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PHOTOFACT®

TRADE NAME : Lafayette Model HE-20B
 SUPPLIER : Lafayette Radio Electronics Corp.
 111 Jericho Turnpike, Syosset, L. I., N. Y.
 TYPE SET : 7 Tube Citizens Band Transceiver
 POWER SUPPLY : 110-120VAC, 60 Cycles (or)
 12 Volt Storage Battery
 RATING : 51 Watts, .5 Amp. @ 117VAC (or)
 3.7 Amp. @ 12.6VDC (Receive)
 TUNING RANGE : Any 8 Crystal Controlled Channels 1-23
 (Receiver may be manually tuned)



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1, A2, A3.... GENERAL CEMENT #5000, 5003, 5006
 WALSCO #2515, 2516, 2518
 A4..... GENERAL CEMENT #8282, 8606, 8606L
 WALSCO #2526, 2543, 2544
 A5 thru A10.... GENERAL CEMENT #5097, 8607, 8727
 WALSCO #2515

RECEIVER ALIGNMENT

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

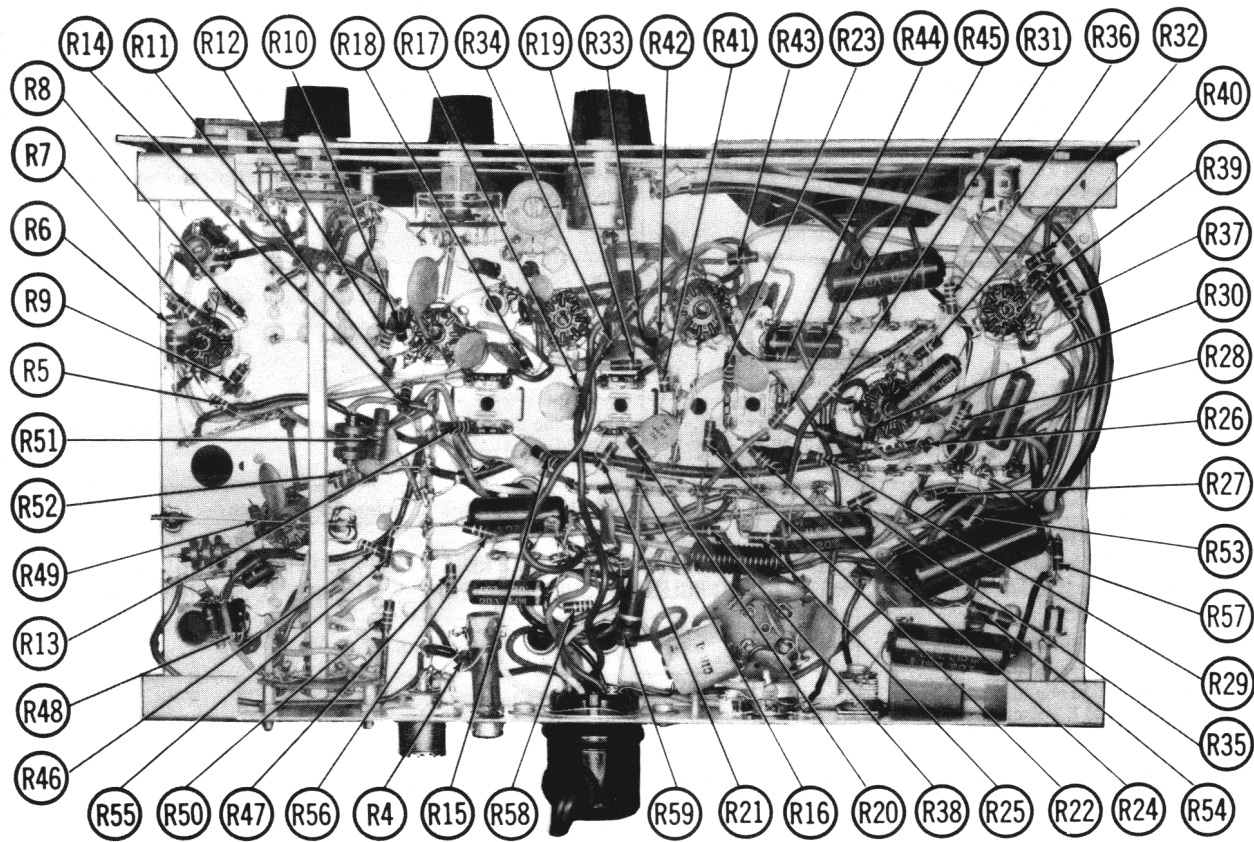
