

SAMS PHOTOFACT[®] CB RADIO SERIES



CB-10
10
MARCH 1966



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PHOTOFACT®

TRADE NAME: Lafayette Model HB-200
 SUPPLIER: For Current Address, see Annual Index
 TYPE SET: 9-Tube, 2-Transistor Transceiver
 POWER SUPPLY: 110 - 120 Volts AC, 60 Cycles (or)
 12-Volt Storage Battery
 RATING: 56 Watts, .54 Amp. @ 117VAC (Receive)
 68 Watts, .61 Amp. @ 117VAC (Transmit)
 53 Watts, 4.2 Amp. @ 12.6VDC (Receive)
 60 Watts, 4.8 Amp. @ 12.6VDC (Transmit)
 TUNING RANGE:
 Any 8 CB Channels 1 thru 23
 Receiver may be continuously tuned.



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:
 A1 thru A6..... GENERAL CEMENT #8727, 5097
 WALSCO #2515
 A7, A8, A9, A12, A13, A14... GENERAL CEMENT #9090, 8609, 5000, 8290
 A10, A11, A15..... GENERAL CEMENT #8606, 8606L, 8869
 WALSCO #2543, 2544, 2588

RECEIVER ALIGNMENT

Connect VTVM from point **A** to chassis. Set to indicate negative voltage. Turn Volume & Squelch controls to maximum. (fully clockwise). Set Meter Switch to "Mod." position.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .1mfd to Pin 7 (grid) of V3 (2nd Conv.), low side to chassis. Tune to 455KC (Unmod.).	Any	A1 thru A4	Set crystal-tune switch to Crystal, and adjust for maximum. Keep generator output at low level.
High side thru .1mfd to pin 2 (grid) of V2 (Mixer), low side to chassis. Tune to 1650KC (Unmod.).	Any	A5, A6	Adjust for maximum output.
High side thru .1mfd to antenna receptacle, low side to chassis. Tune to 21.125MC (Unmod.).	11	A10, A11	Adjust for maximum. Readjust A10, A11, for maximum output.
High side thru .1mfd to antenna receptacle, low side to chassis. Tune to 26.965MC (Unmod.).	1	A7	Set crystal-tune switch to Tune and turn channel tuning dial to Channel 1. Adjust for maximum output.
High side thru .1mfd to antenna receptacle, low side to chassis. Tune to 27.255MC (Unmod.).	23	A9	Turn channel tuning dial to Channel 23. Adjust for maximum output. Repeat adjustments A8 and A9 until maximum output is accomplished.

TRANSMITTER ALIGNMENT

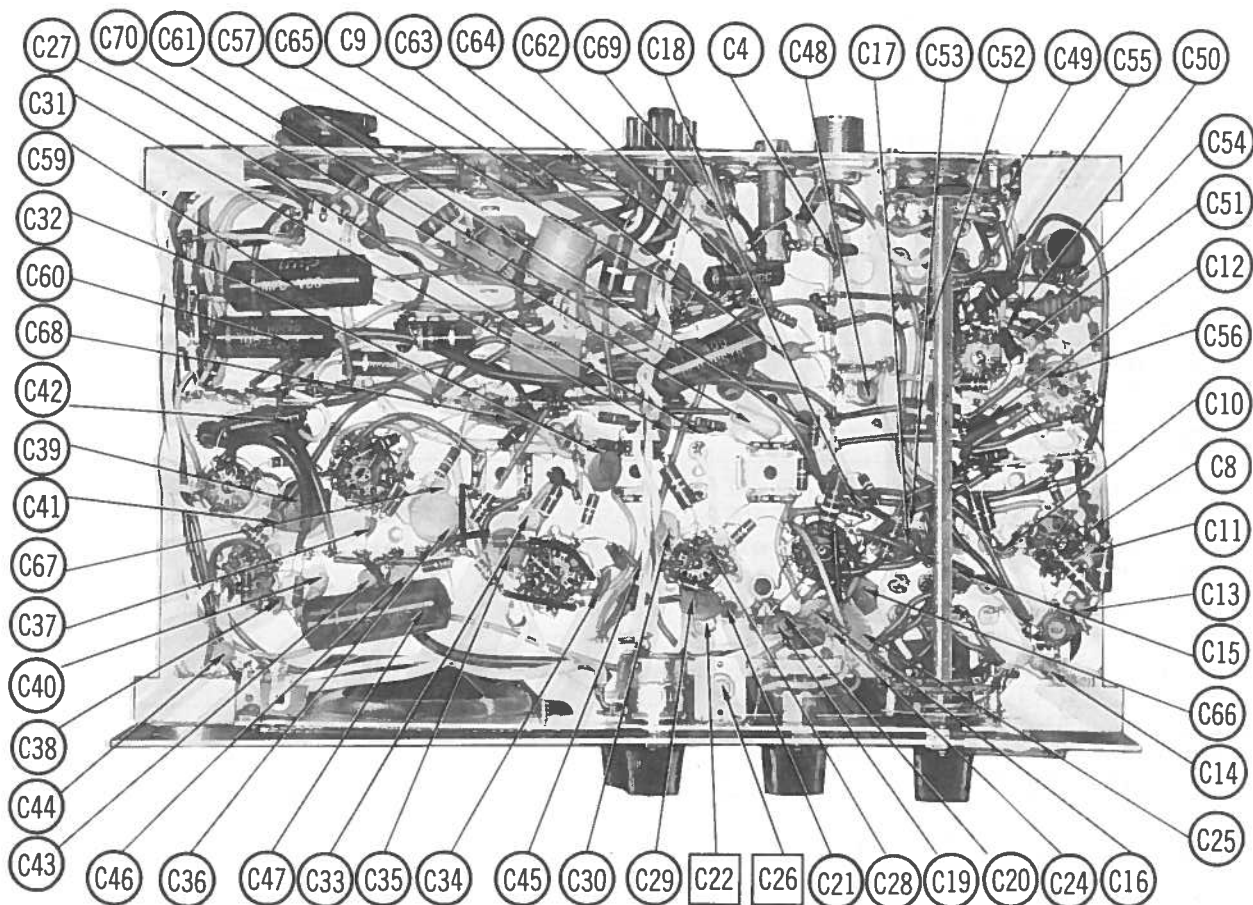
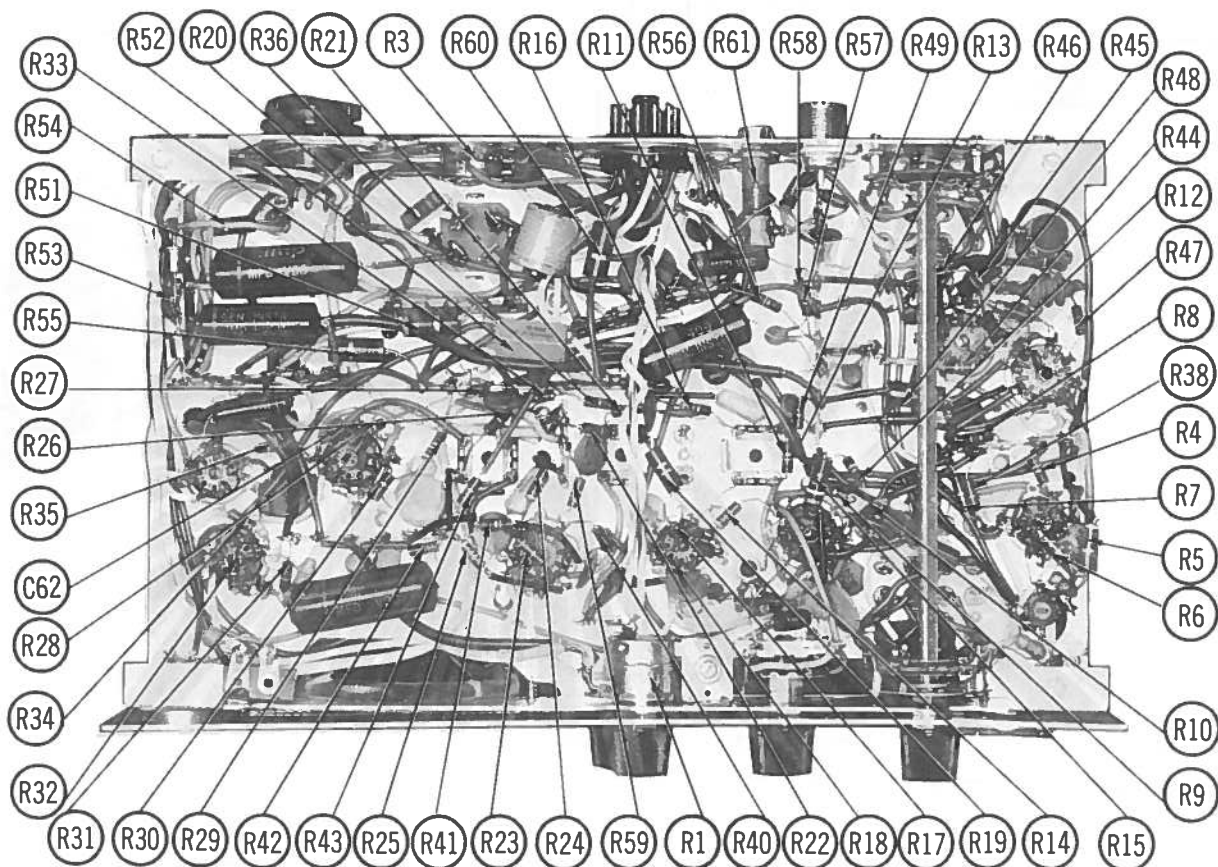
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).
 The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

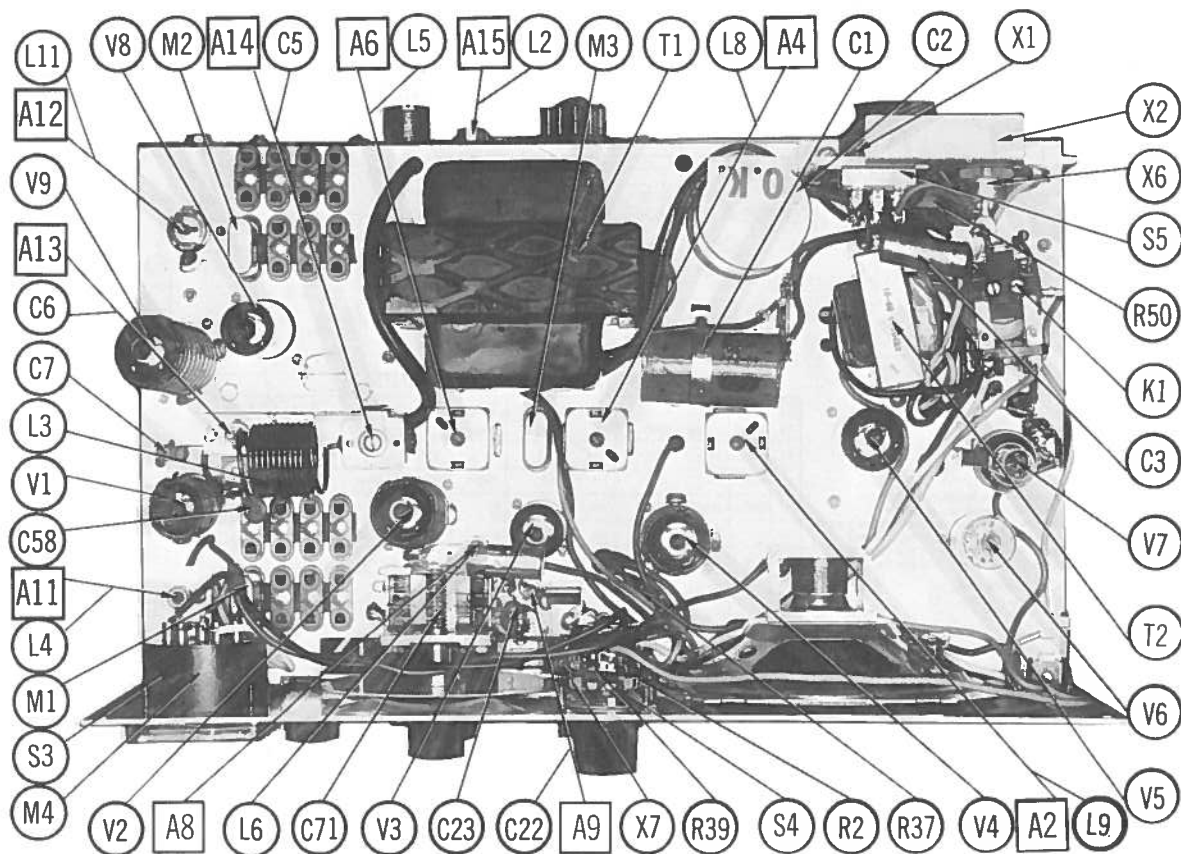
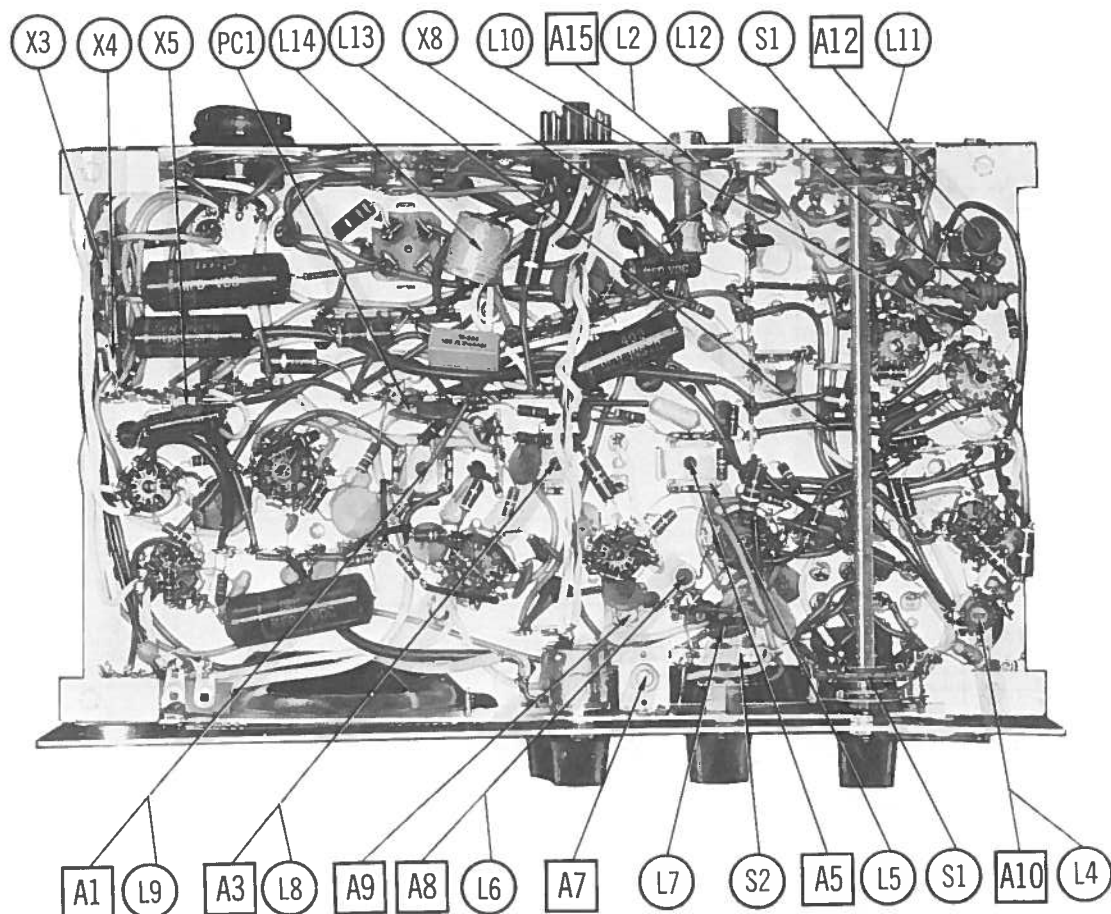
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

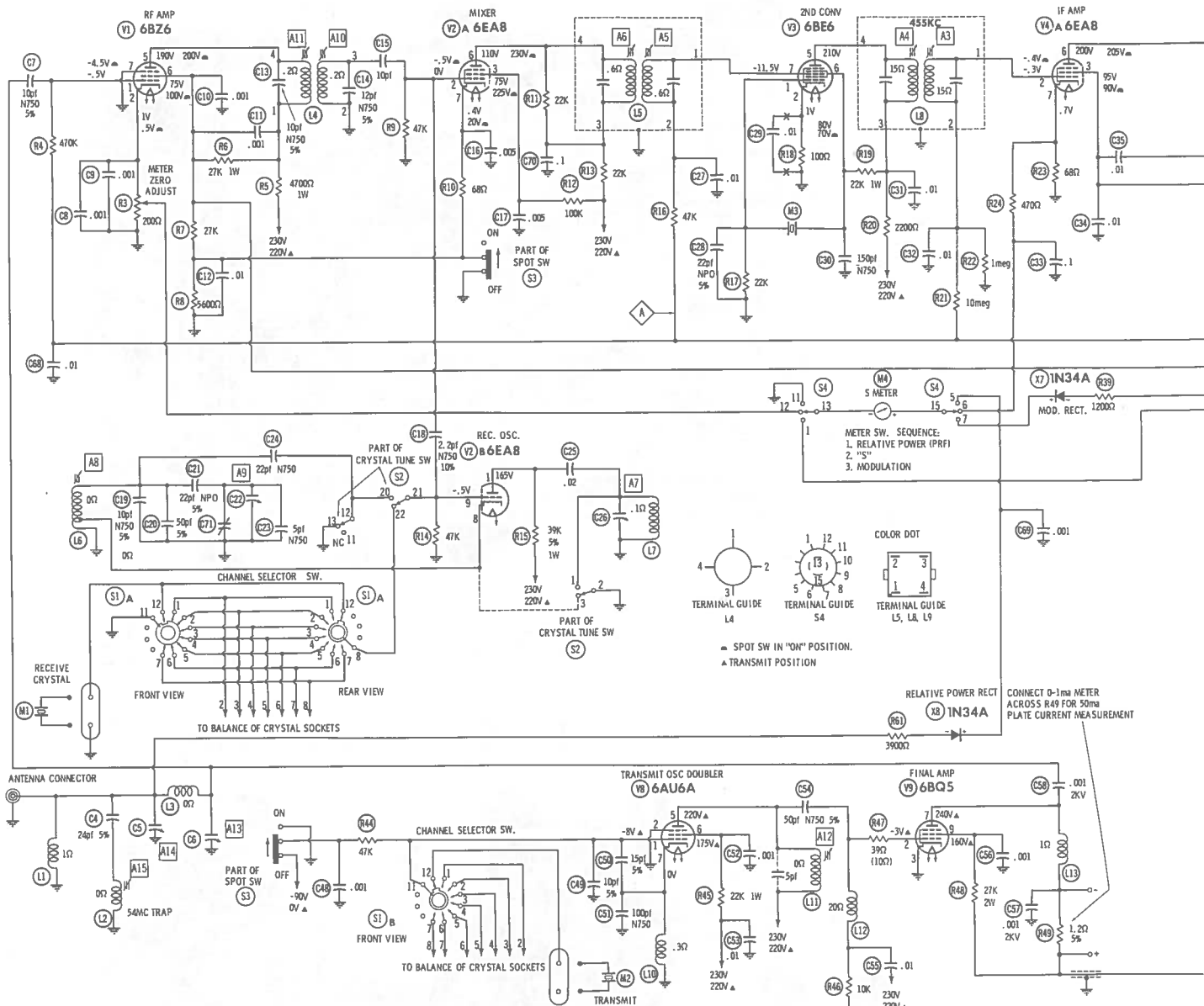
Connect either 50Ω dummy load or the normally used antenna system.

INDICATOR	ADJUST	REMARKS
Front panel meter, PRF meter, or Field Strength Meter	A12	Set Meter Switch to PRF position and adjust for maximum, then back off slightly. Key transmitter several times to insure oscillation.
Front panel meter, PRF meter, or Field Strength Meter.	A13, A14	Adjust for maximum.
Nearby TV receiver.	A15	Adjust for MINIMUM interference.

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206







RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	1.8meg	200Ω	FIL	FIL	5800Ω†	28K†‡	0Ω		
V2	6EA8	39K †	47K	100K †	FIL	FIL	23K †	5600Ω 68Ω ‡	0Ω	47K
V3	6BE6	22K	100Ω	FIL	FIL	3300Ω†	25K †	1.3meg		
V4	6EA8	123K †	950K	47K †	FIL	FIL	3300Ω †	68Ω	0Ω	2.2meg
V5	6B7	1.9meg	900K	0Ω	FIL	FIL	215K	1.9meg	460K	0Ω
V6	6AV6	10meg	0Ω	FIL	FIL	1.2meg	3.2meg	471K†		
V7	6AQ5	NC	330Ω	FIL	FIL	400Ω†	1100Ω†	470K		
V8	6AU6A	1.6meg †	0Ω	FIL	FIL	1100Ω†	23K†	.3Ω		
V9	6BQ5	NC	1.5meg †	0Ω	FIL	FIL	NC	400Ω†	NC	27K†
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

ALL MEASUREMENTS TAKEN IN "RECEIVE" POSITION UNLESS OTHERWISE NOTED.

† MEASURED FROM OUTPUT OF X2. ‡ MEASURED IN "TRANSMIT" POSITION.

◆ MEASURED FROM ANODE END OF X3. NC NO CONNECTION † MEASURED WITH SPOT SWITCH IN OFF POSITION.

‡ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.

