

139-B

- 1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.
- 2 - Socket connections are shown as bottom views.
- 3 - Measured values are from socket pin to common negative.
- 4 - Battery voltage maintained at 6.3 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

Pin	1	2	3	4	5	6	7	8
1	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
2	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
3	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
4	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
5	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
6	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
7	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
8	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M

VOLTAGE READINGS

Pin	1	2	3	4	5	6	7	8
1	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
2	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
3	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
4	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
5	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
6	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
7	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M
8	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M	1.5M

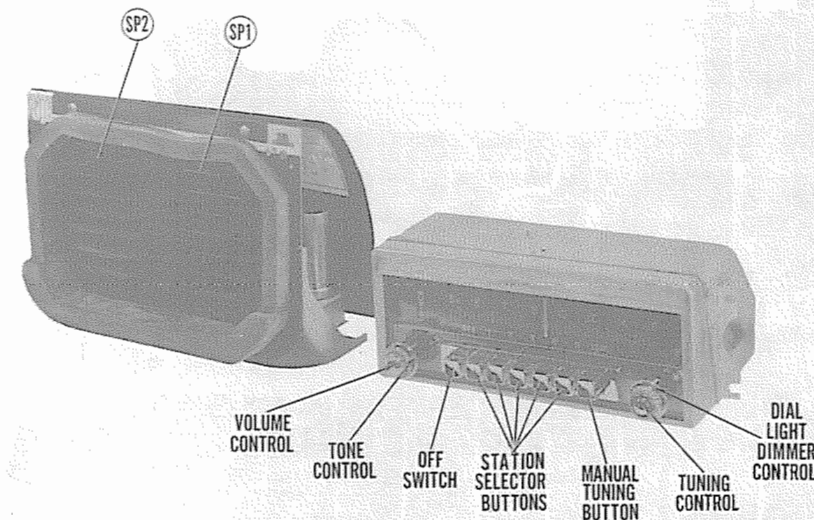
A PHOTOFACT STANDARD NOTATION SCHEMATIC  
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## MOPAR MODELS 812, 813, 815, 816, 817

PHOTOFACT\* Folder

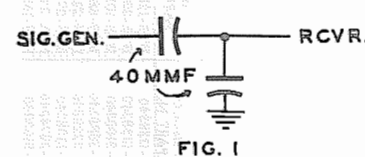


MOPAR  
MODELS 812, 813, 815, 816, 817



MOPAR MODEL 815

TRADE NAME	Mopar, Models 812, 813, 815, 816, 817					
MANUFACTURER	Philco Corp., Tioga and "C" Sts., Philadelphia, Pa.					
TYPE SET	Battery Operated Custom-Built Plymouth, Dodge and Chrysler Superheterodyne Receiver					
TUBES (EIGHT)	Types 6BA6 RF Amp., 6BE6 Converter, 6BA6 IF Amp., 6AV6 DET.-AVC-AF, 6C4 Phase Inverter, (2) 6AQ5 Power Output, 6F4 Rectifier					
POWER SUPPLY	6 Volt Storage Battery			RATING 7.8 Amp. @ 6.3 Volts DC		
TUNING RANGE—BROADCAST	535-1605KC					
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. Use an insulated alignment screwdriver for adjusting.						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD.	High side to pin 7 (Grid) of 6BE6 (V2). Low side to chassis.	455KC (400% Mod.)	Depress manual button and tune to 540KC.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
Two 40MMF. capacitors See fig. 1	High side thru dummy to ant. receptacle. Low side to chassis.	"	Depress any station selector button.	"	A5	Adjust for MINIMUM output.
"	"	1605KC	Depress manual button. Tune to high freq. end stop.	"	A6	Adjust for maximum output.
"	"	1400KC	Tune for max. output.	"	A7, A8	Adjust for maximum output. Set pointer to 1400 on dial.
"	"	580KC	580KC	"	A9	Rock tuning gang while adjusting for maximum output. Repeat steps 3 & 4. If considerable change is required repeat steps 5, 3, and 4 in that order.
After set is installed, fully extend the antenna and tune in a weak station near 1400KC. Adjust A7 for maximum output. Then depress PB5 and tune it, as outlined under pushbutton adjustments, to a weak station near 1400KC. Adjust A10 for maximum output.						



