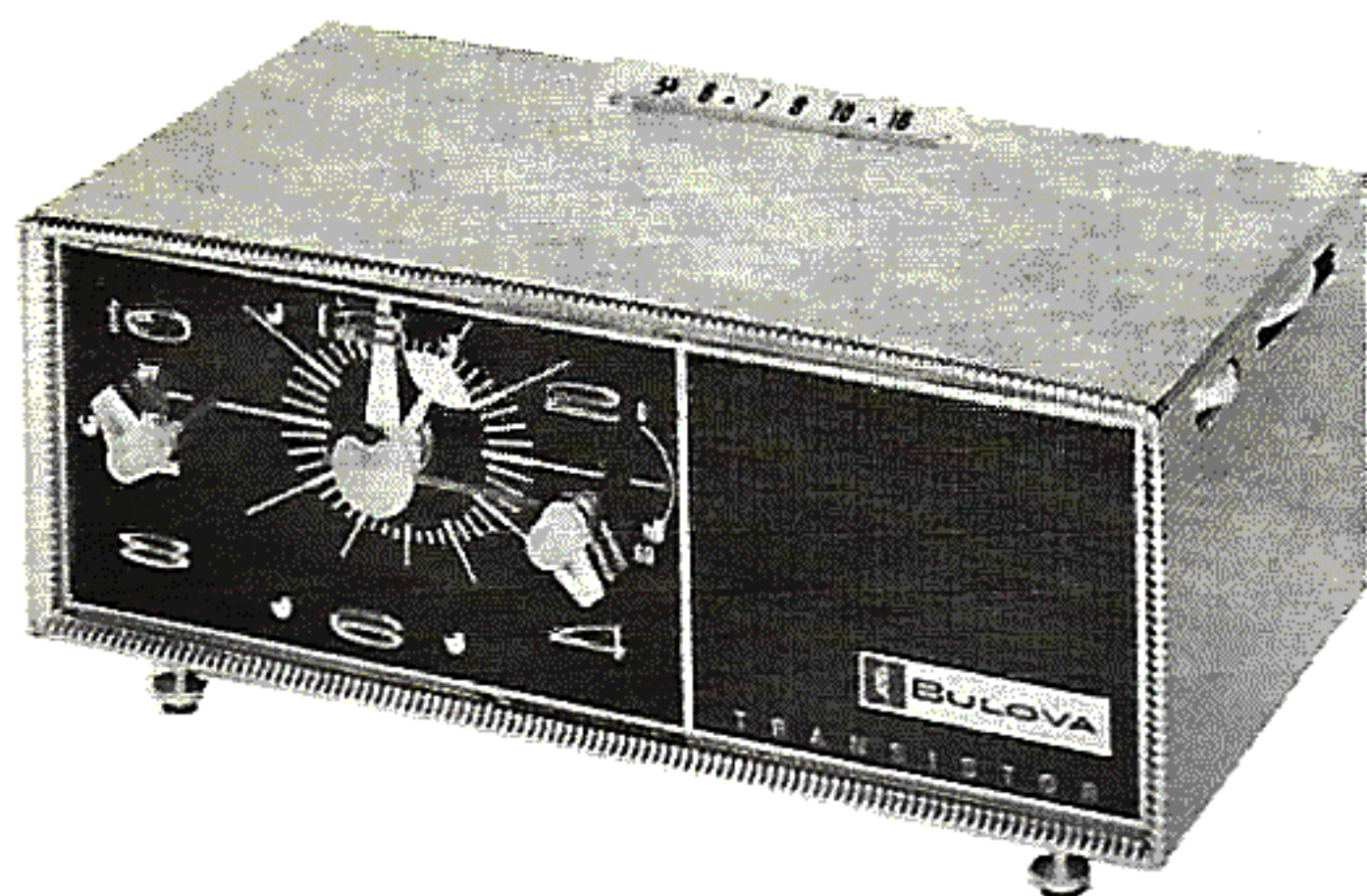


# PHOTOFACT<sup>®</sup> with

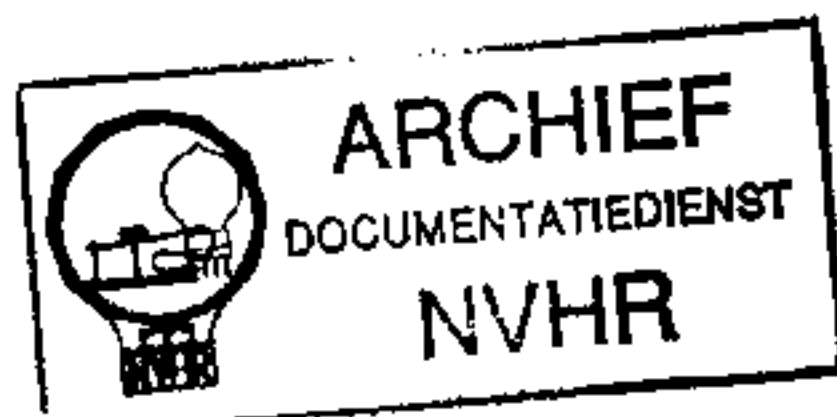
# CIRCUITRACE<sup>®</sup>

Met dank aan Jef Bos



**TRADE NAME:** Bulova Models 132, 134, 136, 137  
**SUPPLIER:** Bulova Watch Co., Inc.  
 Bulova Park, Flushing 70, N. Y.  
**TYPE SET:** Transistor AM Receiver with Clock  
**POWER SUPPLY:** 1.5 - 2.0 VDC AC. 60 Cycles  
**RATING:** 1 WATT (400% Mod. VAC)  
 2 MA @ 500 KC Signal, (Min. Volume)  
 20 MA @ 500 KC Signal (Normal Volume)  
**TUNING RANGE:** BROADCAST 535 - 1620 KC

