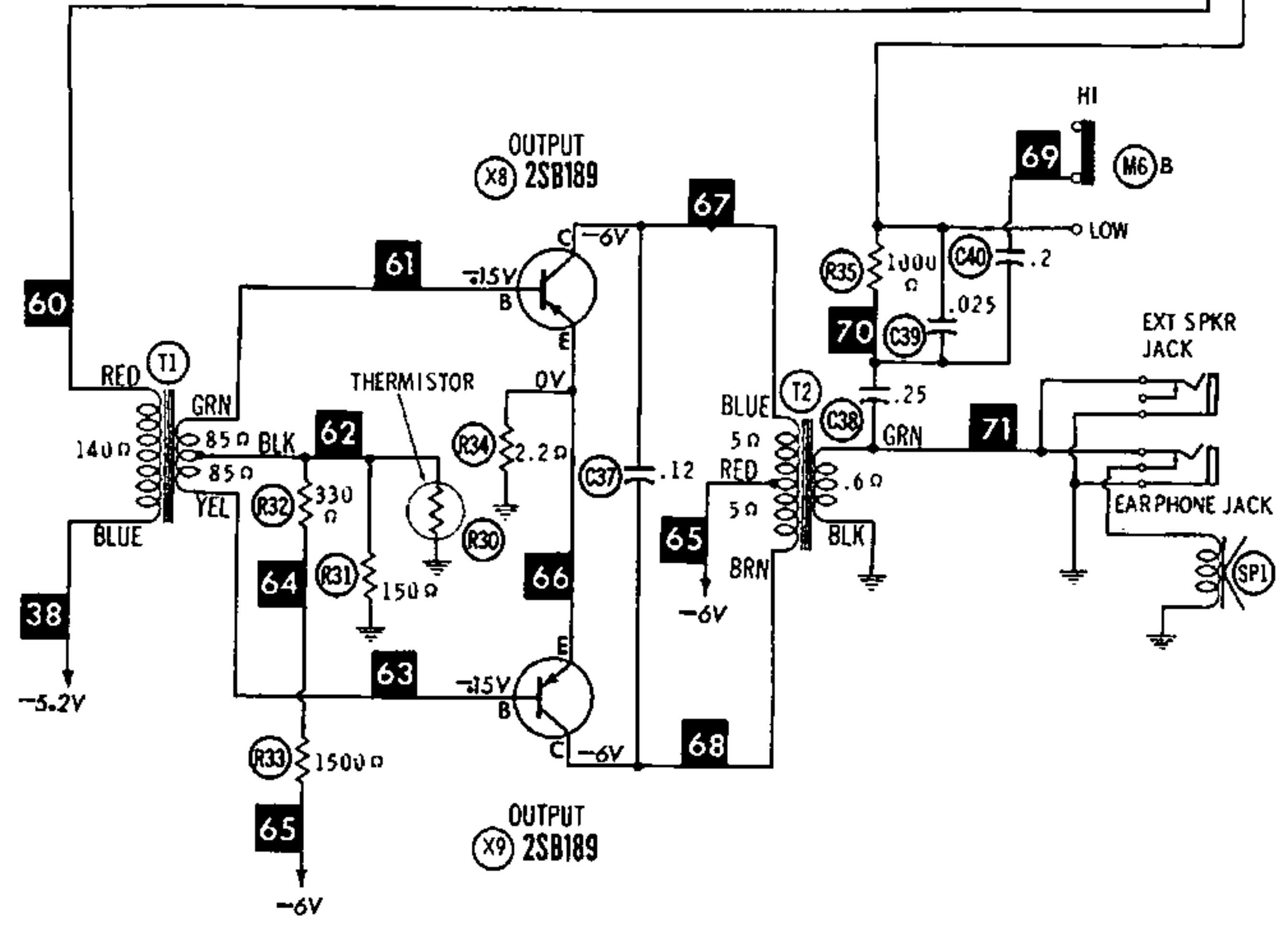
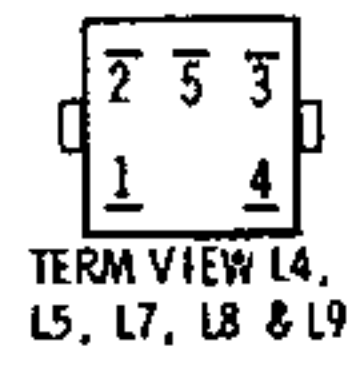
