

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

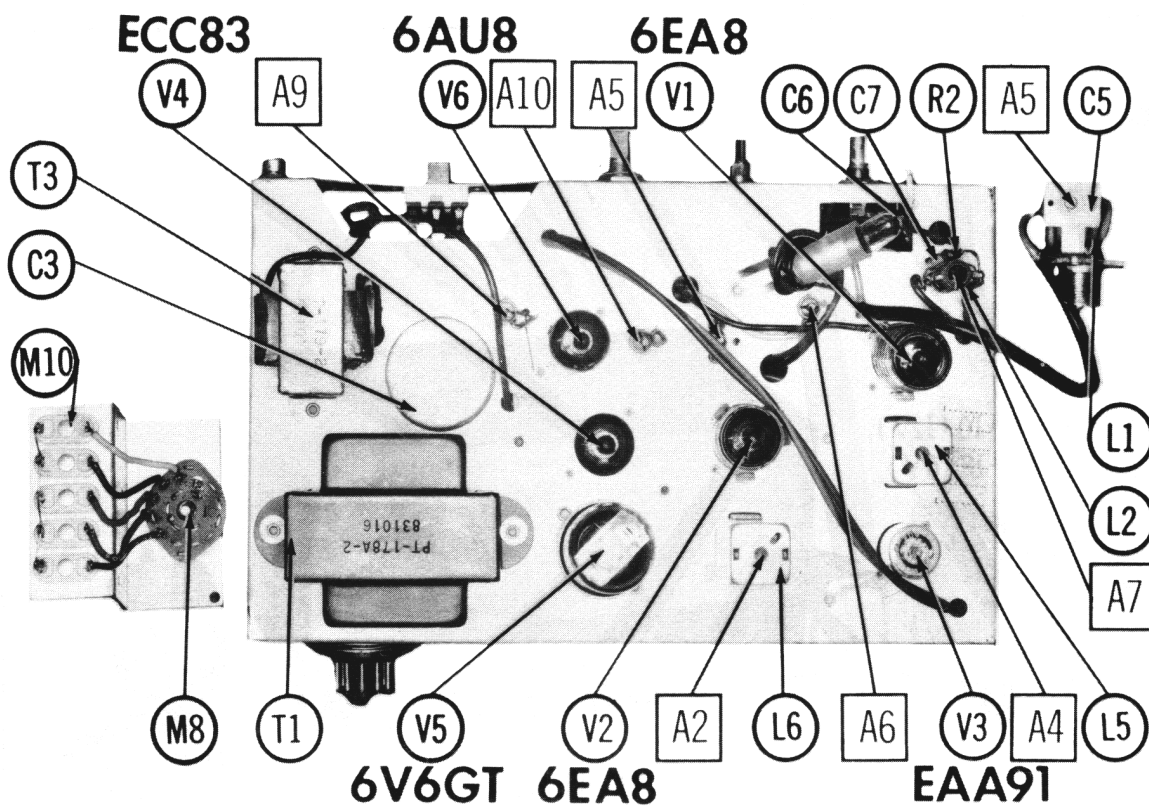
ONLY THOSE PERSONS PROPERLY LICENSED BY FCC ARE PERMITTED TO MAKE CRYSTAL SUBSTITUTION OR EFFECT REPAIRS ON THE TRANSMITTER PORTION OF THIS UNIT.

