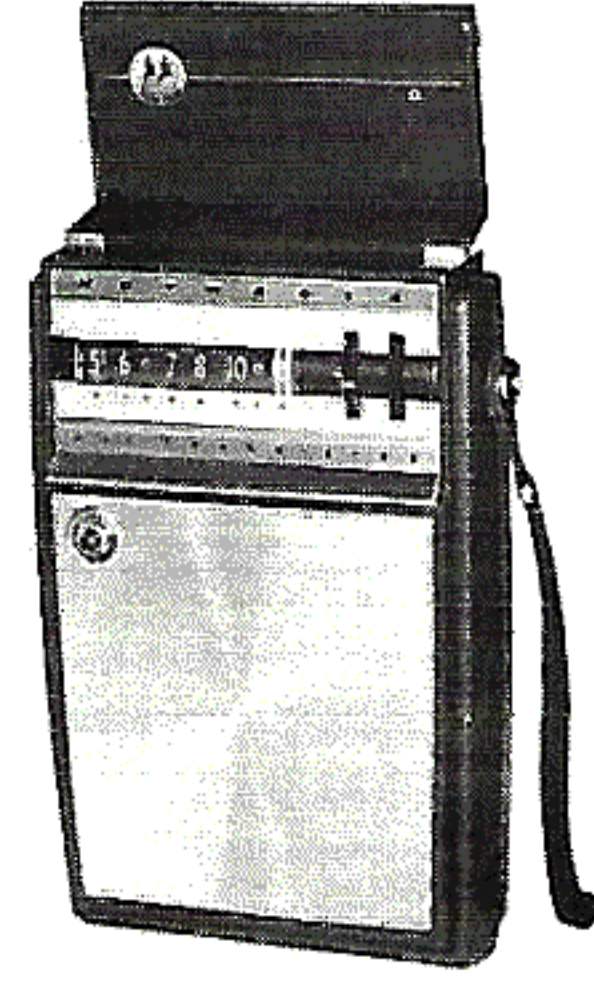




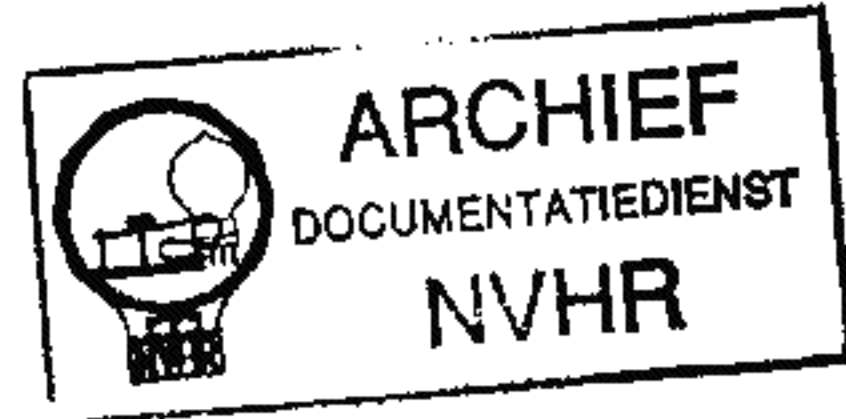
PHOTOFACT[®] with

CIRCUITRACE[®]

Met dank aan Jef Bos



Ned. Ver. v. Historie v/d Radio



TRADE NAME : Motorola Models X40E, X40S (Ch. HS-1008)
 SUPPLIER : Motorola, Inc.,
 9401 W. Grande Ave., Franklin Park, Ill.
 TYPE SET : 8 Transistor AM Receiver
 POWER SUPPLY : 6 Volts DC
 RATING : 8MA @ 6 VDC (No Signal, Min. Volume)
 18MA @ 6 VDC (Signal, Normal Volume)
 TUNING RANGE : BROADCAST 535 - 1620KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