### PUSHBUTTON ADJUSTMENTS

The frequency ranges of the pushbuttons are as follows: PB1 530-1020KC, PB2 610-1200KC, PB3 700-1410KC, PB4 740-1480KC, PB5 840-1605KC. Make a list of the desired stations, making sure each station is within the tuning range of the selected pushbutton. Pull the chrome plated pushbutton cap off. Depress the button and tune in the desired station by means of the knurled plastic knob under the pushbutton cap. Repeat this procedure for each pushbutton.

HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

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DATE 7-51

SET 139

FOLDER 8

MOPAR  
MODELS 812, 813, 815, 816, 817





## PARTS LIST AND DESCRIPTIONS

## CHASSIS—TOP VIEW

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		PHILCO PART No.	STANDARD REPLACEMENT		
V1	RF Amplifier	6BA6	6BA6	70K	
V2	Converter	6BD6	6BD6	70K	
V3	1 <sup>st</sup> AF Amplifier	6BA6	6BA6	70K	
V4	DET.-AFC-AF	6AV6	6AV6	7B1	
V5	Phase Inverter	6CA	6CA	6B2	
V6	Power Output	6AQ5	6AQ5	7B2	
V7	Power Output	6AQ5	6AQ5	7B2	
V8	Rectifier	6X4	6X4	5B5	

## CAPACITORS

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

ITEM No.	RATING CAP. VOLTS	REPLACEMENT DATA			IDENTIFICATION CODES AND INSTALLATION NOTES
		PHILCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
C1A	20	61-0006	AF42H4A	UP2135C	Filter
B	350				Output Cathode
C2	25				AVC Filter
C3	.047	45-3505-28	P288-047	PTE455	Decoupling
C4	.047	45-3505-28	P288-047	PTE455	Decoupling
C5	50	60-00395417	I409-00004	5H5Q4	Fixed Trimmer
C6	50	60-00565417	S158	5W5Q3	RF Coupling
C7	10	60-0005407	TCZ-10	5H5Q1	Fixed Trimmer
C8	.0047		P488-047	PTE455	Decoupling
C9	.0047	45-3505-56	P488-0047	PTE455	Decoupling
C10	100	60-1005-07	P488-0001	5W5T1	AF Amp. Plate
C11	.01	45-3505-30	P288-01	PTE451	Tune Comp.
C12	.1	45-3505-30	P288-01	PTE451	Tune Comp.
C13	.25	61-0235	P185-25	PTE451	Tune Comp.
C14	.0047	45-3505-56	P488-0047	PTE451	Audio Coupling
C15	.01	45-3505-41	P488-01	PTE451	Audio Coupling
C16	.01	45-3505-41	P488-01	PTE451	Audio Coupling
C17	.0008	45-3505-91	P1089-0068	PTE607	Output Plate
C18	.0047	30-4601-1	P1689-0047	PTE605	Filter
C19	.5	81-037	P185-5		Flash Filter
C20	330	62-133001001	SI330	GP2K-331	Flash Filter

\* Some models use 545 MMF in this application, Mfgs. Part # 61-0949

## CONTROLS

ITEM No.	RATING RESIST. ANCE	WATTS	REPLACEMENT DATA			INSTALLATION NOTES
			PHILCO PART No.	IRC PART No.	CENTRALAB PART No.	
R1A	4M $\Omega$	1	33-5557-10			Tone Control - Front Volume control - Rear Attach per instructions in Concentrik Dial Light dimmer control - Wire Wound
R2	2M $\Omega$	1	32-5560-1			

