

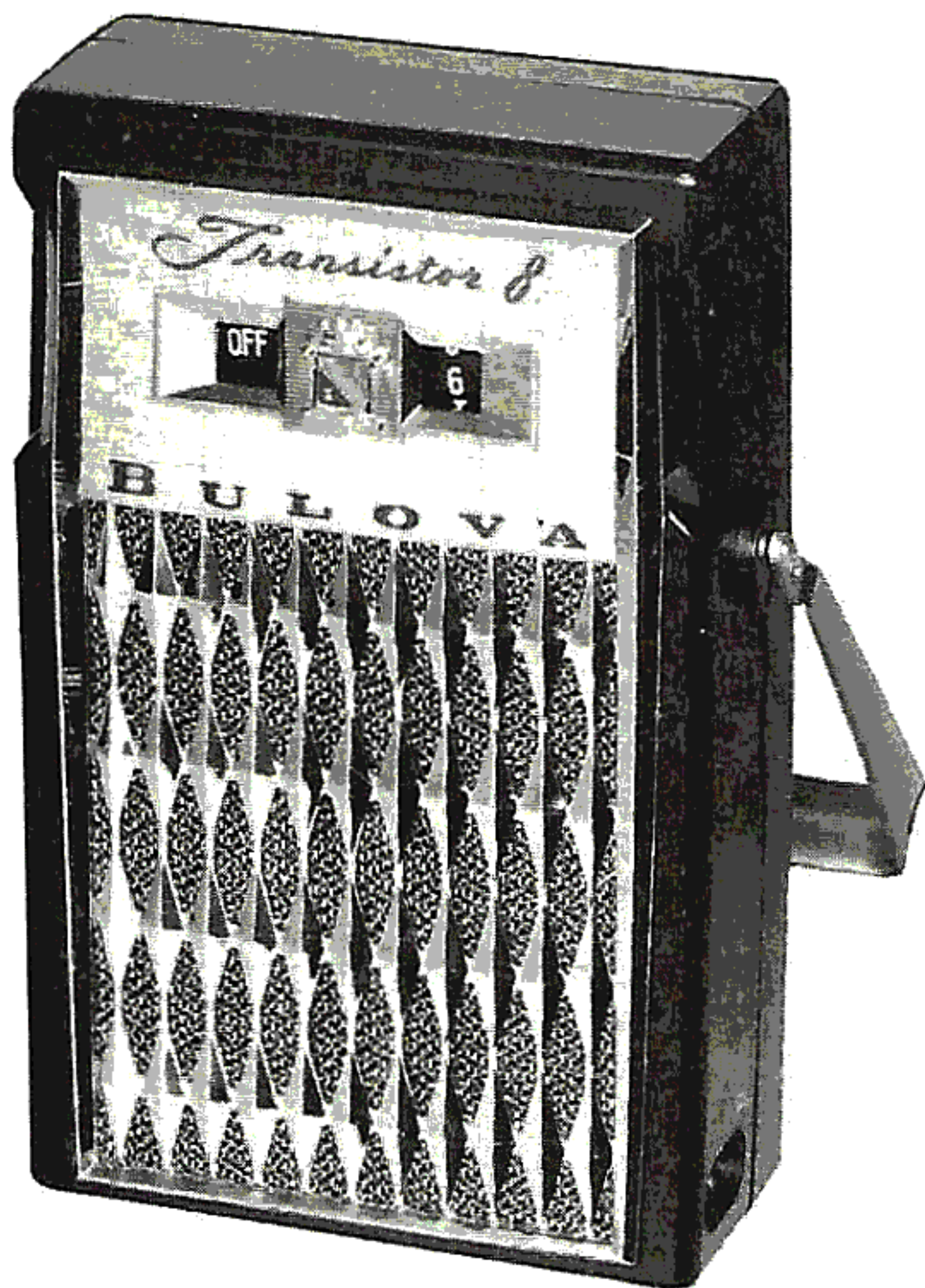
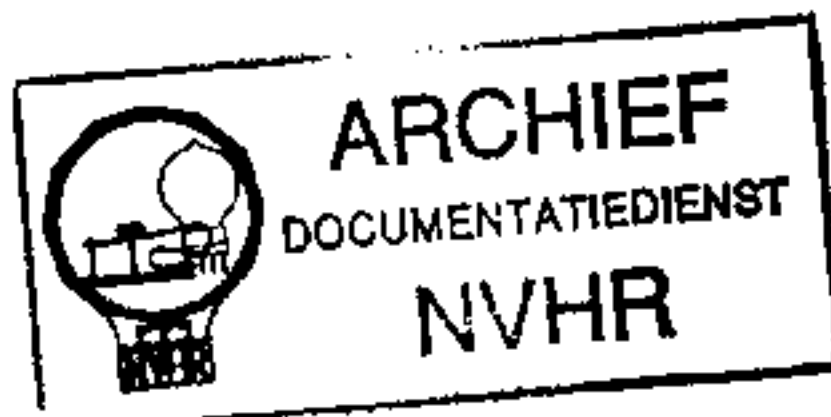
PHOTOFACT® Folder