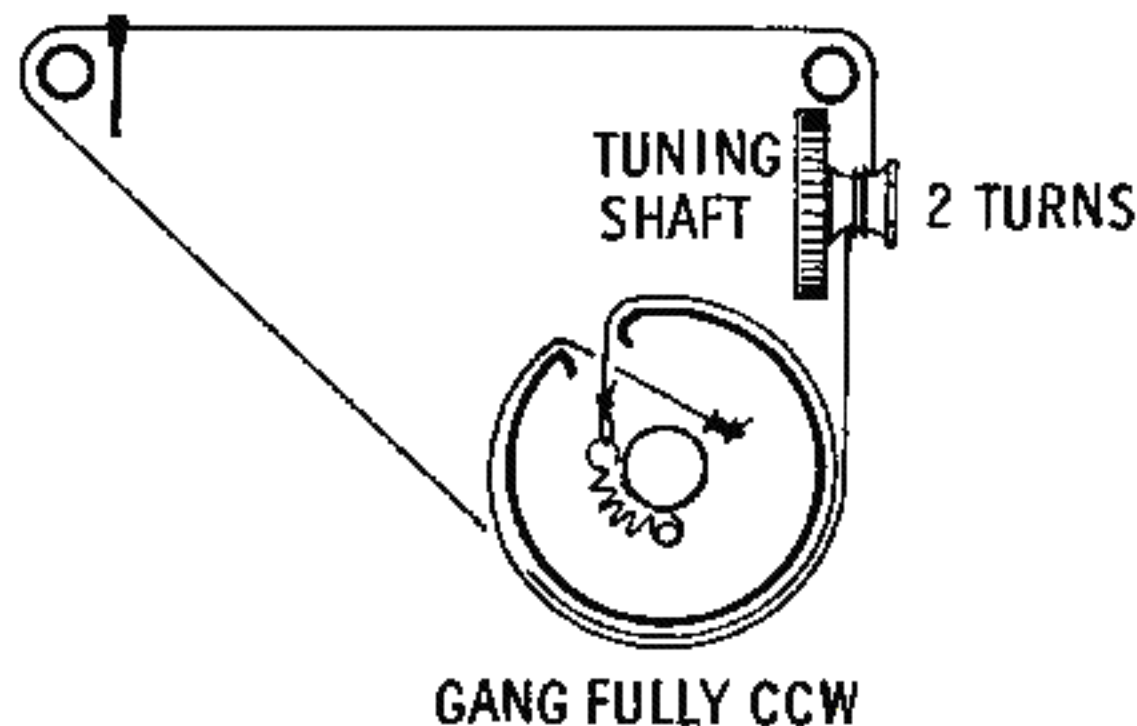
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

