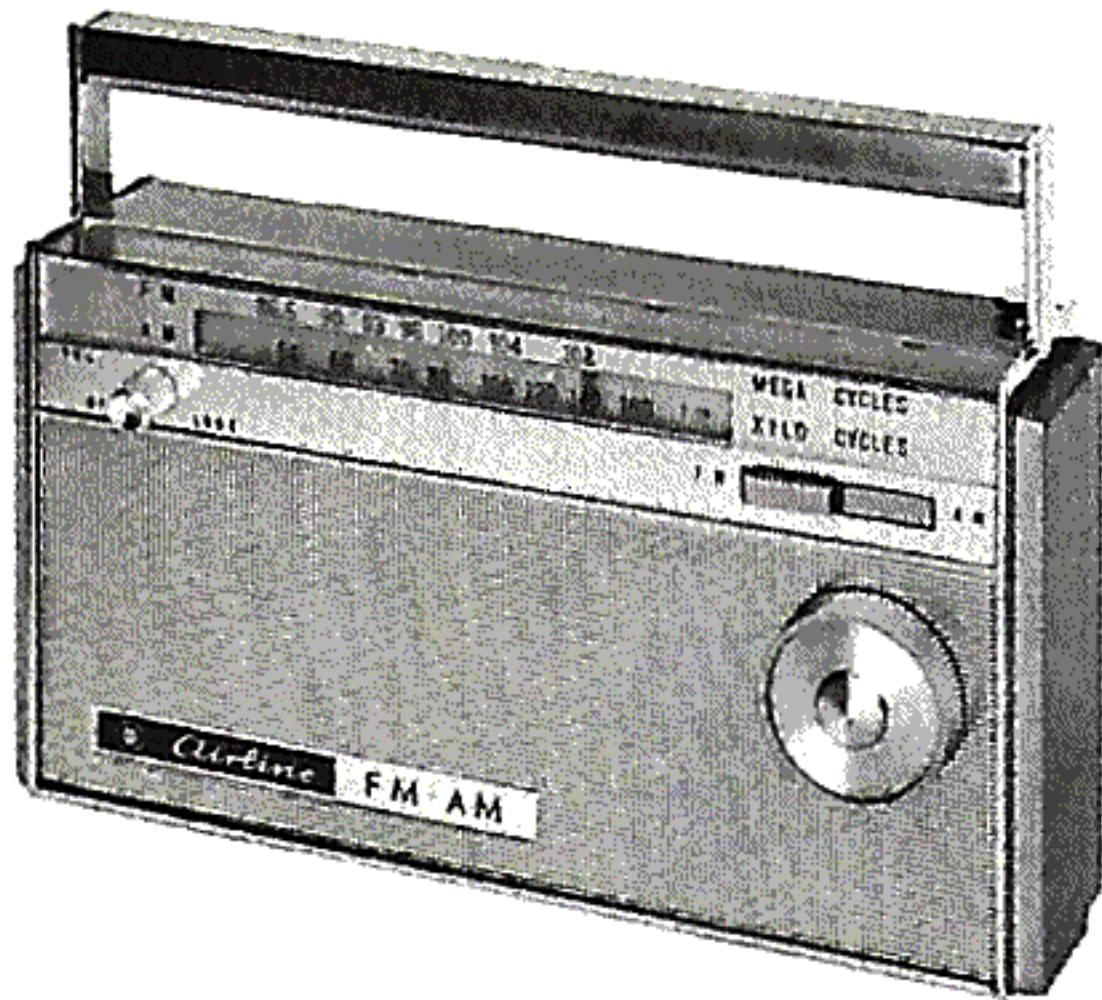




PHOTOFACT[®] with

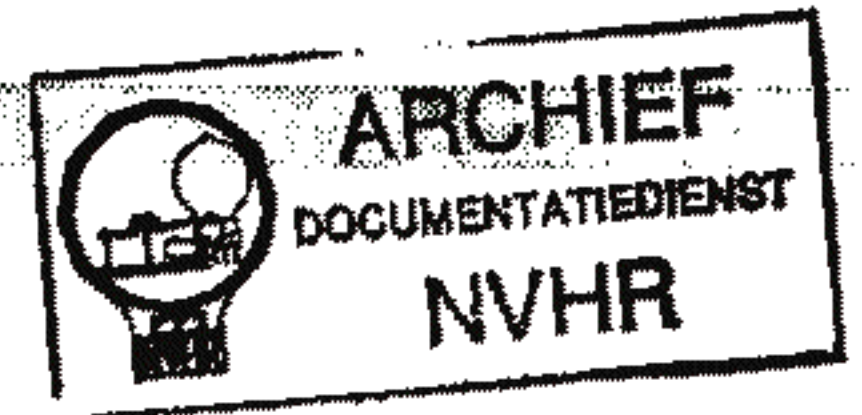
CIRCUITRACE[®]



Met dank aan Jef Bos

TRADE NAME: Airline Model GEN-1231A
 SUPPLIER: Montgomery Ward & Co.
 619 Chicago Ave., Chicago 7, Illinois
 TYPE SET: 9 Transistor AM-FM Receiver
 POWER SUPPLY: 6 Volts DC
 RATING: 18MA @ 6VDC (No Signal, Min. Volume)
 35MA @ 6VDC (Signal, Normal Volume)
 TUNING RANGE: BROADCAST 535 - 1620KC
 FREQ. MOD. 86.5 - 110MC

Ned. Ver. v. Historie v/d R



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.
 Fashion loop of several turns of wire and connect generator across loop.
 Adjust output of generator to radiate only enough signal into receiver to obtain a suitable indication.
 Suggested Alignment Tools:

A1, A2, A3, A5, A7,
 A8, A9, A10, A11, A14... GENERAL CEMENT #8282, 8290
 WALSCO #2526
 A4, A6, A12, A15.... GENERAL CEMENT #5000, 8290, 9089
 WALSCO #2525, 2528

