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PHOTOFACT® Folder

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LAFAYETTE  
MODEL HE-29



NOTICE

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).

LAFAYETTE  
MODEL HE-29

TRADE NAME	Lafayette Model HE-29		
SUPPLIER	Lafayette Radio, 165-08 Liberty Ave., Jamaica 33, N. Y.		
TYPE SET	Battery Operated Transistorized Portable Citizens Band Transmitter-Receiver		
POWER SUPPLY	12 Volts DC	RATING	10MA @12 Volts DC (Receive, No Signal)
TUNING RANGE	Citizens Band Channel 10		15MA @12 Volts DC (Transmit, No Signal)

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, A2, A3... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8729, 8987, 8988, 8989  
WALSCO #2515, 2531, 2532  
A4, thru A8.. GENERAL CEMENT #9440

RECEIVER ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% Mod.)		Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	Transmitter Crystal Freq.		"	A4, A5	Adjust A4 for proper oscillation. Adjust A5 for maximum output.

TRANSMITTER ALIGNMENT

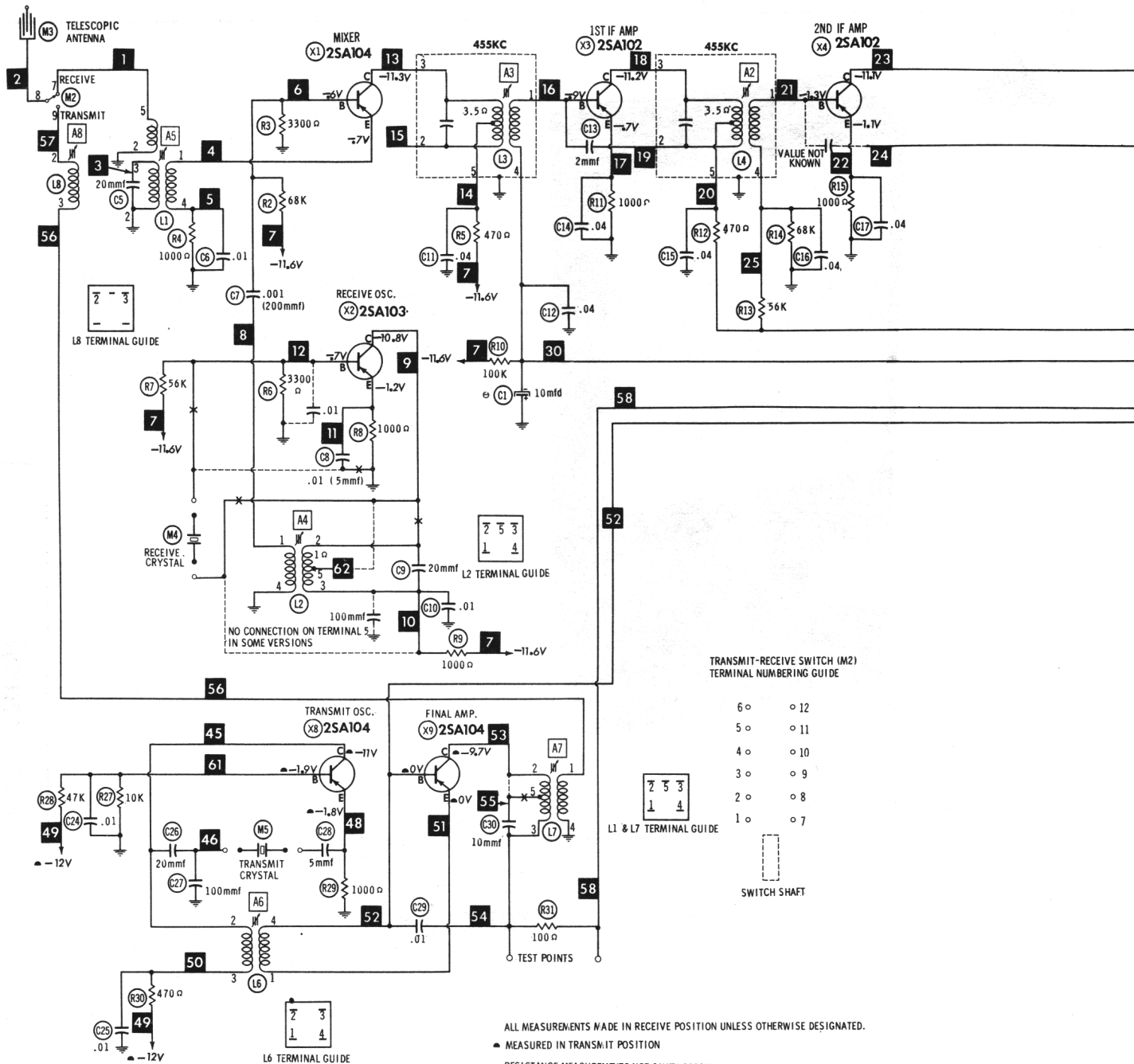
- Adjust A6 for Transmitter Crystal Freq. as checked with a frequency meter.
- Adjust A7 and A8 for maximum transmitted output as measured with a field strength meter or similar device.
- Recheck frequency.

