

# SAMS PHOTOFACT®



## AUTO RADIO SERIES

AR-30  
**30**  
APRIL 1965



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



# SAMS PHOTOFACT<sup>®</sup> AUTO RADIO SERIES



VOLUME

**30**



by the *Howard W. Sams* ENGINEERING STAFF



**HOWARD W. SAMS & CO., INC.**  
INDIANAPOLIS 6, INDIANA

**FIRST EDITION**  
**FIRST PRINTING—APRIL, 1965**

**PHOTOFACT®**  
**AUTO RADIO SERIES**  
**VOLUME 30**

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# REMOVAL INSTRUCTIONS

## GENERAL REMOVAL INFORMATION

Most radios and speakers can be removed for service by following the steps shown in this block of information. Check the Make, Model and Year of car listed below. If more specific instructions are required, they are shown.

- Step 1 Disconnect power, speaker and antenna leads.
- Step 2 Remove knobs.
- Step 3 Remove nuts from control bushings and cabinet braces.

- Step 4 Remove radio from under dash.
- Step 5 Remove nuts holding speaker and remove speaker from under dash.

### AUSTIN HEALY - 1964

See General Removal Information.

### IMPERIAL-1965

See General Removal Information.

### BUICK - 1965

- Step 1 Remove screws from underside lip of dash. Lift top of dash and disconnect speaker and antenna leads.
- Step 2 Remove speaker.
- Step 3 Remove nuts from rear of trim plate. Remove knobs and nuts from control bushing, and remove trim plate.
- Step 4 Remove radio from top of dash.

### MERCURY - 1961 thru 1964

See General Removal Information.

### MG - 1964

See General Removal Information.

### BUICK RIVIERA-SPECIAL-1965

See General Removal Information.

### OLDSMOBILE - 1965

See General Removal Information.

### CHEVROLET - 1965

See General Removal Information.

### OLDSMOBILE F-85 - 1965

See General Removal Information.

### CHRYSLER - 1965

See General Removal Information.

### PLYMOUTH - 1965

See General Removal Information.

### COMET - 1964/65

- Step 1 Follow steps 1 thru 4 of General Removal Instructions.
- Step 2 Use phillips screw driver and remove speaker grille.
- Step 3 Remove speaker out top of dash.

### SAAB - 1964

See General Removal Information.

### SPRITE - 1964

See General Removal Information.

### CORONET - 1965

See General Removal Information.

### TEMPEST - 1965

See General Removal Information.

### DART - 1965

See General Removal Information.

### VOLKSWAGEN SEDAN

#### KARMANN GHIA - 1963 thru 1965

- Step 1 Disconnect power, speaker and antenna leads.
- Step 2 Remove knobs.
- Step 3 Remove nuts from control bushings. From inside of luggage compartment, remove nut from rear brace.
- Step 4 Remove radio thru luggage compartment opening.
- Step 5 Remove nuts holding speaker and remove speaker thru luggage compartment opening.

### DODGE - 1965

See General Removal Information.

### FALCON - 1964

See General Removal Information.

### VOLKSWAGEN TRANSPORTER - 1963 thru 1965

See General Removal Information.