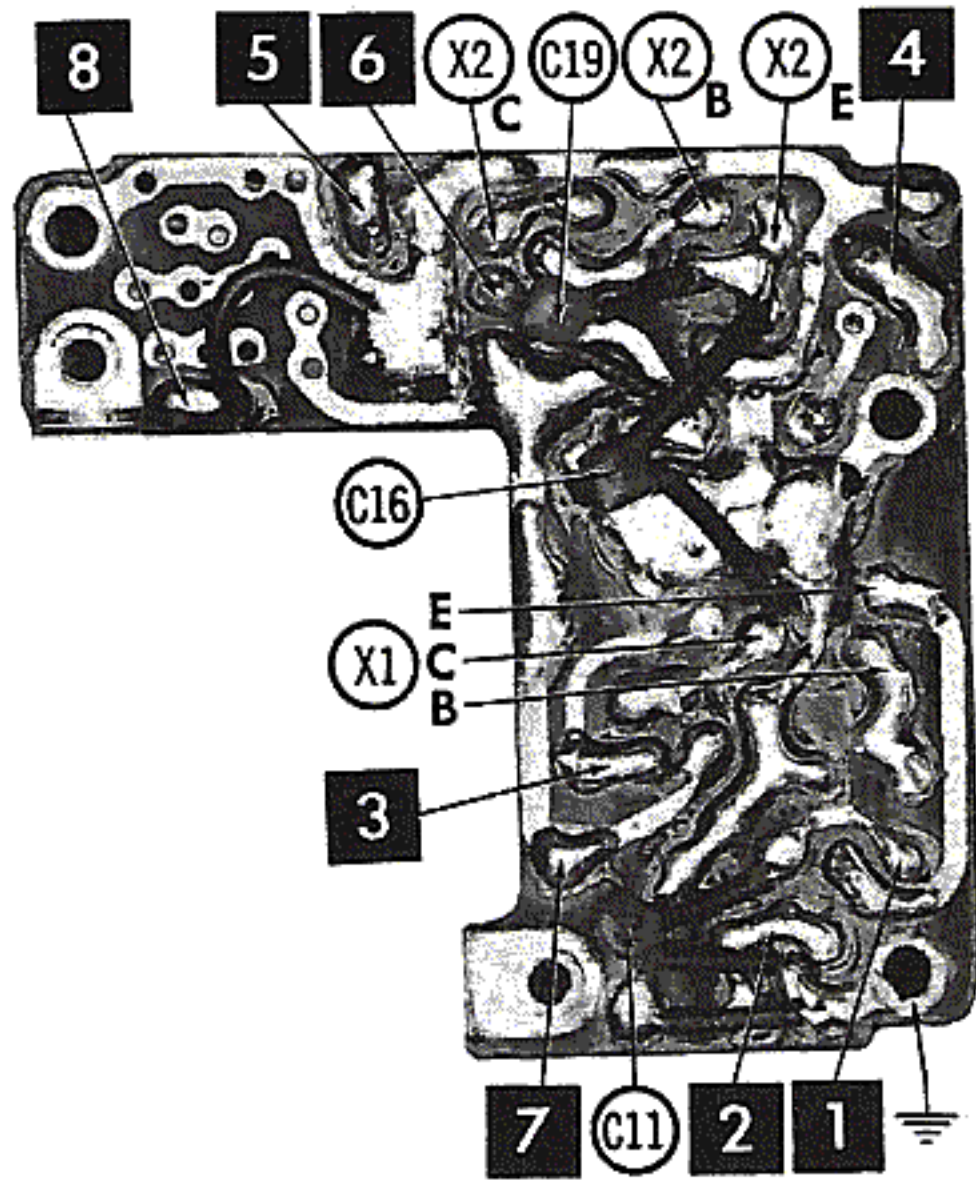
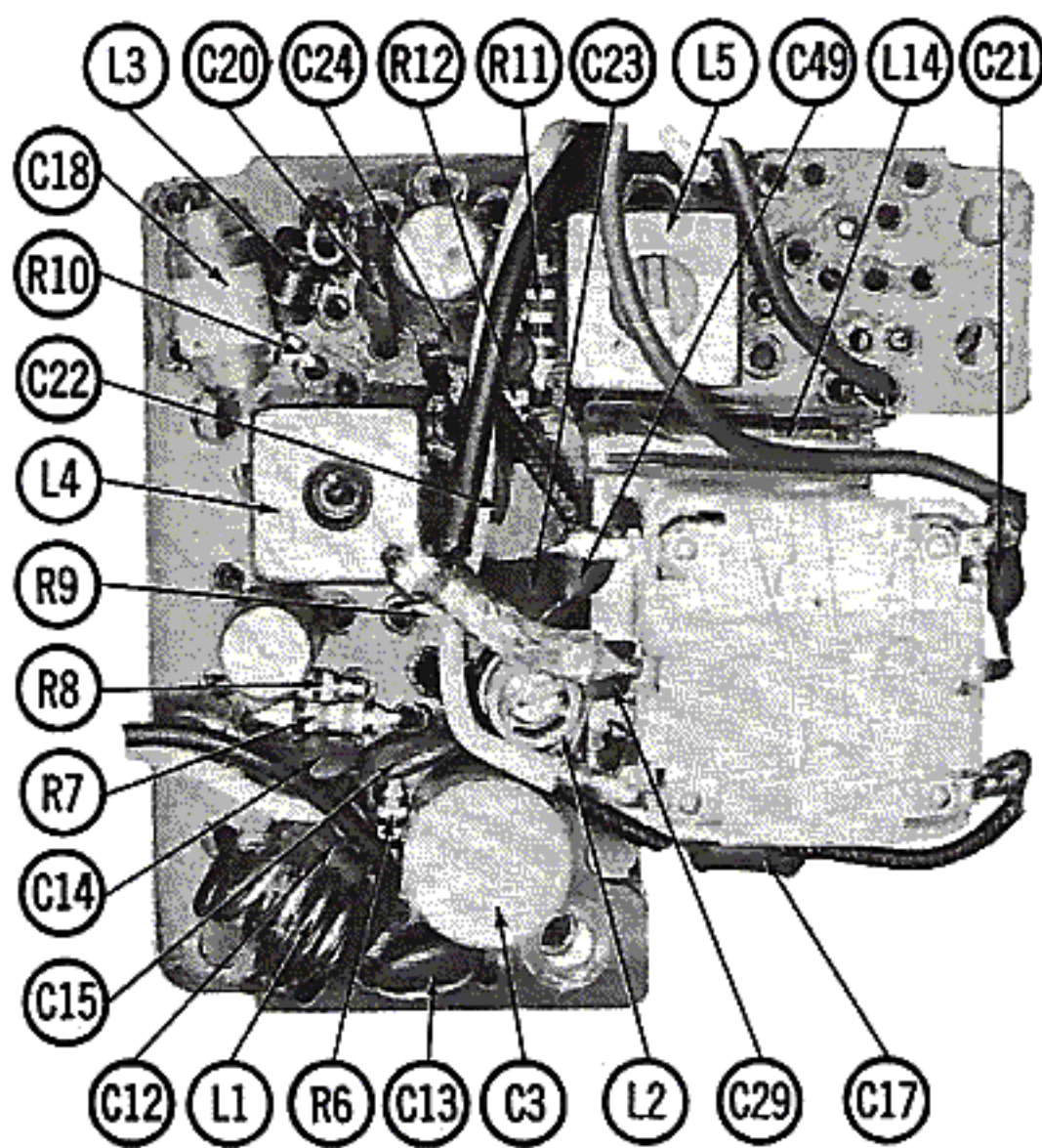
AM ALIGNMENT - SELECTOR IN AM POSITION

SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455KC (Unmod.)	Tuning gang fully open.	DC VTVM across volume control.	A1, A2, A3	Adjust for maximum. Repeat as required.
2. 1620KC	"	"	A4	Adjust for maximum.
3. 600KC	Tune to signal.	"	A5	Rock tuning gang and adjust for maximum. Repeat steps 2 and 3.
4. 1400KC	"	"	A6	Adjust for maximum.

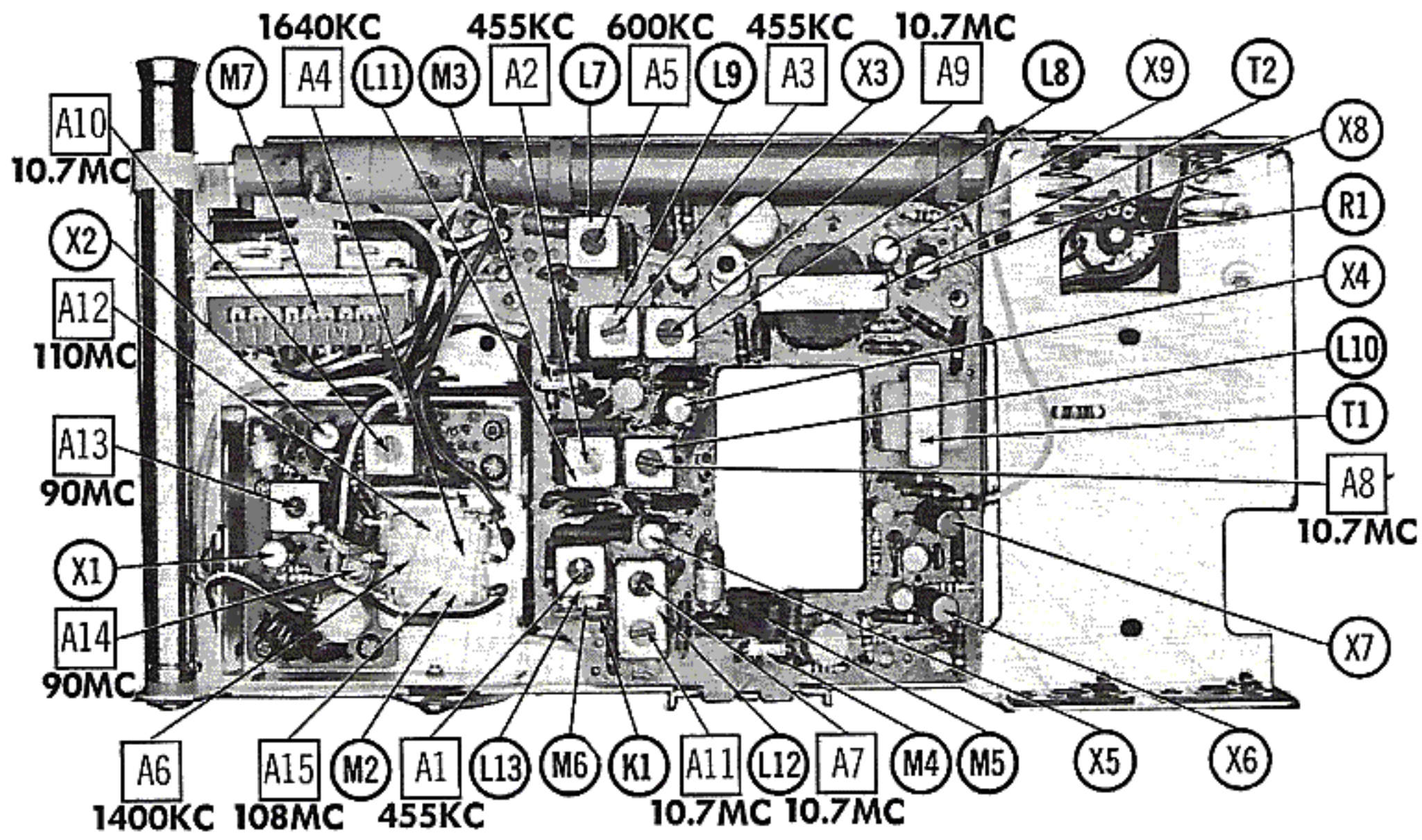
FM ALIGNMENT - SELECTOR IN FM POSITION

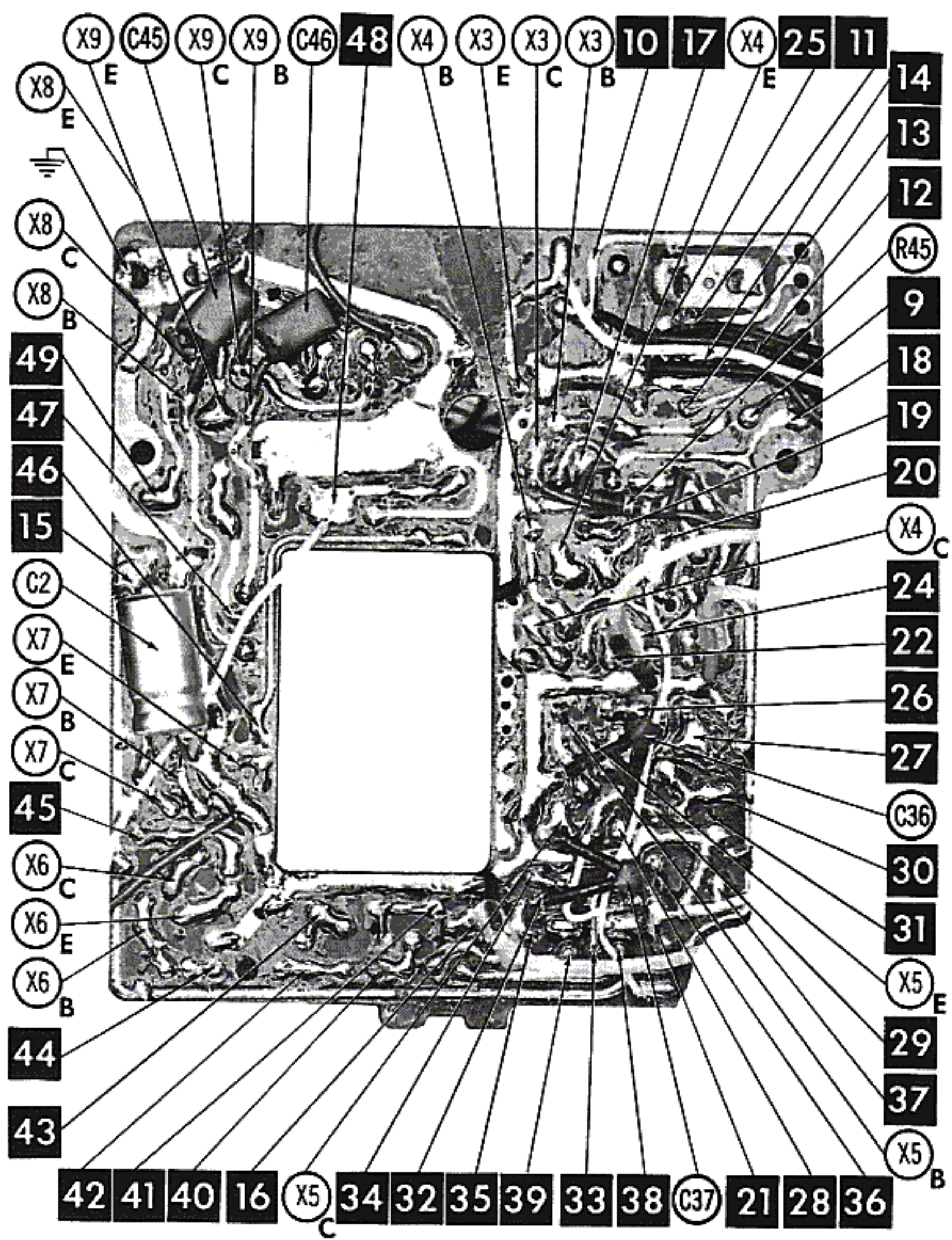
SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC	Tuning gang fully open.	DC probe of VTVM to point A , common to ground.	A7, A8, A9, A10	Adjust for maximum.
10.7MC	"	DC probe to point B , common to ground.	A11	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
110MC	Tune to Signal.	DC probe to point A , common to ground.	A12	Tune to maximum.
90MC	"	"	A13, A14	"
108MC	"	"	A15	"

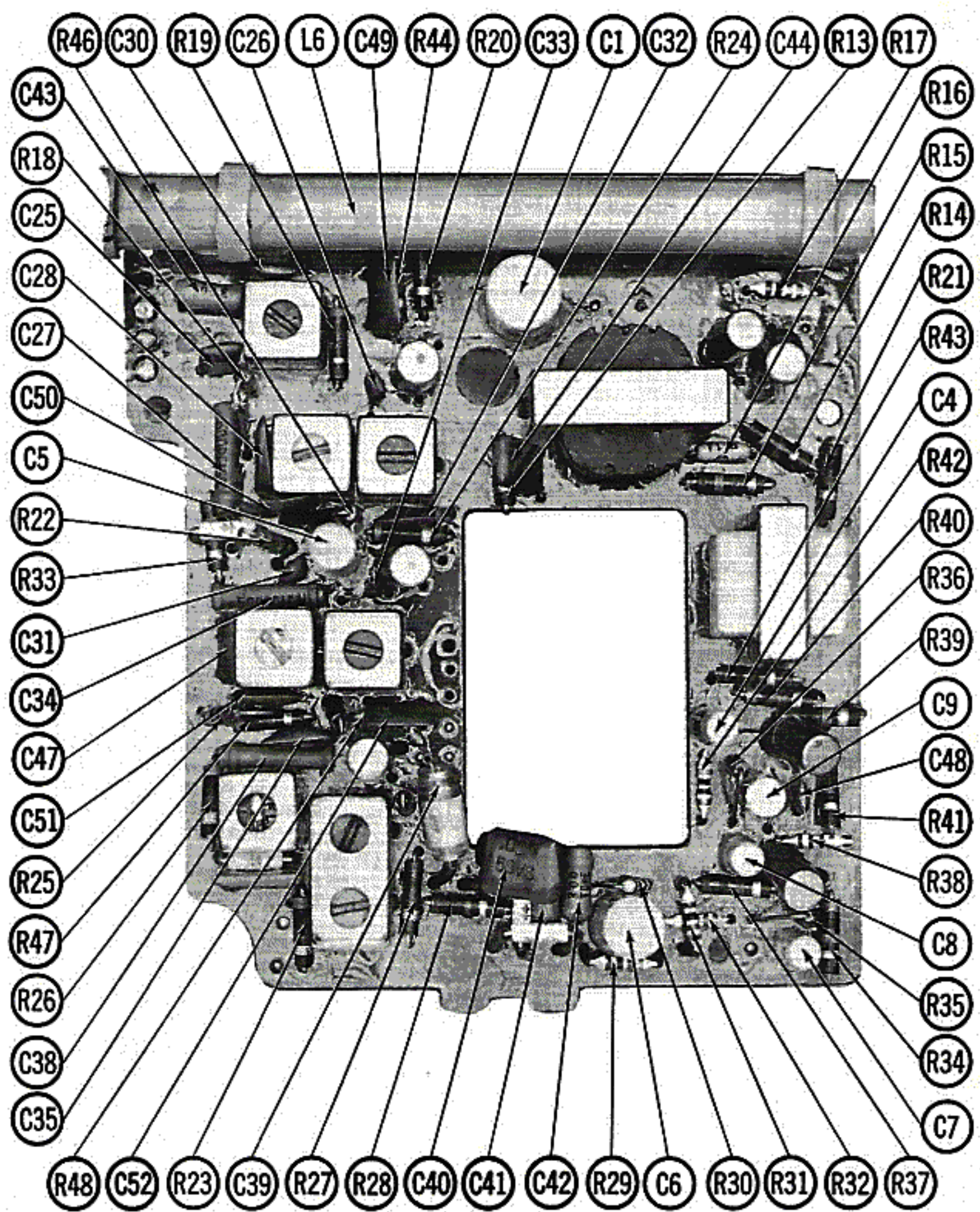
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

