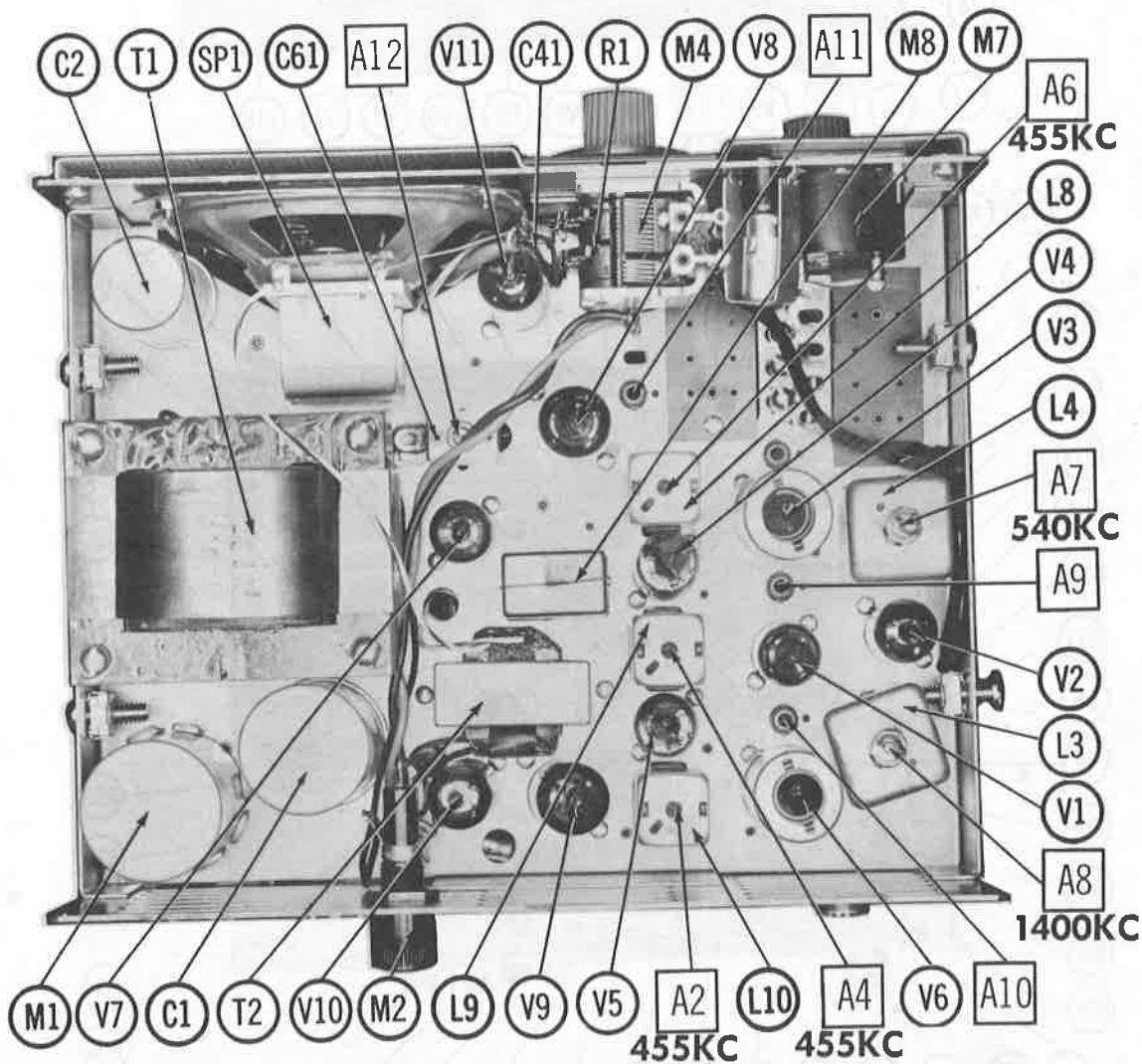


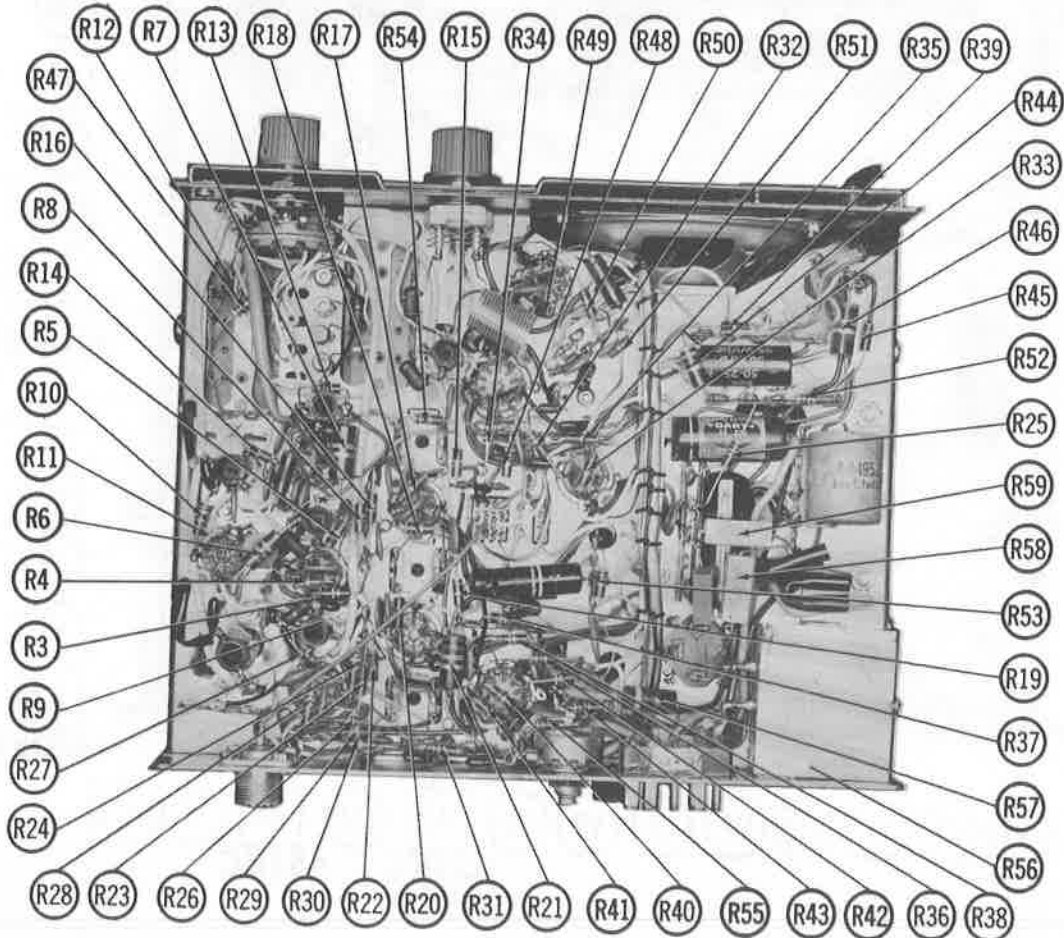
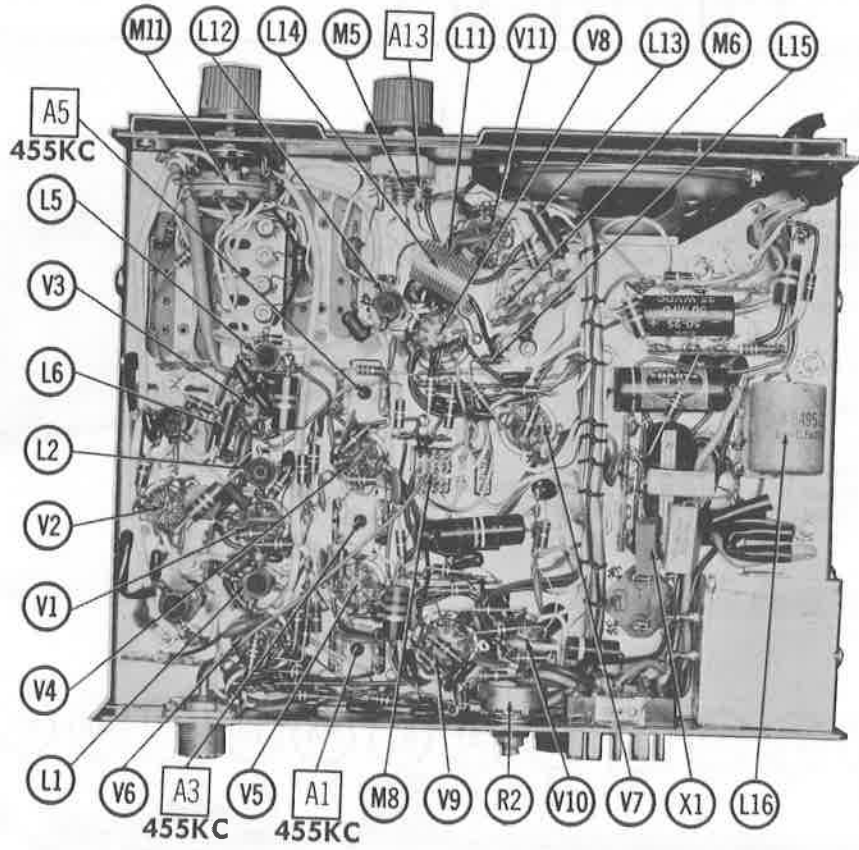
PHOTOFACT[®]

TRADE NAME : Kaar Models TR327, TR327A, TR327B
 SUPPLIER : Kaar Engineering Corp.
 2995 Middlefield Road,
 P.O. Box 1320, Palo Alto, Calif.
 TYPE SET : 10 (or) 11 Tube Transceiver
 POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles (or)
 6 (or) 12 Volt Storage Battery
 RATING : 64 Watts, .75 Amp. @ 117 VAC
 4.1 Amp. @ 12.6 VDC
 TUNING RANGE : Any 4 CB Channels 1 thru 23
 Model TR327A also tunes Broadcast Band
 Model TR327B has tuneable CB Receiver



