

This Manual is provided by
CBTricks.com

Someone who wanted to help you repair your equipment
scanned this manual.

If you would like to help us put more manuals online support us.

Supporters of CBTricks.com paid for the hosting so you would have this file.

CBTricks.com is a non-commercial personal website was created to help promote the exchange of service, modification, technically oriented information, and historical information aimed at the Citizens Band, GMRS (CB "A" Band), MURS, Amateur Radios and RF Amps.

CBTricks.com is not sponsored by or connected to any Retailer, Radio, Antenna Manufacturer or Amp Manufacturer, or affiliated with any site links shown in the links database. The use of product or company names on my web site is not endorsement of that product or company.

If your company would like to provide technical information to be featured on this site I will put up on the site as long as I can do it in a non-commercial way.

The site is supported with donation from users, friends and selling of the Galaxy Service Manual CD to cover some of the costs of having this website on the Internet instead of relying on banner ads, pop-up ads, commercial links, etc. to pay my costs. Thus I do not accept advertising banners or pop-up/pop-under advertising or other marketing/sales links or gimmicks on my website.

ALL the money from donations is used for CBTricks.com I didn't do all the work to make money (I have a day job). I didn't do all this work for someone else to make money also, for example the ebay CD sellers.

All Trademarks, Logos, and Brand Names are the property of their respective owners.
This information is not provided by, or affiliated in any way with any radio or antenna Manufacturers.
Thank you for any support you can give.

PHOTOFACT® Folder



LAFAYETTE
MODELS HE-15, HE-16, HE-18

MODEL HE-16 (12V)
MODEL HE-18 (6V)



MODEL HE-15

LAFAYETTE
MODELS HE-15, HE-16, HE-18

TRADE NAME	LaFayette Models HE-15, HE-16, HE-18 (External DC Power Supply)		
SUPPLIER	LaFayette Radio, 165-08 Liberty Ave., Jamaica 33, N. Y.		
TYPE SET	6 Tube Citizens Band Transmitter-Receiver		
POWER SUPPLY	105 - 125 Volts AC, 60 Cycles	RATING	40 Watts, .4 Amp. @117 Volts AC
	6 Volt Storage Battery		5.3 Amp. @6.3 Volts DC
	12 Volt Storage Battery		2.6 Amp. @12.6 Volts DC
FREQ. RANGE	TRANSMITTER: Any 5 of Citizens Band Channels 1 thru 22. RECEIVER: Continuous Tuning		