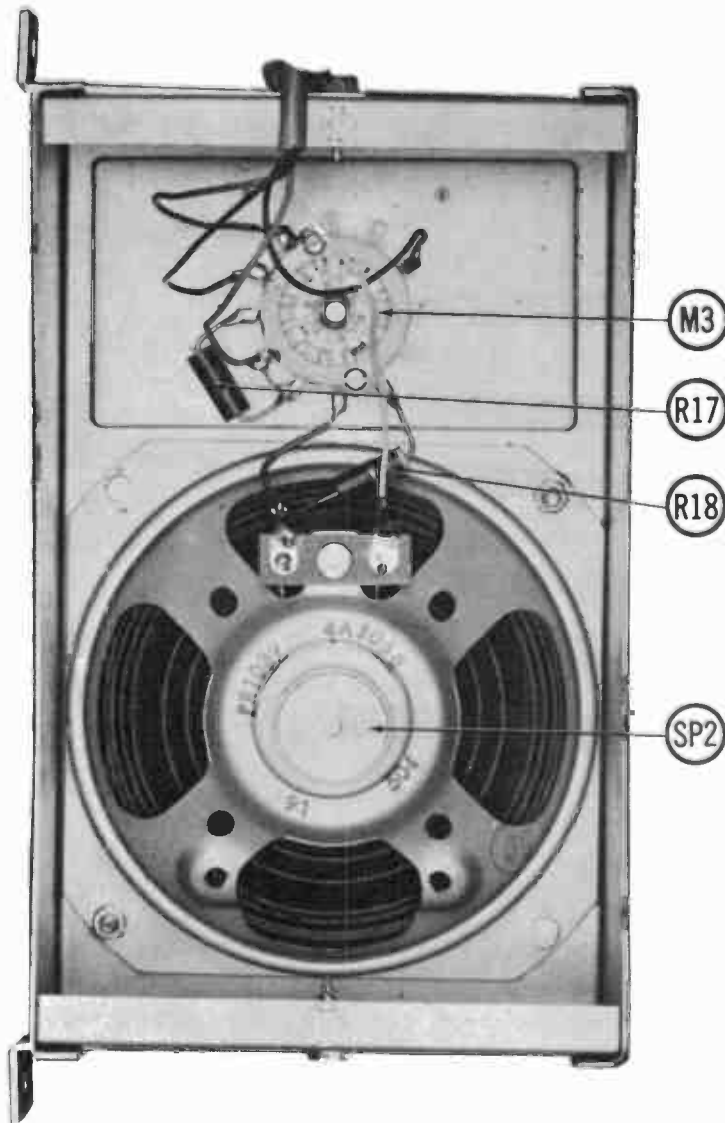
### FORD - 1960 thru 1964

See General Removal Information.



# PHOTOFACT<sup>®</sup>

TRADE NAME : Allstate Model 5050  
SUPPLIER : For Current Address, See Master Index.  
TYPE SET : 2 Transistor Intercom (Camper)  
POWER SUPPLY : 12 Volt Storage Battery  
RATING : .220 Amp. @12.6 Volts DC

