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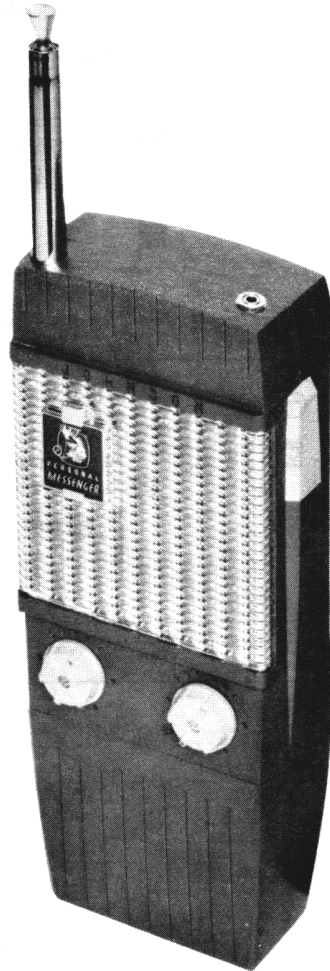
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with CIRCUITRACE®

JOHNSON VIKING MODEL  
PERSONAL MESSENGER (242-101-1)



JOHNSON VIKING MODEL  
PERSONAL MESSENGER (242-101-1)

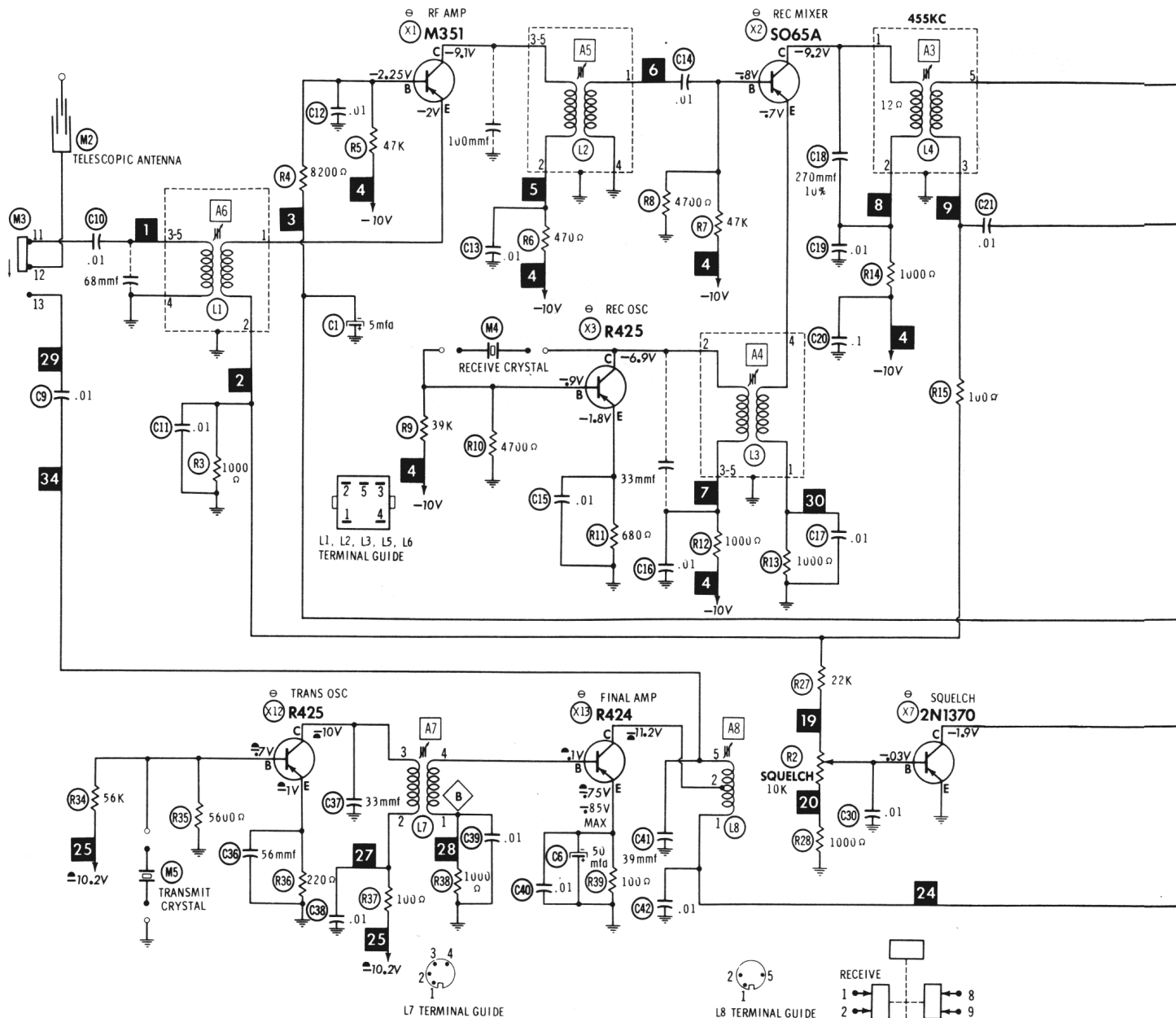
TRADE NAME	Johnson Viking Model Personal Messenger (242-101-1)		
MANUFACTURER	E. F. Johnson Co., Waseca, Minnesota		
TYPE SET	Battery Operated Single Channel Transistorized Portable Citizens Band Transmitter-Receiver		
POWER SUPPLY	12 Volts DC	RATING	Receive: 15MA @ 12 Volts DC (No Signal, Min. Volume) 20MA @ 12 Volts DC (Signal, Normal Volume)
TUNING RANGE	Any one of Citizens Band Channels 1 thru 23		
			Transmit: 21MA @ 12 Volts DC (Unmodulated)