NOTICE

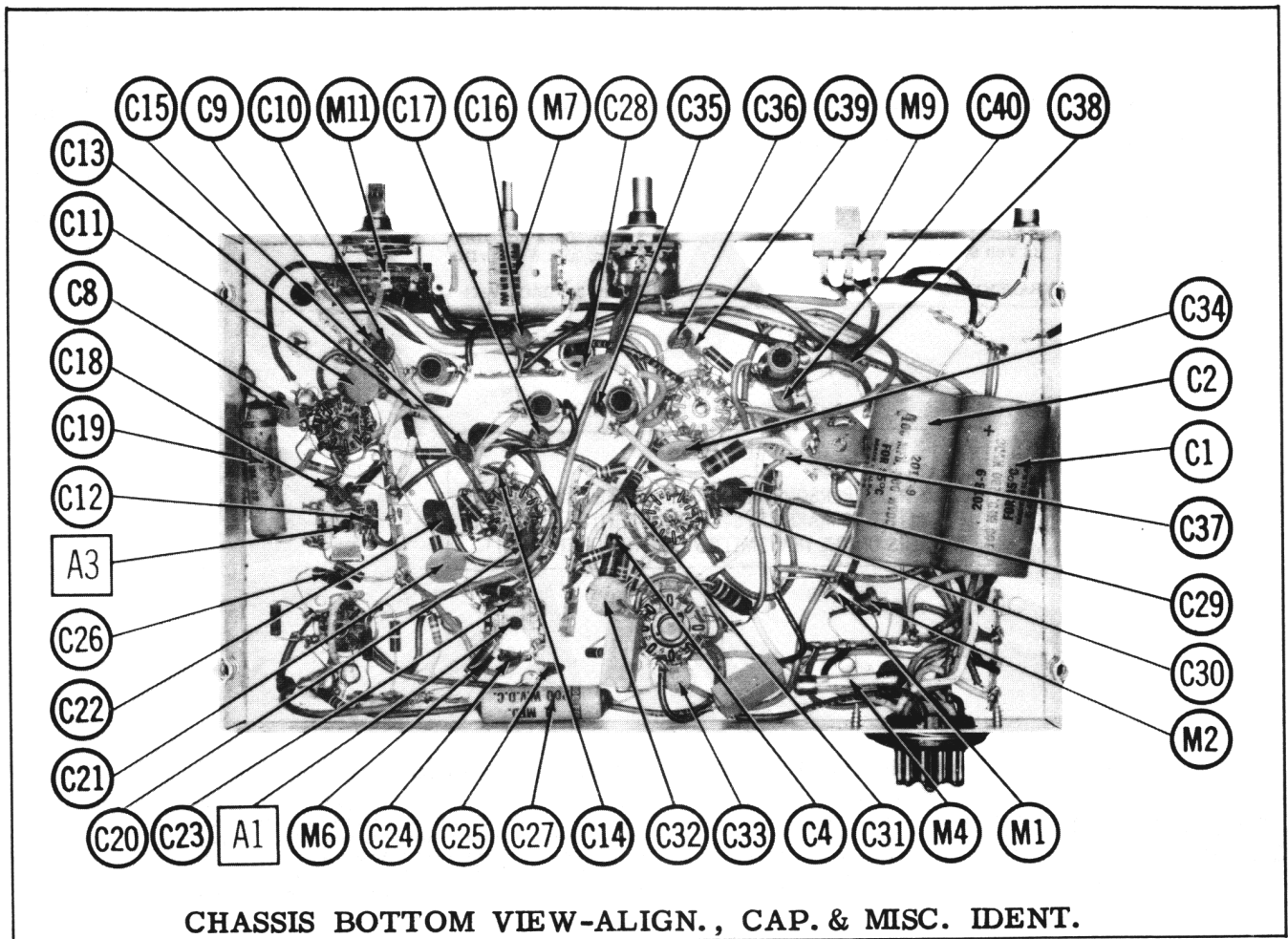
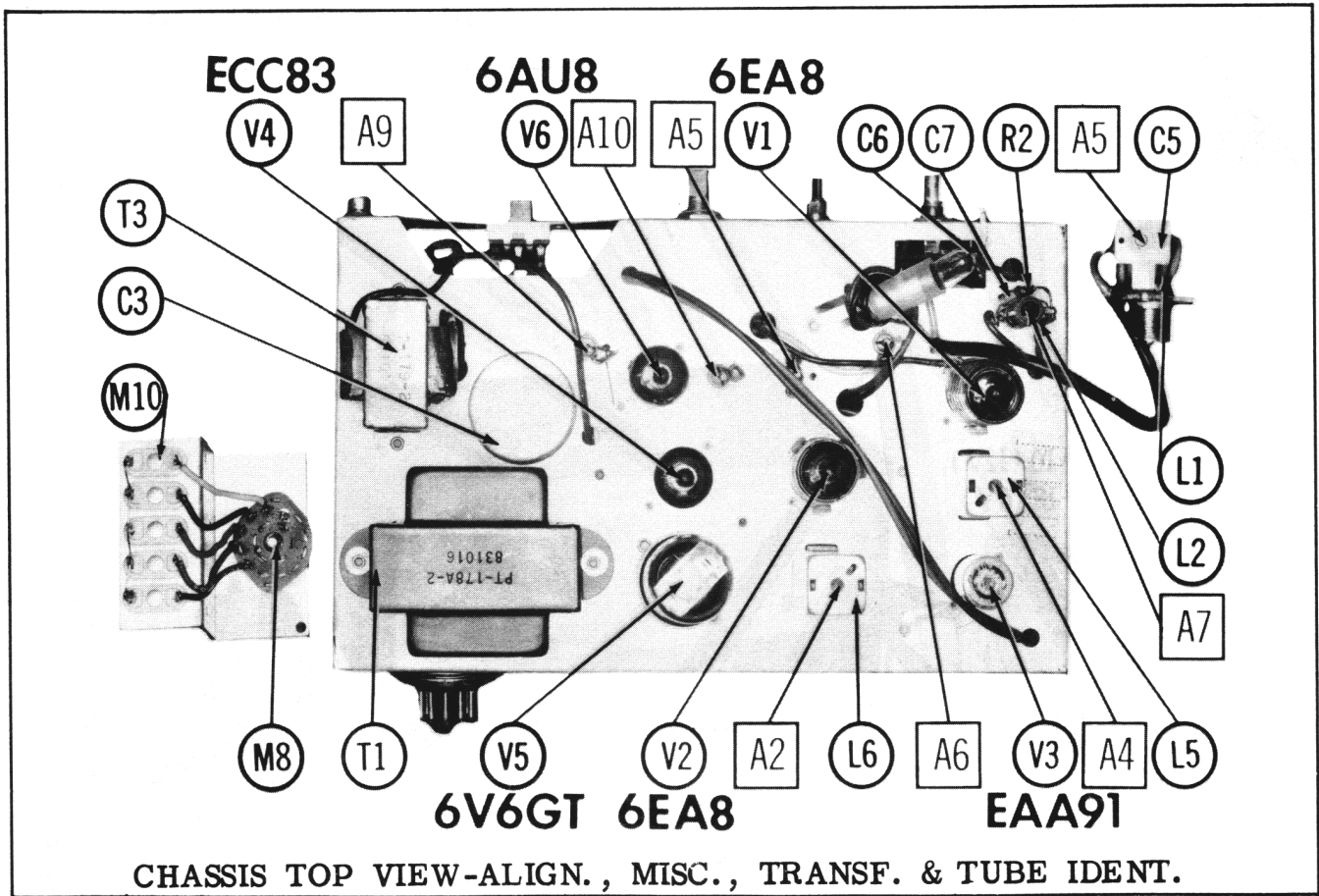
ONLY THOSE PERSONS PROPERLY LICENSED BY FCC ARE PERMITTED TO MAKE CRYSTAL SUBSTITUTION OR EFFECT REPAIRS ON THE TRANSMITTER PORTION OF THIS UNIT.