Ned. Ver. v. Historie v/d

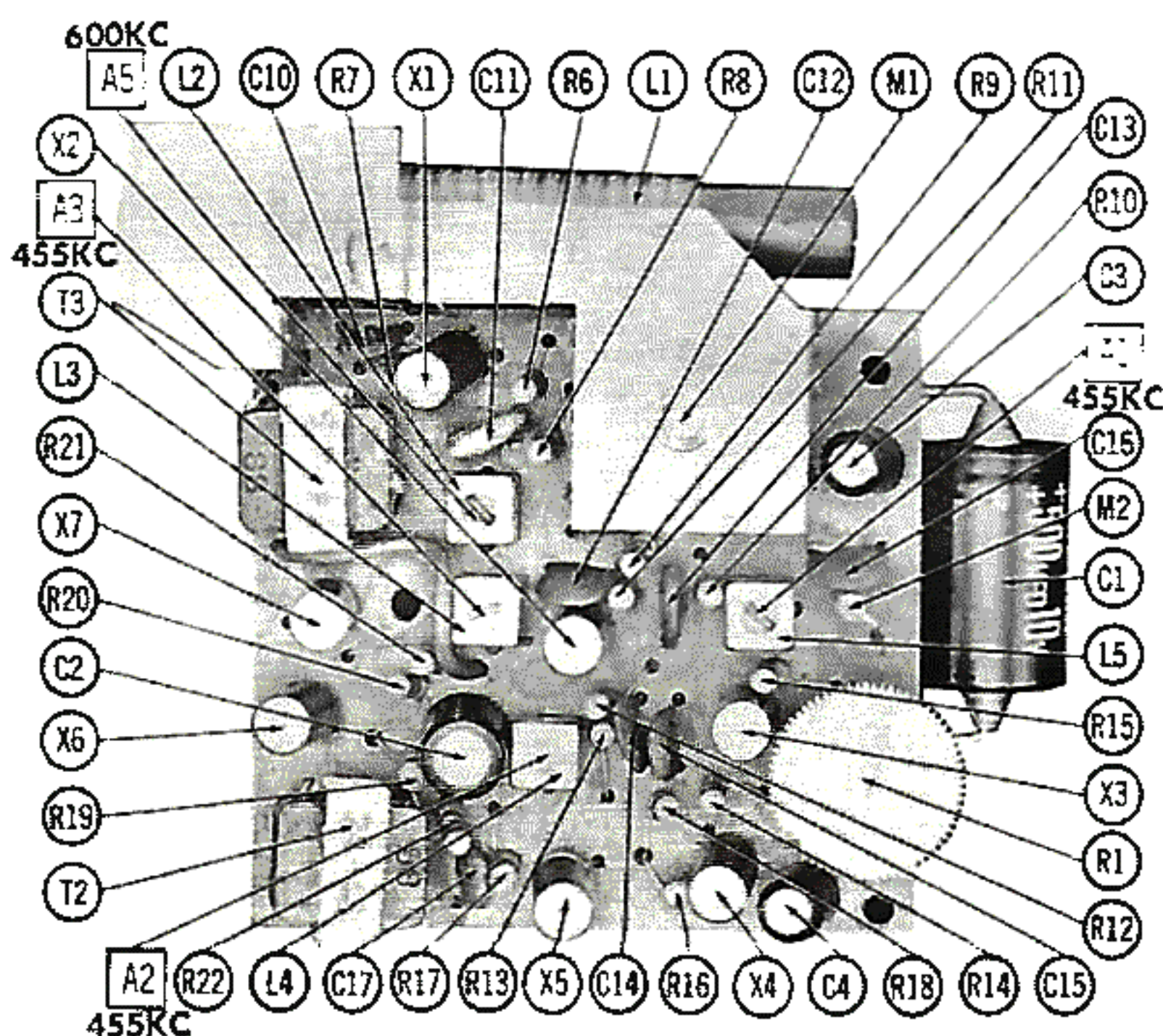


## ALIGNMENT INSTRUCTIONS

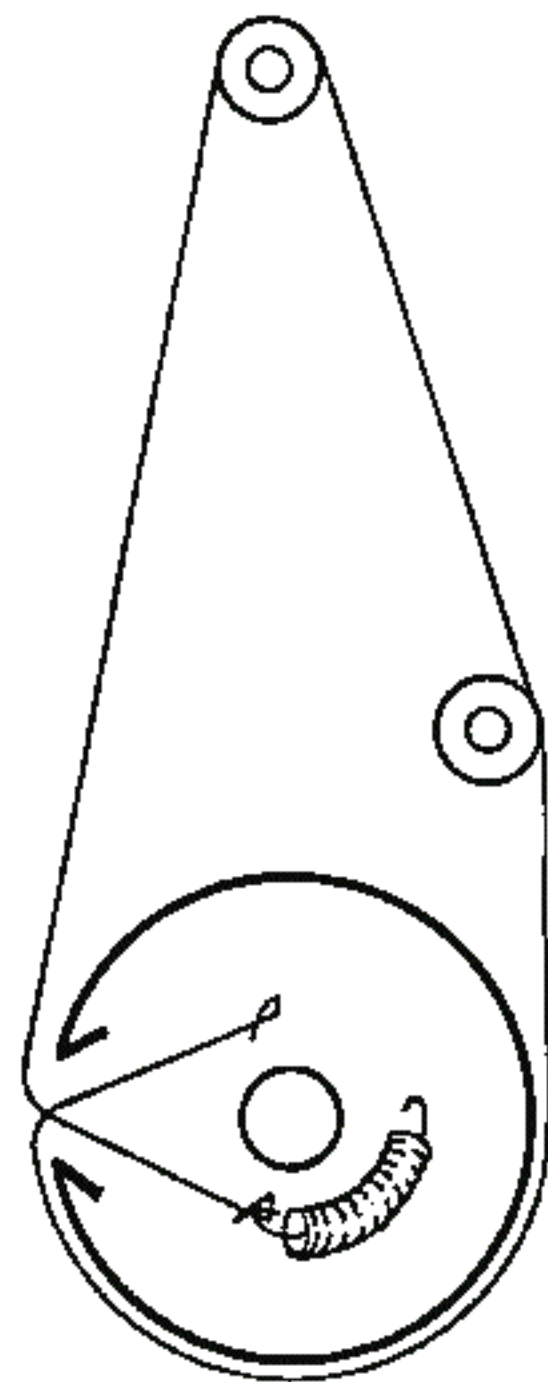
Check for specified source voltage.  
 Fashion loop of several turns of wire and connect generator across loop.  
 Adjust output of generator to radiate only enough signal into receiver to obtain a suitable indication.  
 Suggested Alignment Tools:

- A1, A2, A3, A5.....GENERAL CEMENT #5067, 8282, 8606  
 WALSCO #2526, 2543
- A4, A6.....GENERAL CEMENT #5000, 5066, 8290  
 WALSCO #2512, 2525, 2528

SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455KC (400% Mod.)	Tuning gang fully open.	Output Meter across voice coil.	A1, A2, A3	Adjust for maximum. Repeat as required.
2. 1620KC	"	"	A4	Adjust for maximum.
3. 600KC	Tune to Signal.	"	A5	Rock tuning gang and adjust for maximum. Repeat steps 2 and 3.
4. 1400KC	"	"	A6	Adjust for maximum.