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

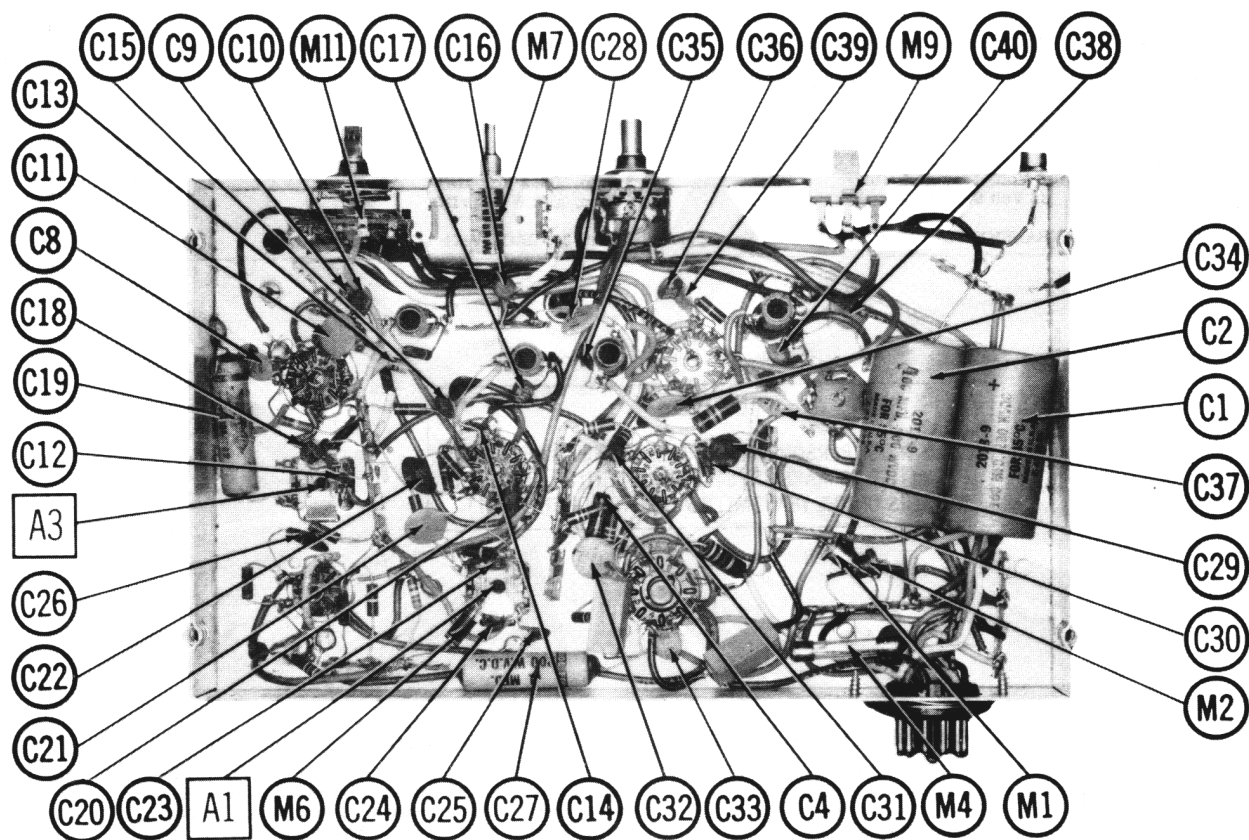


The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W.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

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CHASSIS TOP VIEW-ALIGN., MISC., TRANSF. & TUBE IDENT.



CHASSIS BOTTOM VIEW-ALIGN., CAP. & MISC. IDENT.