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

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TUBES

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6BZ6	V6	AF Amp. -AGC Clamp. -	6AV6	V7	Squelch Clamper	6AQ5A	V8	Output - Modulator	6AU6A
V2	Mixer - Osc.	6EA8	V8	Transmit Osc. -Doubler	6BQ5	V9	Final Amp.				
V3	Converter	6BE6									
V4	IF Amp. -Speech Amp.	6EA8									
V5	Det. -AVC-Noise Limiter	6BJ7									

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	Lafayette PART No.	
X1		Power Osc.	DS-520	GE-3	SK-3009	40051-4	PNP (Note 1)
X2		Power Osc.	DS-520	GE-3	SK-3009	40051-4	PNP (Note 1)

Note 1. When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				
	CAP.	VOLT.	Lafayette PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C1	40	200		PRS1580	BR40-250	QT1-14	TC58
C2A	40	350		AFH3-44	CC0350	XC3-40	PFP330, 8
C2B	40	350		PRS1320	BR20-150	QT1-6	TC42
C2C	40	200					
C2D	10	50					
C3	100	25-30		CRE623A	BR100-50	MT1-20	TT25X100

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X3	.066ma		1N1697	1N1492 or 1N3195 ①	SK-3016 or SK-3017	F6	
X4	.066ma		1N1697	1N1492 or 1N3195 ①	SK-3016 or SK-3017	F6	
X5	1ma		1N1697	1N1492 or 1N3195	SK-3016 or SK-3017	F6	
X6	4.8A	1N34A		1N3210		ST320	1N34AS
X7		1N34A					1N34AS
X8							

① FW600 may be used to replace X3 and X4.

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	24 5%		ADM-15-240	CPR-24J	CD10E240J500	DM-10-240	SX424	MS-424
C5								
C6								
C7	10 N750 5%			TCN-10	CDECZ801UJ100J		CN7410	10TCU-Q10
C8	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C9	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C10	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C11	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C12	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C13	10 N750 5%			TCN-10	CDECZ801UJ100J		CN7410	10TCU-Q10
C14	12 N750 5%			TCN-12	CDECZ801UJ120J		CN7412	10TCU-Q12
C15	10		ADM-15-100	DTZ-10	CD10C100K500	DM-10-100	SX410	MS-41
C16	.005		BPD-005	DD-502	BYX801ZU502P	CCD-502	B250	5HK-D50
C17	.005		BPD-005	DD-502	BYX801ZU502P	CCD-502	B250	5HK-D50
C18	2.2 N750 10%			TCN-10	CDECZ801UJ100J		CN7522	10TCU-V22
C19	10 N750 5%			DTZ-50	CD10E510J500	DM-10-500	CN7410	10TCU-Q10
C20	50 ±5%		ADM-15-500	DTZ-50		DM-10-220	CNO450	MS-45
C21	22 NPO 5%			DTZ-22			CNO422	10TCC-Q22
C22								
C23	5 N750			TCN-5	CDECZ801UJ5R0D		CN7550	10TCU-Q10
C24	22 N750			TCN-22	CDECZ801UJ220K		CN7422	10TCU-Q22
C25	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	B120	5HK-S20
C26								
C27	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C28	22 NPO 5%			DTZ-22		DM-10-220	CNO422	10TCC-Q22
C29	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C30	150 N750		N750-DI 150	TCN-150			CN7315	10TCU-T15
C31	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C32	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS(cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C33	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C34	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C35	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C36	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	B120	5HK-S20
C37	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C38	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C39	.05 200V		P288N-05	DF-503	PM2S5	4DP-3-503	PVC215	2TM-S50
C40	100 N750			DTN-100	CDECX601UJ101K	CCTN-101	CN7310	10TCU-T10
C41	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C42	.003 600V		DBE6D3	DD30-302	PKM6D33	6DP-1-302	GEM623	6TM-D30
C43	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C44	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C45	100 N750 10%		N750-D1 100	DTN-100	CDECX601UJ101K	CCTN-101	CN7310	10TCU-T10
C46	.002		BPD-002	DD-202	BYT601ZU202P	CCD-202	B220	5HK-D20
C47	.22 400V		DBE6P22		PKM4P22	4DP-5-224	GEM6022	4TM-P22
C48	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C49	10 5%		ADM-15-100	DTZ-10	CD10C100J500	DM-10-100	SK410	MS-41
C50	15 5%		ADM-15-150	DTZ-15	CD10C150J500	DM-10-150	SK415	MS-415
C51	100 N750		N750-D1 100	DTN-100	CDECX601UJ101K	CCTN-101	CN7310	10TCU-T10
C52	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C53	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C54	.50 N750 5%			TCN-50				10TCU-Q50
C55	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C56	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C57	.001 2KV		HVD-30-1000	DD30-102	CDEHV202P102M	3CCD-102	2HV210	30GA-D10
C58	.001 2KV		HVD-30-1000	DD30-102	CDEHV202P102M	3CCD-102	2HV210	30GA-D10
C59	.1 600V		P688N-1	DF-104	PM6P1	6DP-4-104	GEM601	6TM-P10
C60	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C61	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C62	.02 200V		BE2S2	CRR-2000J	PKM6S22	4DP-2-203	GEM412	2TM-S20
C63	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C64	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C65	.01 1.4KV		DAC-27	DD16-103	ACT142ZU103P	16DP-3-103	UAC110	12SL-S10
C66	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C67	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C68	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C69	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C70	.1 400V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C71								

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Lafayette PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	2meg		F2-2meg, SF104, BA006, CA005, KR-1	A47-2meg-Z, FS-3, SWE12	QCB1 ①, B13-139, TM5, 78-1, or (BU2, CF27, SS1, GC)*	US26A, SF1000, US41 or (RU26A, SL41 ②, SF1000, US41) or (U55, US26)
R2	Squelch	4meg		F1-4meg, SF102, BA006, CA005		QCB4 ②, B11-240, SK1 or (BU14 ②, CF22, SS1, DC1)*	RU46L, SL41 ②, SL3900
R3	Zero Meter Adjust	200Ω		V-200 ③	U39-200 ③	11 7R251A or (112-200, BBK-1) ④	MR200F

* "SNAPTROL"

① Use QCB1 bushing instead of tab mount plate in TM 5.

② Alter bushing to meet requirement.

③ Insulate control from chassis and solder original center terminal to case.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	PART No.			IRC PART No.	WORKMAN PART No.	PART No.
R50	.2Ω 5W				R52	150Ω 5W	PW5-150	5W-SQ-150	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		Lafayette PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	Ant. Filter		19-1008		4609	RTC-8519	T820
L2	54MC Trap				4201		
L3	Pl. Network						
L4	RF Amp. Plate				1732		
L5	1st IF Amp.						
L6	Tunable Osc.						
L7	Rec. Osc. Plate		19-1000	BC-561	74F126AP	RTC-8515	T807
L8	2nd IF Amp.		16-8758	BC-352	12-C30	RTC-9275	T607
L9	3rd IF Amp.		16-8758	BC-393	12-C31	RTC-9276	T608
L10	RFC		19-1002	BC-563	74F226AP	RTC-8517	T813
L11	Transmit Osc. Plate						
L12	RFC				6144	RTC-8581	T354
L13	RFC		19-1008		4609	RTC-8519	T820
L14	Hash Filter				5240		

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .61A▲	105VAC @ .66A DC ▲	6.3V @ 2.1A						▲ Transmit
	PRI. 2 12.6V DC @ 4.8A ▲								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	5000Ω	3-4Ω						
		SEC. 2						
		9000Ω						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Lafayette PART No.	QUAM PART No.	
SP1	4" PM 3-4Ω		4A05	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Lafayette PART NO.	REPLACEMENT DATA
PC1	AVC Filter	100pf, 100pf, 47K		Aerovox PA-97 Centralab PC-50 Sprague D-1

FUSE DEVICES

ITEM No.	TYPE	Lafayette RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	AGC	7 1/2A 32V			31107.5	155020	AGC 7 1/2	HHJ-B or HRJ

MISCELLANEOUS

ITEM No.	PART NAME	Lafayette PART No.	NOTES
K1	Relay		Transmit-Receive (4PDT)
M1	Receive Crystal		
M2	Transmit Crystal		
M3	2nd Converter Crystal (2105KC)		
M4	Meter		(Zero to 1ma)
M5	Microphone		(Ceramic)
S1	Switch		Channel Selector (2-Section Wafer)
S2	Switch		Crystal-Tune (Trollex)
S3	Switch		Spot (STDP)
S4	Switch		Meter Function (16-Contact, 3-Position Rotary)

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. 8214 Lowest Loss (RG-9/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene)
	8496 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. 8861 (3/8 In.)



PHOTOFACT®



TRADE NAME : Tram Models TR-27D, TR-27E

SUPPLIER : For Current Address, see Annual Index

TYPE SET : 12-Tube Transceiver

POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles

RATING : 80 Watts, .72 Amp. @ 117VAC (Receive)
82 Watts, .76 Amp. @ 117VAC (Transmit)

TUNING RANGE : TR-27D: Any 8 CB Channels
TR-27E: All 23 CB Channels 1 thru 23.
Receiver is crystal-controlled on any one channel or manually tuned.

TRAM MODELS TR-27D, TR-27E

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A16.... GENERAL CEMENT #8606, 8606L, 8869... WALSCO #2543, 2544, 2588
A17 thru A19.... GENERAL CEMENT #8196, 8279, 8609

RECEIVER ALIGNMENT

Connect a DC VTVM from point **A** to chassis; set to indicate negative voltage.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
None	Any	R4	Short antenna receptacle to ground. Adjust for minimum "S" meter deflection.
None	Any	R5	Remove short from antenna receptacle. Press Spot switch and adjust for full scale "S" meter deflection.
High side thru .01mfd to pin 2 (grid) of V3 (2nd Mixer), low side to chassis. Tune to 455KC (Unmod.)	Any	A1 thru A8	Adjust for maximum.
High side thru .01mfd to antenna receptacle, low side to chassis. Tune to channel frequency.	11	A9 thru A15	Set M-X Switch to M. Adjust for maximum.

An alternate method of receiver alignment can be made by turning the M-X switch to M, tuning the receiver dial to the transmitter channel, pressing the Spot switch and adjusting A1 thru A15 for maximum VTVM 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 AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

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

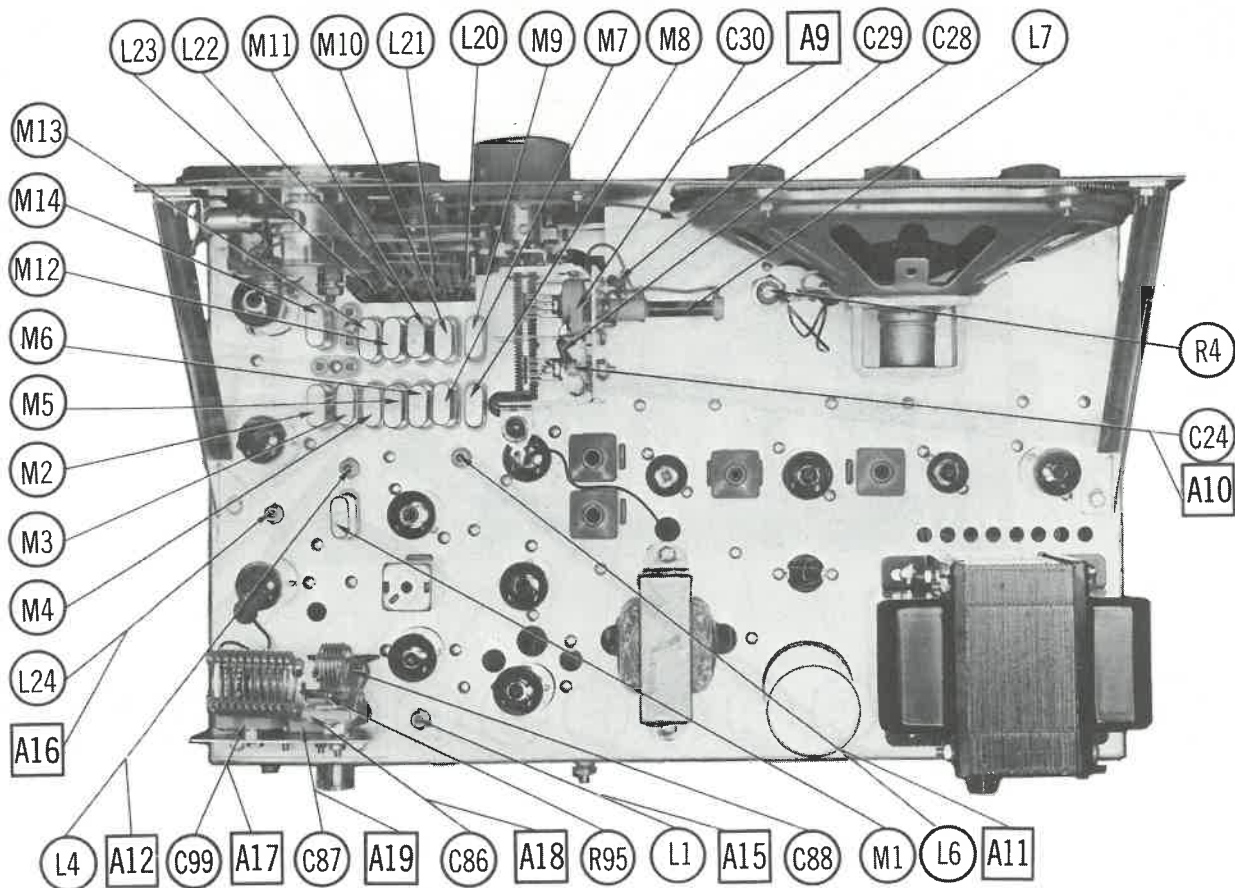
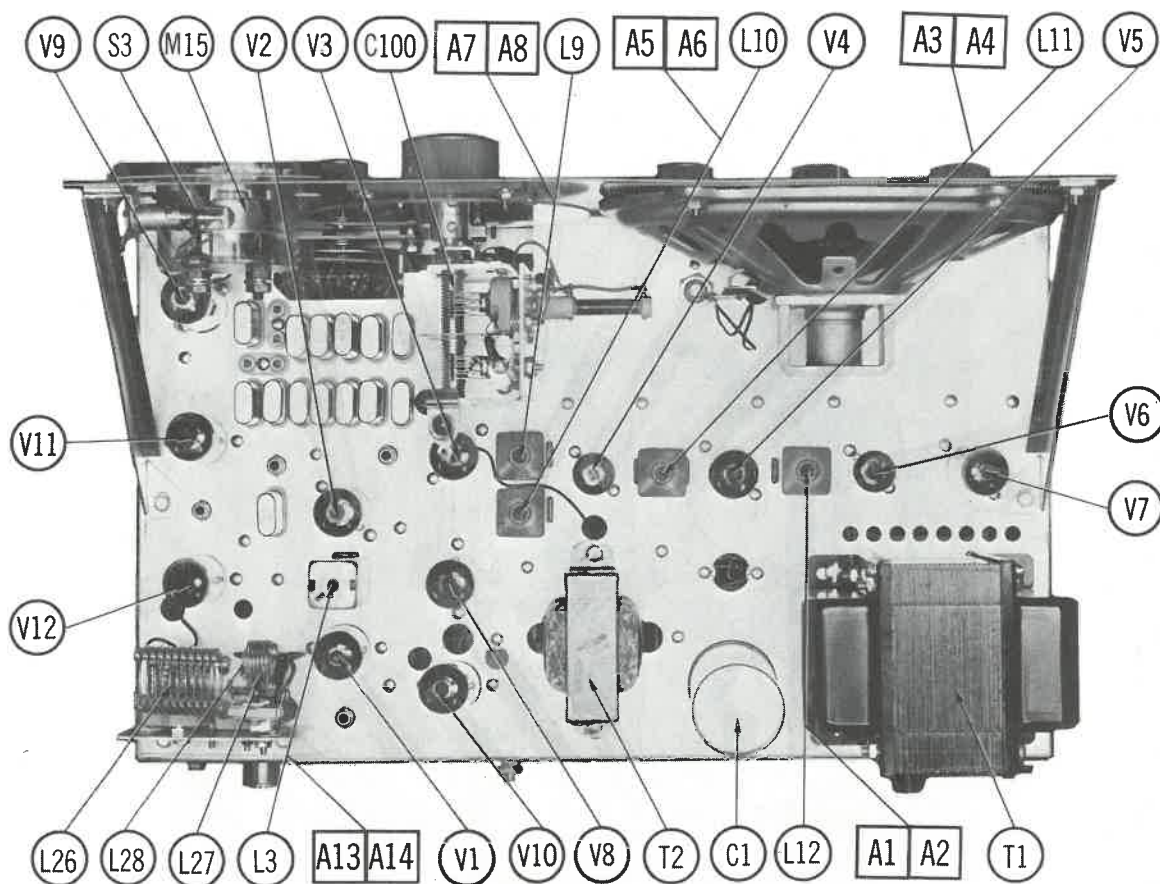
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

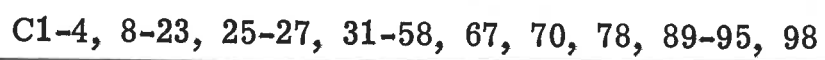
Connect either 50Ω dummy load or the normally used antenna system.

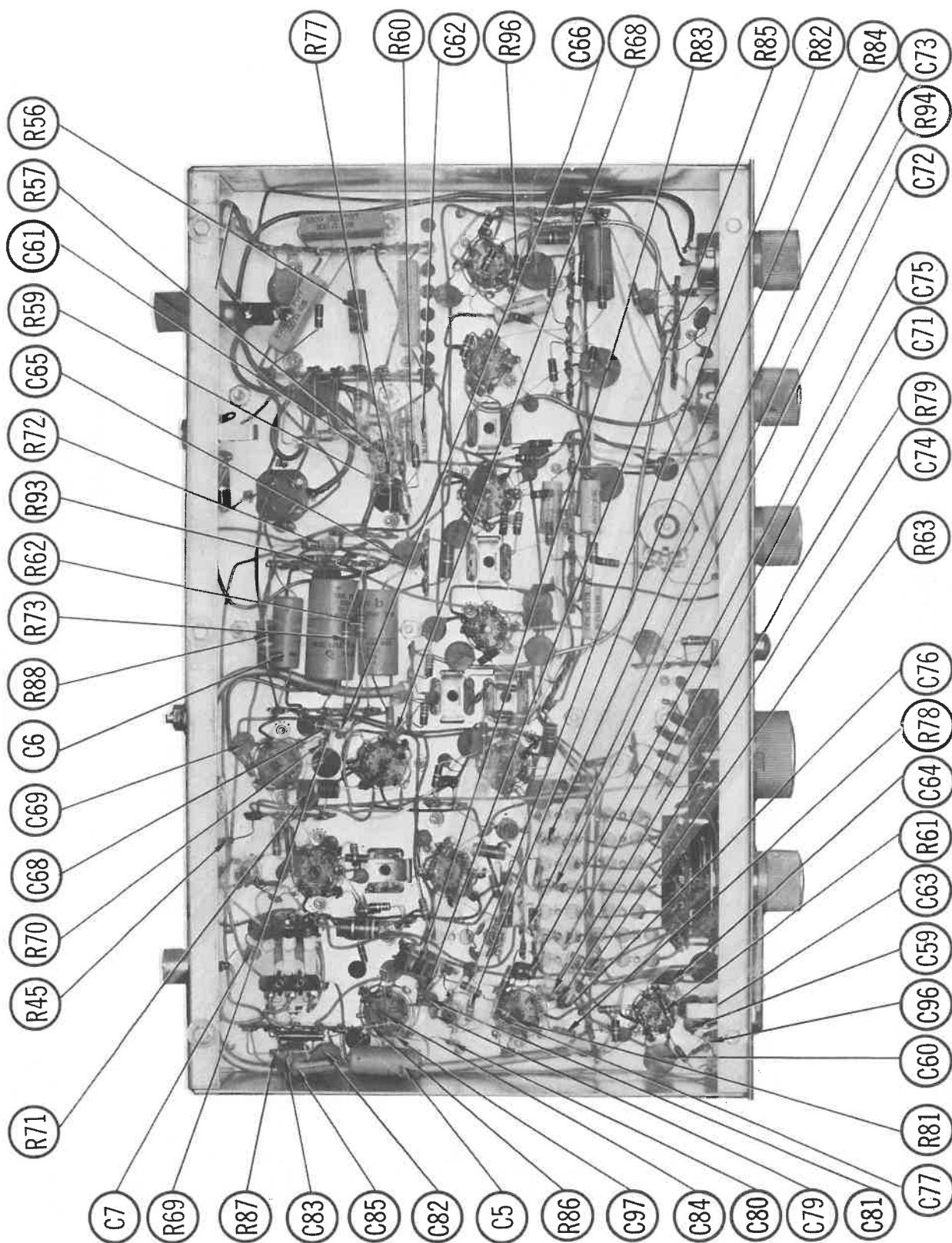
INDICATOR	ADJUST	REMARKS
Field Strength Meter, Wattmeter or "S" Meter on front panel.	A16, A17, A19	Adjust for maximum.
Nearby TV Set.	A18	Adjust for MINIMUM interference.

