

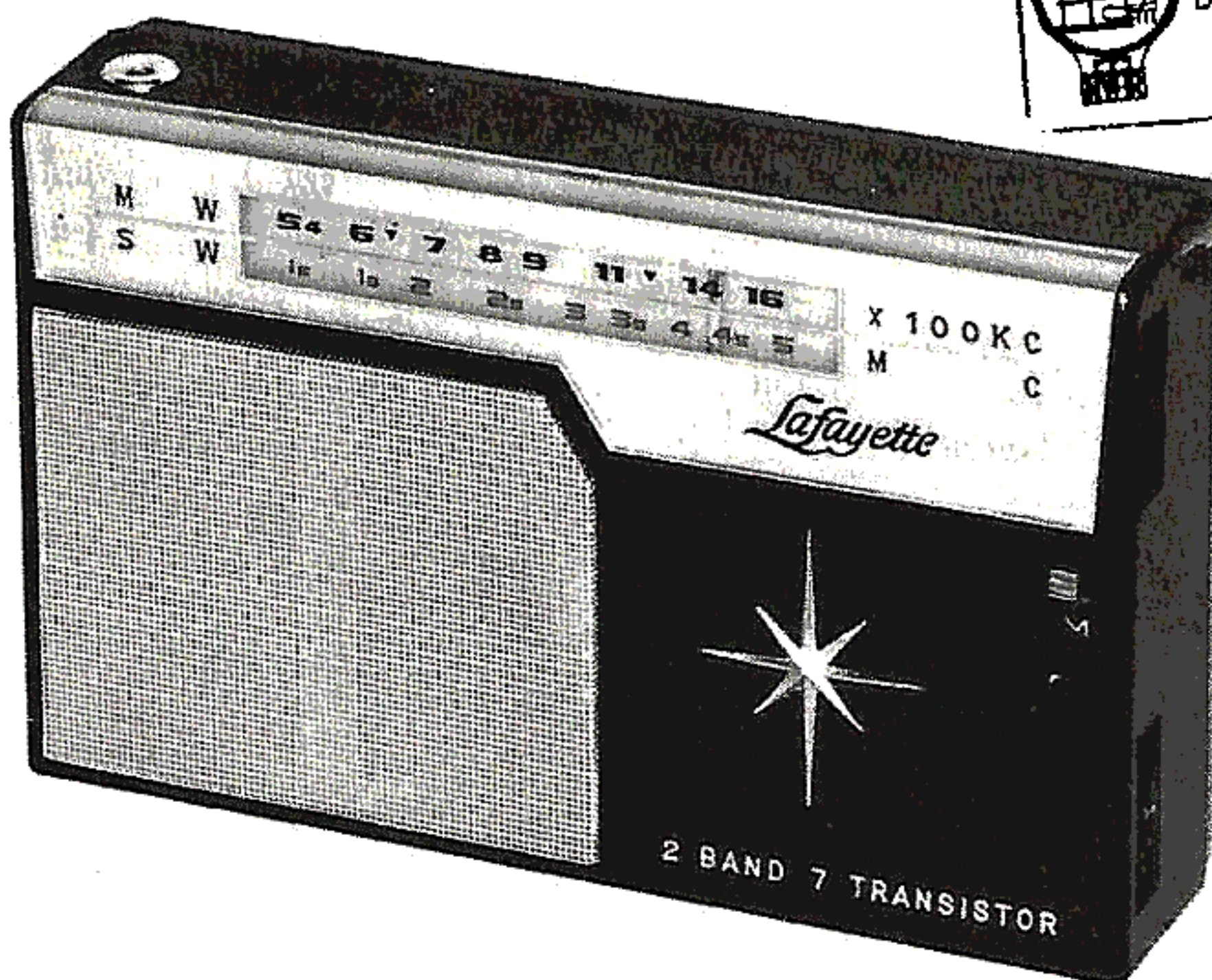
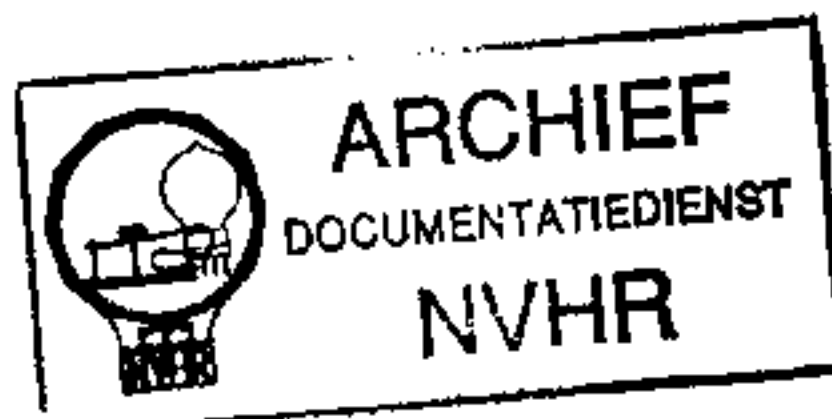
PHOTOFACT® Folder