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

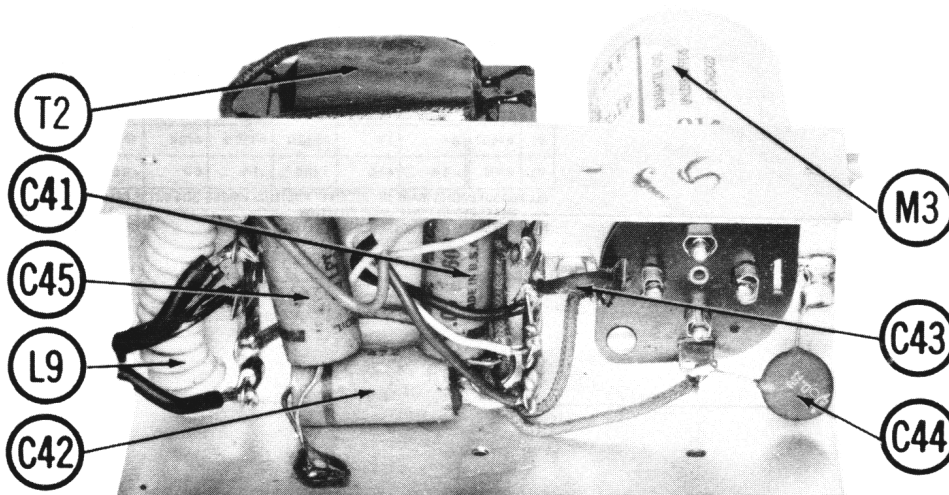
WALSCO #2512, 2525, 2528

RECEIVER ALIGNMENT

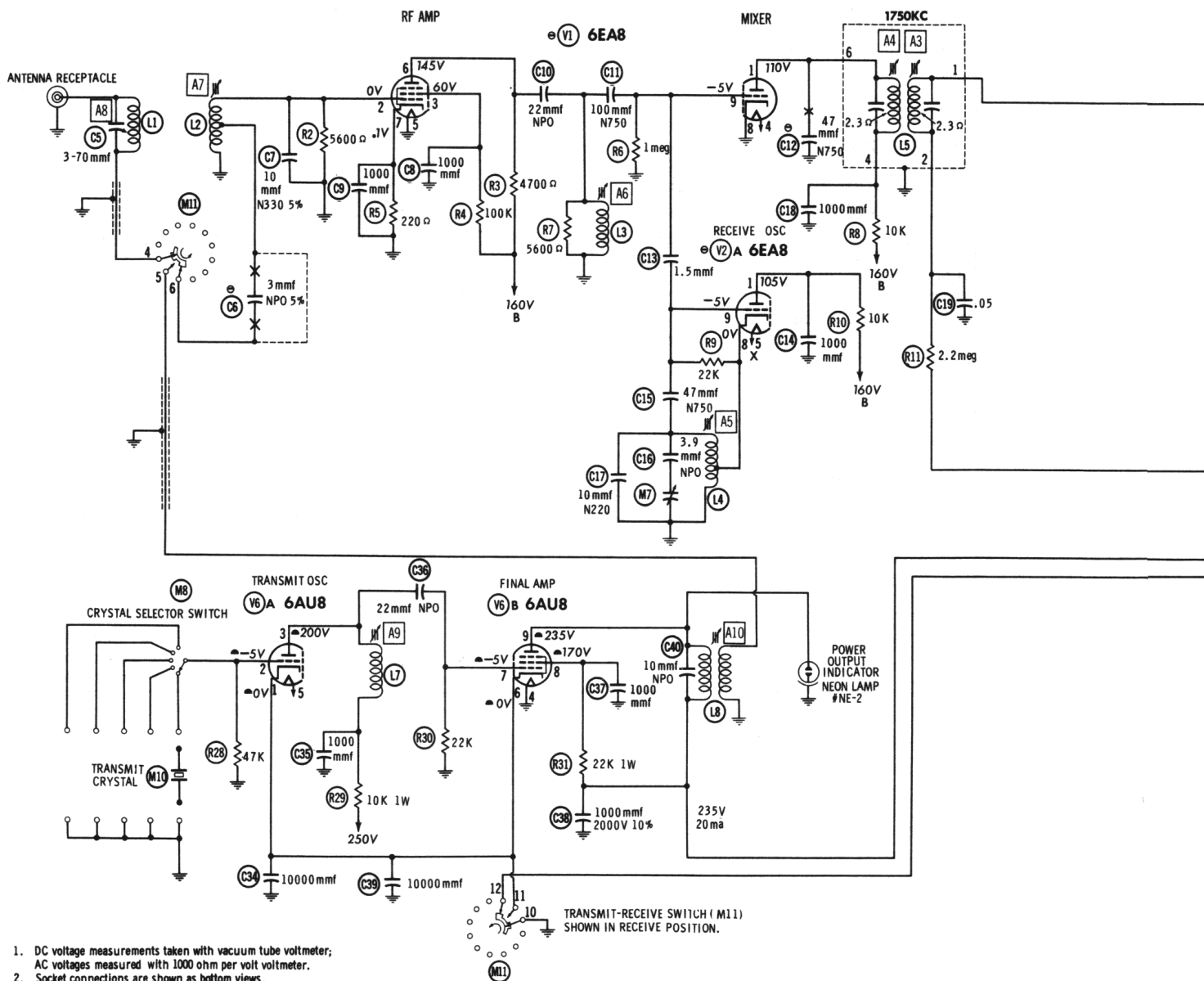
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to pin 9 (grid) of Mixer. Low side to chassis.	1750KC (400% Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	High side thru 270mmf to antenna 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	$\dagger 15K$	$.1\Omega$	$\dagger 100K$	0Ω	$.1\Omega$	$\dagger 10K$	220Ω	0Ω	$1meg$
V2	6EA8	$\dagger 15K$	$2meg$	$\dagger 15K$	0Ω	$.1\Omega$	$\dagger 15K$	100Ω	0Ω	$22K$
V3	EAA91	$1.5meg$	$600K$	$.1\Omega$	0Ω	$1.5meg$	0Ω	$600K$	FIL	FIL
V4	ECC83 12AX7	$\dagger 470K$	$4.7meg$	0Ω	$.1\Omega$	$.1\Omega$	$\dagger 22K$	$470K$	3300Ω	0Ω
V5	6V6GT	0Ω	1Ω	$\dagger 630\Omega$	$\dagger 330\Omega$	$470K$	TP	0Ω	470Ω	FIL
V6	6AU8	$\dagger 0\Omega$	$47K$	$\dagger 10K$	$.1\Omega$	0Ω	$\dagger 0\Omega$	$22K$	$\dagger 22K$	$\dagger 710\Omega$

