

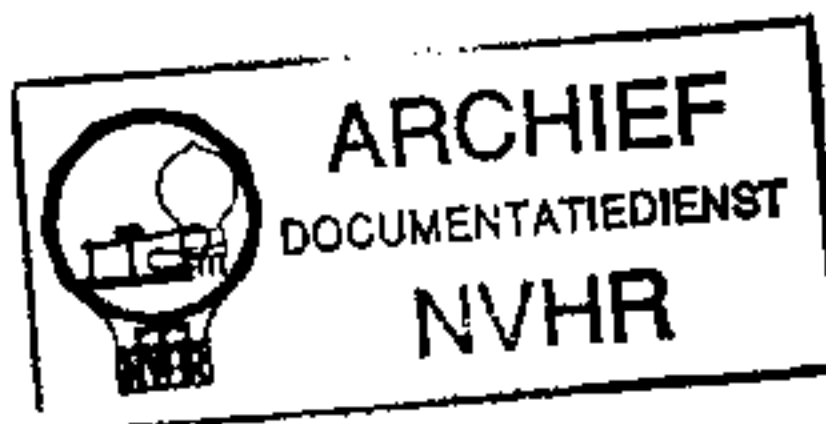
PHOTOFACT® Folder

with CIRCUITRACE®

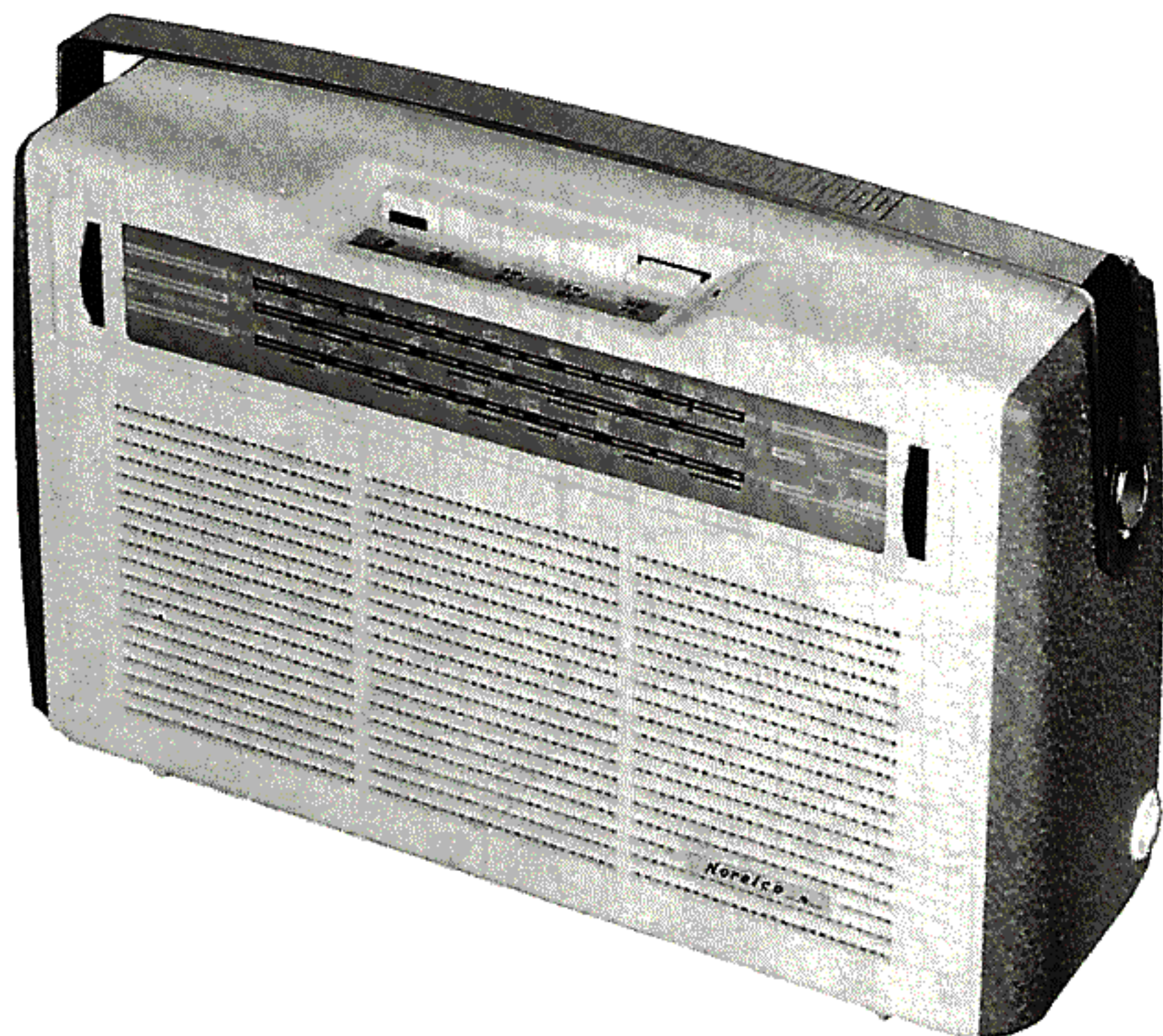
NORELCO MODEL
L3X09T/54



Ned. Ver. v. Historie v/d Radio

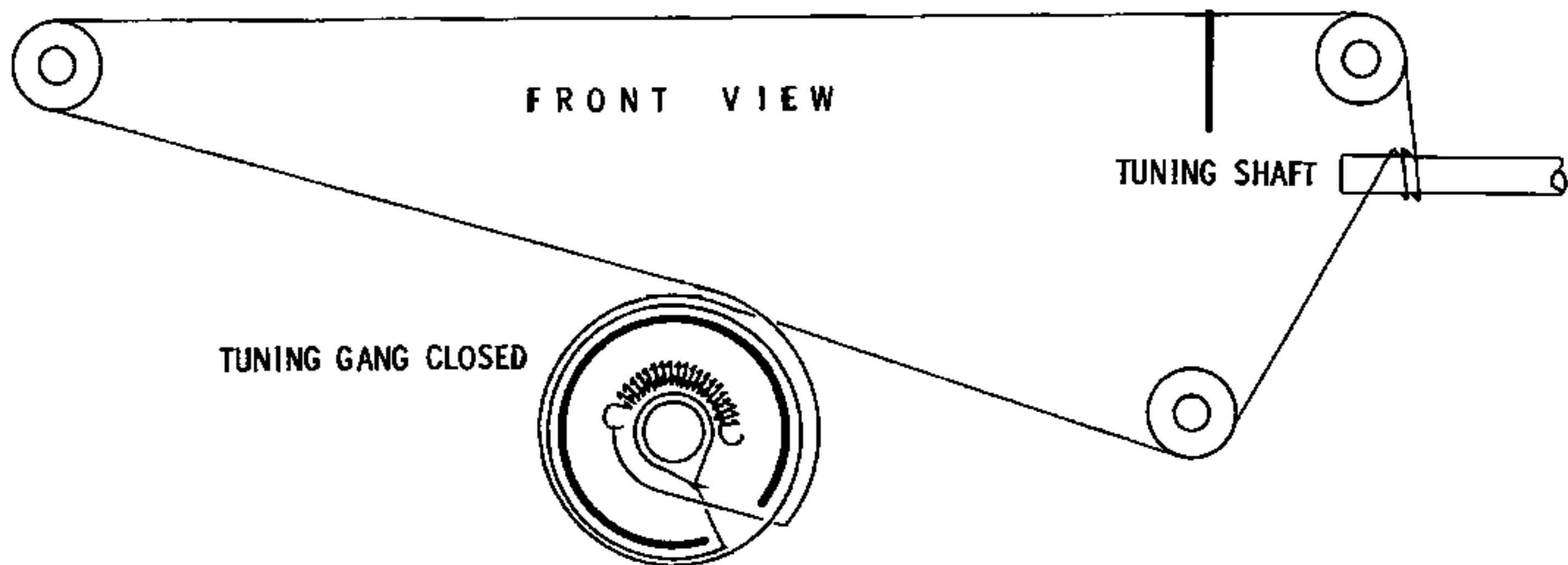


Met dank aan Jef Bos



TRADE NAME	Norelco Model L3X09T/54		
SUPPLIER	North American Philips Co., Inc., 100 E. 42nd Street, New York 17, N. Y.		
TYPE SET	Battery Operated Transistorized Portable 3 Band Receiver		
POWER SUPPLY	6 Volts DC	RATING	14 MA @6 Volts DC (No Signal, Min. Volume)
TUNING RANGE - BROADCAST	517-1622 KC		30 MA @6 Volts DC (Signal, Normal Volume)
	SHORT WAVE #1	5.9-18.2 MC	
	SHORT WAVE #2	1.62-5.2 MC	