with CIRCUITRACE®

LAFAYETTE MODEL FS-223

Ned. Ver. v. Historie v/c

Met dank aan Jef Bos



TRADE NAME	Lafayette Model FS-223		
SUPPLIER	Lafayette Radio, 165-08 Liberty Ave., Jamaica 33, N. Y.		
TYPE SET	Battery Operated Transistorized Portable BC-SW Receiver		
POWER SUPPLY	3 Volts DC	RATING	14MA @ 3 Volts DC (No Signal, Min. Volume) 25MA @ 3 Volts DC (Signal, Normal Volume)
TUNING RANGE	BROADCAST 540 - 1600KC	SHORT WAVE	1.5 - 5MC

## 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:

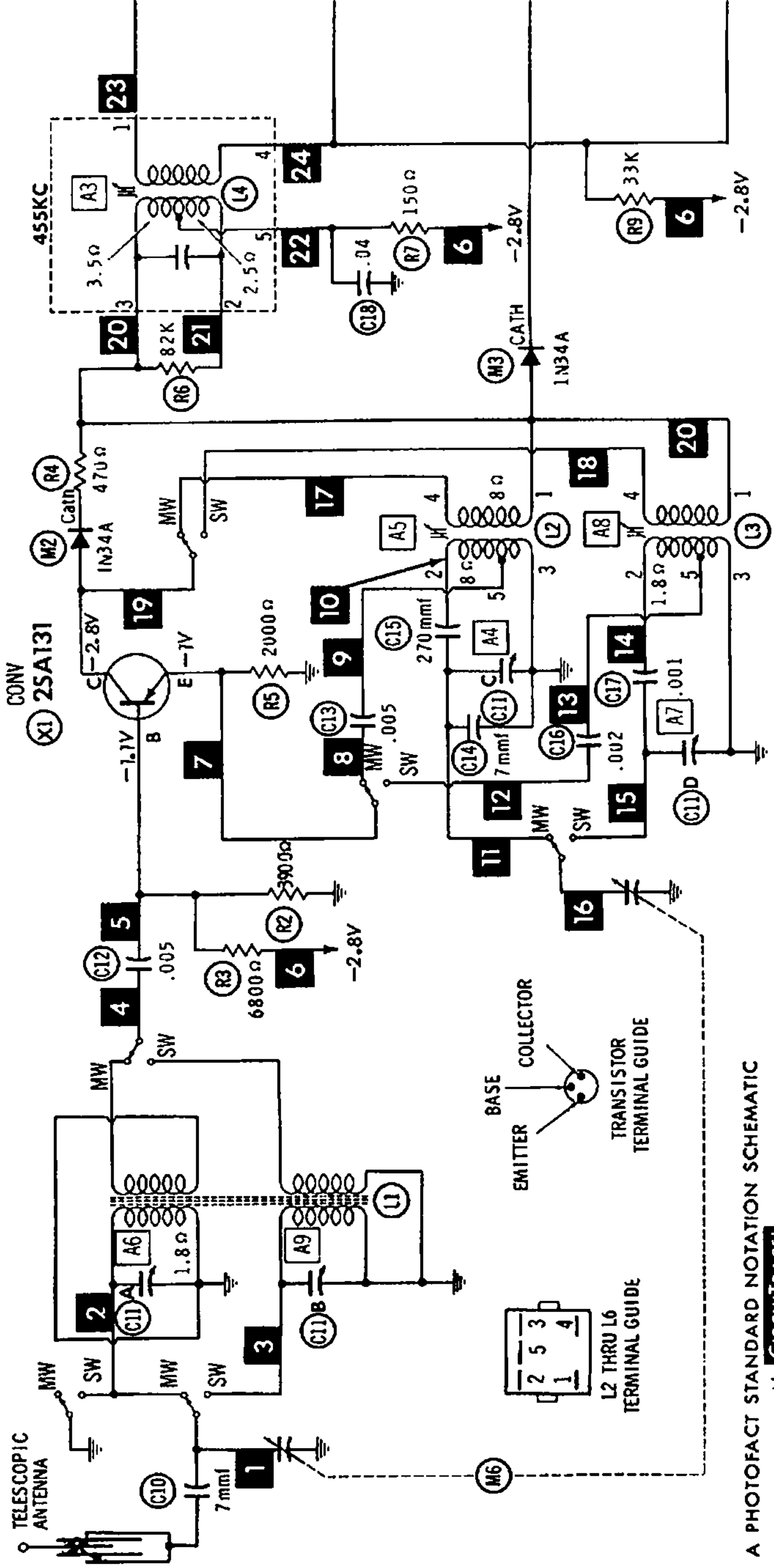
- A1, A2, A3 ..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291  
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538
- A4, A6, A7, A9 ... GENERAL CEMENT #5000, 5003, 5086, 8276, 8290, 9087, 9089  
WALSCO #2512, 2525, 2528
- A5, A8 ..... GENERAL CEMENT #8282, 8606, 8606L, 9091  
WALSCO #2526, 2641, 2542, 2543, 2544