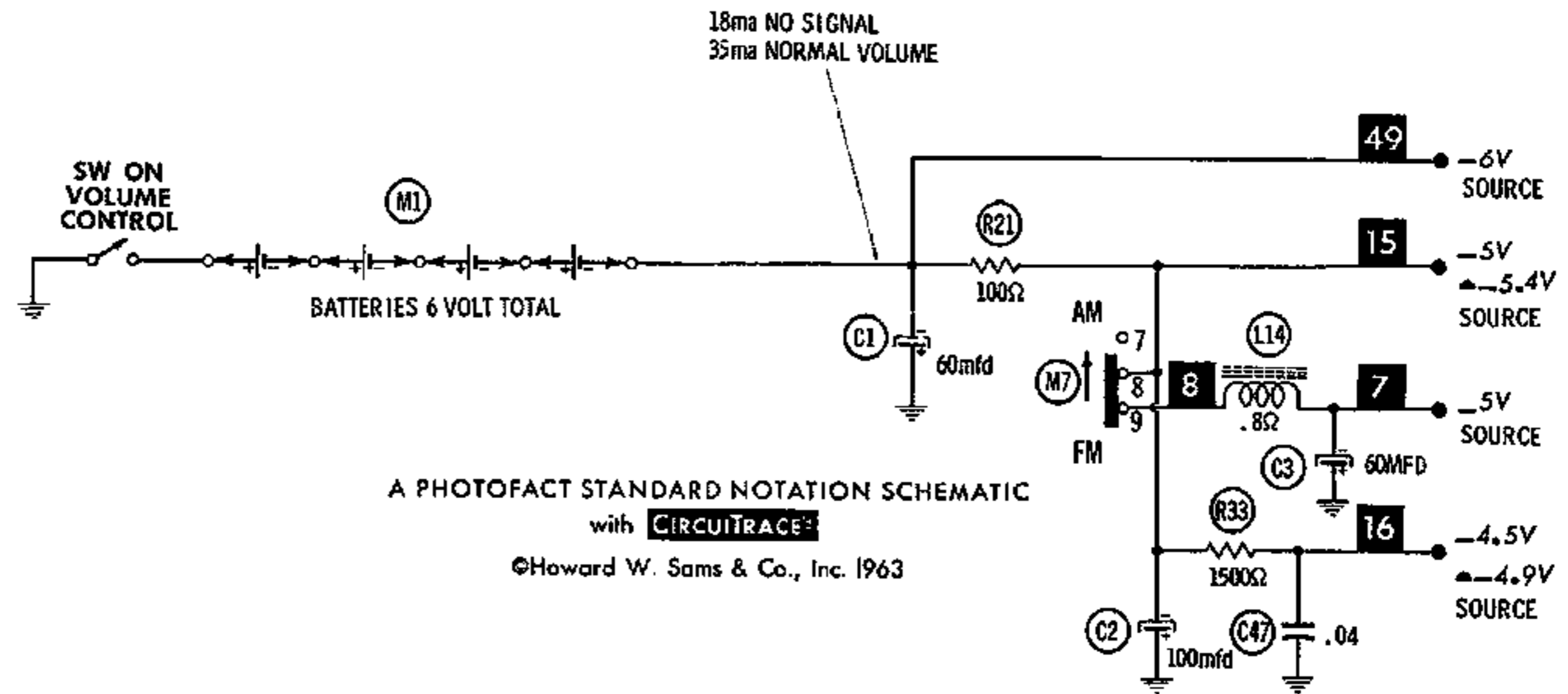
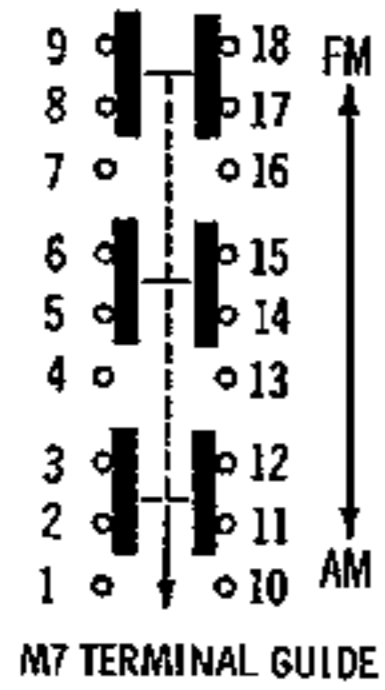