with CIRCUITRACE™

**BULOVA MODELS
662, 663**

met dank aan Jef Bos

Ned. Ver. v. Historie v/d Radio



TRADE NAME	Bulova Models 662, 663		
MANUFACTURER	Bulova Watch Co., Bulova Park, Flushing 70, N. Y.		
TYPE SET	Battery Operated Transistorized Portable AM Receiver		
POWER SUPPLY	6 Volts DC	RATING	8MA @ 6 Volts DC (No Signal, Min. Volume)
TUNING RANGE	BROADCAST 540 - 1600KC		20MA @ 6 Volts DC (Signal, Normal Volume)

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, A5 ... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8729, 8987, 8988, 8989
WALSCO #2515, 2531, 2532

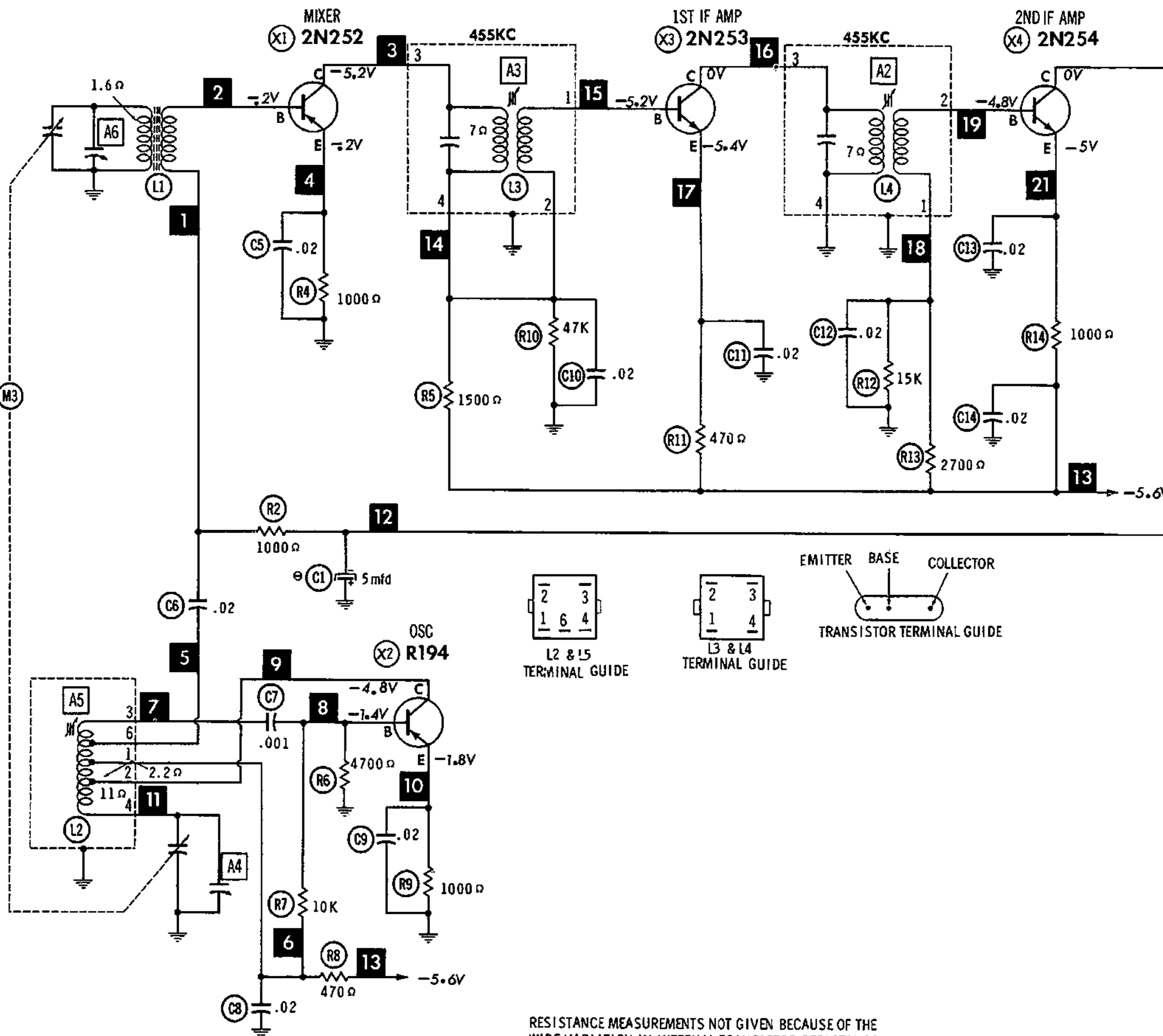
A4, A6 GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