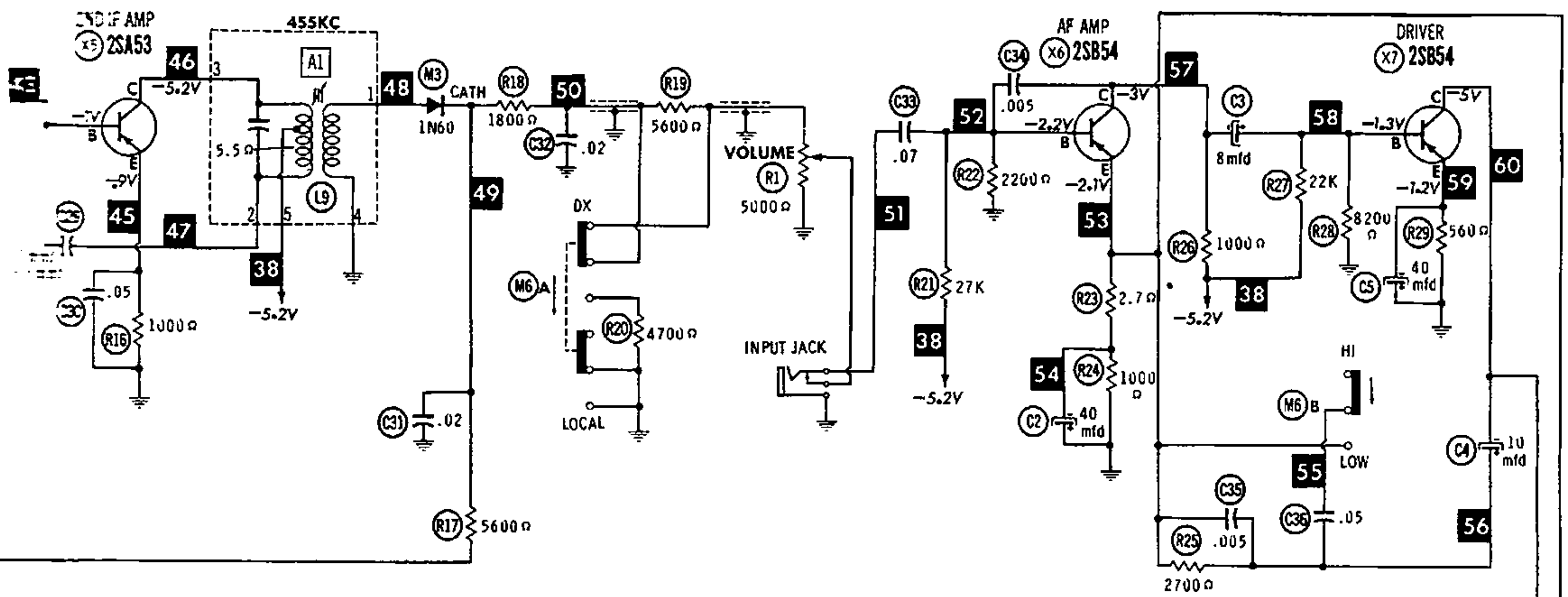
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