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



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of LY431

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▲ TAKEN WITH RECEIVE-TRANSMIT SWITCH IN "TRANSMIT" POSITION.

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

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.

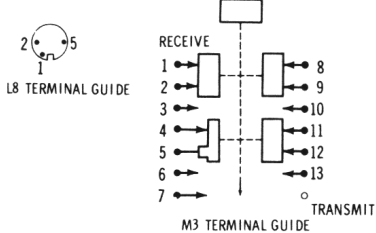
⊕ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

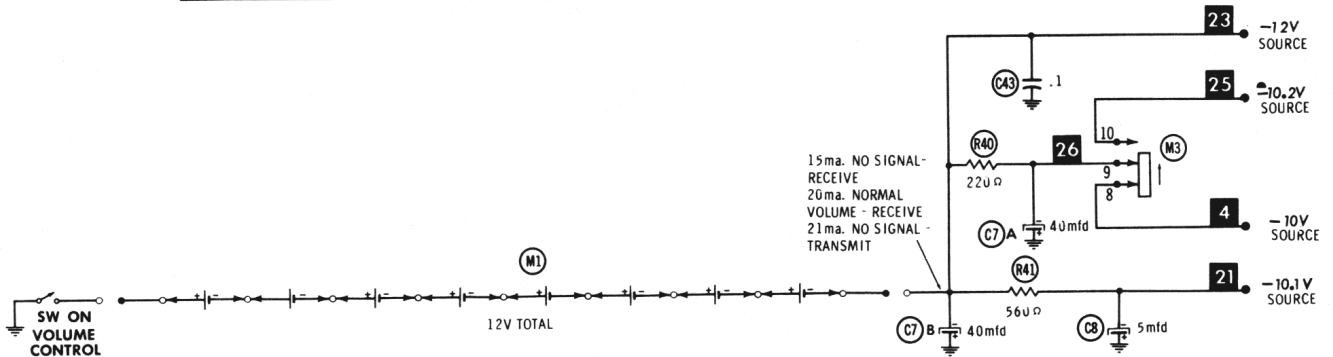
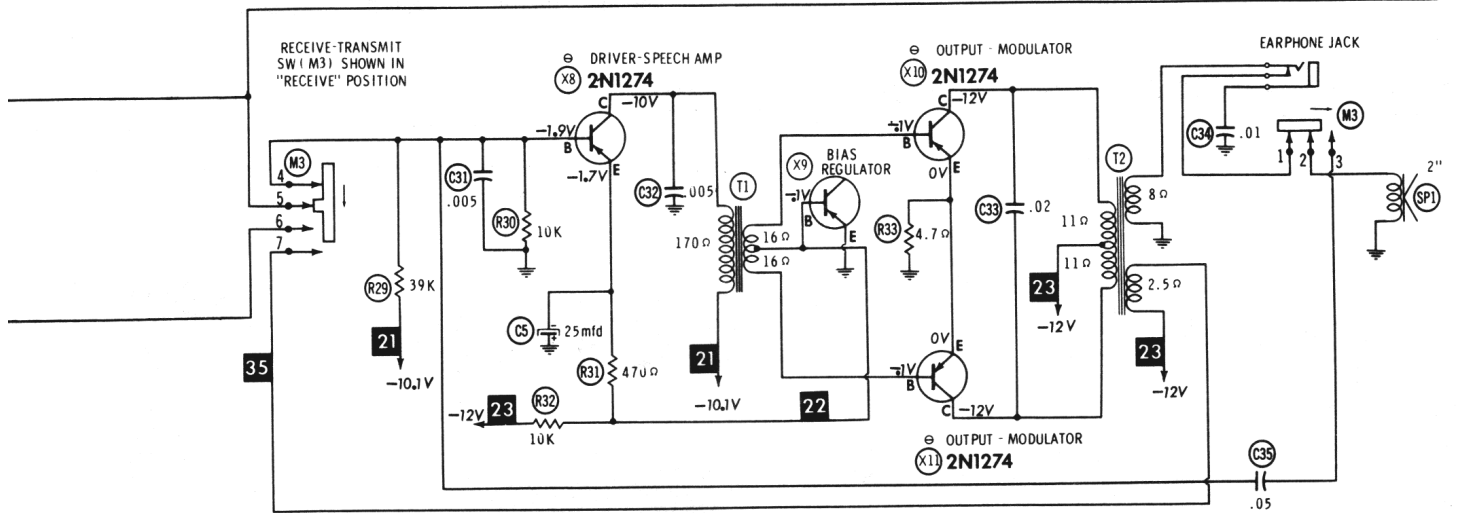
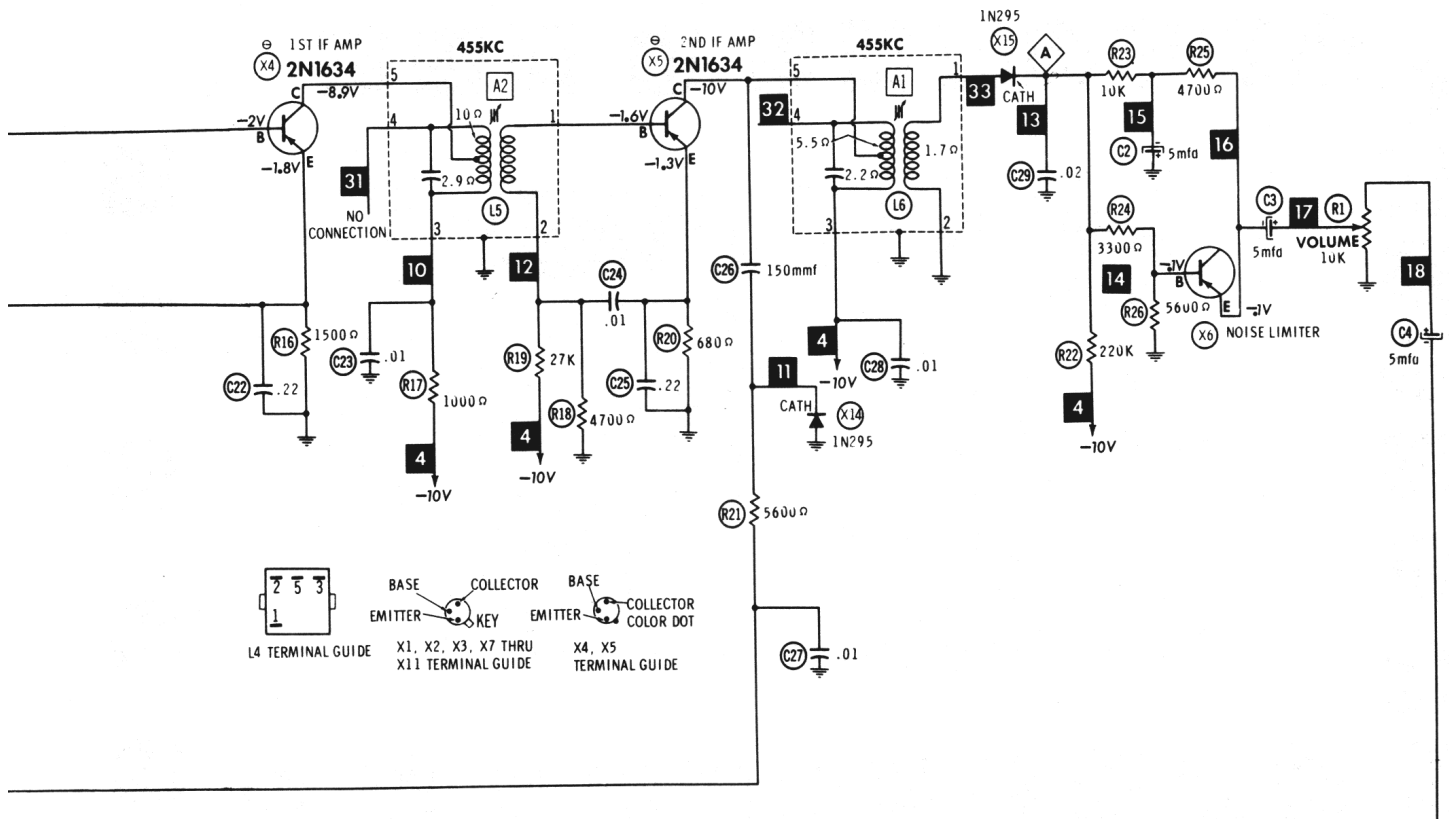
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

