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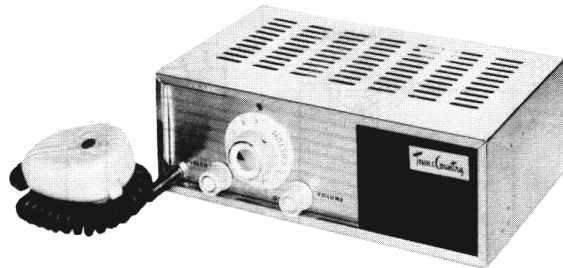
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PHOTOFACT® Folder



UTICA
MODEL MC-27

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).

TRADE NAME	Utica Model MC-27
MANUFACTURER	Utica Communications Corp., 5055 N. Kedzie Ave., Chicago 25, Illinois
TYPE SET	AC-Battery Operated 9 Tube 6 Channel Citizens Band Transmitter-Receiver
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles (or) 6 Volt Storage Battery (or) 12 Volt Storage Battery
RATING	55 Watts, .5 Amp. @ 117 Volts AC (Receiver); 70 Watts, .68 Amp. @ 117 Volts AC (Transmit) 10 Amp. @ 6 Volts DC (or) 4, 5 Amp. @ 12.6 Volts DC
TUNING RANGE	Any 6 of Citizens Band Channels 1 thru 23

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Best results will be obtained when adjusting A9, A10 and A12 if the unit is connected to the antenna normally used and the unit is as nearly in the cabinet as possible.

Suggested Alignment Tools:

- A1 thru A6, A9... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
- A7, A8, A10... GENERAL CEMENT #8721, 8722
WALSCO #2519
- All..... GENERAL CEMENT #9091, 9091-L
WALSCO #2542

RECEIVER ALIGNMENT

Connect DC probe of VTVM to Point A, common to ground.

	SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
1.	Tune to 266KC. Connect high side to pin 7 (grid) of Converter, low side to ground.	Unused Channel	A1, A2, A3, A4	Adjust for maximum deflection. Repeat.
2.	Tune to 1680KC. Connect high side to pin 2 (grid) of Mixer, low side to ground.	"	A5, A6	"
3.	Tune to channel frequency. High side to pin 1 (grid) of RF Amp, low side to ground.	Center Channel Used	A7	Adjust for maximum deflection while rocking. Note rate of drop-off on each side of peak and set to point just below peak in direction of gradual drop-off.
4.	"	"	A8	Adjust for maximum deflection.
5.	Tune to 1680KC. Connect high side to antenna input, low side to ground.	"	A9, A10	Adjust for maximum deflection. Repeat.

TRANSMITTER ALIGNMENT

Output frequency should be checked by an accurately calibrated secondary frequency standard to be sure frequency is within .005%.

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	SPECIAL INSTRUCTIONS	INDICATOR	ADJUST	REMARKS
6.	Tune transmitter to highest channel used.	Connect DC probe of VTVM to point B, common to ground.	A11	Adjust for maximum deflection while rocking A11. Note rate of drop-off on each side of peak and set just below peak on side of gradual drop-off.
7.	Connect dummy load or antenna to antenna input. Tune transmitter to center frequency.	RF wattmeter or field strength meter.	A12	Adjust for maximum output.