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



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KZ511

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1961 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

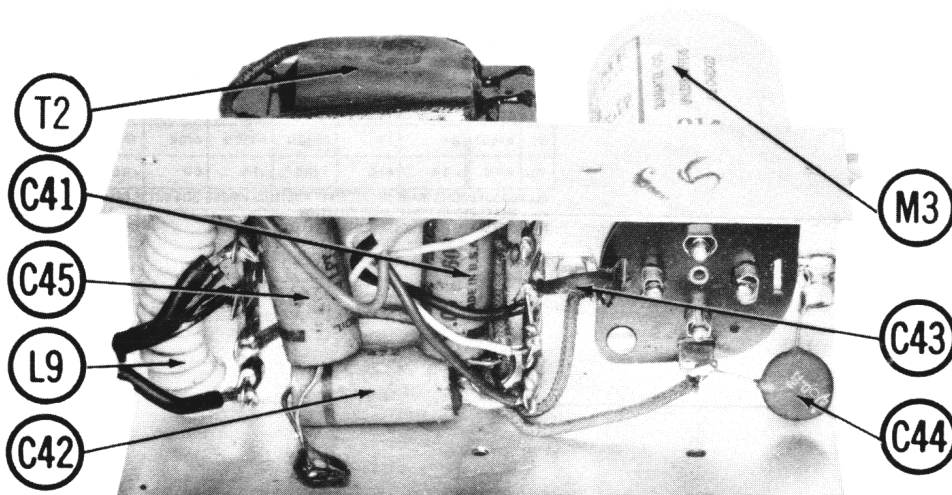
Suggested Alignment Tools: A1 thru A4..... GENERAL CEMENT #5097, 8727
 WALSCO #2515
 A8..... GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
 WALSCO #2512, 2525, 2528