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 LZ052

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. © 1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



TRANSMIT-RECEIVE SWITCH (M2)  
TERMINAL NUMBERING GUIDE

6	o	12
5	o	11
4	o	10
3	o	9
2	o	8
1	o	7

L1 & L7 TERMINAL GUIDE

SWITCH SHAFT

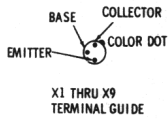
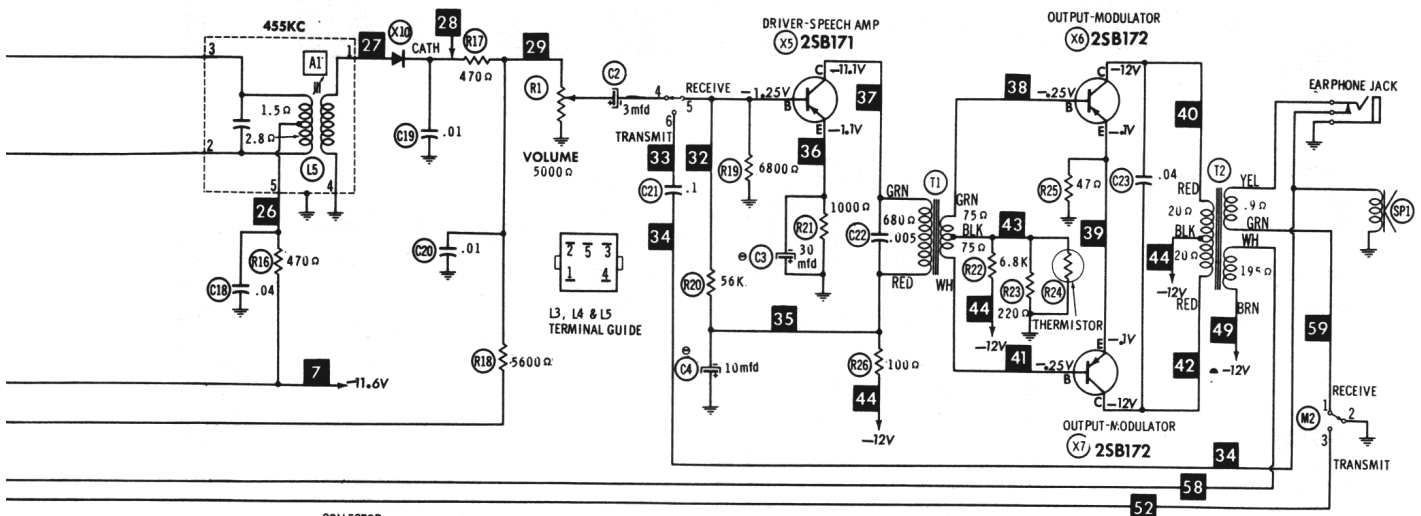
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of  $\pm 15\%$  in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

ALL MEASUREMENTS MADE IN RECEIVE POSITION UNLESS OTHERWISE DESIGNATED.