1 2M $\Omega$  from each end to center - open at center

# Additional parts to be used with Concentrik

## RESISTORS

ITEM No.	RATING RESISTANCE	WATTS	REPLACEMENT DATA			IDENTIFICATION CODES
			PHILCO PART No.	IRC PART No.		
R3	120 $\Omega$	1	66-120340	BTS-120		RF Amp. Cathode - See Note
R4	330 $\Omega$	1	66-133040	BTS-330		RF Amp. Cathode
R5	10K $\Omega$	1	66-100340	BTS-10K		RF Amp. Plate
R6	60K $\Omega$	1	66-360340	BTS-60K		AVC Network
R7	22K $\Omega$	1	66-322340	BTS-22K		OSC. Grid
R8	330 $\Omega$	1	66-133040	BTS-330		IF Amp. Cathode
R9	27K $\Omega$	1	66-327340	BTA-27K		Screen Dropping
R10	1M $\Omega$	1	66-510340	BTS-1M $\Omega$		AVC Network

## PARTS LIST AND DESCRIPTIONS (Continued)

## RESISTORS

ITEM No.	RATING RESISTANCE	WATTS	REPLACEMENT DATA			IDENTIFICATION CODES
			PHILCO PART No.	IRC PART No.		
R11	22K $\Omega$	1	66-322340	BTS-22K		Diode Filter
R12	100 $\Omega$	1	66-100340	BTS-100		Feedback Network
R13	50K $\Omega$	1	66-300340	BTS-50K		AF Amp. Grid
R14	220K $\Omega$	1	66-422340	BTS-220K		AF Amp. Plate
R15	100K $\Omega$	1	66-100340	BTS-100K		Phase Inv. Grid
R16	200K $\Omega$	1	66-420340	BTS-200K		Phase Inv. Cathode
R17	220K $\Omega$	1	66-422340	BTS-220K		Phase Inv. Plate
R18	470K $\Omega$	1	66-447340	BTS-470K		Output Grid
R19	470K $\Omega$	1	66-447340	BTS-470K		Output Cathode
R20	330 $\Omega$	1	66-133040	BTA-330		Feedback Network
R21	2200 $\Omega$	1	66-222340	BTS-2200		Filter
R22	1000 $\Omega$	1	66-210340	BTA-1000		Flash Suppressor
R23	100 $\Omega$	1	66-110340	BTA-1000		Flash Suppressor
R24	100 $\Omega$	1	66-110340	BTA-1000		Flash Suppressor

Note: Some models use 330 $\Omega$  resistor in this application.

## TRANSFORMER (VIBRATOR)

ITEM No.	RATING	REPLACEMENT DATA			CHICAGO PART No.
		PHILCO PART No.	STANCOR PART No.	MERIT PART No.	
T1	6.3VDC 50VCT 4.4A	SEC. 2 SEC. 3	32-6313-1	P-3068	VT-3

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING	REPLACEMENT DATA			INSTALLATION NOTES
		PHILCO PART No.	STANCOR PART No.	MERIT PART No.	
T2	3.7K $\Omega$ 3.2 $\Omega$ CT	DC RES. PRI. SEC. CT	32-8316	A-2900 ①	① Drill one new mounting hole.