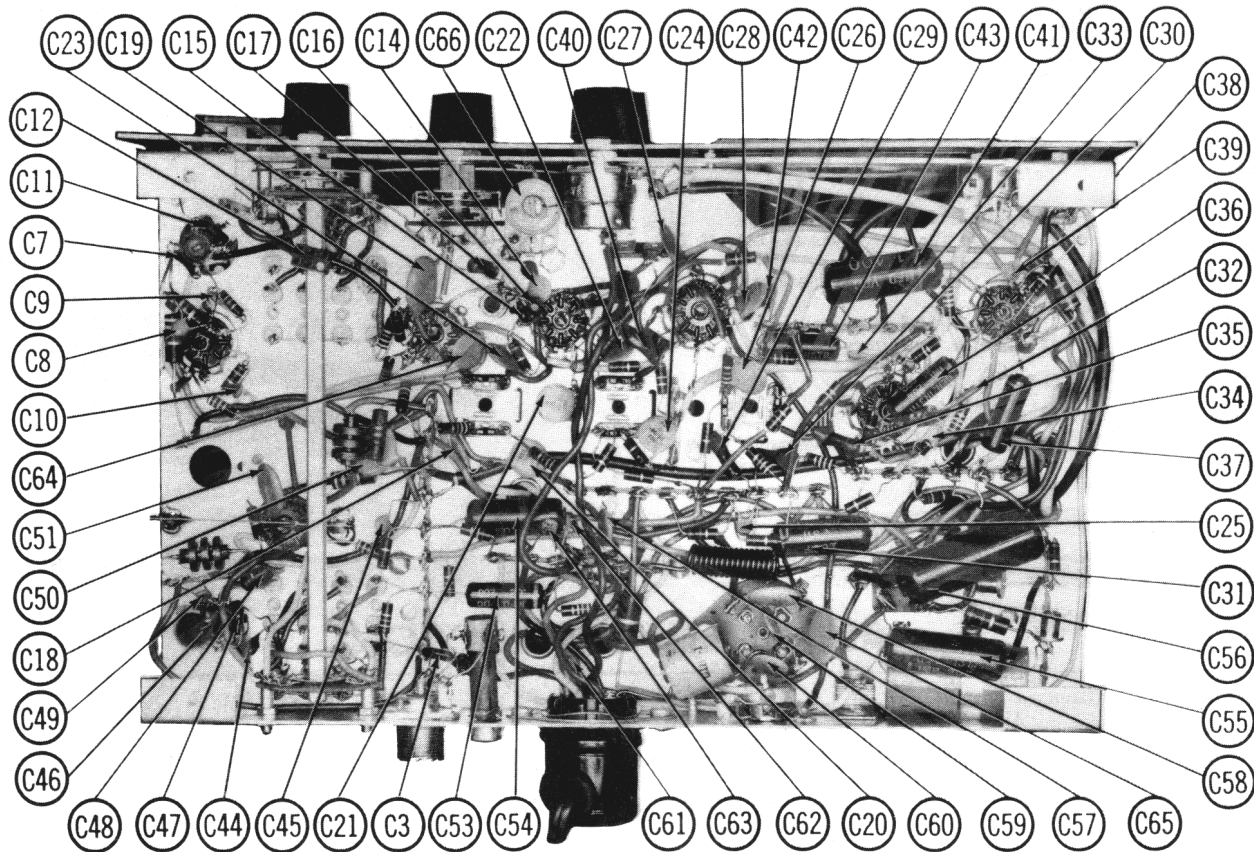
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 7 (grid) of Converter, low side to ground. Tune to 1650KC (400v Mod.).	Any	A5, A6, A7, A8, A9, A10	Turn squelch control fully clockwise. Adjust for maximum output.
Across antenna receptacle. Tune to Channel Frequency.	Center Channel Used (Fixed)	A11	Connect a 100Ω resistor and .005mfd capacitor in series across the secondary of L3. Adjust for maximum output.
"	"	A12	Move resistor and capacitor to the primary of L3. Adjust for maximum output. Remove resistor and capacitor.
"	1 (26.965MC) (Tune)	A13	Adjust for maximum output. Two peaks will be obtained. Use the higher.
"	23 (27.255MC) (Tune)	A14	Adjust for maximum output. Readjust A13 and A14 until maximum calibration is attained.
		A4	Adjust for MINIMUM interference on the three lower TV channels.