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 ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

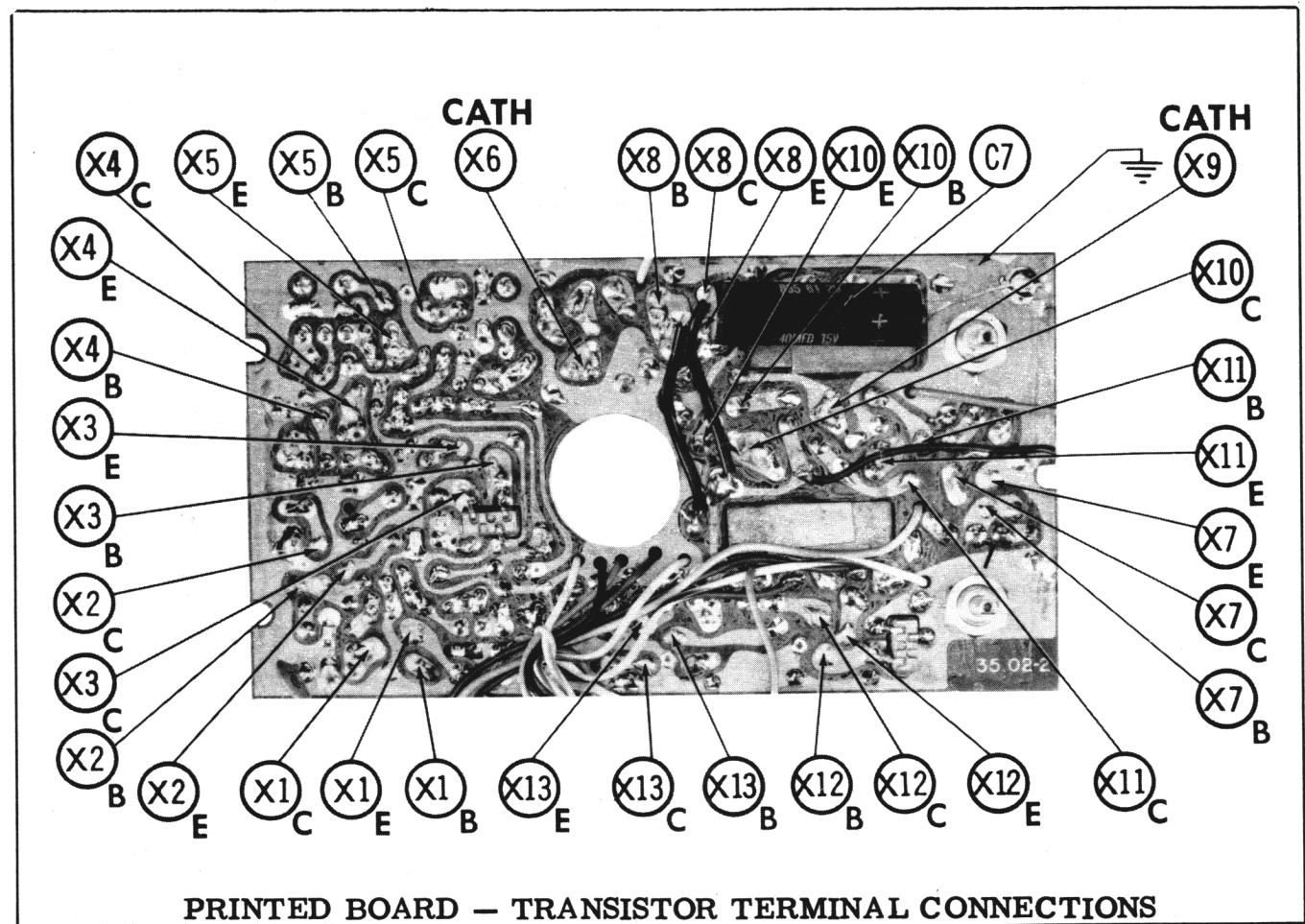