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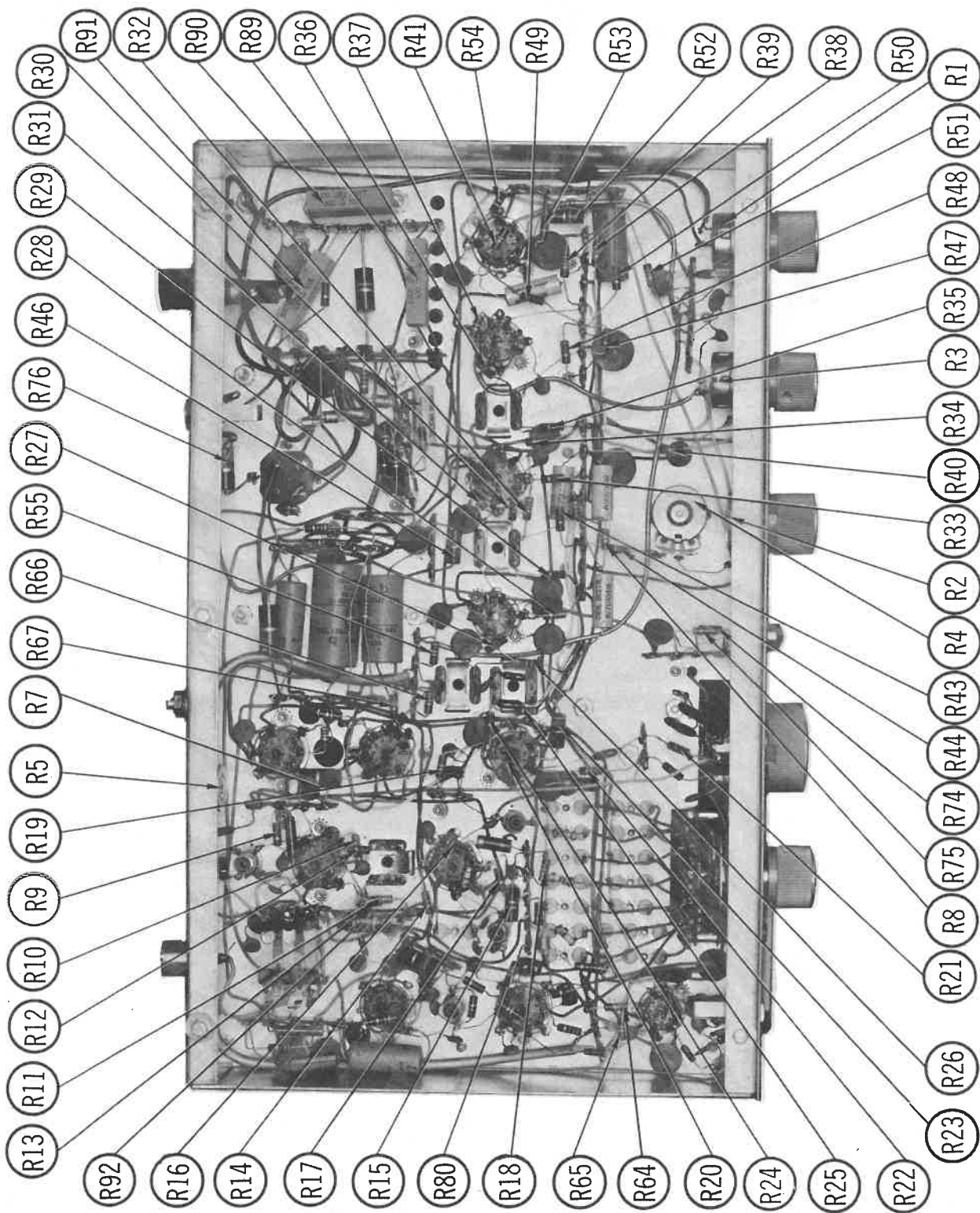
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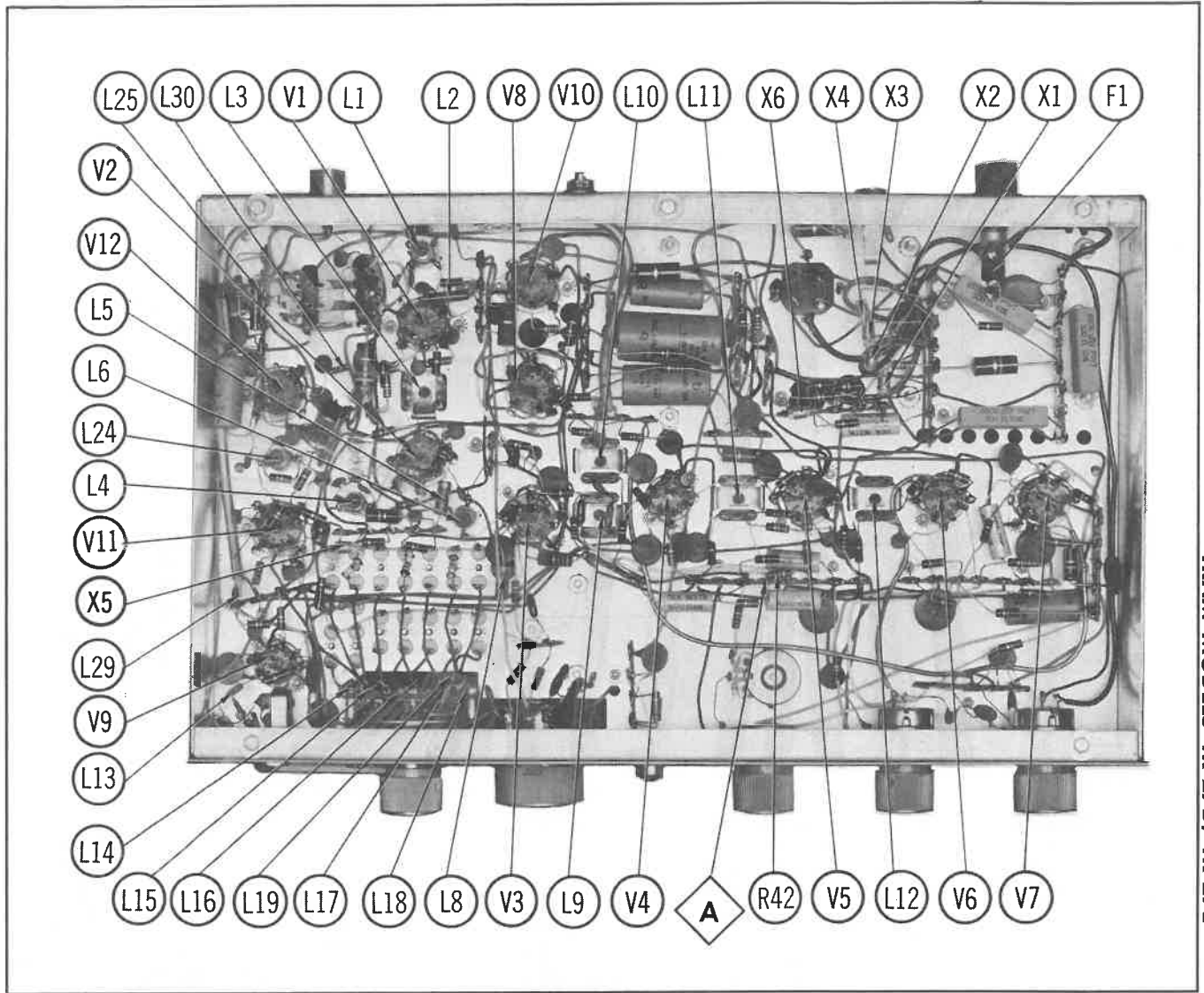




C5-7, 59-66, 68, 69, 71-77, 79-85, 96, 97
 R45, 56, 57, 59-63, 68-73, 77-79, 81-88, 93, 94



R1-5, 7-41, 43, 44, 46-55, 64-67, 74-76, 80, 89-92



PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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. 8214 Lowest Loss (RG-8/U Type)
 8237 Low Loss (RG-8/U)
 8240 (Solid) Miniature (RG-58/U)
 8259 (Stranded) Miniature (RG-58A/U)
 Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene)
 8496 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.)

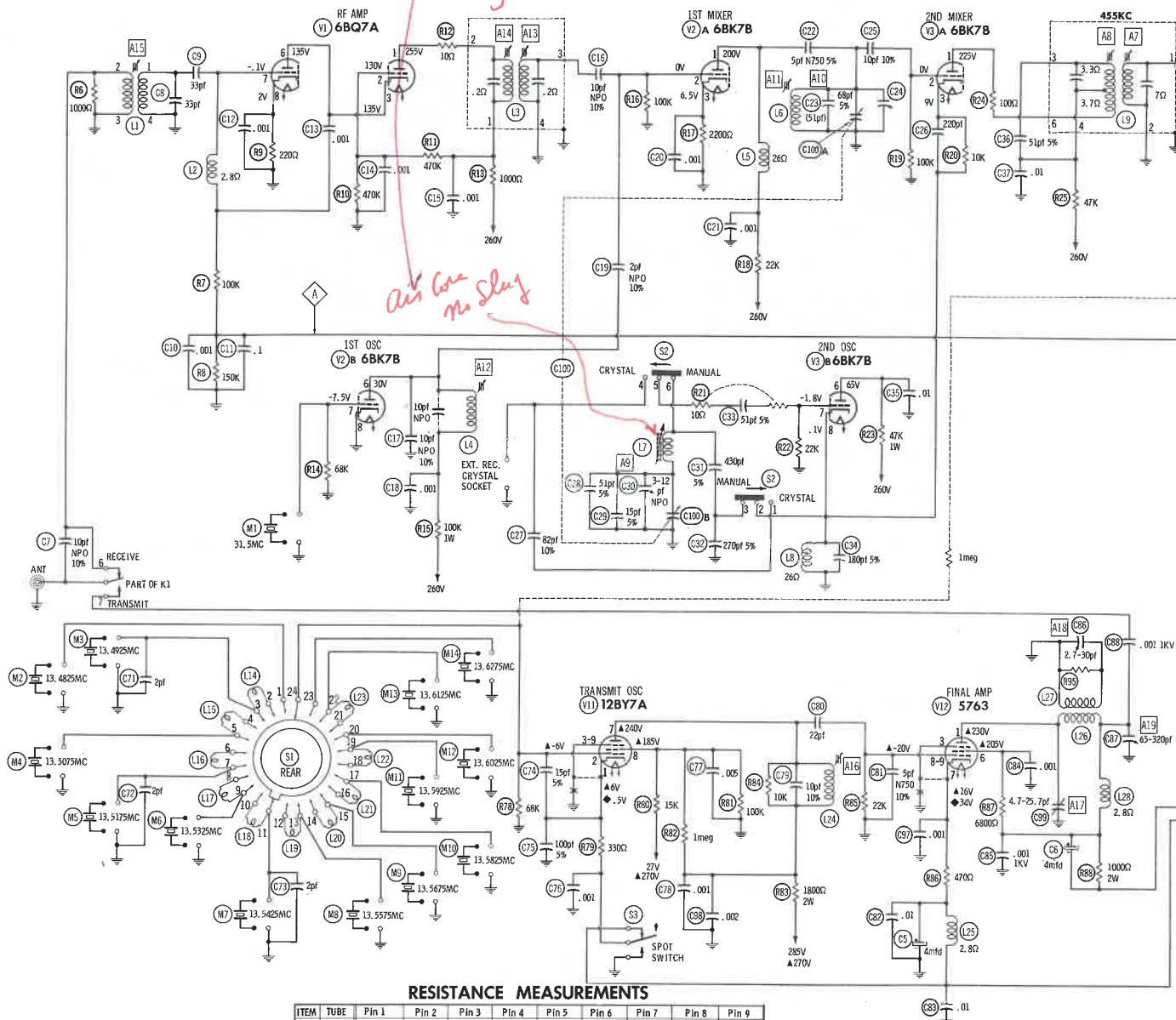
TUBES

♦ AMPEREX ♦			♦ GENERAL ELECTRIC ♦			♦ RCA ♦			♦ SYLVANIA ♦		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6BQ7A	V7	1st AF Amp. -Squelch	12AX7						
V2	1st Mixer -1st Rec.Osc.	6BK7B	V8	2nd AF Amp. -	12AT7						
V3	2nd Mixer-2nd Rec.Osc.	6BK7B		2nd Speech Amp. -							
V4	1st IF Amp.	6BA6		Meter Amp.							
V5	2nd IF Amp. -IF AVC	6EQ7	V9	1st Speech Amp.	6AU6A						
V6	Det.-RF AVC-Noise Limiter	6AL5	V10	Output-Modulator	7189						
			V11	Transmit Osc.	12BY7A						
			V12	Final Amp.	5763						

(CONTINUED ON PAGE 148)

Corrected
5-3-71

air core
no slug



RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BQ7A	2180Ω†	200K	1N†	FIL	FIL	1N†	240K	220Ω	0Ω
V2	12A17	23K†	100K	2200Ω	FIL	FIL	100K†	68K	0Ω	NC
V3	6BK7B	48K†	100K	10K	FIL	FIL	48K†	22K	26Ω	0Ω
V4	6BA6	2meg	0Ω	FIL	FIL	3300Ω†	69K†	100Ω		
V5	6EQ7	0Ω	470K	100Ω	FIL	FIL	69K†	3300Ω†	940K	0Ω
V6	6AL5	0Ω	130K	120K*	FIL	FIL	120K*	140K		
V7	12AX7	147K†	1.4meg	17K†	FIL	FIL	1.1meg	1.5meg	1400Ω	0Ω
V8	12A17	22K†	500K	470Ω	FIL	FIL	122K†	690K	490Ω	0Ω
V9	6AU6	1.1meg	1.7meg	FIL	FIL	242K†	1.7meg	1meg†	0Ω	
V10	7189	NC	470K	150Ω	FIL	FIL	NC	790Ω†	NC	700Ω†
V11	12BY7A	330Ω	68K	0Ω	FIL	FIL	FIL	2500Ω†	100K	0Ω
V12	5763	1790Ω†	NC	0Ω	FIL	FIL	8500Ω†	472Ω	22K	TP

ALL MEASUREMENTS TAKEN IN "RECEIVE" POSITION UNLESS OTHERWISE INDICATED.
 † MEASURED FROM OUTPUT OF X1 & X2. INF INFINITE RESISTANCE TP TIE POINT
 ♦ MEASURED WITH SPOT SWITCH ACTIVATED * MEASURED WITH LIMITER SWITCH OFF.
 ‡ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
 ▲ MEASURED IN "TRANSMIT" POSITION.

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

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.11ADC			SD-96A or 10DB6A	1N1492 or FW600 ①	SK-3017 or 1N3195	F-6 or 60B
X2	.11ADC			SD-96A or 10DB6A	1N1492 or FW600 ①	SK-3017 or 1N3195	F-6 or 60B
X3	.11ADC			SD-96A or 10DB6A	1N1492 or FW600 ①	SK-3017 or 1N3195	F-6 or 60B
X4	.11ADC			SD-96A or 10DB6A	1N1492 or FW600 ①	SK-3017 or 1N3195	F-6 or 60B
X5	.005A			SD-96A or 10D6	1N492 or 1N2071	SK-3016 or SK-3017	F-6 or 60B
X6			1N1697 or 1N1696	SD-96A or 60B			

①Replaces X1 thru X4 with a single unit.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	TRAM PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲40	450						
B	■40	450						
C	▲40	450						
C2	12	450		PRS1725	BR12-450	QT1-8	TC73	TVA-1706
C3	4	150		PRS1400	BBR4-150	QT1-3	TC40	TVA-1402
C4	100	250		PRS1595	BR100-250	QT1-26	TC1265	TVA-1522
C5	4	150		PRS1400	BBR4-150	QT1-8	TC73	TVA-1706
C6	4	150		PRS1400	BBR4-150	QT1-8	TC73	TVA-1706

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.	
C7	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C8	33		DI-30	DD-300		CCD-300	GP430	10TS-Q30	
C9	33		DI-30	DD-300		CCD-300	GP430	10TS-Q30	
C10	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C11	.1 200V		P288N-1	DF-104	PM2P1	2DP-3-104	PVC201	2TM-P10	
C12	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C13	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C14	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C15	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C16	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C17	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C18	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C19	2 NPO 10%		NPO-DI 2, 2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22	
C20	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C21	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C22	5 N750 5%		DTN-5	CD10E680J500	CDEZC60UJ5R0D	CCTN-050	CN7550	10TCU-V50	
C23	68 5%		CPR-68J	CD10E680J500	DM-10-680	DM-10-680	SX468	MS-468	
C24									
C25	10 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C26	220		DI-220	DD-221	JB601YP221K	CCD-221	JF220	10TS-T22	
C27	82 10%		DI-82	DD-820	CDEJJBZ60IYP820K	CCD-820	GP482	10TS-Q82	
C28	51 5%		ADM-15-510	TCZ-51	CD10E510K500	DM-10-510	CNO450	MS-451	
C29	15 5%		NPO-DI 15	DTZ-15	CZ601CG150J	CCTO-150	CNO415	10TCC-Q15	
C30	3-12 NPO			822-FZ			ST553-Z		
C31	430 5%		ADM-15-431	CPR-430J	CD15F431J500	DM-15-431	SX343	MS-343	
C32	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-15-271	SX327	MS-327	
C33	51 5%		ADM-15-510	TCZ-51	CD10E510J500	DM-10-510	CNO450	MS-451	
C34	180 5%		ADM-15-181	CPR-180J	CD10E181J500	DM-10-181	SX318	MS-318	
C35	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C36	51 5%		ADM-15-510	TCZ-51	CD10E510J500	DM-10-510	CNO450	MS-451	
C37	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C38	51 5%		ADM-15-510	TCZ-51	CD10E510J500	DM-10-510	CNO450	MS-451	
C39	5 N750 5%		DTN-5	CD10E680J500	CDEZC60UJ5R0D	CCTN-050	CN7550	10TCU-V50	
C40	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C41	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C42	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C43	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C44	.1 200V		P288N-1	DF-104	PM2P1	2DP-3-104	PVC201	2TM-P10	
C45	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C46	33 10%		DI 33	DD-300		CCD-300	GP430	10TS-Q30	
C47	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	B120	5HK-S20	
C48	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C49	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C50	220		DI-220	DD-221	JB601YP221K	CCD-221	JF220	10TS-T22	
C51	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	B120	5HK-S20	
C52	.002		BPD-002	DD-202	BYV601ZU202P	CCD-202	B220	5HK-D20	
C53	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C54	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50	
C55	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	B120	5HK-S20	
C56	.1 200V		P288N-1	DF-104	PM2P1	2DP-3-104	PVC201	2TM-P10	
C57	680		DI-680	DD-681	CDEJJBZ60IYP681K	CCD-680	GP368	10TS-T68	
C58	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50	
C59	.002		BPD-002	DD-202	BYV601ZU202P	CCD-202	B220	5HK-D20	
C60	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C61	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS(cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C82	.1 200V		P288N-1	DF-104	PM2P1	2DP-3-104	PVC201	2TM-P10
C83	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C84	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C85	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C86	.002		BPD-002	DD-202	BYV601ZU202P	CCD-202	B220	5HK-D20
C87	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C88	.002		BPD-002	DD-202	BYV601ZU202P	CCD-202	B220	5HK-D20
C89	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C70	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C71	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C72	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C73	2			DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C74	15 5%		ADM-15-150	DTZ-15	CD10C150J500	DM-10-150	SK415	MS-415
C75	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-10-101	SK310	MS-310
C76	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C77	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C78	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C79	10 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C80	22		DI-22	DD-220	CD10E220K500	CCD-220	GP422	10TS-Q22
C81	5 N750 10%			DTN-5	CDECZ601UJ5R0D	CCTN-050	CNT7550	10TCU-V50
C82	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C83	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C84	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C85	.001 1KV		1464-HV-1000			VCM-20-102	GP210	YFM-21
C86	2, 7-30					461		
C87	65-320					303		
C88	.001 1KV		1464-HV-1000			VCM-20-102	GP210	YFM-21
C89A	.0047		BPD2-2X-0047	DD2-502	CDEJBT601YP472K	CCD-472	UAC247	5GA-D47
C89B	.0047				CDEJBT601YP472K	CCD-472	UAC247	5GA-D47
C90	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C91	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C92	68		DI-68	DD-680	CDEJBZ601YP680K	CCD-680	GP468	10TS-Q68
C93	.1 200V		P288N-1	DF-104	PM2P1	2DP-3-104	PVC201	2TM-P10
C94	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C95	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C96	.002		BPD-002	DD-202	BYV601ZU202P	CCD-202	B220	5HK-D20
C97	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C98	.002		BPD-002	DD-202	BYV601ZU202P	CCD-202	B220	5HK-D20
C99	4, 7-25, 7							
C100	Tuning							

† Alternate Value

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			TRAM PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Switch	500K	(LF4422)	F2-500K, SRS010, KR-4	A47-500K-Z, RS-2, SWE-13	B13-133, SK3, 76-1 or (BU2, CF25, SS3, GC)*	UA55A, SK750, US41 or (RU55A, SL38, SK750, US41) or (U48, US26)
R2	Squelch	2500Ω	(LF4424)	F1-2500, SRS010	A47-2500-S, RS-2	B11-111, SK3 or (BU2, CF59, SS3, DC1)*	UA33L, SK750 or (RU252L, SL38, SK750) or (SU8)
R3	Limiter & ANL Switch	500K	(LH5378)	F1-500K, SRS010, KR-1	A47-500K-S, RS-2, SWE-12	B11-133, SK3, 76-1 or (BU2, CF16, SS3, GC)*	UA55L, SK750, US41 or (RU55L, SL38, SK750, US41) or (U50, US26)
R4	Zero Bias	500K	MW9045	F1-500K, SRS004	A47-500K-S, FKS-1/4	B11-133, SK2 or (BU2, CF16, SS2, DC1)*	UA55L, SK750, or (RU55L, SL38, SK750) or (SU50)
R5	"S" Meter Calibrate	1000Ω	(BE23374)	V-1000	U39-1000	112-1000 or 117R102A	MR1000F

