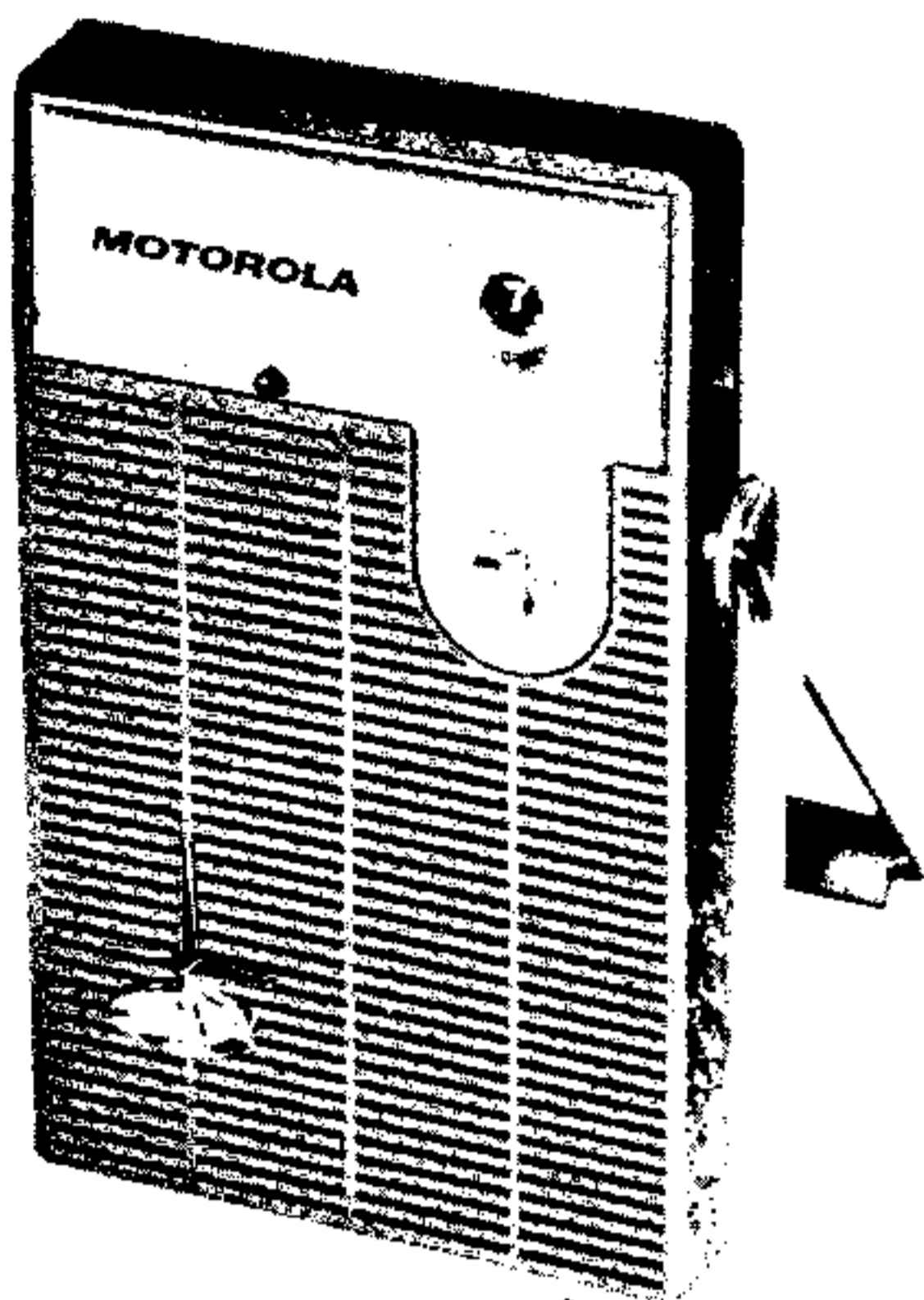
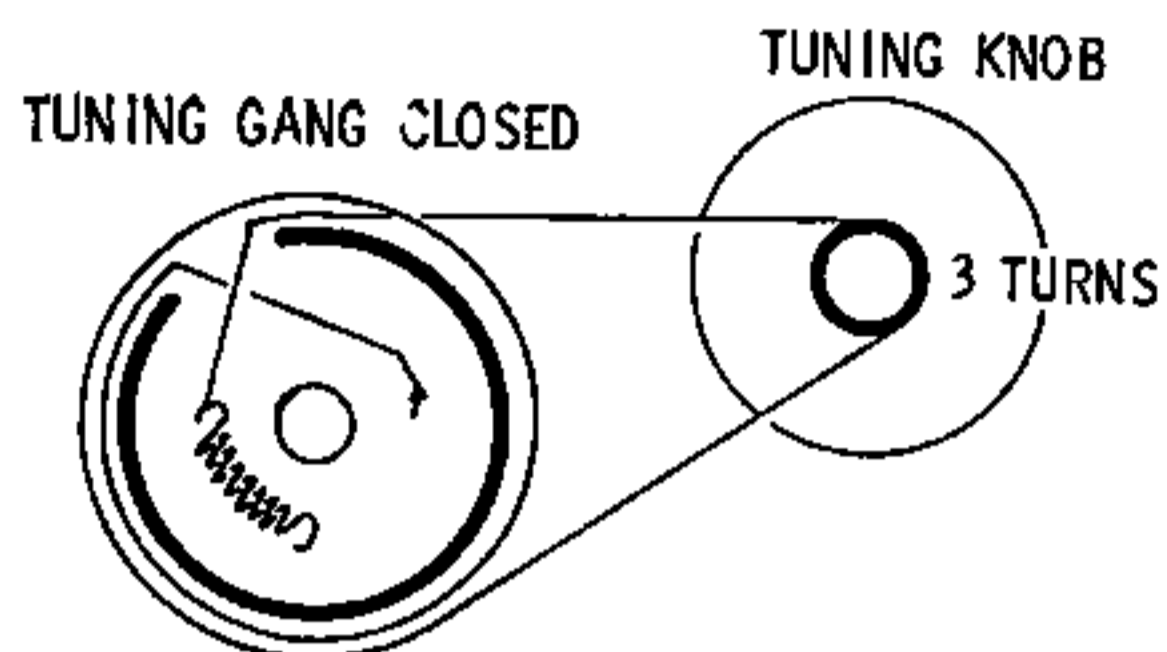


