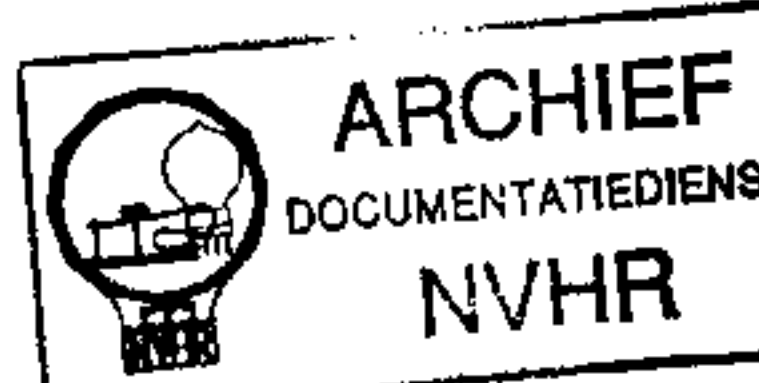




with CIRCUITRACE*
TRADE MARK

Met dank aan Jef Bos

Ned. Ver. v. Historie



MODEL 6X39A-2

TRADE NAME	Motorola Models 6X39A (Ch. HS-630), 6X39A-1 (Ch. HS-683), 6X39A-2 (Ch. HS-684)		
MANUFACTURER	Motorola Inc., 4545 W. Augusta Blvd., Chicago 51, Illinois		
TYPE SET	Battery Operated 2 Band Portable AM Transistorized Receiver		
POWER SUPPLY	6 Volts DC	RATING	9MA @ 6 Volts DC (No Signal, Min. Volume)
TUNING RANGE - BROADCAST	535 - 1620KC		18MA @ 6 Volts DC (Signal, Normal Volume)
BEACON	200 - 420KC		

MOTOROLA MODELS 6X39A, -1 ,
-2 (Ch. HS-630, HS-683, HS-684)

DISASSEMBLY

1. Remove volume control knobs.
2. Remove screw from center of tuning knob. Remove knob.
3. Remove screw located under tuning knob.
4. Open rear cover. Turn handle to right angle of printed board.
5. Hold handle near one mounting end and pull out from cabinet side to clear round part of mounting and bushing. Lift this side of handle and chassis clear of cabinet.
6. Repeat step 5 for other end of cabinet.
7. To remove printed board from speaker mounting plate:
 - a. Unsolder wire from tuning gang to printed board.
 - b. Remove speaker, earphone jack, antenna and battery leads from printed board.
 - c. Unsolder 3 chassis mounting support lugs.