	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.	455KC (400% Mod.)	Tuning gang fully open	Across Voice Coil	A1, A2, A3	Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4	"
3.	"	600KC	600KC	"	A5	"
4.	"	1400KC	1400KC Signal	"	A6	Adjust for maximum output. Repeat steps 2, 3 and 4.

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 KF990

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



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.

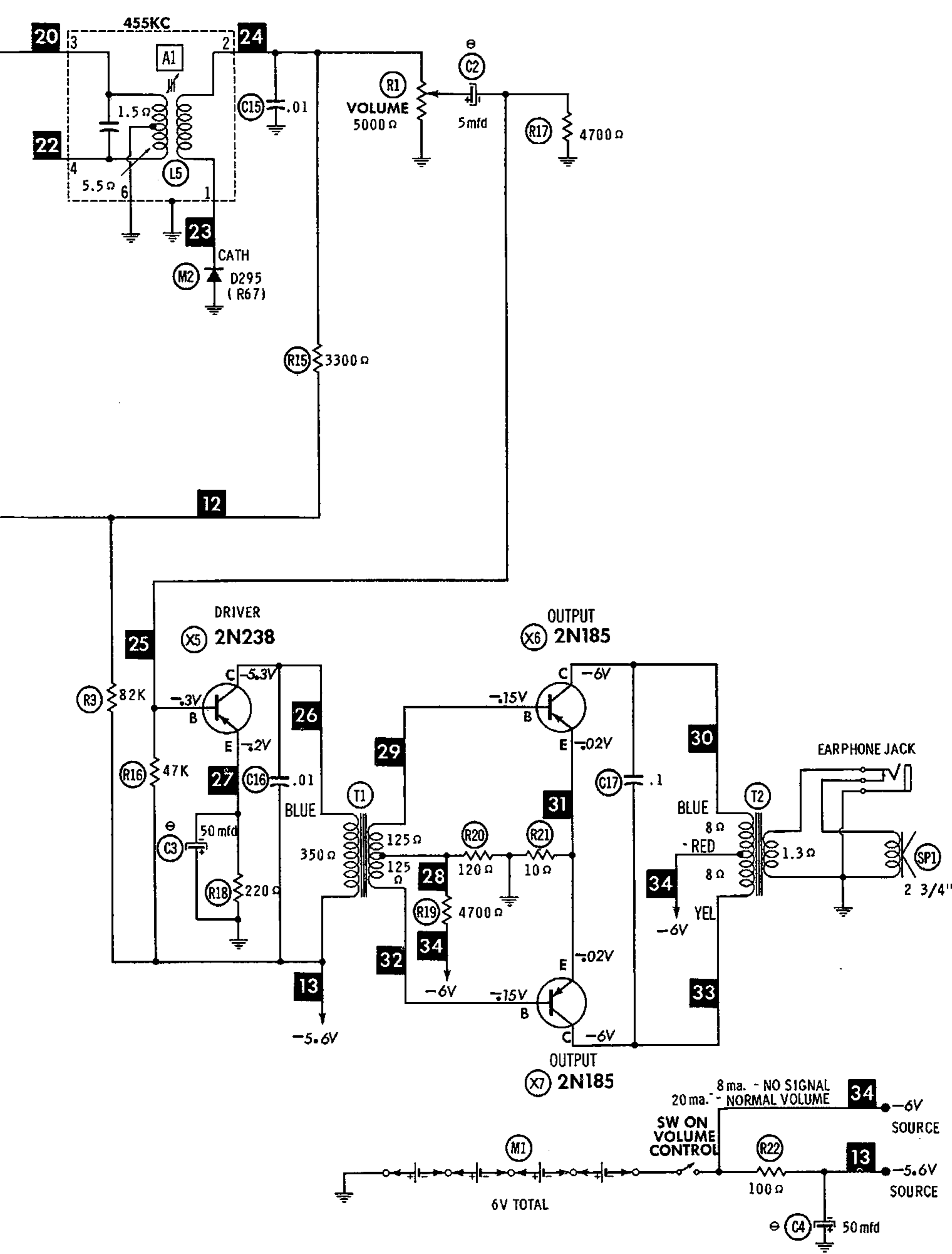
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