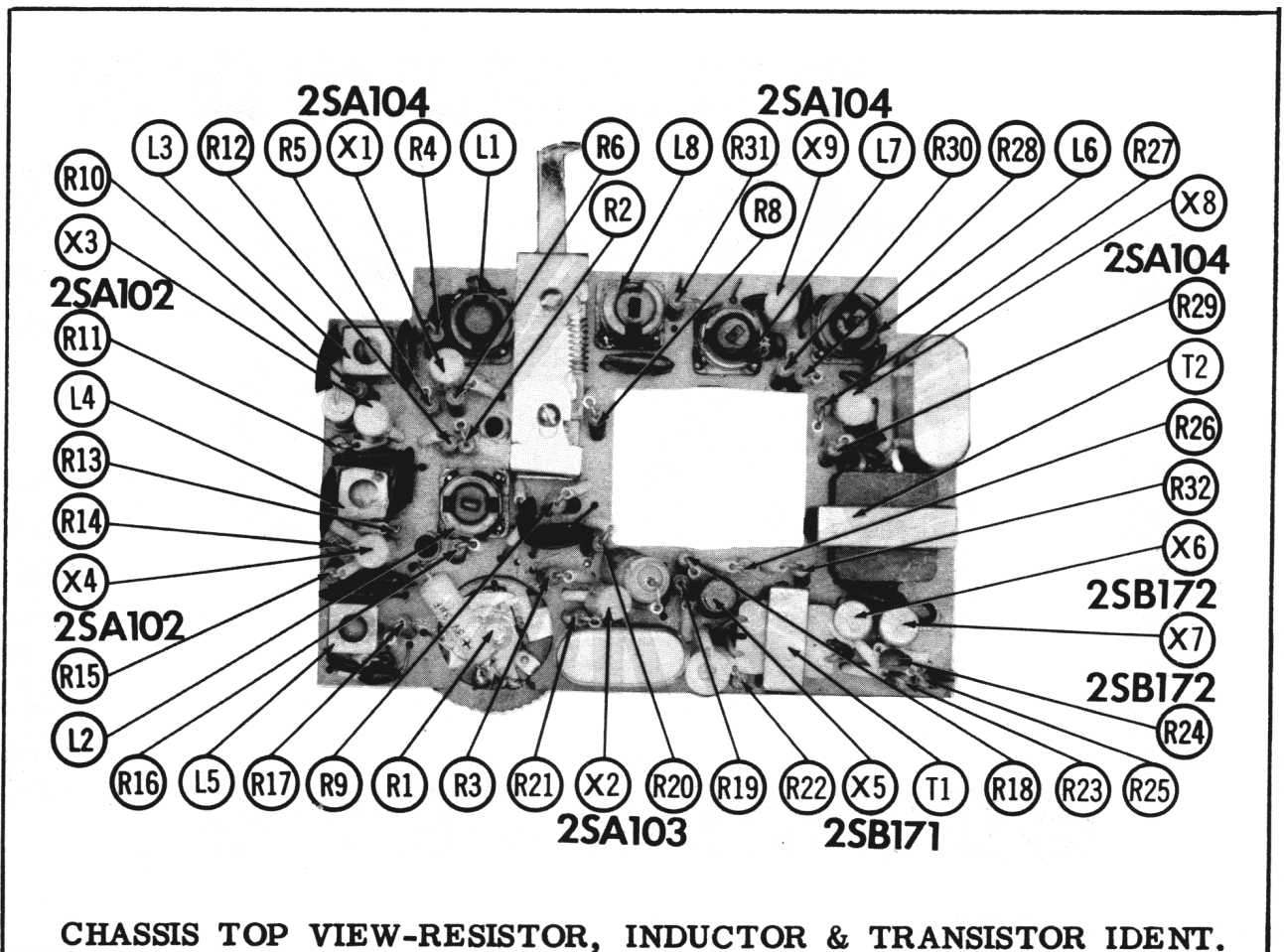
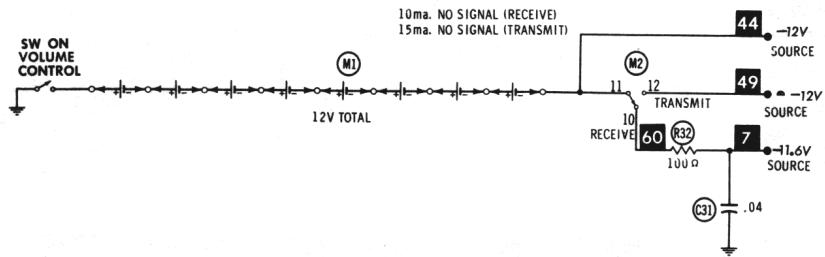
MEASURED IN TRANSMIT POSITION  
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