	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.)	(MW) Tuning gang fully open	Across Voice Coll	A1, A2, A3	Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4	"
3.	"	600KC	600KC	"	A5	"
4.	"	1400KC	1400KC Signal	"	A6	"
5.	"	5MC	(SW) 5MC	"	A7	"
6.	"	1.5MC	1.5MC	"	A8	"
7.	"	3MC	3MC	"	A9	Adjust for maximum output. Repeat steps 2 thru 7.

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

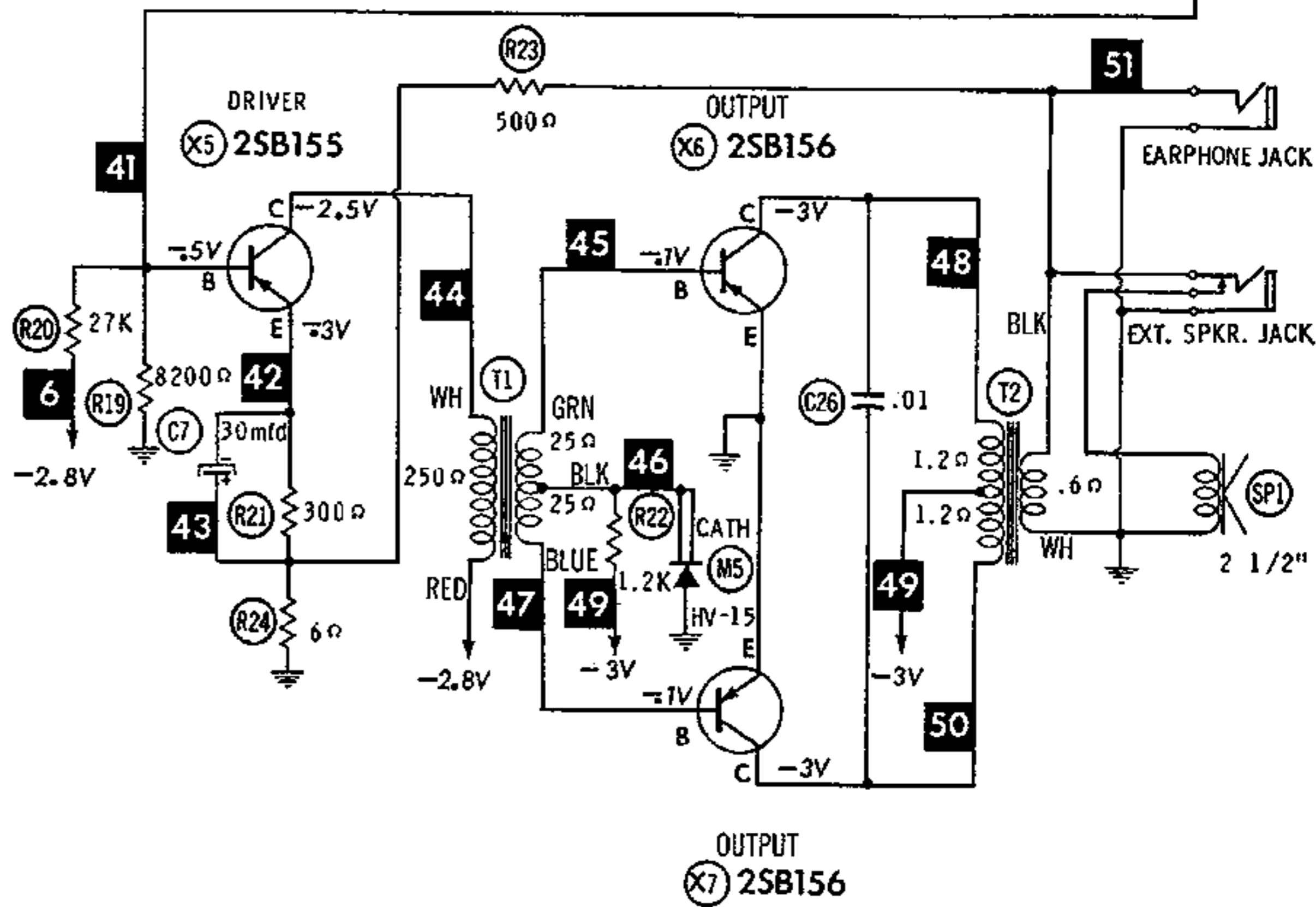
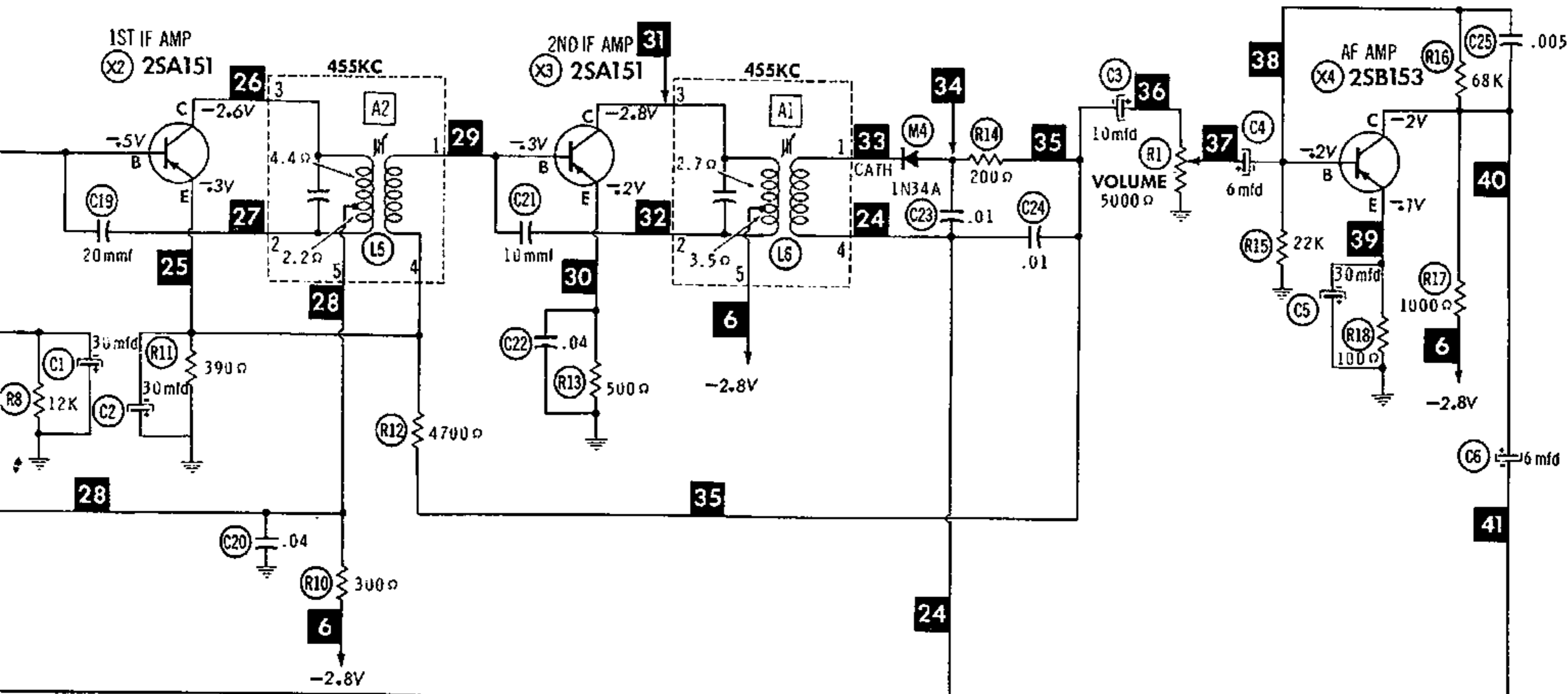
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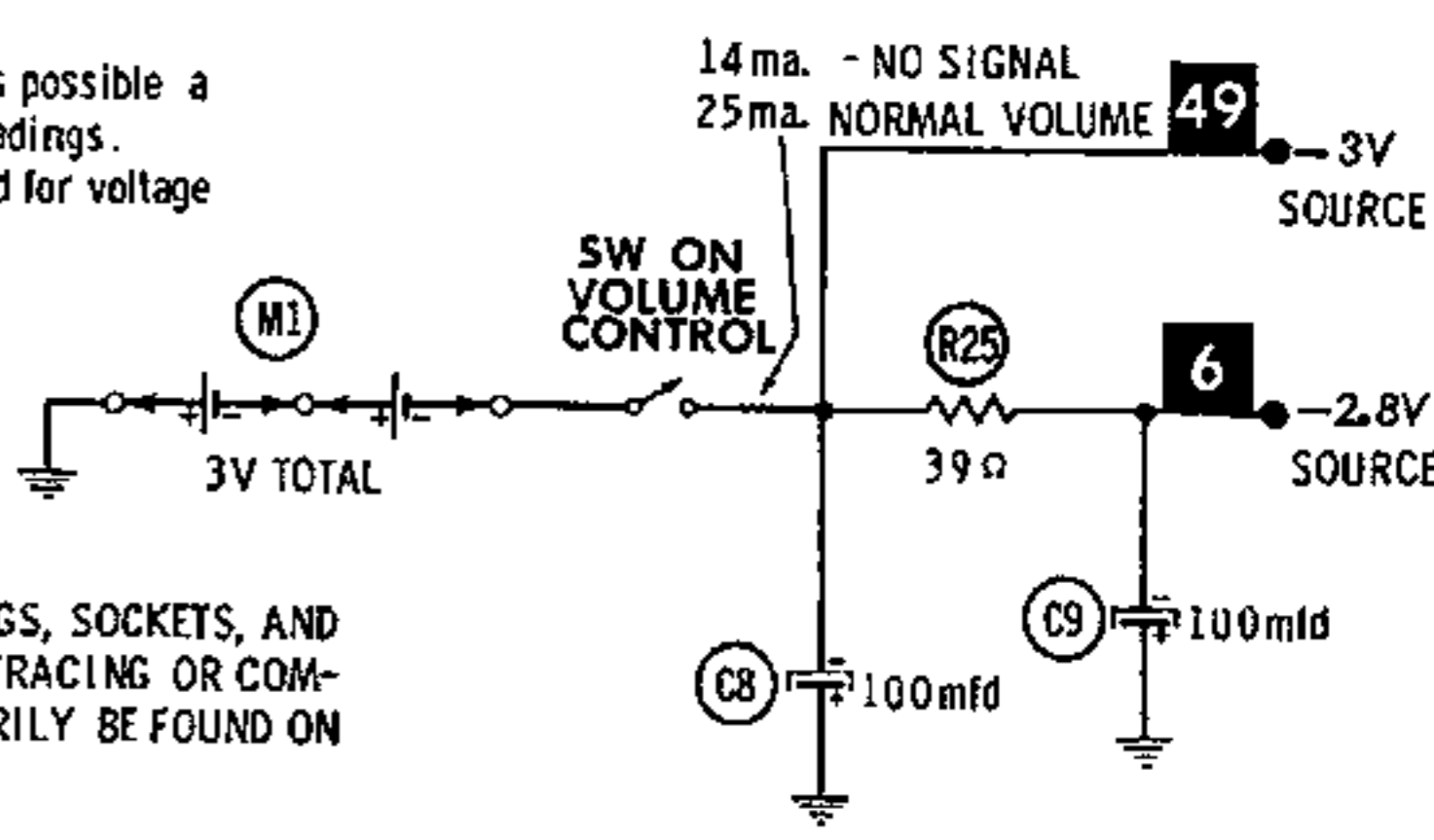