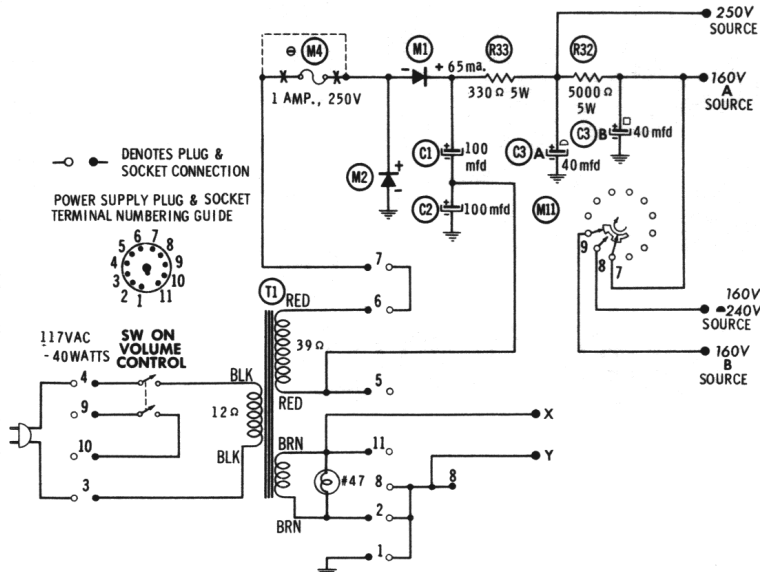
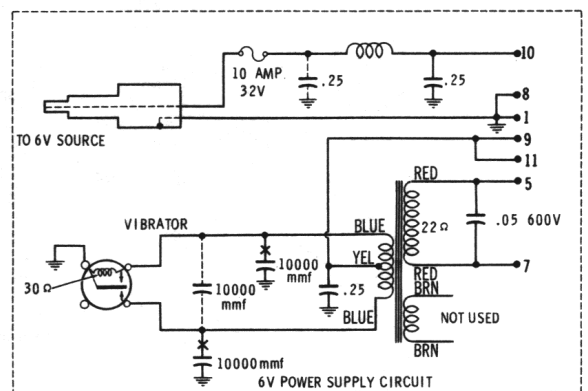
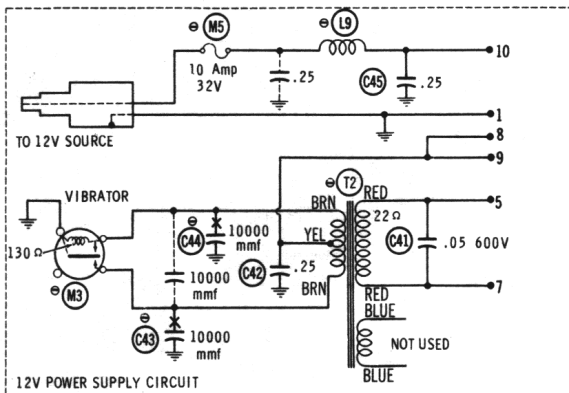
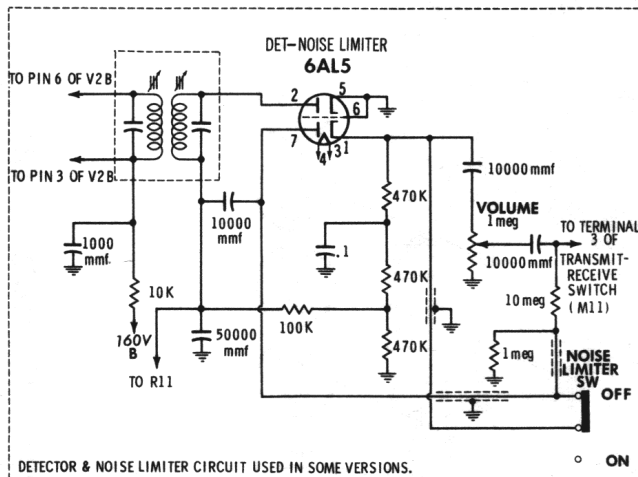
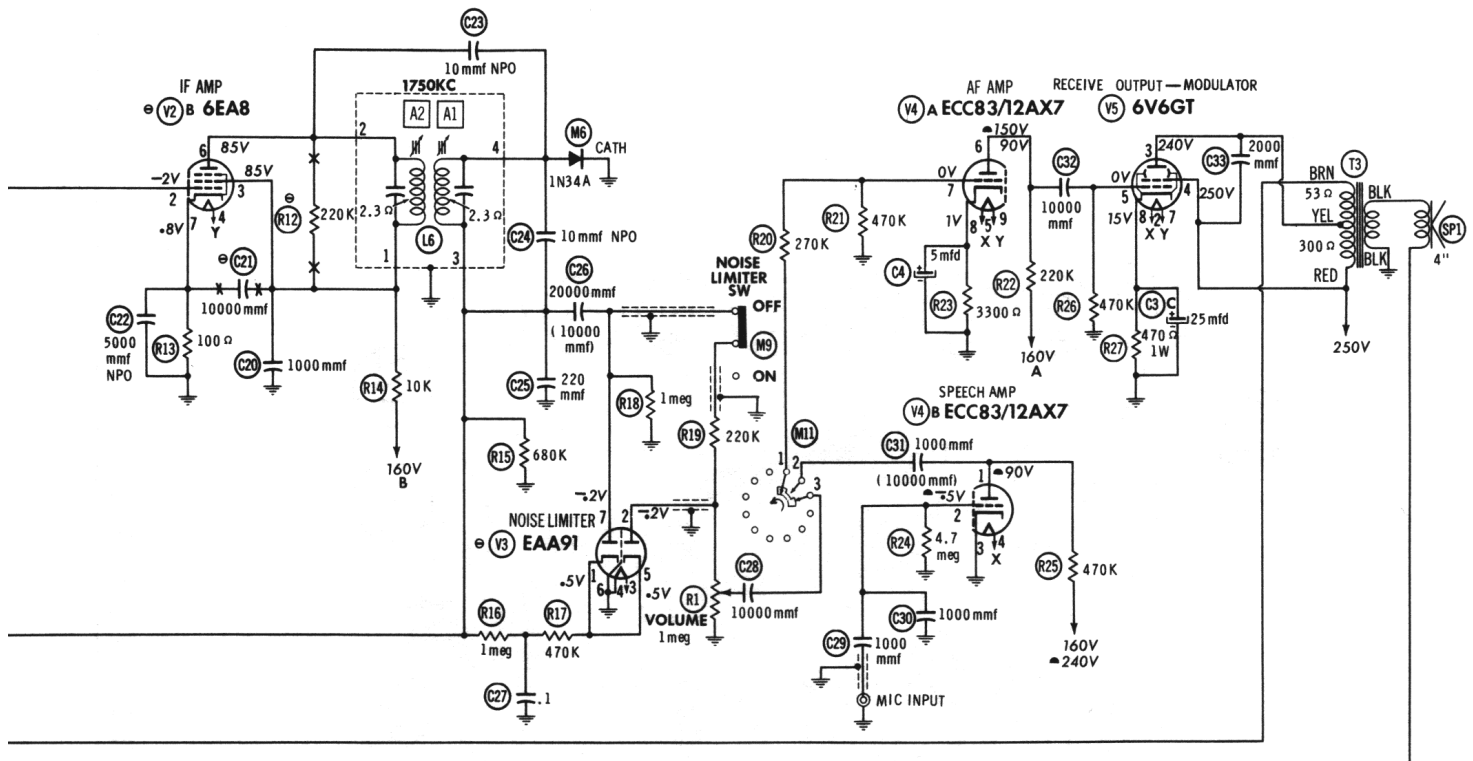
ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.

