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PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Radiocom Models 27C-2A/-2B/-2C
 SUPPLIER : Maxwell Electronics Corp.
 229 Garvon Street, Garland, Texas
 TYPE SET : 10 Tube Transceiver
 POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles (or)
 6 (or) 12 Volt Storage Battery
 RATING : 70 Watts, .62 Amp. @117 VAC (Receive)
 80 Watts, .74 Amp. @117 VAC (Transmit)
 4.3 Amp. @12.6VDC (Receive)
 TUNING RANGE : Any one CB Channel 1 thru 23

RADIOCOM MODELS 27C-2A/-2B/-2C

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

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

RECEIVER ALIGNMENT

Use only enough generator output to provide a usable indication.
 Connect DC VTVM across volume control.

Suggested Alignment Tools: GENERAL CEMENT # 5097, 8727
 A1 thru A4... WALSCO #2515

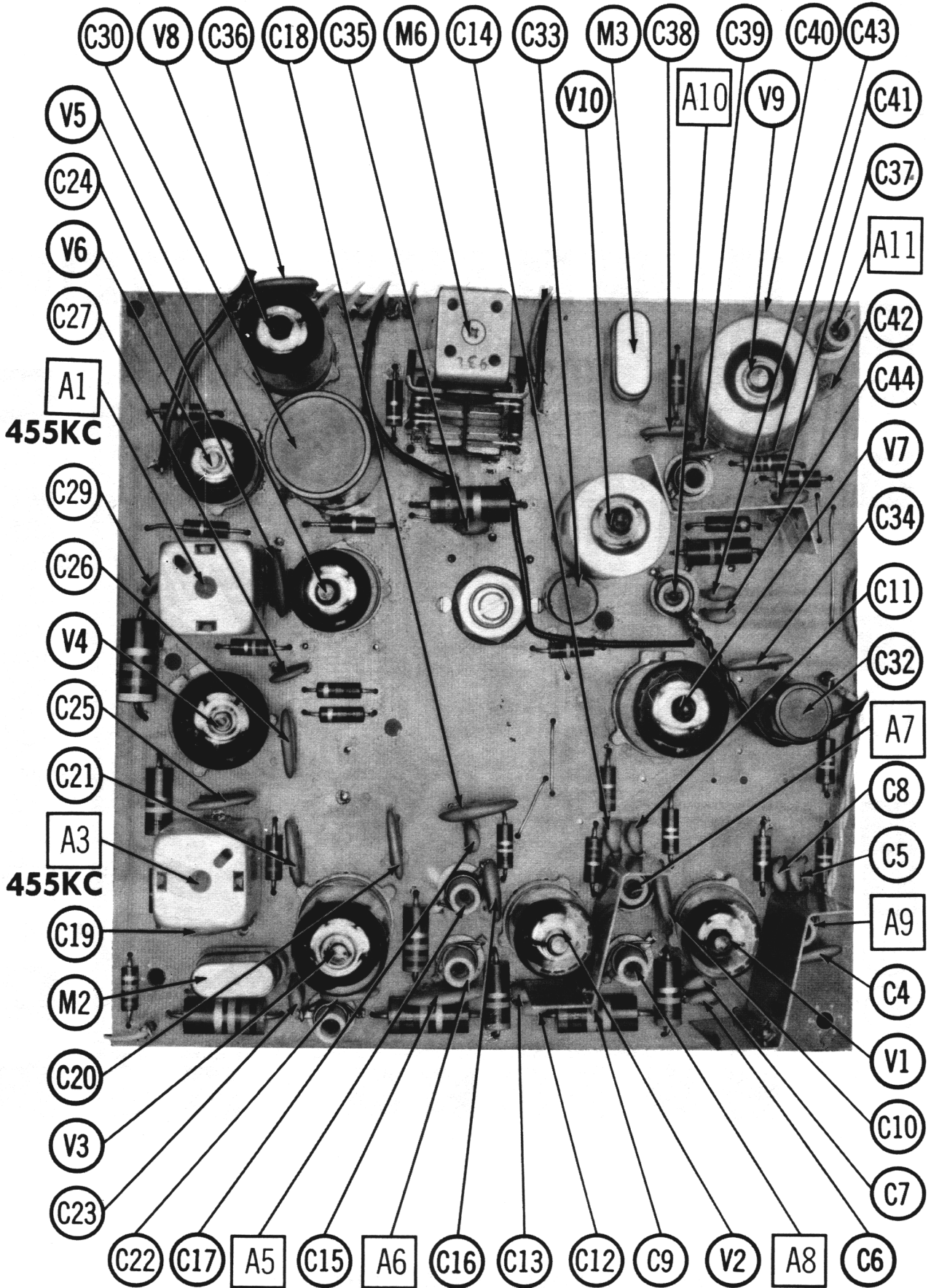
	SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
1.	High side to pin 2 (grid) of Mixer, Low side to chassis. Tune to 455KC (Unmod.)	Any	A1, A2, A3, A4	Remove receiver crystal. Adjust for maximum deflection. Reinsert crystal.
2.	High side to antenna receptacle, low side to chassis. Tune to receiver freq.	"	A5, A6, A7, A8, A9	Loosen locking inserts. Adjust for maximum deflection. Tighten locking inserts being careful not to disturb cores.