DIAL CORD STRINGING



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 LF107

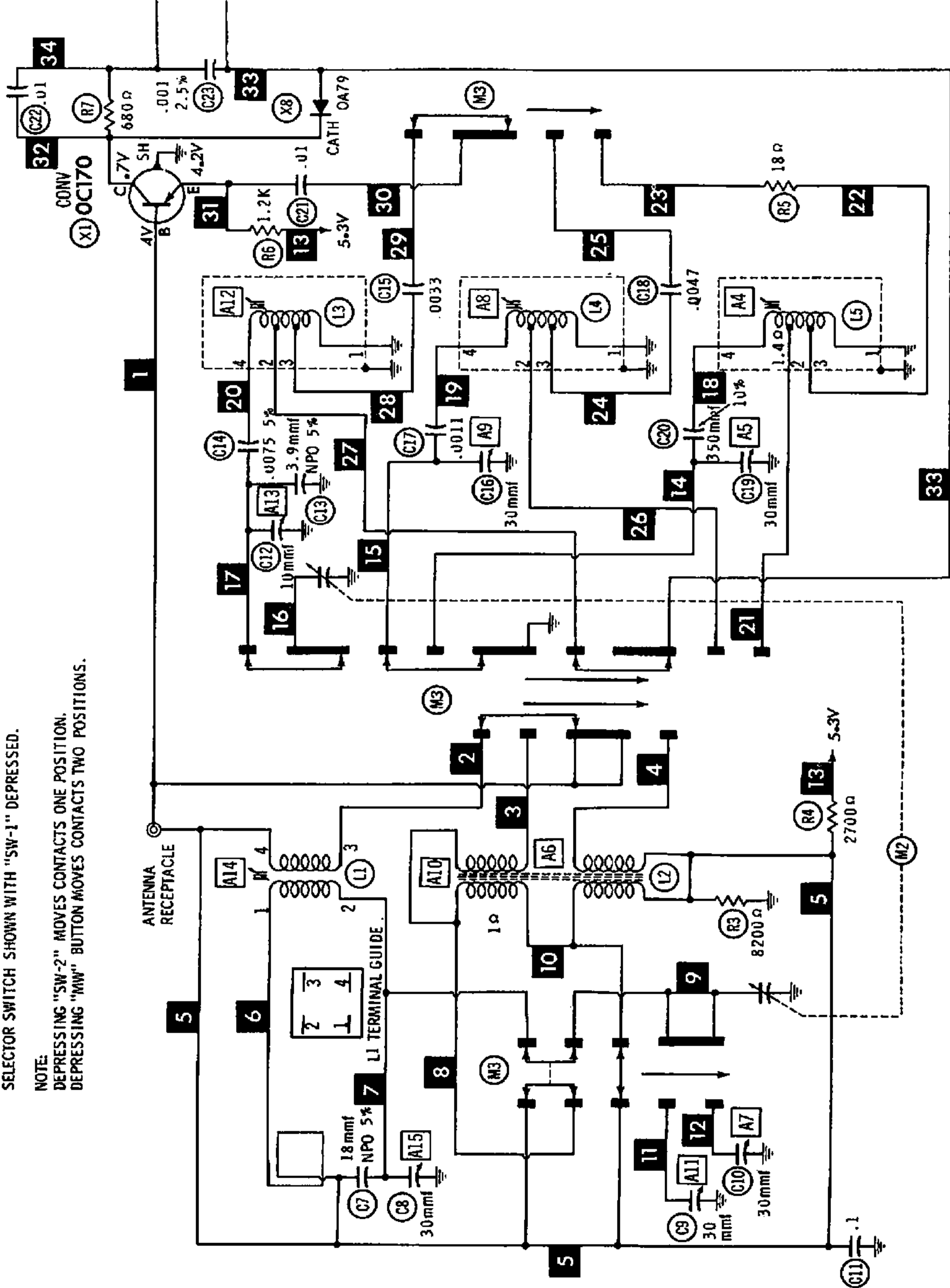
the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. ©1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

