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PHOTOFACT® Folder

with CIRCUITRACE®

MORROW MODEL
VP-100-4A



MORROW MODEL
VP-100-4A

TRADE NAME	Morrow Model VP-100-4A		
MANUFACTURER	Morrow Radio Mfg. Co., 2794 Market Street, N. E., Salem, Oregon		
TYPE SET	Battery Operated Transistorized Portable Citizens Band Transmitter-Receiver		
POWER SUPPLY	9 Volts DC	RATING	10 MA @ 9 Volts DC (Receive) 40 MA @ 9 Volts DC (Transmit)
TUNING RANGE	Any one of Citizens Band Channels 1 thru 22		

NOTICE

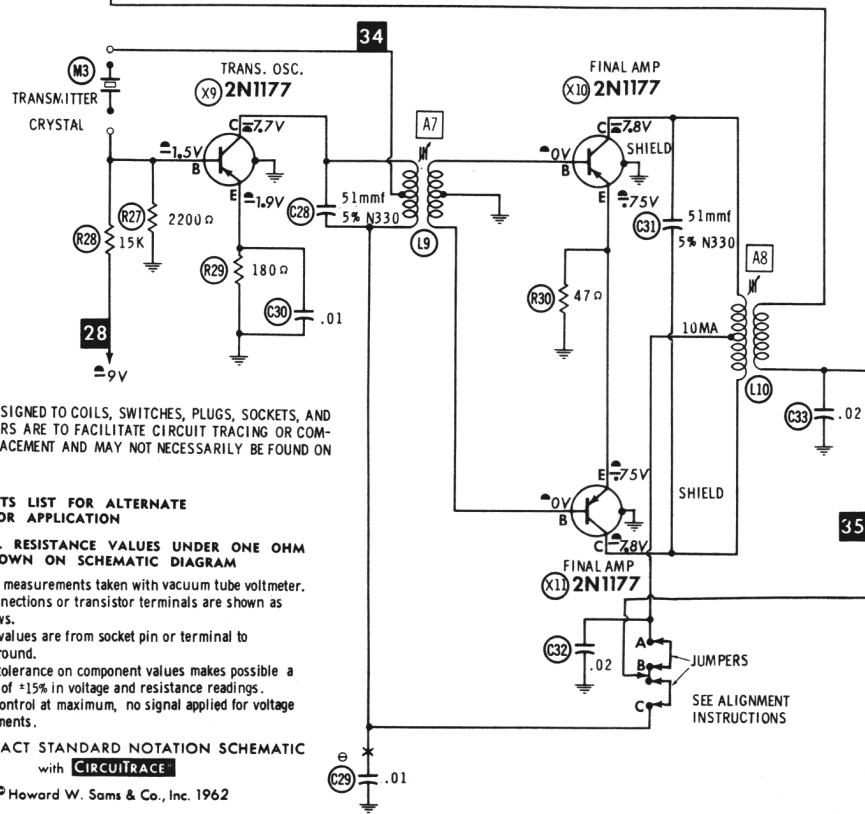
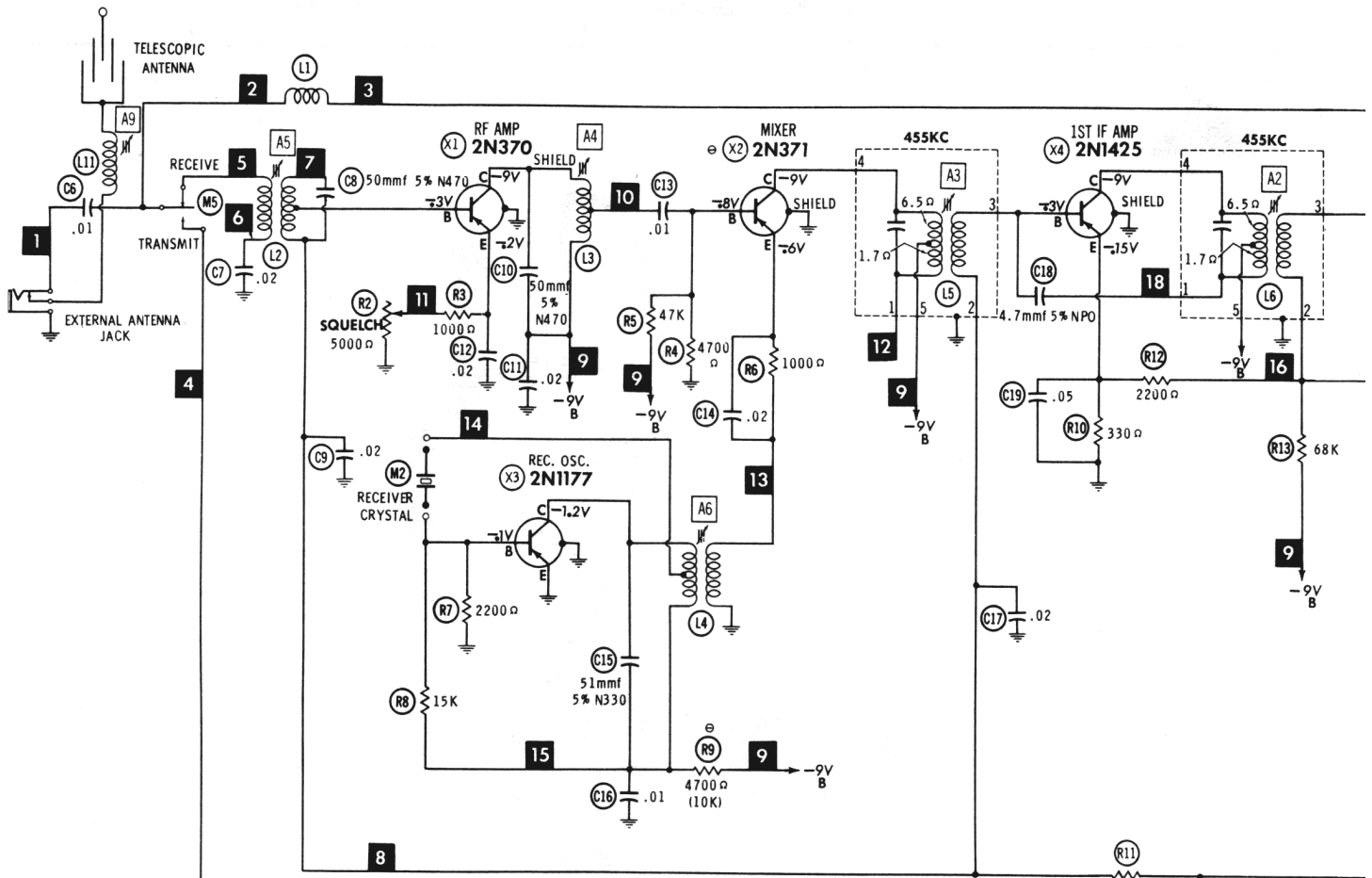
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71).