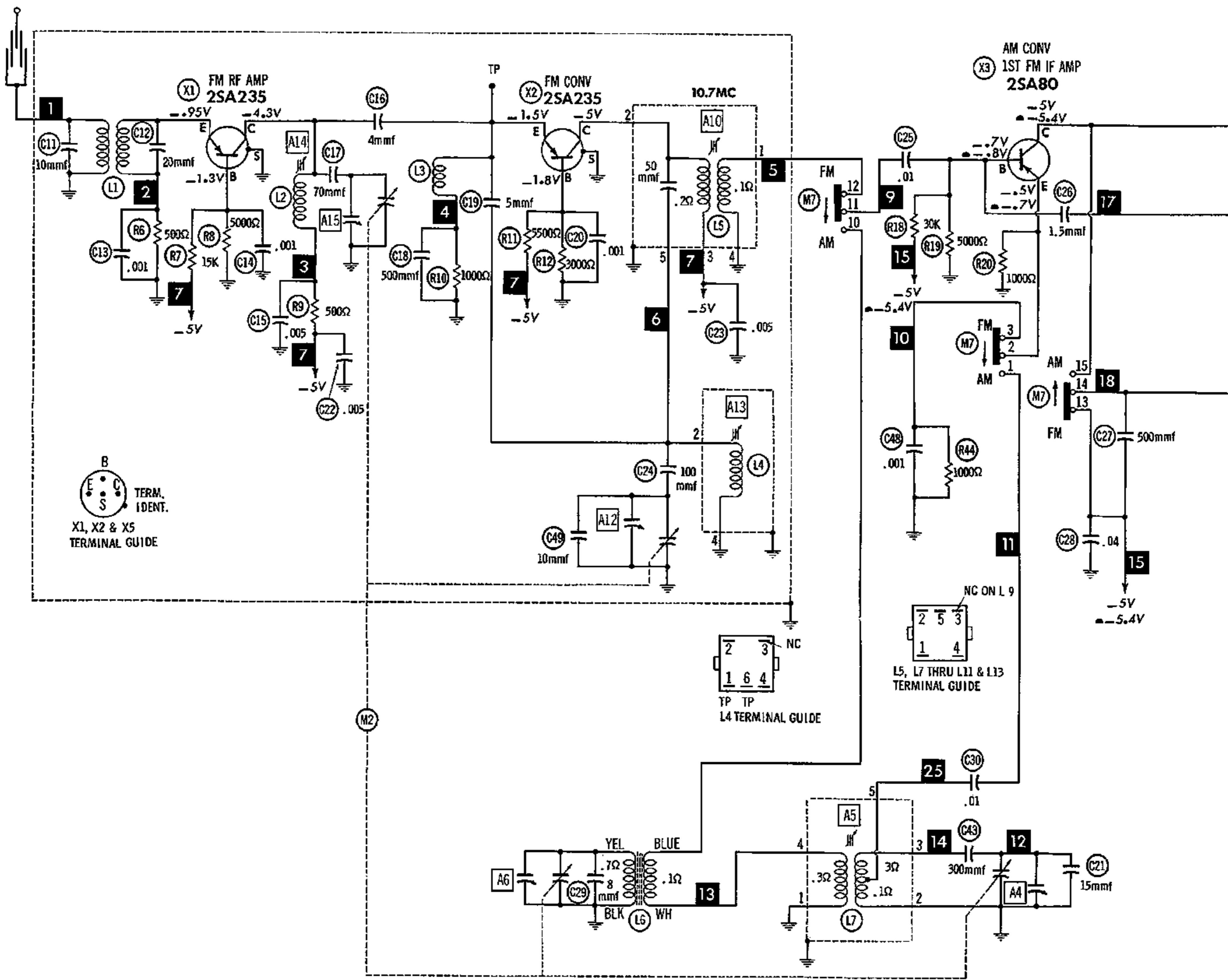