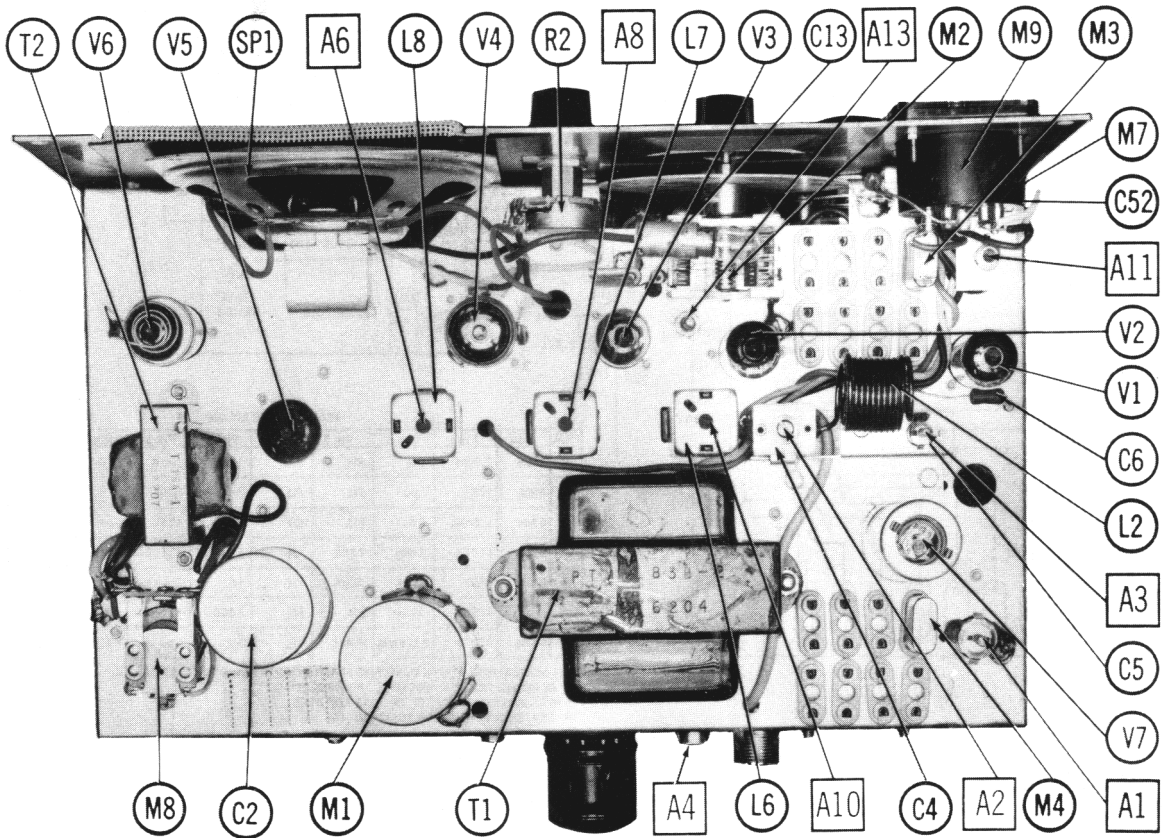
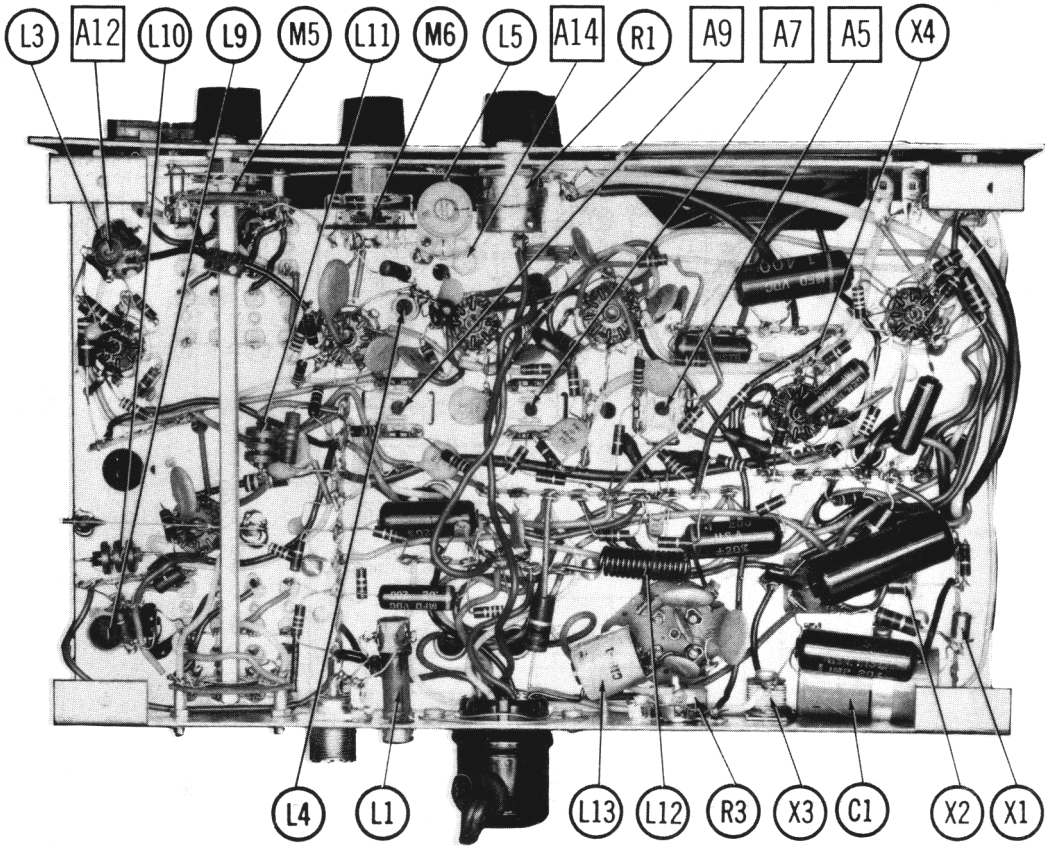
TRANSMITTER ALIGNMENT