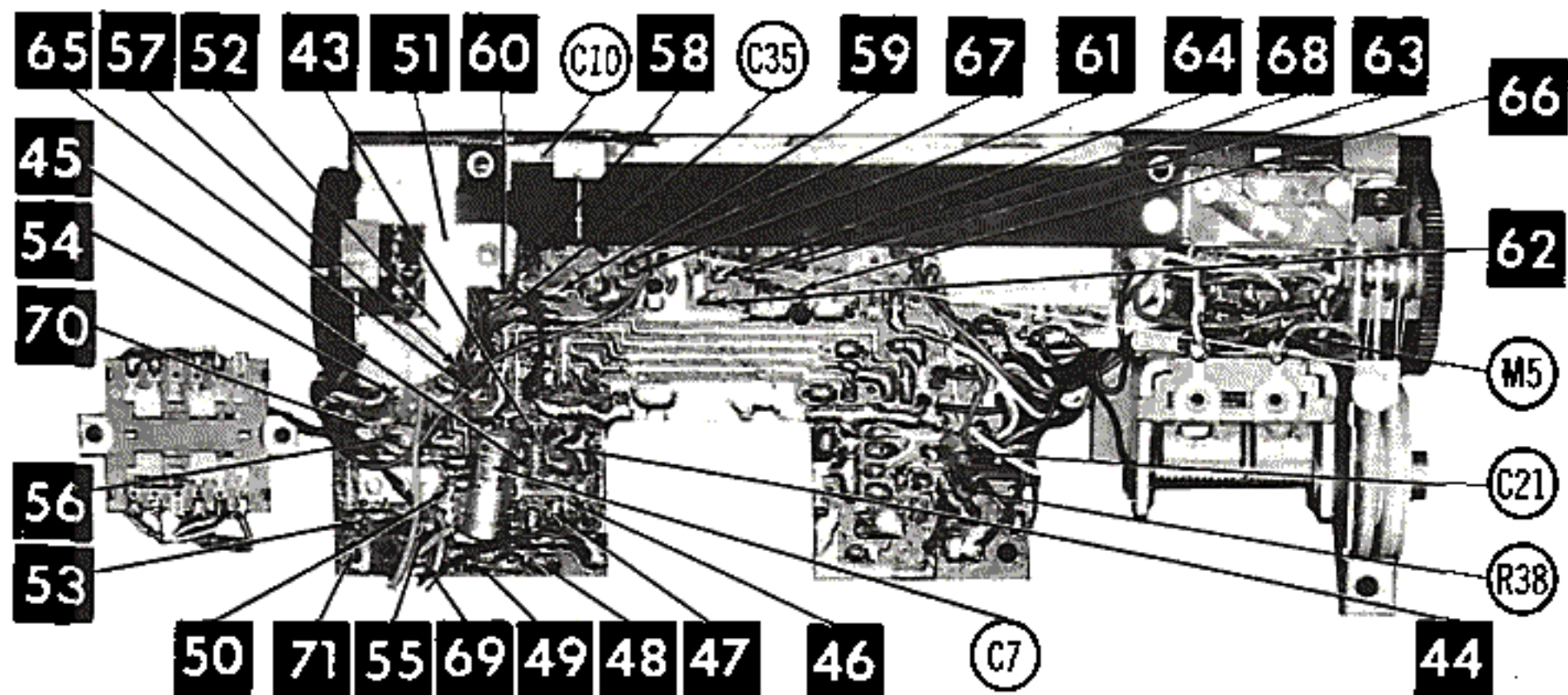
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance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

