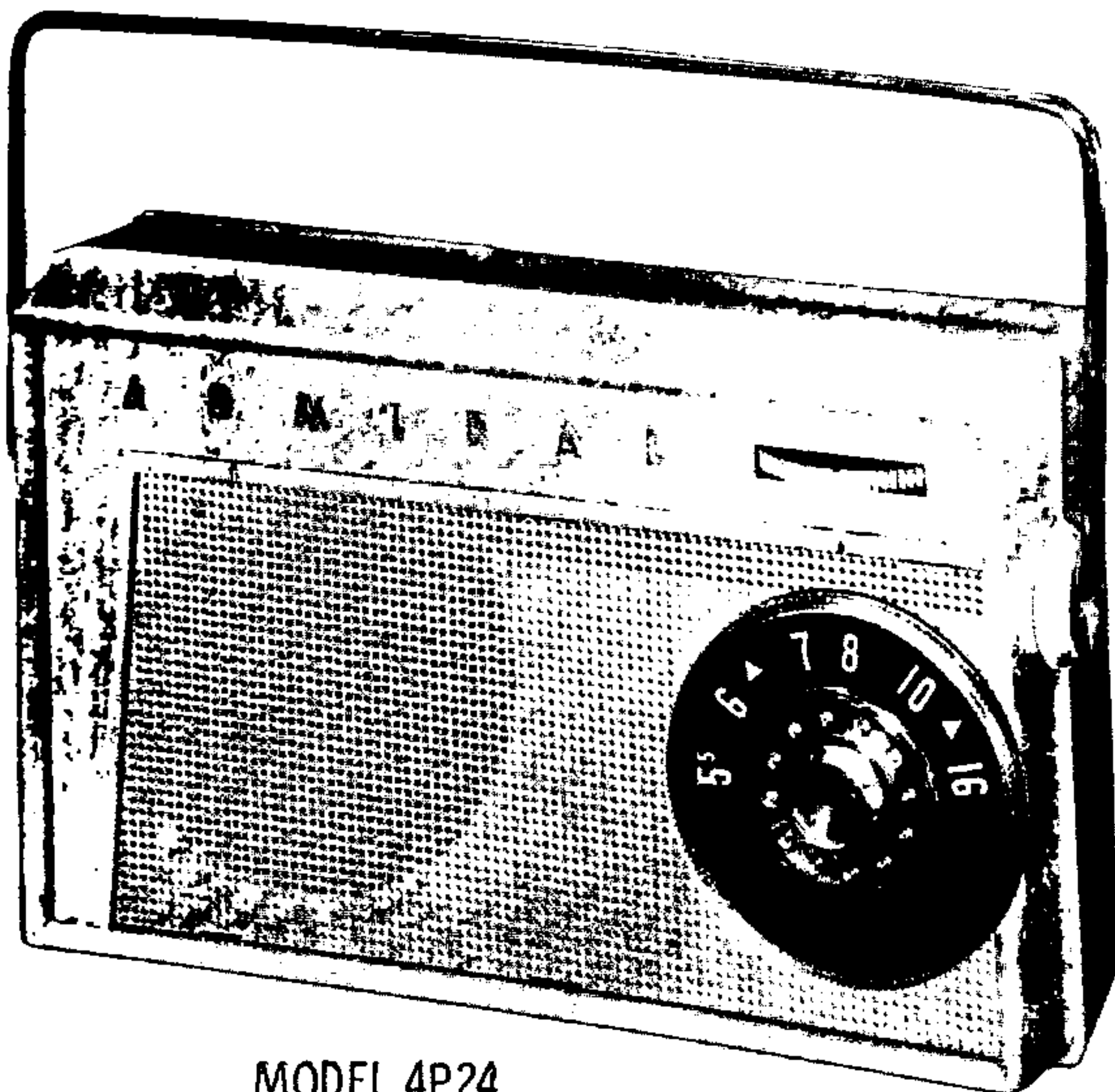




Met dank aan Jef Bos



MODEL 4P24

Ned. Ver. v. Histo

TRADE NAME Admiral Models 4P21, 4P22, 4P24, 4P28 (Chassis 4P2)
MANUFACTURER Admiral Corp., 3800 W. Cortland St., Chicago 47, Illinois
TYPE SET Battery Operated Portable AM Transistorized Receiver

POWER SUPPLY 6 Volts DC **RATING** 18MA @ 6 Volts DC
TUNING RANGE—BROADCAST 535KC - 1620KC



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 an **exact** reading. Use an insulated alignment screwdriver for adjusting.

ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
	Loop	455KC (400v 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.
1	"	1620KC	"	"	A4	Adjust for maximum output. Repeat step 1 until no further increase is obtained.
2	"	1400KC	Tune to 1400KC signal	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

The following step is not necessary unless it is impossible to tune in 535KC. Preset oscillator trimmer (A4) 1/4 turn from **right**.

4	Loop	535KC	Tuning gang fully closed	Across voice coil	A6	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output. Repeat steps 2 & 4 (with step 2 last) until required range can be covered. Also repeat steps 3 & 1 in that order.
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HOWARD W. SAMs & CO., INC. • Indianapolis 5, Indiana

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PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

REPLACEMENT DATA

ITEM No.	PART NAME		ADMIRAL PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
	TYPE	SIZE					
11	4000	1400	70000 5 70000 5	00000 1 00000 1		11 11 11 11	1 new center tap for primary Alternate Part No.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		ADMIRAL PART No.	QUAM PART No.		
BP1	2 3/4" PM	140	78D125		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		ADMIRAL PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Loop Stick	69C218-2				
L2	Osc. Coil	69B213-2				
L3	1st. IF	72C182-1		BC-321		
L4	2nd. IF	72C182-2		BC-322		
L5	3rd. IF	72C182-3		BC-323		

BATTERIES

ITEM No.	VOLTAGE	ADMIRAL PART No.	REPLACEMENT DATA								NOTES
			BURGESS		EVEREADY		MALLORY		RAY-O-VAC		
			"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	
M1	6V		Z		915 or Mercury E502		M-15 or Mercury ZM-9		7-R		Connect 4 cells in series.

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		ADMIRAL PART No.	CBS PART No.	SYLVANIA PART No.	
M2	1N295		1N60	1N60	Audio Det. Limiter
M3	1N295		1N60	1N60	

MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M4	Tuning Cap.	68B67-1	2 Gang (Ant. 8-130MMF)

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Knob	33C217-1	Tuning
Knob	33C217-2	On-Off-Volume, Black; Model 4P21
Knob	33C217-3	On-Off-Volume, Red; Model 4P22
Knob	33C217-4	On-Off-Volume, Tan; Model 4P24
Knob	33C217-5	On-Off-Volume, Turquoise; Model 4P28
Cabinet (Back Ass'y)	A5649	Black; Model 4P21
Cabinet (Back Ass'y)	A5582	Red; Model 4P22
Cabinet (Back Ass'y)	A5650	Tan; Model 4P24
Cabinet (Back Ass'y)	A5651	Turquoise; Model 4P28
Cabinet (Front)	34E115-1	Black; Model 4P21
Cabinet (Front)	34E115-2	Red; Model 4P22
Cabinet (Front)	34E115-4	Tan; Model 4P24
Cabinet (Front)	34E115-8	Turquoise; Model 4P28
Cover	A5645	Battery Compartment, Black; Model 4P21
Cover	A5583	Battery Compartment, Red; Model 4P22
Cover	A5646	Battery Compartment, Tan; Model 4P24
Cover	A5647	Battery Compartment, Turquoise; Model 4P28
Handle	37A155-2	Chrome
Earphone Jack	88B39-3	

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

AT
MODEL

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			CBS PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N219	Converter		2N112		
X2	2N218	1st. IF Amplifier		2N11A		
X3	2N218	2nd. IF Amplifier		2N11A		
X4	2N217	Output		2N138A		