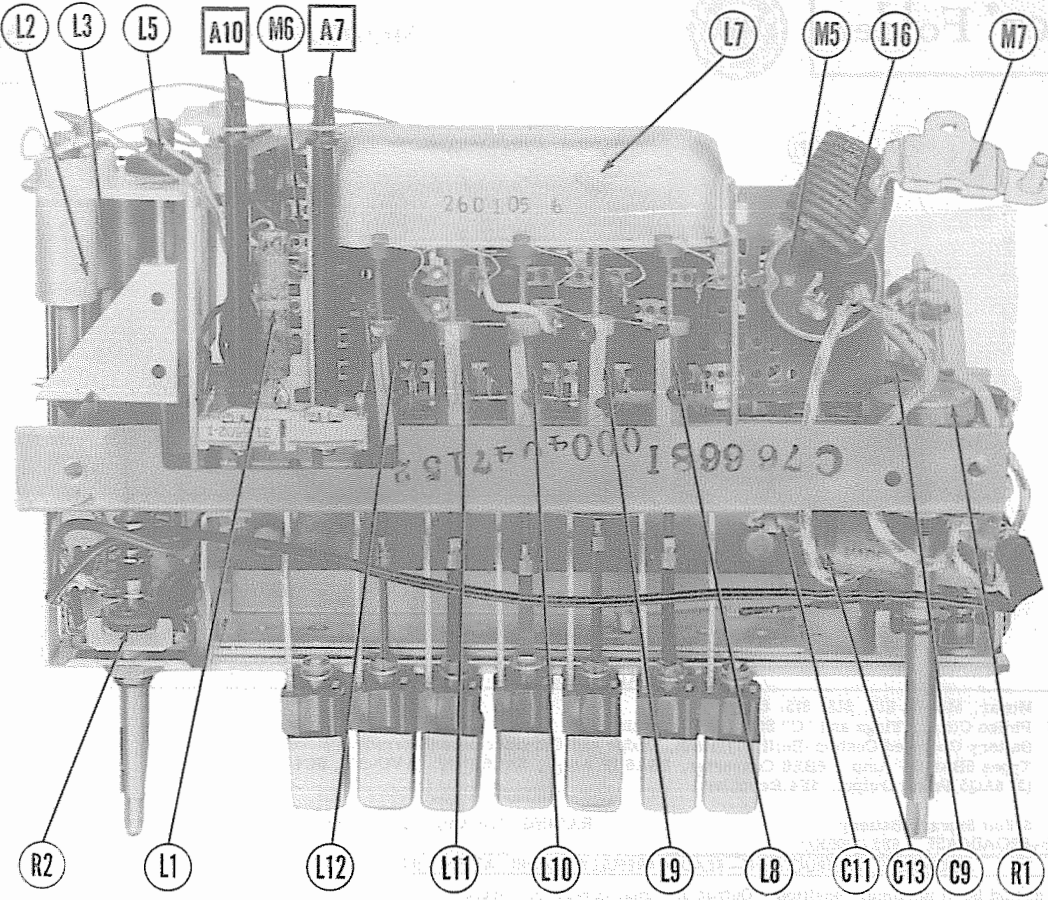
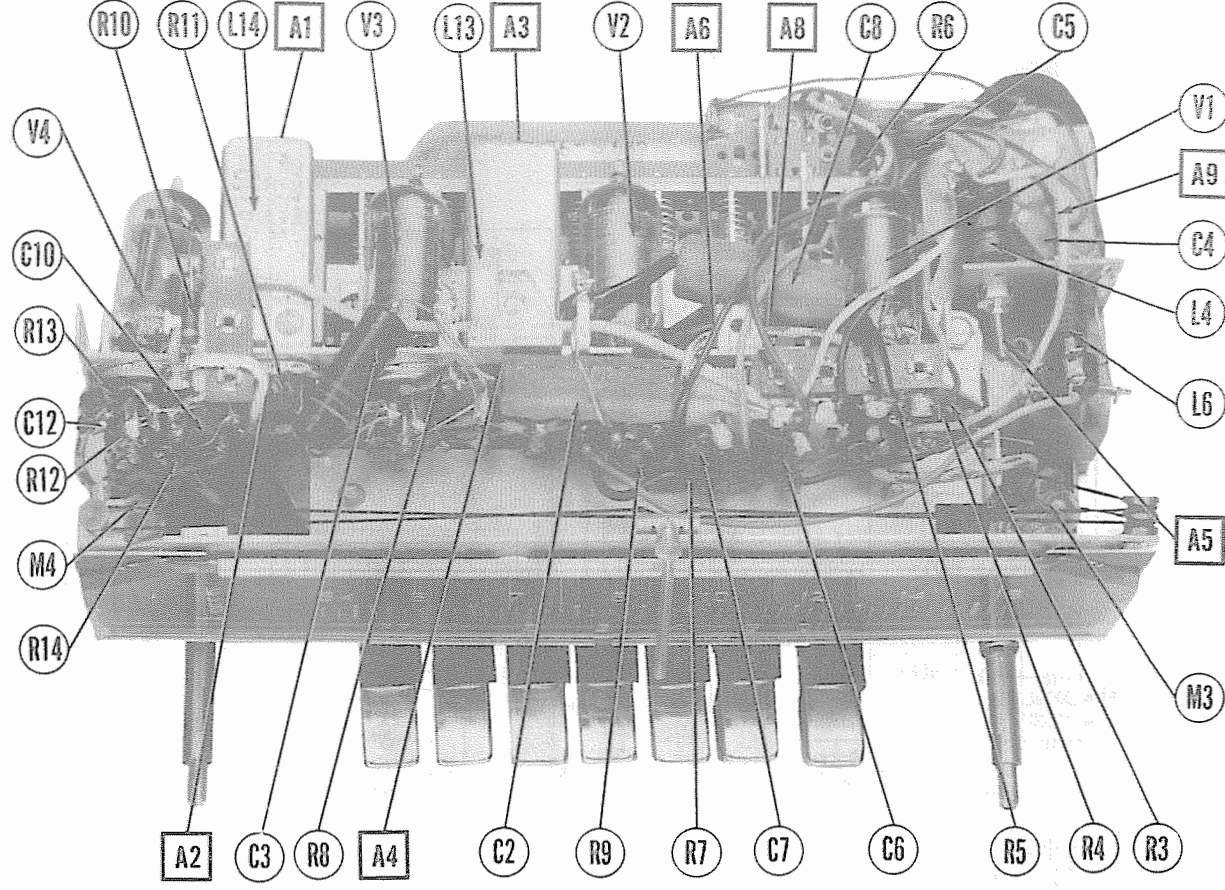
## SPEAKER