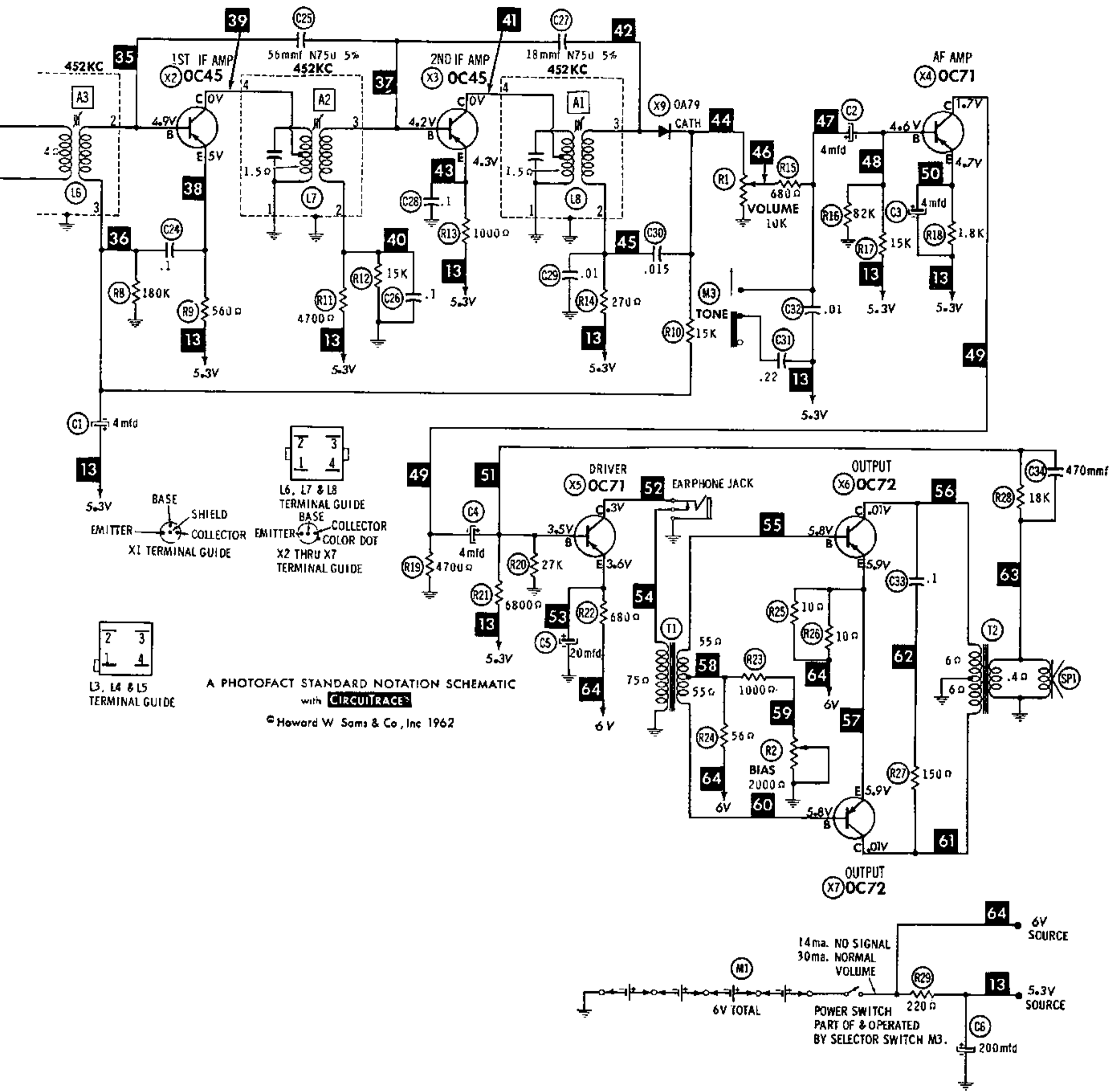
SELECTOR SWITCH SHOWN WITH "SW-1" DEPRESSED.

NOTE:

DEPRESSING "SW-2" MOVES CONTACTS ONE POSITION.

DEPRESSING "MW" BUTTON MOVES CONTACTS TWO POSITIONS.