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	PART No.			IRC PART No.	WORKMAN PART No.	PART No.
R89	100Ω 7W	PW10-100	10W-SQ-100		R91	300Ω 7W	PW10-300	10W-SQ-300	
R90	300Ω 7W	PW10-300	10W-SQ-300						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		TRAM PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	Ant. Input	A0030					
L2	RF Choke (15uh)						
L3	RF Coupling	MI-33717			72F155AP		T944
L4	1st Rec. Osc. Plate	A0029	19-6816		4202	RTC-8500	

TRAM MODELS TR-27D, TR-27E

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

COILS (RF-IF)(cont)

ITEM No.	USE	REPLACEMENT DATA					
		TRAM PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L5	RFC (2.2mh)	A0052 A0023	19-3403		4204	RTC-9104	
L6	Mixer				72F185AP		
L7	2nd Rec. Osc.						
L8	RFC (2.2mh)		19-3403				
L9	1st IF			BC-567	12-C12	RTC-8677	
L10	2nd IF	1655-2	16-6786	BC-352	12-C30	RTC-9275	T607
L11	3rd IF	1655-2	16-6787	BC-353	12-C31	RTC-9276	T608
L12	4th IF	1655-2	16-6787	BC-353	12-C31	RTC-9276	T608
L13	AF Choke (5.6uh)		16-2013		4609	RTC-8519	T820
L14	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L15	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L16	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L17	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L18	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L19	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L20	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L21	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L22	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L23	Osc. Coil (4.7uh)				74F476AP	RTC-8505	T940
L24	Trans. Rec. Osc.	A0029	19-6816		4202	RTC-8500	
L25	RFC (15uh)				72F155AP		T944
L26	RF Loading	808T					
L27	RF Loading	618T					
L28	RFC (15uh)				72F155AP		T944
L29	Fl. Choke (5.6uh)		19-2013		4609	RTC-8519	T820
L30	Fl. Choke (5.6uh)		19-2013		4609	RTC-8519	T820

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
				TRAM PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .76A	300VAC @ .11A DC	6.3VAC @ 5.1A						▲ Transmit

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			TRAM PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	4800Ω	3-4Ω		A-2905 ①	A-3825	22S89	S-56Z	① Drill New Mtg. Holes

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		TRAM PART No.	QUAM PART No.	
SP1	5" x 7" PM 3-4Ω		57A15	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	AGC	2A 250V			312002	342001	AGC 2	HKP

MISCELLANEOUS

ITEM No.	PART NAME	TRAM PART No.	NOTES
M1	Crystal (31.5MC)		3rd Overtone
M2	Crystal (13.4825MC)		
M3	Crystal (13.4925MC)		
M4	Crystal (13.5075MC)		
M5	Crystal (13.5175MC)		
M6	Crystal (13.5325MC)		
M7	Crystal (13.5425MC)		
M8	Crystal (13.5775MC)		
M9	Crystal (13.5675MC)		
M10	Crystal (13.5825MC)		
M11	Crystal (13.5925MC)		
M12	Crystal (13.6025MC)		
M13	Crystal (13.6125MC)		
M14	Crystal (13.6275MC)		
M15	"S" Meter		Ceramic Channel Selector (1-Pole, 24-Position Rotary) Manual-Crystal (DPDT, Slide) Spot (DPST, Push)
M16	Microphone Ass'y.		
S1	Switch		
S2	Switch		
S3	Switch		



PHOTOFACT[®]

TRADE NAME : Browning Models Eagle R-27 (Receiver)
 Eagle S-23 (Transmitter)
SUPPLIER : For Current Address, see Annual Index
TYPE SET : 11-Tube Receiver and
 5-Tube Transmitter
POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles
RATING : 96 Watts, .95 Amp. @ 117VAC
 68 Watts, .67 Amp. @ 117VAC
 (Receiver only)
TUNING RANGE : All 23 CB Channels



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools: A1 thru A25.....GENERAL CEMENT #8606, 8606L, 8869
 WALSCO #2515, 2543, 2544

RECEIVER ALIGNMENT

Connect DC VTVM between point Δ and ground. Set to indicate negative voltage.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 2 (grid) V3 (2nd Mixer), low side to chassis. Tune to 455KC (Unmod.).	Any	A1 thru A12	Adjust for maximum.
High side thru .01mfd to antenna receptacle, low side to chassis. Tune to channel frequency (unmod.).	11	A14 thru A19	Set the function selector to Manual and the Channel Selector to channel 11. Adjust for maximum. Check operation on all channels and readjust as required.
"	Any desired channel.	A13	Set the Function Selector to Fixed. Adjust for maximum. This channel can now be received whenever the Function Selector is turned to Fixed. The transmitter, tuned to the desired channel, can be used as the generator. Press the Spot switch and adjust A13 for maximum "S" Meter 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 AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

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.

Connect either 50 Ω dummy load or the normally used antenna system.

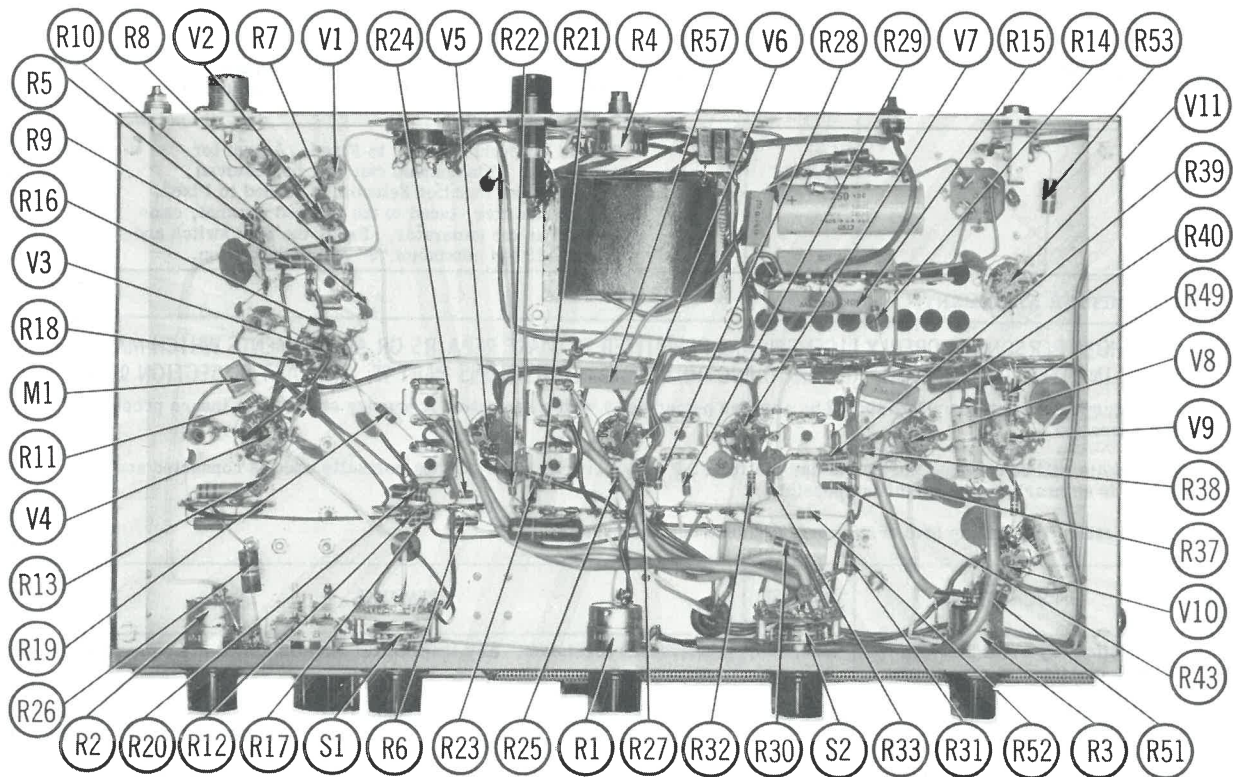
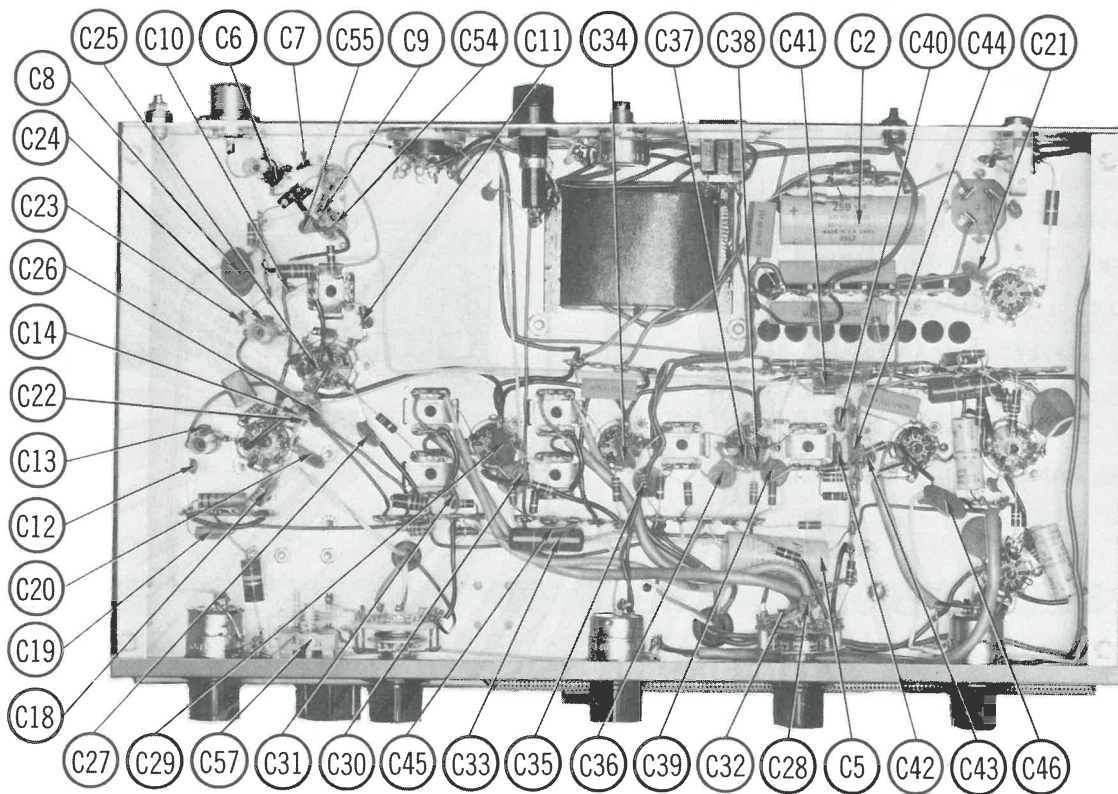
INDICATOR	ADJUST	REMARKS
RF Wattmeter, Field Strength Meter, or Meter on unit.	A21, A22, A23, A24	Adjust for maximum. Key transmitter several times to insure proper oscillation.
Oscilloscope	R59	Adjust so as not to exceed 100% modulation.
Nearby TV	A25	Adjust for MINIMUM.

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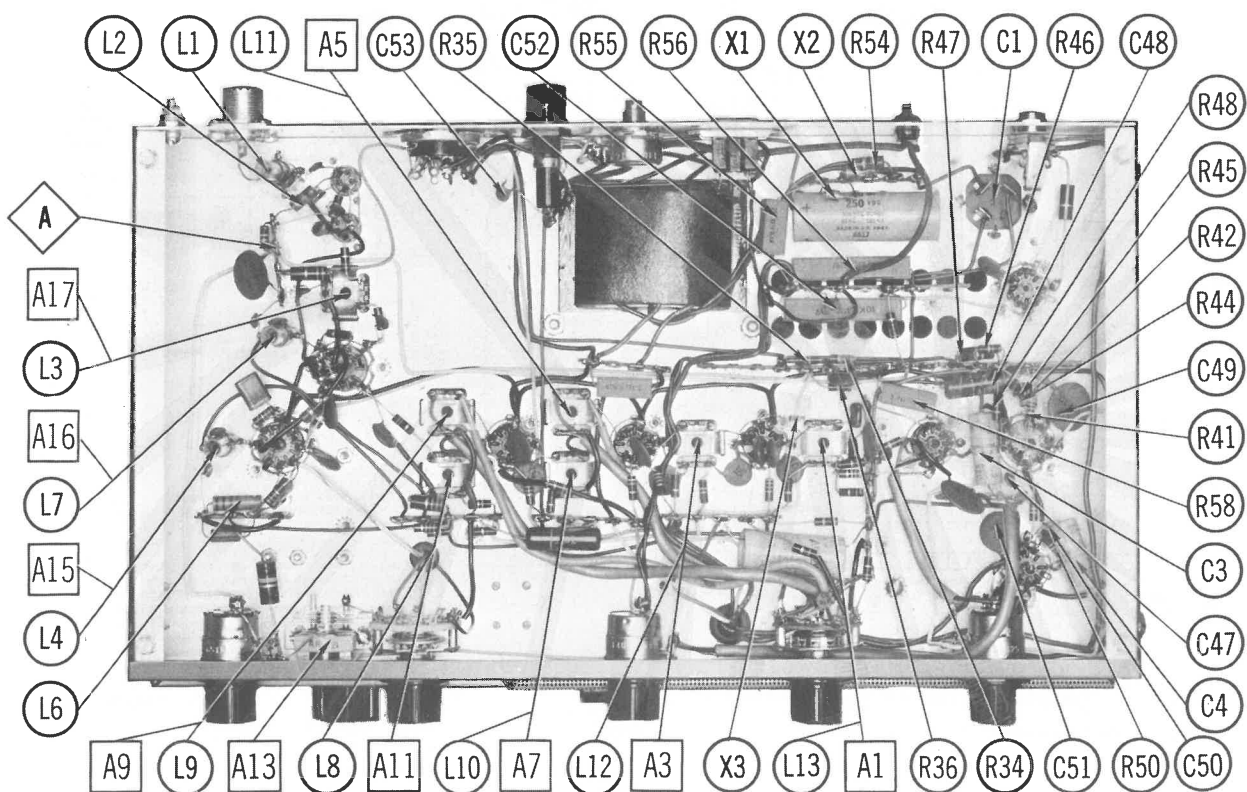
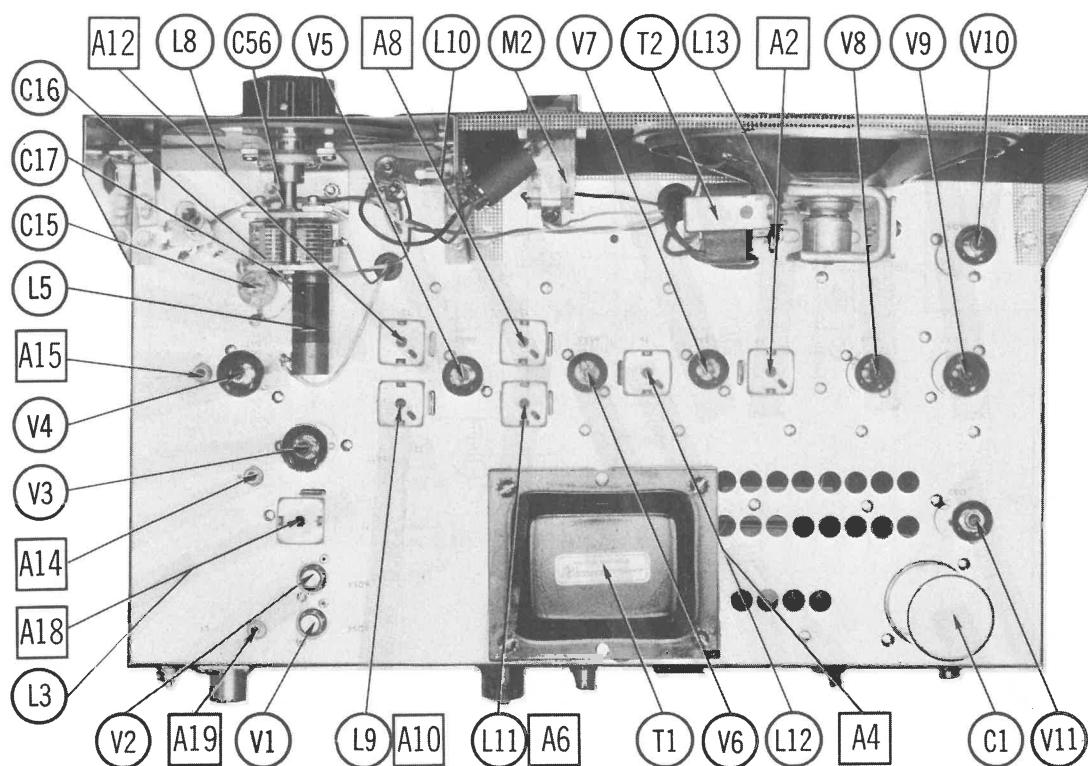
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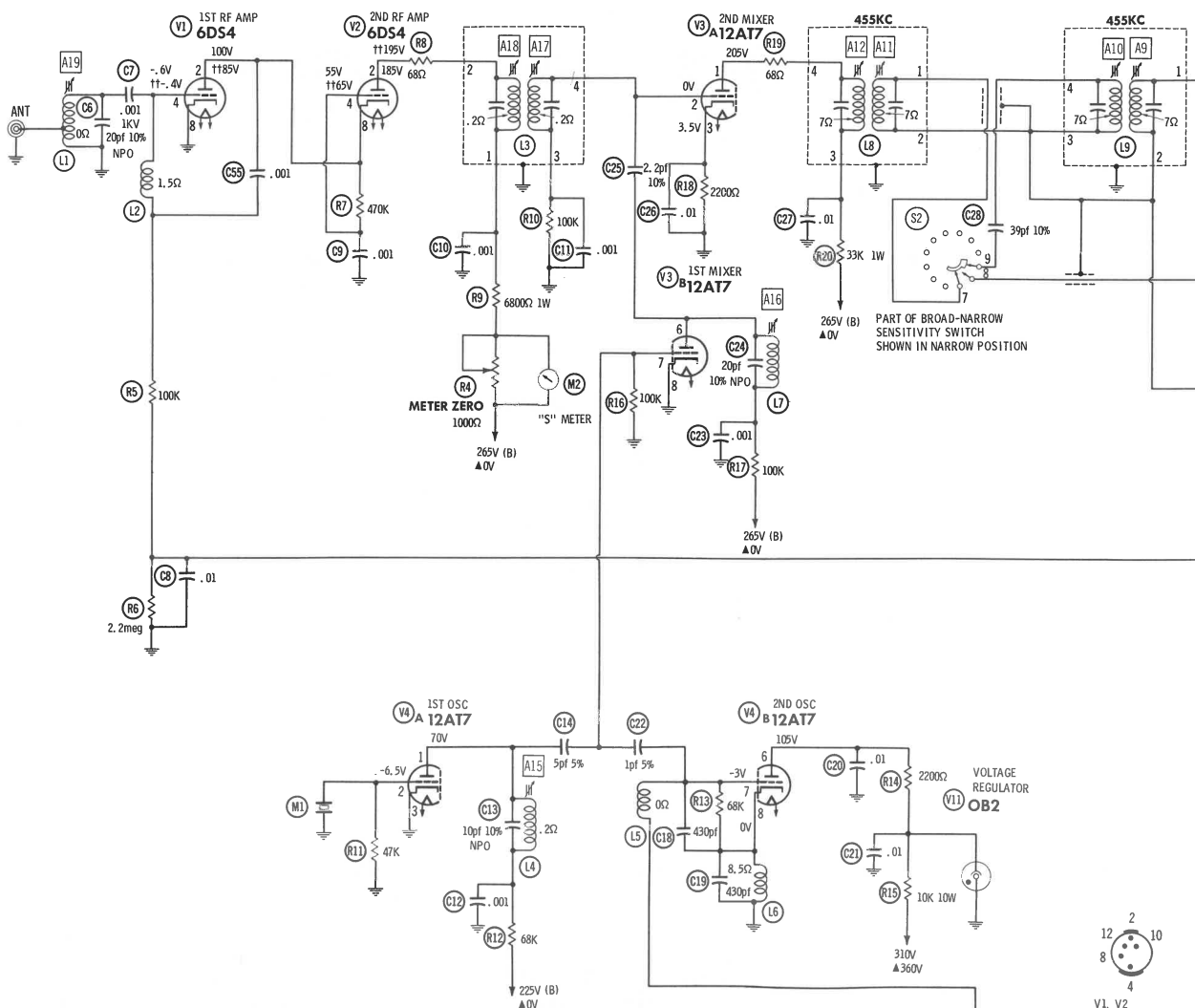
BROWNING MODELS R-27, S-23



RECEIVER



RECEIVER



RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	6DS4	NC	0Ω ▲▲	NC	100K ◆ 2.3meg	NC	NC	NC	0Ω	NC	FIL	NC	FIL
V2	6DS4	NC	9000Ω †	NC	470K ▲▲	NC	NC	NC	1M	NC	FIL	NC	FIL
V3	12AT7	34K †	100K	2200Ω	FIL	FIL	101K †	100K	0Ω	FIL			
V4	12AT7	69K †	47K	0Ω	FIL	FIL	13K †	68K	8.5Ω	FIL			
V5	6BA6	100K ◆ 2.3meg	0Ω	FIL	FIL	3450Ω †	48K †	550Ω					
V6	6BA6	100K ◆ 2.3meg	0Ω	FIL	FIL	3450Ω †	48K †	550Ω					
V7	6BA6	100K ◆ 2.3meg	0Ω	FIL	FIL	3450Ω †	48K †	950Ω 270Ω †					
V8	6AL5	2meg ◆ 230K	1meg ◆ 3.2meg	FIL	FIL	3000Ω	NC	2meg ◆ 230K					
V9	12AX7	400K †	3.3meg	4500Ω	FIL	FIL	103K †	1.9meg	18K #	FIL			
V10	6AQ5	NC	270Ω	FIL	FIL	650Ω †	3400Ω †	470K					
V11	OB2	NC	0Ω	NC	NC	10K †	NC	NC					
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12

ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE INDICATED; WITH RF GAIN CONTROL FULLY CLOCKWISE SELECTIVITY SWITCH IN BROAD POSITION, AND AVC AND ANL SWITCH IN OFF POSITION.)