$\dagger$ MEASURED IN "TRANSMIT" POSITION.

$\blacksquare$ MEASURED WITH NOISE LIMITER IN "OFF" POSITION.

$\dagger$ MEASURED FROM OUTPUT OF M1.

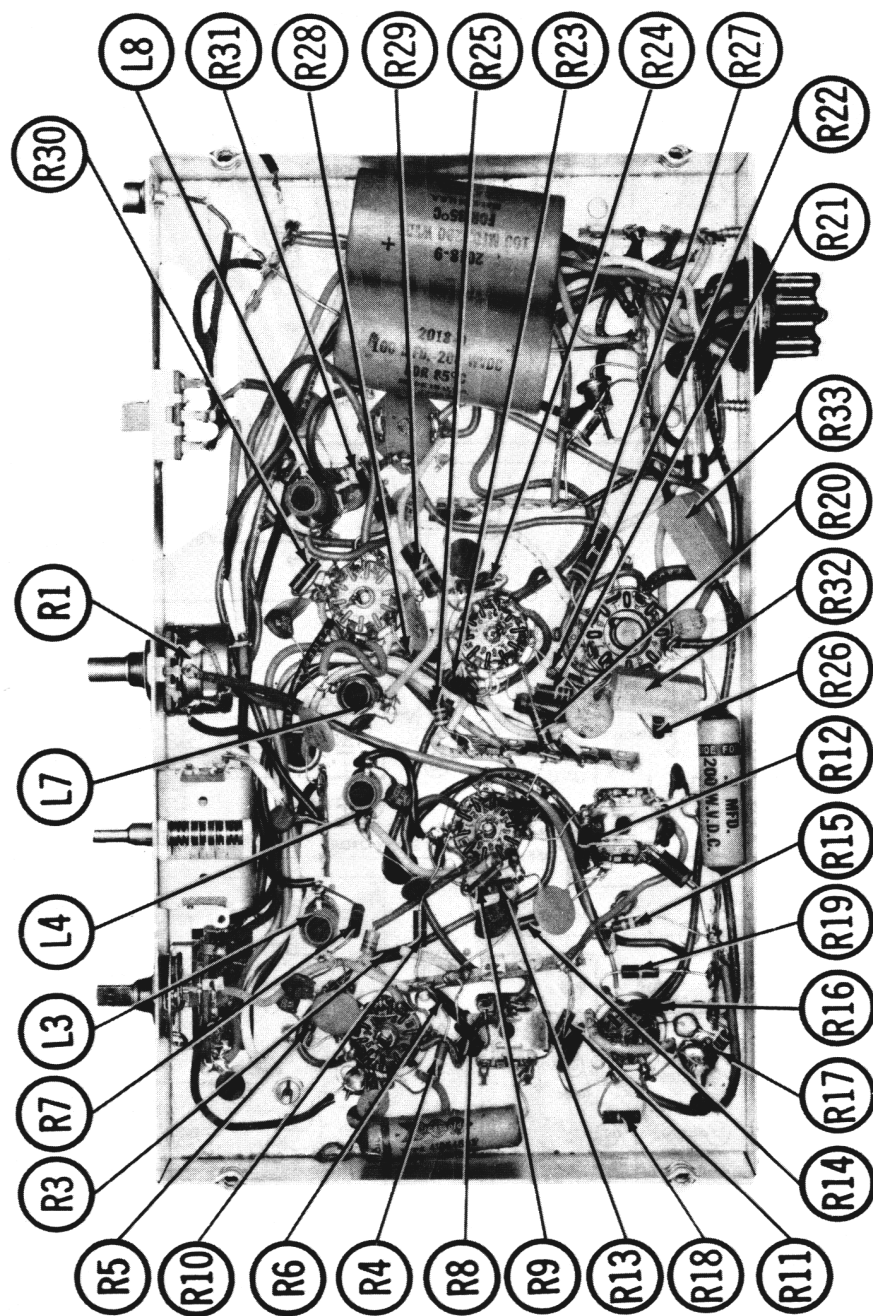
TP TIE POINT



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)

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



CHASSIS BOTTOM VIEW-INDUCTOR & RESISTOR IDENT.