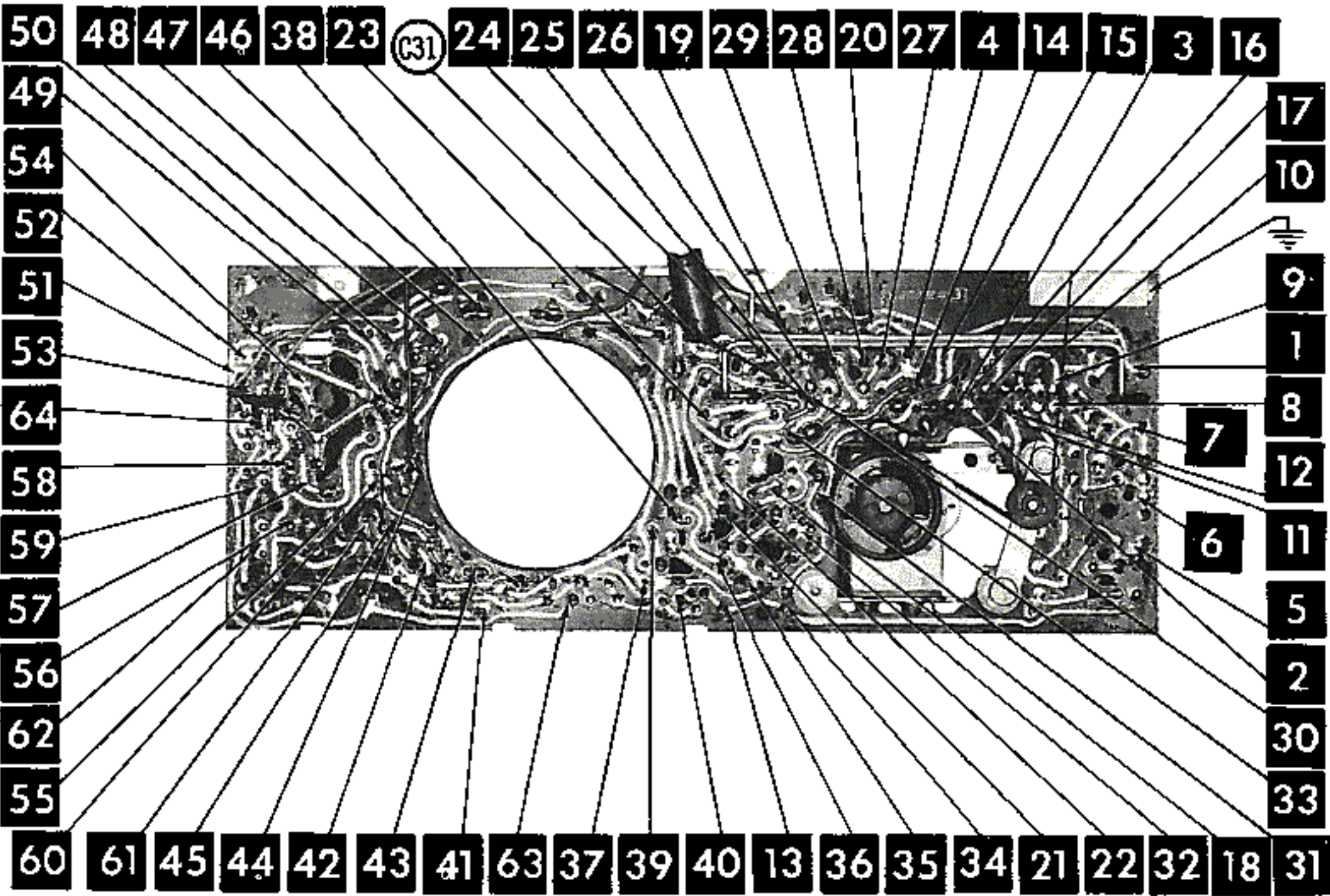


A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE
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