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.	SANGAMO PART No.	
C1	40	3	67B32-9	XPP3V40	NL40-3	TT3X40	ML40-6		TE-1057
C2	90	3	67B32-10	XPP3V100	NL100-6		ML100-3		TE-1102
C3	10	3	67B35-6	XPP3V10	NL10-3	TT3X10	ML10-6		TE-1053
C4	10	6	67B35-7	XPP6V10	NL10-6	TT6X10	ML10-6		TE-1087
C5	60	6	67B32-8	XPP6V60	NL60-6	TT6X60	ML75-6		TE-1101
C6	60	6	67B32-8	XPP6V60	NL60-6	TT6X60	ML75-6		TE-1101
C7	150	3	67B32-12	PWE3V200	NL200-3				R2427 *

* Non Catalog Item

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.	ADMIRAL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	
C8	50000		65B45-2	BPD-05	DF-503				5HK-S5
C9	10000		65D10-14	BPD-01	DD-103	BYA6SI	ED-01	DC511	6HK-S1
C10	50000		65B45-2						
C11	8.2		65D10-131	NPO-SI 8.2		C10V82C	TCO-8.2		
C12	9		65D6-126						
C13	50000		65B45-2						
C14	50000		65B45-2						
C15	50000		65B45-2						
C16	5		65D12-7	SI 5	D6-500	LT6V5	GP-5	UC-556	5GA-V5
C17	50000		65B45-2						
C18	20000		65B45-4						
C19	50000		65B45-2						
C20	100000		65B45-10						5HK-P1

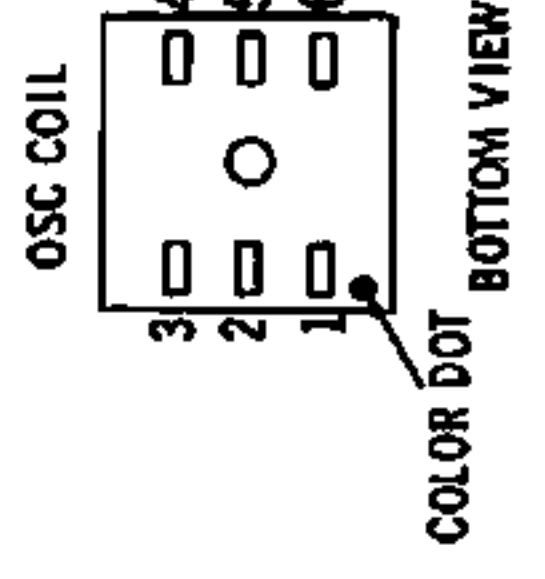
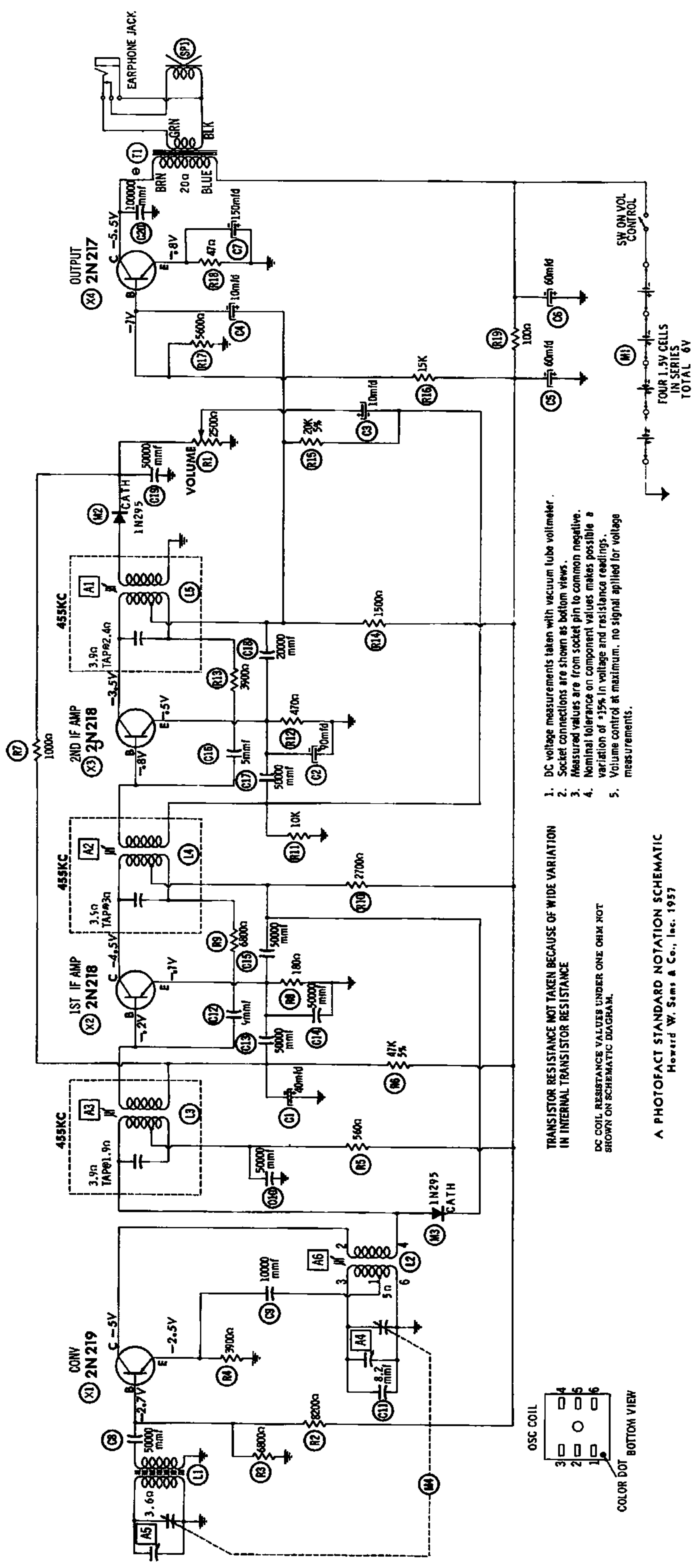
CONTROLS