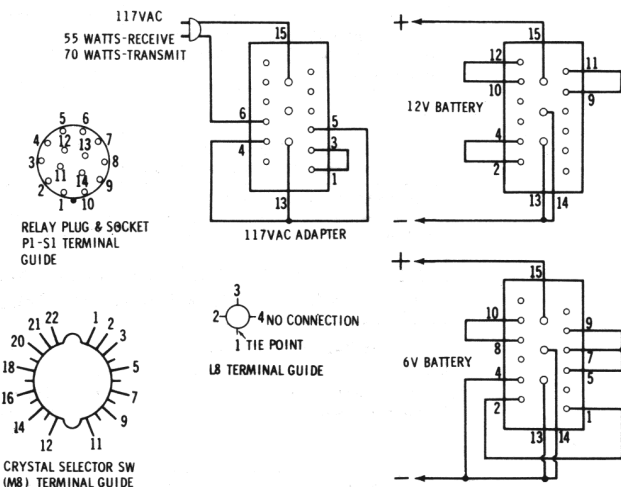
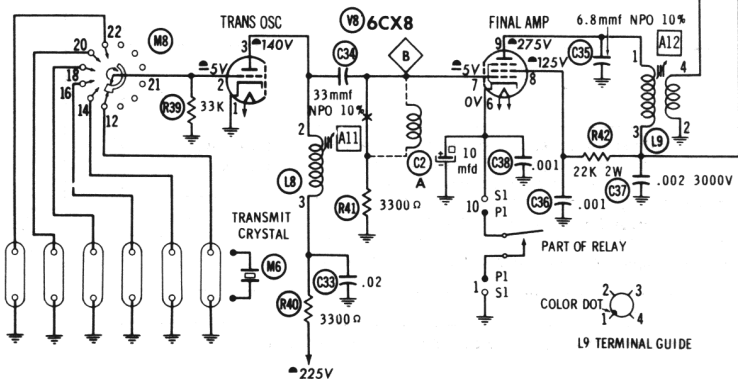
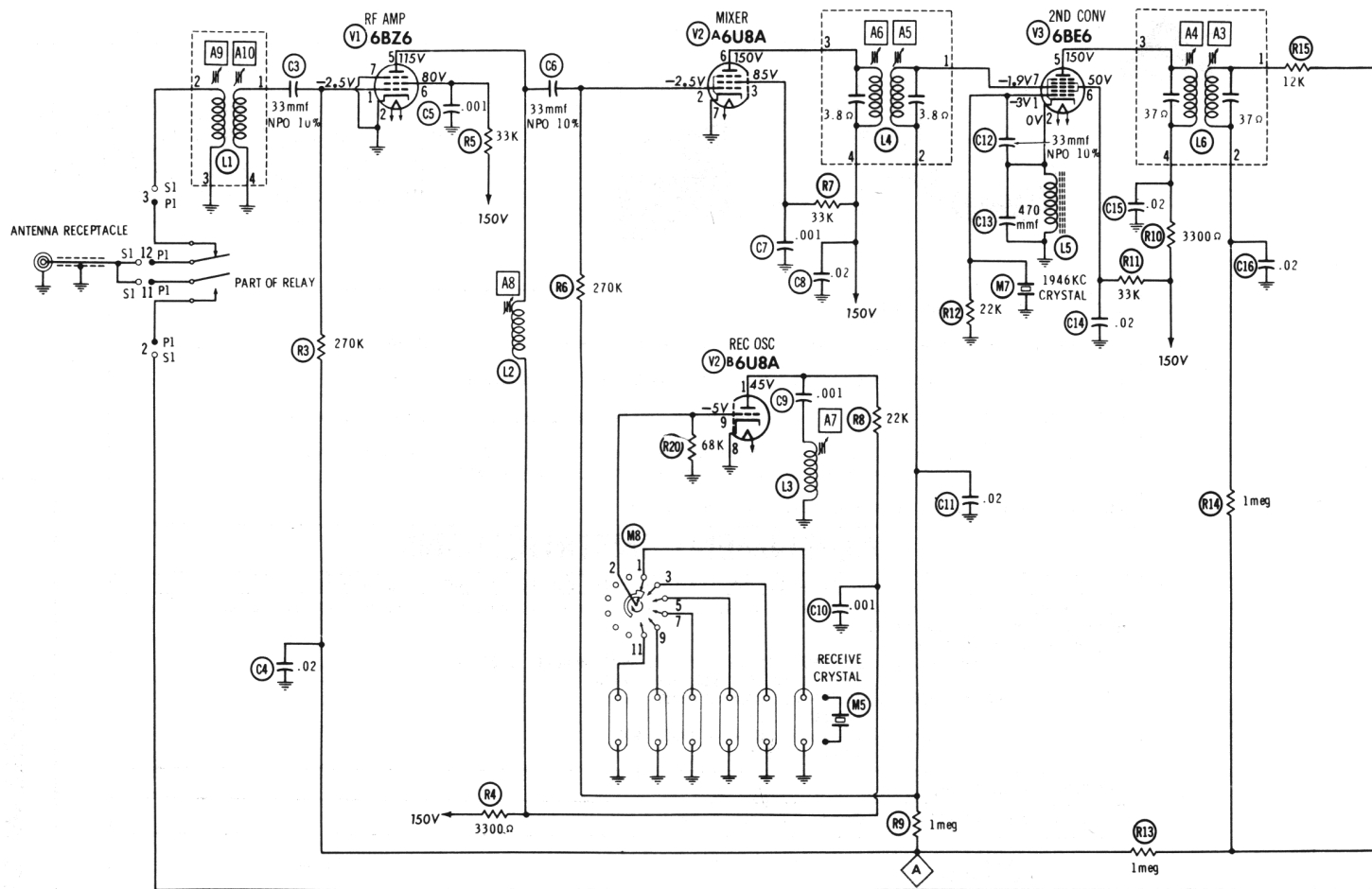
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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 LY264