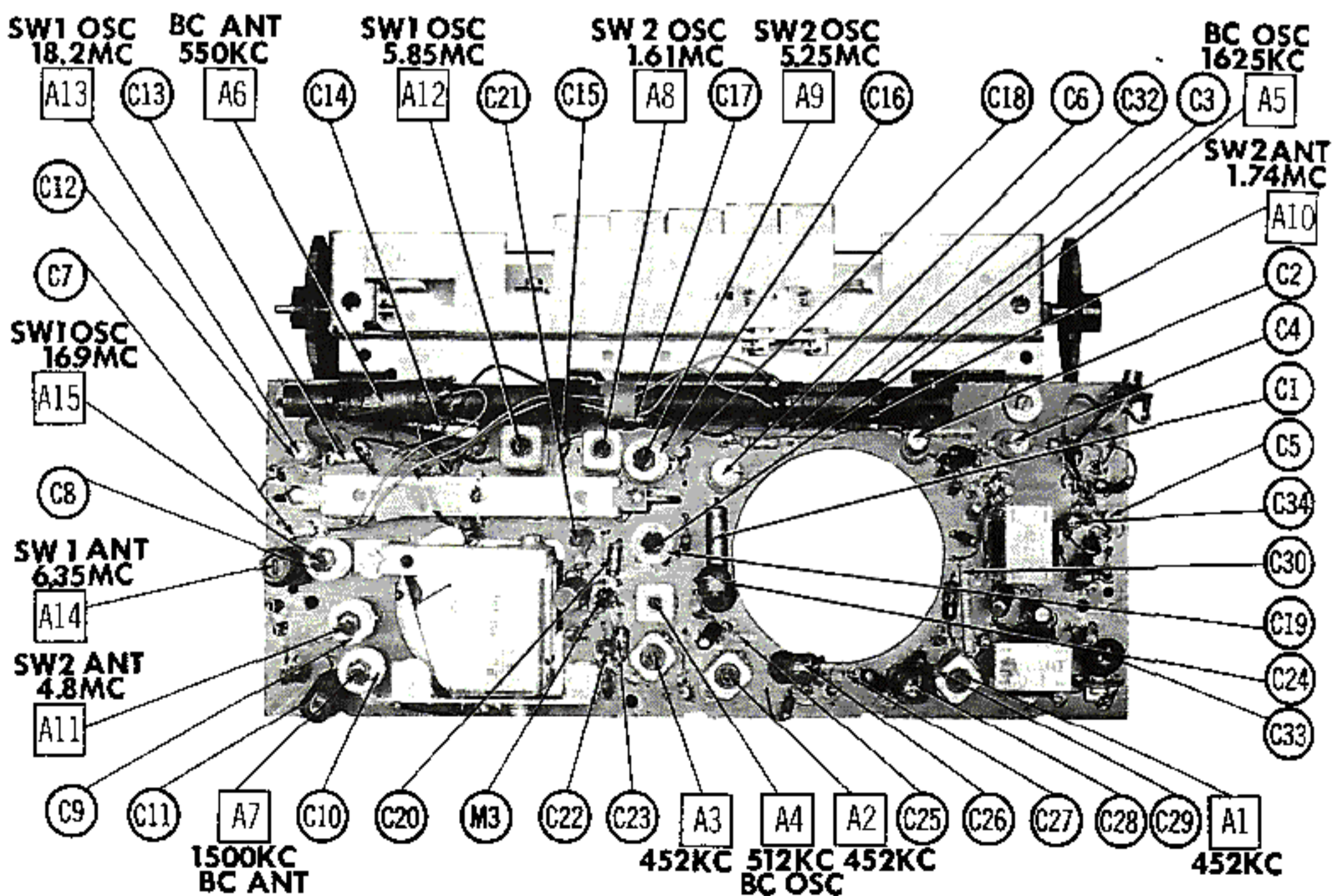
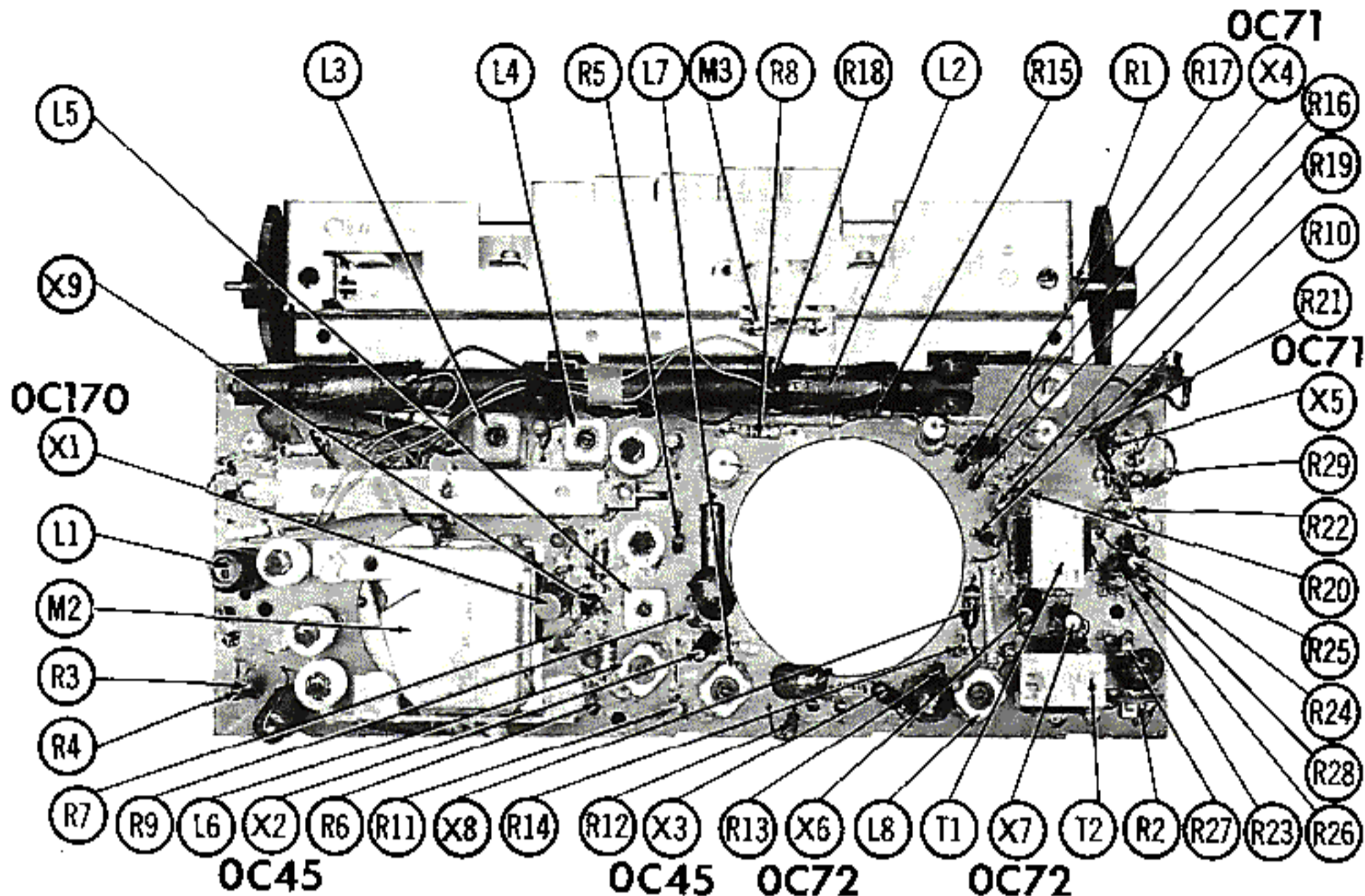
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