Met dank aan Jef Bos

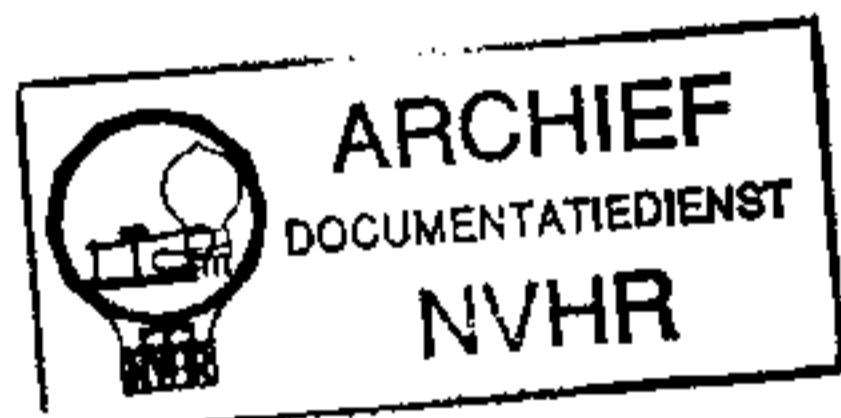


TUNING DRIVE CORD STRINGING



FRONT VIEW

Ned. Ver. v. Historie v/d Ra



TRADE NAME	Motorola Models X16B, X16G, X16N (CH. HS-797)		
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois		
TYPE SET	Battery Operated Transistorized Portable AM Receiver		
POWER SUPPLY	6 Volts DC	RATING	8MA@6 Volts DC (No Signal, Min. Volume) 15 MA@6 Volts DC (Signal, Normal Volume)
TUNING RANGE—BROADCAST	535 — 1620KC		