RECEIVER ALIGNMENT

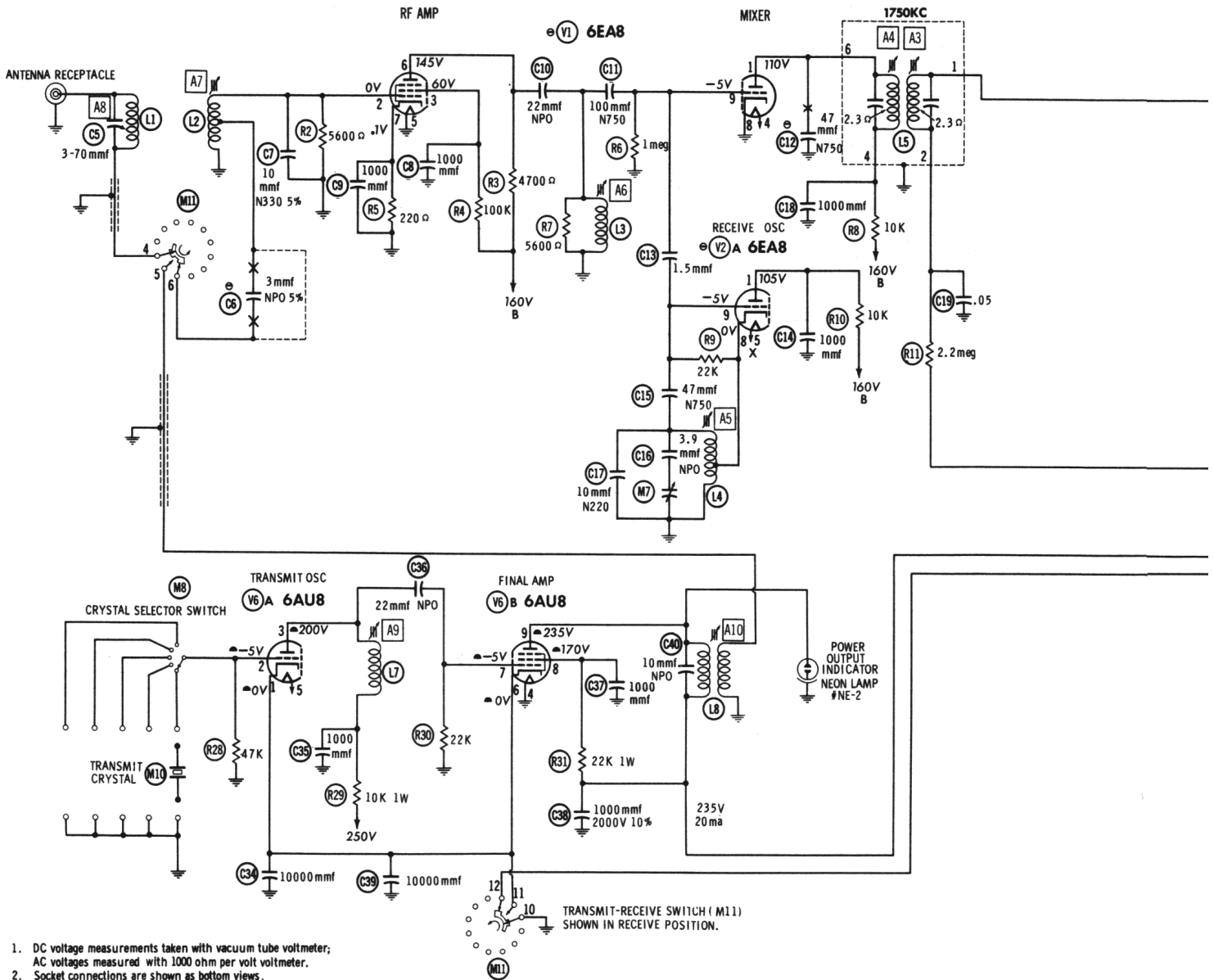
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to pin 9 (grid) of Mixer. Low side to chassis.	1750KC (400% Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	High side thru 270mmf to antenna receptacle. Low side to chassis.	Channel 11 Freq.	Channel 11	"	A5	Adjust until signal is received.
3.	"	"	"	"	A6, A7	Adjust for maximum output.
4.	If television interference occurs, adjust A8 for MINIMUM interference.					

TRANSMITTER ALIGNMENT

5.	NOT USED			USE VTVM DC probe to pin 7 (grid) of Final. Common to chassis.	A9	Depress transmit button and adjust A9 for maximum deflection.
6.	NOT USED				A10	Depress transmit button and adjust A10 for maximum brightness of Power Output Indicator light.



POWER CHASSIS



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6EA8	†15K	.1 Ω	†100K	0 Ω	.1 Ω	†10K	220 Ω	0 Ω	1meg
V2	6EA8	†15K	2meg	†15K	0 Ω	.1 Ω	†15K	100 Ω	0 Ω	22K
V3	EAA91	1.5meg	600K	.1 Ω	0 Ω	1.5meg	0 Ω	600K	FIL	FIL
V4	ECC83 12AX7	†470K	4.7meg	0 Ω	.1 Ω	.1 Ω	†22K	470K	3300 Ω	0 Ω
V5	6V6GT	0 Ω	1 Ω	†630 Ω	†330 Ω	470K	TP	0 Ω	470 Ω	FIL
V6	6AU8	-0 Ω	47K	†10K	.1 Ω	0 Ω	-0 Ω	22K	-†22K	-†710 Ω