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.

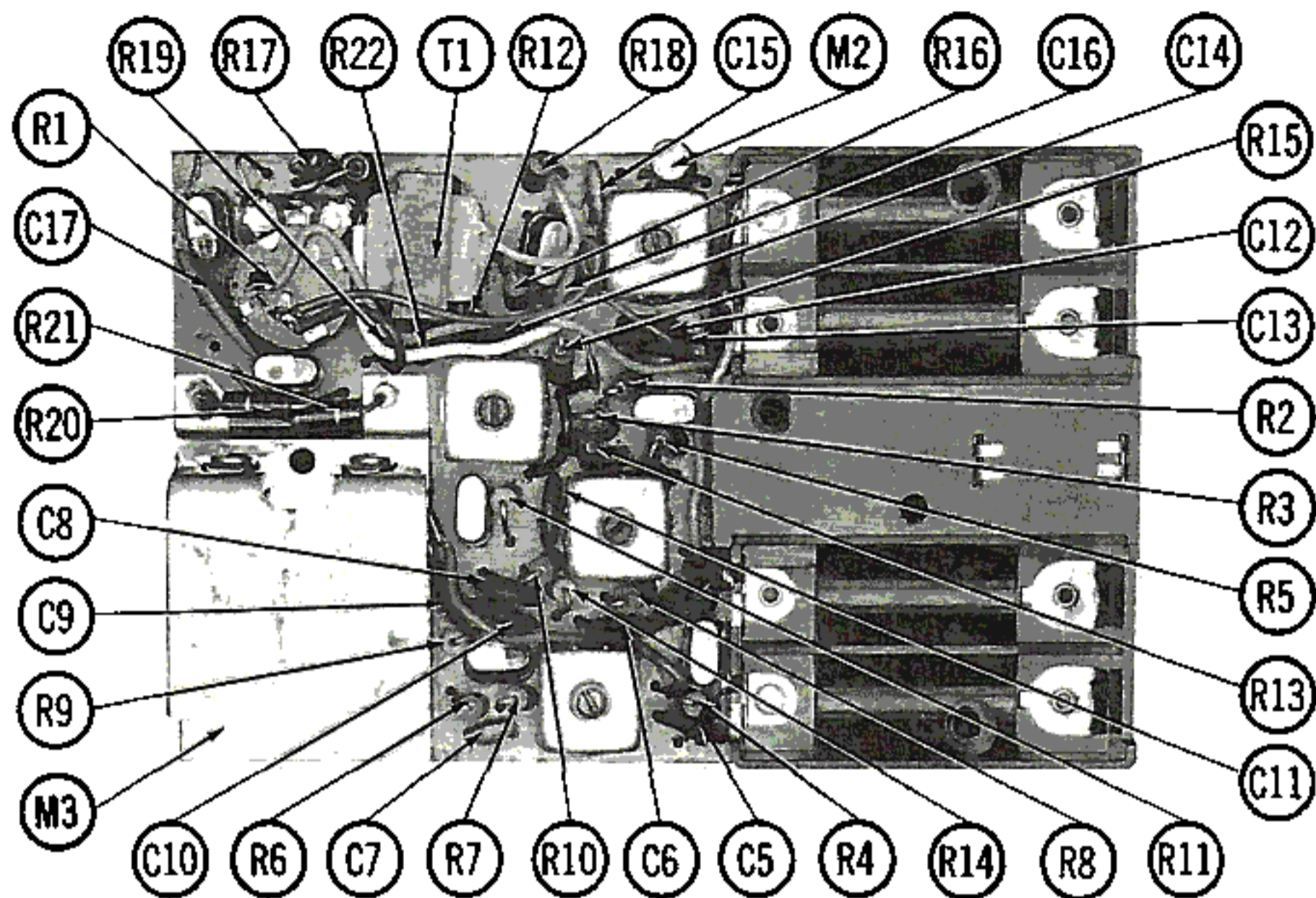
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