PARTS LIST AND DESCRIPTIONS

TUBES

CONTROLS

GENERAL ELECTRIC				RAYTHEON		SYLVANIA	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE		
V1	RF Amp. - Mixer	6EA8 (6UBA) *	V4	AF Amp. - Speech Amp. Rec. Output-Modulator	6CC83/12AX7		
V2	Rec. Osc. - IF Amp.	6EA8 (6UBA) *	V5	Trans. Osc. - Final Amp.	6V6GT		
V3	Det. - Noise Limiter	6AA91 (6AL5) *	V6		6AU8		

* Alternate

ELECTROLYTIC CAPACITORS

REPLACEMENT DATA					
ITEM No.	RATING	LAFAYETTE PART No.	CORNELL-DUBILIER PART No.	AEROVOX PART No.	NOTES
C1	100 CAP. 200		BR10035	TC1265	TD-100-200 TTA-1718
C2	100 200		BR10035	TC1265	TD-100-200 TTA-1718
C3A	40 350		C0870	F3P387.5	TMT-3387 TVL-3754.5
C3B	40 350				
C3C	25 25				
C4	5 10		NTLV5-15	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.

REPLACEMENT DATA					
ITEM No.	RATING	REMARKS	AEROVOX PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C5	3-70		NPO-SI 3.0	TCZ-3R3	10TCC-V33
C6	3 NPO 5%	Note 1		TCZ-3R3	10TCC-V33
C7	10 N330 5%			TCZ-3R3	10TCC-V33
C8	1000		BPD-001	DD-102	5HK-D10
C9	1000		BPD-001	DD-102	5HK-D10
C10	22 NPO		NPO-D1 22	DTZ-22	10TCC-Q22
C11	100 N750		N750-D1 100	DTN-100	10TCC-Q10
C12	47 N750	Note 1	N750-D1 47	DTN-47	10TCC-Q10
C13	1.5		NPO-SI 1.5	TCZ-1R5	10TCC-V15
C14	1000		BPD-001	DD-102	5HK-D10
C15	47 N750		N750-D1 47	DTN-47	10TCC-Q10
C16	3.9 NPO				
C17	10 N220				
C18	1000		BPD-001	DD-102	5HK-D10
C19	.05 400V		P488N-05	DD-503	5HK-D10
C20	1000		BPD-001	DD-102	5HK-D10
C21	1000		BPD-001	DD-102	5HK-D10
C22	5000	Note 1	BPD-005	DD-502	5HK-D10
C23	10 NPO		NPO-D1 10	DTZ-10	10TCC-Q10
C24	10 NPO		NPO-D1 10	DTZ-10	10TCC-Q10
C25	220		DI-220	DD-221	10TCC-Q10
C26	20000		BPD-002	DD-203	5HK-S20
C27	.1 200V	(10000) †	P288N-1	DF-104	5HK-S20
C28	10000		BPD-001	DD-102	5HK-S10
C29	1000		BPD-001	DD-102	5HK-S10
C30	1000		BPD-001	DD-102	5HK-S10
C31	1000		BPD-001	DD-102	5HK-S10
C32	10000		BPD-001	DD-102	5HK-S10
C33	2000		BPD-002	DD-202	5HK-S10
C34	10000		BPD-001	DD-102	5HK-S10
C35	1000		BPD-001	DD-102	5HK-S10
C36	22 NPO		NPO-D1 22	DTZ-22	10TCC-Q22
C37	1000		BPD-001	DD-102	5HK-S10
C38	1000 2000V 10%		BPD-001	DD-102	5HK-S10
C39	10000		BPD-001	DD-102	5HK-S10
C40	10 NPO		P488N-05	DD-503	5HK-S10
C41	.05 600V		P488N-05	DD-503	5HK-S10
C42	.25 200V		P488N-25	DD-503	5HK-S10
C43	10000		BPD-001	DD-102	5HK-S10
C44	10000		BPD-001	DD-102	5HK-S10
C45	.25 200V		P288N-25	DD-102	5HK-S10

Note 1. Not used in some versions.

† Alternate Value.

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

RESISTORS

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

REPLACEMENT DATA					
ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS
R2	5600Ω		R18	Imeg	
R3	4700Ω		R19	220K	
R4	100K		R20	270K	
R5	220Ω		R21	470K	
R6	Imeg		R22	220K	
R7	5600Ω		R23	3300Ω	
R8	10K		R24	4.7meg	
R9	22K		R25	470K	
R10	10K		R26	470K	
R11	2.2meg		R27	470Ω 1W	
R12	220K		R28	47K	
R13	100Ω		R29	10K 1W	
R14	10K		R30	22K 1W	
R15	680K		R31	22K 1W	
R16	Imeg		R32	5000Ω 5W	
R17	470K		R33	330Ω 5W	

Note 1. Not used in some versions.