ITEM No.	RATINGS	REPLACEMENT DATA			INSTALLATION NOTES
		PHILCO PART No.	JENSEN PART No.	QUAM PART No.	
S1	FIELD PM CONE DIA. 6"X9"	V. C. IMP. 3.2 $\Omega$ V. C. DIA. 1"	ST810 Model P69-V	69A2	

## R F COILS

ITEM No.	USE	REPLACEMENT DATA			INSTALLATION NOTES
		DC RES. PRI. SEC.	PHILCO PART No.	MEISSNER PART No.	
L1	Ant. Choke	3 $\Omega$	32-4422-24		Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L2	Ant. Coil	12 $\Omega$			
L3	RF Coil	13 $\Omega$			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L4A	IF Trap Coil	32 $\Omega$			
L5	RF Coil	20 $\Omega$			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L6	OSC. Coil	32			
L7	OSC. Coil	5 $\Omega$			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L8	Ant. Choke	4.32			
L9	OSC. Coil	4.32			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L10	OSC. Coil	3.2 $\Omega$			
L11	OSC. Coil	2.32			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L12	OSC. Coil	1.32			
L13	Ant. Choke	1.32			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L14	Ant. Choke	1.32			
L15	Ant. Choke	1.32			Part of manual tuning unit. Part # 76-6634 Part of manual tuning unit. Part # 76-6634
L16	Ant. Choke	1.32			