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UTICA
MODEL MC-27



RESISTANCE READINGS

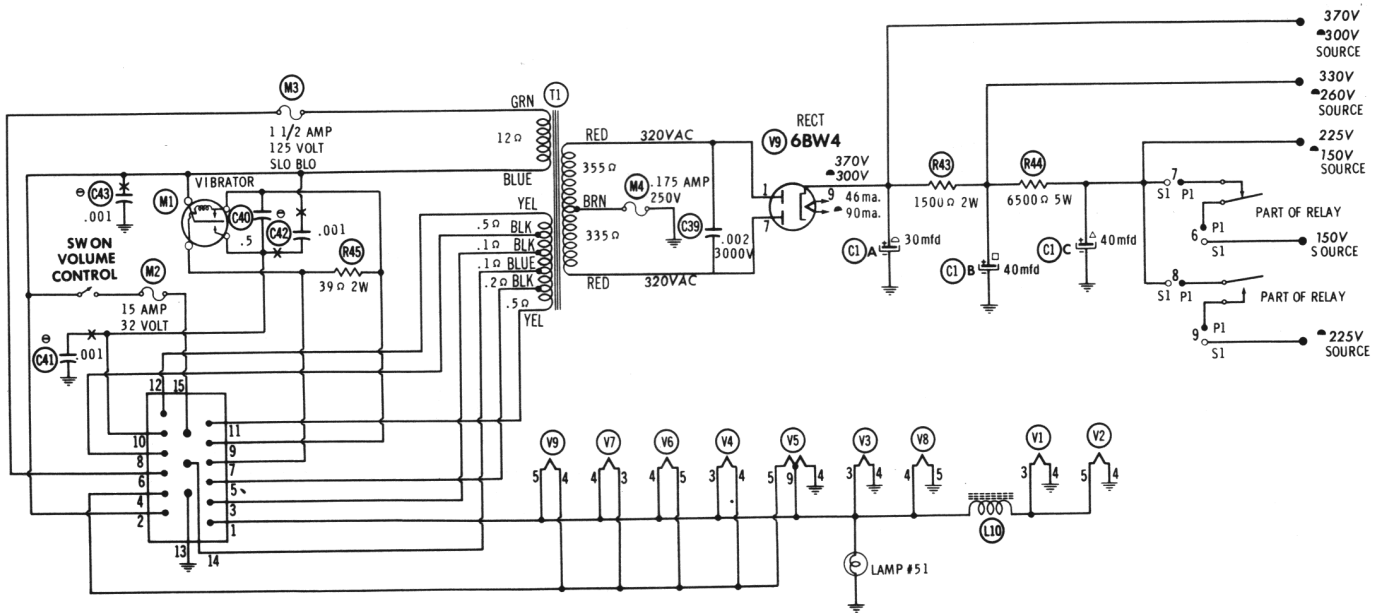
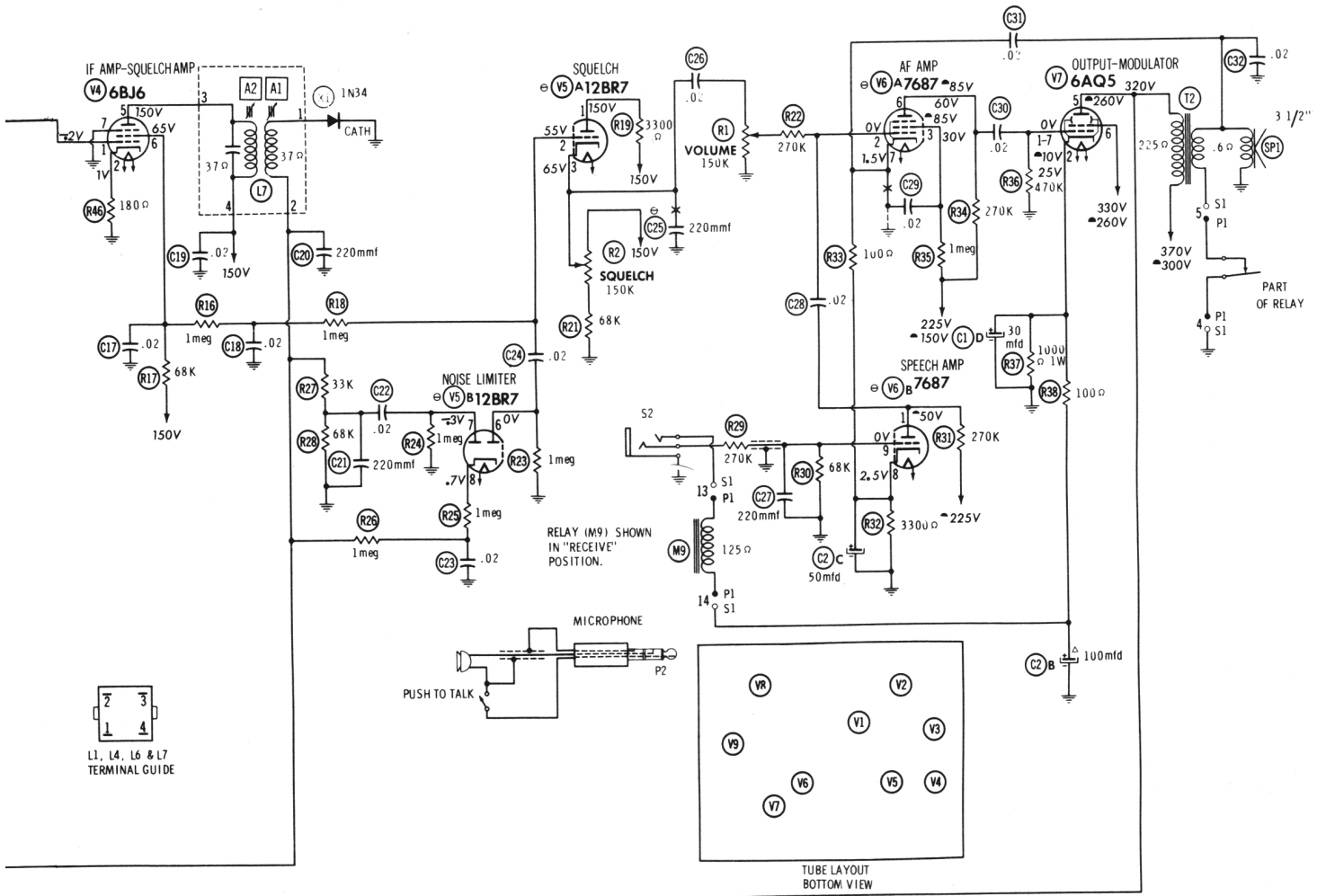
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	1.5meg	0Ω	FIL	FIL	† 11.3K	† 41K	0Ω		
V2	6U8A	† 33K	2.5meg	† 41K	FIL	FIL	† 8000Ω	0Ω	0Ω	68K
V3	6BE6	22K	1Ω	FIL	FIL	† 11K	† 41K	2.2meg		
V4	6BJ6	1.2meg	180Ω	FIL	FIL	† 8000Ω	† 76K	0Ω		
V5	12BR7	† 11.3K	† 2meg	100K	FIL	FIL	1meg	1meg	2.1meg	FIL
V6	7687	† 270K	270K	† 1meg	FIL	FIL	† 270K	3400Ω	3300Ω	68K
V7	6AQ5	470K	1000Ω	FIL	FIL	† 225Ω	† 1500Ω	470K		
V8	6CX8	0Ω	33K	† 11K	FIL	FIL	0Ω	3300Ω	† 22K	† 225Ω
V9	6BW4	355Ω	NC	NC	FIL	FIL	NC	335Ω	NC	200K

Ω TAKEN IN TRANSMIT POSITION
 † MEASURED FROM PIN 9 OF V9
 THIS READING WILL VARY. CONTROL SET FOR NORMAL OPERATION.
 NC NO CONNECTION