KAAR MODELS TR327, TR327A, TR327B

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



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6, A12.....GENERAL CEMENT #5907, 8607, 8727
 WALSCO #2515
 A7, A8.....GENERAL CEMENT #8196, 8722, 8272
 WALSCO #2515, 2516, 2518, 2519, 2525, 2541
 A9, A10, A11..... GENERAL CEMENT #8606, 9295, 8282
 WALSCO #2526, 2543, 2544, 2545

RECEIVER ALIGNMENT

Volume control should be at maximum. Output of signal generator should be no higher than necessary to obtain an output reading. Connect output meter across voice coil.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 2 (grid) of V3 (Mixer), low side to chassis. Tune to 455KC (400% Mod).	Any	A1 thru A6	Turn squelch control fully clockwise. Adjust for maximum output.
Across antenna jack. Tune to 540KC (400% Mod.)	BC	A7	BC Tuning gang fully closed. Adjust for maximum output.
Across antenna jack. Tune to 1400KC (400% Mod.)	BC	A8	Set dial pointer to 1400KC. Adjust for maximum output.
Across antenna jack. Tune to channel frequency.	Center Channel Used.	A9, A10	Adjust for maximum output.

TRANSMITTER ALIGNMENT

Only those persons properly licensed are permitted to make repairs or adjustments which may result in illegal operation. (Refer to FCC rules and regulations Part 19, Subpart D, Section 19.71).

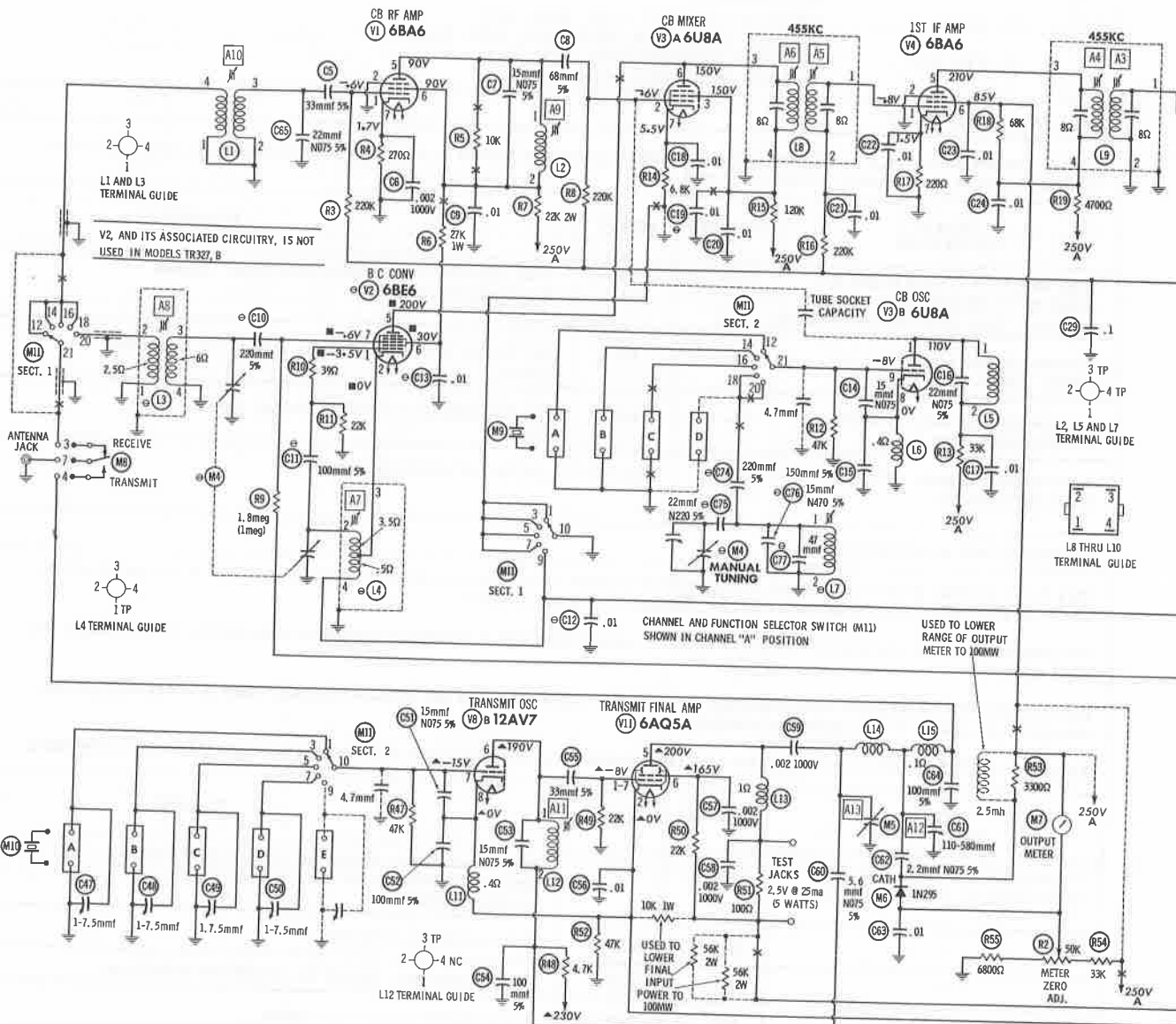
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Trimmers C47 thru C50 are provided for precise adjustment of frequency with the use of a secondary frequency standard.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
Connect DC VTVM across test jacks (R51) on rear of chassis.	Any	A11	Key transmitter. Adjust for maximum deflection. Key transmitter on all channels to be sure oscillator starts.
"	Any	A12	Turn clockwise until snug.
"	Any	A13	Key transmitter. Adjust for MINIMUM deflection.
"	Any	A12	Turn slightly counterclockwise.
"	Any	A13	Readjust for MINIMUM. Repeat adjustments of A12 and A13 until any further adjustment of A12 results in a voltage drop. Voltage should be approximately 2.5V (25ma, 5 Watts).