A PHOTOFACIT STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**



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.



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.

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

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

46 45 42 6 44 41 17 20 2 10 9 11 8 16 15 3 14

(R6)

43

48

49

50

51

47

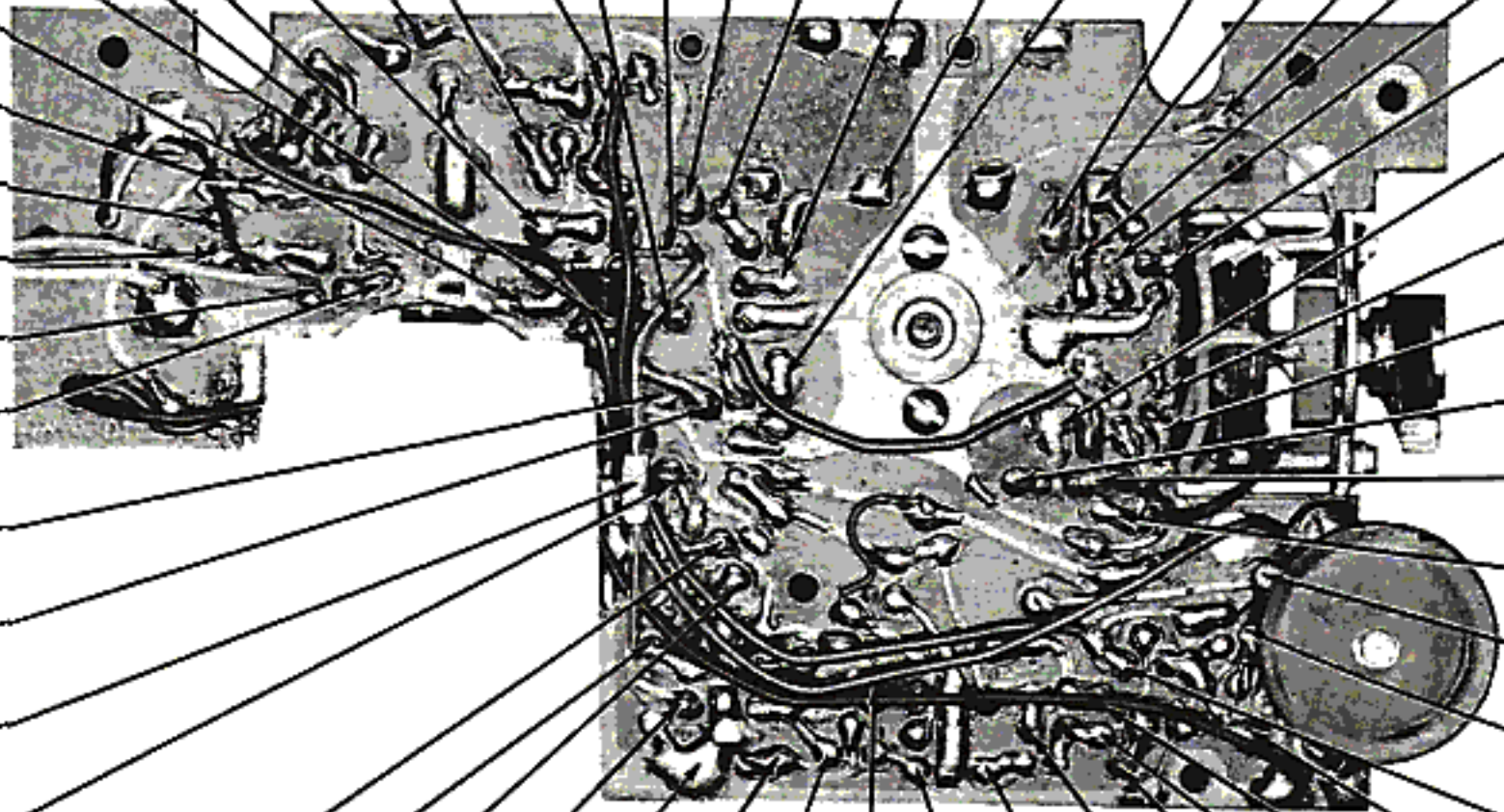
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(M3)