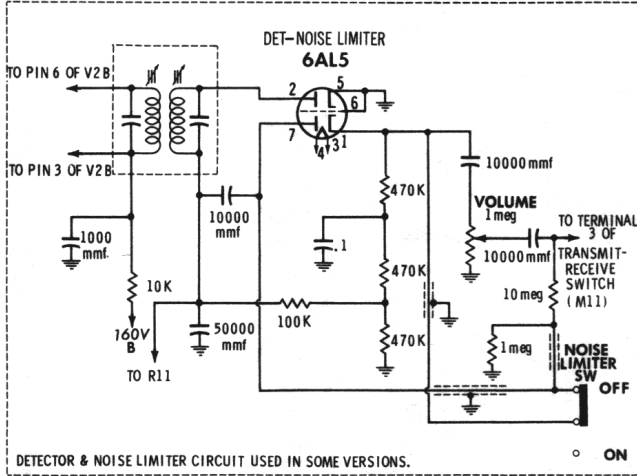
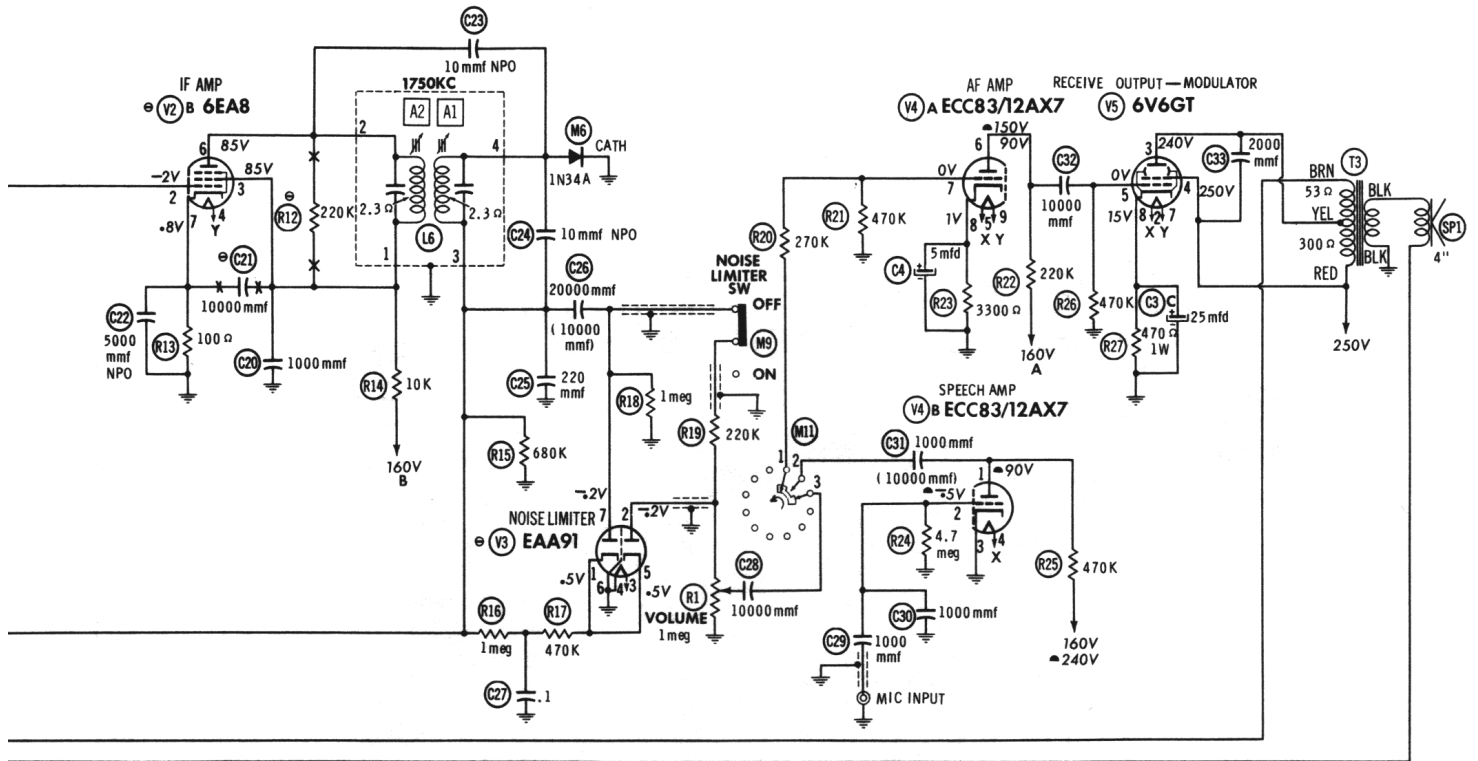
ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.

▲ MEASURED IN "TRANSMIT" POSITION.