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..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538
A2, A3, A4... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8729, 8987, 8988, 8989
WALSCO #2515, 2531, 2532
A5, A6..... GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Loop	455KC (400v Mod.)	Tuning gang fully open.	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.	"	600KC	600KC	"	A4	"
3.	"	1620KC	Tuning gang fully open.	"	A5	"
4.	"	1400KC	1400KC Signal.	"	A6	Adjust for maximum output. Repeat Steps 2 thru 4.

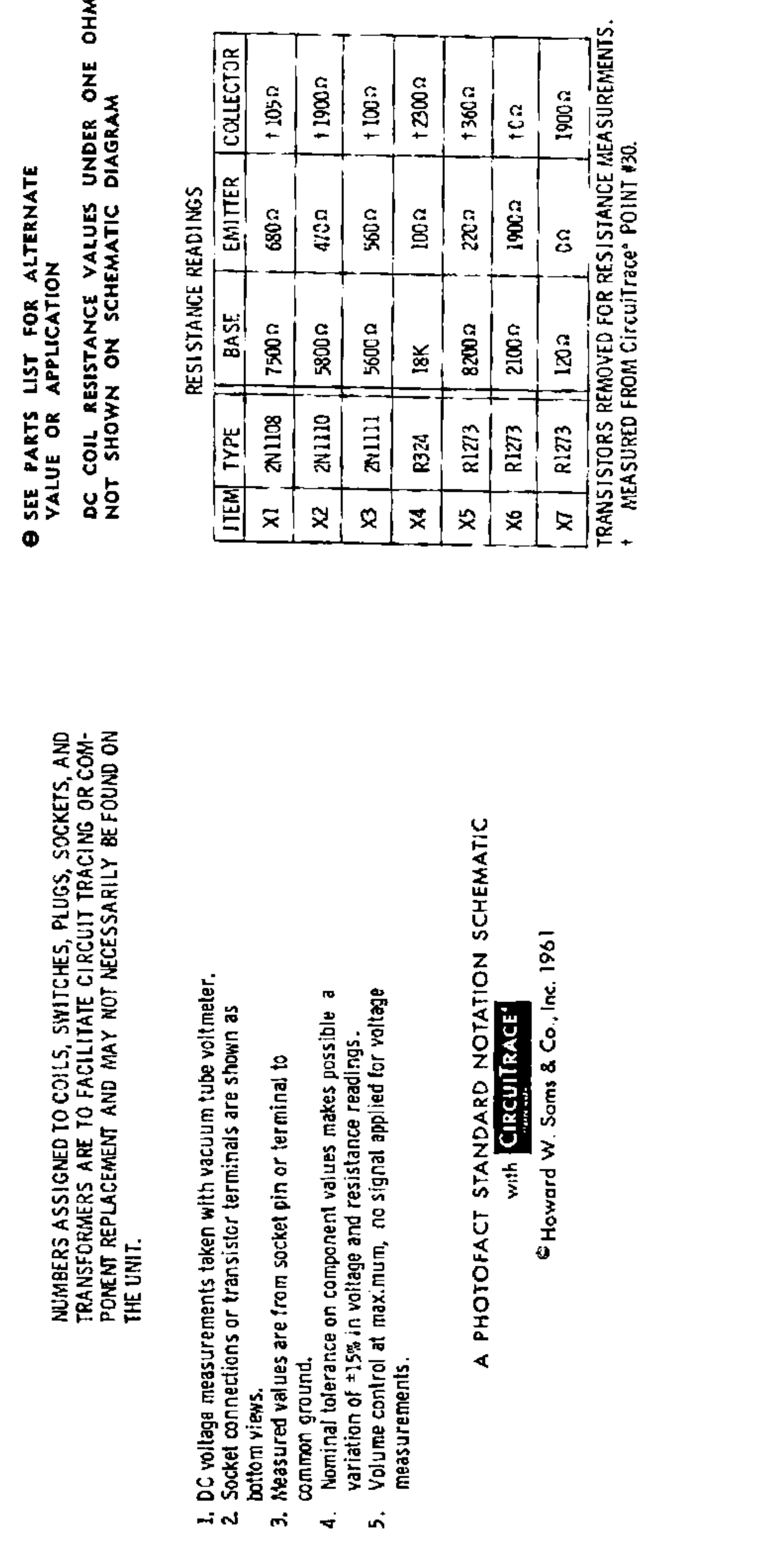
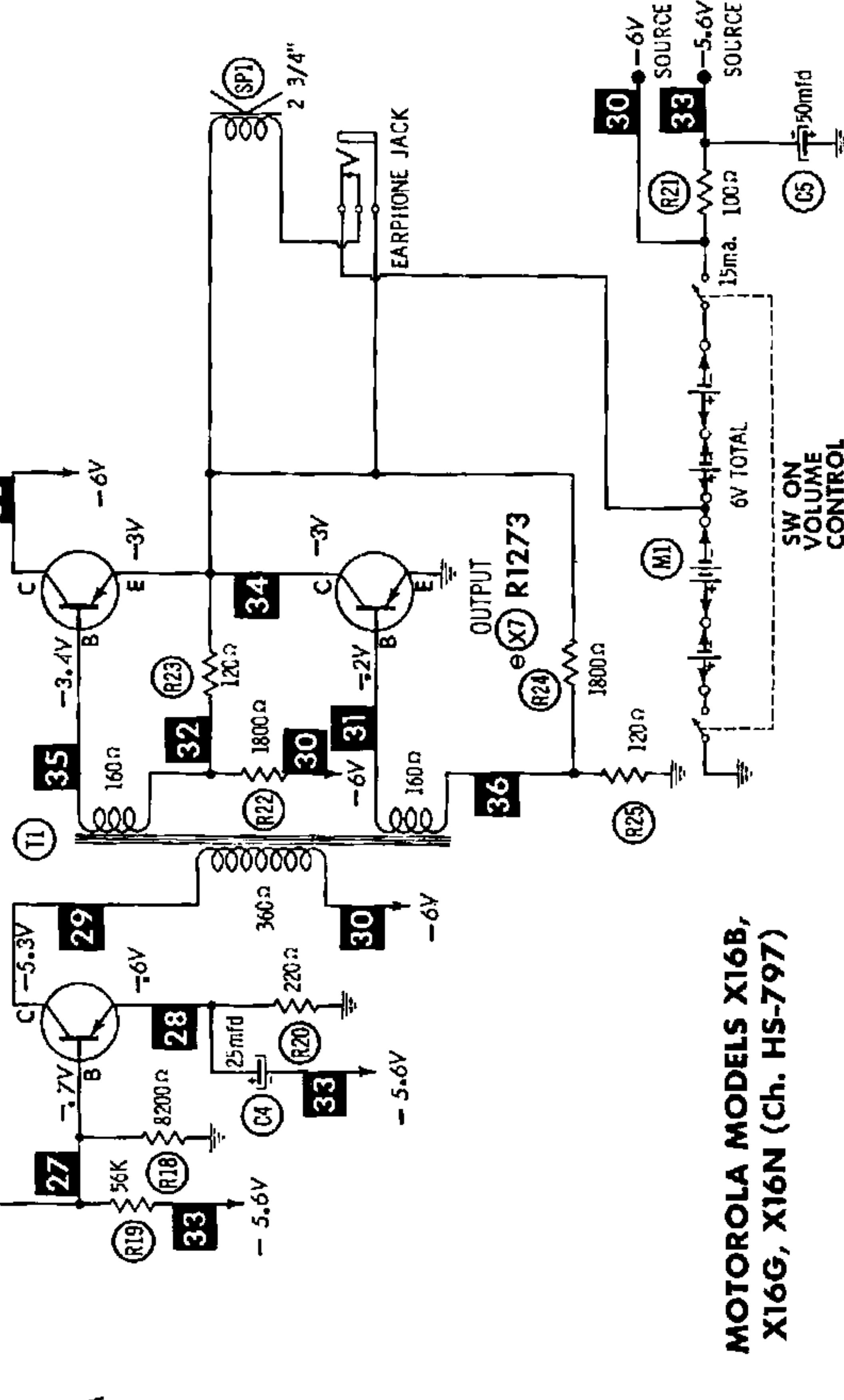
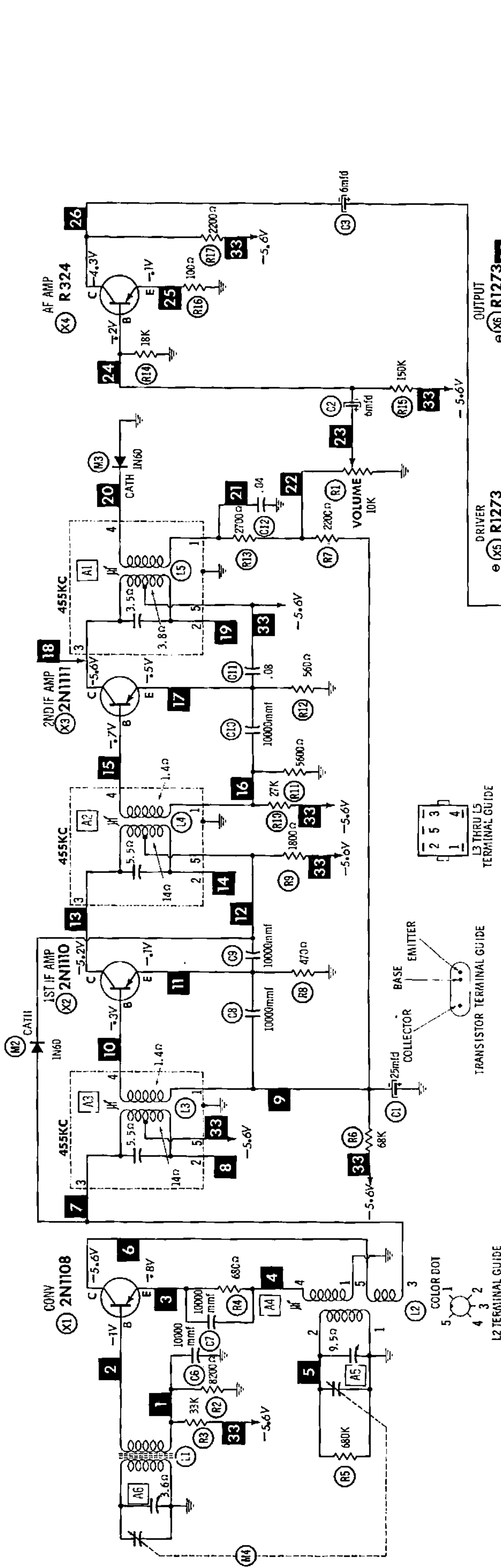
DISASSEMBLY