KAAR MODELS TR327, TR327A, TR327B



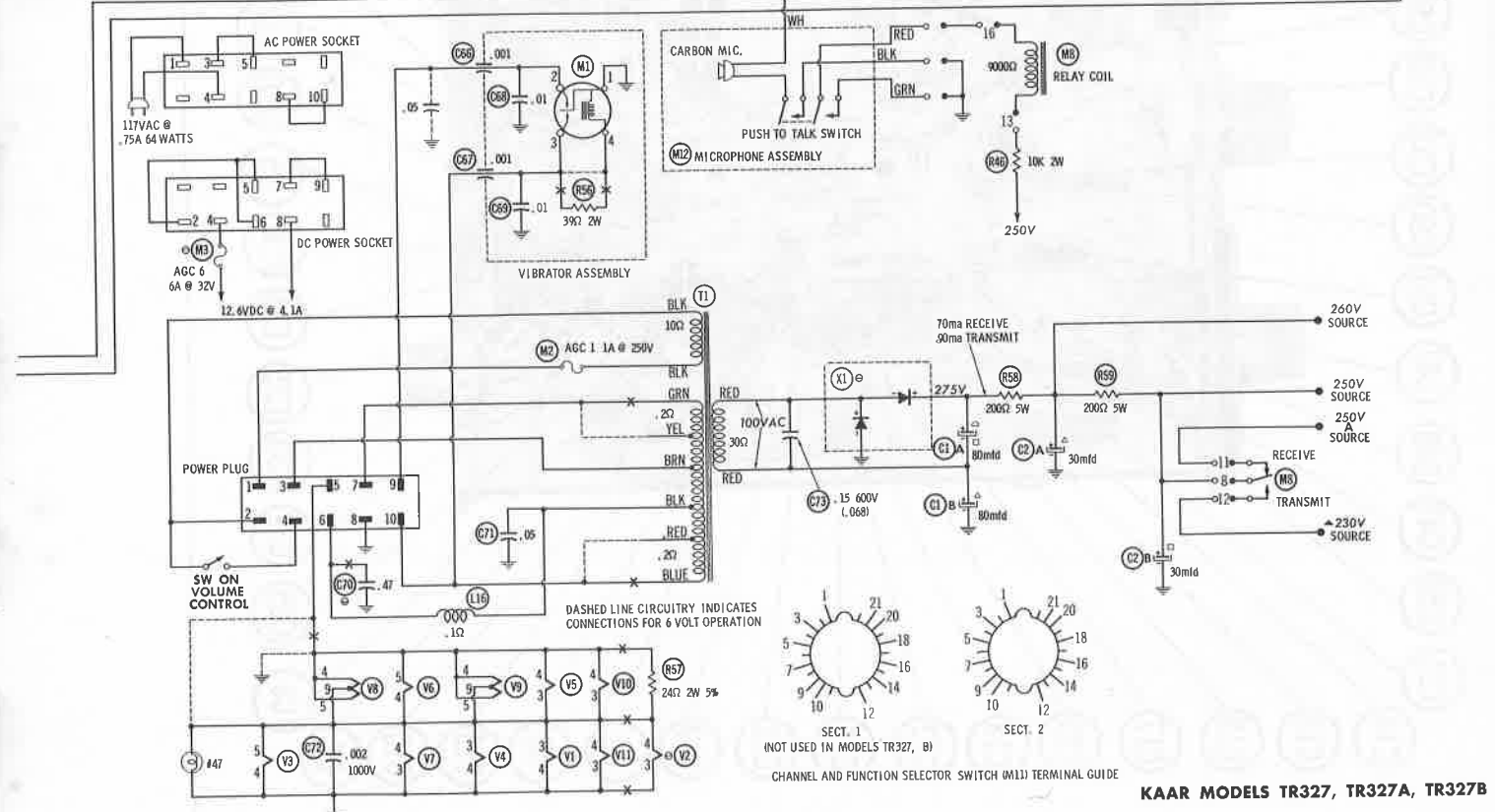
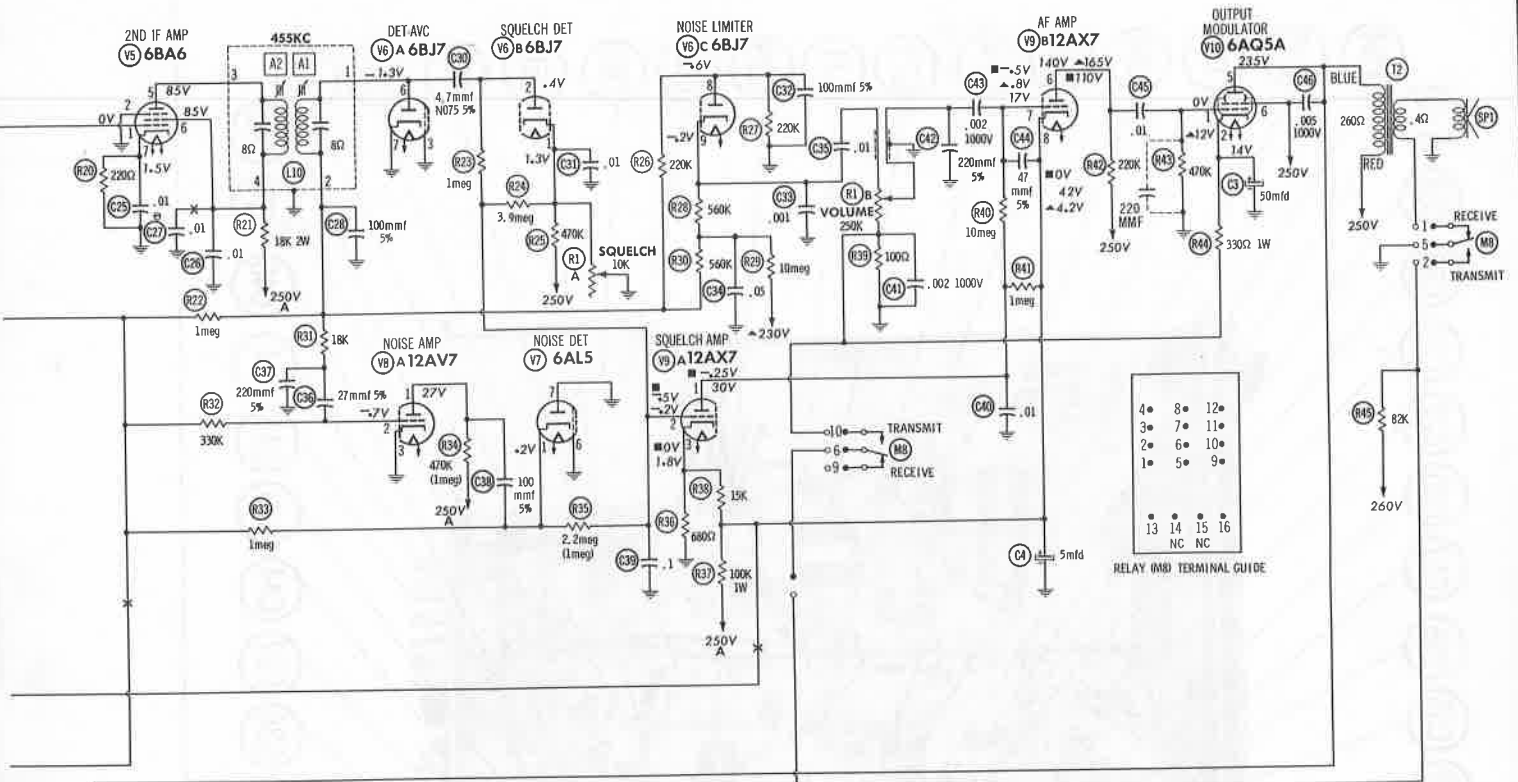
RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BA6	1.5meg	0Ω	FIL	FIL	122K	122K	270Ω		
V2	6BE6	22K	.5Ω	FIL	FIL	120K	149K	3meg		
V3	6U8A	133K	1.5meg	120K	FIL	FIL	120K	680Ω	.4Ω	47K
V4	6BA6	1.5meg	0Ω	FIL	FIL	15100Ω	150K	220Ω		
V5	6BA6	8Ω	0Ω	FIL	FIL	118K	118K	220Ω		
V6	6BJ7	2500Ω	3meg	0Ω	FIL	FIL	400K	0Ω	200K	1.5meg
V7	6AL5	1.7meg	NC	FIL	FIL	TP	0Ω	0Ω		
V8	12AV7	1470K	1.6meg	0Ω	FIL	FIL	1A5100Ω	47K	.4Ω	FIL
V9	12AX7	1meg	1.9meg	680Ω	FIL	FIL	122K	10meg	15K	FIL
V10	6AQ5A	470K	430Ω	FIL	FIL	1660Ω	1400Ω	NC		
V11	6AQ5A	22K	40Ω	FIL	FIL	1760Ω	122K	NC		