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



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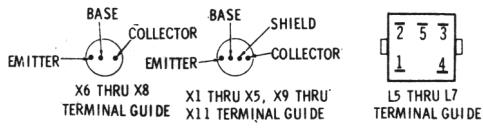
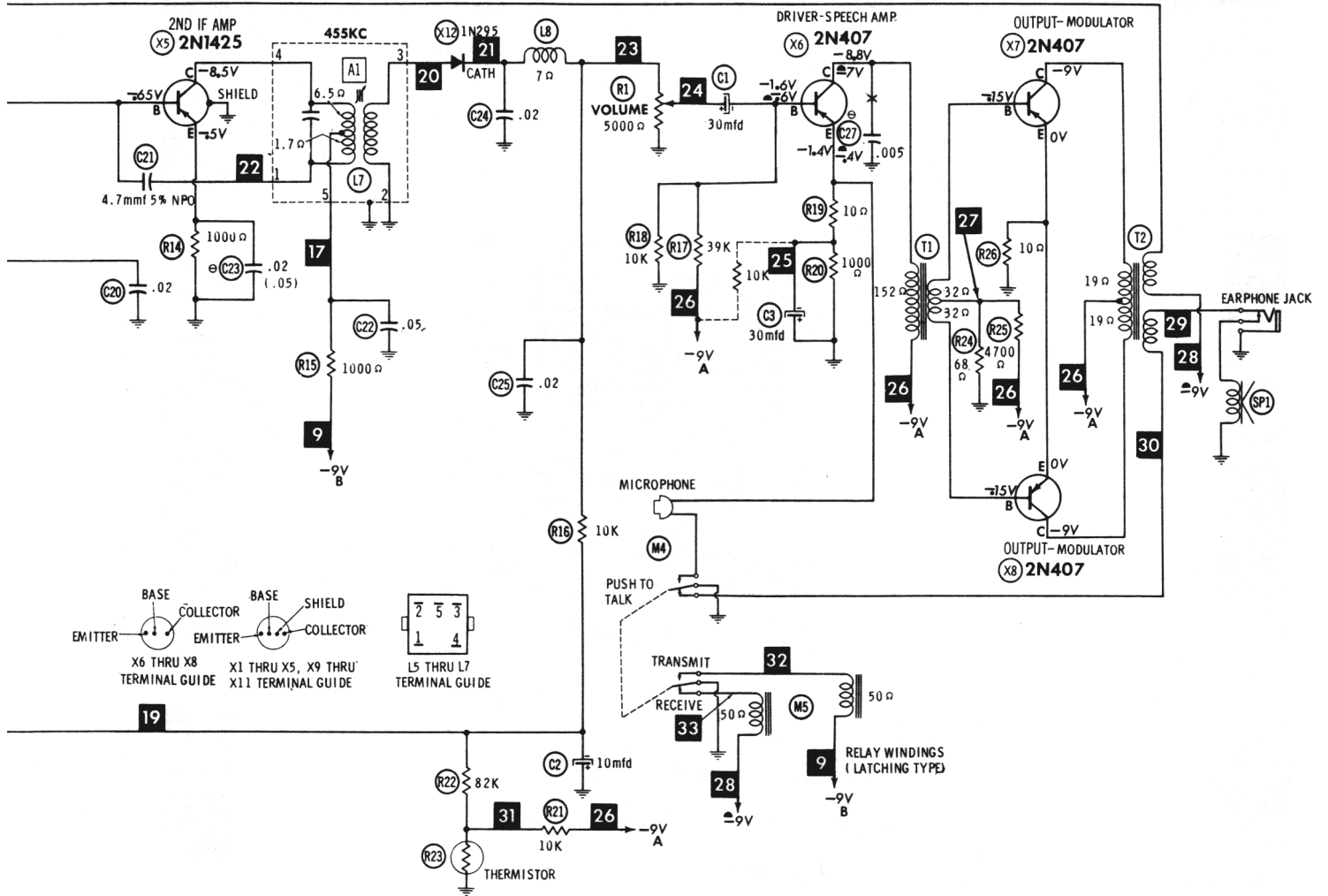
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

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.

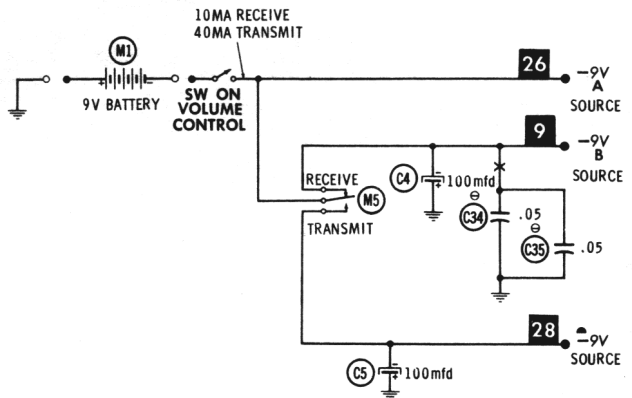
A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**



