

PHOTOFACT* Folder

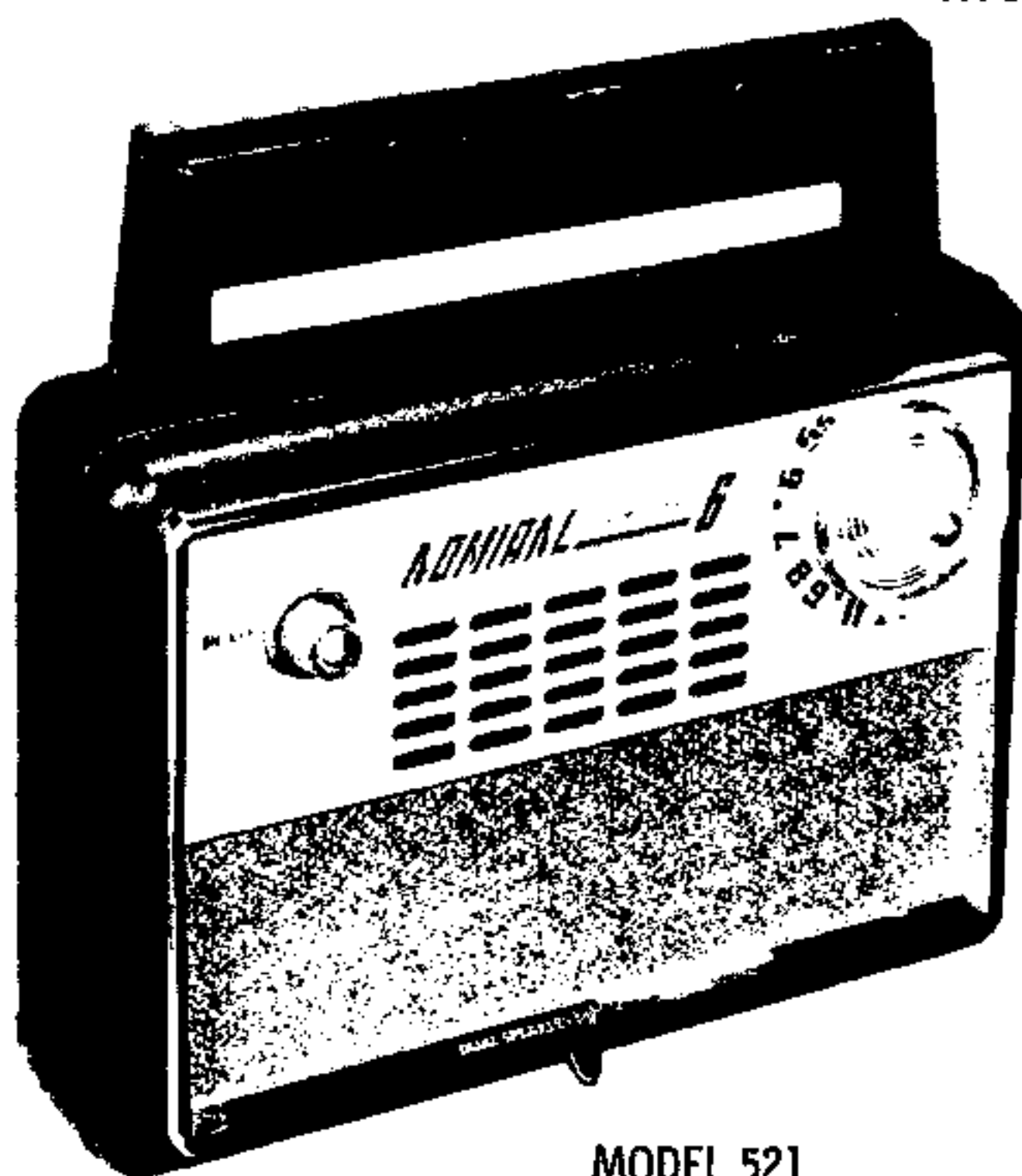


with **CIRCUITRACE™**

**ADMIRAL MODELS 521,
528 (Ch. 6T2)**

Met dank aan Jef Bos

. Ver. v. Historie v/d Radio



MODEL 521

TRADE NAME	Admiral Models 521, 528 (Ch. 6T2)	
MANUFACTURER	Admiral Corp., 3800 W. Cortland St., Chicago 47, Illinois	
TYPE SET	Battery Operated Portable Transistorized AM Receiver	
POWER SUPPLY	12 Volts DC	RATING 8.5MA @ 12 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	535-1600KC	10MA @ 12 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Tuning control should be at maximum position. Output of signal generator should be no higher than necessary to obtain maximum output reading.