† MEASURED FROM OUTPUT OF X1

NC NO CONNECTION

▲ MEASURED FROM PIN 8 OF V2

◆ MEASURED WITH AVC IN ON POSITION

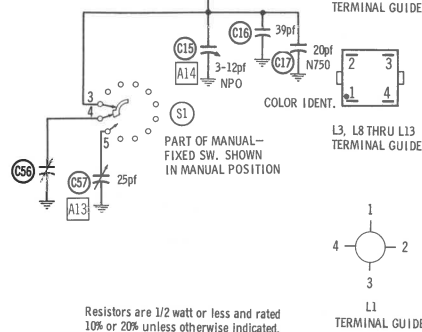
† MEASURED WITH SELECTIVITY SWITCH IN NARROW POSITION

◆ MEASURED WITH ANL SWITCH IN ON POSITION

THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.

†† AVC SW IN ON POSITION

▲ TAKEN IN "TRANSMIT" POSITION.



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

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

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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RECEIVER

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RECEIVER PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

WIRING DATA

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

◆ AMPEREX ◆			◆ GENERAL ELECTRIC ◆			◆ RCA ◆			◆ SYLVANIA ◆		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6DS4	V6	2nd IF Amp.	6BA6						
V2	RF Amp.	6DS4	V7	3rd IF Amp.	6BA6						
V3	1st Mixer-2nd Mixer	12AT7	V8	AVC-Noise Limiter	6AL5						
V4	1st Rec. Osc. - 2nd Rec. Osc.	12AT7	V9	AF Amp. -Squelch	12AX7						
V5	1st IF Amp.	6BA6	V10	Output	6AQ5A						
			V11	Voltage Regulator	OB2						

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X1	.12A	SR1	1N1096 or 1N1697	1N1697	SK-3017	F-6	1N34AS
X2	.12A	SR2	1N1096 or 1N1697	1N1697	SK-3017	F-6	
X3		CR2 (1N67A)					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING*		REPLACEMENT DATA					
	CAP.	VOLT.	Browning PART No.	AEROVOX PART No.	CORNELL- DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲40	450	C55	AFH3-44	CCO355	XC3-40	FP369.1	TVL-3787
B	■40	450						
C	▲40	450						
C2	40	250	C54	PRS1580	BR40-250	QT1-14	TC58	TVA-1511
C3	5	50	C46	PRS1310	BBR5-50	MT1-3	TC30	TVA-1303
C4	5	50	C50	PRS1310	BBR5-50	MT1-3	TC30	TVA-1303
C5	8	450	C51	PRS1715	BR8-450	QT1-4	TC71	TVA-1704

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.
C6	20 NPO 10%	#C36	NPO-DI 20	DTZ-20	CDEHVX162XP102M	CCTO-200	CNO422	10TCC-Q20
C7	.001 1KV		BPD-001	DD-102	BYV102ZU103M	CCD-102	B210	5GA-D10
C8	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C9	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10
C10	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10
C11	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10
C12	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10
C13	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C14	5 5%			DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C15	3-12 NPO			825-FZ		460	ST553-Z	
C16	39		ADM-15-390	CPR-39J	CD10E390K500	CCD-390	SX439	MS-439
C17	20 N750		N750-DI 22	TCN-22	CZ601UJ220K	CCTN-220	CNT420	10TCU-Q20
C18	430		ADM-15-431	CPR-430J	CD15F431K500		SX343	MS-343
C19	430		CM-15E-431	CPR-430J	CD15F431K500		SX343	MS-343
C20	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C21	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C22	1pF		NPO-DI 1.0	TCZ-1	JBS601YP102K	CCD-102	CNO510	10TCC-V10
C23	.001		DI-1000	DD-102		CCD-102	JF210	10TS-D10
C24	20 NPO 10%		NPO-DI 20	DTZ-20	CZ601CJ2R2D	CCTO-200	CNO422	10TCC-Q20
C25	2.2 10%		NPO-DI 2.2	TCZ-2R2		CCTO-2R2	CNO522	10TCC-V22
C26	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C27	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C28	39 10%		NPO-DI 39	DD-390	CD10E390K500	CCD-390	GP439	10TCC-Q39
C29	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C30	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C31	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C32	39 10%		NPO-DI 39	DD-390	CD10E390K500	CCD-390	GP439	10TCC-Q39
C33	.1mfd 100V 10%		DBE2P1		PM4P1	4DP-3-104	GEM401	4TM-P10
C34	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C35	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C36	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C37	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C38	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C39	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C40	100 10%		ADM-15-101	DD-101	CD10E101K500	CCD-101	SX310	MS-31
C41	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C42	100 10%		ADM-15-101	DD-101	CD10E101K500	CCD-100	SX310	MS-31
C43	270 10%		DI-270	DD-271	CD15F271K500	CCD-270	SX327	10TCC-T27
C44	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	B120	5HK-S20
C45	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C46	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C47	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10
C48	.1mfd 100V 10%		DBE1P1		PM4P1	4DP-3-104	GEM401	4TM-P10
C49	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C50	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10

RECEIVER PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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.
C51	.01 1KV		BPD-01	DD-1032	CDHVX162XP102M	CCD-103	B110	5GA-S10
C52	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C53	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C54	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C55	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10
C56		#C34 (A-226)						
C57	25	#C35						

Browning Part Number.

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			Browning PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Sw.	500K	R38 (A318)	F2-500K, SRS012, KR-1	A47-500K-Z, RS-2, SWE-12	B13-133, SK3, 76-1 or (BU2, CF25, SS3, GC)*	UA55A, SK750, US41 or (RU55A, SL38, SK750, US41) or (U48, US26)
R2	RF Gain & AVC Sw.	10K	R17 (A325)	F1-10K, SPU304, KR-8		B11-116, SK7, or (BU2, CF9, SS10, K)*	
R3	Squelch & ANL Sw.	10K	R47 (A325)	F1-10K, SPU304, KR-8		B11-116, SK7, or (BU2, CF9, SS10, K)*	
R4	Zero Meter	1000Ω	R30	F1-1000, SRS008	A47-1000-S, FKS-1/2	B11-108, SK2, or (BU2, CF6, SS2, DC-1)*	UA13L, SK750 or (RU13L, SL38, SK750) or (U4)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Browning PART No.			IRC PART No.	WORKMAN PART No.	Browning PART No.
R15	10K 10W	PW10-10K	10W-SQ-10K	R53	R57	3.3Ω 4W	PW5-3300	5W-SQ-3300	R56
R55	250Ω 4W	PW5-250	5W-SQ-250	R52	R58	3.3Ω 4W	PW5-3300	5W-SQ-3300	R57
R56	1000Ω 10W	PW10-1000	10W-SQ-1000	R54					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		Browning PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	Antenna Coupling	L1 (A138)					
L2	RFC (18uh)	L2			72F185AP		
L3	RF Plate	T1 (A139)					
L4	1st Osc. Plate (1uh)	L3 (A140)			4201-A	RTC-9126	
L5	2nd Osc.	L6 (A142)					
L6	RFC (2.5mh)	L5					
L7	1st Mixer Plate (1uh)	L4 (A140)			4201-A	RTC-9126	
L8	1st IF (455KC)	T2	16-6764	BC-352	12-C30	RTC-9266	T607
L9	2nd IF (455KC)	T3	16-6764	BC-352	12-C30	RTC-9267	T607
L10	3rd IF (455KC)	T4	16-6764	BC-352	12-C30	RTC-9267	T607
L11	4th IF (455KC)	T5	16-6764	BC-352	12-C30	RTC-9267	T607
L12	5th IF (455KC)	T6	16-6764	BC-352	12-C30	RTC-9267	T607
L13	6th IF (455KC)	T7	16-6764	BC-353	12-C31	RTC-9268	T608

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	Browning PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .9A	133V @ .12ADC	6.3V @ 2.9A	T9 (A225)					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Browning PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	6500Ω	3-4Ω	T8 (A146)*	A-2931	A-3850	22S86	S-63X	* Includes Speaker

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Browning PART No.	QUAM PART No.	
SP1	4" x 6" PM 3-4Ω		46A07	

BROWNING MODELS R-27, S-23

RECEIVER PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	AGC	2A 250V			312.002	342.001	AGC 2	HKP

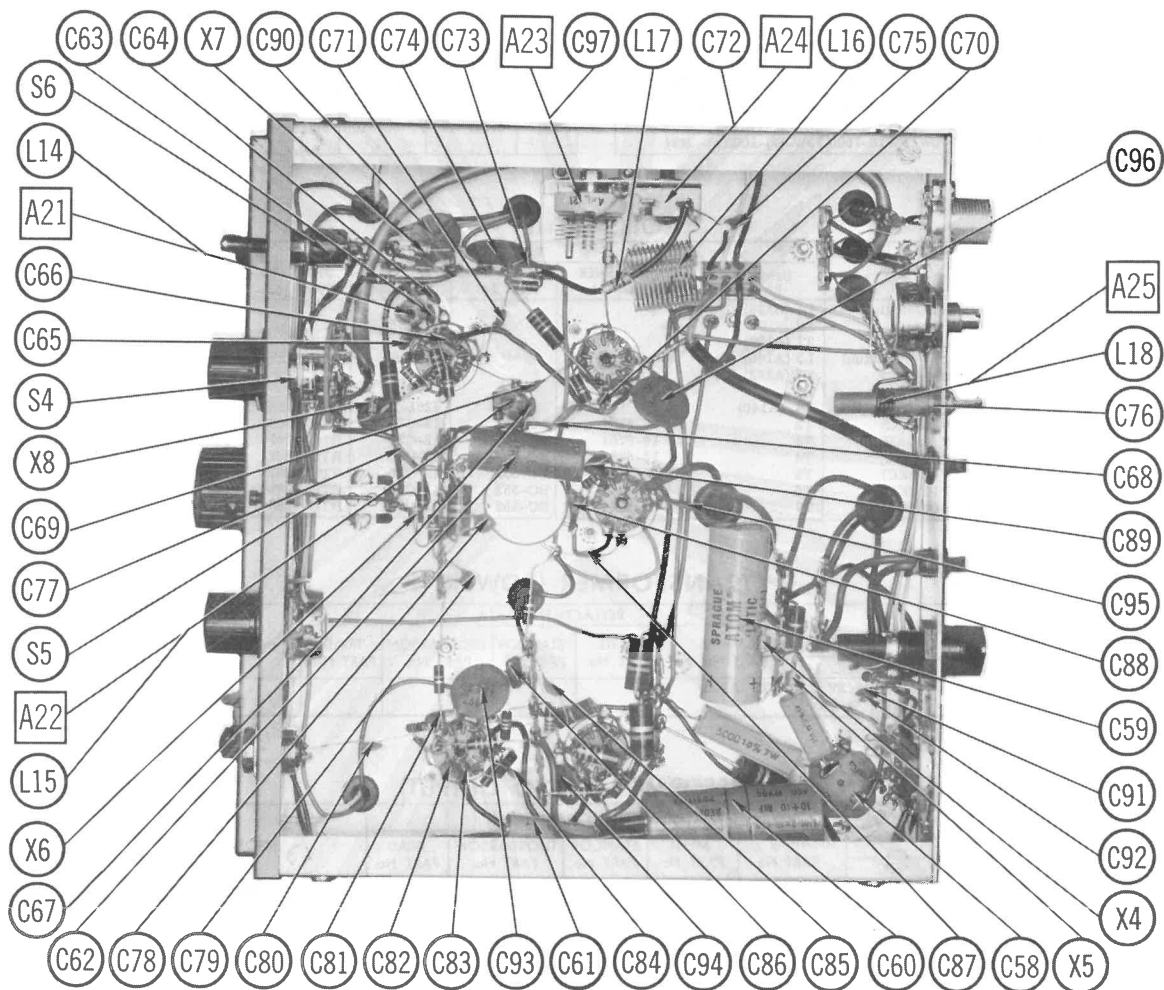
MISCELLANEOUS

ITEM No.	PART NAME	Browning PART No.	NOTES
M1	Crystal	CR1	1st Receive Oscillator
M2	"S" Meter	(A-290)	0-1ma
S1	Switch		Function, Manual/Fixed Tune (Rotary Wafer)
S2	Switch		Selectivity, Broad/Narrow (Rotary Wafer)

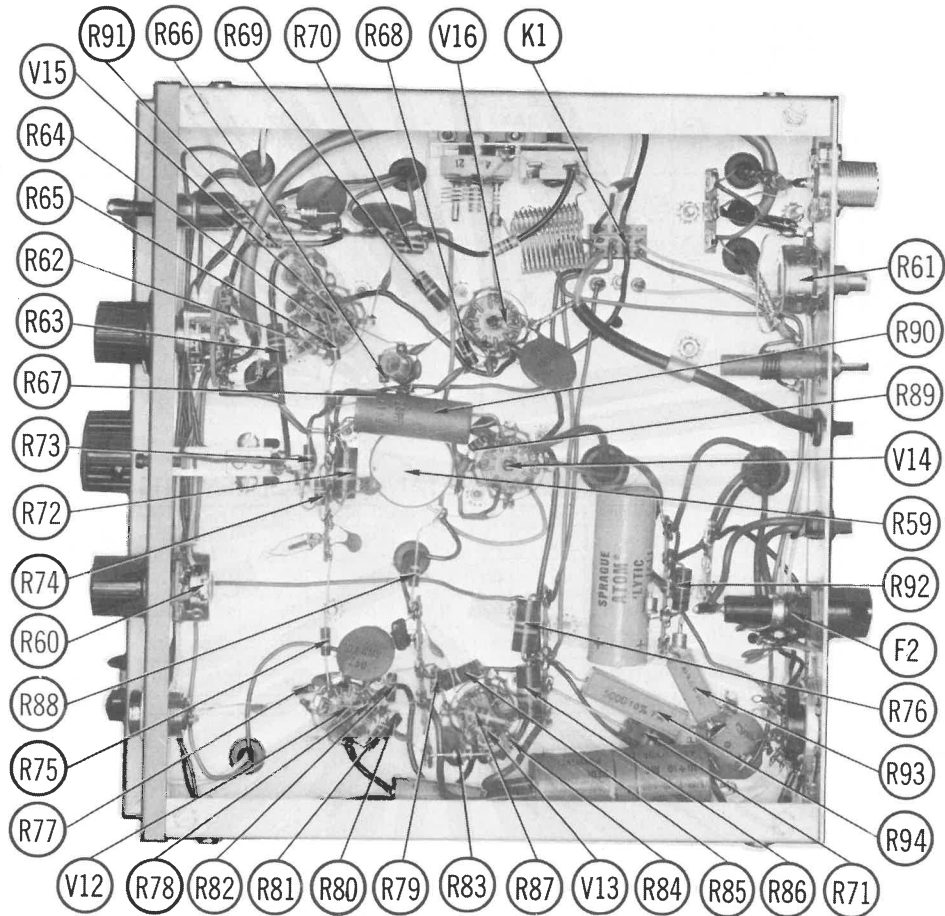
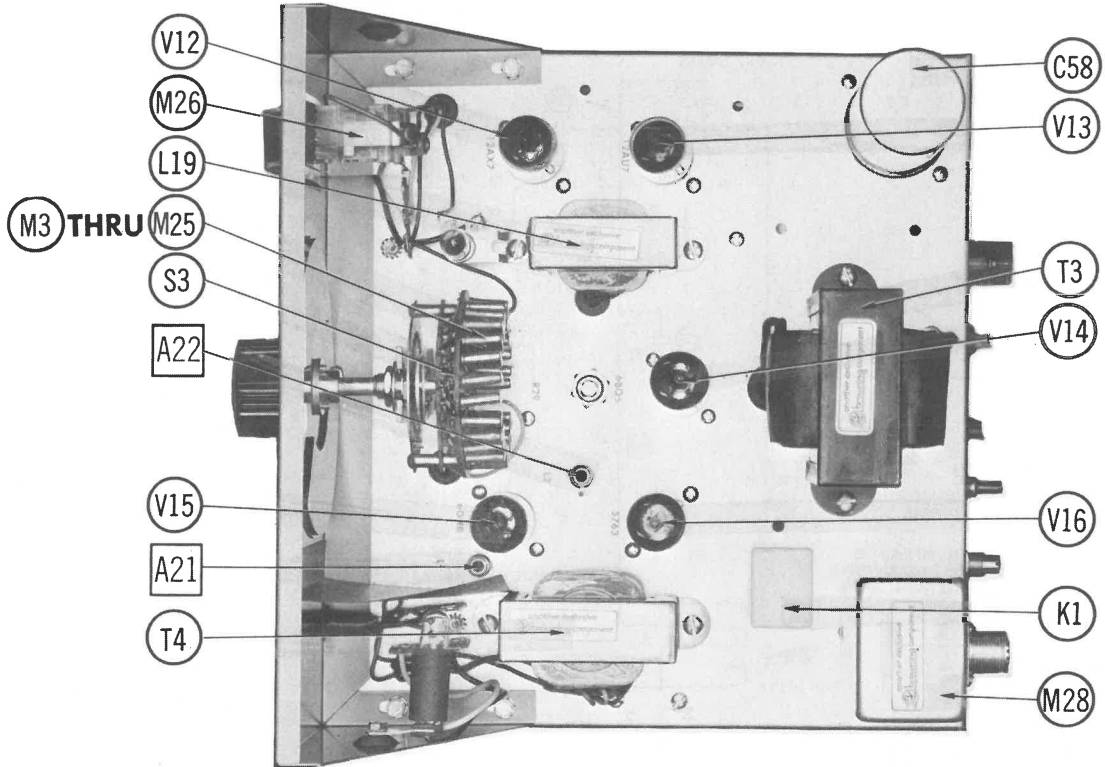
CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

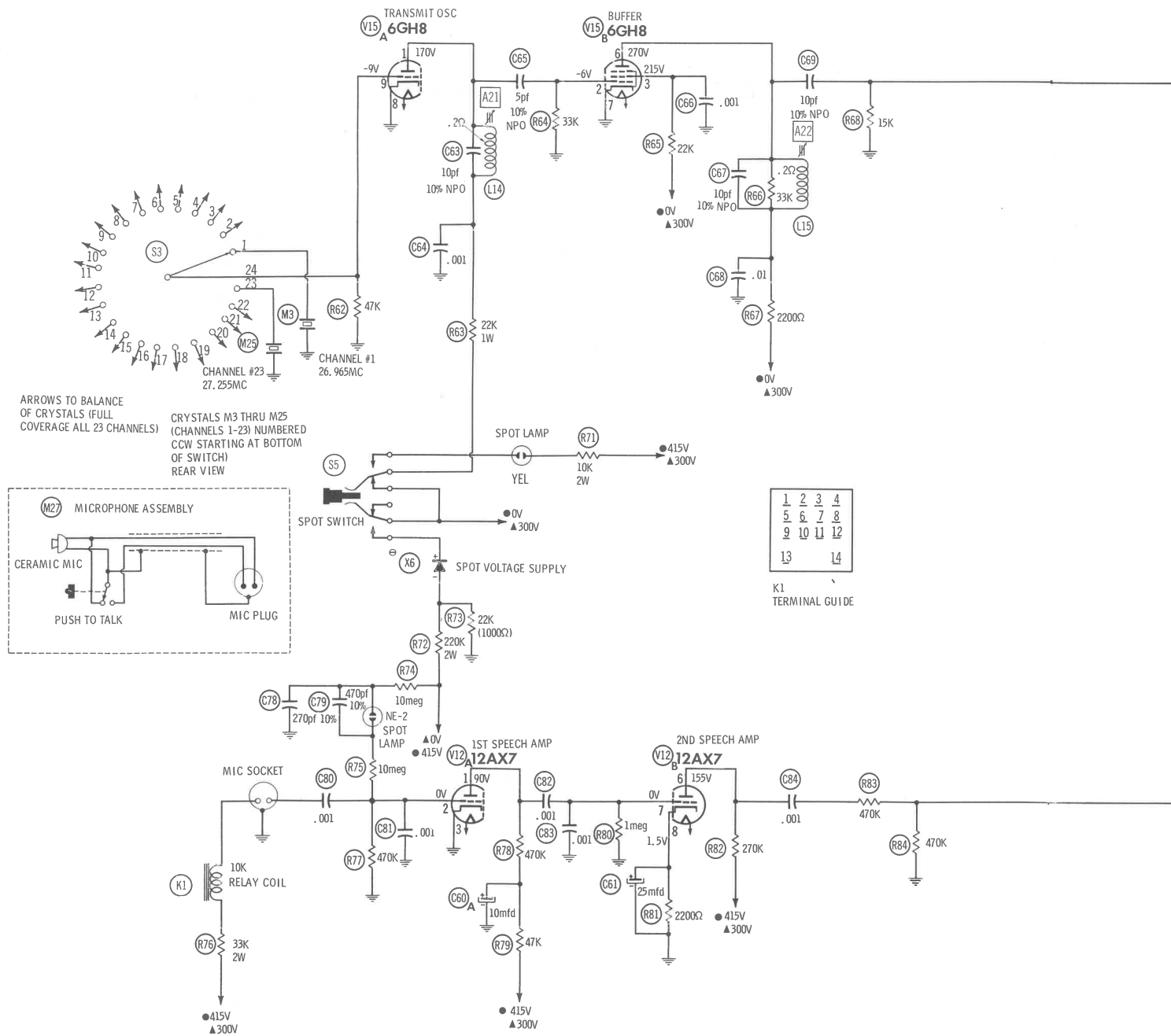
ITEM	PART No.	ITEM	PART No.
Front Panel (RF)	A-402	Top Cover	A-420
Front Panel (IF)	A-401		
Trim Plate	A-410		