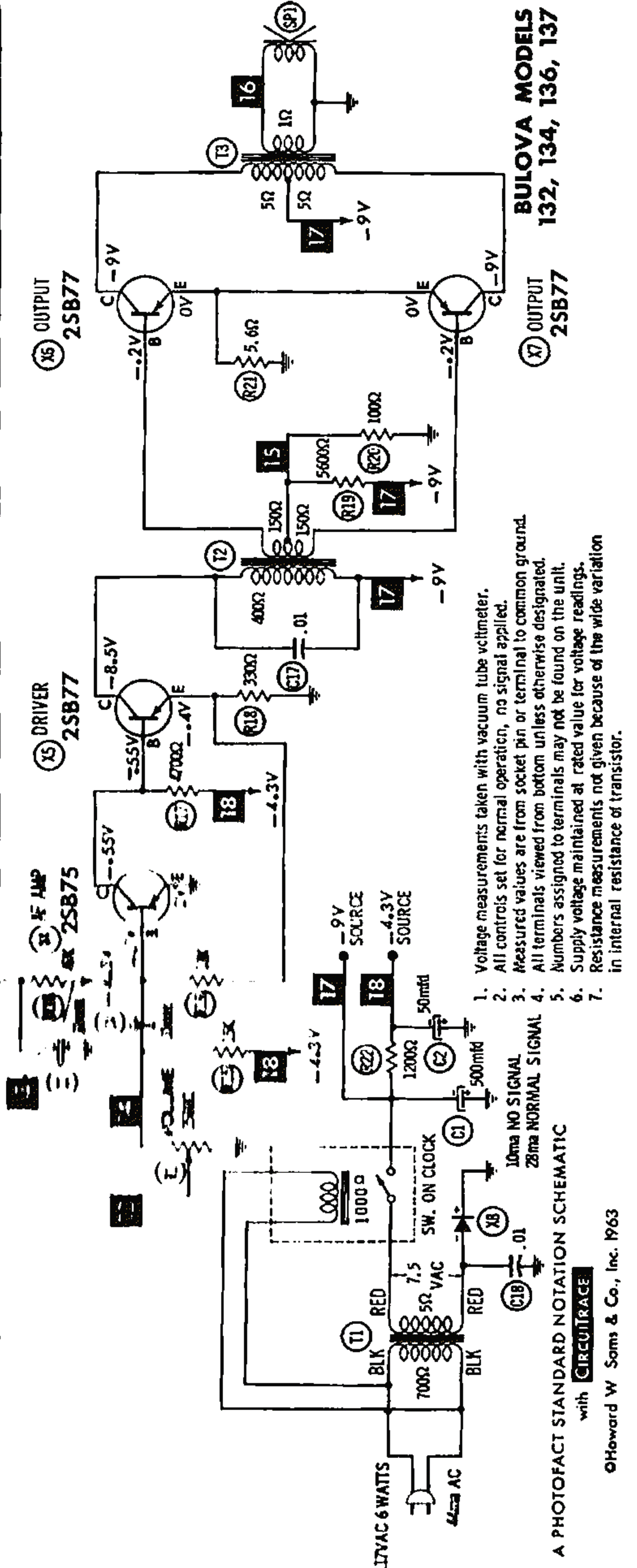
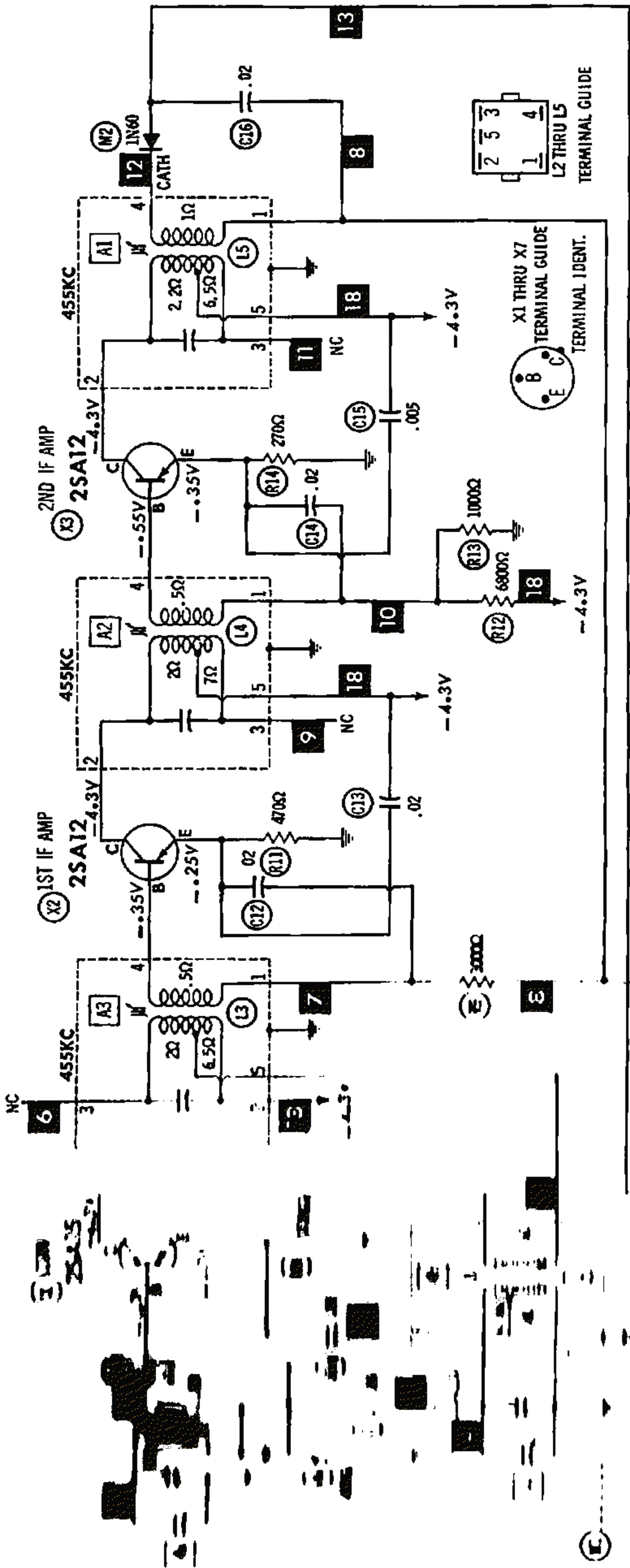