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)

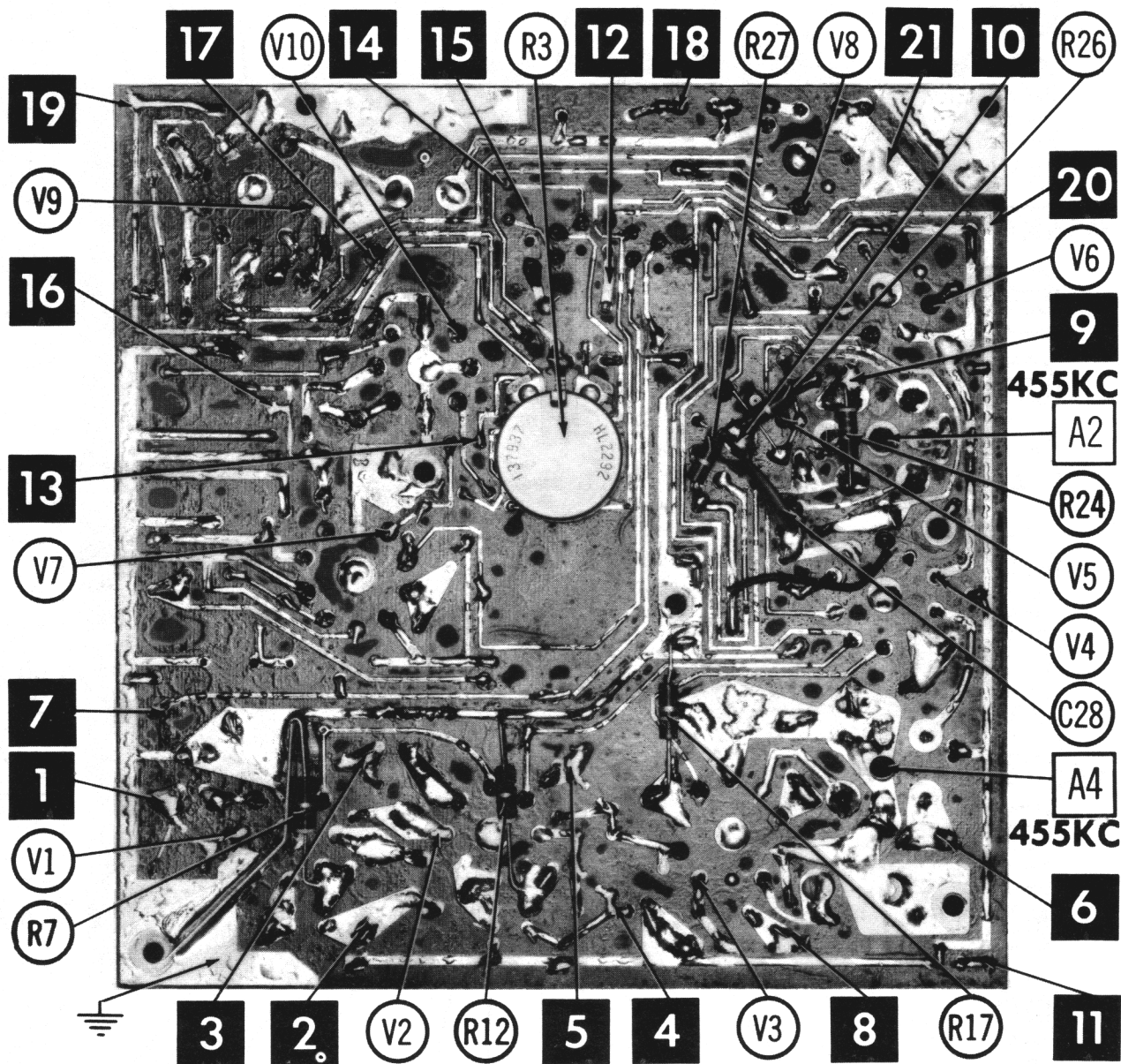
	SPECIAL INSTRUCTIONS	INDICATOR	ADJUST	REMARKS
3.	Connect suitable load to antenna receptacle. Turn A11 core to extreme low end of coll.	RF Wattmeter or field strength meter.	A10, A11	Key Transmitter. Adjust for maximum output. Repeat adjustments until no further improvement is noticed.