Suggested Alignment Tools: A1, A2, A3 ... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987
WALSCO #2531
A4, A5 GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520
A6 GENERAL CEMENT #8606, 8606L, 8282, 9295
WALSCO #2526, 2543, 2544, 2545

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
-	Loop	455KC (400% 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	"	1620KC	"	"	A4	"
3	"	1400KC	Tune to 1400KC signal	"	A5	Adjust for maximum output. Repeat steps 2 and 3.
4	"	600KC	Tune to 600KC signal	"	A6	Adjust for maximum output while rocking tuning gang.

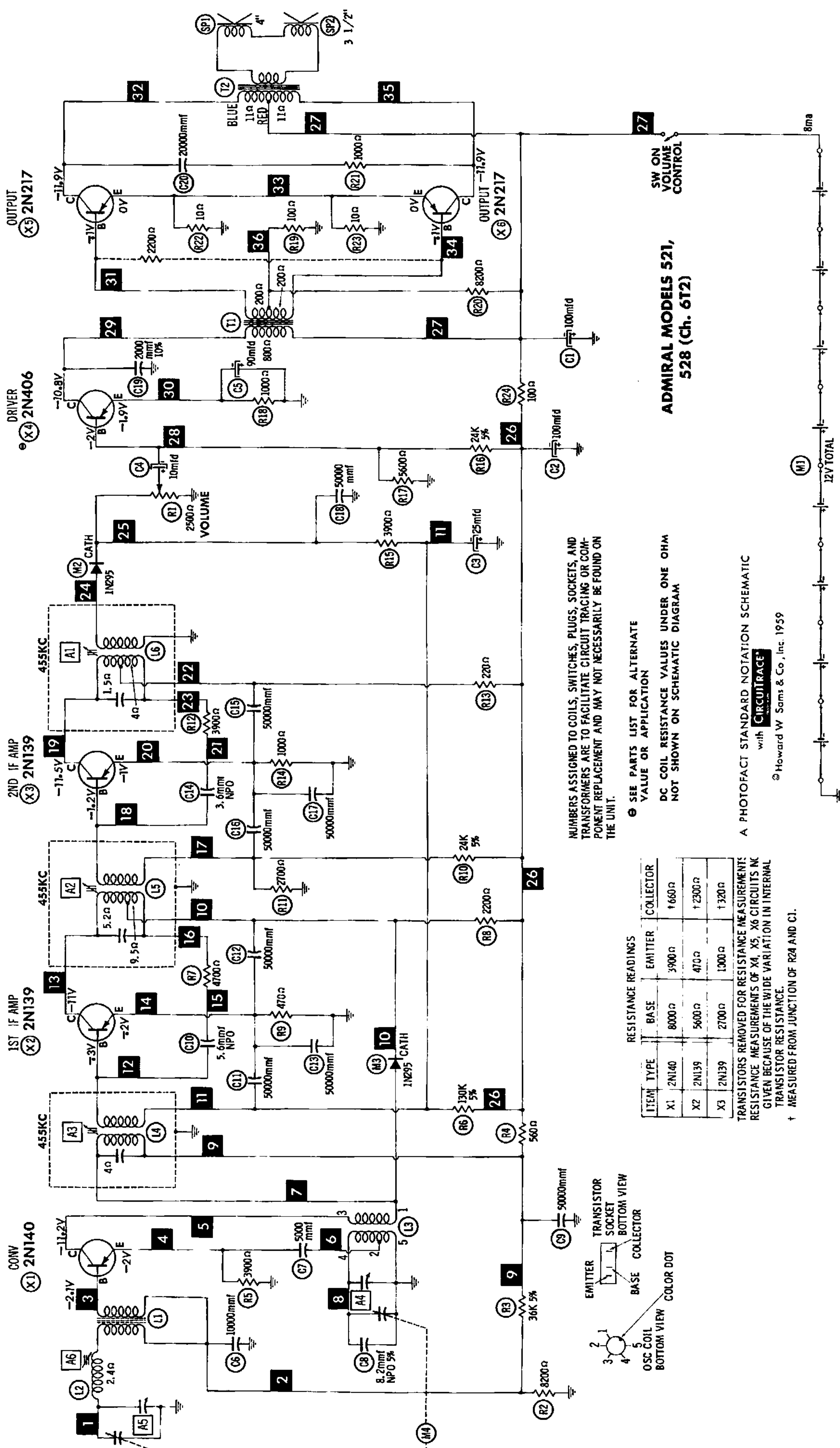
DISASSEMBLY

1. Remove tuning and volume knobs by pulling off.
2. Open rear cover of cabinet by pulling on top rear.
3. Remove battery case from two spring clamps.
4. Loosen 2 phillips head screws from front of cabinet near tuning shaft.