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

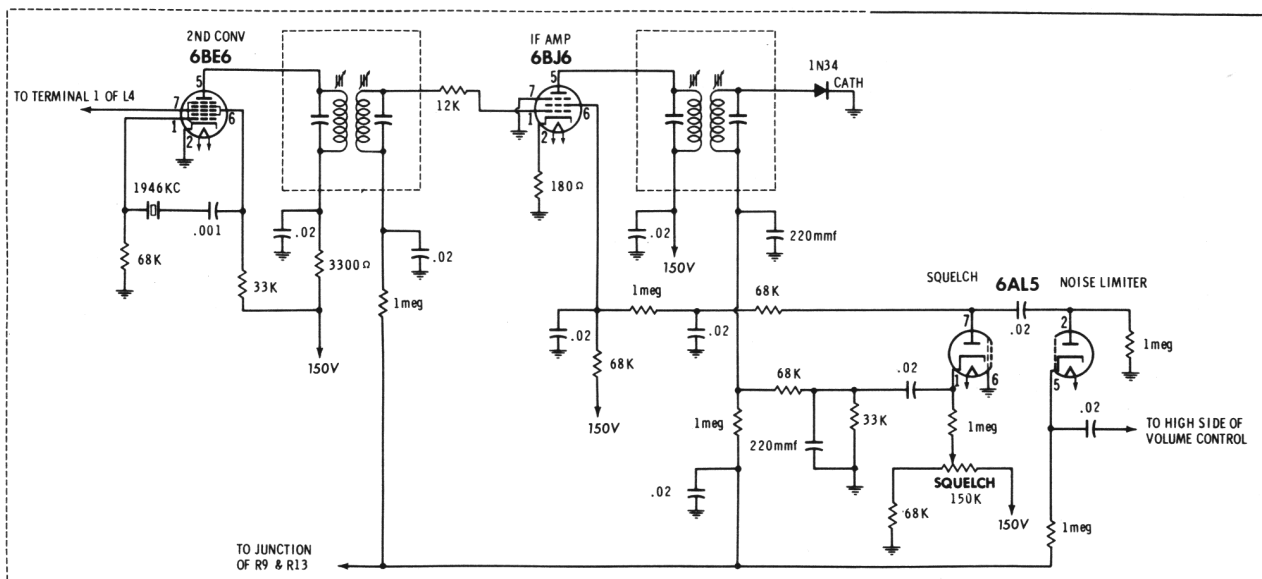
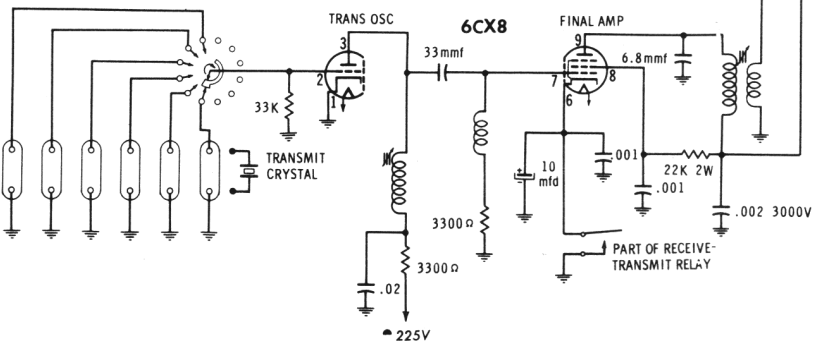
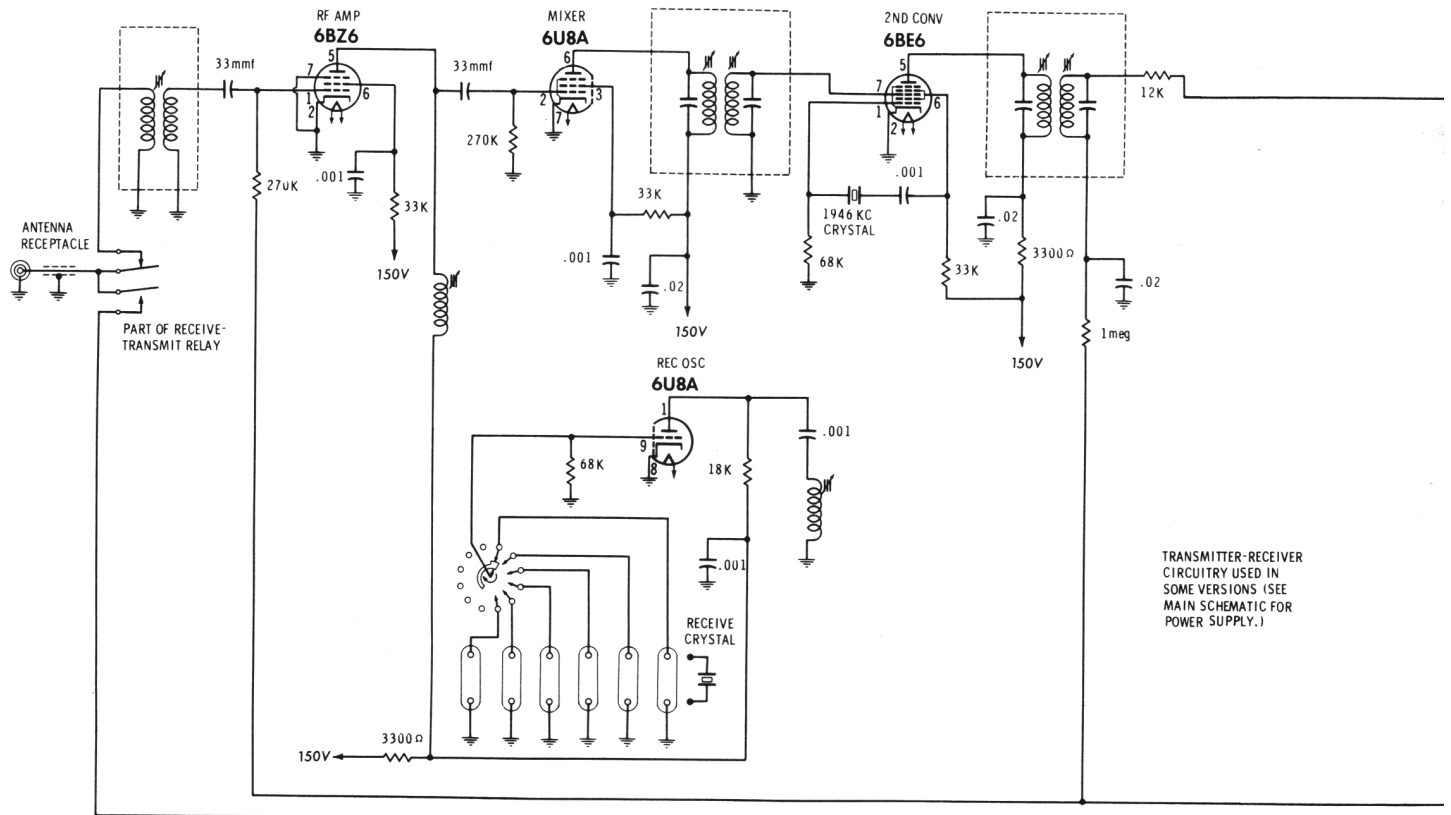
- DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common ground.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of ±1% in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.