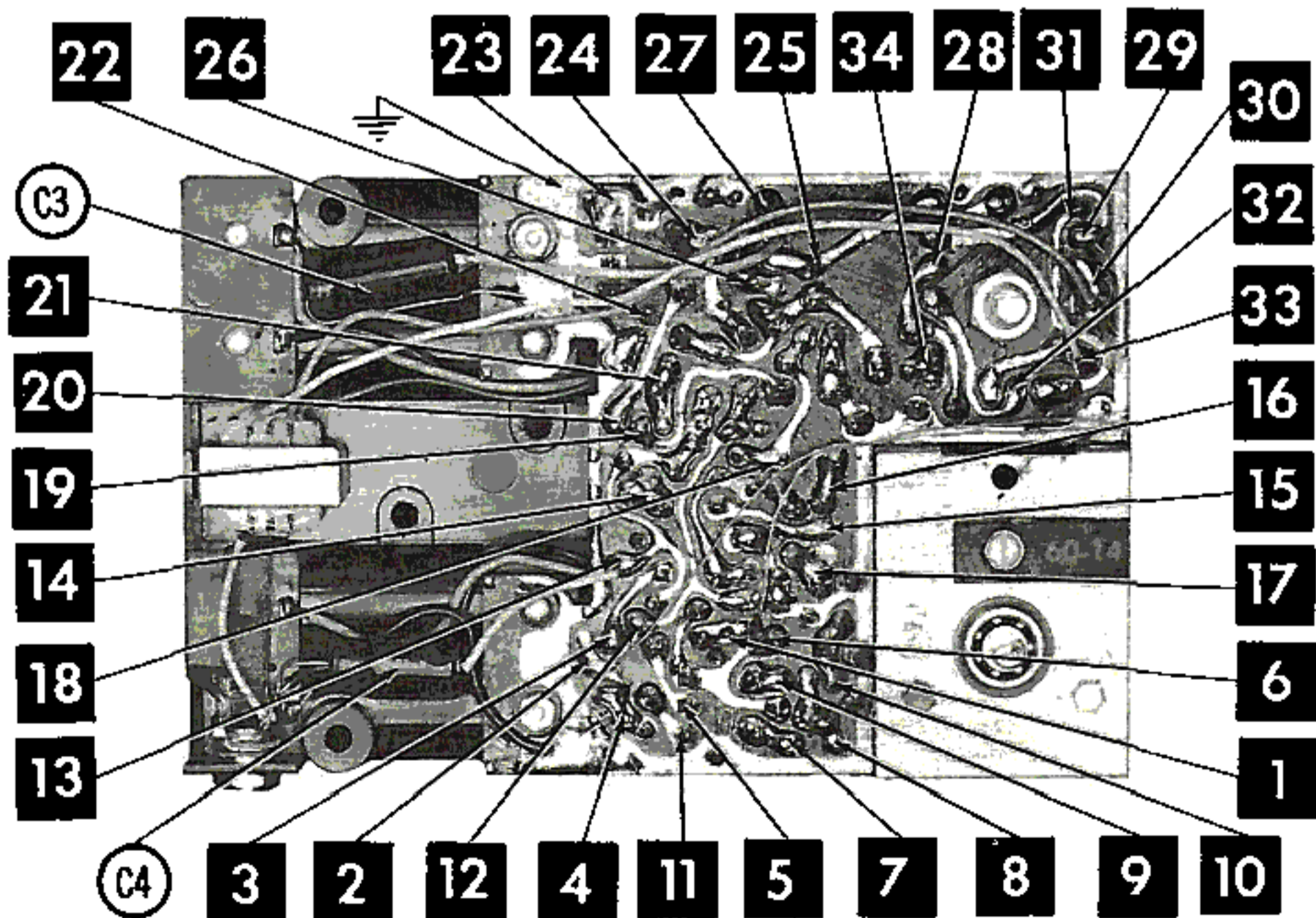
A PHOTOFACIT STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**