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

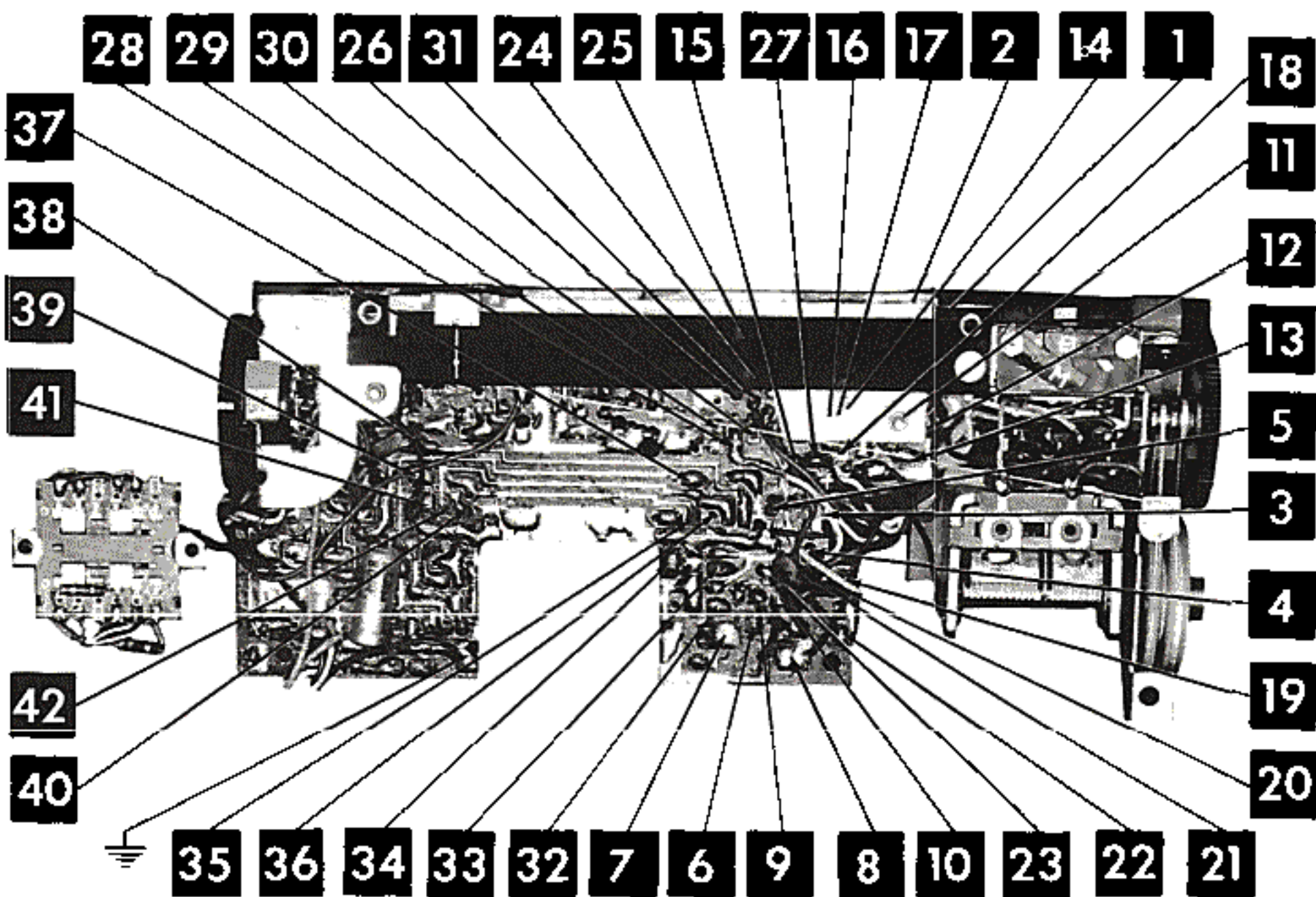
A PHOTOFACIT STANDARD NOTATION SCHEMATIC with **CIRCUSTRACE**