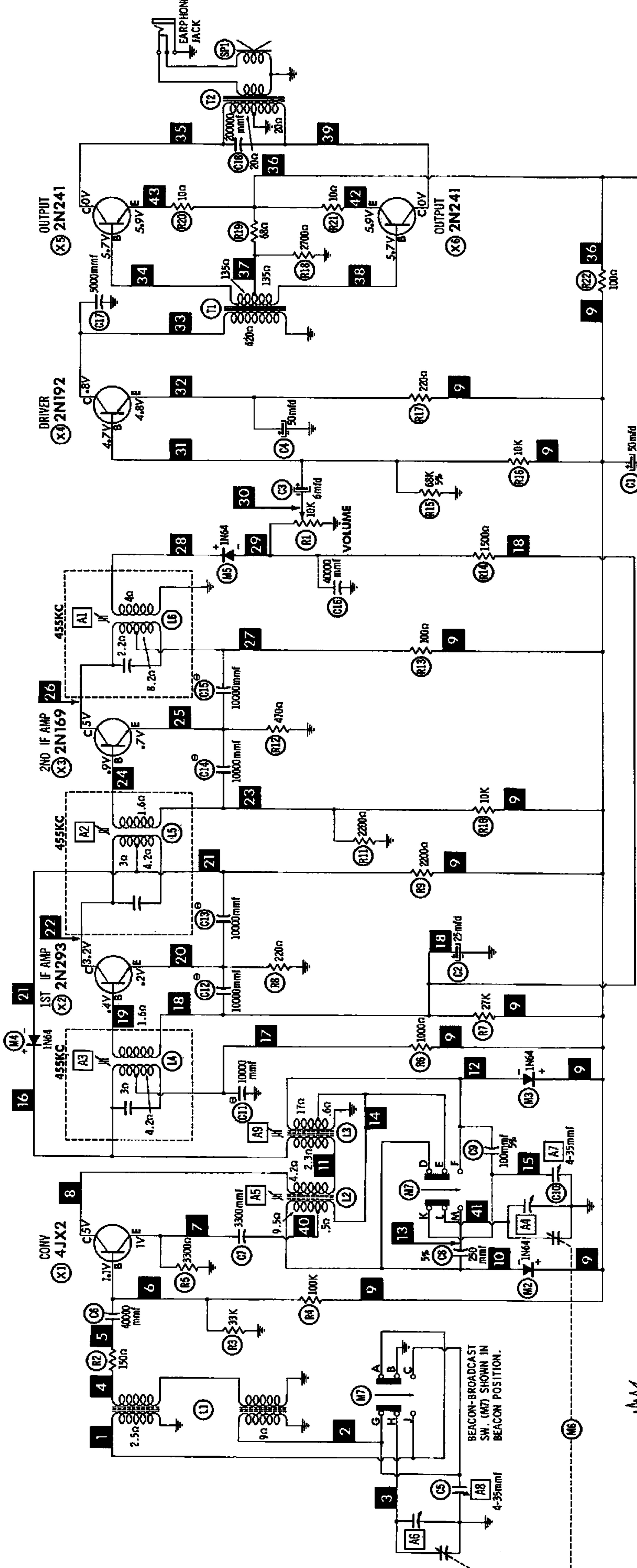
HANDLE (LOOP) REPLACEMENT

1. Perform the 7 steps above.
2. Unsolder antenna leads from printed board.
3. Turn handle to right angle of printed board.
4. Slide handle out of clips.

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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 H855

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. © 1958 Howard W. Sams & Co., Inc., Indianapolis 5, Indiana. Printed in U.S. of America



SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

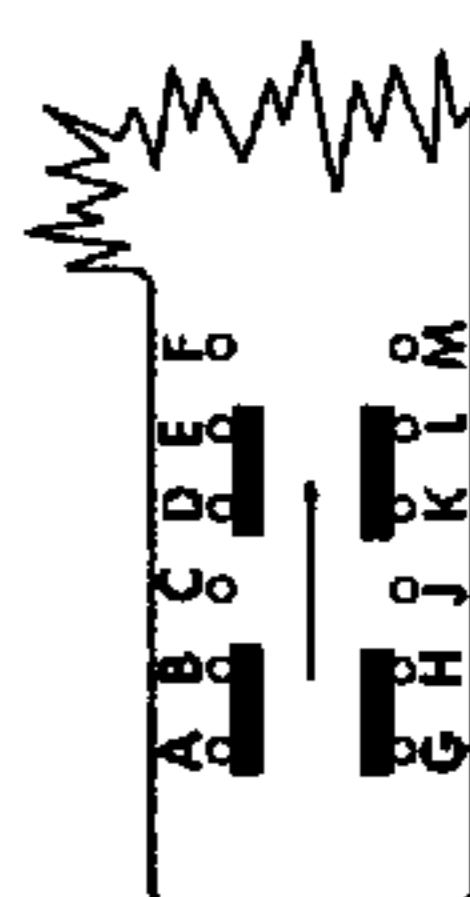
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