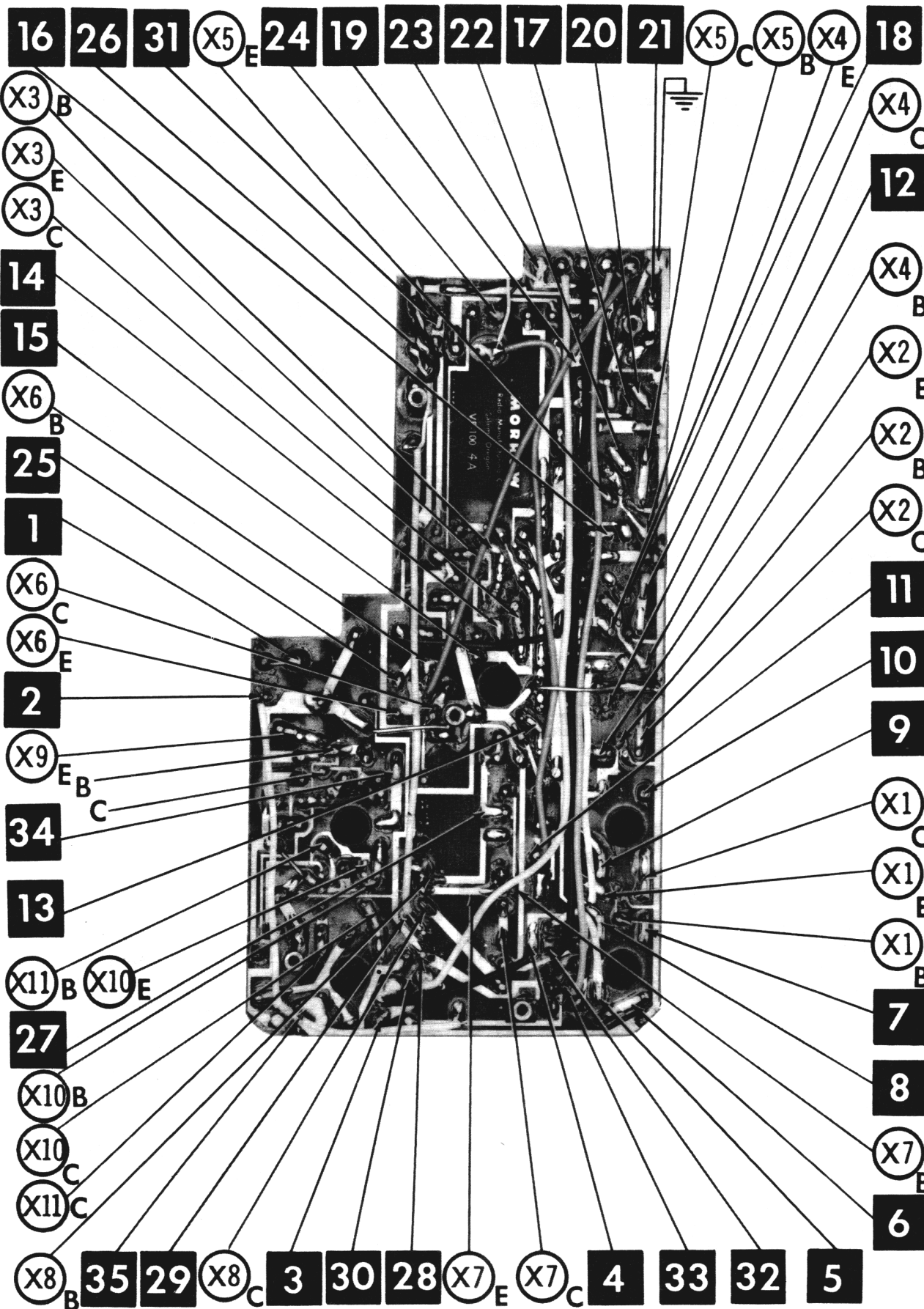
RESISTANCE READINGS

ITEM	TYPE	BASE	EMITTER	COLLECTOR
X1	2N370	10K	4600 Ω	\dagger .1 Ω
X2	2N371	4000 Ω	1000 Ω	\dagger 6.5 Ω
X3	2N1177	2000 Ω	0 Ω	\dagger 3000 Ω
X4	2N1425	10K	330 Ω	\dagger 6.5 Ω
X5	2N1425	2500 Ω	1000 Ω	\dagger 1000 Ω
X6	2N407	7800 Ω	1000 Ω	\dagger 152 Ω
X7	2N407	100 Ω	10 Ω	\dagger 19 Ω
X8	2N407	100 Ω	10 Ω	\dagger 19 Ω
X9	2N1177	2000 Ω	180 Ω	\dagger .7 Ω
X10	2N1177	.1 Ω	47 Ω	\dagger .7 Ω
X11	2N1177	.1 Ω	47 Ω	\dagger .7 Ω

TRANSISTORS REMOVED FOR RESISTANCE MEASUREMENTS.
 ALL MEASUREMENTS MADE IN "RECEIVE" POSITION
 UNLESS OTHERWISE DESIGNATED.
 • MEASURED IN "TRANSMIT" POSITION.
 † MEASURED FROM M. INUS 9 VOLT LINE.