5. Loosen hex nut holding volume control to cabinet.
6. Hold printed board and remove screws and nut previously loosened.
7. Remove printed board from cabinet.

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

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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.

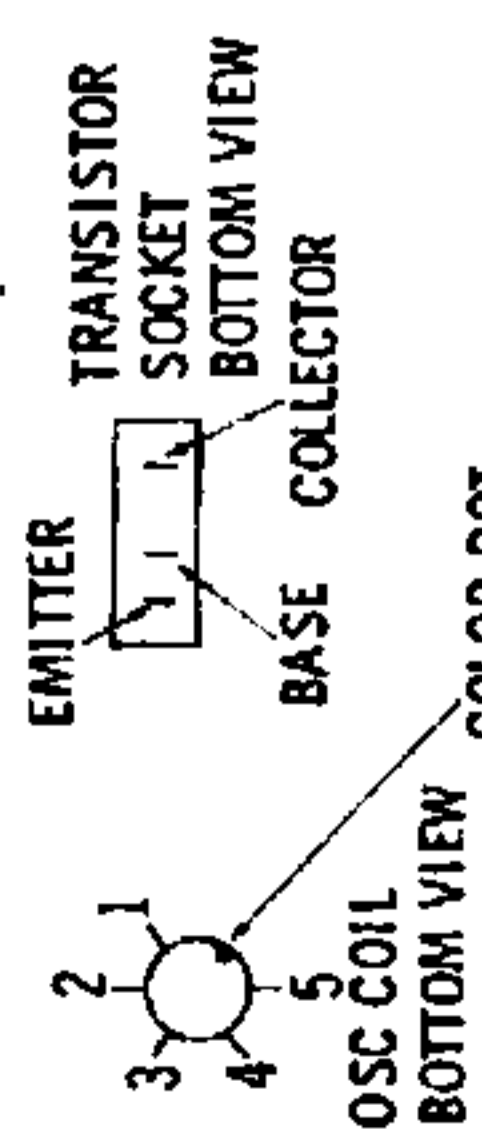
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

RESISTANCE READINGS

ITEM	TYPE	BASE	EMITTER	COLLECTOR
X1	2N140	8000Ω	3900Ω	1660Ω
X2	2N139	5600Ω	470Ω	12300Ω
X3	2N139	2700Ω	1000Ω	1320Ω

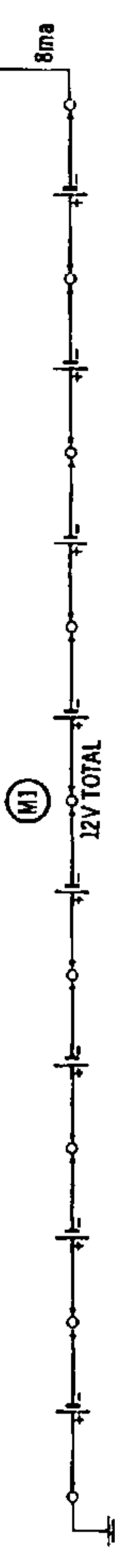
TRANSISTORS REMOVED FOR RESISTANCE MEASUREMENTS: RESISTANCE MEASUREMENTS OF X4, X5, X6 CIRCUITS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.
 † MEASURED FROM JUNCTION OF R24 AND C1.