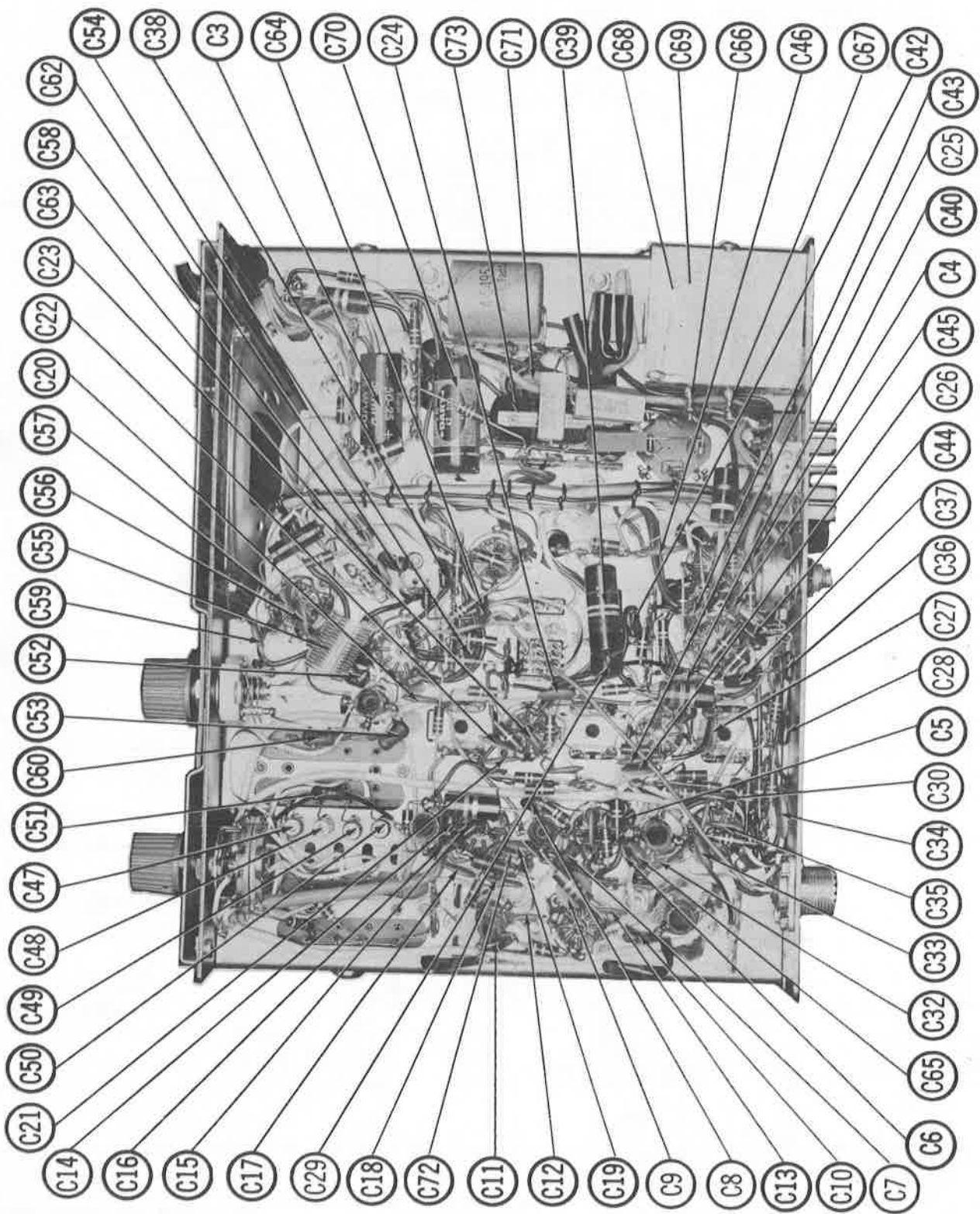
ALL MEASUREMENTS MADE IN CRYSTAL CONTROLLED RECEIVE POSITION UNLESS OTHERWISE DESIGNATED.
 ▲ MEASURED IN TRANSMIT POSITION.
 ■ MEASURED IN BC POSITION.
 † MEASURED FROM OUTPUT OF X1. NC NO CONNECTION TP TIE POINT

- See parts list for alternate value or application.
- Voltage measurements taken with vacuum tube voltmeter.
- All controls set for normal operation, no signal applied.
- Measured values are from socket pin or terminal to common ground.
- All terminals viewed from bottom unless otherwise designated.
- Numbers assigned to terminals may not be found on the unit.
- Supply voltage maintained at rated value for voltage readings.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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KAAR MODELS TR327, TR327A, TR327B