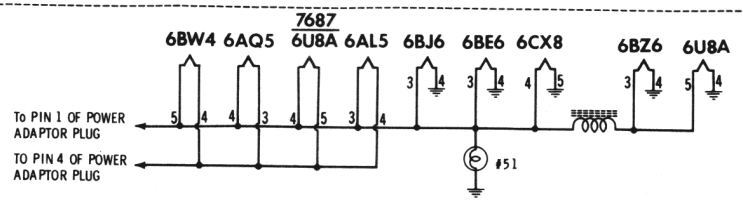
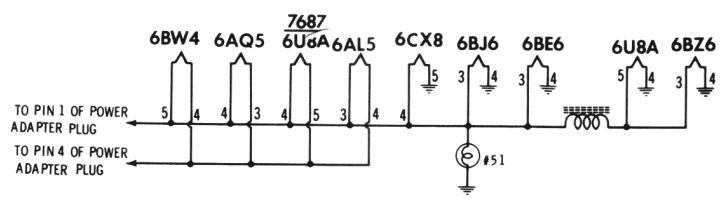
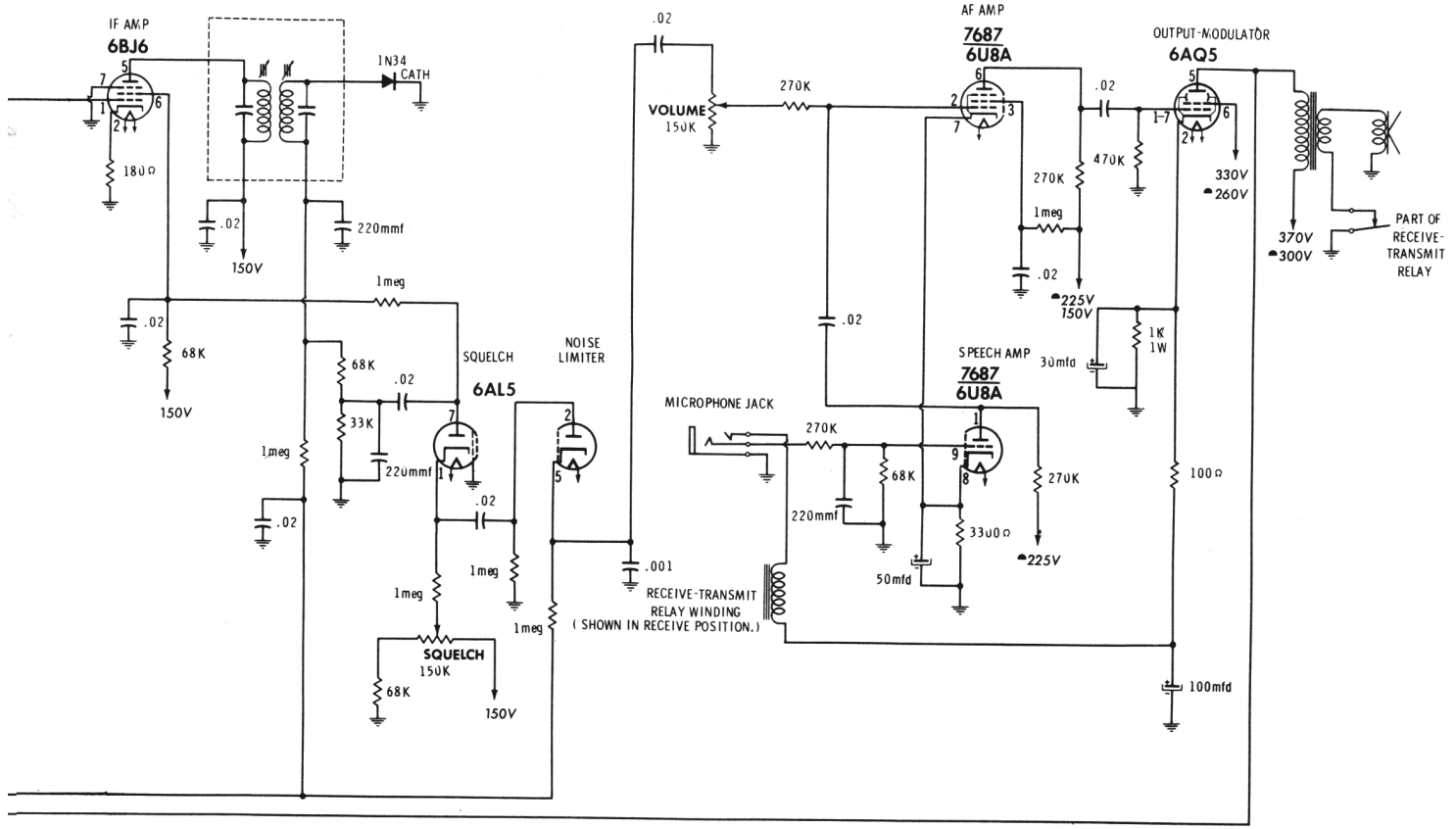
SEE ALTERNATE CIRCUIT

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.