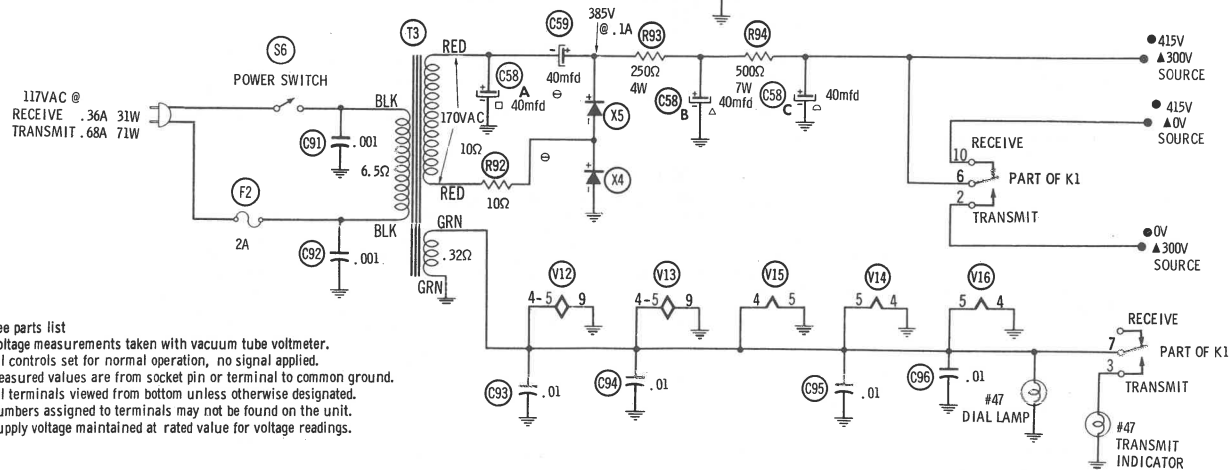
TRANSMITTER



TRANSMITTER



TRANSMITTER



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

BROWNING MODELS R-27, S-23

TRANSMITTER PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TUBES

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V12	Speech Amp.		12AX7			V15	Transmit Osc. Buffer		6GH8A		
V13	Speech Clipper		12AU7A			V16	Final Amp.		5763		
V14	Modulator		6BQ5								

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X4	.1A	SR1	1N1096 or 1N1697	1N1697	SK-3017	F-6	1N34AS
X5	.1A	SR2	1N1096 or 1N1697	1N1697	SK-3017	F-6	
X6		SR3	1N1096 or 1N1697	1N1697	SK-3017	F-6	
X7		SR4	1N1096 or 1N1697	1N1697	SK-3017	F-6	
X8		1N67A					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				
	CAP.	VOLT.	Browning PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C58A	40	450	C33	AFH3-44	CCO355	XC3-40	FP369, 1
B	40	450					
C	40	450					
C59	40	250	C36	PRS1580	BR40-250	QT1-14	TC58
C60A	10	250		PRS2360	BBRD1145	QT2-3	TCB72
B	10	250					
C61	25	25	C23	PRS1260	BBR25-25	MT1-11	TC26
C62	25	25	C30	PRS1260	BBR25-25	MT1-11	TC26

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C63	10 NPO 10%	#C11	NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C64	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C65	5 NPO 10%		NPO-DI 5, 0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50	
C66	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C67	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C68	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C69	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C70	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C71	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C72	100-500					304			
C73	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C74	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C75	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C76	12 NPO 10%			TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12	
C77	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C78	270 10%		DI-270	DD-271	CD10E251K500	CCD-271	GP327	10TS-T27	
C79	470 10%			DD-471	CDEJBZ601YP471K	CCD-471	GP347	10TS-T47	
C80	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C81	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C82	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C83	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C84	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C85	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C86	100 10%		ADM-15-101	DD-101	CDEJBZ601YP101K	CCD-101	GP310	MS-31	
C87	68 10%		DI 68	DD-680	CDEJBZ601YP680K	CCD-680	GP468	10TS-Q68	
C88	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C89	100 10%		ADM-15-101	DD-101	CDEJBZ601YP101K	CCD-101	GP310	MS-31	
C90	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50	
C91	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C92	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	JF210	10TS-D10	
C93	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C94	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C95	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C96	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C97	25	# C10							

Browning Part Number

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Browning PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R59	Audio Gain	500K	R27	F1-500K, SRS008	A47-500K-S, FKS-1/2	B11-133, SK2 or (BU2, CF16, SS2, DC1)*	UA55L, SK750 or (RU55L, SL38, SK750) or (SU50)
R60	SWR Calibrate	5000Ω	R16	F1-5000, SRS012	A47-5000-S, RS-2	B11-114, SK3 or (BU2, CF8, SS3, DC1)*	UA53L, SK750 or (RU53L, SL38, SK750) or (U14)
R61	SWR Balance	100Ω	R15	F1-100, SRS010		B11-084, SK3 or (BU2, CF1, SS3, DC1)*	UA12L, SK750 or (RU12L, SL38, SK750) or (U1)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Browning PART No.			IRC PART No.	WORKMAN PART No.	Browning PART No.
R93	250Ω 4W	PW5-250	5W-SQ-250	R32	R94	500Ω 7W	PW10-500	10W-SQ-500	R33

TRANSMITTER PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		Browning PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L14	Transmit Osc. (1uh)	L1 (A140)			4201-A	RTC-9126	
L15	Buffer Plate (1uh)	L2 (A140)			4201-A	RTC-9126	
L16	Pi Network	L4					
L17	RFC (18uh)	L3			72F185AP		
L18	TV I Trap	(A-328)			4201-A		

AUDIO CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Browning PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L19	.015ADC	650Ω	20H	L5					

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	Browning PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	117VAC @ .68A	170V @ .1A	6.3V @ 1.6A	T1 (A-255)					

TRANSFORMER (MOD)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	Browning PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T4	4500Ω	4500Ω	T2 (A171)					
		SEC. 2						
		740Ω						

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F2	AGC	2A 250V			312, 002	342, 001	AGC 2	HKP

MISCELLANEOUS

ITEM No.	PART NAME	Browning PART No.	NOTES
K1	Relay		Transmit/Receive
M3	Crystal		Channel 1 (26,965MC)
M4	Crystal		Channel 2 (26,975MC)
M5	Crystal		Channel 3 (26,985MC)
M6	Crystal		Channel 4 (27,005MC)
M7	Crystal		Channel 5 (27,015MC)
M8	Crystal		Channel 6 (27,025MC)
M9	Crystal		Channel 7 (27,035MC)
M10	Crystal		Channel 8 (27,055MC)
M11	Crystal		Channel 9 (27,065MC)
M12	Crystal		Channel 10 (27,075MC)
M13	Crystal		Channel 11 (27,085MC)
M14	Crystal		Channel 12 (27,105MC)
M15	Crystal		Channel 13 (27,115MC)
M16	Crystal		Channel 14 (27,125MC)
M17	Crystal		Channel 15 (27,135MC)
M18	Crystal		Channel 16 (27,155MC)
M19	Crystal		Channel 17 (27,165MC)
M20	Crystal		Channel 18 (27,175MC)
M21	Crystal		Channel 19 (27,185MC)
M22	Crystal		Channel 20 (27,205MC)
M23	Crystal		Channel 21 (27,215MC)
M24	Crystal		Channel 22 (27,225MC)
M25	Crystal		Channel 23 (27,255MC)
M26	Modulation Meter	A-291	0-1ma
M27	Microphone		Ceramic
M28	SWR Can		Includes Pickup Loop
S3	Switch	A-417	Channel Selector (23-Position Rotary Wafer)
S4	Switch		Meter (Wafer)
S5	Switch		Spot (DPDT Push-button)

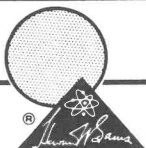
CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Front Panel	A-411	On-the-Air Window	A-415
Trim Panel	A-412	Bottom Plate	A-219
Dial	A-416	Top Cover	A-421

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)
	8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8499 Single Conductor Shielded (Neoprene)
	8498 Single Conductor Shielded (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)



PHOTOFACT[®] with

CIRCUITRACE[®]



TRADE NAME : Hallicrafters Models BC-8(Battery Charger),
CB-8 (Transceiver)

SUPPLIER : For Current Address, see Annual Index

TYPE SET : 13-Transistor Transceiver
(with Battery Charger)

POWER SUPPLY : 12 Volts DC (or)
110-120 Volts AC, 60 Cycles

RATING : .015 Amp. @ 12VDC

TUNING RANGE: Any 2 CB Channels 1 thru 23

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A11..... GENERAL CEMENT #8195, 8606, 8606L, 8282
WALSCO #2543, 2544, 2588

RECEIVER ALIGNMENT

Connect an AC VTVM across the speaker voice coil. Turn the volume to maximum, squelch to MINIMUM.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .05mfd to TP2 (X4 Base), low side to chassis. Tune to 455KC (Mod.).	Any	A1 thru A3	Adjust for maximum deflection.
High side thru .05mfd to TP1 (X2 Emitter), low side to chassis. Tune to 4.225MC (Mod.).	"	A4	Adjust for maximum deflection.
High side thru .05mfd to antenna receptacle, low side to chassis. Tune to 27.085MC (Mod.).	11	A5 thru A7	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 AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

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

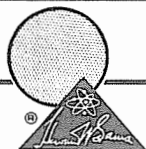
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50Ω dummy load or the normally used antenna system.

INDICATOR	ADJUST	REMARKS
Wattmeter or Field Strength Meter.	A8 thru A11	Adjust for maximum. Key Transmitter several times to insure oscillator starting on each channel.

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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PHOTOFACT® with

CIRCUITRACE®



TRADE NAME : Squires-Sanders Model 23'er
 SUPPLIER : For Current Address, see Annual Index
 TYPE SET : 25-Transistor Transceiver
 POWER SUPPLY : 12-Volt Storage Battery
 (110-120 Volts AC, 60 Cycles with Adapter)
 RATING : .26 Amp. @ 12.6VDC (Receive)
 .54 Amp. @ 12.6VDC (Transmit)
 TUNING RANGE : All 23 CB Channels

SQUIRES-SANDERS MODEL 23'ER

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A18,.... GENERAL CEMENT #8606, 8606L, 8869..... WALSCO #2543, 2544, 2588

RECEIVER ALIGNMENT

Connect a DC VTVM from point Δ to ground; set to indicate positive voltage.
 Turn volume control to midrange, squelch control maximum clockwise and Silencer Switch to Off.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to antenna receptacle, low side to chassis. Set to 27.085MC (Mod. 30%, 1000 cps at 200MV.)	11	A1 thru A7	Adjust for MINIMUM. Reset AGC Control (R3) so that voltage begins to decrease with .7 to 1.0MV signal input.
High side thru .01mfd to antenna receptacle, low side to chassis. Set to channel 11 (27.085MC, Mod. 30%, 1000 cps at 10M V.)	9	A8, A9	Turn Silencer Switch on. Connect DC VTVM between point Δ and chassis. Adjust for maximum deflection. Repeat several times for maximum efficiency.

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 95, SUBPART D, SECTION 95.95).

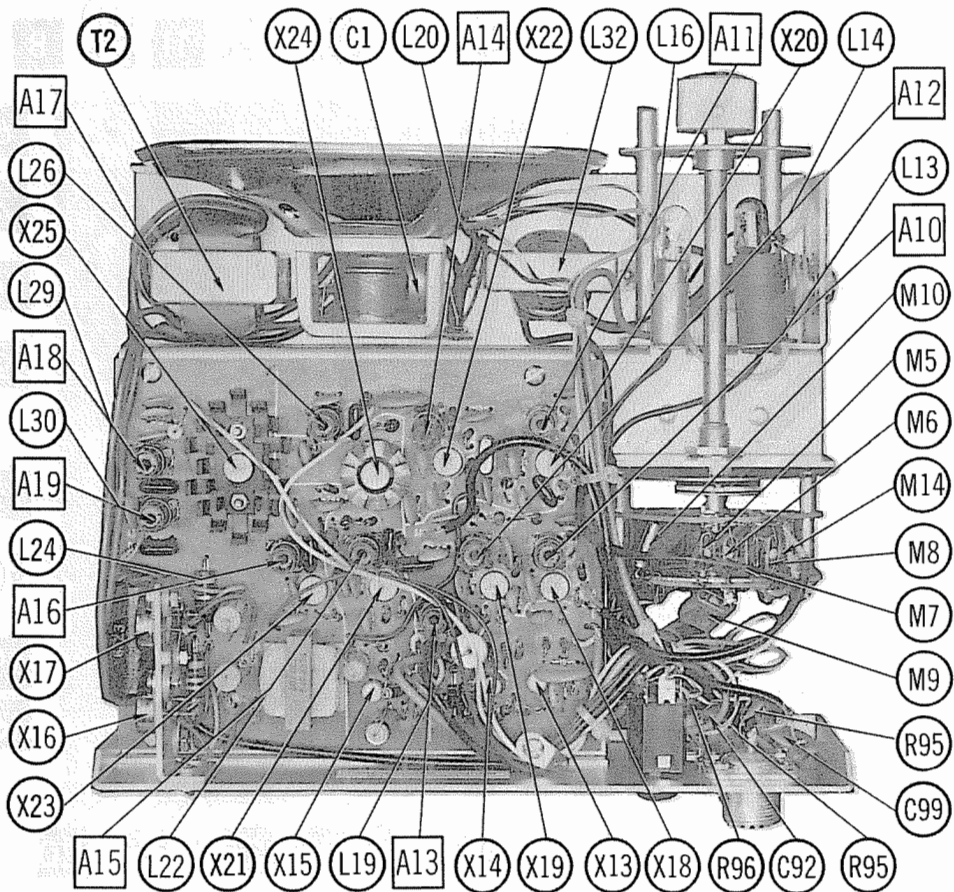
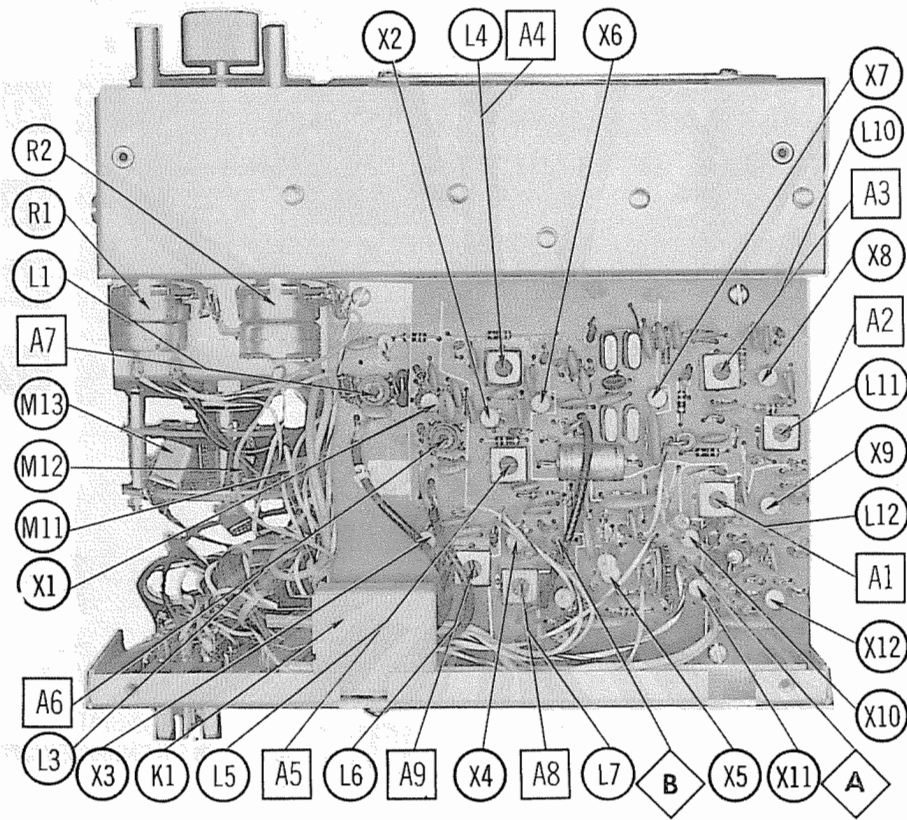
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

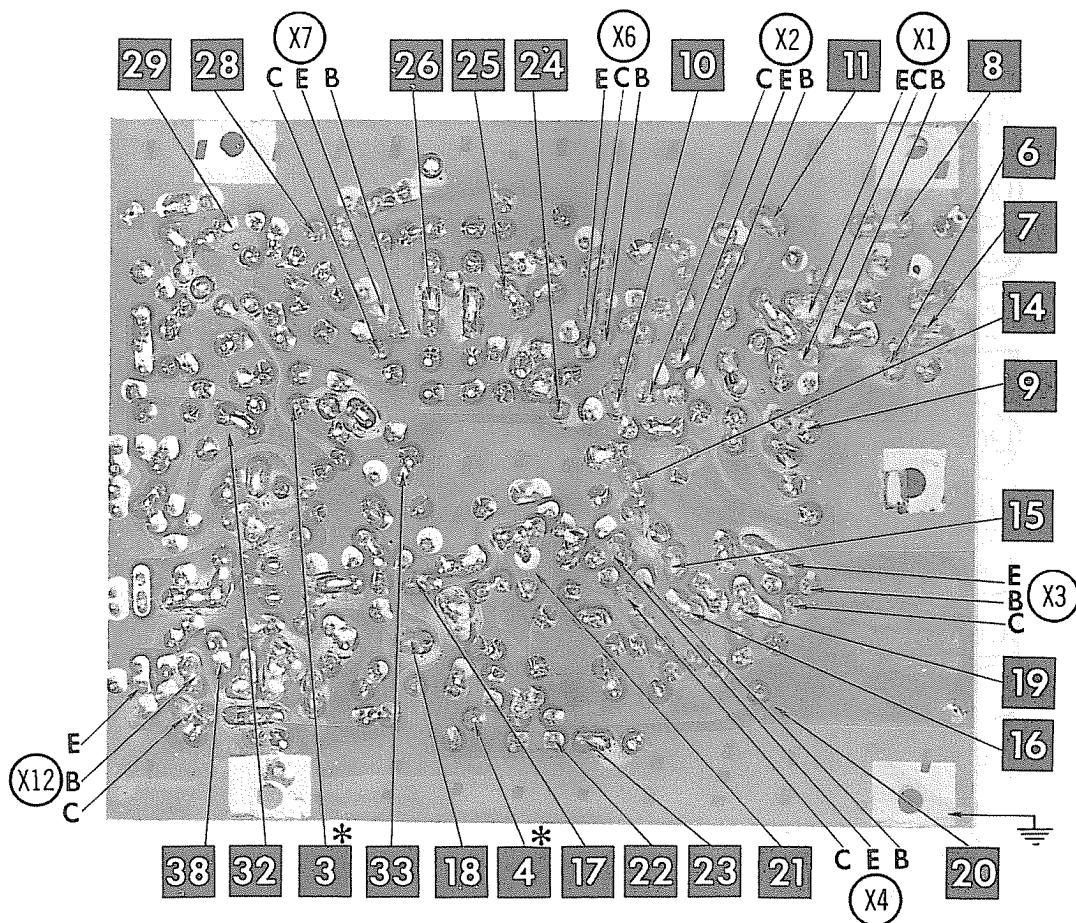
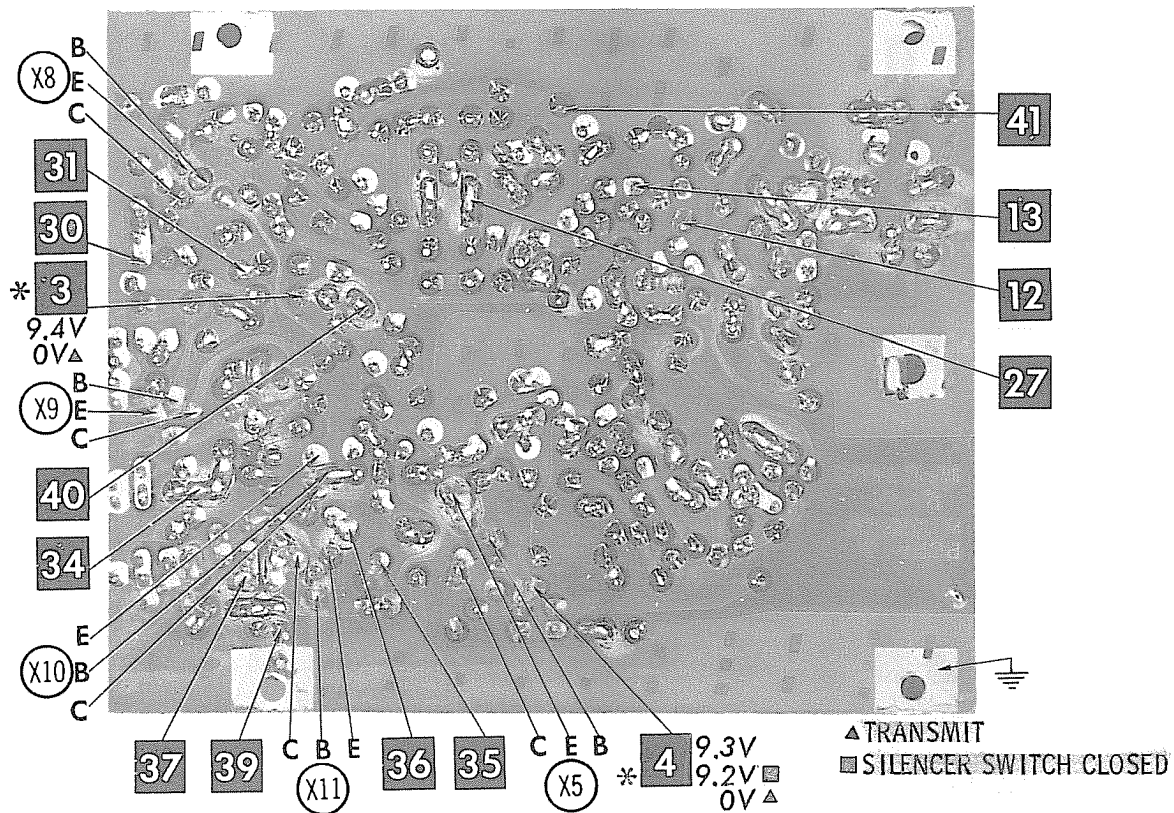
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