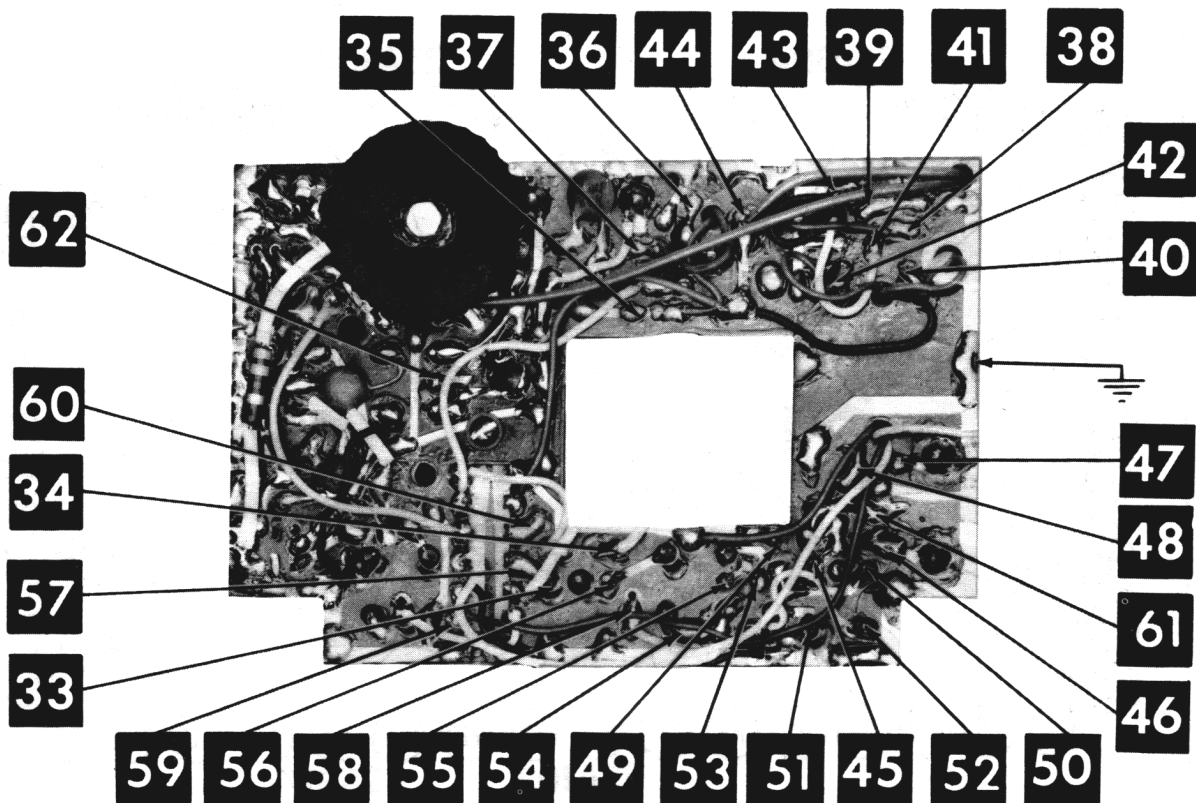
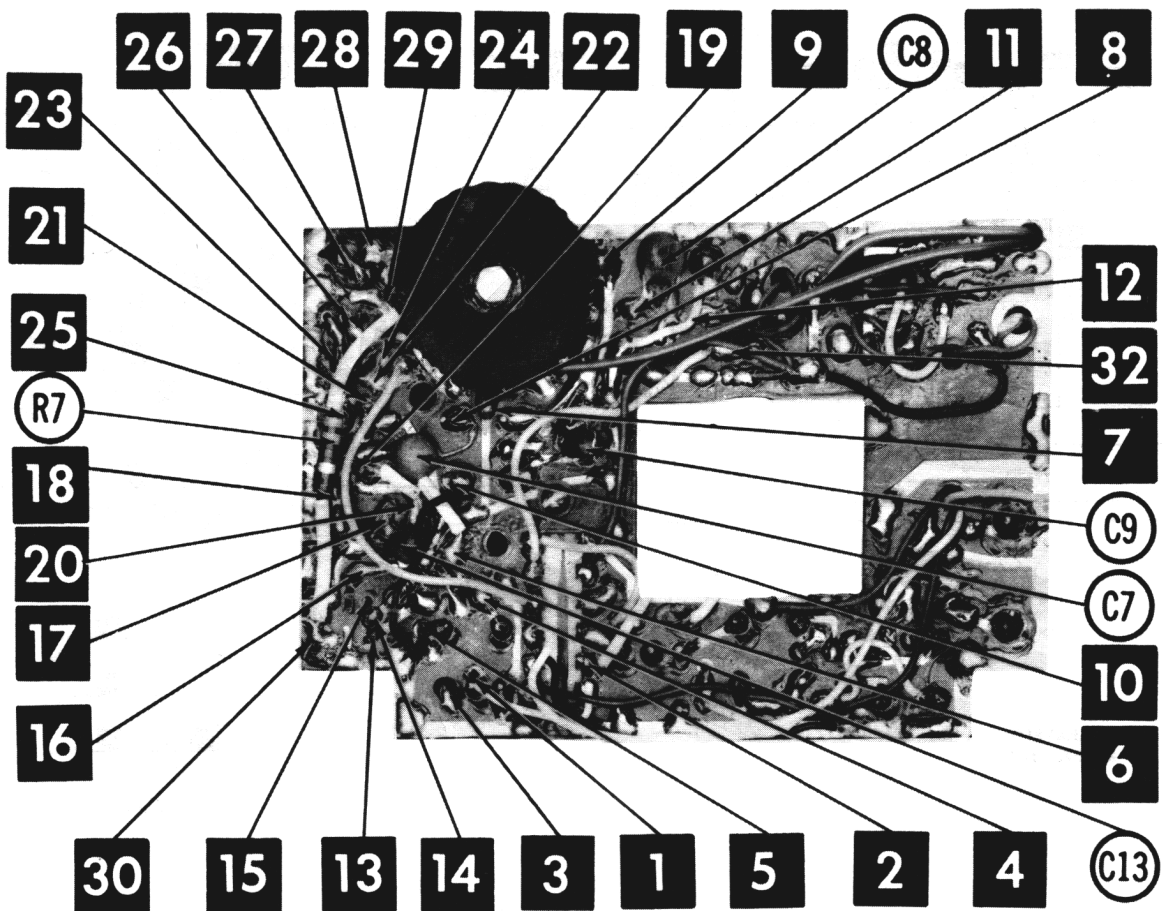
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