PARTS LIST AND DESCRIPTION

TUBES

ITEM No.	AMPEREX	GENERAL ELECTRIC	RCA	RAYTHEON	SYLVANIA	TYPE
V1	CB RF Amp.	6BA6		Noise Detector	6AL5	
V2	BC Conv.	6BE6		Noise Amp. - Transmitt. Osc.	12AV7	
V3	CB Mixer - CB Rec. Obs.	6BD6		Squelch Amp. - AF Amp.	12AX7	
V4	1st IF Amp.	6BA6		Output - Modulator	6AQ5A	
V5	2nd IF Amp.	6BA6		Transmitt. Final Amp.	6AQ5A	
V6	Det. - AVC-Squelch Det. - Noise Limiter	6B7				

① Not used in Models TR327, TR327B

POWER RECTIFIERS

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.080A	VB400	VB400	1N2854 or 1N2863 or 1N3195*	E-4* E-4*

* Use Two Units.

ELECTROLYTIC CAPACITORS

REPLACEMENT DATA							
ITEM No.	RATING	KAAR PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	200	AFH1-35	BR80-350	AFH1-35	XC2-16	TVL-2628	
C2A	200	AFH2-39	BR80-350	AFH2-39	MT1-17	TV A1206	
C3	350	PRE1265	BR50-25	PRE1265	NLW5-50	TF50X5	
C4	5	PRE154A	NLW5-50	PRE154A		TF-1303	

FIXED CAPACITORS

REPLACEMENT DATA								
ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C35	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C36	27-5%		ADM-15-270	CPR-270J	CD10E221J	SCDM-15-270J	B-110	MS-427
C37	200 5%		ADM-15-221	CPR-220J	CD10E221J	SCDM-15-221J	MCE235	MS-322
C38	100 5%		ADM-15-101	CPR-100J	CD10F101J	SCDM-15-101J	GEM-401	MS-31
C39	1.400V		P488N-1	DF-104	PM4P1	4DP-3-104	B-110	4TM-P10
C40	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C41	.002 1000V		BPD-002	DD-502	BYA10D2	CCD-502	B-220	5HK-D20
C42	220 5%		ADM-15-221	CPR-220J	CD10E221J	SCDM-15-221J	B-220	MS-322
C43	.002 1000V		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C44	47 5%		ADM-15-470	CPR-47J	CD10E470J	SCDM-15-470J	B-110	MS-447
C45	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C46	.005 1000V		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C47	1-7.5		829-7	829-7				
C48	1-7.5		829-7	829-7				
C49	1-7.5		829-7	829-7				
C50	1-7.5		829-7	829-7				
C51	15 N075 5%		ADM-15-101	CPR-100J	CD10F101J	SCDM-15-101J	MCE235	MS-31
C52	100 5%		ADM-15-101	CPR-100J	CD10F101J	SCDM-15-101J	MCE235	MS-31
C53	15 N075 5%		ADM-15-330	CPR-33J	CD10E330J	SCDM-15-330J	MCE235	MS-433
C54	100 5%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C55	33 5%		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C56	.01		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C57	.002 1000V		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C58	.002 1000V		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C59	.002 1000V		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C60	5.6 N075 5%		C61	110-580		467		
C62	2.2 N075 5%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C63	100 5%		ADM-15-101	CPR-100J	CD10F101J	SCDM-15-101J	MCE235	MS-31
C64	22 N075 5%		EF-001	MFT-1000				
C65	.001		EF-001	MFT-1000				
C66	.001		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C67	.001		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C68	.01		P488N-47	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C69	.47 200V	Note 3	P488N-047	DD-503	PM2647	2CP-6-473	GEM-2047	2TM-P47
C70	.05		P488N-15	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C71	.002 1000V		ADM-15-221	CPR-220J	CD10E221J	SCDM-15-221J	GEM-6015	6TM-P15
C72	.15 600V	(.068) †	TPNPO-470A	TCZ-47				MS-322
C73	220 5%	Note 2						10TCR-Q22
C74	22 N220 5%	Note 2						10TCC-Q47
C75	22 N470 5%	Note 2						
C76	47 NPO 5%	Note 2						
C77		Note 2						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
 † Not used in Models TR327, TR327B. Note 2. Not used in Models TR327, TR327A.
 ‡ Alternate Value. Note 3. Not used in some versions.

CONTROLS

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

REPLACEMENT DATA							
ITEM No.	USE	RESIST-ANCE	KAAR PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Squelch Volume & Switch	10K	5016	F1-10K, R2-250K, FFS009①, RFS015, KR-4			
B		250K		F1-50K, SS008, or (B-31)			
R2	Meter Zero Adjust	50K	5010	A47-50K-S, FKS-1/2			

† "CONCENTRIK" Equivalent: K-6 Kit with base elements and shafts: B11-116, P22-021 ① (Panel) B13-130, R1-028 (Rear) 76-1 (Switch)

① "SNAPTROL" Equivalent: R05, CF9, CR18, SF68 ①, SR1, GC. ① File Flat to Duplicate Original.

* "STA-LOC" Equivalent: FA14L, RU254A, IS1937, OS652, US41.

* "SNAPTROL" Equivalent: FA14L, RU254A, IS1937, OS652, US41.