1. Move handle to carrying position.
2. Loosen screw on cabinet back. (Screw is captive). Remove rear cover.
3. Remove screw holding cabinet back. Remove back.
4. Remove handle and volume control knob.
5. Remove 3 chassis mounting screws. (Mounting bracket will also be removed).
6. Lift right side of chassis to allow tuning knob to clear and remove chassis.

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

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**MOTOROLA MODELS X16B,
X16G, X16N (Ch. HS-797)**

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

RESISTANCE READINGS

ITEM	TYPE	BASE	EMITTER	COLLECTOR
X1	2N1108	7900Ω	680Ω	† 105Ω
X2	2N1110	5800Ω	470Ω	† 1900Ω
X3	2N1111	5600Ω	560Ω	† 100Ω
X4	R324	18K	100Ω	† 2300Ω
X5	R1273	8200Ω	220Ω	† 360Ω
X6	R1273	2100Ω	1900Ω	† CΩ
X7	R1273	120Ω	0Ω	1900Ω

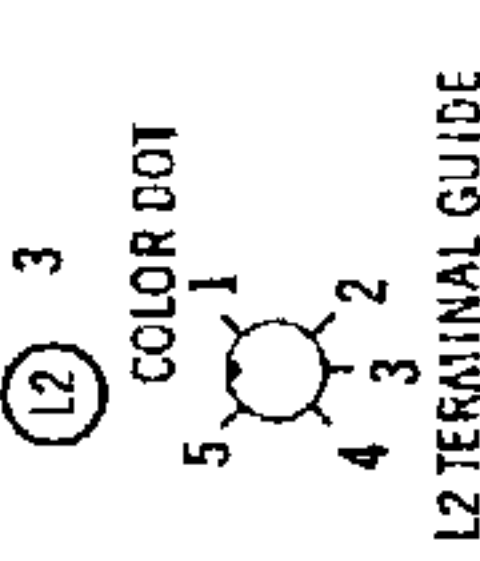
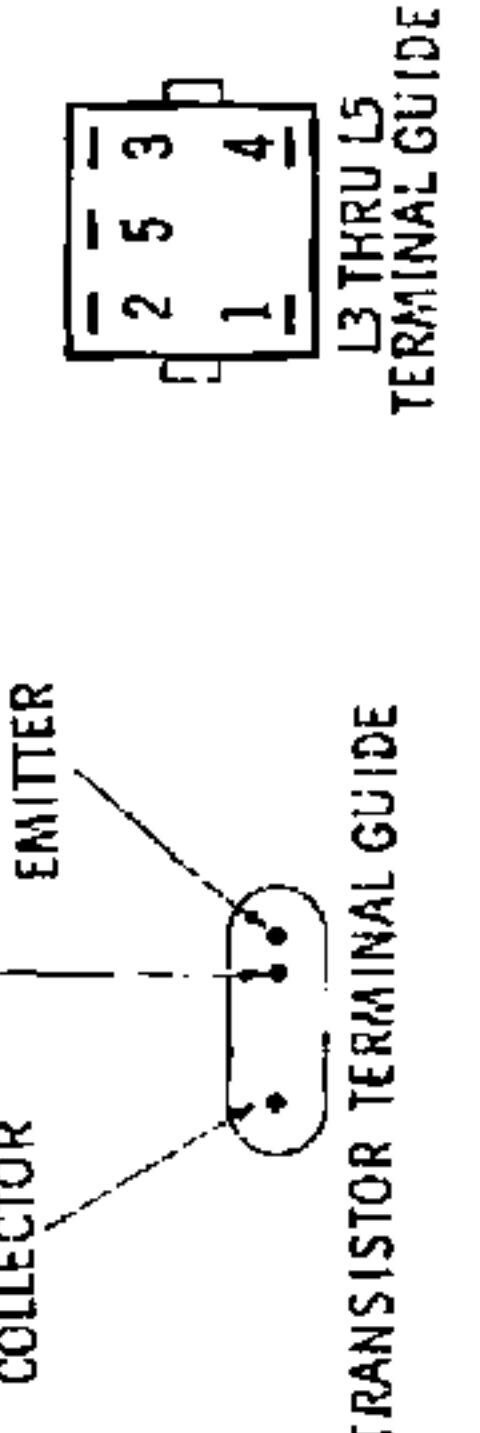
TRANSISTORS REMOVED FOR RESISTANCE MEASUREMENTS.
† MEASURED FROM CircuitTrace® POINT #30.

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.