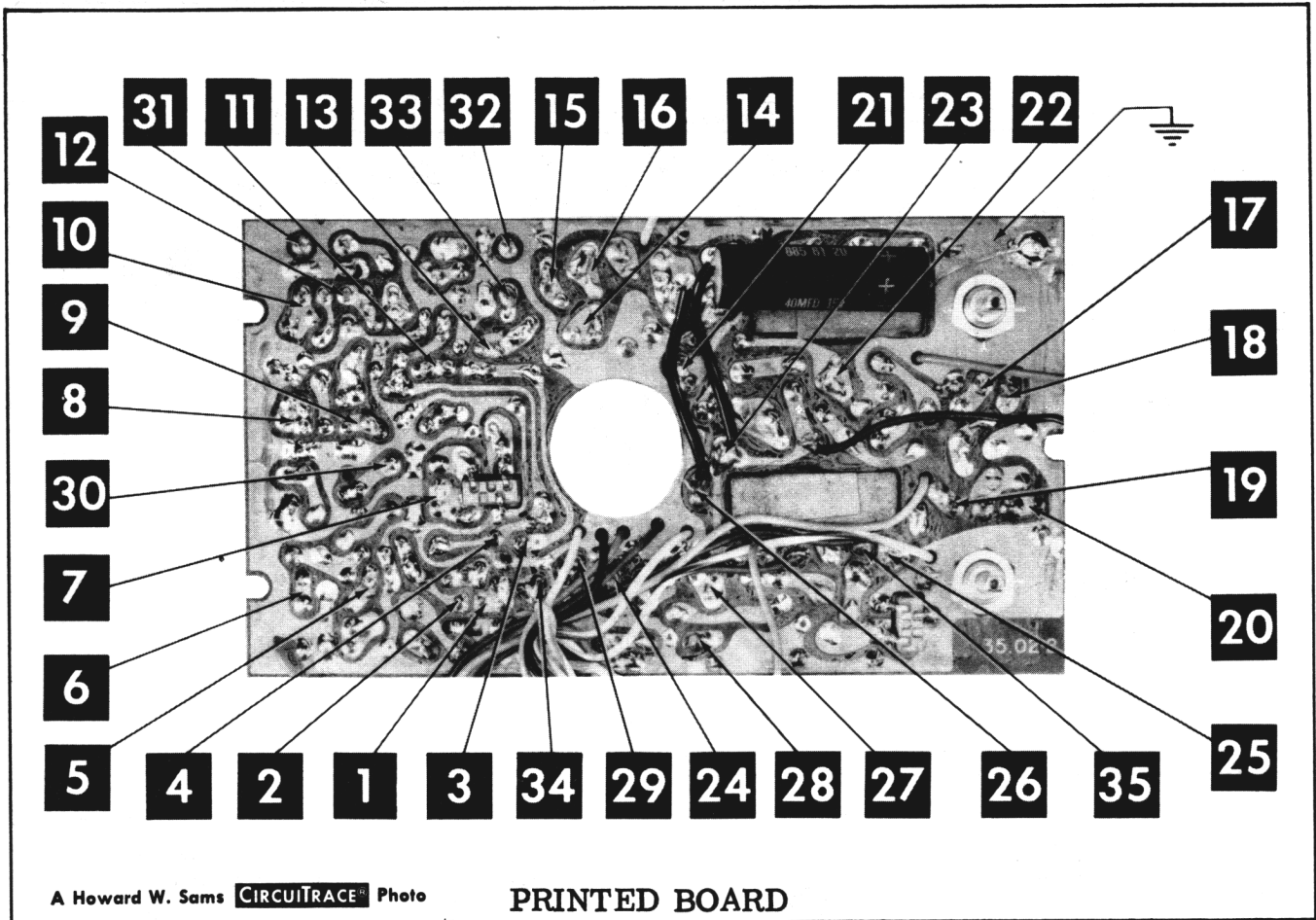
A PHOTOFACIT STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