COILS (RF-IF)

REPLACEMENT DATA					
ITEM No.	USE	LAFAYETTE PART No.	Miller PART No.	Stancor PART No.	NOTES
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)

REPLACEMENT DATA					
ITEM No.	RATING	LAFAYETTE PART No.	Merit PART No.	Thordarson PART No.	NOTES
T1	117V @ 110V @ 6.3V @ 2.5A	PT-178A-2			

TRANSFORMER (POWER)

REPLACEMENT DATA					
ITEM No.	RATING	LAFAYETTE PART No.	Merit PART No.	Thordarson PART No.	NOTES
T2	6.3V CT 110V @ 22V (Not Used) 3A (or) 1.5A	VT-181-2 ②			① Secondary 2 is 10 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
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Triad PART No.	
T3	52000 Tap	3-4G	T-179-2	A-3817			
	⑥ 5000Ω						

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
	SIZE	FIELD	LAFAYETTE PART No.	QUAM PART No.	
SP1	4"	PM	3-4G	SV771 (7898144A)	4A07

POWER RECTIFIERS

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	CURRENT (Measured)		LAFAYETTE PART No.	RCA PART No.	SARKIS TAZIAN PART No.	SYLVANIA PART No.	
M1	.085A			1N1763	40H	SR500	
M2	.085A			1N1763	40H	SR500	

VIBRATOR

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

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				BUSSE PART No.
			LAFAYETTE PART No.	FUSE	HOLDER	LITTELFUSE PART No.	
M4	3AG	1A 250V				318001 (3AG 1A 250V)	
		P/T				312010	
M5	3AG	10A 32V	Note 1			155020 (3AG 10A 32V)	HDJ

Note 1. For DC Operation Only.

SIGNAL DIODES

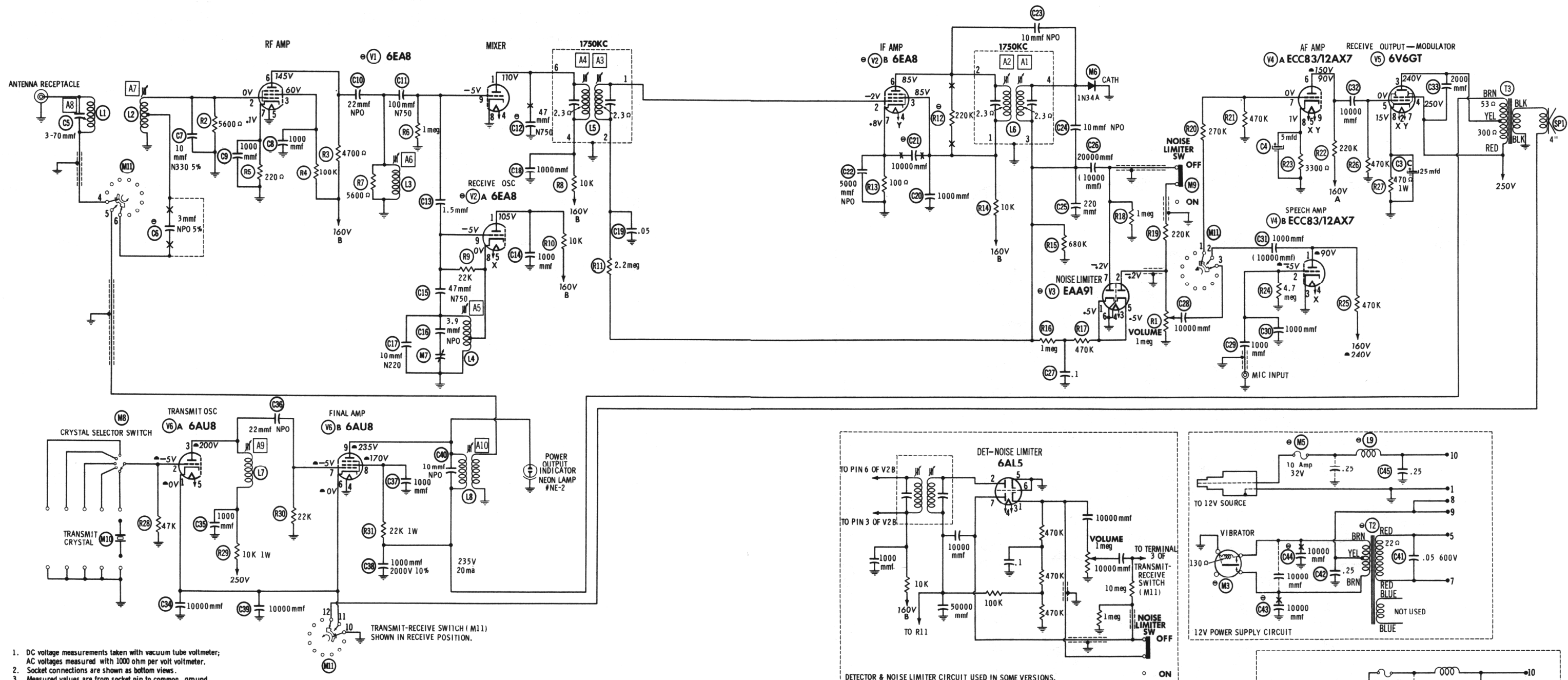
ITEM No.	ORIG. TYPE	REPLACEMENT DATA				NOTES
		LAFAYETTE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
M6	1N34A			1N34A	1N34A	Detector (Pigtail)