ADMIRAL MODELS 521, 528 (Ch. 6T2)

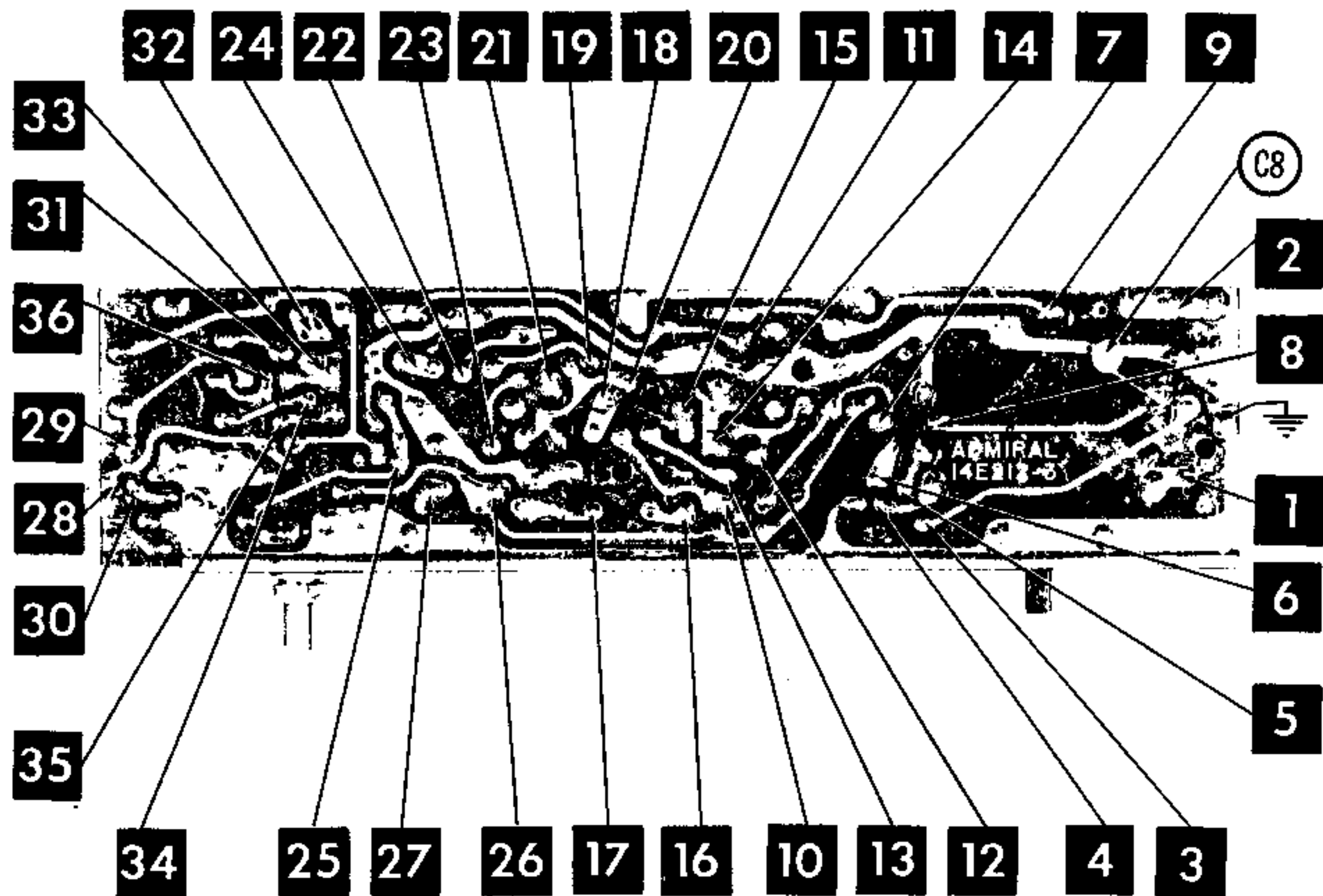
A PHOTOFACSTANDARD NOTATION SCHEMATIC with CIRCUITRACE