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	1/4	75B38-1					Volume & Switch

RESISTORS

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

ITEM No.	RATING		REPLACEMENT DATA		NOTES	ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	ADMIRAL PART No.	IRC PART No.			OHMS	WATT	ADMIRAL PART No.	IRC PART No.	
R2	8200Ω		60B8-822	BTS-8200		R11	10K		60B8-103	BTS-10K	
R3	6800Ω		60B8-682	BTS-6800		R12	470Ω		60B8-471	BTS-470	
R4	3900Ω		60B8-392	BTS-3900		R13	3900Ω		60B8-392	BTS-3900	
R5	560Ω		60B8-561	BTS-560		R14	1500Ω		60B8-152	BTS-1500	
R6	47K	5%	60B7-473	BTS-47K 5%		R15	20K	5%	60B7-203	BTS-20K 5%	
R7	1000Ω		60B8-102	BTS-1000		R16	15K		60B8-153	BTS-15K	
R8	180Ω		60B8-181	BTS-180		R17	5600Ω		60B8-562	BTS-5600	
R9	6800Ω		60B8-682	BTS-6800		R18	47Ω		60B8-470	BTS-47	
R10	2700Ω		60B8-272	BTS-2700		R19	100Ω		60B8-101	BTS-100	



TRANSISTOR RESISTANCE NOT TAKEN BECAUSE OF WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE

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

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 negative.
4. Nominal tolerance on component values makes possible a variation of $\pm 35\%$ in voltage and resistance readings.
5. Volume control at maximum. no signal applied for voltage measurements.

A PHOTOFACCT STANDARD NOTATION SCHEMATIC
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SW ON VOL CONTROL
FOUR 1.5V CELLS IN SERIES TOTAL 6V