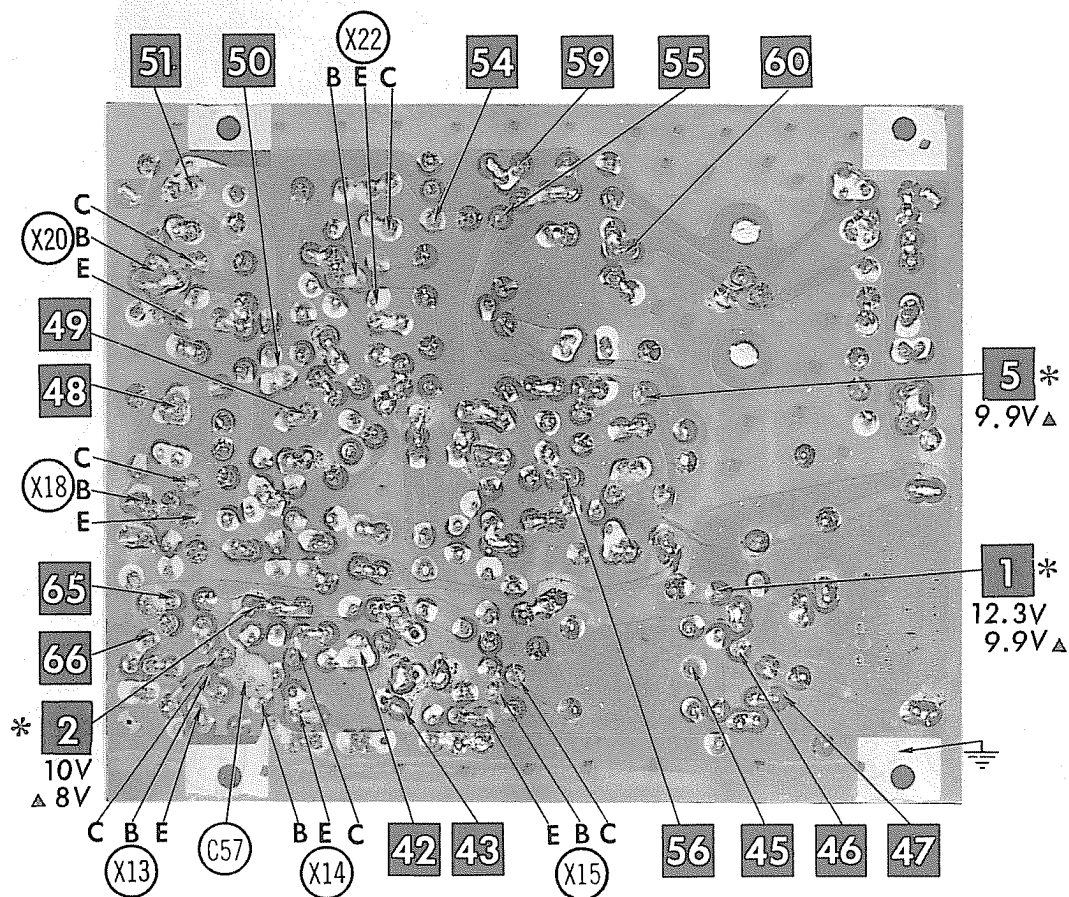
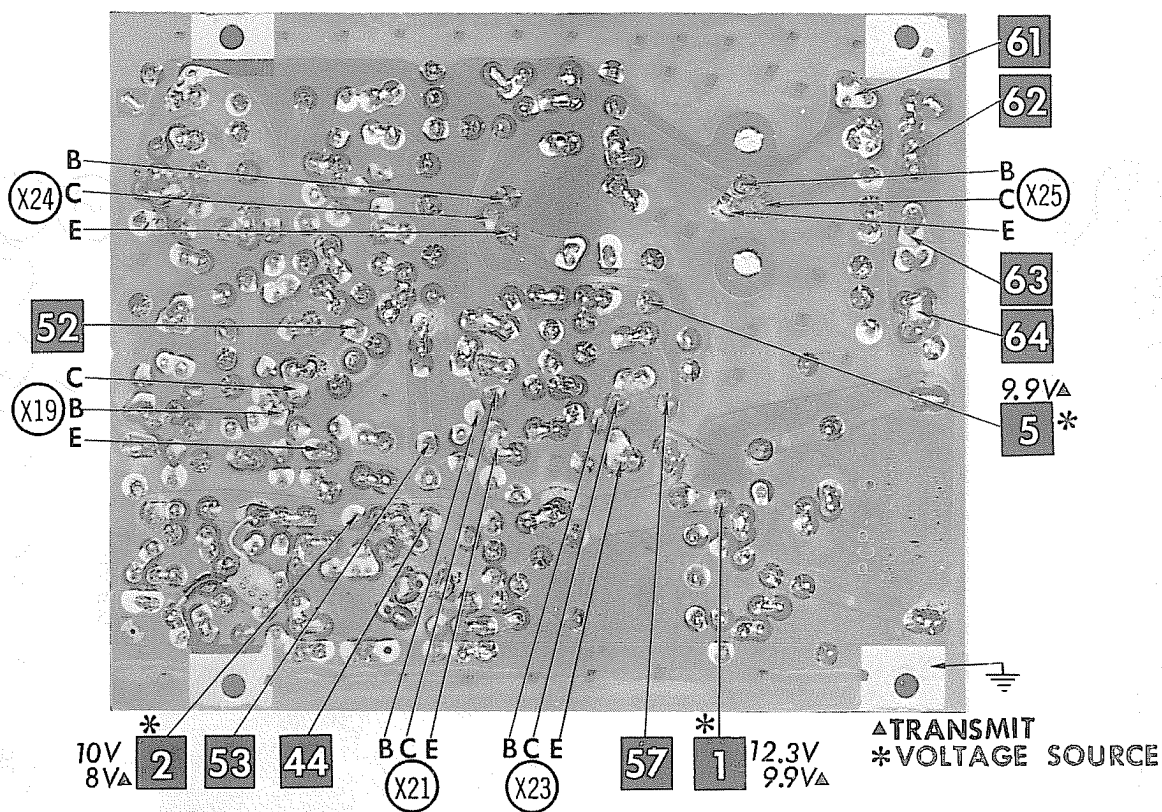
Connect either 50 Ω dummy load or the normally used antenna system.

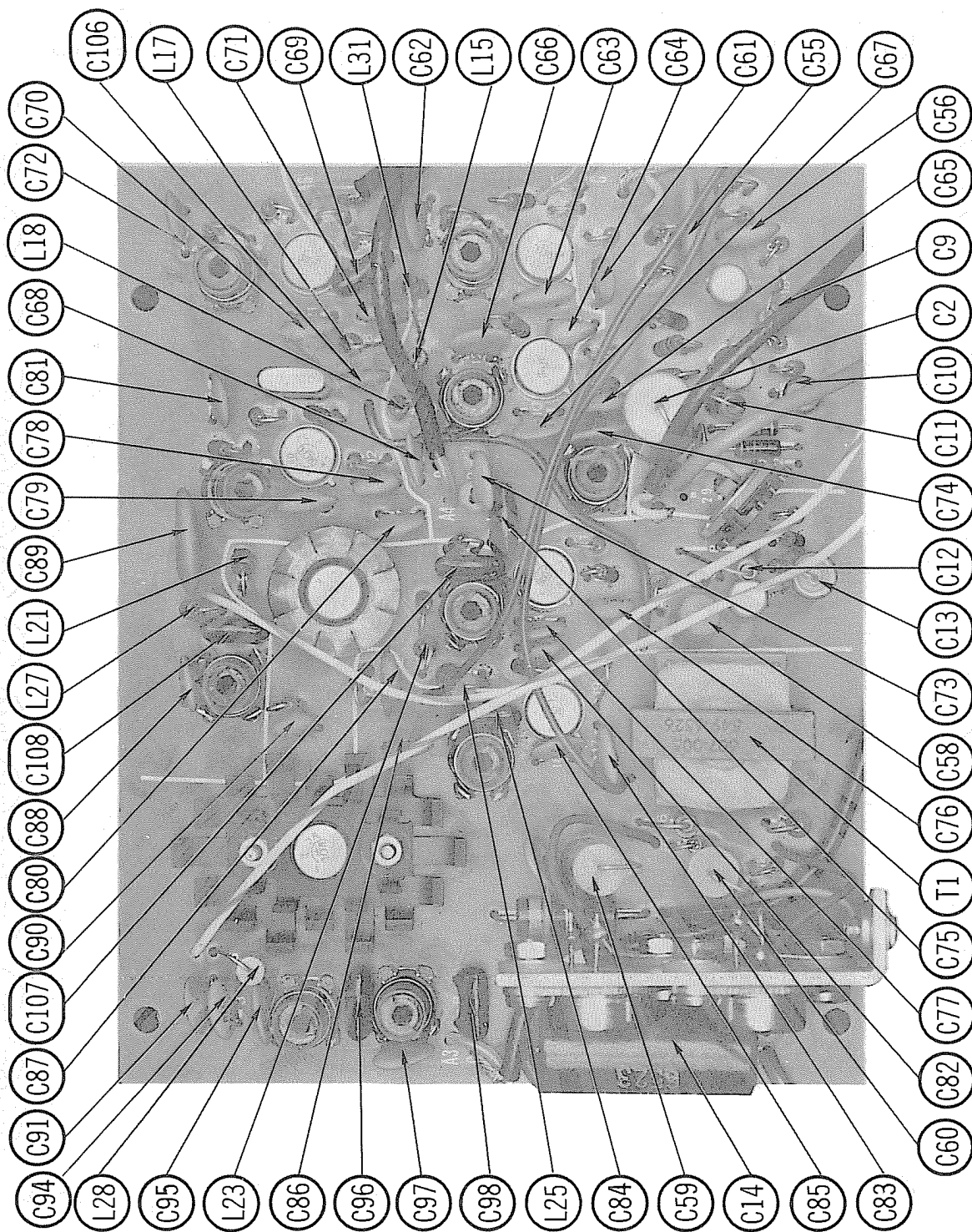
INDICATOR	ADJUST	REMARKS
DC probe of VTVM thru 1meg to base of X23 (1st RF Driver), common to ground.	A10 thru A15	Adjust for maximum. Key transmitter several times to insure oscillator starting.
Field Strength Meter or Watt Meter.	A16, A17, A18, A19	Adjust for maximum. Key Transmitter several times to insure oscillator starting.

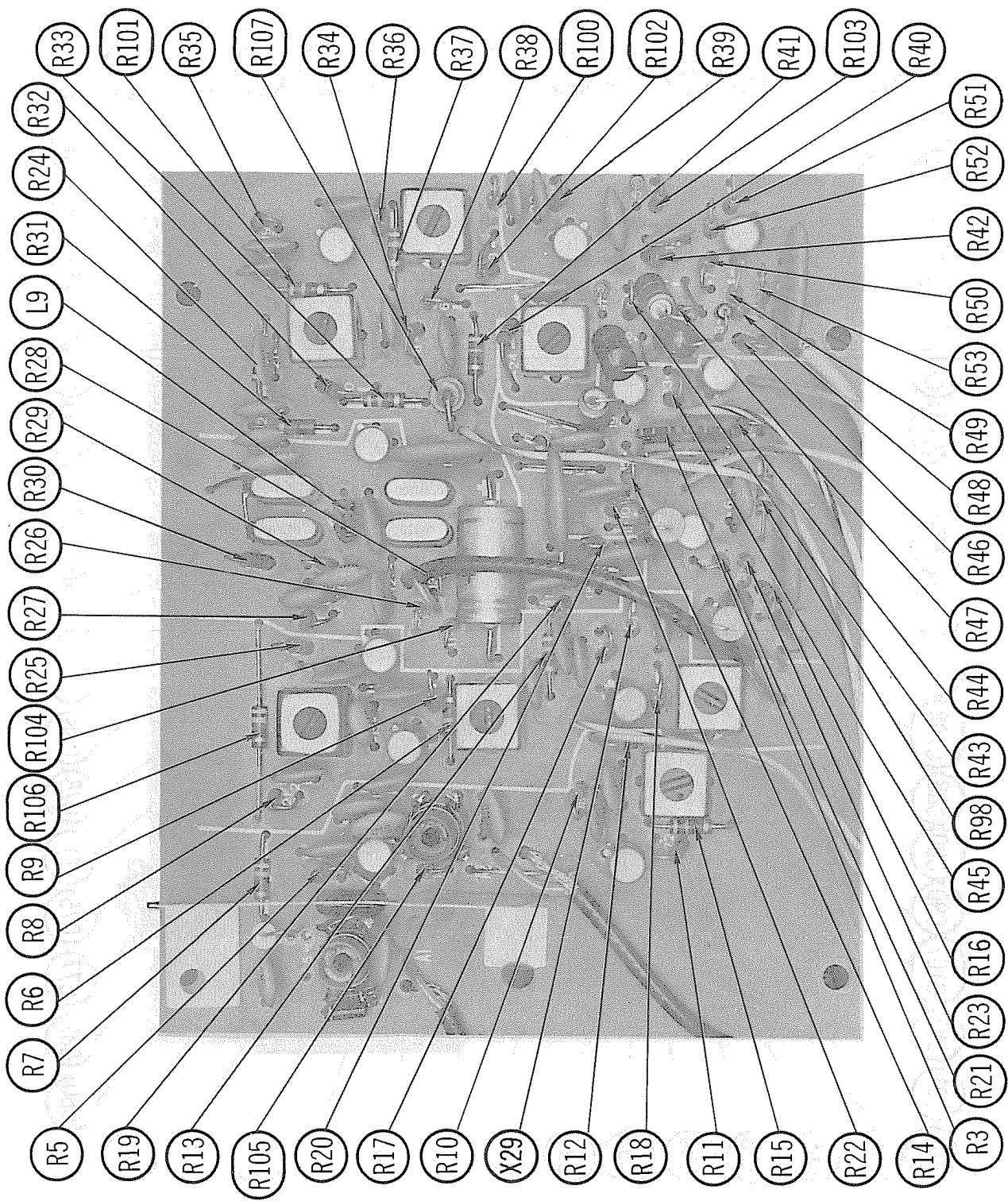
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206











PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	40242	RF Amp.	DS-46	GE-10		NPN
X2	40245	Mixer	DS-46	GE-10		NPN
X3	40245	1st Silencer Amp.	DS-46	GE-10		NPN
X4	40245	2nd Silencer Amp.	DS-46	GE-10		NPN
X5	40234	Pulse Former	DS-46	GE-10		NPN
X6	40245	Noise Gate	DS-46	GE-10		NPN
X7	40245	1st IF Amp.	DS-46	GE-10	SK-3018	NPN
X8	40245	2nd IF Amp.	DS-46	GE-10	SK-3018	NPN
X9	40245	3rd IF Amp.	DS-46	GE-10	SK-3018	NPN
X10	40234	AGC	DS-46	GE-10	SK-3020	NPN
X11	40234	Squelch Amp.	DS-46	GE-10	SK-3020	NPN
X12	40234	AF Amp.	DS-46	GE-10	SK-3020	NPN
X13	40234	1st Speech Amp.	DS-46	GE-10	SK-3020	NPN
X14	40234	2nd Speech Amp.	DS-46	GE-10	SK-3020	NPN
X15	40232	AF Amp.	DS-46	GE-10	SK-3020	NPN
X16	40250	Output - Modulator				NPN ①
X17	40250	Output - Modulator				NPN ①
X18	40080	15MC Osc.	DS-46	GE-10		NPN
X19	40080	1st Mixer	DS-46	GE-10		NPN
X20	40080	22MC Osc.	DS-46	GE-10		NPN
X21	40081	2nd Mixer	DS-46	GE-10		NPN
X22	40080	10, 7MC Osc.	DS-46	GE-10		NPN
X23	40081	1st RF Driver	DS-46	GE-10		NPN
X24	40081	2nd RF Driver	DS-46	GE-10		NPN
X25	40082	Final RF Amp.	DS-46	GE-10		NPN

① When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X26							
X27							
X28							
X29		1N34A	1N34AS	1N34			
X30		1N34A	1N34AS	1N34			
X31		1N456	1N91	10D2			
X32		1N456	1N91	10D2 or 10B1			
X33		1N456	1N91	10D2 or 10B1			
X34		1N34A	1N34AS	1N34			

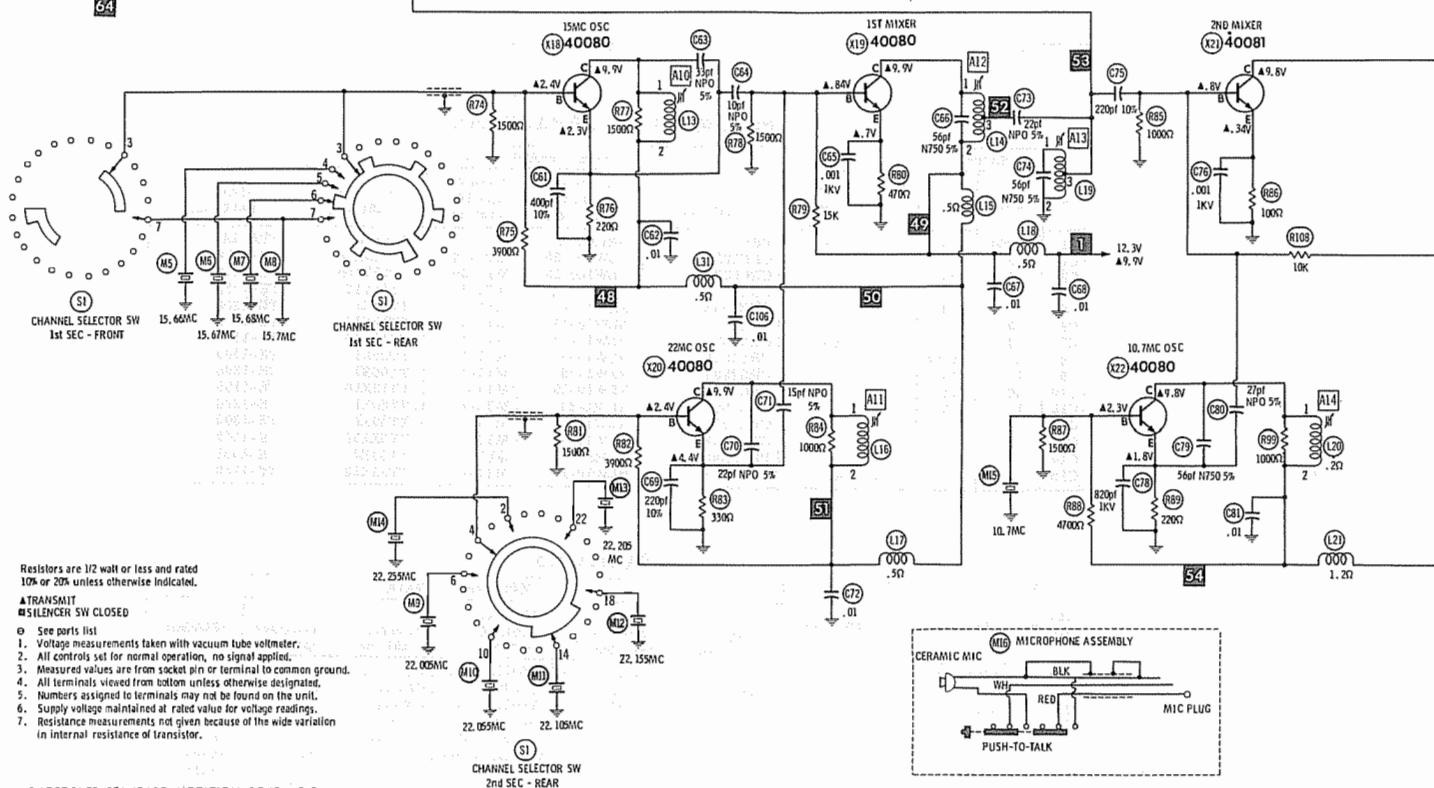
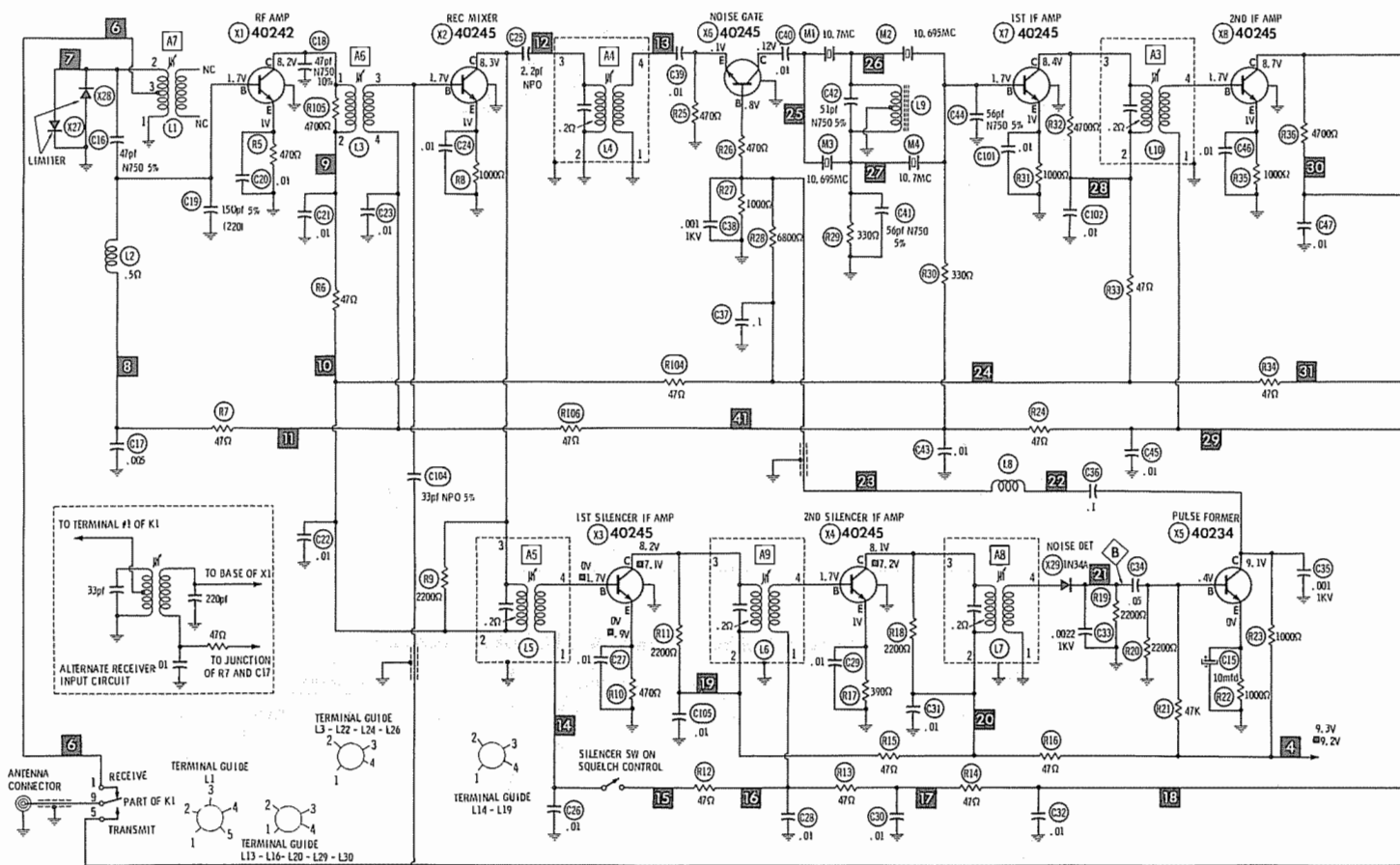
ELECTROLYTIC CAPACITORS