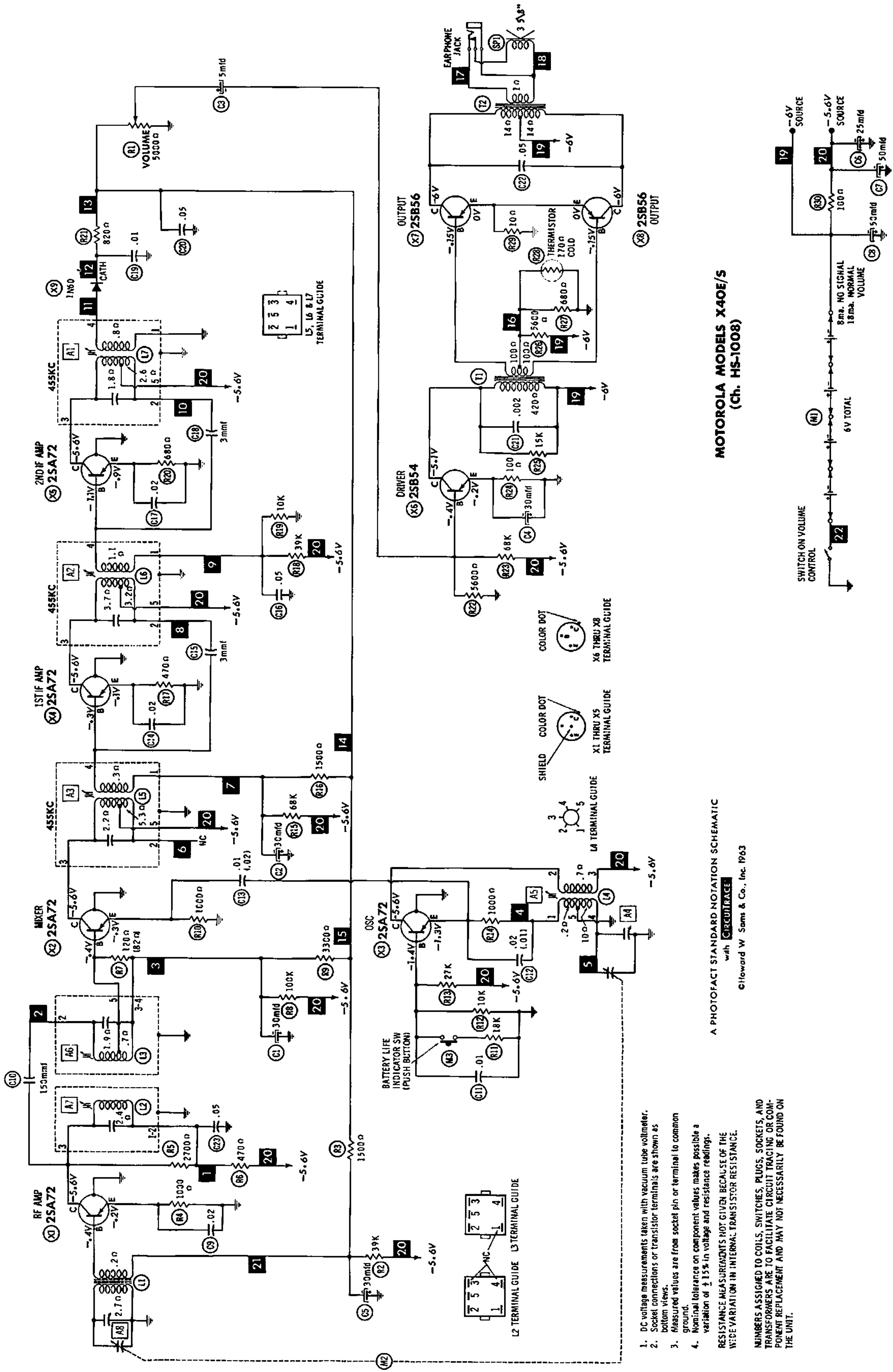
A1 thru A4, A6, A7, A8... GENERAL CEMENT #5066, 9089, 8276 WALSCO #2512, 2525, 2528
 A5..... GENERAL CEMENT #9300, 9304 WALSCO #2546, 2547

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (Unmod.)	Tuning gang fully open.	DC VTVM across volume control.	A1, A2, A3	Adjust for maximum deflection.
2.	"	1620KC	"	"	A4	"
3.	"	600KC	600KC	"	A5	Adjust for maximum while rocking gang. Repeat step 2.
4.	"	"	"	"	A6, A7	Adjust for maximum deflection.
5.	"	1400KC	1400KC	"	A8	"

DIAL CORD STRINGING



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



MOTOROLA MODELS X40E/S
(Ch. HS-1008)