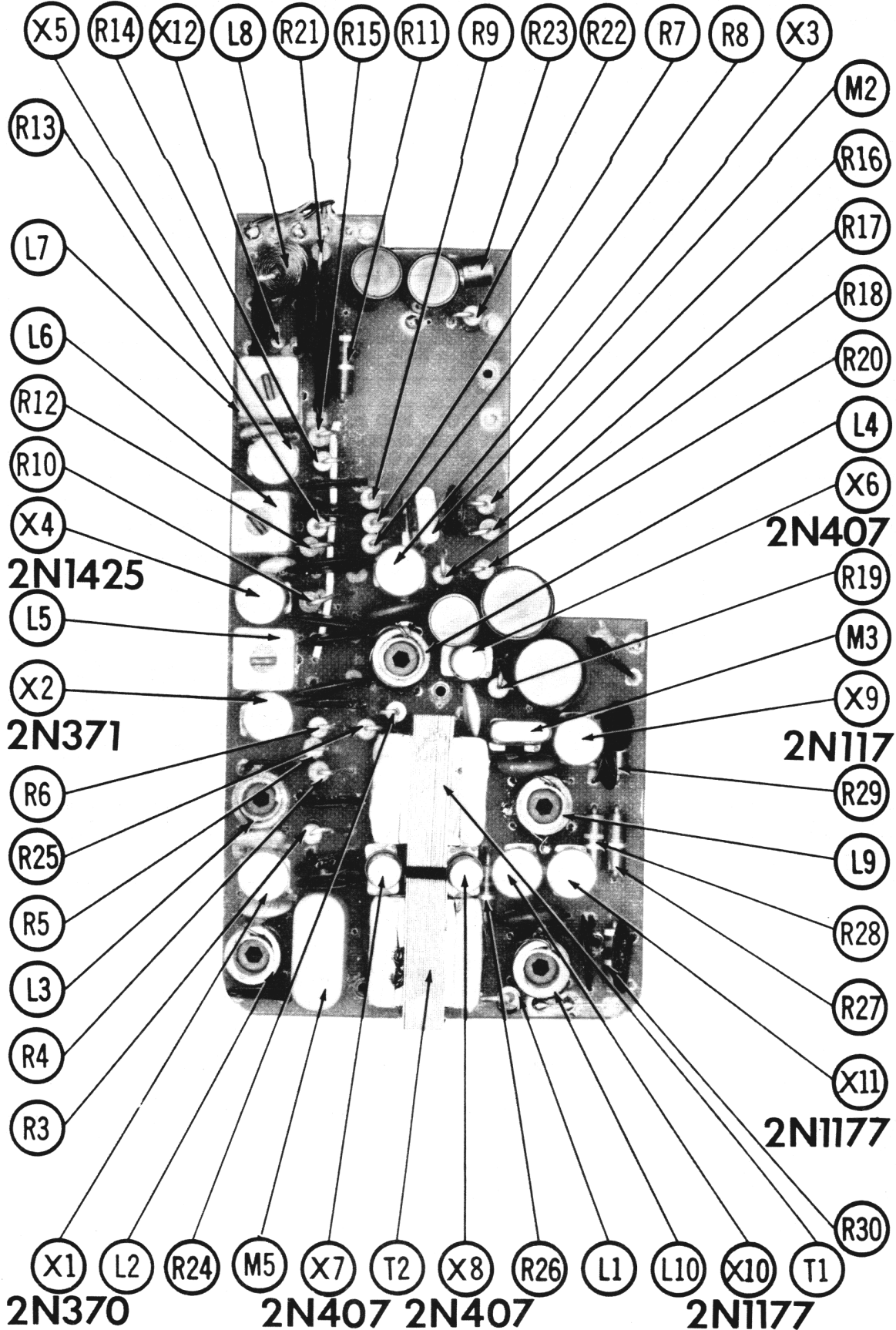


MORROW MODEL
VP-100-4A



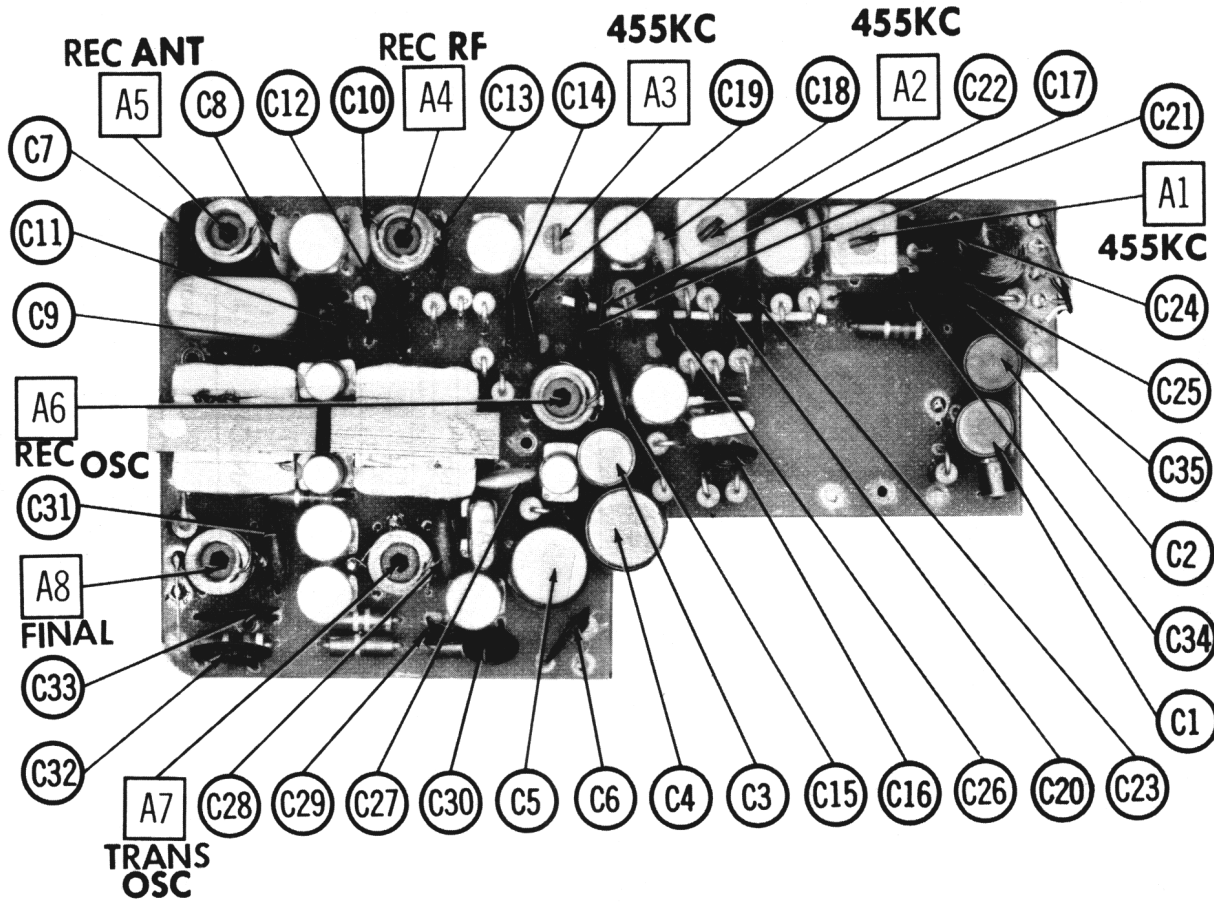
2N1425

2N1177



CHASSIS TOP VIEW - RESISTOR, INDUCTOR & TRANSISTOR IDENT.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2N370	RF Amplifier	2N370		PNP
X2	2N371	Mixer	2N371		PNP
X3	2N372*	Mixer			PNP
X4	2N1177	Rec. Oscillator			PNP
X5	2N1425	1st IF Amplifier			PNP
X6	2N1425	2nd IF Amplifier			PNP
X7	2N407	Driver-Speech Amp.	2N631		PNP
X8	2N407	Output-Modulator	2N631		PNP
X9	2N407	Trans. Osc.			PNP
X10	2N1177	Final Amp.			PNP
X11	2N1177	Final Amp.			PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		DIODES		NOTES
			RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
X12		1N295				1N295	Detector