## CHASSIS—BOTTOM VIEW



PARTS LIST AND DESCRIPTIONS (Continued)  
 RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	PHILCO PART No.	IRC PART No.	
R11	22KΩ		66-3228340	DTS-22K	Diode Filter
R12	100Ω		66-108340	DTS-180	Feedback Network
R13	15MΩ		66-6165340	DTS-15Meg	AF Amp. Grid
R14	220KΩ		66-4228340	DTS-220K	AF Amp. Plate
R15	15MΩ		66-6165340	DTS-15Meg	Phase Inv. Grid
R16	220KΩ		66-4228340	DTS-220K	Phase Inv. Cathode
R17	220KΩ		66-4228340	DTS-220K	Phase Inv. Plate
R18	470KΩ		66-4476340	DTS-470K	Output Grid
R19	470KΩ		66-4476340	DTS-470K	Output Cathode
R20	330Ω		66-1334340	DTA-330	Feedback Network
R21	2200Ω		66-2228340	DTS-2200	Filter
R23	100Ω		66-2104340	DTA-1000	Hash Suppressor
R24	100Ω		66-108340	DTS-180	Hash Suppressor

Note Some models use 330Ω resistor in this application.

TRANSFORMER (VIBRATOR)

ITEM No.	RATING			REPLACEMENT DATA		
	PHIL	SEC. 1	SEC. 2	PHILCO PART No.	STANCOR PART No.	CHICAGO PART No.
T1	6.3VDC	920VCT		32-4313-1	P-3068	VT-4
	④ 4.4A	.077ADC				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING			REPLACEMENT DATA			INSTALLATION NOTES
	IMPEDANCE	DC RES.		PHILCO PART No.	STANCOR PART No.	CHICAGO PART No.	
T2	3.7KΩ	3.2Ω	405Ω	32-4316	A-2900 ①		① Drill one new mounting hole.
	CT		CT				

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	FIELD	V. C. IMP.	PHILCO PART No.	JENSEN PART No.	
SP1	PM	3.2Ω		ST810	
SP2	CONE DIA. 6"X9"	V. C. DIA. 1"	36-1631	Model P49-V	69A2

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PHILCO PART No.	SEC.	PHILCO PART No.	MEISSNER PART No.	
L1	Ant. Choke	32		32-4422-24		Part of manual tuning unit. Part # 76-6634
L2	Ant. Coil	13Ω				Part of manual tuning unit. Part # 76-6634
L3	RF Coil	13Ω				
L4A	IF Trap Coil	20Ω		32-4510		
L4B	RF Coil	20Ω				
L5	Osc. Coil	32				
L6	Osc. Coil Shunt	5Ω		32-4110-5		Part of manual tuning unit. Part # 76-6634
L7	Ant. Colls			76-4602-1		Tapped @ .752
L8	Osc. Coil	4.3Ω		32-4179-5		Includes Pushbutton # 2
L9	Osc. Coil	4.9Ω		32-4179-6		Pushbutton # 3
L10	Osc. Coil	3.2Ω		32-4179-7		Pushbutton # 4
L11	Osc. Coil	2.5Ω		32-4179-8		Pushbutton # 5
L12	Osc. Coil	1.5Ω		32-4179-9		Pushbutton # 6
L13	Int. IF	16Ω		32-4160A		
L14	2nd. IF	13Ω		32-4240-A		
L15	Filament Choke	.5Ω		32-4170-2		
L16	Hash Choke	0Ω		32-1644		

PARTS LIST AND DESCRIPTIONS (Continued)  
 VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQ.	REPLACEMENT DATA		INSTALLATION NOTES
				PHILCO PART No.	CORNELL-DUBILLET PART No.	
M1	INT	6.3	115%	83-0025	5326	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			REMARKS
			PHILCO PART No.	LITTELFUSE PART No.		
M2	SFE	14A	45-2559	41-3910-7	307014	155014A

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	REPLACEMENT DATA		NOTES
				BEAD COLOR	PHILCO PART No.	
M3	Bayonet	6-8	.250	Blue	34-2064	Type #44
M4	Bayonet	6-8	.350	Blue	34-2064	Type #44

MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
M5	Switch	67-0046-1	"Off" Switch
M6	Switch	42-1056	Pushbutton

CHASSIS—BOTTOM VIEW