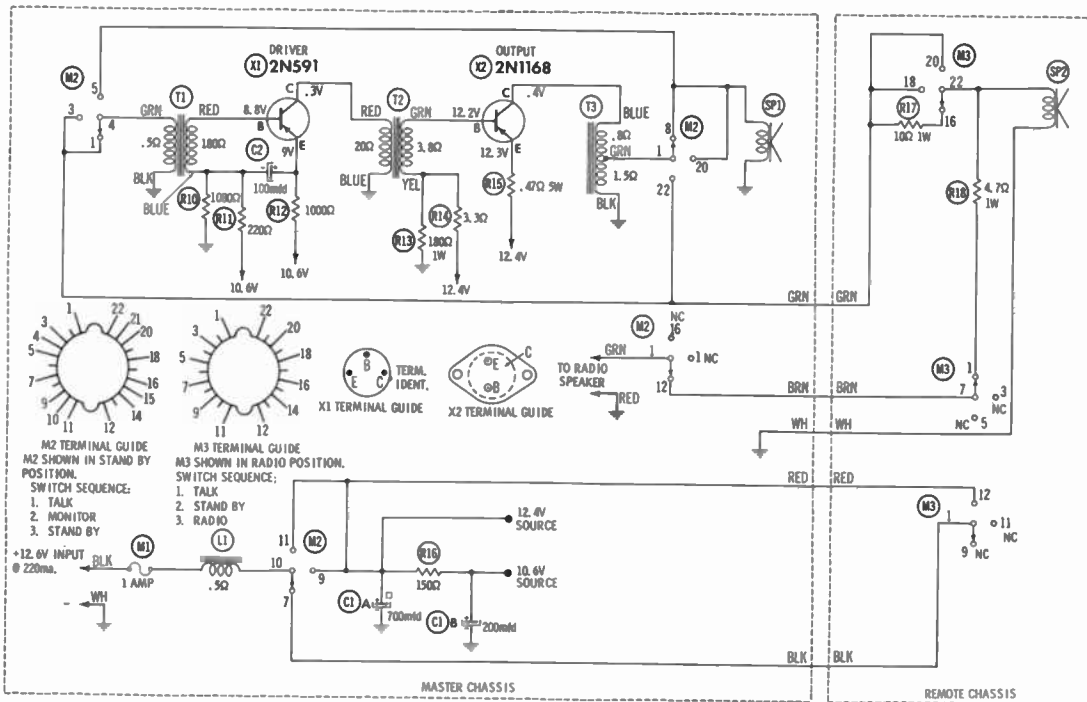


ALLSTATE MODEL 5050

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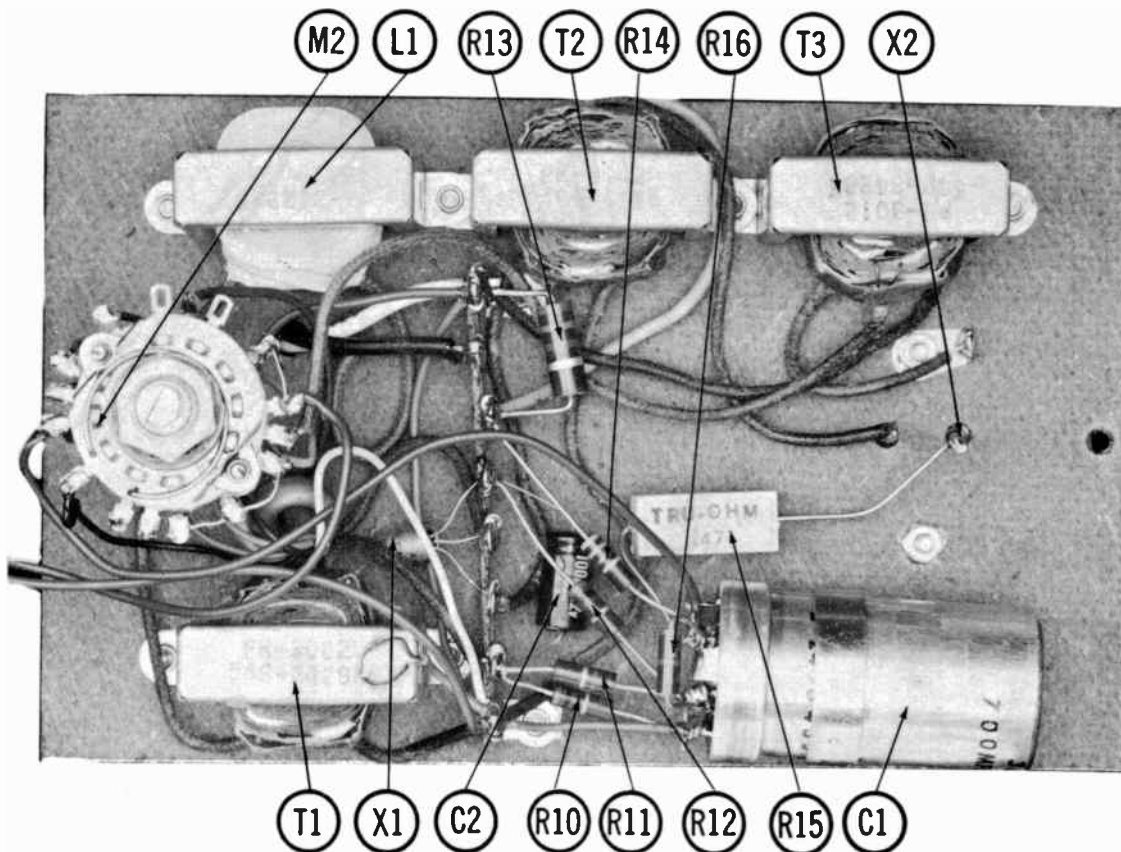
World Radio History



- ⊙ 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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ALLSTATE MODEL 5050



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N591	Driver Output	DS-28	GE-2		PNP PNP+
X2	2N1168		DS-520	GE-3		

♦ When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ALLSTATE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	700	18		AFH2-02-51	BPC020	KC2-43.1	TMT3002.10	PPF200.45	TVL-2179.5
B	200	18							
C2	100	12		CRE423A	NLW100-12	MT1-19	BL1940	TT12X100	TE-1135

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R15	.47Ω 5W		WT47						

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L1	220ma		10mh		C-4095	TC-2	TR-152	TY17XT	

## TRANSFORMER (INPUT)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	IMPEDANCE			A-3028	A-3328	24848	8-8X	
T1	1	35						
	4Ω	4800Ω						

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	6	1						

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	14Ω Tap	@ 40				TR-184		

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ALLSTATE PART No.	QUAM PART No.	
SP1	4" PM	4Ω	4A05	
SP2	4" PM	4Ω	4A05	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ALLSTATE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SAG	1 Amp			312001	155020	AGC1	HDJ

## MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Master Switch		
M3	Remote Switch		

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

ALLSTATE MODEL 5050





# PHOTOFACT®



**TRADE NAME :** Allstate Models 833. 5049  
**SUPPLIER :** 833. 50490  
 For Current Address, See Master Index.  
**TYPE SET :** 2 Tube, 2 Transistor AM Receiver.  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** 1 Amp. @12. 6 Volts DC  
**TUNING RANGE :** BROADCAST 540-2850KC