- DC voltage measurements taken with vacuum tube volt meter.
- Socket connections or transistor terminals are shown as bottom views.
- Measured values are from socket pin or terminal to common ground.
- Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

with **CIRCUITTRACE**
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PARTS LIST AND DESCRIPTIONS

WIRING DATA

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

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N1108	Converter		2N486	2N412	PNP
X2	2N1110	1st IF Amplifier		2N483	2N409	PNP
X3	2N1111	2nd IF Amplifier		2N483	2N409	PNP
X4	R324	AF Amplifier				PNP
X5	R1273 *	Driver	2N408			PNP
X6	R1273 *	Output	2N408			PNP
X7	R1273 *	Output	2N408			PNP

* Alternate Type 2N1273.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1	25	10	23K646499	PTT-10025	NLW25-10	TT10X25	ML25-12	TE-1118	
C2	8	10	23K646500	XPP-10008	NLW6-25	TT10X6	ML6-12	TE-1127.1	
C3	6	10	23K646500	XPP-10008	NLW6-25	TT10X6	ML6-12	TE-1127.1	
C4	25	10	23K646499	PTT-10025	NLW25-10	TT10X25	ML25-12	TE-1118	
C5	50	10	23K644671	XPP-10050	NLW50-10	TT10X50	ML50-12	TE-1119	

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	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	10000		C80V103AM	DDM-103	H-05S1	CCD-103	TA-110	TG-S10
C7	10000		C80V103AM	DDM-103	H-05S1	CCD-103	TA-110	TG-S10
C8	10000		C80V103AM	DDM-103	H-05S1	CCD-103	TA-110	TG-S10
C9	10000		C80V103AM	DDM-103	H-05S1	CCD-103	TA-110	TG-S10
C10	10000		C80V103AM	DDM-103	H-05S1	CCD-103	TA-110	TG-S10
C11	.08 50V	#8R129204						2WF-S82
C12	.04 50V	#8R129358						

Motorola Part Number.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	10K	1/4	18K646486					Volume & Switch

RESISTORS (IRC or EQUIVALENT)

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

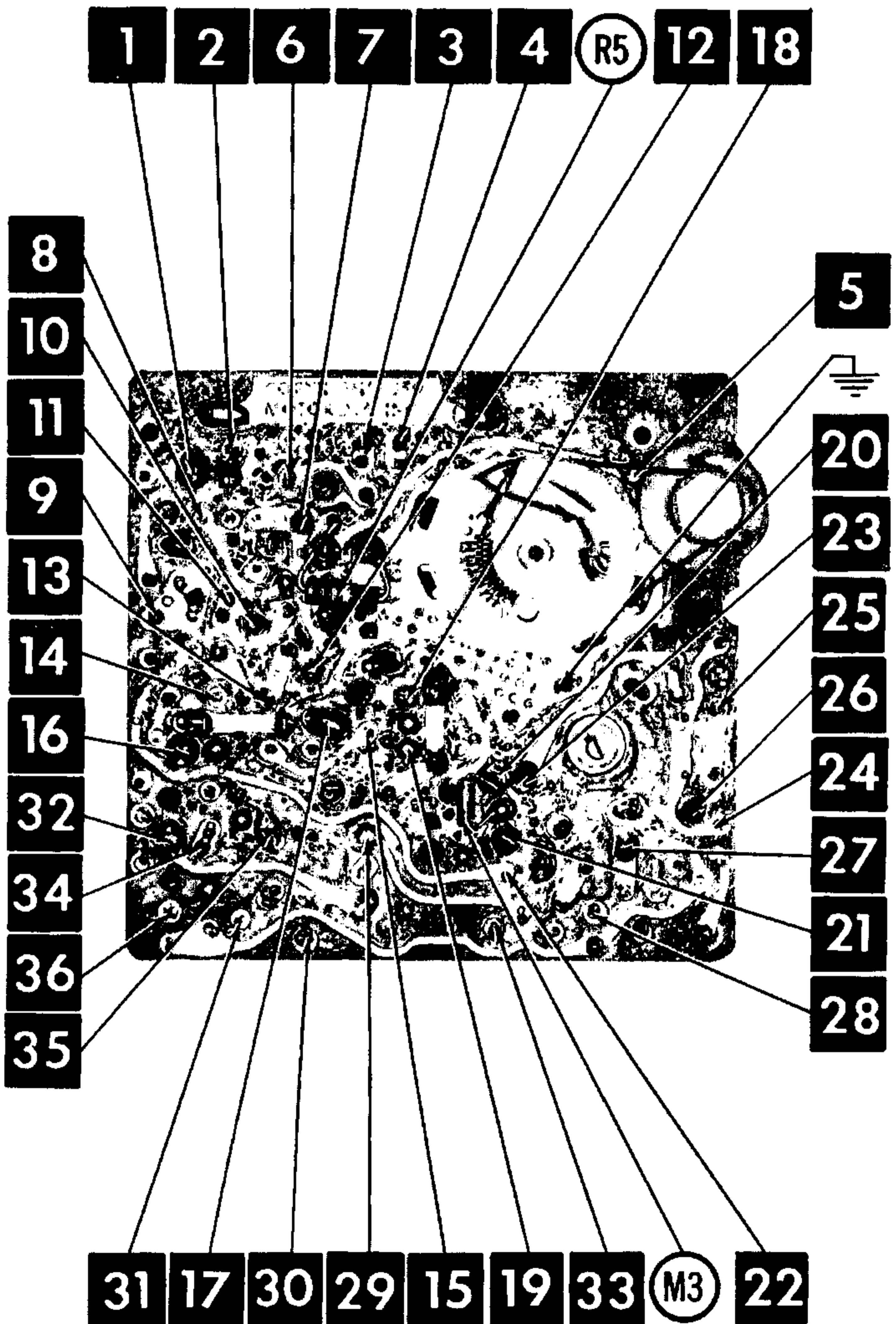
ITEM No.	RATING	REMARKS
R2	8200Ω	
R3	33K	
R4	680Ω	
R5	680K	
R6	68K	
R7	2200Ω	
R8	470Ω	
R9	1800Ω	