UTICA
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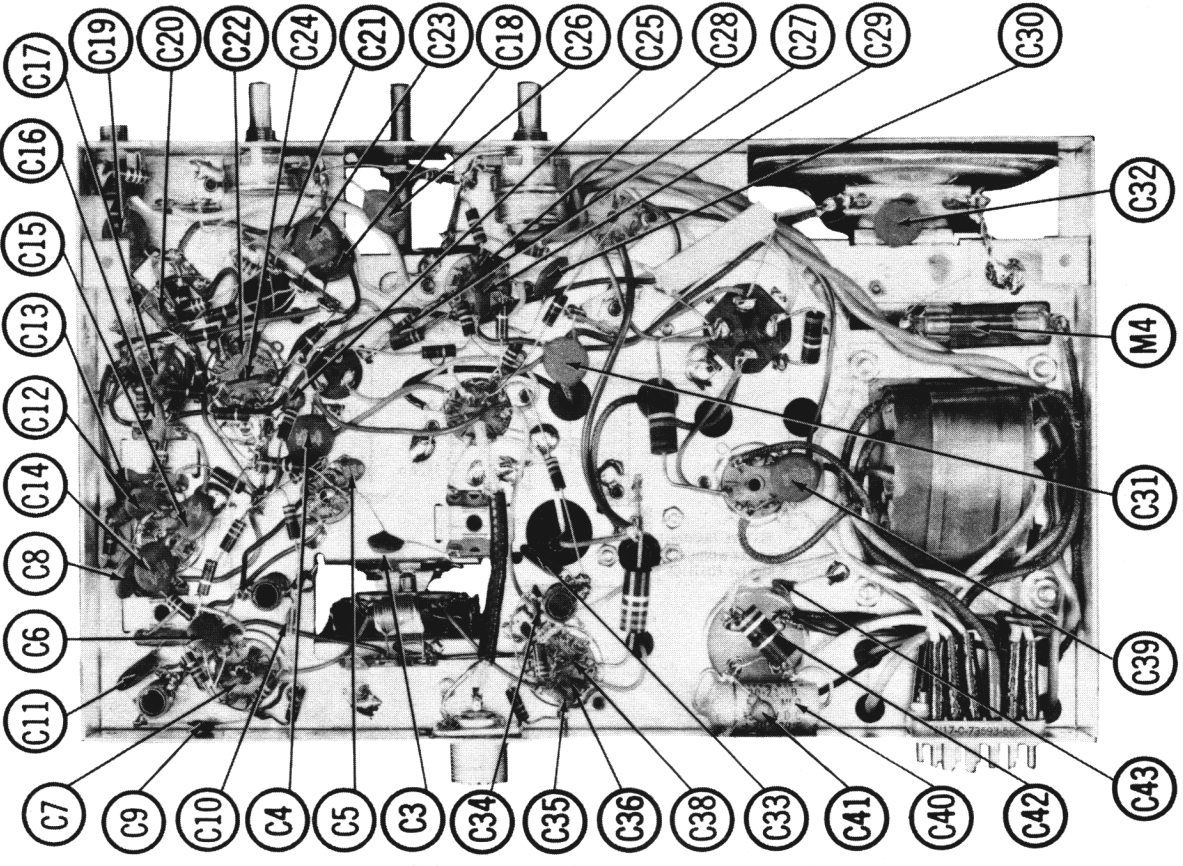


ALTERNATE CIRCUIT

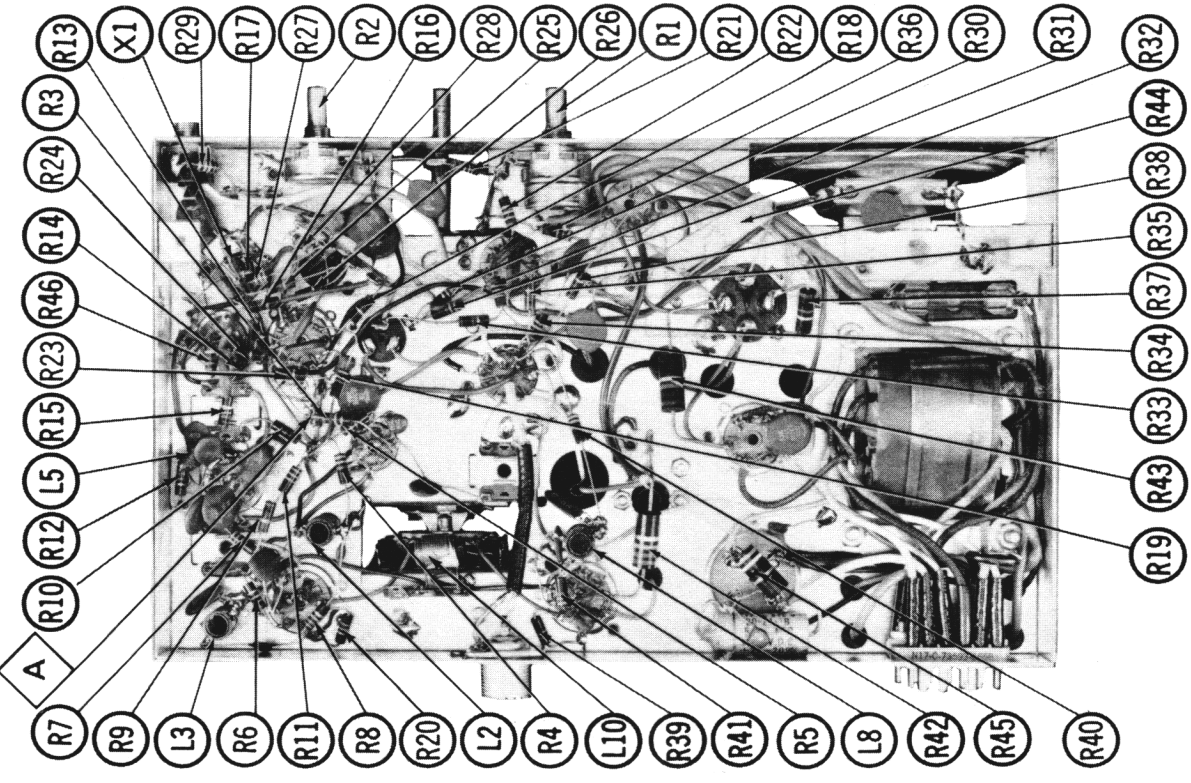


2ND CONV., IF AMP, SQUELCH, NOISE LIMITER, DETECTOR & FILAMENT CIRCUITRY USED IN SOME VERSIONS.