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

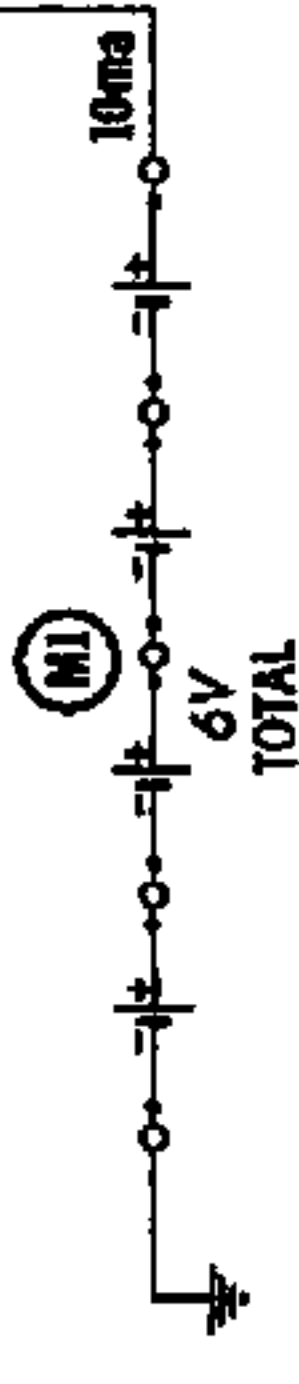
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
5. Volume control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

A PHOTOFACIT STANDARD NOTATION SCHEMATIC with CIRCUITRACE[®]

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SW (M7) BOTTOM VIEW



TOTAL

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			CBS PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	
X1	4JX2	Converter	2N439				NPN
X2	2N293	1st IF Amplifier	2N439			2N410	NPN
X3	2N169	2nd IF Amplifier	2N439			2N169	NPN
X4	2N192	Driver		2N408	2N362	2N109	PNP
X5	2N241	Output	2N180	2N408	2N632	2N241A	PNP
X6	2N241	Output	2N180	2N408	2N632	2N241A	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	
C1	50	10	23B637402	XPP-10050	NL50-10	TT10X50	ML50-10		TE-1180
C2	25	3	23K637758	XPP-3025	NL25-3	TT3X25	ML25-3		TE-1055
C3	8	10	23K636769	XPP-10008	NL8-25	TT12X5	ML8-15		TE-1153
C4	50	10	23B637402	XPP-10050	NL50-10	TT10X50	ML50-10		TE-1180

FIXED CAPACITORS

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

ITEM No.	RATING		REPLACEMENT DATA					NOTES	
	CAP.	VOLT	MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.		SPRAGUE PART No.
C5	4-35		20A639736						
C6	40000		21B635399						
C7	3300		21R120422	BPD-0033	DD-332	BYA10D33	UC-5233	5HK-D33	5%
C8	250		21K639841	1469-00025		22R5T25		MS-325	5%
C9	100		21K639842	1469-0001		22R5T1		MS-31	5%
C10	4-35		20A639736						
C11	10000		21R128284	BPD-01	DD-103	BYA6S1	DC511	TG-S10	⓪
C12	10000		21R128284	BPD-01	DD-103	BYA6S1	DC511	TG-S10	⓪
C13	10000		21R128284	BPD-01	DD-103	BYA6S1	DC511	TG-S10	⓪
C14	10000		21R128284	BPD-01	DD-103	BYA6S1	DC511	TG-S10	⓪
C15	10000		21R128284	BPD-01	DD-103	BYA6S1	DC511	TG-S10	⓪
C16	40000		21B635399						
C17	5000		21R115312	BPD-005	DD-502	BYA10D5	DC525	5HK-D5	
C18	200000		21B637403						

⓪ Model 6X39A uses Part #21K635404 in this application.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES	
	RESISTANCE	WATTS	MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.		MALLORY PART No.
RIA B	10K Switch	1/4	18B637419		44S-10K-W			Volume