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP. VOLT.	REPLACEMENT DATA					SPRAGUE PART No.
		MORROW PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	
C1	30 15		BCD15025	ECFB412	MTI-14	TT15X30	MLV35-15
C2	30 15		BCD15010	ECFB408	MTI-5	TT15X10	MLV10-15
C3	30 15		BCD15025	ECFB412	MTI-14	TT15X30	MLV35-15
C4	100 15		BCD15100	ECBP417	MTI-19	TT15X100	MLV100-15
C5	100 15		BCD15100	ECFB417	MTI-19	TT15X100	MLV100-15

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					SPRAGUE PART No.
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	
C6	.01		C80V103AM	DM-103	H-0581		TA-110	TG-S10
C7	.02		C80V203AM	DA-203	H-0582	*	TA-120	TG-S20
C8	50 N470 5%		C80V203AM	DA-203	H-0582	*	TA-120	TG-S20
C9	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C10	50 N470 5%	(.05) †	C80V203AM	DA-203	H-0582		TA-120	TG-S20
C11	.02		C80V103AM	DM-103	H-0581		TA-110	TG-S10
C12	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C13	.01		C80V203AM	DA-203	H-0581		TA-120	TG-S20
C14	.01		C80V203AM	DA-203	H-0582	*	TA-120	TG-S20
C15	51 N330 5%		C80V103AM	DM-103	H-0581		TA-110	TG-S10
C16	.01		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C17	4.7 NPO 5%		NPO-DI 4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C18	4.7 NPO 5%		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C19	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C20	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C21	4.7 NPO 5%		C80V503AM	DA-503	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C22	.05		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C23	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C24	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C25	.02		C80V203AM	DA-203	H-0582		TA-120	TG-S20
C26	.05	(.05) †	C80V203AM	DA-203	H-0582		TA-120	TG-S20
C27	.05	Note 1	C80V203AM	DA-203	H-0582		TA-120	TG-S20
C28	.005	Note 1	C80V502AM	DM-502	H-05D5	CCTD-502	TA-250	TG-D50
C29	51 N330 5%	Note 1	C80V103AM	DM-103	H-0581		TA-110	TG-S10

PARTS LIST AND DESCRIPTIONS (Continued)

FIXED CAPACITORS (cont)

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.
C30	.01	Note 1 Note 1	C80V103AM	DM-103	H-05S1	*	TA-110	TG-810
C31	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-820
C32	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-820
C33	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-850
C34	.05		C80V503AM	DA-503	H-05S5		TA-150	TG-850

* Alternate Value.
 † Not normally in distributor's stock. Available thru distributor on order to manufacturer.
 Note 1. † Not used in some versions.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			MORROW PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	311-008		44S-5K-W		MLC53A-S
R2	Squelch	5000Ω	311-009		44-5K-W		MLC53A

RESISTORS

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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA		
			IRC PART No.	WORKMAN PART No.	REMARKS
R3	1000Ω	(10K) *			
R4	4700Ω				
R5	47K				
R6	1000Ω				
R7	2200Ω				
R8	15K				
R9	4700Ω				
R10	330Ω				
R11	470Ω				
R12	2200Ω				
R13	68K				
R14	1000Ω				
R15	1000Ω				
R16	10K				

* Alternate Value.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		MORROW PART No.	Miller PART No.	Stancor PART No.	
L1	R F Choke				
L2	Ant.				
L3	R F				
L4	R F				
L5	Obs.				
L6	1st IF				
L7	2nd IF				
L8	3rd IF				
L9	R F Choke				
L10	Obs.				
L11	Final Ant. Loading				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA			NOTES
		MORROW PART No.	Merit PART No.	Stancor PART No.	
T1	2.8 1				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES			
		PRI.	SEC. 1	MORROW PART No.	Merit PART No.				
							SEC. 2	Stancor PART No.	Thordarson PART No.
T2	140Ω CT								

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MORROW PART No.	GUAM PART No.	
SP1	2 1/2" PM	6-8Ω		

BATTERIES

ITEM No.	VOLTAGE	REPLACEMENT DATA				NOTES
		MORROW PART No.	BURGESS "A"	EVEREADY "B"	MALLORY "B"	
M1	9V		2U6	2I6	M-1604	

MISCELLANEOUS

ITEM No.	PART NAME	MORROW PART No.	NOTES
M2	Crystal		
M3	Crystal		
M4	Mike Ass'y.		
M5	Relay		

WIRING DATA

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