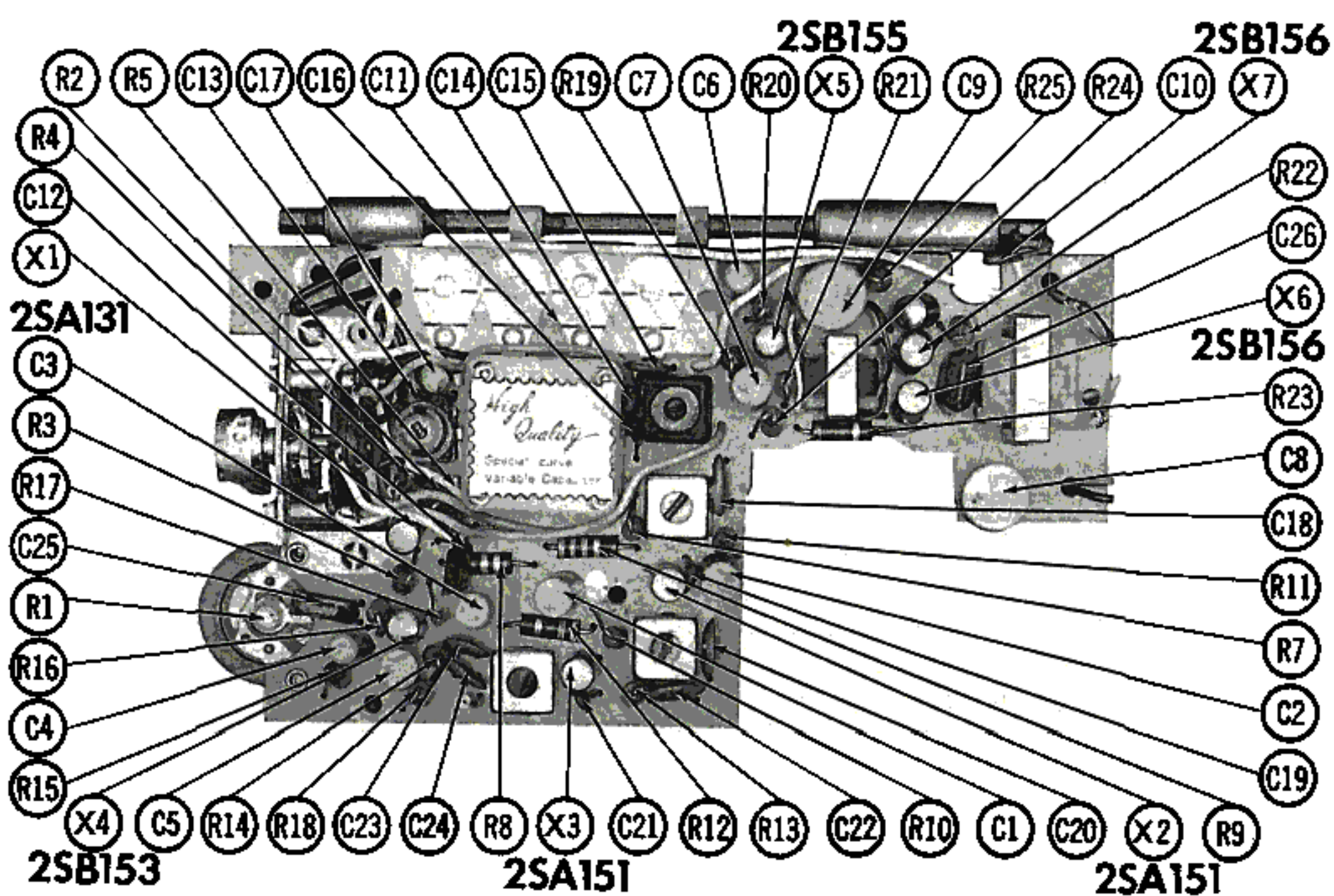
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1



25 28 26 27  $\perp$  30 29 31 32 33 24 39 34 35 38

PRINTED BOARD



CHASSIS TOP VIEW-CAPACITOR, RESISTOR & TRANSISTOR IDENT.

# PARTS LIST AND

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA131	Converter	2N370		
X2	2SA151	1st IF Amplifier	2N410		
X3	2SA151	2nd IF Amplifier	2N410		
X4	2SB153	AF Amplifier	2N408		
X5	2SB155	Driver	2N408		
X6	2SB156	Output	2N408		
X7	2SB156	Output	2N408		

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	LAFAYETTE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	30	3		PTT10	NLW30-6	MT1-13	PET130	MLV30-6	TE-1092
C2	30	3		PTT10	NLW30-6	MT1-13	PET130	MLV30-6	TE-1092
C3	10	3		PTT6	NLW10-6	MT1-5	TT3X10	MLV10-3	TE-1053
C4	6	3		PTT4	NLW6-15	MT1-5	TT10X6	MLV5-3	TE-1052.3
C5	30	3		PTT10	NLW30-6	MT1-13	PET130	MLV30-6	TE-1092
C6	6	3		PTT4	NLW6-15	MT1-5	TT10X6	MLV5-3	TE-1052.3
C7	30	3		PTT10	NLW30-6	MT1-13	PET130	MLV30-6	TE-1092
C8	100	3		PTT13	NLW100-3	MT1-18	TT6X100	MLV100-3	TE-1059.5
C9	100	3		PTT13	NLW100-3	MT1-18	TT6X100	MLV100-3	TE-1059.5

## 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.
C10 C11A B C D	7		NPO-DI 6.8		C10V7C	CCTO-6R8	CNO-568	10TCC-V68
C12	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C13	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C14	7		NPO-DI 6.8	DTZ-6R8	C10V7C	CCTO-6R8	CNO-568	10TCC-V68
C15	270		DI-270	DD-271	L10T27	CCD-271	GP327	10TS-T27
C16	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C17	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C18	.04							
C19	20		NPO-DI 20	DTZ-20	C10Q2C	CCTO-200	CNO-422	10TCC-Q20C
C20	.04							
C21	10		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C22	.04							
C23	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C24	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C25	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C26	.1		C80V104AM	DDA-104	H-05P1		TA-010	TG-P10