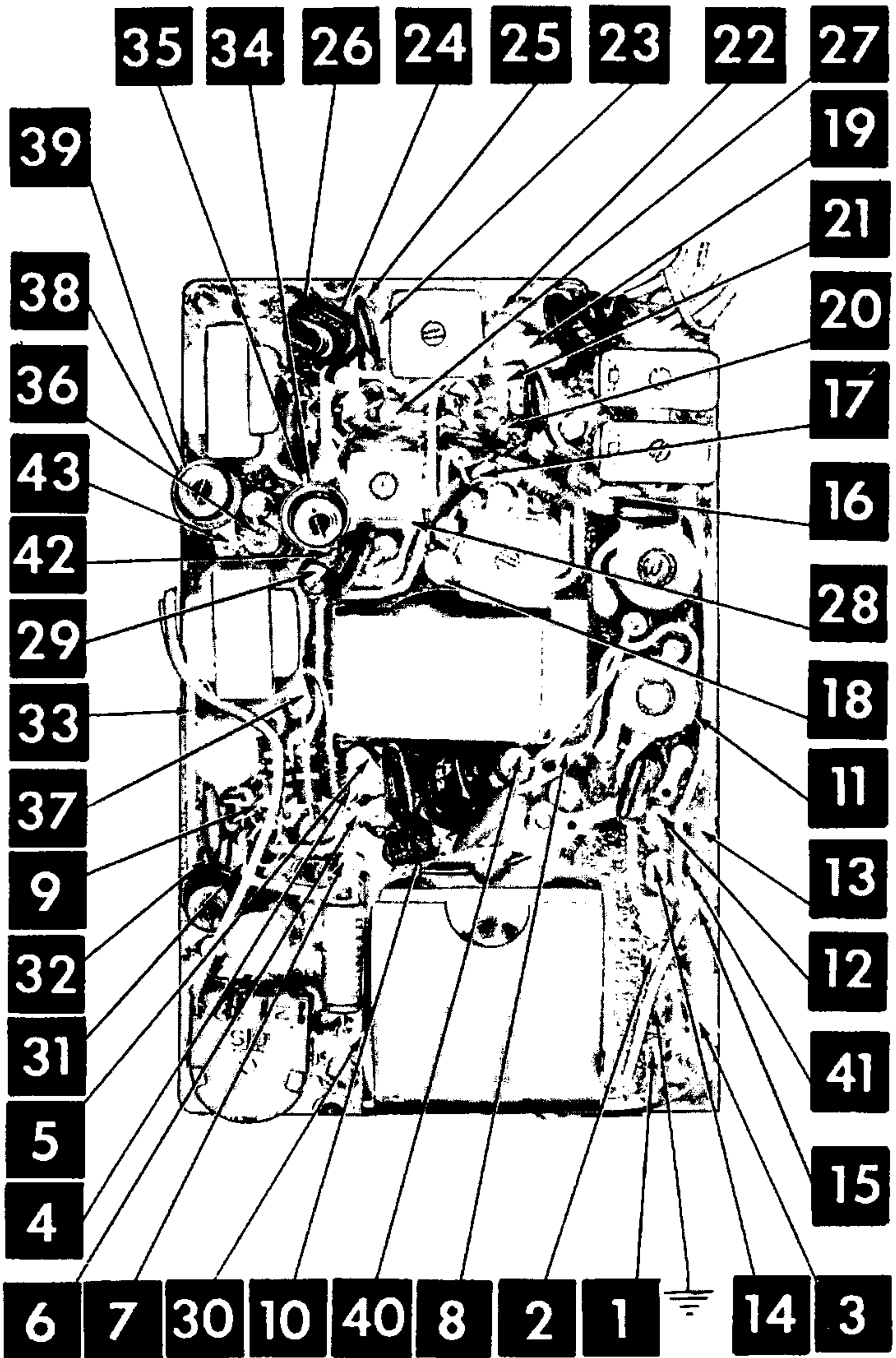
RESISTORS

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

ITEM No.	RATING		MOTOROLA PART No.	NOTES	ITEM No.	RATING		MOTOROLA PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R2	150Ω		6K124797		R13	100Ω		6R6326	
R3	33K				R14	1500Ω		6R6038	
R4	100K		6K125534		R15	68K	5%	6R6074	
R5	3300Ω		6K121725		R16	10K		6K119932	
R6	1000Ω		6K121301		R17	220Ω		6R6270	
R7	27K		6K121300		R18	2700Ω		6K119926	
R8	220Ω		6R6270		R19	68Ω		6R2039	
R9	2200Ω		6R6069		R20	10Ω		6K124668	
R10	10K		6K119932		R21	10Ω		6K124668	
R11	2200Ω		6R6069		R22	100Ω		6R6326	
R12	470Ω		6K127633						