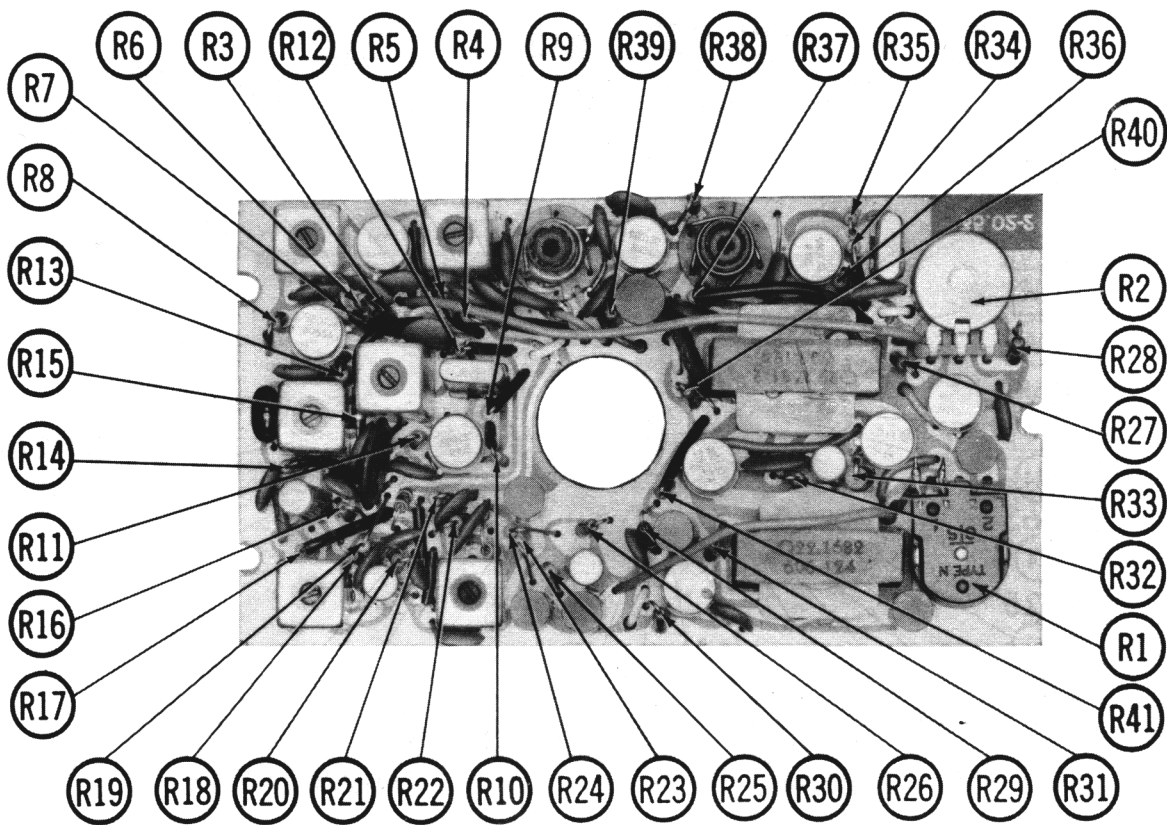
© Howard W. Sams & Co., Inc. 1962



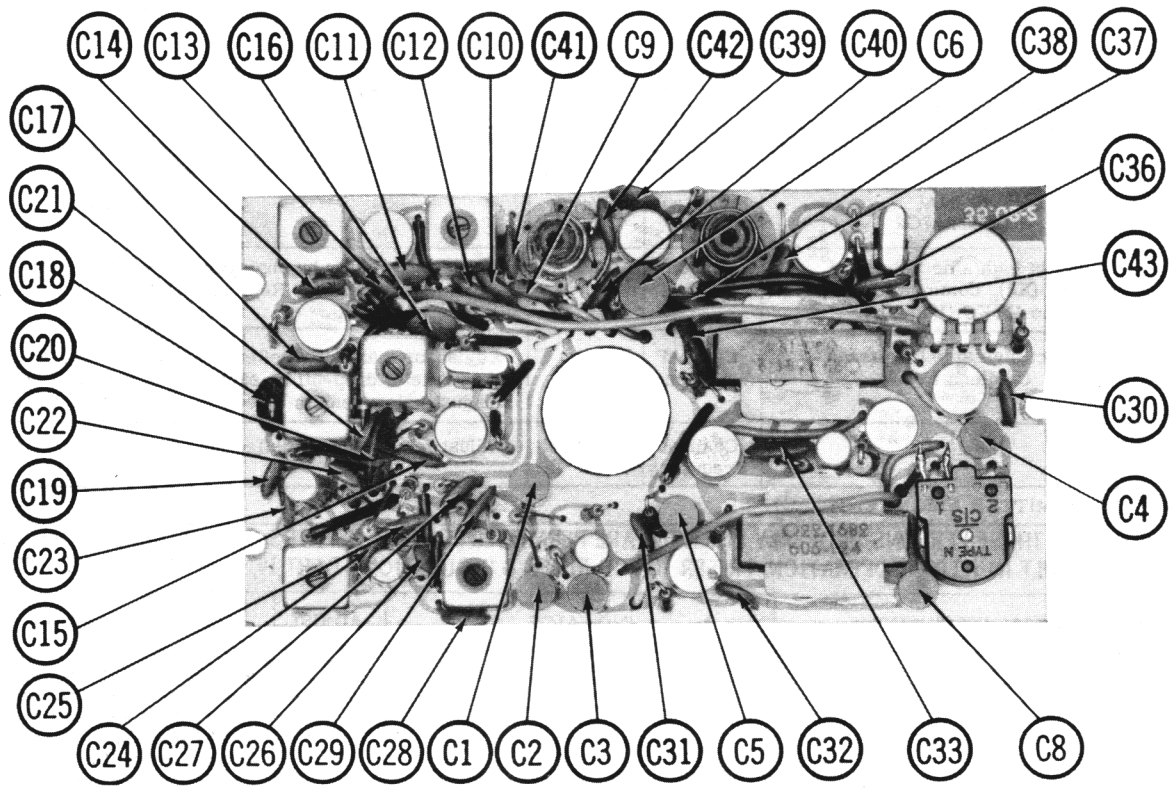


**JOHNSON VIKING MODEL  
 PERSONAL MESSENGER (242-101-1)**

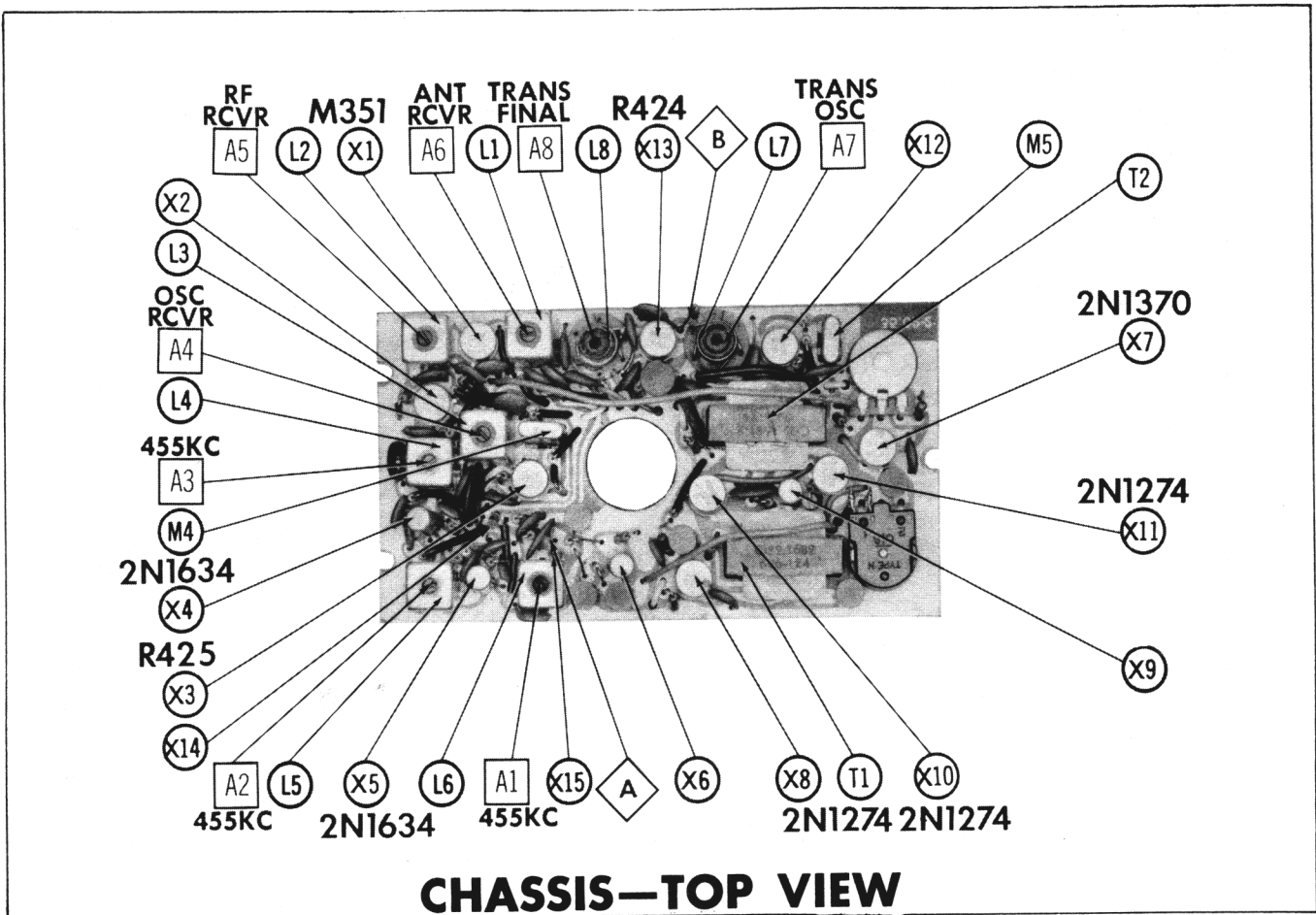




CHASSIS TOP VIEW - RESISTOR IDENT.



CHASSIS TOP VIEW - CAPACITOR IDENT.



## CHASSIS—TOP VIEW ALIGNMENT INSTRUCTIONS

**ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT**

Best results will be achieved when adjusting A6 and A8 if the antenna normally used is connected, and the unit is as nearly in the cabinet as possible.

Suggested Alignment Tools:  
 A1 thru A8.....GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440  
 WALSCO #2526, 2543, 2544, 2545

### RECEIVER ALIGNMENT

Connect DC probe of VTVM to Point  $\diamond$  common to ground.

	SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
1.	Connect high side to base of Mixer (X2), common to B-. Tune to 455KC (Unmod.).	Unused Channel	A1, A2, A3	Disable oscillator by unplugging crystal. Adjust for maximum deflection. Reinsert crystal.
2.	Connect high side to antenna input. Common to B-.	Channel Frequency	A4	Adjust for maximum deflection while rocking A4. Note rate of drop-off on each side of peak and set A4 just below peak in direction of gradual drop-off.
3.	"	Channel Frequency	A5, A6	Adjust for maximum deflection.

### TRANSMITTER ALIGNMENT

**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)**

	SPECIAL INSTRUCTIONS	INDICATOR	ADJUST	REMARKS
4.		DC probe to Point $\diamond$ , common to B-.	A7	Key transmitter and adjust. A7 for maximum deflection. Rock A7 to each side of peak and note rate of drop-off. Set A7 just before peak in direction of gradual drop-off.
5.	Connect dummy load and RF Wattmeter or antenna. Tune to center channel.	RF Wattmeter or Field Strength meter.	A9	Key transmitter and adjust for maximum indication.

# PARTS LIST AND DESCRIPTIONS

## WIRING DATA

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

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	M351 TA2112*	RF Amplifier	2N1171		PNP
X2	SO65A TA2113*	Rec. Mixer	2N1179		PNP
X3	R425 TA2114*	Rec. Osc.	2N1178		PNP
X4	2N1634 2N1638*	1st IF Amp.	2N1634		PNP
X5	2N1634 2N1638*	2nd IF Amp.	2N1634		PNP
X6	22.3903 #	Noise Limiter	1N2326		
X7	2N1370 2N406*	Squelch	2N406	2N362	PNP
X8	2N1274 2N591*	Driver-Speech Amp.	2N591	2N360	PNP
X9	22.3902 #	Bias Regulator	1N2326		
X10	2N1274 2N217*	Output-Modulator	2N217	2N360	PNP
X11	2N1274 2N217*	Output-Modulator	2N217	2N360	PNP
X12	R425 TA2115*	Trans. Osc.	2N1178		PNP
X13	R424 TA2116*	Final Amp.	2N1177		PNP

\* Alternate  
# Johnson Viking Part No.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		DIODES	NOTES
			RCA PART No.	SARKES TARZIAN PART No.	RAYTHEON PART No.	
X14		22.3901			1N295	AVC (1N295)
X15		22.3901			1N295	Detector (1N295)

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		Johnson Viking PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	5	15	22.1734-1	BCD15005	ECPB405	MT1-3	PET1535	MLV5-15	
C2	5	15	22.1734-1	BCD15005	ECPB405	MT1-3	PET1535	MLV5-15	
C3	5	15	22.1734-1	BCD15005	ECPB405	MT1-3	PET1535	MLV5-15	
C4	5	15	22.1734-1	BCD15005	ECPB405	MT1-3	PET1535	MLV5-15	
C5	25	3	22.1734-4	BCD3025	ECPB411	MT1-13	TT3X25	MLV25-3	
C6	50	3	22.1734-7	BCD3050	ECPB15		TT3X50	MLV50-3	
C7A	40	15	22.1734-6	PTT71	ECPAP12	MT1-16	TT15X40	MLV50-15	TE-1160
C7B	40	15		PTT71		MT1-16	TT15X40	MLV50-15	TE-1160
C8	5	15	22.1734-1			MT1-3		MLV5-15	

## 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.
C9	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C10	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C11	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C12	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C13	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C14	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C15	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C16	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C17	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C18	270 10%			TCZ-270	5R5T27	CCD-271	CNO-327	MS-327
C19	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C20	.1		C80V104AM	DA-104	H-05P1		TA-010	TG-P10
C21	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C22	.22 3V			UK-224	HCC3224P			HY-125
C23	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C24	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C25	.22 3V			UK-224	HCC3224P			HY-125
C26	150		DI-150	DD-151	L10T15	CCD-151	GP315	10TS-T15
C27	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C28	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C29	.02		C80V203AM	DDM-203	H-05S2	CCD-203	TA-120	TG-S20
C30	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C31	.005		C80V502AM	DM-502	H-05D5	CCD-502	TA-250	TG-D50
C32	.005		C80V502AM	DM-502	H-05D5	CCD-502	TA-250	TG-D50
C33	.02		C80V203AM	DDM-203	H-05S2	CCD-203	TA-120	TG-S20
C34	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C35	.05		C80V503AM	DDA-503	H-05S5		TA-150	TG-S50
C36	56		DI-56	DD-560	L10Q56	CCD-560	GP456	10TS-Q56
C37	33		DI-33	DD-330	L10Q33	CCD-330	GP433	10TS-Q33
C38	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C39	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C40	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C41	39		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C42	.01		C80V103AM	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C43	.1		C80V104AM	DA-104	H-05P1		TA-010	TG-P10