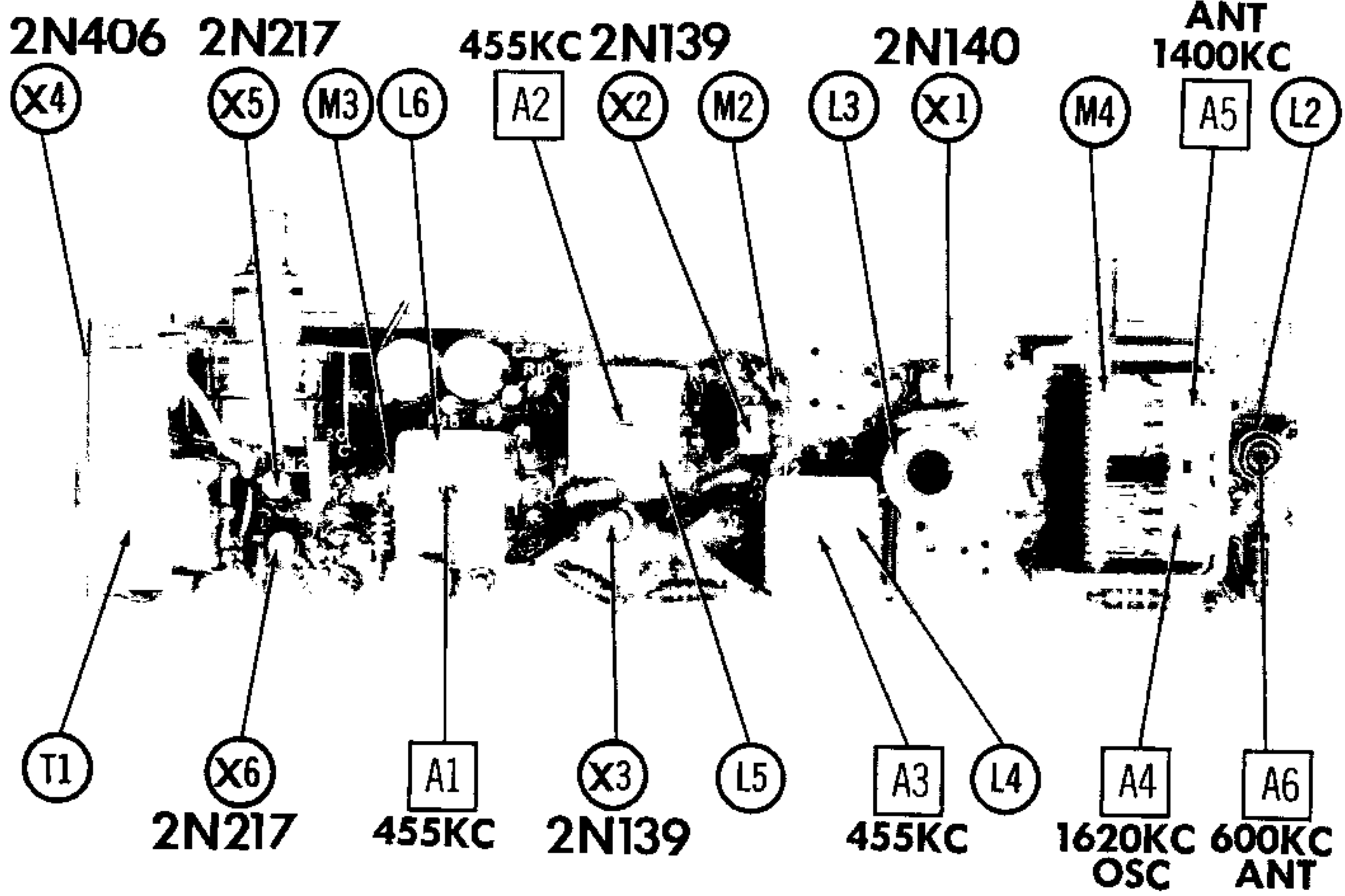
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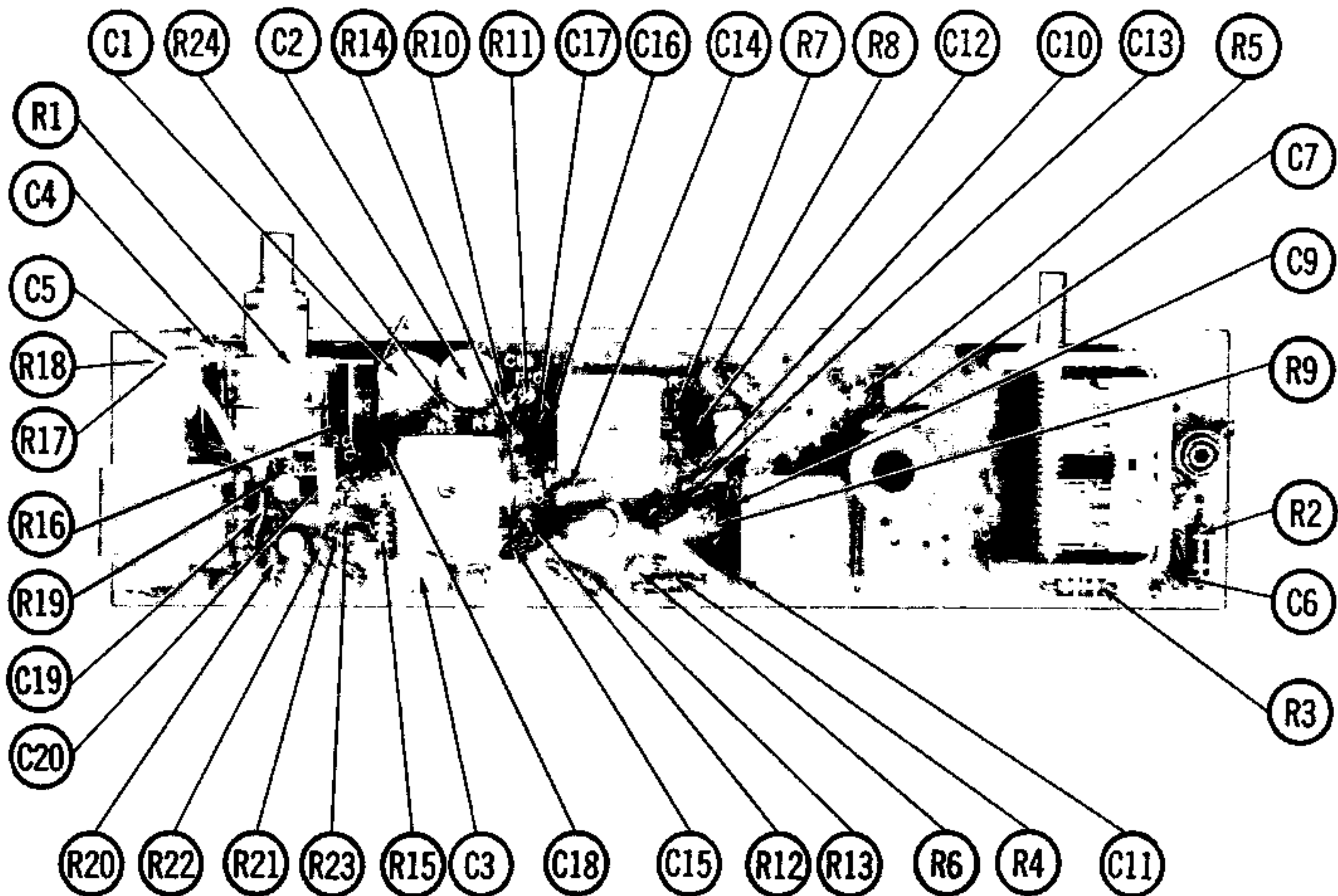
PRINTED BOARD