PRINTED BOARD

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*TRADE MARK



PARTS LIST AND DES

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1A	Loop Stick	1V640778					Includes handle assembly; Model 6X39A-2
B	Loop Stick						
	Loop Stick	1V639844					Includes handle assembly; Models 6X39A & 6X39A-1
	Loop Stick						
L2	BC Osc. Coil	24K639888					
L3	Beacon Osc. Coil	24K639889					
L4	1st IF	24K640526					Models 6X39A-1, -2
	1st IF	24C637482					Model 6X39A
L5	2nd IF	24K640527					Models 6X39A-1, -2
	2nd IF	24K637709					Model 6X39A
L6	3rd IF	24K637483					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES	
	PRI.	SEC.	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.		Triad PART No.
T1	1.5	: 1	25B636770	GH113 ①			TR-3 ①		① Use original channel frame.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES	
	PRI.	SEC.	MOTOROLA PART No.	Halldorson PART No.	Merit PART No.	Ram PART No.	Stancor PART No.	Thordarson PART No.		Triad PART No.
T2	325Ω CT	13Ω	25K637642	GH119 ①			TA-20	TR-16 ①		① Use original channel frame.

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	MOTOROLA PART No.	QUAM PART No.	
SP1	2 3/4"	PM	13Ω	50B637439		

DESCRIPTIONS (Continued)

BATTERIES

ITEM No.	VOLTAGE	MOTOROLA PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	6V			Z ①		1015 ①		M-15R ① ZM-9 ①②	① Four used. ② Mercury

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		MOTOROLA PART No.	CBS PART No.	SYLVANIA PART No.	
M2	742	48K636691	1N64	1N295	Limiter (Pigtail)
M3	742	48K636691	1N64	1N295	Limiter (Pigtail)
M4	742	48K636691	1N64	1N295	Limiter (Pigtail)
M5	1N295	48K636778	1N64	1N295	Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M6	Tuning Cap. Printed Board Printed Board	10B639741 84B639716 84K640650	2 Gang (Ant. 10-212mmf, Osc. 22-200mmf) Model 6X39A, Less all components Models 6X39A-1, -2, Less all components

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	36C639907	Tuning
Knob	36K639905	Volume
Cabinet	1V640751	Models 6X39A, 6X39A-1
Cabinet	1V640898	Model 6X39A-2
Cabinet Front	1V640748	Models 6X39A, 6X39A-1
Cabinet Front	1V640317	Model 6X39A-2
Cabinet Back	1V640749	Models 6X39A, 6X39A-1, 6X39A-2
Grille	13B639644	Grille