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

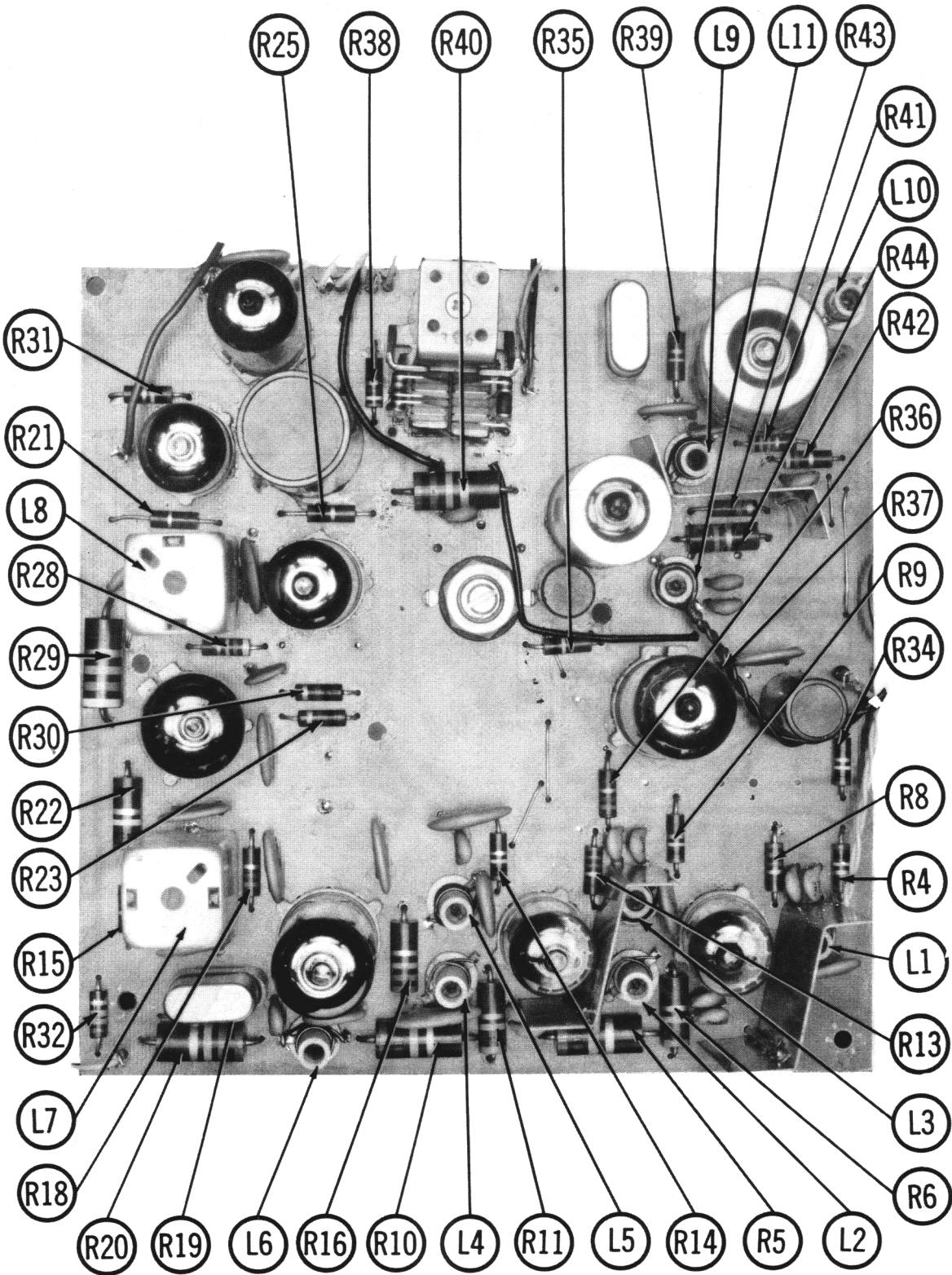


RADIOCOM MODELS 27C-2A/-2B/-2C

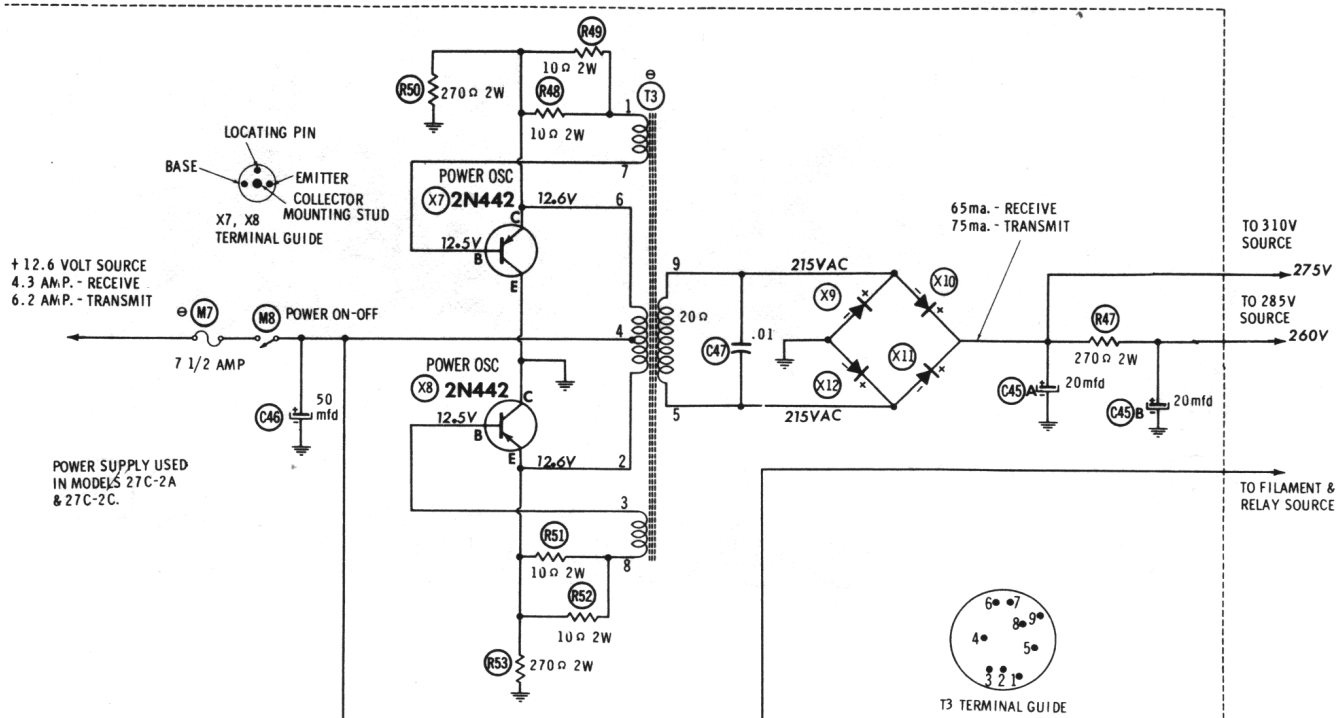