A Howard W. Sams **CIRCUITRACE** Photo





CHASSIS TOP VIEW



CHASSIS TOP VIEW

TRANSISTORS

ITEM No.	ORIG TYPE	USE	REPLACEMENT DATA				NOTES
			CBS PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N140	Converter		2N140	2N486	2N140	PNP
X2	2N139	1st IF Amp.		2N139	2N483	2N139	PNP
X3	2N139	2nd IF Amp.		2N139	2N48	2N139	PNP
X4	2N406*	Driver		2N406	2N362	2N406	PNP
X5	2N217	Output		2N217	2N361	2N417	PNP
X6	2N217	Output		2N217	2N361	2N417	PNP Matched

* Some versions may use 2N217 in this application.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	ADMIRAL PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.	
C1	100	12	67B32-6	BCD10100	ECPA317	PET1500	ML100-15	VL-1140	
C2	100	12	67B32-6	BCD10100	ECPA317	PET1500	ML100-15	VL-1140	
C3	25	3	67B22-13	SRE3V25	ECPA11	PET130	ML25-3	VL-1041	
C4	10	3	67B35-6	PWE3010	NL10-3	TT3X10	ML10-6	TE-1053	
C5	90	3	67B32-10	SRE3V100	ECPA17	TT3X10	ML100-3	VL-1051	