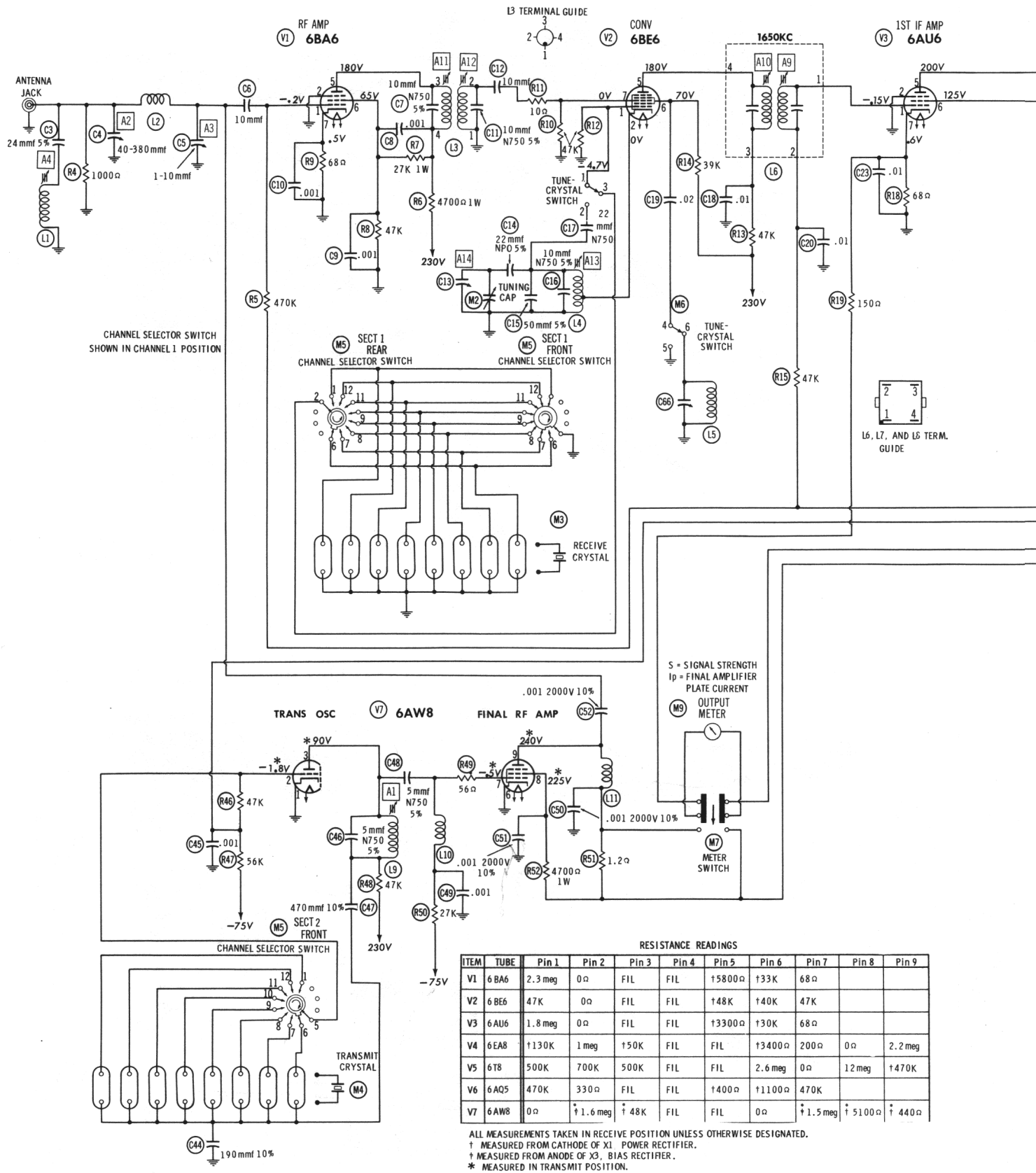
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71)