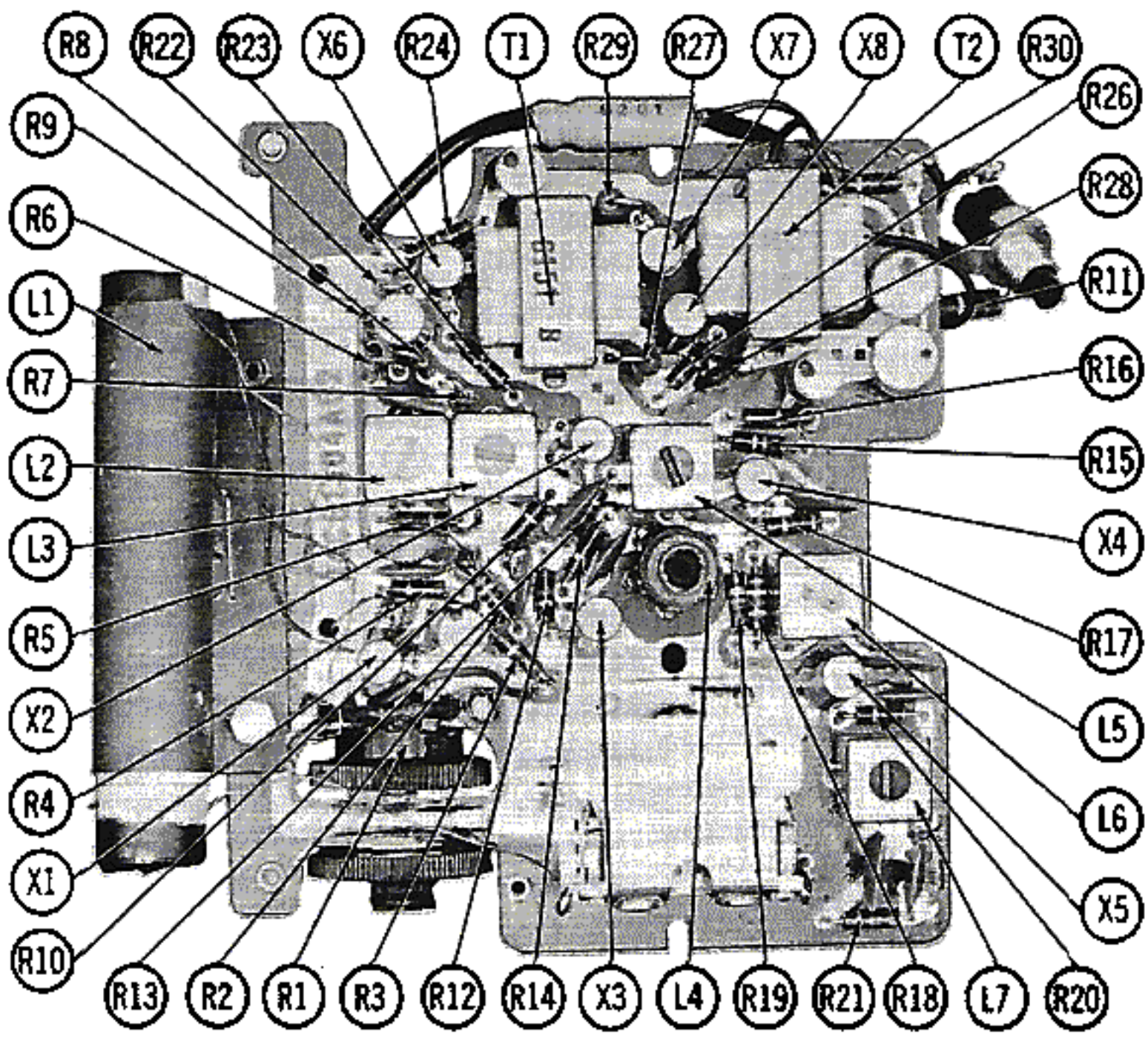
A PHOTOFACT STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**