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			REPLACEMENT DATA						NOTES
	CAP.	VOLT	TOL	ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C6	10000			65D10-41	BPD-01	DD-103	BYA10S1	B-110	5HK-S1	
C7	5000			65D10-152	BPD-005	DD-502	BYA10D5	B-250	5HK-D5	
C8	8.2		NPO 5%	65D10-131			C10V82C			
C9	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C10	5.6		NPO	65D6-136						
C11	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C12	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C13	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C14	3.6		NPO	65D6-135						
C15	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C16	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C17	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C18	50000			65B45-6	BPD-05	DF-503		TA-150	5HK-S5	
C19	2000		10%	65D10-125	BPD-002	DD-202		B-220	5HK-D2	
C20	20000			65D10-37	BPD-02	DD-203		B-120	5HK-S2	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	ADMIRAL PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1	2500Ω	1/3	75C25-9					Volume & Switch

DESCRIPTIONS

RESISTORS

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

ITEM No.	RATING		ADMIRAL PART No.	NOTES	ITEM No.	RATING		ADMIRAL PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R2	8200Ω		60B8-822		R14	1000Ω		60B8-102	
R3	36K 5%		60B7-363		R15	3900Ω		60B8-392	
R4	560Ω		60B8-561		R16	24K 5%		60B7-243	
R5	3900Ω		60B8-392		R17	5600Ω		60B8-562	
R6	130K 5%		60B7-134		R18	1000Ω		60B8-102	
R7	4700Ω		60B8-472		R19	100Ω		60B8-101	
R8	2200Ω		60B8-222		R20	8200Ω		60B8-822	
R9	470Ω		60B8-471		R21	1000Ω		60B8-102	
R10	24K 5%		60B7-243		R22	10Ω		60B8-100	
R11	2700Ω		60B8-272		R23	10Ω		60B8-100	
R12	3900Ω		60B8-392		R24	100Ω		60B8-101	
R13	220Ω		60B8-221						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		ADMIRAL PART No.	Gramer PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	
L1	Loopstick	69B225-3					
L2	Ant. Coil	69B224-1					
L3	Osc. Coil	69B223-2					
L4	1st IF Trans.	72C190-4					
L5	2nd IF Trans.	72C190-5					
L6	3rd IF Trans.	72C190-6					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES	
			ADMIRAL PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.		Triad PART No.
	PRI.	SEC.							
T1	1.2 :	1	79B78-1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES	
			ADMIRAL PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.		Thordarson PART No.
	PRI.	SEC.							
T2	530Ω CT	6-8Ω	Part of SP1						

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
				ADMIRAL PART No.	QUAM PART No.	
	SIZE	FIELD	V. C. IMP.			
SP1	4"	PM	4-8Ω	78C145-2 ①	4A1Z4.5	① Includes T2
SP2	3½"	PM	2-4Ω	78B144-1	3A07	

PARTS LIST AND DES

BATTERIES

ITEM No.	VOLTAGE	ADMIRAL PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	12V			1 Ⓛ		935 Ⓛ		M-14RⓁ	Ⓛ 8 used.

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		ADMIRAL PART No.	CBS PART No.	SYLVANIA PART No.	
M2	1N295	1N295	1N60	1N295	Detector (Pigtail) AVC Rectifier (Pigtail)
M3	1N295	1N295	1N60	1N295	

MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M4	Tuning Cap. Printed Board	68B66-3 14E212-3	2 Gang (Ant. 273.3mmf max., Osc. 102.1mmf max.)

RIPTIONS (Continued)

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Knob	33C279-5	Tuning, Includes Compression Ring
Knob	33B278-1	Volume On-Off, Includes Compression Ring
Cabinet	34E133-1	Less Handle, Escutcheon and Grille, Model 521
Cabinet	34E133-2	Less Handle, Escutcheon and Grille, Model 528
Handle Half	33D234-2	Tongue
Handle Half	33D234-4	Groove
Antenna Case	A5834-2	Includes Eyelet
Antenna Cover	33D234-6	

WIRING DATA

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