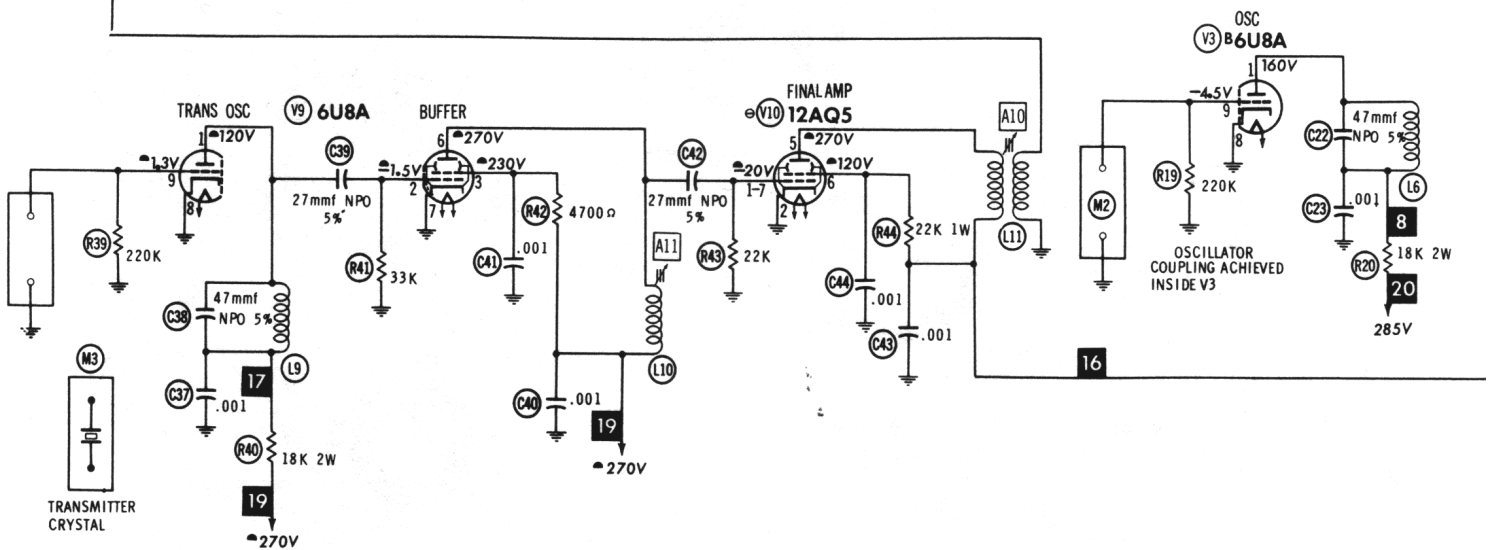
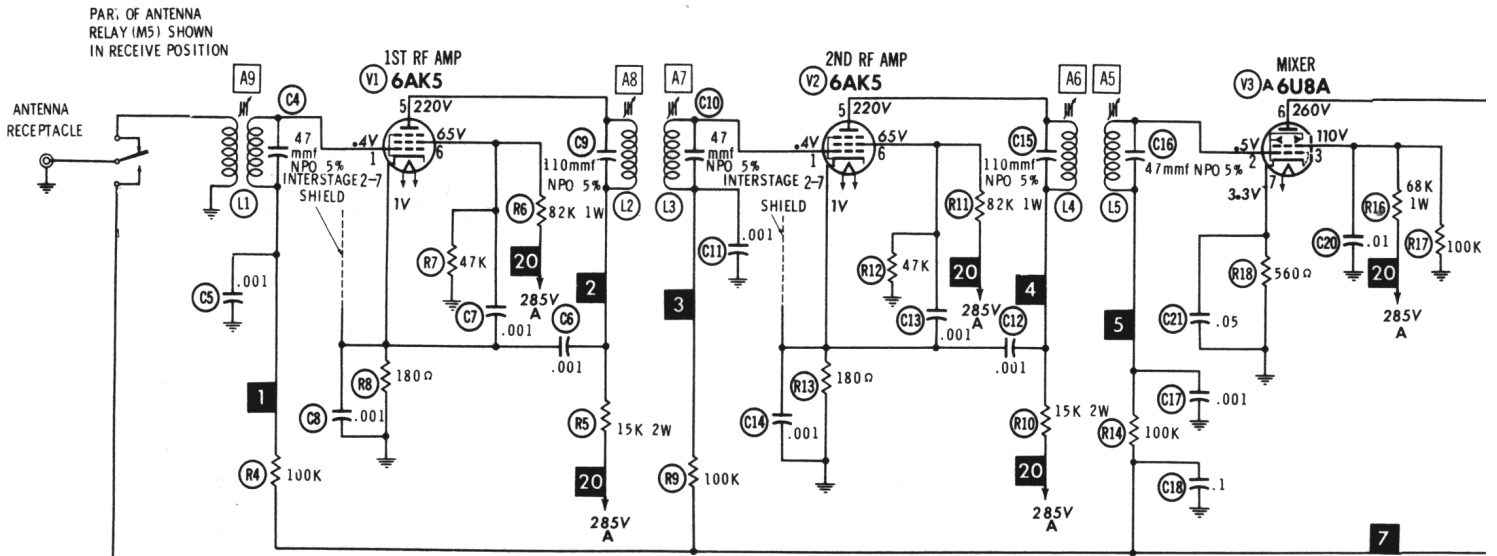
MAIN CHASSIS TOP VIEW - ALIGNMENT, CAPACITOR, TUBE & MISC. IDENT.