UTICA
MODEL MC-27



CHASSIS BOTTOM VIEW -
CAPACITOR & MISC. IDENT.



CHASSIS BOTTOM VIEW - RESISTOR & INDUCTOR IDENT.

PARTS LIST AND DESCRIPTIONS

TUBES

AMPEREX		GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE		
V1	RF Amplifier	6BZ6	V6	Speech Amp. -AF Amp.	78B7 (6UBA)*		
V2	Mixer-Rec. Osc.	6UBA	V7	Output-Modulator	6AQ5		
V3	Converter	6BE6	V8	Trans. Osc. -Final Amp.	6CX8		
V4	IF Amp. -Squelch Amp.	6BJ6	V9	Rectifier	6BW4		
V5	Squelch - Noise Lim.	12BR7					

Note 1. Early version uses 6AL5 in this application.

* Alternate.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	RECTIFIERS		DIODES		NOTES
		ORIGINAL Part or Type No.	SARKES TARZIAN Part No.	RAYTHEON Part No.		
X1		IN34		IN34A	Detector	

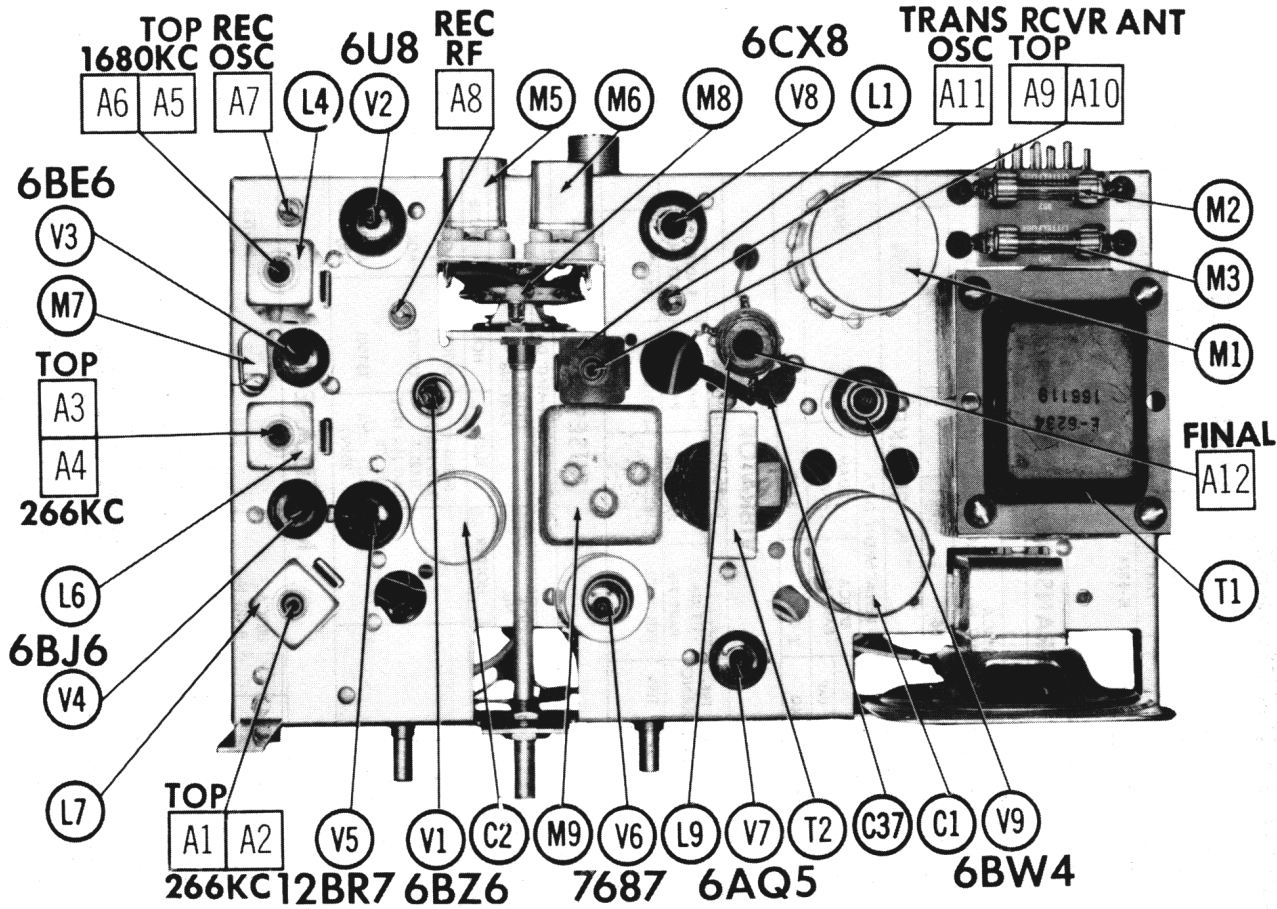
ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	VOLTS.	REPLACEMENT DATA			
			UTICA Part No.	AEROVOX Part No.	CORNELL DUBILIER Part No.	GENERAL ELECTRIC Part No.
C1A	.30	450		AFH3-140-80	C0870	XC3-39
C	.40	350		PRSI460	BR3045	QTI-12
C2A	.10	100		AFH3-05	B0070	XC2-32
C	.100	25		PRSI410	BBR10-150	QTI-5