## DIAL CORD STRINGING



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





1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with **CIRCUTRACE**

**BULOVA MODELS**  
132, 134, 136, 137

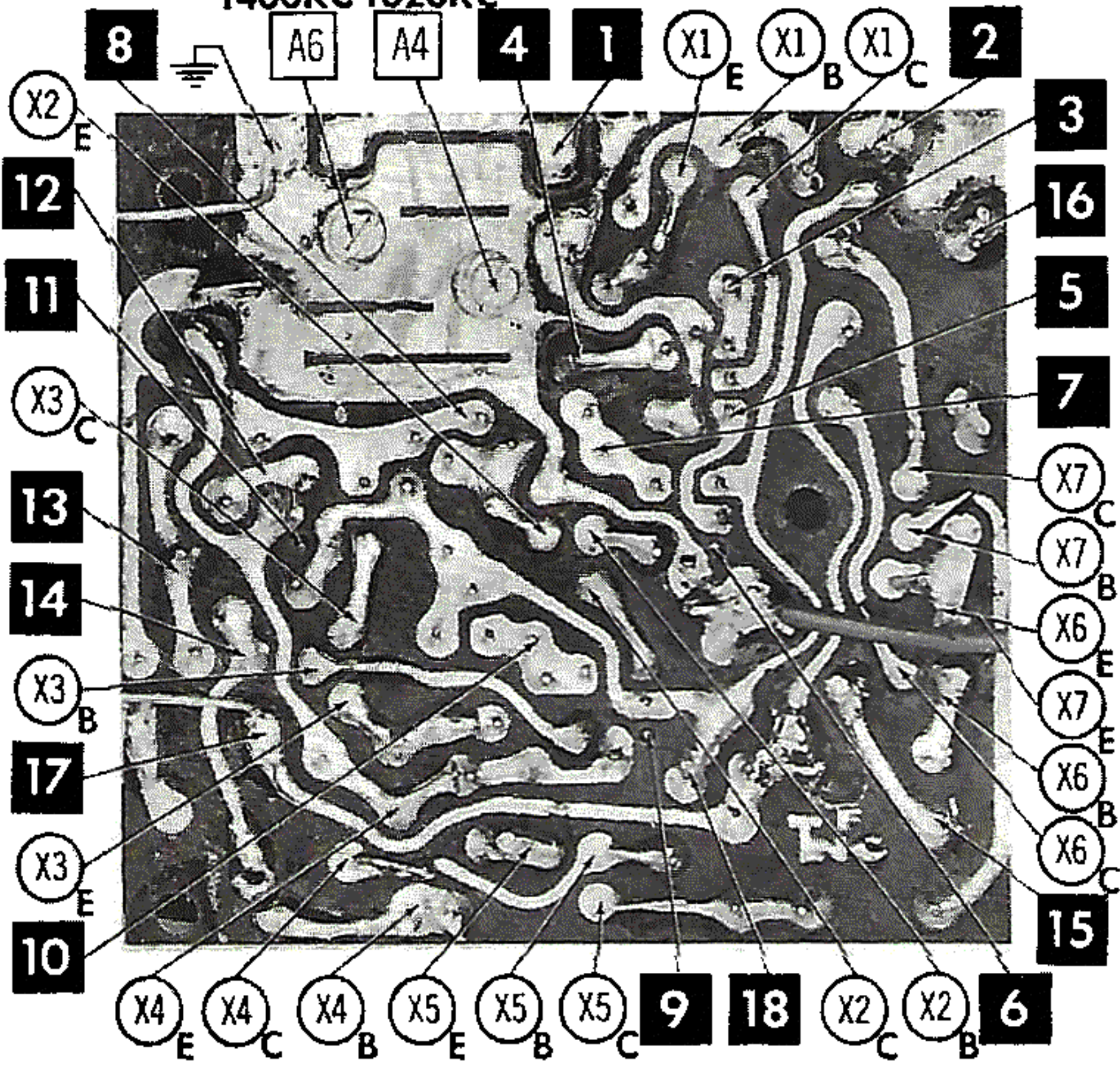
**X5 OUTPUT**  
2SB77

**X7 OUTPUT**  
2SB77





1400KC 1620KC





## WIRING DATA

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

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA15①	Converter	DS-25	GE-1	2N412	PNP
X2	2SA12②	1st IF Amplifier	DS-25	GE-1	2N410	PNP
X3	2SA12②	2nd IF Amplifier	DS-25	GE-1	2N410	PNP
X4	2SB75	AF Amplifier	DS-26	GE-2	2N408	PNP
X5	2SB77③	Driver	DS-26	GE-2	2N408	PNP
X6	2SB77④	Output	DS-26	GE-2	2N408	PNP
X7	2SB77④	Output	DS-26	GE-2	2N408	PNP

- ① Alternate Types 2N412, 2N486  
 ② Alternate Types 2N410, 2N483  
 ③ Alternate Types 2N408, 2N382  
 ④ Alternate Types 2N408, 2N632

## POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS		
			MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X8	85MA	B-25	1N537	1N2858	10H

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BULOVA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500	10	10-38	BCD12500	BR500-12				
C2	50	10	10-33	BCD10050	NLW50-15	MT1-16	MLV50-10		TE-1119
C3	10	10	10-34	BCD10010	ECPB408	MT1-5	MLV10-10	TT12X10	VL-1127
C4	10	10	10-34	BCD10010	ECPB408	MT1-5	MLV10-10	TT12X10	VL-1127

## 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	.01		TTD-01	CK-103	H2			TA-110	TG-S10
C11	.005		TTD-005	CK-502	H1			TA-250	TG-D50