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



**LAFAYETTE  
MODEL HE-29**





# PARTS LIST AND DESCRIPTIONS

## TRANSISTORS

ITEM No.	ORG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA104	Mixer	2N1179	PNP	
X2	2SA103	Receive Osc.	2N1178	PNP	
X3	2SA102	1st IF Amplifier	2N1525	PNP	
X4	2SA102	2nd IF Amplifier	2N1525	PNP	
X5	2SB171	Driver-Speech Amp.	2N406	PNP	
X6	2SB172	Output-Modulator	2N408	PNP	
X7	2SB172	Output-Modulator	2N408	PNP	
X8	2SA104	Trans. Osc.	2N1178	PNP	
X9	2SA104	Final Amplifier	2N1177	PNP	

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		NOTES
			RCA PART No.	RAYTHEON PART No.	
X10		29-505		1N285	Detector

## ELECTROLYTIC CAPACITORS

ITEM No.	CAP.	VOLT.	RATING	REPLACEMENT DATA					
				LAFAYETTE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	10	5	①	PTT8	NLW10-4	MTL-5	TT3X10	MLV10-3	TE-1053
C2	3	3	②	PTT3	NLW3-25	MTL-3	FT6X3	MLV3-3	TE-1052
C3	30	3	③	PTT10	NLW30-4	MTL-13	FT6X30	MLV30-4	TE-1092
C4	10	15	③	PTT66	NLW10-15	MTL-5	TT15X10	MLV10-15	TE-1155

① Some versions may use 10mfid@10V in this application (Part #29-525).

② Some versions may use 30mfid@10V in this application (Part #29-526).

③ Some versions may use 30mfid@12V in this application (Part #29-527).