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX Part No.	CENTRALAB Part No.	CORNELL-ELMENCOR Part No.	ELMENCOR Part No.
C3	33 NPO 10%		NPO-D1 33	DTZ-33	C10033C	CCTO-330
C4	.02		BPD-02	DD-203	BYB652	CCD-203
C5	.001		BPD-001	DD-102	BYA10D1	CCD-102
C6	33 NPO 10%		NPO-D1 33	DTZ-33	C10033C	CCTO-330
C7	.001		BPD-001	DD-102	BYA10D1	CCD-102
C8	.02		BPD-02	DD-203	BYB652	CCD-203
C9	.001		BPD-001	DD-102	BYA10D1	CCD-102
C10	.001		BPD-001	DD-102	BYA10D1	CCD-102
C11	.02		BPD-02	DD-203	BYB652	CCD-203
C12	33 NPO 10%		NPO-D1 33	DTZ-33	C10033C	CCTO-330
C13	.470		DI-470	DD-471	L10747	CCD-471
C14	.02		BPD-02	DD-203	BYB652	CCD-203
C15	.02		BPD-02	DD-203	BYB652	CCD-203
C16	.02		BPD-02	DD-203	BYB652	CCD-203
C17	.02		BPD-02	DD-203	BYB652	CCD-203
C18	.02		BPD-02	DD-203	BYB652	CCD-203
C19	.02		BPD-02	DD-203	BYB652	CCD-203
C20	220		DI-220	DD-221	L10722	CCD-221
C21	220		DI-220	DD-221	L10722	CCD-221
C22	.02		BPD-02	DD-203	BYB652	CCD-203
C23	.02		BPD-02	DD-203	BYB652	CCD-203
C24	.02		BPD-02	DD-203	BYB652	CCD-203
C25	.02		BPD-02	DD-203	BYB652	CCD-203
C26	.02		BPD-02	DD-203	BYB652	CCD-203
C27	220		DI-220	DD-221	L10722	CCD-221
C28	.02		BPD-02	DD-203	BYB652	CCD-203
C29	.02		BPD-02	DD-203	BYB652	CCD-203
C30	.02		BPD-02	DD-203	BYB652	CCD-203
C31	.02		BPD-02	DD-203	BYB652	CCD-203
C32	.02		BPD-02	DD-203	BYB652	CCD-203
C33	.02		BPD-02	DD-203	BYB652	CCD-203
C34	33 NPO 10%		NPO-D1 33	DTZ-33	C10033C	CCTO-330
C35	6.8 NPO 10%		NPO-D1 6.8	DTZ-6R8	C10V68C	CCTO-6R8
C36	.001		BPD-001	DD-102	BYA10D1	CCD-102
C37	.002 3000V		HVD-30-2200	DD30-202	HVC30D2	3CCD-202

CHASSIS—TOP VIEW



Labels on the chassis image include: TOP REC 1680KC OSC (A6, A5, A7), 6U8 (V2), REC RF (A8), 6CX8 (V8), TRANS RCVR ANT OSC TOP (A11, A9, A10), M2, M3, M1, FINAL (A12), T1, M7, TOP (A3, A4), 266KC (L6), 6BE6 (V3), 6BJ6 (V4), L7, TOP (A1, A2), 266KC, 12BR7, 6BZ6, 7687, 6AQ5, 6BW4, V5, V1, C2, M9, V6, L9, V7, T2, C37, C1, V9.

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.
C38	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C39	.002 3000V		HVD-30-2200	DD30-202	HVC30D2	3CCD-202	3HV-222	30GA-D20
C40	.5 100V		P288N-5		CUB2P5	IDP-4-504	GEM-205	2TM-P50
C41	.001	Note 1	BP D-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C42	.001	Note 1	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C43	.001	Note 1	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10

Note 1. Not used in some versions.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			UTICA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	150K		B-44, KR-1, or (AB-44, AK-1), KR-1	A47-150K-S/RS-2, SWE-12	B13-328, SK3, 76-1	U42, US-26
R2	Squelch	150K		B-43, or (AB-43, AK-1)	A47-150K-S/RS-2	B11-328, SK3	U43

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	270K				
R4	3300Ω				
R5	33K				
R6	270K				
R7	33K				
R8	22K				
R9	1meg				
R10	3000Ω				
R11	33K				
R12	22K				
R13	1meg				
R14	1meg				
R15	12K				
R16	1meg				
R17	68K				
R18	1meg				
R19	3300Ω				
R20	68K				
R21	270K				
R22	1meg				
R23	1meg				
R24	1meg				
R25	1meg				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		UTICA PART No.	Miller PART No.	Stancor PART No.	
L1	Ant.			Workman T234	
L2	R.F.	TV-140	6171-A	T216	
L3	Osc. Plate	SW-608	6171-A	T216	
L4	1680KC IF	SW-608		T216	
L5	R.F. Choke (50uh)	TV-183	4629	T982	
L6	1st 266KC IF	BC-350		T604	
L7	2nd 266KC IF	BC-351		T605	
L8	Osc. Plate	RTC-8688		T605	
L9	Final	RTC-8609		T216	
L10	F.I.L. Choke (50uh)	6171-A			

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		UTICA PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	SEC. 1 SEC. 2 PRL 117VAC f 640 6.4V⊕ 4A VCT	E-6234				*.5A (Rec) .680A (Trans) .046A (Rec) .080A (Trans)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
		UTICA PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	3-4Ω	E-6256				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		UTICA PART No.	QUAM PART No.	
SP1 3 1/2"	PM 3-4Ω	X-031B	3A07	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS/QUFREQUENCY	REPLACEMENT DATA		NOTES
			UTICA PART No.	MALLORY PART No.	
M1	Interrupter	6V 115%	VTB (810)	1610	5372

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			NOTES
			UTICA PART No.	FUSE HOLDER	BUSS PART No.	
M2	3AG	15A				
M3	3AG	32V 1 1/4	31015 (3AG 15A 32V)	357002	AGC 15	3823-2
M4	3AG	125V .175A 250V	31301.5 (3AG 1 1/4 125V)	357002	AGC 1 1/2	3823-2
			312.175 (3AG .175A 250V)	357001	AGC 175/1000	4405

MISCELLANEOUS

ITEM No.	PART NAME	UTICA PART No.	NOTES
M6	Crystal		
M7	Crystal		
M8	Switch		
M9	Relay		

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Antenna Lead	8524 (Stranded) Available in 12 Colors
	8224 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58/U)
	8498 3 Conductor - 1 Shielded for Press-to-Talk (Neoprene)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8681 (3/8 In.)