C12	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C13	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C14	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C15	.005		TTD-005	CK-502	H1			TA-250	TG-D50
C16	.02		TTD-02	CK-203	H3			TA-120	TG-S20
C17	.01		TTD-01	CK-103	H2			TA-110	TG-S10
C18	.01		TTD-01	CK-103	H2			TA-110	TG-S10

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			BULOVA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	2500Ω	22-22				

# DESCRIPTION

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BULOVA PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Loopstick	60-23					
L2	Osc.	20-17					
L3	1st IF	24-43					
L4	2nd IF	24-44					
L5	3rd IF	24-45					

## TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	BULOVA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC ②.044A AC	7.5VAC ②.085A AC		24-50					

## 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.	
T2	1.3	1	24-46					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	BULOVA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	200Ω CT	6-8Ω	24-49					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		BULOVA PART No.	QUAM PART No.	
SP1	2 1/4" PM 6-8Ω	26-27	22A06Z8	

## MISCELLANEOUS

ITEM No.	PART NAME	BULOVA PART No.	NOTES
M1	Tuning Cap	12-23	
M2	Detector (1N60)	21-1	

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Tuning	78-71	Cabinet Assembly, less Bezel	70-97
Knob - Volume	78-72	Bezel	72-44
Knob - Clock	82-2	Clock, Specify Dial Color	80-30