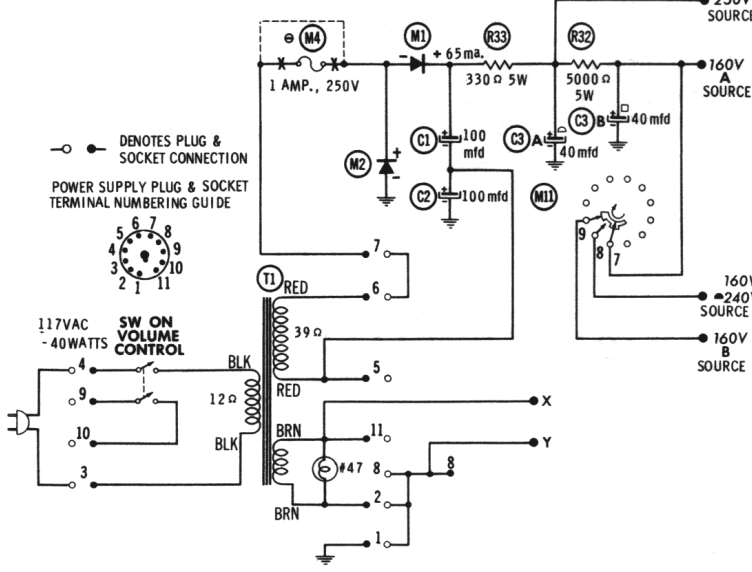
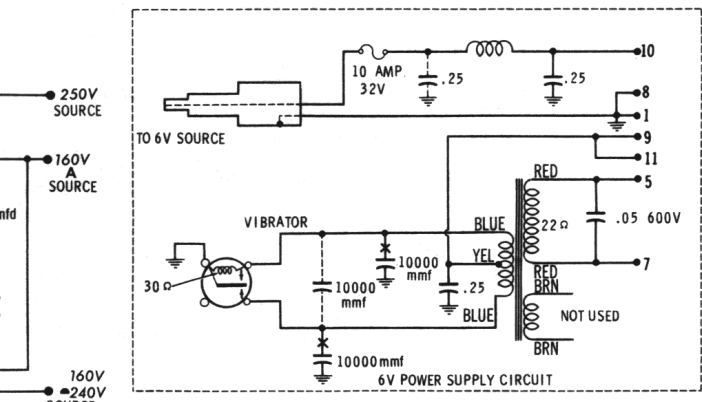
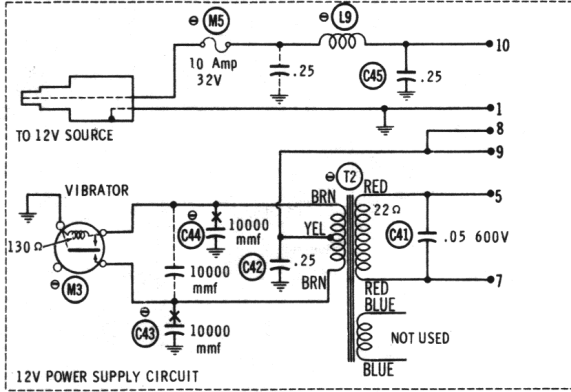
■ MEASURED WITH NOISE LIMITER IN "OFF" POSITION.

† MEASURED FROM OUTPUT OF M1.

TP TIE POINT



DETECTOR & NOISE LIMITER CIRCUIT USED IN SOME VERSIONS.



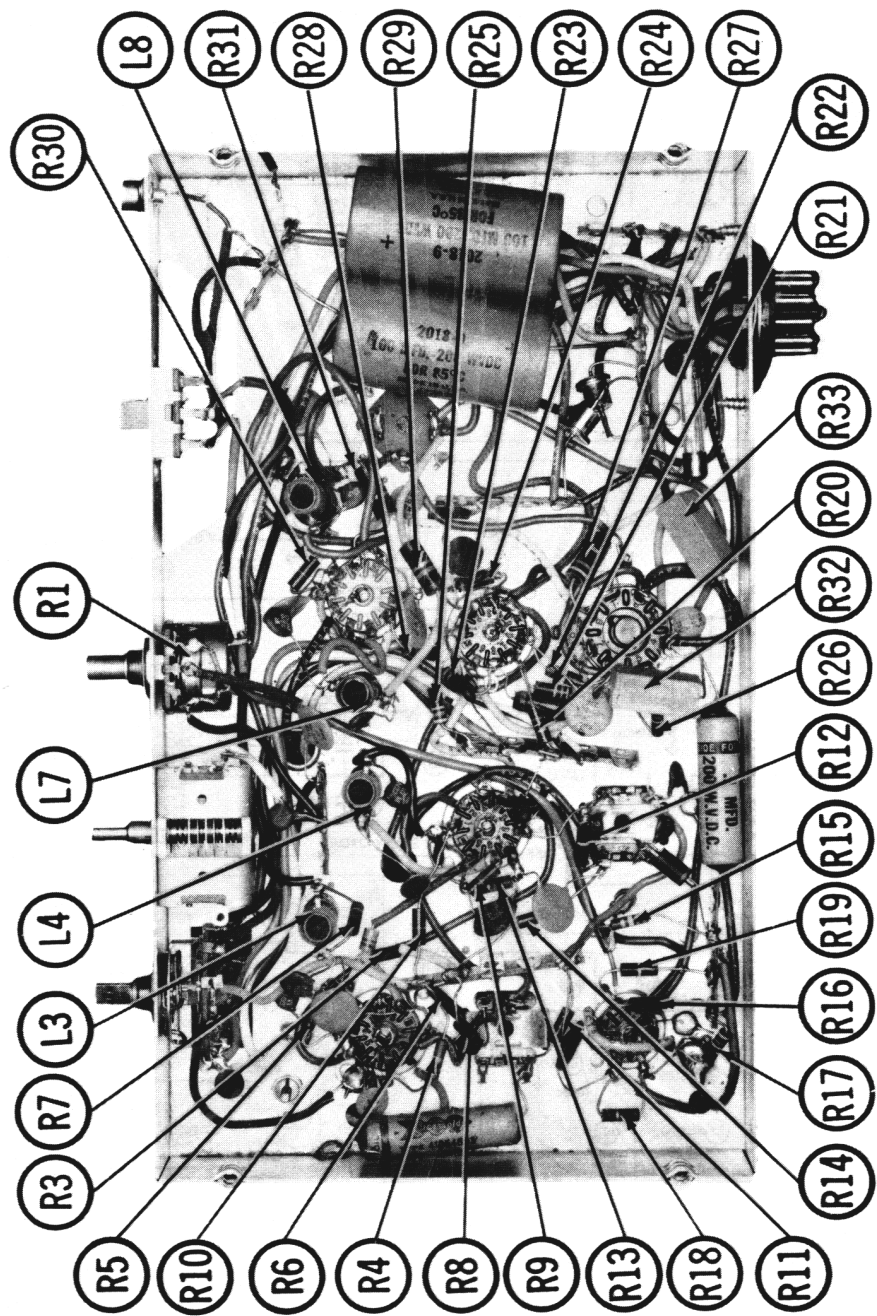
● DENOTES PLUG & SOCKET CONNECTION
 POWER SUPPLY PLUG & SOCKET TERMINAL NUMBERING GUIDE



NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

● SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
 DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)



CHASSIS BOTTOM VIEW-INDUCTOR & RESISTOR IDENT.

PARTS LIST AND DESCRIPTIONS

TUBES

GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	ITEM No.	USE	ITEM No.	TYPE
V1	RF Amp. - Mixer	6EA8 (6UBA) *			
V2	Rec. Osc. - IF Amp.	6EA8 (6UBA) *	AF Amp. - Speech Amp. Rec. Output-Modulator	ECC83/12AX7	
V3	Det. - Noise Limiter	EAA91 (6AL5) *	T Trans. Osc. - Final Amp.	6V6GT 6AU8	

* Alternate

ELECTROLYTIC CAPACITORS

RATING		REPLACEMENT DATA		REPLACEMENT DATA		NOTES
ITEM No.	CAP. VOLT.	AEROVOX PART No.	LAFAYETTE PART No.	CORNELL-DUBILIER PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	100	PRS1595		TC1265	TD-100-200	TYA-1718
C2	100	PRS1595		BRI0035	TD-100-200	TYA-1718
C3A	40	AFH3-140-50		F3P387.5	TMT-3387	TVL-3754.5
C3B	40					
C3C	25					
C4	5	PTT-10005		TLW5-15	MLV5-12	TE-1127

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

RATING		REPLACEMENT DATA		REPLACEMENT DATA		SPRAGUE
ITEM No.	CAP. VOLT.	AEROVOX PART No.	LAFAYETTE PART No.	CORNELL-DUBILIER PART No.	ELEMENCO PART No.	MALLORY PART No.
C5	3-70	NPO-SI 3.0		TCZ-3R3	462	CNO-533
C6	3	NPO 5%		TCA-10		B-210
C7	10	N330 5%		DD-102		B-210
C8	1000			DD-102		B-210
C9	1000			DD-102		B-210
C10	22	NPO		D7Z-22		CNO-422
C11	100	N750		N750-D1 22		CNO-422
C12	47	N750		DTN-100		CN7-310
C13	1.5			N750-D1 47		CN7-447
C14	1.5			DTN-47		CNO-515
C15	47	N750		N750-SI 1.5		B-210
C16	47	N750		TCZ-1R5		CNO-447
C17	10	N220		DB-102		
C18	1000			D7N-47		
C19	.05	400V				
C20	1000			DD-102		B-210
C21	1000			P488N-05		GEM-415
C22	1000			BPD-001		B-210
C23	10	NPO		BPD-001		B-210
C24	10	NPO		BPD-001		B-210
C25	220			BPD-005		B-250
C26	20000			NFO-D1 10		CNO-410
C27	.1	200V		NFO-D1 10		CNO-410
C28	10000			D7Z-10		10TCC-Q10
C29	10000			D7Z-10		10TCC-Q10
C30	10000			DL-220		10TCC-Q10
C31	10000			DL-220		10TCC-Q10
C32	10000			DL-220		10TCC-Q10
C33	10000			DL-220		10TCC-Q10
C34	10000			DL-220		10TCC-Q10
C35	10000			DL-220		10TCC-Q10
C36	22	NPO		DL-220		10TCC-Q10
C37	1000	20000V 10%		DL-220		10TCC-Q10
C38	10000			DL-220		10TCC-Q10
C39	10000			DL-220		10TCC-Q10
C40	.05	600V		DL-220		10TCC-Q10
C41	.05	600V		DL-220		10TCC-Q10
C42	25	200V		DL-220		10TCC-Q10
C43	10000			DL-220		10TCC-Q10
C44	10000			DL-220		10TCC-Q10
C45	.25	200V		DL-220		10TCC-Q10