KAAR MODELS TR327, TR327A, TR327B

FIXED CAPACITORS

REPLACEMENT DATA								
ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	SPRAGUE PART No.	
C5	33 5%		NPO-DI 33	DTZ-33	C10Q33C	CCD-330	10TCC-Q33	
C6	15 N075 5%		BPD-002	DD-202	BYA10D2	CCD-202	5HK-D20	
C7	68 5%		ADM-15-680	CPR-68J	CD10F680J	SCDM-15-680J	MS-468	
C8	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C9	220 5%	Note 1	ADM-15-221	CPR-220J	CD10E221J	SCDM-15-221J	MS-322	
C10	100 5%	Note 1	ADM-15-101	CPR-100J	CD10F101J	SCDM-15-101J	MS-31	
C11	.01	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C12	.01	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13	.01	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C14	15 N075 5%		ADM-15-151	CPR-150J	CD10F151J	SCDM-15-151J	MS-315	
C15	150 5%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C16	22 N075 5%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C18	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
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	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C27	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C28	100 5%	Note 3	ADM-15-101	CPR-100J	CD10F101J	SCDM-15-101J	MCE235	
C29	1.400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM-401	
C30	4.7 N075 5%		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C31	100 5%		BPD-001	DD-102	BYA10D1	CCD-102	B-210	MS-31
C32	.001		P488N-047	DD-503	PM6547	6DP-3-473	GEM-6147	
C33	.001							
C34	.05							

PARTS LIST AND DESCRIPTION (CONTINUED)

RESISTORS (Power and Special)

ITEM No.	REPLACEMENT DATA		ITEM No.	REPLACEMENT DATA	
	RATING	WORKMAN PART No.		RATING	WORKMAN PART No.
R58	2000 5W	PW5-200 5W-SQ-200	R59	2000 5W	PW5-200 5W-SQ-200

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		KAAR PART No.	MILLER PART No.	STANCOR PART No.	
L1	CB Ant.	2214	SW609		① Used with slug re-moved. ② Used in Model TR327B only. ③ Used in Model TR327A only.
L2	CB RF (1-1, 4uh)	2212			
L3	BC Ant.	2232 ①			
L4	BC Osc.	2233 ③			
L5	CB Rec. Osc.	2212 ①			
L6	Cath. Choke (4, 7uh)	213-115			
L7	CB Rec. Osc.	2241 ②			
L8	1st IF				
L9	2nd IF				
L10	Cath. Choke (4, 7uh)	213-115			
L11	Trans. Osc. (1-1, 4uh)	2212			
L12	Plate Choke (12uh)	219-111			
L13	Ant. Load (1.4uh)	2213			
L14	Ant. Load (1.4uh)	201-115			
L15	Hash Filter (2uh)	A5495-2			
L16					

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			NOTES
		KAAR PART No.	MERIT PART No.	STANCOR THORDARSON PART No.	
T1	PRI. SEC. 1 SEC. 2 117VAC 100VAC 12.6V @.75A @.26A @1.6A (AC)	1200A			
	PRI. 2 12.6V DC @ 2.5A				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			NOTES
		KAAR PART No.	STANCOR THORDARSON PART No.	TRIAD PART No.	
T2	5500Ω	1080			

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		KAAR PART No.	QUAM PART No.	
SP1	4" PM 3-4Ω	5700	4A10T	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA			NOTES
				KAAR PART No.	CORNELL-DUBILIER PART No.	MALLOY PART No.	
M1	Interrupter	6	115%	1610	5372	1610	R56 not used for 6 Volt operation.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			KAAR PART No.	HOLDER	LITTELFUSE PART No.	BUSS PART No.
M2	AGC	1A 250V				
M3	AGC	6A 32V				
	AGC	15A 32V				

① 12 Volt Versions, ② 6 Volt Versions.

MISCELLANEOUS

ITEM No.	PART NAME	KAAR PART No.	NOTES
M4	BC Tuning Cap.	4346	2 Gang, Model TR327A only. Single Section, Model TR327B only. 3-14mmf IN295 or 1N60A Signal Level (0-1ma) Transmit-Receive Receive (order by channel) Transmit (order by channel) 4 Pole 5-Position Rotary Channel and Function Selector
M5	CB Tuning Cap.	4483	
M6	Final Plate Loading		
M7	Meter Rectifier	MR-2P	
M8	Meter	T154	
M9	Relay		
M10	Crystal	3034	
M11	Switch	CB9L	
M12	Microphone Assy.		

WIRING DATA

General-use Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
 Shielded Antenna Lead Use BELDEN No. 8524 (Stranded) Available in 12 Colors
 8237 Low Loss (RG-8/U)
 8240 (Solid) Miniature (RG-58/U)
 8259 (Stranded) Miniature (RG-58A/U)
 8498 Single Conductor Shielded (Neoprene)
 Ignition Noise Suppression Use BELDEN No. 7300-Series Spark-Plug Sets
 Bonding Strap Use BELDEN No. 8661 (3/8 In.)