©Howard W. Sams & Co., Inc. 1963

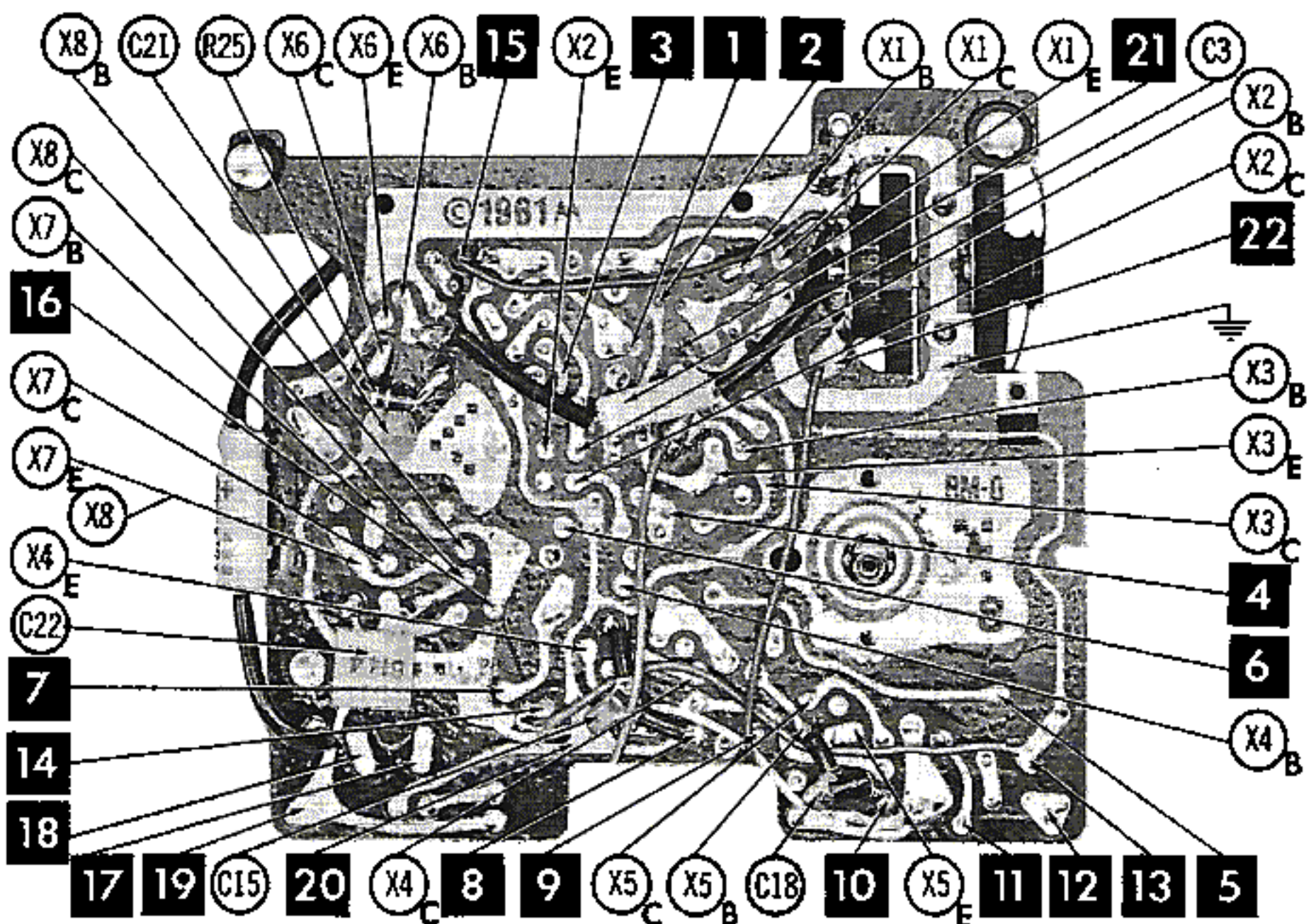
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.

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

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.



CHASSIS TOP VIEW - RESISTOR, INDUCTOR & TRANSISTOR IDENT.



E-EMITTER B-BASE C-COLLECTOR

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA72	RF Amplifier	DS-25	GE-1		PNP
X2	2SA72	Mixer	DS-25	GE-1		PNP
X3	2SA72	Oscillator	DS-25	GE-1		PNP
X4	2SA72	1st IF Amplifier	DS-25	GE-1		PNP
X5	2SA72	2nd IF Amplifier	DS-25	GE-1		PNP
X6	2SB54	Driver	DS-26	GE-2	2N406	PNP
X7	2SB56	Output	DS-26	GE-2	2N406	PNP
X8	2SB56	Output	DS-26	GE-2	2N406	PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		DIODES	NOTES
			RCA PART No.	SARKES TARZIAN PART No.		
X9		48K644681				Detector (1N60)