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.

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 ground.
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.



PRINTED BOARD



CHASSIS - TOP VIEW

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	OC170	Converter	2N1177		PNP
X2	OC45	1st IF Amplifier	2N1525	2N483	PNP
X3	OC45	2nd IF Amplifier	2N1525	2N483	PNP
X4	OC71	AF Amplifier	2N406	2N362	PNP
X5	OC71	Driver	2N406	2N362	PNP
X6	OC72	Output	2N408	2N632	PNP
X7	OC72	Output	2N408	2N632	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.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
X8		OA79				1N80	Overload Detector
X9		OA79				1N80	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	NORLCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	4	64	909/Z4	SRE150V5	NLW4-150	MT1-4	TT80X4	MLV5-100	TE-1403
C2	4	64	909/Z4	SRE150V5	NLW4-150	MT1-4	TT80X4	MLV5-100	TE-1403
C3	4	64	909/Z4	SRE150V5	NLW4-150	MT1-4	TT80X4	MLV5-100	TE-1403
C4	4	64	909/Z4	SRE150V5	NLW4-150	MT1-4	TT80X4	MLV5-100	TE-1403
C5	20	6.4	C426AM/C20	PTT41	NLW20-15	MT1-10	TT15X20	MLV20-12	TE-1130
C6	200	6.4		PTT47	NLW200-12	MT1-23	TC1502	MLV200-10	TE-1119.6

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	EUMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	18 NPO 5%			TCZ-18	C10Q18C	CCTO-180	CNO-418	10TCC-Q18
C8	30							
C9	30							
C10	30							
C11	.1 125V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C12	10							
C13	3.9 NPO 5%				C10V4C			10TCC-V39
C14	.0075 5%				1DR5D75			

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:

- A8, A12.....GENERAL CEMENT #9440
- A13.....GENERAL CEMENT #5000, 5003, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537
- A14.....GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	452KC (400% Mod.)	(MW) Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	512KC	Tuning gang fully closed.	"	A4	"
3.	"	1625KC	Tuning gang fully open.	"	A5	"
4.	"	550KC	550KC	"	A6	Adjust for maximum output by moving antenna coil turns along ferrite core.
5.	"	1500KC	1500KC	"	A7	Adjust for maximum output.
6.	"	1.61MC	(SW2) Tuning gang fully closed.	"	A8	"
7.	"	5.25MC	Tuning gang fully open.	"	A9	"
8.	"	1.74MC	1.74MC	"	A10	Adjust for maximum output by moving antenna coil turns along ferrite core.
9.	"	4.8MC	4.8MC	"	A11	Adjust for maximum output.
10.	"	5.85MC	(SW1) Tuning gang fully closed.	"	A12	"
11.	"	18.2MC	Tuning gang fully open.	"	A13	"
12.	"	6.35MC	6.35MC	"	A14	"
13.	"	16.9MC	16.9MC	"	A15	Adjust for maximum output. Repeat steps 2 thru 13.

PARTS LIST AND DESC

FIXED CAPACITORS(cont)

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.
C15	.0033 5%		SI 3300	D6-332	BYA10D33	CCD-332	B-233	5HK-D33
C16	30							
C17	.0011 10%				5R5D11	CM-19B-112K	MCE455	MS-211
C18	.0047		SI 4700	D6-472	BYA10D47M	CCD-472	B-247	5HK-D47
C19	30							
C20	350 10%				L10T35	CM-19B-351K	GP335	10TS-T35
C21	.01		SI 10000	D6-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	.01		SI 10000	D6-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.001 2.5%					VCM-20-102G	MCE255	
C24	.1 125V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C25	56 N750 5%			TCN-56	C10Q56U		CN7-456	10TCU-Q56
C26	.1 125V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C27	18 N750 5%			TCN-18	C10Q18U		CN7-418	10TCU-Q18
C28	.1 125V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C29	.01		SI 10000	D6-103	BYA10S1	CCD-103	B-110	5HK-S10
C30	.015		SI 15000	DD-153	BYA10S15	CCD-153	B-150	5HK-S15
C31	.22 125V		P288N-22		CUB2P22	2DP-4-224	GEM-2022	2TM-P22
C32	.01		SI 10000	D6-103	BYA10S1	CCD-103	B-110	5HK-S10
C33	.1 125V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C34	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			NORELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	10K	B153032	JP2-103	44-10K-W		MLC14A
R2	Blas	2000Ω	B151454				

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 PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R3	6200Ω				R17	15K			
R4	2700Ω				R18	1800Ω			
R5	18Ω				R19	4700Ω			
R6	1200Ω				R20	27K			
R7	680Ω				R21	6800Ω			
R8	180K				R22	680Ω			
R9	560Ω				R23	1000Ω			
R10	15K				R24	56Ω			
R11	4700Ω				R25	10Ω			
R12	15K				R26	10Ω			
R13	1000Ω				R27	150Ω			
R14	270Ω				R28	18K			
R15	680Ω				R29	220Ω			
R16	82K								

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		NORELCO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	SW. 2 Ant.	A398707					
L2A	SW. 1 Loopstick	A398601					
L2B	BC Loopstick						
L3	SW. 2 Osc.	A312981					
L4	SW. 1 Osc.	A312982					
L5	BC Osc.	A312980					
L6	1st IF	A312983					
L7	2nd IF	A312980					
L8	3rd IF	A312981					

DESCRIPTIONS (Continued)

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			NORELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.						
T1	1	1	A316221			TR-1 ①		① Remove Frame

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			NORELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.						
T2	1000Ω CT	8-4Ω	A315425					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				NORELCO PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SP1	4"	PM	8-4Ω	AD8414Z	4A05 *	* Trim Mounting to Fit

BATTERIES

ITEM No.	VOLTAGE	NORELCO PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V			230		A-100		M-13R	4 Required

MISCELLANEOUS

ITEM No.	PART NAME	NORELCO PART No.	NOTES
M2 M3	Tuning Cap. Switch	4900281	2 Gang Function Selector (Pushbutton Type)

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Dial Scale Knob Pushbutton Handle Cabinet Rear Cover Front	A396871 P407822/801/MN P542049/139/FC A331110 A396145 P545037/423/FC A375684	Tuning, Volume

WIRING DATA.

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid 22AWG) 8524 (Stranded 22AWG) 8570 (Stranded 28AWG)	Available in 12 Colors
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