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. 8885
	 Use BELDEN No. 8661



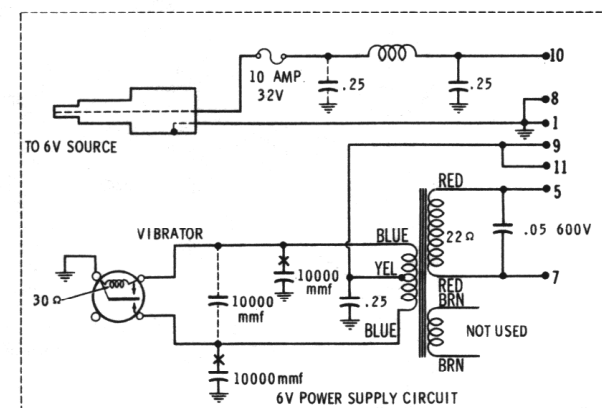
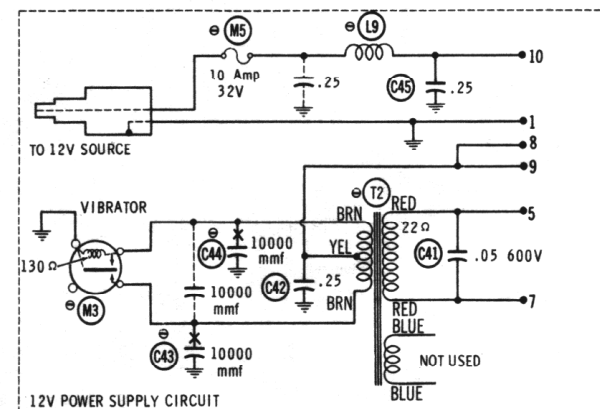
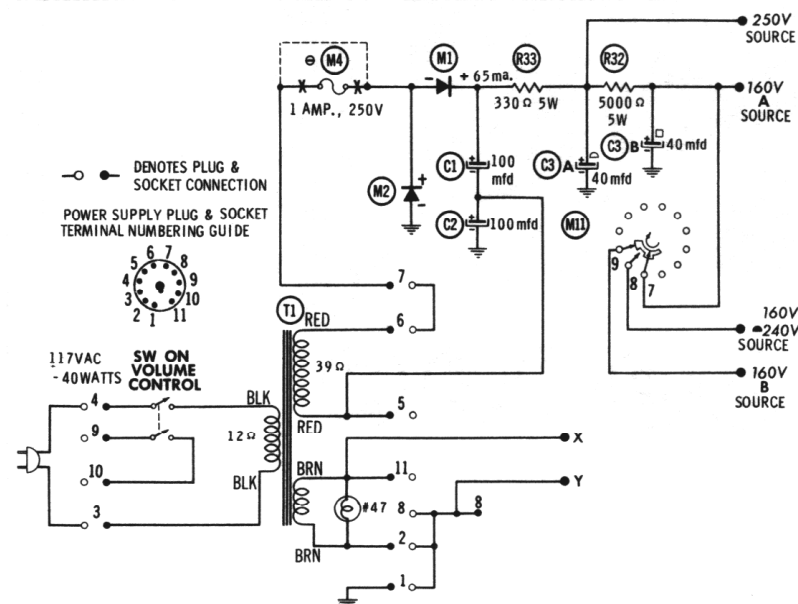
1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
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4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ 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	$\dagger 15K$	.1 Ω	$\dagger 100K$	0 Ω	.1 Ω	$\dagger 10K$	220 Ω	0 Ω	1 meg
V2	6EA8	$\dagger 15K$	2 meg	$\dagger 15K$	0 Ω	.1 Ω	$\dagger 15K$	100 Ω	0 Ω	22K
V3	EAA91	1.5 meg	600K	.1 Ω	0 Ω	1.5 meg	0 Ω	600K	1 meg	FIL
V4	ECC83/12AX7	$\dagger 470K$	4.7 meg	0 Ω	.1 Ω	.1 Ω	$\dagger 22K$	470K	3300 Ω	0 Ω
V5	6V6GT	0 Ω	.1 Ω	$\dagger 630 \Omega$	$\dagger 330 \Omega$	470K	TP	0 Ω	470 Ω	FIL
V6	6AU8	.0 Ω	47K	$\dagger 10K$	.1 Ω	0 Ω	.0 Ω	22K	$\dagger 22K$	$\dagger 1710 \Omega$

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 $\dagger$ MEASURED IN "TRANSMIT" POSITION. $\dagger$ MEASURED FROM OUTPUT OF M1.
 $\blacksquare$ MEASURED WITH NOISE LIMITER IN "OFF" POSITION. TP TIE POINT

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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