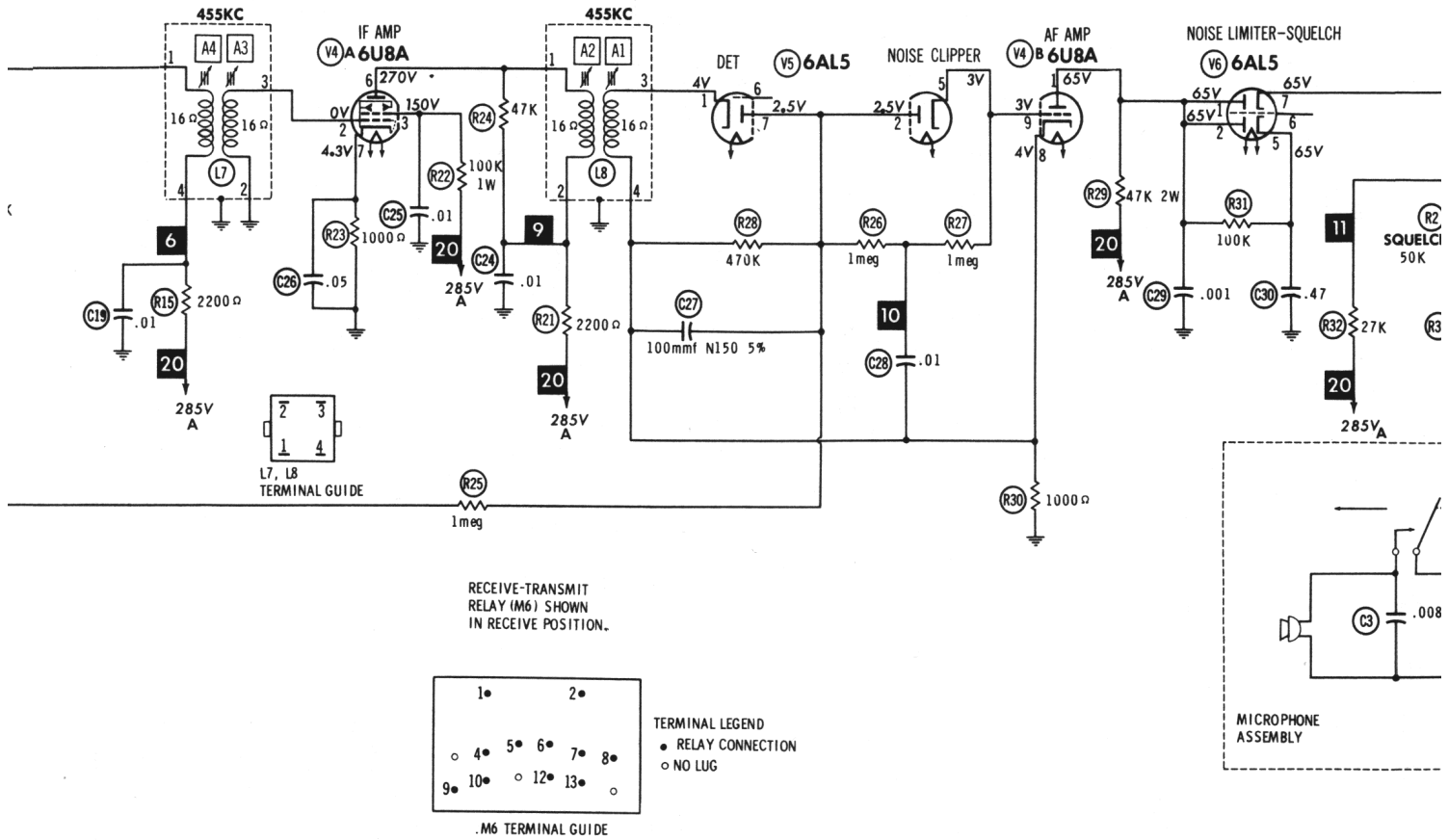


PRINTED BOARD — MAIN CHASSIS



MAIN CHASSIS TOP VIEW - RESISTOR & INDUCTOR IDENT.





RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6AK5	1.6meg	180Ω	FIL	FIL	†15K	†82K	180Ω		
V2	6AK5	1.6meg	180Ω	FIL	FIL	†15K	†82K	180Ω		
V3	6U8A	†18K	1.6meg	100K	FIL	FIL	†2700Ω	560Ω	0Ω	220K
V4	6U8A	†47K	16Ω	†100K	FIL	FIL	†2700Ω	1000Ω	1000Ω	2.5meg
V5	6AL5	1000Ω	470K	FIL	FIL	2.5meg	NC	470K		
V6	6AL5	47K	†47K	FIL	FIL	†150K	NC	†47K		
V7	12AT7	†100K	100K	560Ω	FIL	FIL	†22K	0Ω	INF	FIL
V8	6AQ5	0Ω	390Ω	FIL	FIL	†280Ω	†540Ω	0Ω		
V9	6U8A	†18K	33K	†5000Ω	FIL	FIL	†540Ω	0Ω	0Ω	220K
V10	12AQ5	22K	0Ω	FIL	FIL	†500Ω	†22K	22K		

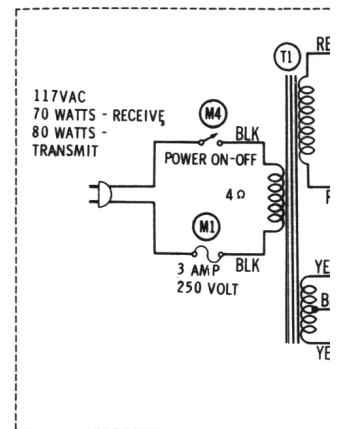
ALL MEASUREMENTS TAKEN IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.
 ● TAKEN IN "TRANSMIT" POSITION. ▲ SQUELCH CONTROL AT PROPER SETTING.
 † MEASURED FROM JUNCTION OF X2 & X3. ALL OTHER CONTROLS AT MINIMUM.
 NC NO CONNECTION