WIRING DATA

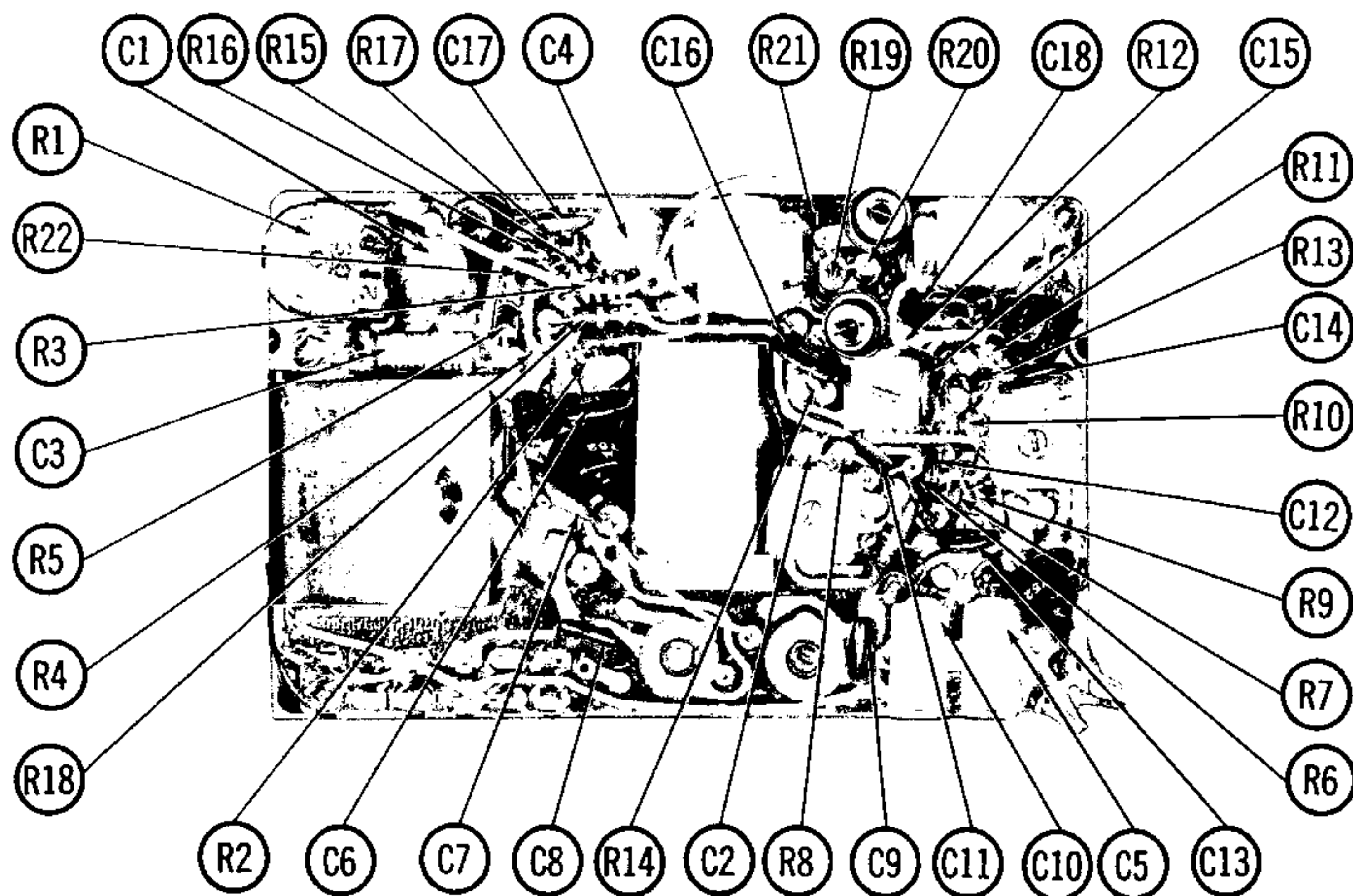
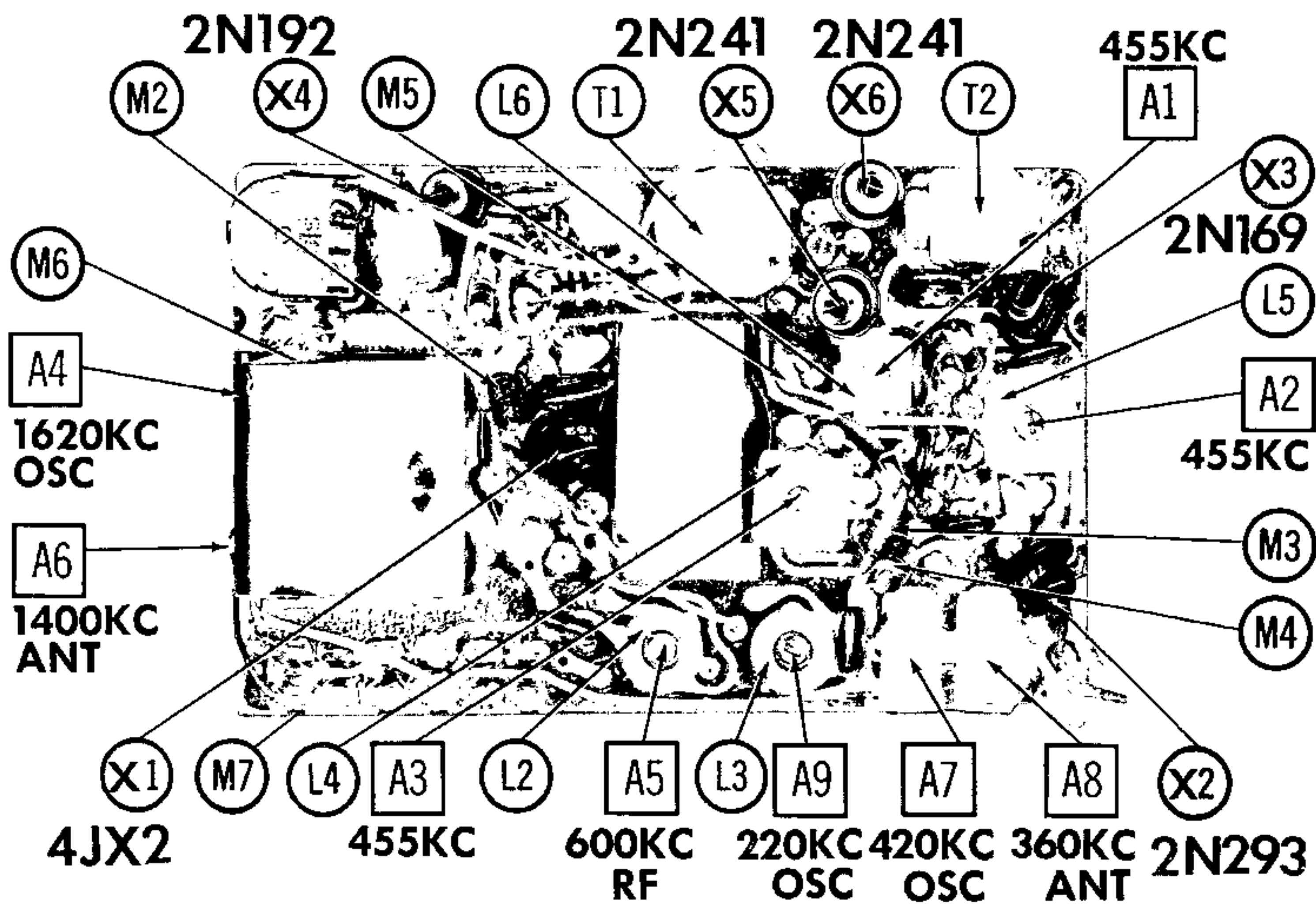
General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

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. Use an insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. .1mfd	High side to antenna stator lug of tuning gang. Low side to B-.	455KC (400% Mod)	BC	Tuning gang fully open	Across voice coil	A1, A2, A3	Adjust for maximum output.
2.	Loop	1620KC	"	1620KC	"	A4	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3.	"	600KC	"	600KC	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output while rocking tuning gang. Repeat steps 2 & 3.
4.	"	1400KC	"	Tune to 1400KC signal	"	A6	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
5.	"	420KC	Beacon	Tuning gang fully open	"	A7	Screw in A8. Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
6.	"	360KC	"	Tune to 360KC	"	A8	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
7.	"	220KC	"	Tune to 220KC	"	A9	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output while rocking tuning gang. Repeat steps 5 & 6.



CHASSIS TOP VIEW