ITEM No.	RATING		Squires-Sanders PART No.	REPLACEMENT DATA				
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000	16	107-029	PRS1295	BR1000-25		TC1501	TVA-1211
C2	80	25		CRE623A	NLW100-25	MT1-20	TT25X100	TE-1211
C3	80	25		CRE623A	NLW100-25	MT1-20	TT25X100	TE-1211
C4	10	15		CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155
C5	1	25/30		CRE750A	NLW1-50	MT1-1	TT25X1	TE-1300
C6	10	15	107-006	CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155
C7	10	15	107-006	CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155
C8	1	25/30		CRE750A	NLW1-50	MT1-1	TT25X1	TE-1300
C9	1	40		CRE750A	NLW1-50	MT1-1	TT50X1	TE-1300
C10	10	15		CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155
C11	1	40		CRE750A	NLW1-50	MT1-1	TT50X1	TE-1300
C12	1	40		CRE750A	NLW1-50	MT1-1	TT50X1	TE-1300
C13	125	4		CRE326A	NLW125-6	MT1-21	TT6X150	TE-1103
C14	2	50		PRS1300	BBR2-50	QT1-1	TT50X2	TE-1301
C15	10	15	107-006	CRE457A	NLW10-15	MT1-5	TT15X10	TE-1155

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.
C16	47 N750 5%		N750-DI 47	DTN-47	CDECY601UJ470K	CCTN-470	CN7447	10TCU-Q47
C17	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C18	47 N750 10%		N750-DI 47	DTN-47	CDECY601UJ470K	CCTN-470	CN7447	10TCU-Q47
C19	150 5%	(220) ↑	ADM-15-151	CPR-150J	CD10E151K500	DM-10-151	SX315	MS-315
C20	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C21	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C22	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C23	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C24	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C25	2.2 NPO ±25%		NPO-DI 2.2	DTZ-2R2	CDECZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C26	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C27	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C28	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C29	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C30	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C31	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C32	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C33	.0022 1KV		BPD-0022	DD-222	BYX601ZU222P	CCD-222	B222	5HK-D22

(CONTINUED ON PAGE 130)



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

▲ TRANSMIT
 ■ SILENCE SW CLOSED

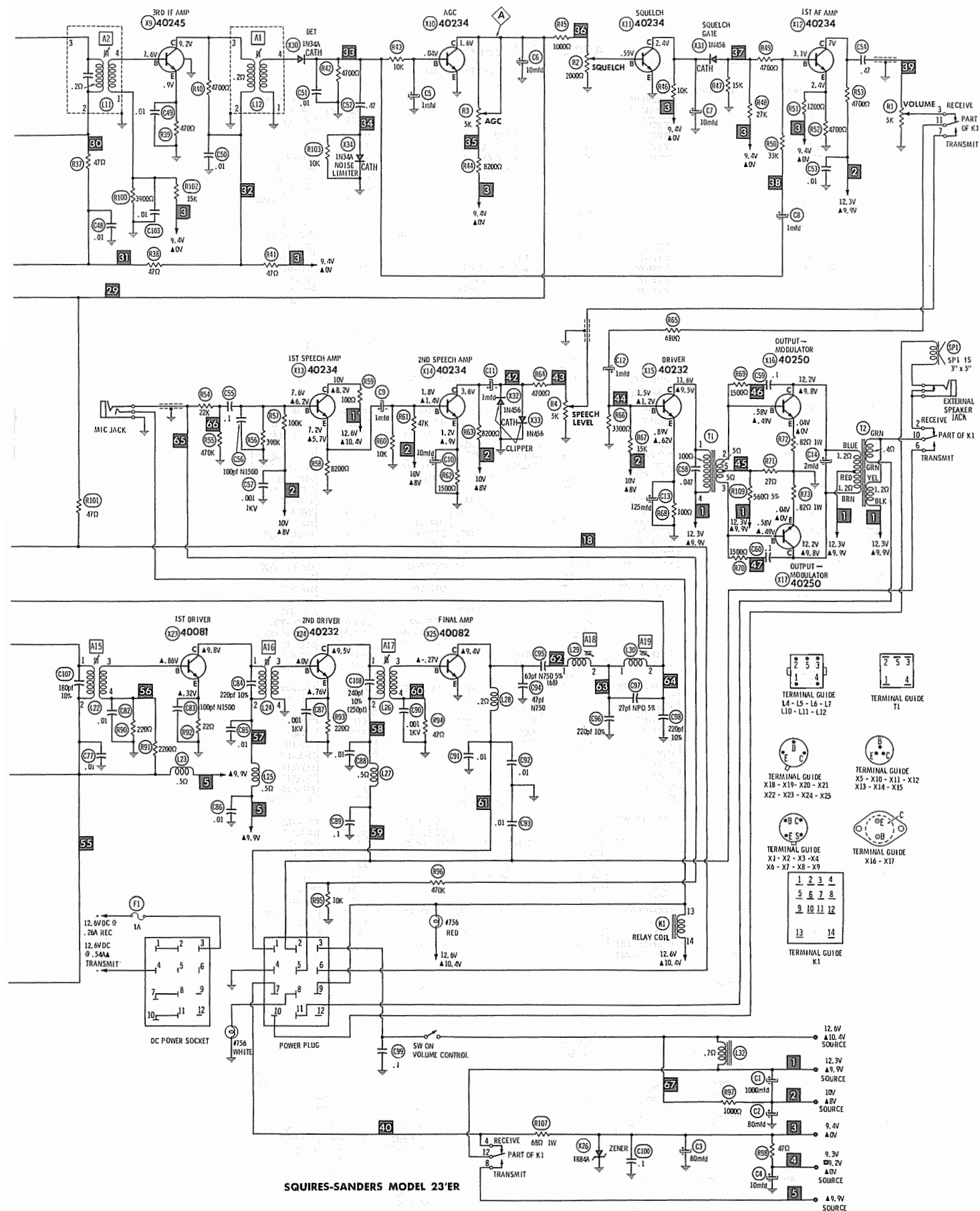
See parts list

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
 with **CIRCUITRACE**

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PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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.
C34	.05 25V		TTD-05		HOV101ZV503Z		TA150	TH-S50
C35	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C36	.1 25V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C37	.1 25V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C38	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C39	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C40	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C41	56 N750 5%			TCN-56		CCTN-560	CN7456	10TCU-Q56
C42	51 N750 5%			TCN-51				
C43	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C44	56 N750 5%			TCN-56		CCTN-560	CN7456	10TCU-Q56
C45	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C46	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C47	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C48	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C49	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C50	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C51	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C52	.47 3V			UK10-404			MAG12047	HY-330
C53	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C54	.47 12V			UK10-404			MAG12047	HY-330
C55	.1 25V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C56	100 N1500			TCL-100				
C57	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B110	5HK-D10
C58	.047 200V		P288N-047	DD-503	PM2S47	4DP-3-473	PVC2147	2TM-S47
C59	.1 100V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C60	.1 100V		P488N-1	DF-104	PM4P1	4DP-3-104	GEM401	4TM-P10
C61	400 10%		DI-390	DD-401	CD15F361K500	CCD-391	GP340	10TS-T40
C62	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C63	33 NPO 5%		NPO-DI 33	DTZ-33	CDECS601CG330K	CCTO-330	CNO433	10TCC-Q33
C64	10 NPO 5%		NPO-DI 10	DTZ-10	CDECS601CG100J	CCTO-100	CNO410	10TCC-Q10
C65	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C66	56 N750 5%			TCN-56		CCTN-560	CN7456	10TCU-Q56
C67	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C68	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C69	220 10%		ADM-15-221	CPR-220J	CD10E221K500	DM-10-221	SX322	MS-322
C70	22 NPO 5%		NPO-DI 22	DTZ-22	CDECY601CG220K	CCTO-220	CNO427	10TCC-Q22
C71	15 NPO 5%		NPO-DI 15	DTZ-15	CDECY601CG150K	CCTO-150	CNO415	10TCC-Q15
C72	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C73	22 NPO 5%		NPO-DI 22	DTZ-22	CDECY601CG220K	CCTO-220	CNO422	10TCC-Q22
C74	56 N750 5%			TCN-56		CCTN-560	CN7456	10TCU-Q56
C75	220 10%		ADM-15-221	CPR-220J	CD10E221K500	DM-10-221	SX322	MS-322
C76	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C77	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C78	820 1KV		DI-820	DD-821	CDEJBY601YP821A	CCD-821	GP382	10TS-T82
C79	56 N750 5%			TCN-56		CCTN-560	CN7456	10TCU-Q56
C80	27 NPO 5%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C81	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C82	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C83	100 N1500			TCL-100				
C84	220 10%		ADM-15-221	CPR-220J	CD10E221K500	DM-10-221	SX322	MS-322
C85	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C86	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C87	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C88	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C89	.1 25V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C90	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C91	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C92	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C93	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C94	47 N750		N750-DI 47	DTN-47	CDECY601UJ470K	CCTN-470	CN7447	10TCU-Q47
C95	63 N750 5%	(68) †						
C96	220 10%		ADM-15-221	CPR-220J	CD10E221K500	DM-10-221	SX322	MS-322
C97	27 NPO 5%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C98	220 10%		ADM-15-221	CPR-220J	CD10E221K500	DM-10-221	SX322	MS-322
C99	.1 25V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C100	.1 25V		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C101	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C102	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C103	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C104	33 NPO 5%		NPO-DI 33	DTZ-33	CDECS601CG330K	CCTO-330	CNO433	10TCC-Q33
C105	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C106	.01 50V		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C107	180 10%		ADM-15-181	CPR-180J	CD10E181K500	DM-10-181	SX318	MS-318
C108	240 10%	(250) †	ADM-15-241	CPR-240J	CD10E241K500	DM-10-241	SX324	MS-240

† Alternate Value

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

CONTROLS

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

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			Squires- Sanders PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Sw.	5000Ω	(241-006)	F2-5000, SRS300, KR-1		Q13-114, 76-1 or (BU2, CF60, SS1, GC)*	UA53A, SL3500, US41 or (RU53A, SL38, SL3500, US41) or (U12, US26)
R2	Squelch & Silencer Switch	2000Ω	(240-007)	F2-2500, SPU304, KR-8		B11-110, SK7 or (BU2, CF59, SS10, K)*	
R3	AGC	5000Ω	(240-010)			X201R502B	MTC53L1
R4	Speech Level	5000Ω	(240-010)			X201R502B	MTC53L1

* "SNAPTROL"

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	PART No.			IRC PART No.	WORKMAN PART No.	PART No.
R72	.82Ω 2W	BWH, 82	WS, 82		R73	.82Ω 2W	BWH, 82	WS, 82	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA										
		Squires-Sanders PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.					
L1	Antenna Input	181-001	19-6033		74F686AP		T821					
L2	RFC (6, 8uh)											
L3	RF Coupling											
L4	RF Mixer Output											
L5	1st Silencer											
L6	2nd Silencer	181-003			72F335AP							
L7	3rd Silencer											
L8	RFC (33uh)	182-042										
L9	Bandpass Filter											
L10	1st IF				74F686AP	RTC-8515	T821					
L11	2nd IF											
L12	3rd IF											
L13	Trans. & Rec. Osc.	182-037										
L14	1st Mixer RF	607-008										
L15	RFC (6, 8uh)	181-001					T821					
L16	Trans. & Rec. Osc.	182-041										
L17	RFC (6, 8uh)	181-001					T821					
L18	RFC (6, 8uh)	181-001					T821					
L19	2nd Mixer RF	607-008					T943					
L20	Transmit Osc.	182-038			72F125AP							
L21	RFC (12uh)	181-002			T821							
L22	RF Transmit Driver	607-009					74F686AP					
L23	RFC (6, 8uh)	181-001			T821							
L24	RF Transmit Driver	607-010					74F686AP					
L25	RFC (6, 8uh)	181-001			T821							
L26	2nd Driver Output	607-011					74F686AP					
L27	RFC (6, 8uh)	181-001	19-1000	74F686AP		T821						
L28	RFC (1uh)	181-005		74F106AP		T855						
L29	Pi Network	182-039				T821						
L30	Pi Network	182-040										
L31	RFC (6, 8uh)	181-001		74F686AP	T821							

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (10 CURRENT 1000~)	Squires-Sanders PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L32	.64ADC	.7Ω	11mh	180-010	C-4095 ①	TC-2 ①	TR-152	TY-17XT	① Use original channel mtg. frame.

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Squires-Sanders PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	2.5	1CT	607-005					

TRANSFORMER (AUDIO OUTPUT - MOD)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	Squires-Sanders PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	35Ω CT	3-4Ω	604-005					
		SEC. 2						
		1.2Ω DC Resistance						

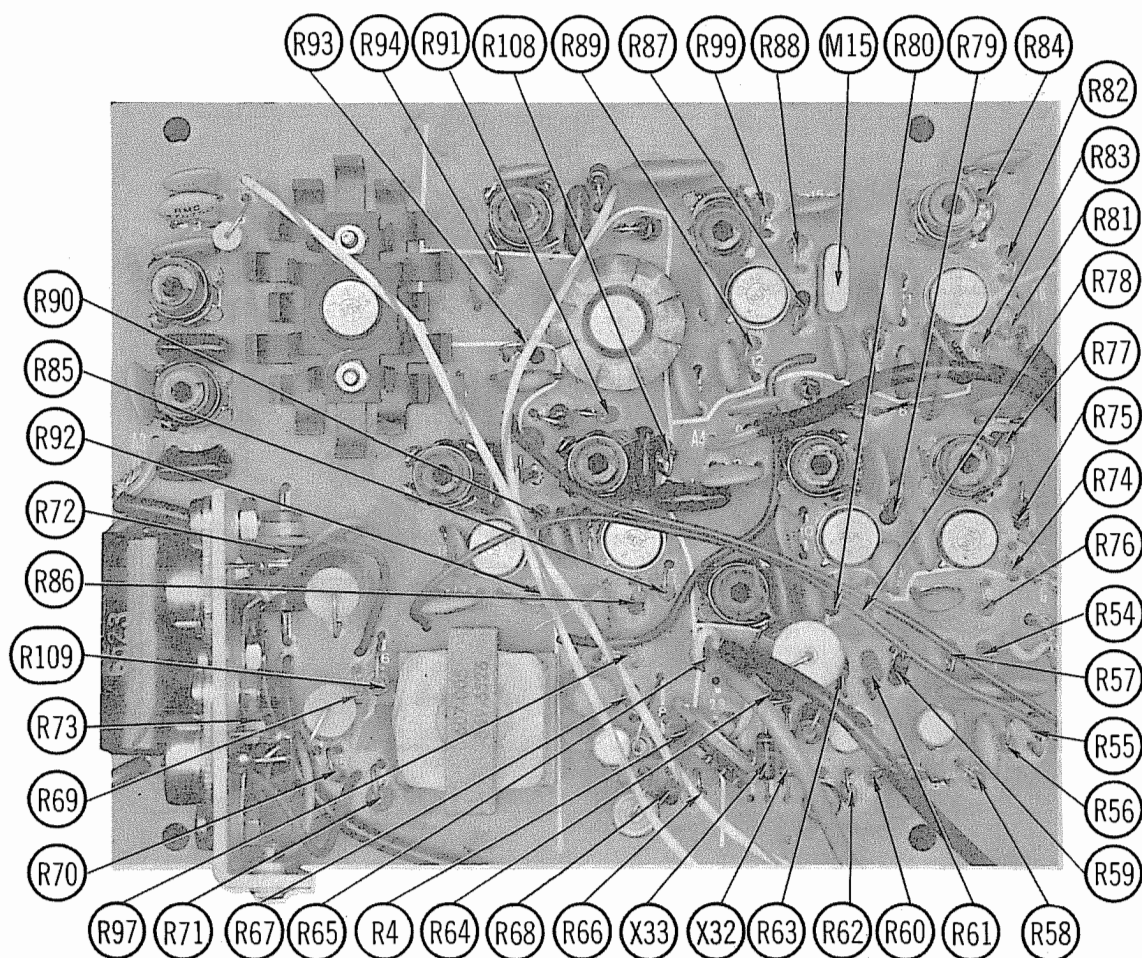
SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Squires-Sanders PART No.	QUAM PART No.	
SP1	3" x 5" PM 3-4Ω	550-004	35A05	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	3AG	1A, 125V	165-017	300-003	313001	155020	MDL 1	HHJ

SQUIRES-SANDERS MODEL 231ER



PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

MISCELLANEOUS

ITEM No.	PART NAME	Squires-Sanders PART No.	NOTES
K1	Relay		Transmit-Receive
M1	Bandpass Crystal	255-001	10.7MC (3rd Fundamental, Series Resonant)
M2	Bandpass Crystal	255-002	10.695MC (3rd Fundamental, Series Resonant)
M3	Bandpass Crystal	255-002	10.695MC (3rd Fundamental, Series Resonant)
M4	Bandpass Crystal	255-001	10.7MC (3rd Fundamental, Series Resonant)
M5	Oscillator Crystal	251-011	15.660MC (3rd Fundamental, Series Resonant)
M6	Oscillator Crystal	251-010	15.670MC (3rd Fundamental, Series Resonant)
M7	Oscillator Crystal	251-009	15.680MC (3rd Fundamental, Series Resonant)
M8	Oscillator Crystal	251-008	15.700MC (3rd Fundamental, Series Resonant)
M9	Oscillator Crystal	251-012	22.005MC (3rd Overtone, Series Resonant)
M10	Oscillator Crystal	251-013	22.055MC (3rd Overtone, Series Resonant)
M11	Oscillator Crystal	251-014	22.105MC (3rd Overtone, Series Resonant)
M12	Oscillator Crystal	251-015	22.155MC (3rd Overtone, Series Resonant)
M13	Oscillator Crystal	251-016	22.205MC (3rd Overtone, Series Resonant)
M14	Oscillator Crystal	251-017	22.255MC (3rd Overtone, Series Resonant)
M15	Oscillator Crystal	255-001	10.7MC (3rd Fundamental, Series Resonant)
M16	Microphone Ass'y.	551-003	Ceramic
S1	Switch		Channel Selector, 23-Position Wafer
	AC Adapter	800-033	

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. 8214 Lowest Loss (RG-8/U Type)
8237 Low Loss (RG-8/U)
8240 (Solid) Miniature (RG-58/U)
8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor-1 Shielded for Press-to-Talk (Neoprene)
8496 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.)