INDICATOR	ADJUST	REMARKS
Connect DC probe of VTVM to pin 7 (grid) of final RF Amp, common to ground.	A1	Key transmitter and adjust for maximum deflection.
RF Power Indicator Meter	A2, A3	Key transmitter and adjust for maximum deflection.

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



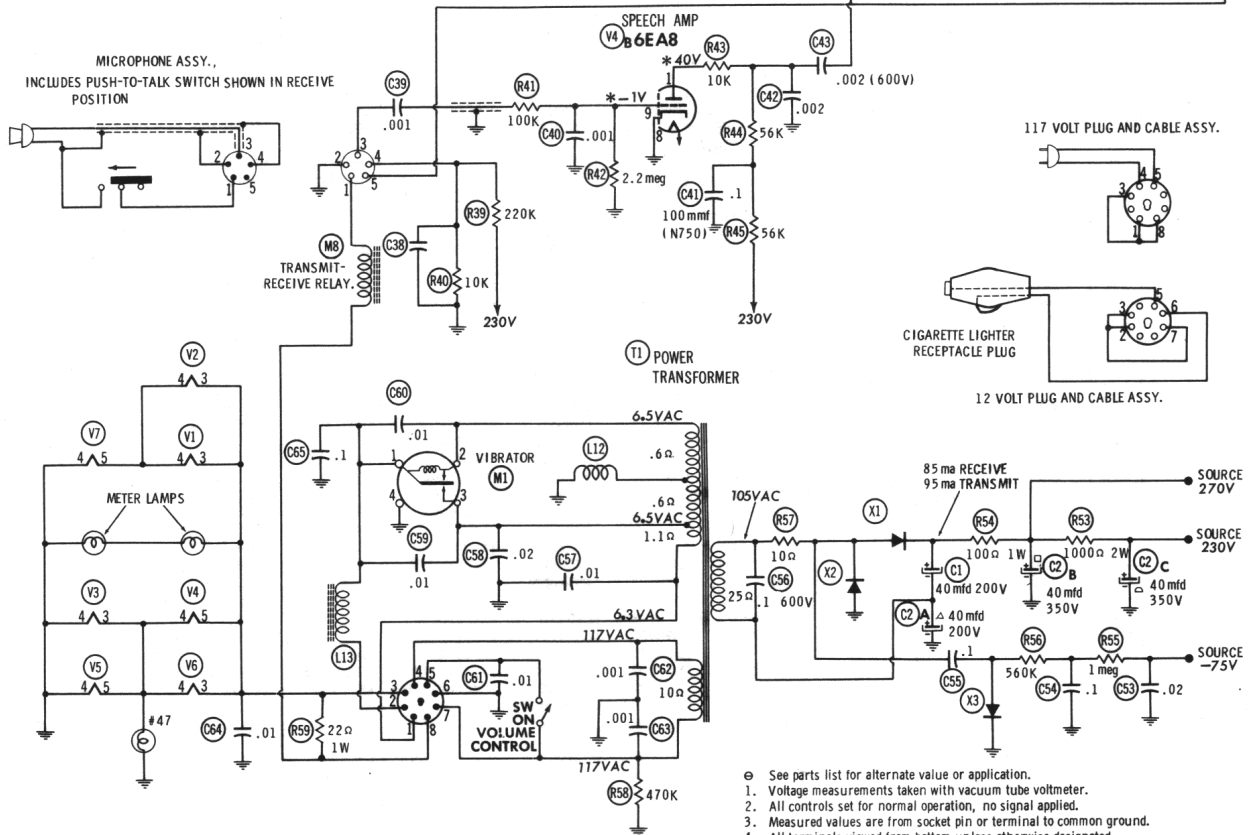
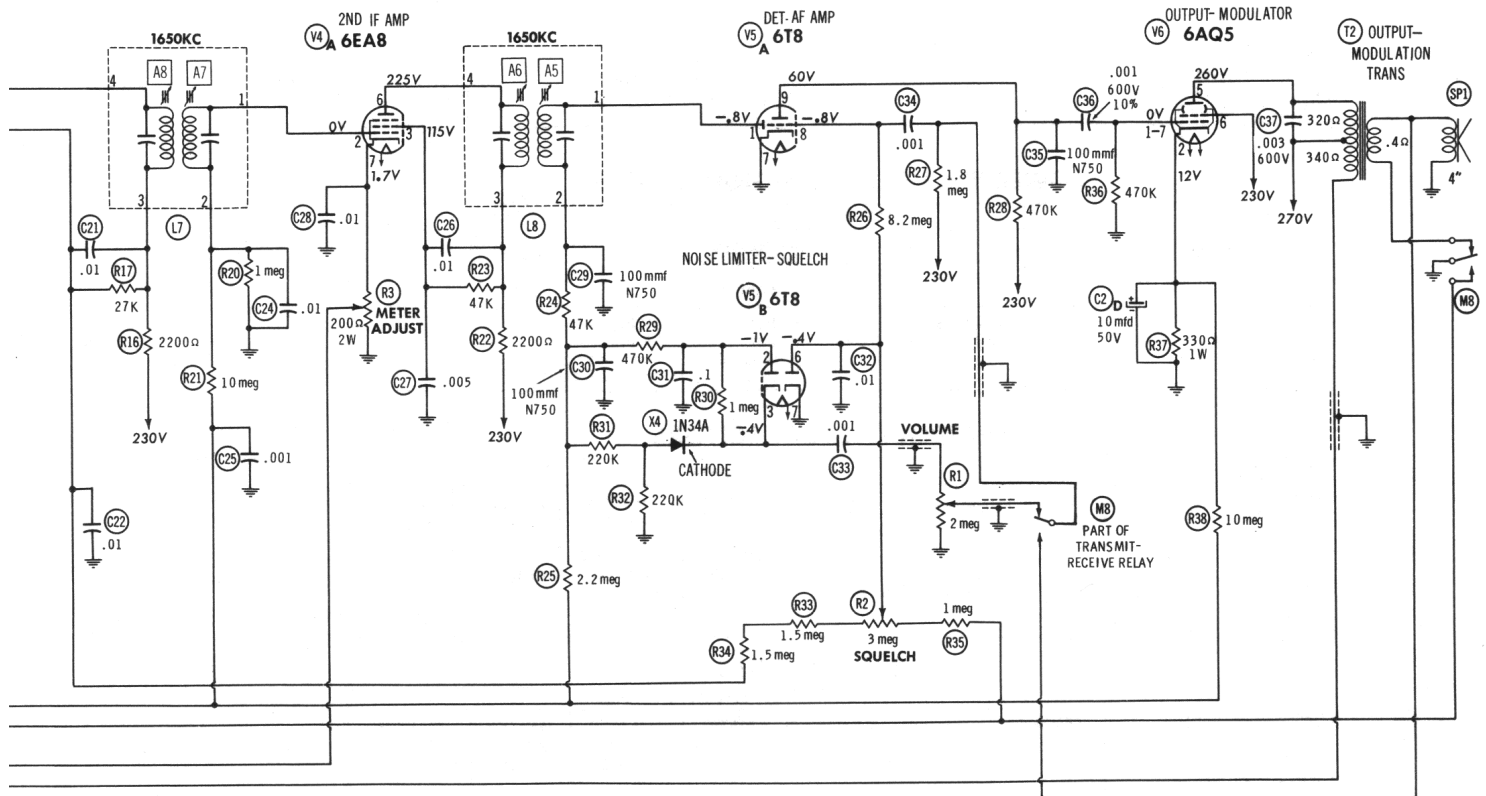




RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BA6	2.3 meg	0 Ω	FIL	FIL	15800 Ω	133K	68 Ω		
V2	6BE6	47K	0 Ω	FIL	FIL	148K	140K	47K		
V3	6AU6	1.8 meg	0 Ω	FIL	FIL	13300 Ω	130K	68 Ω		
V4	6E8	1130K	1 meg	150K	FIL	FIL	13400 Ω	200 Ω	0 Ω	2.2 meg
V5	6T8	500K	700K	500K	FIL	FIL	2.6 meg	0 Ω	12 meg	1470K
V6	6AQ5	470K	330 Ω	FIL	FIL	1400 Ω	11100 Ω	470K		
V7	6AW8	0 Ω	1.6 meg	48K	FIL	FIL	0 Ω	1.5 meg	5100 Ω	440 Ω

ALL MEASUREMENTS TAKEN IN RECEIVE POSITION UNLESS OTHERWISE DESIGNATED.
 † MEASURED FROM CATHODE OF X1 POWER RECTIFIER.
 ‡ MEASURED FROM ANODE OF X3 BIAS RECTIFIER.
 * MEASURED IN TRANSMIT POSITION.



- Ⓞ See parts list for alternate value or application.
 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.

LAFAYETTE MODEL HE-20B

PARTS LIST AND DESCRIPTION (CONTINUED)

CONTROLS

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

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			Lafayette PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	2meg	V-332A-2	B-76, KR-1	A47-2meg-Z, FS-3, SWE-12	Q13-139, 76-1	U55, US-26
R2	Squelch	3meg	V-331A-2	B-84, AK-31			U57, EB247
R3	Meter Adjust	200Ω 2W	P325-3	WN-201	A-43-200, FKS-1/4	WH-200, SK-5	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		Lafayette PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	TV Trap						
L2	Antenna Load						
L3	RF Bandpass	T188-1					
L4	Rec. Oscillator	T-189-3					
L5	Crystal Feedback (6.8uh)						
L6	1st IF	1-110-5					
L7	2nd IF	1-110-5					
L8	3rd IF	1-110-5					
L9	Transmitter Osc.	190-1					
L10	RF Choke (500uh)		TV-188	6174	RTC-8592	T324	
L11	RF Choke (500uh)		TV-188	6174	RTC-3592	T324	
L12	RF Choke (.56uh)						
L13	Hash Choke(30uh)	187-1					

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 @ .5A(or) 12.8VCT @ 2.5A	105V @ .080A	12.6V @ *	PTV-183-2					* 117 Volts operation only.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	10.7K Tap @ 4600Ω	3-4Ω	T-184-1					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		Lafayette PART No.	QUAM PART No.	
SP1	4" PM 3-4Ω	ST17-1	4A07	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE- QUENCY	REPLACEMENT DATA			NOTES
				Lafayette PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	
M1	Interruptor	12.6	115v		6301	G-1601	

MISCELLANEOUS

ITEM No.	PART NAME	Lafayette PART No.	NOTES
M2	Variable Cap		1 Gang, Receiver Tuning Receiver (Order channel desired) Transmitter (Order channel desired) Channel Selector (Rotary Wafer Type) Receiver Tuning, Crystal -Tune (Wafer Type) Meter (STDP, Slide Type) Transmit - Receive Power Monitor or Signal Strength Includes Spring Loaded Push-to-talk Switch
M3	Crystal		
M4	Crystal		
M5	Switch		
M6	Switch		
M7	Switch		
M8	Relay		
M9	Meter		
	Microphone		

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.)