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C5	20		NPO-DI 20	DTZ-20	C10Q20C	CCTO-200	CNO-422	10TCC-Q20
C6	.01		C80V109AM	DM-103	H-0581	CCD-102	TA-110	TG-S10
C7	.001	(200) †	C80V109AM	DM-102	H-05DI	CCD-102	TA-210	TG-D10
C8	.01	(5) †	C80V109AM	DM-103	H-0581	CCD-102	TA-110	TG-S10
C9	20		NPO-DI 20	DTZ-20	C10Q2C	CCTO-200	CNO-422	10TCC-Q20
C10	.01		C80V109AM	DM-103	H-0581	CCD-102	TA-110	TG-S10
C11	.04	#29-522						
C12	.04	#29-522						
C13	2		NPO-DI 2.0	DTZ-2R2	C10V2C	CCTO-2R2	CNO-522	10TCC-V22

## FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C14	.04	#29-522					
C15	.04	#29-522					
C16	.04	#29-522					
C17	.04	#29-522					
C18	.04	#29-522					
C19	.01		C80V109AM	DM-103	H-0581		TA-110
C20	.01		C80V109AM	DM-103	H-0581		TA-110
C21	.1		C80V104AM	DA-104	H-05P1		TG-P10
C22	.005	(.01) †	C80V502AM	DM-502	H-05D5	CCD-502	TG-D50
C23	.04	#29-522					
C24	.01		C80V109AM	DM-103	H-0581		TG-S10
C25	.01		C80V109AM	DM-103	H-0581		TG-S10
C26	20		NPO-DI 20	DTZ-20	C10Q2C	CCTO-200	10TCC-Q20
C27	100		DM-100	DD-101	L10T1	CGD-101	10TCC-T10
C28	5		NPO-DI 5.0	DTZ-4R7	C10V5C	CCTO-050	10TCC-V50
C29	.01		C80V109AM	DM-103	H-0581		TG-S10
C30	10		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	10TCC-Q10
C31	.04	#29-522					

# Lafayette Part Number.

† Alternate Value.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA			
			LAFAYETTE PART No.	CORNELL-DUBILIER PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	29-512			

## RESISTORS

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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			REPLACEMENT DATA		
			IRC PART No.	WORKMAN PART No.	ITEM No.	RATING	IRC PART No.	WORKMAN PART No.
R2	68K				R14	68K		
R3	3300Ω				R15	1000Ω		
R4	1000Ω				R16	470Ω		
R5	470Ω				R17	470Ω		
R6	3300Ω				R18	9600Ω		
R7	56K				R19	6800Ω		
R8	1000Ω				R20	56K		
R9	1000Ω				R21	1000Ω		
R10	100K				R22	6800Ω		
R11	1000Ω				R23	220Ω		
R12	470Ω				R24	Thermistor		
R13	56K				R25	47Ω		(MT-25)

# PARTS LIST AND DESCRIPTIONS (Continued)

## RESISTORS (cont)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		IRC PART No.	WORKMAN PART No.			IRC PART No.	WORKMAN PART No.
R26	100Ω			R30	4700		
R27	10K			R31	100Ω		
R28	47K			R32	100Ω		
R29	1000Ω						

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	Meritt PART No.	Stancor PART No.	
L1	Ant.	29-537			
L2	Osc.	29-533			
L3	1st IF	29-532			
L4	2nd IF	29-532			
L5	3rd IF	29-532			
L6	Osc.	29-538			
L7	Output	29-538			
L8	Ant. Load	29-538			

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	Meritt PART No.	Stancor PART No.	
T1	1.5 1	29-534			

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	Meritt PART No.	Stancor PART No.	
T2	800Ω CT	29-535			
	SEC. 1				
	SEC. 2				
	250Ω				

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		LAFAYETTE PART No.	QUAM PART No.	
SP1	2 1/4" PM	29-539	22A0828	

## BATTERIES

ITEM No.	VOLTAGE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	BURGESS PART No.	EVEREADY PART No.	
M1	1 1/2V	BA-155	930	1015	8 Required

## MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
M2	Switch	29-540	
M3	Antenna	29-543	Push-to-talk (Spring Loaded, Slide Type)
M4	Crystal		Receive
M5	Crystal		Transmit

## 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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# CHASSIS—TOP VIEW