A Howard W. Sams CIRCUITRACE Photo

CHASSIS - BOTTOM VIEW



A Howard W. Sams CIRCUITRACE Photo

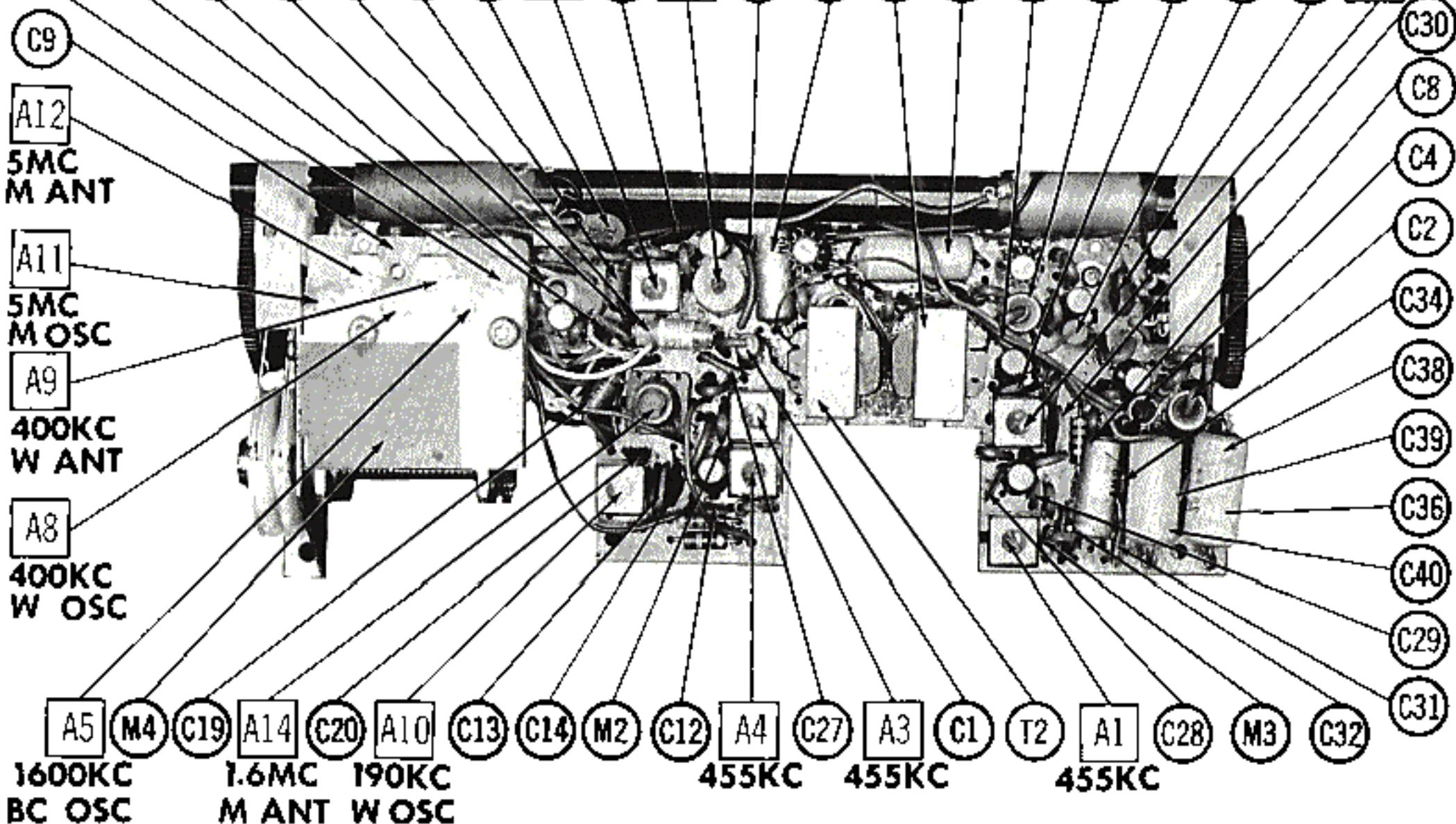
CHASSIS - BOTTOM VIEW

BC ANT
1600KC

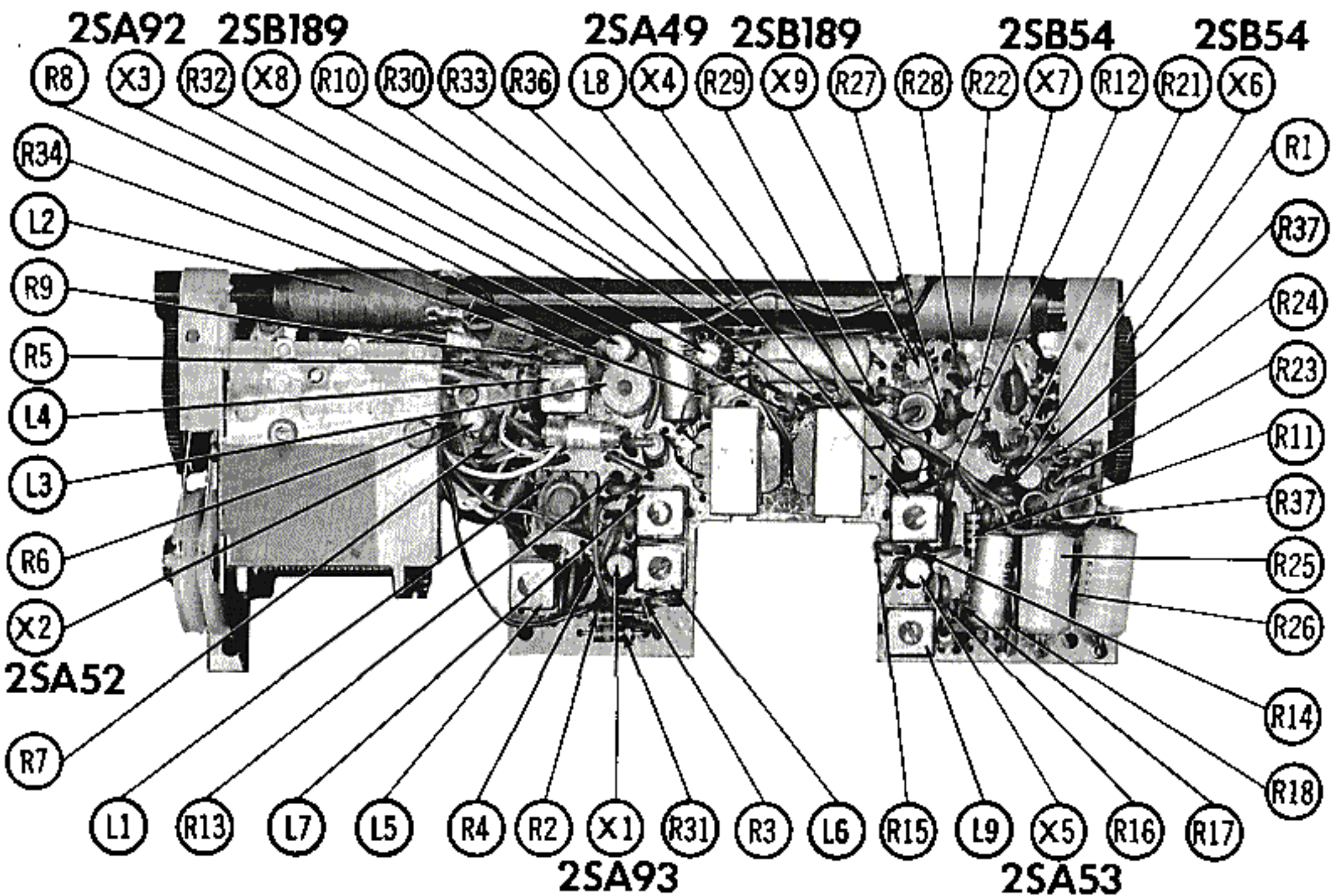
BC OSC M OSC
600KC 1.6MC

455KC

A6 C18 C15 C17 C22 C16 C11 A7 C23 A13 C24 C6 T1 C37 C26 C5 C25 C3 C33 A2



CHASSIS TOP VIEW - ALIGNMENT, CAPACITOR & MISC. IDENT.



CHASSIS TOP VIEW - RESISTOR, INDUCTOR & TRANSISTOR IDENT.

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA93	Mixer	2N410		PNP
X2	2SA52	BC-Weather Osc.	2N412	2N486	PNP
X3	2SA92	Marine Osc.	2N412		PNP
X4	2SA49	1st IF Amplifier	2N410	2N483	PNP
X5	2SA63	2nd IF Amplifier	2N410	2N483	PNP
X6	2SB54	AF Amplifier	2N406	2N382	PNP
X7	2SB54	Driver	2N406	2N382	PNP
X8	2SB189	Output	2N408	2N633	PNP
X9	2SB189	Output	2N408	2N633	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	LAFAYETTE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	8	3		PTT5	NLW8-10	MT1-5	TT6X8	MLV10-3	TE-1052.5
C2	40	3		PTT11	NLW40-6	MT1-15	TT3X40	MLV40-3	TE-1057
C3	8	5		PTT22	NLW8-10	MT1-5	TT6X8	MLV10-6	TE-1086
C4	10	8		PTT23	NLW10-6	MT1-5	TT6X10	MLV10-6	TE-1087
C5	40	3		PTT11	NLW40-6	MT1-15	TT3X40	MLV40-3	TE-1057
C6	80	6		PTT30	NLW75-10	MT1-18	TT6X80	MLV100-6	TE-1101.5
C7	80	6		PTT30	NLW75-10	MT1-18	TT6X80	MLV100-6	TE-1101.5
C8	80	6	Note 1	PTT30	NLW75-10	MT1-18	TT6X80	MLV100-6	TE-1101.5

Note 1. Not used in some versions.