# DESCRIPTIONS

## CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	LAFAYETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	5000Ω	1/4						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	3900Ω				R14	200Ω			
R3	6800Ω				R15	22K			
R4	470Ω				R16	68K			
R5	2000Ω				R17	1000Ω			
R6	82K				R18	100Ω			
R7	150Ω				R19	8200Ω			
R8	12K				R20	27K			
R9	33K				R21	300Ω			
R10	300Ω				R22	1200Ω			
R11	390Ω				R23	500Ω			
R12	4700Ω				R24	6Ω			
R13	500Ω				R25	39Ω			

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		LAFAYETTE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1A	BC Loopstick						
B	SW Loopstick						
L2	BC Osc.						
L3	SW Osc.						
L4	1st IF						
L5	2nd IF						
L6	3rd IF						

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.8	1	AMT-47					

# PARTS LIST AND DESCRIPTIONS (Continued)

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
	PRI.	SEC.						
T2	120Ω CT	6-8Ω	AMT-48					

### SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				LAFAYETTE PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SP1	2½"	PM	6-8Ω			

### BATTERIES

ITEM No.	VOLTAGE	LAFAYETTE PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1.5V	UM-3A		930		1015		M-15R	2 Required

### SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	1N34A			1N34A	Osc. Limiter Overload Detector Output Bias Regulator
M3	1N34A			1N34A	
M4	1N34A			1N34A	
M5	HV15				

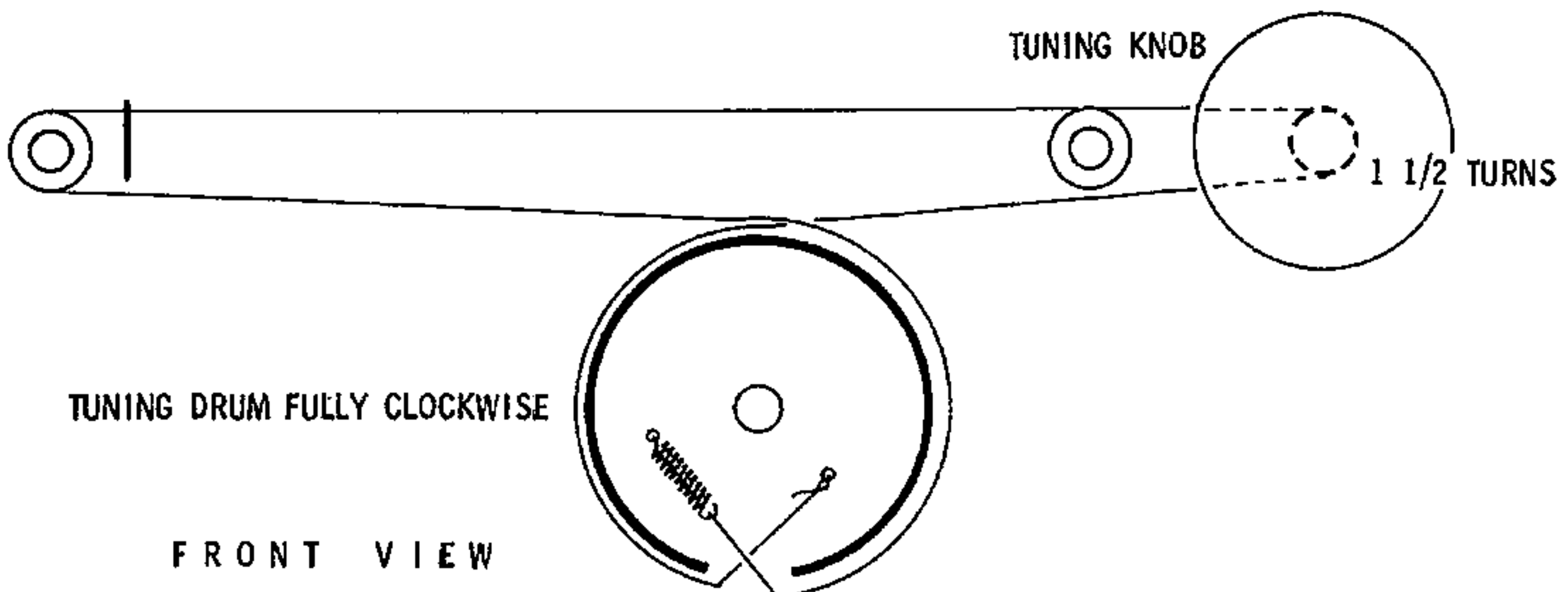
### MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
M6	Tuning Cap.		2 Gang

### WIRING DATA

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

## DIAL CORD STRINGING





**CHASSIS—TOP VIEW**