A Howard W. Sams **CIRCUITRACE** Photo

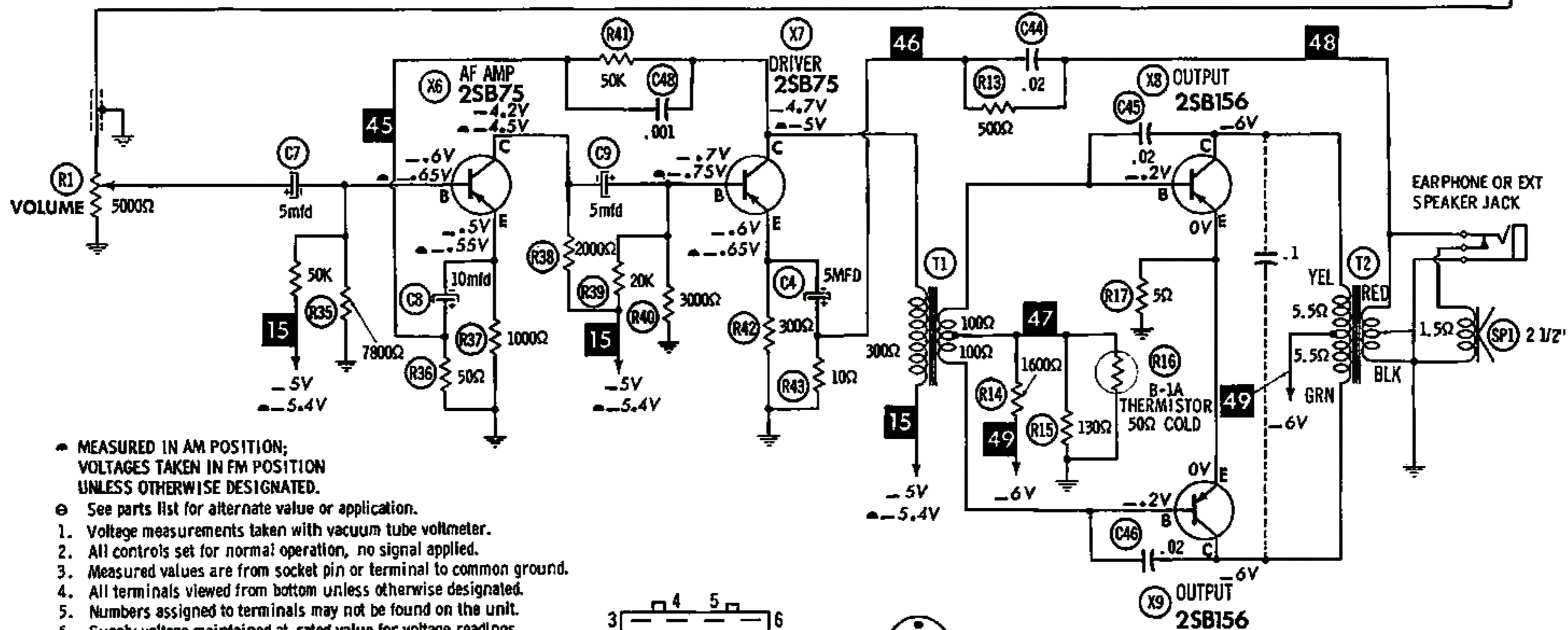
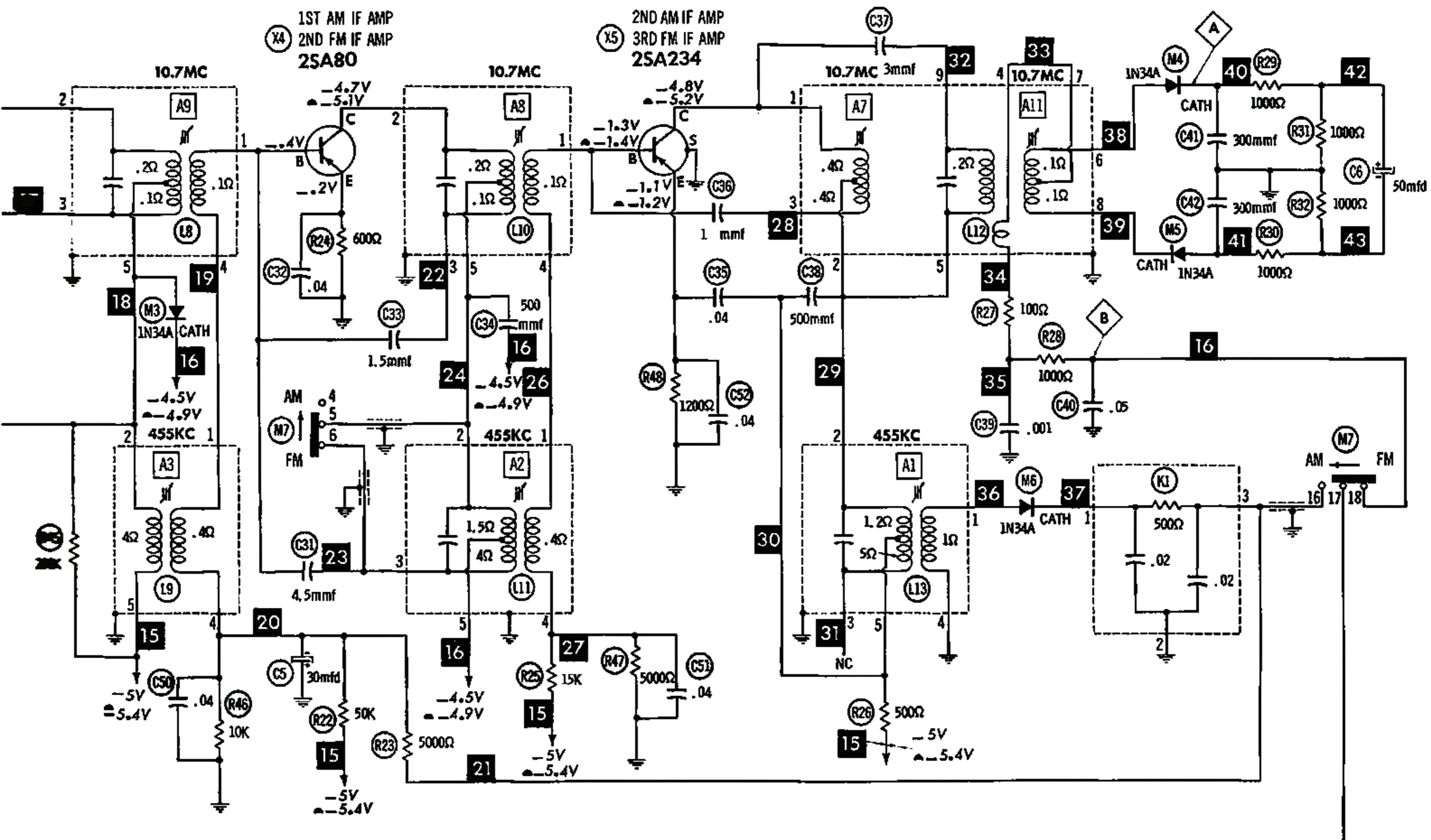






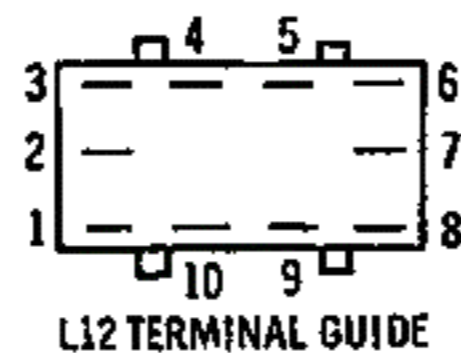


A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with **CIRCUTRACE**
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MEASURED IN AM POSITION;
VOLTAGES TAKEN IN FM POSITION
UNLESS OTHERWISE DESIGNATED.