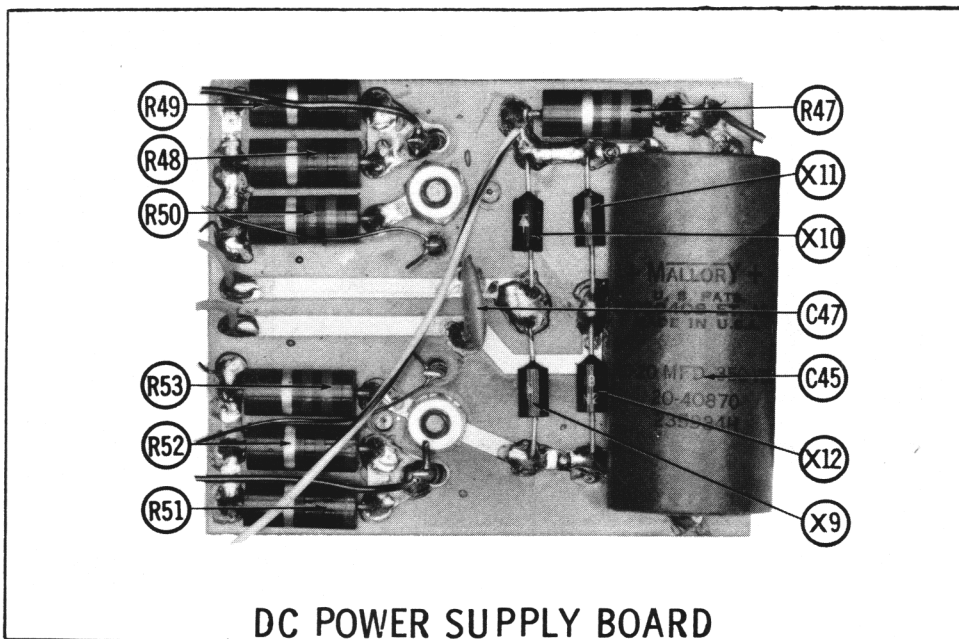
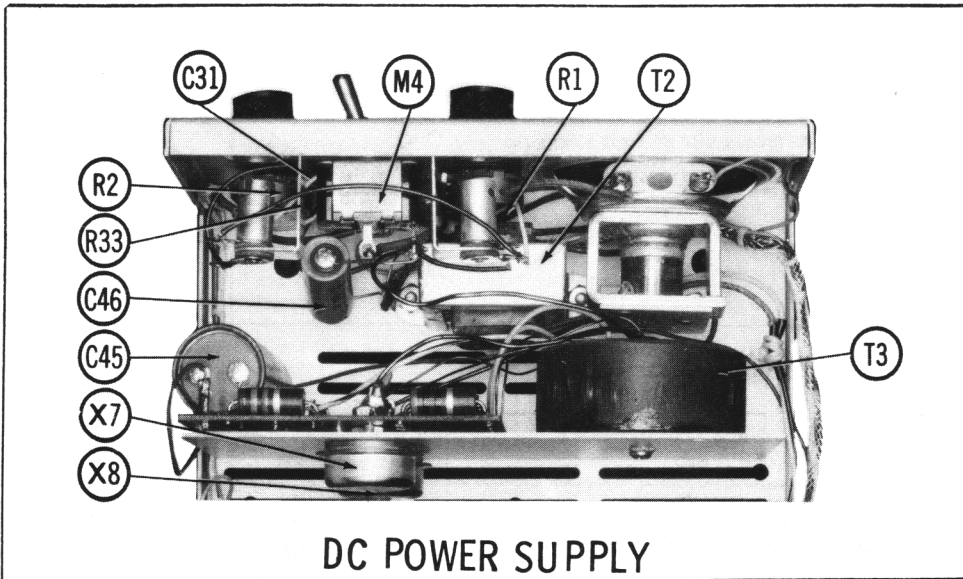
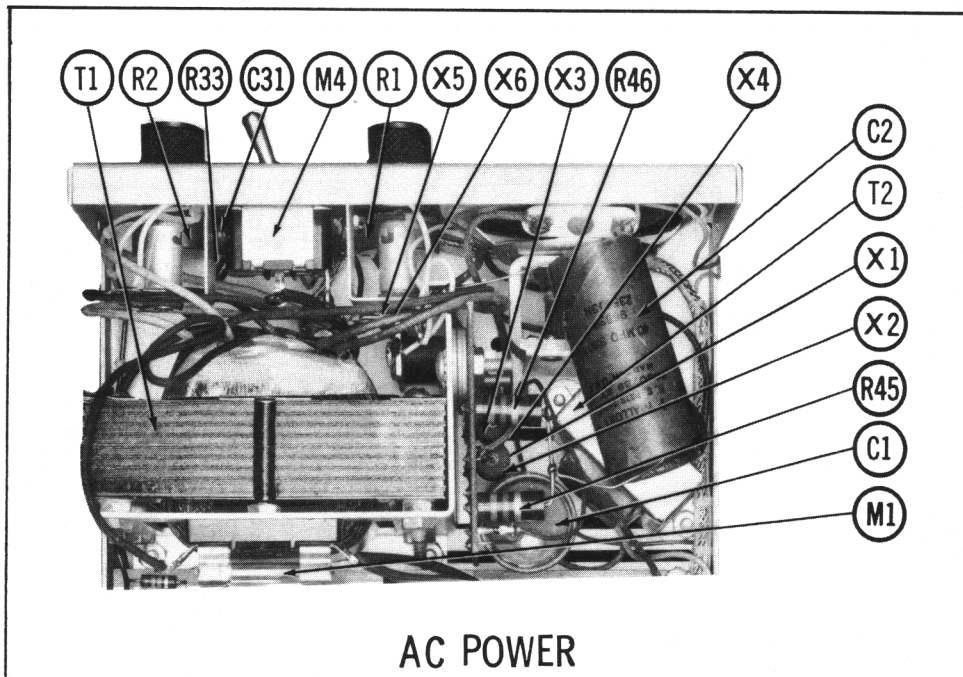
RESISTANCE MEASUREMENTS FOR X7 AND X8 NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

● SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

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

A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE





RADIOCOM MODELS 27C-2A/-2B/-2C

MAIN PARTS LIST AND DESCRIPTION

WIRING DATA

General-use Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
 8524 (Stranded) Available in 12 Colors
 Shielded Antenna Lead Use BELDEN No. 824 Low Loss (RG-8/U Type)
 8237 Low Loss (RG-8/U)
 8240 (Solid) Miniature (RG-58A/U)
 8258 (Stranded) Miniature (RG-58A/U)
 Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor - 1 Shielded for Press-to-Talk (Neoprene)
 8498 3 Conductor - 1 Shielded for Press-to-Talk (Vinyl)
 Ignition Noise Suppression Use BELDEN No. 7300-Series Spark-Plug Sets
 Bonding Strap Use BELDEN No. 8661 (3/8 In.)

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	1st RF Amplifier	6AK5	V6	Noise Limiter-Squelch	6AL5
V2	2nd RF Amplifier	6AK5	V7	Speech Amp. -AF Amp.	12AT7
V3	Mixer-Osc.	6UBA	V8	Output-Modulator	6AQ5
V4	IF Amp. -AF Amp.	6UBA	V9	Trans. Osc. -Buffer	6UBA
V5	Det. -Noise Clipper	6AL5	V10	Final Amplifier	12AQ5 (6AQ5)*

* Used in Model 27C-2C.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		NOTES
			SARKES TARZIAN PART No.	RAYTHEON PART No.	
X1	.05A	700-0026-001	IN3194	2F4	HV Bridge Rect. (IN270) LV DC Rect. (IN1217)
X2	.05A	700-0026-001	IN3194	2F4	
X3	.05A	700-0026-001	IN3194	2F4	
X4	.05A	700-0026-001	IN3194	2F4	
X5	1.6A	700-0025-001	IN2858		
X6	1.6A	700-0025-001	IN2858		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP. VOLT.	REPLACEMENT DATA			
		MAXWELL PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.
C1A	20	301-0021-001	PR81670	BR40-350	QTL-14
C2	40	301-0024-001			TCD85
					TC78
					TDLD-28
					TD-40-350
					TVA-1611
					TVAS-2635*

* Not normally in distributor's stock. A available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C3	.008 200V		P288N-008	DD-822	DDMS-6D8	6DP-2-802	GEM-628	6TM-D80
C4	47 NPO 5%		NPO-DI-47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C5	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C6	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C7	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C8	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C9	110 NPO 5%	#300-0004-001	NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C10	47 NPO 5%		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C11	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C12	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C13	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C14	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C15	110 NPO 5%	#300-0004-001	NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C16	47 NPO 5%		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C17	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C18	.1 50V		C80V104AM	DF-104	H-05P10	TA-010	TA-010	5HK-D10
C19	.01		BPD-001	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.01		BPD-001	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	.05 50V		BPD-05	DD-503	H-05S5	TA-150	TA-150	TG-S50
C22	47 NPO 5%		NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C23	.001		BPD-001	DD-102	BYA10D1	CCD-103	B-210	5HK-D10
C24	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C25	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C26	.05 50V		BPD-05	DD-503	H-05S5	TA-150	TA-150	TG-S50
C27	100 N150 5%	#300-0003-001	BPD-001	DD-103	BYA10S1	CCD-103	B-110	10TCC-T110
C28	.01		BPD-01	DD-102	BYA10D1	CCD-102	B-110	5HK-S10
C29	.01		BPD-01	DD-102	BYA10D1	CCD-102	B-110	5HK-S10
C30	.47 400V		P415IN-47	P415IN-47	P415IN-47	GEM-4047	4TM-P47	4TM-P47
C31	.047 600V		P615IN-047	P615IN-047	P615IN-047	GEM-6147	6SE-S47	6SE-S47
C32	.047 600V		P615IN-047	P615IN-047	P615IN-047	GEM-6147	6SE-S47	6SE-S47
C33	.022 600V		P615IN-022	P615IN-022	P615IN-022	ACE-6147	6SE-S22	6SE-S22
C34	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C35	.001		BPD-001	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C36	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C37	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C38	47 NPO 5%		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C39	27 NPO 5%		NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C40	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C41	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C42	27 NPO 5%		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C43	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C44	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10

* Not normally in distributor's stock. A available thru distributor on order to manufacturer.
 # Maxwell Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			MAXWELL PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	
R1	Volume	100K	406-0011-001	B-41, or (A-B-41, AK-7)	A47-100K-Z, FS-3	Q13-128	U99, or (UA15A, SF1000)
R2	Squelch	50K	406-0010-001	B-32, or (A-B-32, AK-7)	A47-50K-Z, FS-3	Q11-123, or (BU1, C F12, SS1, DC1)*	U99, or (UA15A, SF1000)
R3	Modulation	100K	406-0009-001	B-40, or (A-B-40, AK-1)	A47-100K-Z, FS-3	BU1-128, SK3, or (BU2, C F13, SS3, DC1)*	U99, or (UA15A, SF1000)