**BULOVA MODELS
662, 663**



PRINTED BOARD-CAPACITOR, RESISTOR & MISC. IDENT.



PARTS LIST AND

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2N252	Mixer	2N1527		PNP
X2	R194	Oscillator	2N1527		PNP
X3	2N253	1st IF Amplifier	2N1525		NPN
X4	2N254	2nd IF Amplifier	2N1525		NPN
X5	2N238	Driver	2N407	2N362	PNP
X6	2N185	Output	2N408	2N633	PNP
X7	2N185	Output	2N408	2N633	PNP } Matched Pair

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BULOVA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	5 ①	10		PTT37	NLW5-15	MT1-3	TT12X5	MLV5-12	TE-1127
C2	5 ①	10		PTT37	NLW5-15	MT1-3	TT12X5	MLV5-12	TE-1127
C3	50 ②	10		PTT45	NLW50-10	MT1-18	TT10X50	MLV50-10	TE-1119
C4	50 ②	10		PTT45	NLW50-10	MT1-18	TT10X50	MLV60-10	TE-1119

- ① Some versions may use 3mfd @ 12 V in this application (Part #10-26).
 ② Some versions may use 50mfd @ 6V in this application (Part #10-25).

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.
C5	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C6	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C7	.001		C80V102AM	DM-102	H-05D1	CCD-102	B-210	5HK-D10
C8	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C9	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C10	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C11	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C12	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C13	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C14	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C15	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C16	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C17	.1		C80V104AM	DA-104	H-05P1		TA-D10	TG-P10

DESCRIPTIONS

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES	
	RESISTANCE	WATTS	BULOVA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.		MALLORY PART No.
R1	5000Ω	1/4	22-13					Volume and Switch

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	1000Ω				R13	2700Ω			
R3	82K				R14	1000Ω			
R4	1000Ω				R15	3300Ω			
R5	1500Ω				R16	47K			
R6	4700Ω				R17	4700Ω			
R7	10K				R18	220Ω			
R8	470Ω				R19	4700Ω			
R9	1000Ω				R20	120Ω			
R10	47K				R21	10Ω			
R11	470Ω				R22	100Ω			
R12	15K								

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BULOVA PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Loopstick	60-14					
L2	Osc.	20-11					
L3	1st IF	24-27					
L4	2nd IF	24-28					
L5	3rd IF	24-29					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	BULOVA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1	1	24-25					

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			BULOVA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.						
T2	200Ω CT	10-12Ω	24-26A					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				BULOVA PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SP1	2 3/4"	PM	10-12Ω	26-15	27A06Z12 *	* Drill and tap holes in magnet.

BATTERIES

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

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		BULOVA PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	D295 * (R67)	21-12 *			* Diode Connected Translator

MISCELLANEOUS

ITEM No.	PART NAME	BULOVA PART No.	NOTES
M3	Tuning Cap.	12-15	2 Gang

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Knob	78-35	Tuning
Knob	78-36	Volume
Cabinet Back	70-71-2	Specify Color
Cabinet Front	70-71-1A	Specify Color
Handle	70-72	

WIRING DATA

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

CHASSIS—TOP VIEW