ITEM No.	RATING	REMARKS
R10	27K	
R11	5600Ω	
R12	560Ω	
R13	2700Ω	
R14	18K	
R15	150K	
R16	100Ω	
R17	2200Ω	

ITEM No.	RATING	REMARKS
R18	8200Ω	
R19	56K	
R20	220Ω	
R21	100Ω	
R22	1800Ω	
R23	120Ω	
R24	1800Ω	
R25	120Ω	

PRINTED BOARD

A Howard W. Sams **CIRCUITRACE** Photo



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MOTOROLA PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	
L1	Loopstick	24C646302				
L2	Osc. Coil	24C640352				
L3	1st IF Trans.	24C646244				
L4	2nd IF Trans.	24C646244				
L5	3rd IF Trans.	24K646245				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA				NOTES
			MOTOROLA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T1	2.6	1	25B646280				
		SEC. 2					
		1					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	2 3/4"	PM	35-40Ω	50B646279		

BATTERIES

ITEM No.	VOLTAGE	MOTOROLA PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V			930 *		1015 *		M-15R*	* 4 Required

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		MOTOROLA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M2	1N60	48C640675	1N60	1N60	AVC (Pigtail) Detector (Pigtail)
M3	1N60	48C640675	1N60	1N60	

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M4	Tuning Cap. Printed Board	19B646282 or 19B646283 84C646797	2 Gang 2 Gang Less All Components

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Dial	34B646488	Scale
Lens	61A643706	Dial
Knob	36B646313	Tuning
Knob	36B646307	Volume
Cabinet Back	1V646594	Blue, Model X16B
Cabinet Back	1V646595	Green, Model X16G
Cabinet Back	1V646596	Tan, Model X16N
Cabinet Front	1V646591	Blue, Model X16B
Cabinet Front	1V646592	Green, Model X16G
Cabinet Front	1V646593	Brown, Model X16N
Handle	55K646305	Blue, Model X16B
Handle	55K646306	Green, Model X16G
Handle	55D646304	Brown, Model X16N

CHASSIS—TOP VIEW