FIXED 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.	
C9A B C D E F									
C10	.05	(30) †	C80V503AM	DA-503	H-05S5		TA-150	TG-S50	
C11	20		NPO-DI 20	DTZ-20	C10Q2C	CCTO-200	CNO-422	10TCC-Q20	
C12	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20	
C13	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-S50	
C14	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10	
C15	.02		C80V203AM	DA-203	H-05S2	CCD-203	TA-120	TG-S20	
C16	300		SI 300	D6-301	L10T3	CCD-301	GP330	10TS-T33	
C17	.002		BPD-002	DM-202	BYA10D2	CCD-202	B-220	5HK-D20	
C18	40 5%			TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-C39	
C19	150		SI 150	D6-151	L10T15	CCD-151	GP315	10TS-T15	
C20	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10	
C21	10 + 1mmf		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10	
C22	820		SI 820	D6-821	BYA10T82	CCD-821	B-382	10TS-T82	
C23	.02		C80V203AM	DA-203	H-05S2	CCD-203	TA-120	TG-S20	
C24	.002		BPD-002	DM-202	BYA10D2	CCD-202	B-220	5HK-D20	
C25	6.8 +.5mmf		NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68	
C26	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-S50	
C27	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-S50	
C28	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-S50	
C29	3 +.5mmf		NPO-DI 3.0	DTZ-3R3	C10V3C	CCTO-3R3	CNO-533	10TCC-V33	
C30	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-S50	
C31	.02		C80V203AM	DA-203	H-05S2	CCD-203	TA-120	TG-S20	
C32	.02		C80V203AM	DA-203	H-05S2	CCD-203	TA-120	TG-S20	
C33	.07								
C34	.005		BPD-005	DM-502	H-05D5	CCD-502	TA-250	TG-D50	
C35	.005		BPD-005	DM-502	H-05D5	CCD-502	TA-250	TG-D50	
C36	.05			DA-503	H-05S5		TA-150	TG-S50	
C37	.12 150V								
C38	.25 150V								
C39	.025		SI 25000		H-05S25		TA-125	TG-S25	
C40	.2 150V								

† Alternate Value.

AND DESCRIPTIONS

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			LAFAYETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CYS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω					

RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	47K				R21	27K			
R3	6800Ω				R22	2200Ω			
R4	2200Ω				R23	2.7Ω			
R5	18K				R24	1000Ω			
R6	3900Ω				R25	2700Ω			
R7	1200Ω				R26	1000Ω			
R8	10K				R27	22K			
R9	3900Ω				R28	8200Ω			
R10	1200Ω				R29	560Ω			
R11	88K				R30	Thermistor			
R12	470Ω				R31	150Ω			
R13	1000Ω				R32	330Ω			
R14	18K				R33	1500Ω			
R15	5600Ω				R34	2.2Ω			
R16	1000Ω				R35	1000Ω			
R17	5600Ω				R36	150Ω			
R18	1800Ω				R37	100Ω			
R19	5600Ω				R38	150K			Note 1
R20	4700Ω								

Note 1. Not used in some versions.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		LAFAYETTE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Marine Ant.						
L2A	BC Loopstick						
B	Weather Loopstick						
L3	Marine Osc.						
L4	BC Osc.						
L5	Weather Osc.						
L6	1st IF						
L7	2nd IF						
L8	3rd IF						
L9	4th IF						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1	1	0721A (20398)					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	160Ω CT	6-8Ω	0784A (20399)					

PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				LAFAYETTE PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SPI	3½"	PM	6-8Ω	SP-3503B		

BATTERIES

ITEM No.	VOLTAGE	LAFAYETTE PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1½ V			130		635		M-14R	4 Required

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	1N60			1N60	Overload Detector & AVC
M3	1N60			1N60	

MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
M4 M5 M6A B	Tuning Cap. Switch Switch Switch		2 Gang Band Selector Local - DX (Dual SPDT Slide Type) Low - HI

WIRING DATA

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

DIAL CORD STRINGING