Note 1. Not used in some versions.

† Alternate Value.

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

CONTROLS

RATING		REPLACEMENT DATA		REPLACEMENT DATA		INSTALLATION NOTES
ITEM No.	RESIST. WATTS	LAFAYETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
RIA	Imeg		B-70-S	A47-Imeg-Z	Q13-137	US3
B	Shaft		Not Req.	FS-3	Not Req.	Not Req.
C	Switch		Not Req.	SWE-20	76-2	US-27

RESISTORS

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

RATING		REPLACEMENT DATA		REPLACEMENT DATA		REPLACEMENT DATA
ITEM No.	RESIST. WATTS	LAFAYETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R2	5600Ω					
R3	4700Ω					
R4	100K					
R5	220Ω					
R6	Imeg					
R7	5600Ω					
R8	10K					
R9	22K					
R10	10K					
R11	2.2meg					
R12	220K					
R13	100Ω					
R14	10K					
R15	680K					
R16	Imeg					
R17	470K					

Note 1. Not used in some versions.

COILS (RF-IF)

RATING		REPLACEMENT DATA		REPLACEMENT DATA		NOTES
ITEM No.	USE	LAFAYETTE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.
L1	Ant. Loading					
L2	Ant.					
L3	RF					
L4	Osc					
L5	1st IF					
L6	2nd IF					
L7	Osc. Plate					
L8	Final Output					
L9	Hash Choke					

TRANSFORMER (POWER)

RATING		REPLACEMENT DATA		REPLACEMENT DATA		NOTES
ITEM No.	USE	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thorderson PART No.	Triad PART No.
T1	6.3V CT 110V @ .4A					
	6.3V CT 110V @ .2A					
	6.3V @ 2.3A					

TRANSFORMER (POWER)

RATING		REPLACEMENT DATA		REPLACEMENT DATA		NOTES
ITEM No.	USE	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thorderson PART No.	Triad PART No.
T2	6.3V CT 110V @ .2A (Not Used) †					
	3A(CT) .2A					
	1.5A					

① Secondary 2 1/2 Volts on 12 Volt operation.
② Specify for 6 or 12 volt DC operation

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA				NOTES
		LAFAYETTE PART No.	Merit PART No.	Thorndarson PART No.	Triad PART No.	
T3	52000 Tap ⑤ 50000	T-179-2	A-3817			
	PRI. SEC. 3-4G					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		LAFAYETTE PART No.	QUJAM PART No.	
SP1	4" PM 3-4G	S7171 (7898144A)	4A07	

POWER RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA				NOTES
		LAFAYETTE PART No.	RCA PART No.	SARKIS TABZIAN PART No.	SYLVANIA PART No.	
M1	.085A	IN1763	40H	SR500	SR500	
M2	.085A	IN1763	40H	SR500	SR500	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				LAFAYETTE PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M3	Interrupter Interrupter	6.3V 12.6V	115 ϕ 115 ϕ	5301 6301	5301 G1601	1601 G1601	5301 6301	6 Volt Versions 12 Volt Versions

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				BUSS PART No.
			LAFAYETTE PART No.	FUSE	HOLDER	LITTE/FUSE PART No.	
M4	3AG	1A 250V		318001 (3AG JA 250V)			
M5	3AG	F/T 10A 32V	Note 1	312010 (3AG 10A 32V)	155020	GJV-1 AGC-5	HD-J

Note 1. For DC Operation Only.

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M6	IN34A		IN34A	IN34A	Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
M7	Variable Cap.		Receiver Oscillator
M8	Switch		Crystal Selector
M9	Switch		Noise Limiter (SPDT Slide Type)
M10	Crystal		Transmit
M11	Switch		Receive-Transmit
	Antenna		Model HE-17

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
Shielded Hook-up Wire	Use BELDEN No. 8524 (Stranded) Available in Ten Colors
Bonding Strap	Use BELDEN No. 8865
	Use BELDEN No. 8681