- See parts list for alternate value or application.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



AIRLINE MODEL GEN-1231A

PARTS LIST AND DESCRIPTION

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG) 8524 (Stranded 22AWG) 8570 (Stranded 26AWG)	Available in 12 Colors
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TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA235	FM RF Amp.	DS-25	GE-1		PNP
X2	2SA235	FM Converter	DS-25	GE-1		PNP
X3	2SA80	AM Conv. -1st FM IF Amp.	DS-25	GE-1	2N1180	PNP
X4	2SA80	1st AM-2nd FM IF Amp.	DS-25	GE-1	2N1180	PNP
X5	2SA234	2nd AM -3rd FM IF Amp.	DS-25	GE-1		PNP
X6	2SB75	AF Amplifier	DS-26	GE-2	2N406	PNP
X7	2SB75	Driver	DS-26	GE-2	2N406	PNP
X8	2SB156	Output	DS-26	GE-2	2N408	PNP
X9	2SB156	Output	DS-26	GE-2	2N408	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	AIRLINE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	60	6	J3238	BCD6050	ECPB116	MT1-18	MLV50-6	PET1260	TE-1101
C2	100	6	J3214	PTT30	NLW100-12	MT1-18	MLV100-6	TT6X100	TE-1102
C3	60	6	J3238	BCD6050	ECPB115	MT1-18	MLV50-6	PET1260	TE-1101
C4	5	3	J3212	BCD3005	ECPB405	MT1-3	MLV5-3	TT6X5	VL-1035
C5	30	3	J3211	BCD3025	ECPB412	MT1-13	MLV30-6	PET130	VL-1043
C6	50	3	J3237	BCD3050	ECPB15	MT1-15	MLV50-3	PET1575	VL-1045
C7	5	3	J3212	BCD3005	ECPB405	MT1-3	MLV5-3	TT6X5	VL-1035
C8	5	3	J3212	BCD3005	ECPB405	MT1-3	MLV5-3	TT6X5	VL-1035
C9	5	3	J3212	BCD3005	ECPB405	MT1-3	MLV5-3	TT6X5	VL-1035

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.
C11	10		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C12	30		NPO-SI 33	TCZ-33	C10Q33C	CCTO-330	CNO-433	10TCC-Q33
C13	.001			DM-102				
C14	.001			DM-102				
C15	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C16	4				C10V4C			10TCC-V39
C17	70		NPO-SI 75	TCZ-68	C10Q68C	CCTO-680	CNO-468	10TCC-Q68
C18	500		SI 500	D6-501	LA10T5	CCD-501	GP350	10TS-T50
C19	5		NPO-DI 5	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C20	.001			DM-102				
C21	15		NPO-DI 15	DTZ-15	C10Q15C	CCTO-150	CNO-415	10TCC-Q15
C22	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C23	.005		TTD-005	CK-502	H1		TA-250	TG-D50
C24	100		NPO-SI 100	TCZ-100	C10T1C	CCTO-101	CNO-310	10TCC-T10
C25	.01		TTD-01	CK-103	H2		TA-110	TG-S10
C26	1.5		NPO-DI 1.5	DTZ-1R5	C10V15C		CNO-515	10TCC-V15
C27	500		SI 500	D6-501	LA10T5	CCD-501	GP350	10TS-T50
C28	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C29	8		NPO-DI 8.2		C10Q8C			10TCC-V82
C30	.01		TTD-01	CK-103	H2		TA-110	TG-S10
C31	4.5		NPO-DI 5	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C32	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C33	1.5		NPO-DI 1.5	DTZ-1R5	C10V15C		CNO-515	10TCC-V15
C34	500		SI 500	D6-501	LA10T5	CCD-501	GP350	10TS-T50
C35	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C36	1		NPO-DI 1	TCZ-1			CNO-510	10TCC-V10
C37	3		NPO-DI 3	DTZ-3R3	C10V3C	CCTO-3R3	CNO-533	10TCC-V33
C38	500		SI 500	D6-501	LA10T5	CCD-501	GP350	10TS-T50
C39	.001			DM-102				
C40	.05		TTD-05	CK-503	H5		TA-150	TG-S50
C41	300		SI 300	D6-301	LA10T3	CCD-301	GP330	10TS-T30
C42	300		SI 300	D6-301	LA10T3	CCD-301	GP330	10TS-T30
C43	300		SI 300	D6-301	LA10T3	CCD-301	GP330	10TS-T30
C44	.02		TTD-02	CK-203	H3		TA-120	TG-S20
C45	.02		TTD-02	CK-203	H3		TA-120	TG-S20
C46	.02		TTD-02	CK-203	H3		TA-120	TG-S20
C47	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C48	.001			DM-102				
C49	10		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C50	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C51	.04		TTD-05	CK-503	H5		TA-150	TG-S50
C52	.04		TTD-05	CK-503	H5		TA-150	TG-S50

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			AIRLINE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	J2514				

PARTS LIST AND DESCRIPTION (CONTINUED)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		AIRLINE PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	FM Ant.	J6013					
L2	FM RF	J6128					
L3	FM RF Choke	J6130					
L4	FM Osc.	J6136					
L5	1st FM IF	J6229					
L6	Loopstick	J6018					
L7	AM Osc.	J6135					
L8	2nd FM IF	J6240					
L9	1st AM IF	J6226					
L10	3rd FM IF	J6240					
L11	2nd AM IF	J6227	BC-575				
L12	Ratio Det.	J6241					
L13	3rd AM IF	J6228	BC-576				
L14	RF Choke	J6129	BC-566	4622	RTC-8522	T860	

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			AIRLINE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	1.2	1	J1119					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		AIRLINE PART No.	QUAM PART No.	
SP1	3 5/8" PM 13Ω	J1012		

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	AIRLINE PART No.	REPLACEMENT DATA
K1	AM Diode RF Filter	.02mfd, .02mfd, 500Ω	J349	

BATTERIES

ITEM No.	VOLTAGE	AIRLINE PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	6V	62-6	130 (or AL-1)	635 (or E93)	M-14R (or MN1400)	4 Required

MISCELLANEOUS

ITEM No.	PART NAME	AIRLINE PART No.	NOTES
M2	Tuning Cap	J3521	
M3	Overload (1N34A)	J242	
M4	Ratio Det. (1N34A)	J242	
M5	Ratio Det. (1N34A)	J242	
M6	AM Det. (1N34A)	J242	
M7	Bandswitch	J128	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Antenna - FM Telescoping	J6017	Cabinet Front - With Trim.	J7050
Knob - Tuning	J5039	Cabinet Back	J7051
Knob - Volume	J5040	Cabinet - Complete	J987

DIAL CORD STRINGING