RESISTORS

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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			IRC PART No.	WORKMAN PART No.	ITEM No.	RATING
R4	100K				R26	1m eg
R5	15K 2W				R27	1m eg
R6	82K 1W				R28	470K
R7	47K				R29	47K 2W
R8	180K				R30	1000K
R9	100K				R31	100K
R10	15K 2W				R32	27K
R11	82K 1W				R33	18K
R12	47K				R34	100K
R13	180K				R35	100K
R14	100K				R36	560K
R15	2200K				R37	22K
R16	68K 1W				R38	390K
R17	100K				R39	220K
R18	560K				R40	18K 2W
R19	220K				R41	33K
R20	18K 2W				R42	4700K
R21	2200K				R43	22K
R22	100K 1W				R44	22K 1W
R23	1000K				R45	270K 2W
R24	47K				R46	270K 2W
R25	1m eg					

MAIN PARTS LIST AND DESCRIPTION (CONTINUED)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				NOTES
		MAXWELL PART No.	Merit PART No.	Stancor PART No.	Workman PART No.	
L1	Aut. P.T., 1st RF	200-0038-001				
L2	P.T., 1st RF	200-0001-001				
L3	Sec. 1st RF	200-0002-001				
L4	P.T., 2nd RF	200-0001-001				
L5	Sec. 2nd RF	200-0002-001				
L6	Receiver Omc.	200-0002-001				
L7	Input IF	200-0005-001				
L8	Output IF	200-0005-001				
L9	Sec. Plate Trans.	200-0001-001				
L10	Buffer Amp. Plate	200-0001-001				
L11	F final Amp.	200-0002-001				

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		MAXWELL PART No.	Merit PART No.	STANCOR THORDARSON PART No.	TRIAD PART No.	
T1	PRI. SEC. 1 SEC. 2 117V @ 225V @ .62A .045A .75A* .081A* 1.6A 1.8A*	200-0009-001				* Transmit

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
		MAXWELL PART No.	Merit PART No.	Stancor Thordarson PART No.	Triad PART No.	
T2	PRI. SEC. 6750Ω 3-4Ω 1750Ω	200-0006-001				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MAXWELL PART No.	GUAM PART No.	
SPI	FIELD V. C. IMP. 3-4Ω	200-0001-001	30A5	

FUSES

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		MAXWELL PART No.	LITTELFUSE PART No.	HOLDER	BUSS PART No.	
M1	3A 250V	600-0028-001	312003	357001	AGC 3	4405

MISCELLANEOUS

ITEM No.	PART NAME	MAXWELL PART No.	NOTES
M2	Crystal		
M3	Crystal		
M4	Switch	600-0087-001	Receive (Specify Model & Channel Desired)
M5	Relay	203-0002-001	Transmit (Specify Model & Channel Desired)
M6	Relay	203-0001-001	On-Off SPST Toggle Type
	Relay	203-0004-001	Antenna (12V)
	Relay	203-0004-001	Antenna (6V)
	Relay	203-0003-001	Control (12V)
	Relay	203-0003-001	Control (6V)
	Microphone	202-0002-001	

CABINETS & CABINET PARTS

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

NAME	PART NO.	DESCRIPTION
Knob	600-0008-001	Volume, Squelch

DC POWER SUPPLY PARTS LIST AND DESCRIPTION TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	
X7	2N442	Power Oscillator	GE-4			PNP
X8	2N442	Power Oscillator	GE-4			PNP

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		NOTES
			SARKES TARZIAN PART No.	RAYTHEON PART No.	
X9	.075A	700-0028-001	IN3194		
X10	.075A	700-0028-001	IN3194		
X11	.075A	700-0028-001	IN3194		
X12	.075A	700-0028-001	IN3194		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	CAP.	VOLT.	REPLACEMENT DATA					SPRAGUE PART No.	
				MAXWELL PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.		PYRAMID PART No.
C45A	20	350	301-0021-001	PR81265	BR50-25	QT1-15	TCD65	TD-50-25	TDLD-28	TVA-1206
C46	50	15	301-0023-001				TC29			

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					SPRAGUE PART No.	
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	EUMENCO PART No.	MALLORY PART No.	WORKMAN PART No.		
C47	.01		BPD-01	DD-103	BYAL081	CCD-103	B-110	5BK-S10	

RESISTORS

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

ITEM No.	RATING	REPLACEMENT DATA		REPLACEMENT DATA		REMARKS
		IRC PART No.	WORKMAN PART No.	ITEM No.	RATING	
R47	270Ω 2W			R51	100 2W	
R48	100 2W			R52	100 2W	
R49	100 2W			R53	2700 2W	
R50	270Ω 2W					

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		MAXWELL PART No.	MERIT PART No.	STANCOR THORDARSON PART No.	TRIAD PART No.	
T3	PRI. SEC. 1 SEC. 2 17.5VAC 2VAC @ ② 2.2A .2A C.T. SEC. 3 215V @ .065A (.075A)*	200-0003-001				① Part #200-0002-001 used in 6 Volt versions. * Transmit

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				NOTES
			MAXWELL PART No.	HOLDER	FUSE	BUSS PART No.	
M7	SFE SFE	7A 14A	600-0038-001	30707.5	155009	SFE 7A SFE 14	HOLDER HRE HRE
			① 600-0038-001	② 307014	155014		

① 12 Volt DC Versions.

MISCELLANEOUS

ITEM No.	PART NAME	MAXWELL PART No.	NOTES
M8	Switch	600-0087-001	Power On-Off (Toggle Type)