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		MOTOROLA PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	30	3	23C60496A02	BCD3025	ECPB412	MT1-10	PET130	MLV25-6	VL-1043
C2	30	3	23C60496A02	BCD3025	ECPB412	MT1-10	PET130	MLV25-6	VL-1043
C3	5	3	23K644689	PTT4	NLW5-15	MT1-3	TT6X5	MLV5-3	TE-1052, 2
C4	30	3	23C60496A02	BCD3025	ECPB412	MT1-10	PET-130	MLV25-6	VL-1043
C5	30	3	23C60496A02	BCD3025	ECPB412	MT1-10	PET-130	MLV25-6	VL-1043
C6	25	10	23K646499	PTT42	NLW25-10	MT1-10	TT10X25	MLV25-10	TE-1118
C7	50	10	23C60496A04	BCD10050	NLW50-10	MT1-16		MLV50-10	TE-1119
C8	50	10	23C60496A04	BCD10050	NLW50-10	MT1-16		MLV50-10	TE-1119

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C9	.02	(.01) † (.02) †	TTD-02	CK-203	H05S2	CCD-151	TA-120	TG-S20
C10	150		DI-150	DD-151	L10T15		GP-315	10TS-T15
C11	.01		TTD-01	CK-103	H05S1		TA-110	TG-S10
C12	.02		TTD-02	CK-203	H05S2	TA-120	TG-S20	
C13	.01		TTD-01	CK-103	H05S1	TA-110	TG-S10	
C14	.02		TTD-02	CK-203	H05S2	TA-120	TG-S20	
C15	3		NPO-DI 3	DTZ-3R3	C10V3C	CCTO-3R3	CNO-533	10TCC-V33
C16	.05		TTD-05	CK-503	H05S5	CCTO-3R3	TA-120	TG-S50
C17	.02		TTD-02	CK-203	H05S2		TA-120	TG-S20
C18	3		NPO-DI 3	DTZ-3R3	C10V3C		CCTO-3R3	CNO-533
C19	.01		TTD-01	CK-103	H05S1	TA-110	TG-S10	
C20	.05		TTD-05	CK-503	H05S5	CCD-202	GP-220	TG-S50
C21	.002		DI-2000	DD-202	L10D2		10TS-D20	
C22	.05		TTD-05	CK-503	H05S5		TG-S50	
C23	.05		TTD-05	CK-503	H05S5	TG-S50		

DESCRIPTION

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	18B60512A01 (Note 1)	B16-214 †			

Note 1. When replacing, use Part #18B60812A01.

† Use original knob.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R28	170Ω Cold			#6B60519A01					

Motorola Part Number

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Loopstick	1V60058A03					
L2	RF Pri.	24B61210A01					
L3	RF Sec.	24B61210A02					
L4	Osc.	24C60741A03					
L5	1st IF	24K646586	BC-574				
L6	2nd IF	24K646197	BC-575				
L7	3rd IF	24K646198	BC-576				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	1, 2	1	25B60492A01					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	100Ω CT	6-8Ω	25B60493A01					

PARTS LIST AND DESCRIPTION (CONTINUED)

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				MOTOROLA PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SPI	3 5/8"	PM	6-8Ω	50K647239	3A05R	

BATTERIES

ITEM No.	VOLTAGE	MOTOROLA PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	1½		930	1015	M-15R	4 Used

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2 M3	Tuning Cap. Switch Printed Board	19B60553A01 40K647229 1V60040A80	2 Gang Battery Life Indicator Less All Components

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Dial Pointer	52B60608A01	
Knob	36B60578A01	Tuning
Knob	36B60583A01	Volume
Escutcheon	13C60612A02	Dial
Cabinet Back	1V60057A99	Black, Model X40E
Cabinet Back	1V60058A01	Sand, Model X40S
Cabinet Front	16E60575A17	Black, Model X40E
Cabinet Front	16E60575A21	Sand, Model X40S

WIRING DATA

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

CHASSIS—TOP VIEW