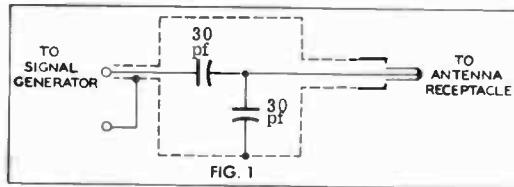
ALLSTATE MODELS 833.5049, 833.50490

## ALIGNMENT INSTRUCTIONS

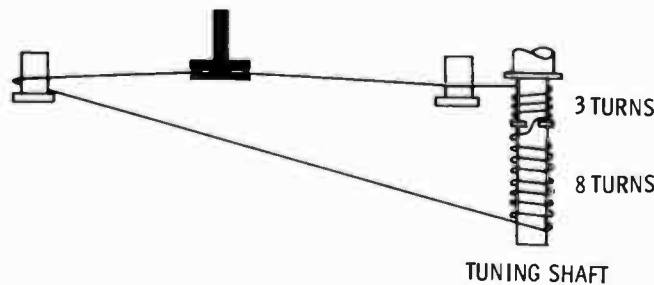
Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools: A1 thru A4      GENERAL CEMENT: 8806, 8806L, 8869      WALSCO: 2543, 2544, 2588

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	2.8MC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 2.4MC and adjust A7 for maximum output.



## DIAL CORD STRINGING



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

# PARTS LIST AND DESCRIPTION

## WIRING DATA

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## RESISTORS (Power and Special)

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8681 (3/8 In.) or 8670 (3/4 In.)

## TUBES

AMPEREX		GENERAL ELECTRIC		RCA		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE	
V1	RF Amp.-Conv.	12FX8		V2	IF Amp.-Det.-AVC-AF Amp.	12FR8	

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-53 (2N591)	Driver	D8-26	GE-2		PNP
X2	8P404T (2N176)	Output	D8-520	GE-3		PNP *

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ALLSTATE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	600	15	20-327	AFH3-00-95.4	CC0008	XCS-48	TMT3002.10	WP300.87	PCLB-3026.10
C1B	300	15							
C1C	100	15							

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#28-800-2L							
C11	40			TCN-39	C10Q39U	CCTN-390	CN7439	10TCU-Q39	
C12	.047	100V	DBE2847		WMP2847	IDP-2-473	PVC1147	2PB-847	
C13	12	NPO		TCZ-12		CCTO-120	CN0412	10TCC-Q12	
C14									
C15	.01		#28-281						
C16	51		(40pf) ↑	BPD-01	DD-103	BYA1081	CCD-103	5HK-S10	
C17	.01		#28-281	DI-50	DD-500	LA10Q5-S3	CCD-500	5GA-Q50	
C18	.01			BPD-01	DD-103	BYA1081	CCD-103	5HK-S10	
C19	100	N750		N750-DI100	DTN-100	C10T1U	CCTN-101	10TCU-T10	
C20	.01			BPD-01	DD-103	BYA1081	CCD-103	5HK-S10	
C21	.01			BPD-01	DD-103	BYA1081	CCD-103	5HK-S10	
C22	.5	200V		BE2P5		DPM82P5	IDP-4-504	2PB-P50	
C23			#48-215						

# Allstate Part Number.

↑ Alternate Value.

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

## CONTROLS

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume, Switch	1meg	80A1240	F2-1meg, SF8212, AK31 ⊕, KR4 or (AB-70, AK33, AK31 ⊕, KR-4)			QCB4, B13-137, TM8, 76-1 or (BU14 ⊕, CF26, 884, GC) *	

⊕ Alter bushing to meet requirements.

\* "SNAPTROL"

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.			IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.
R24	1.8Ω 1W	BWH1.8	WB1.8	60-1.8-1S	R25	.5Ω 1W	BW.51	WT51	60-.5-1S

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA						
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2		19-1004	BC-565	4610	RTC-8520	T859
L2	Antenna							
L3	RF Osc.							
L4	RF Osc.							
L5	Input IF	14-272		16-6752	BC-350	6584	RTC-8638	TF605
L6	Output IF	14-273		16-6703	BC-424			

⊕ Part of M2.

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	1Amp.	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	75A1859			TR-184		

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	16Ω	4Ω	75A1272			TR-161		

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ALLSTATE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7 1/2			30707.5	155009	SFE 7 1/2	HDH

## MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.
M2	Tuner	78A2448

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		ALLSTATE PART No.	QUAM PART No.
SP1	5" PM 4Ω	73A1275	5A05

## COMPONENT COMBINATIONS

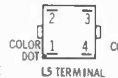
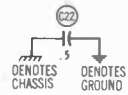
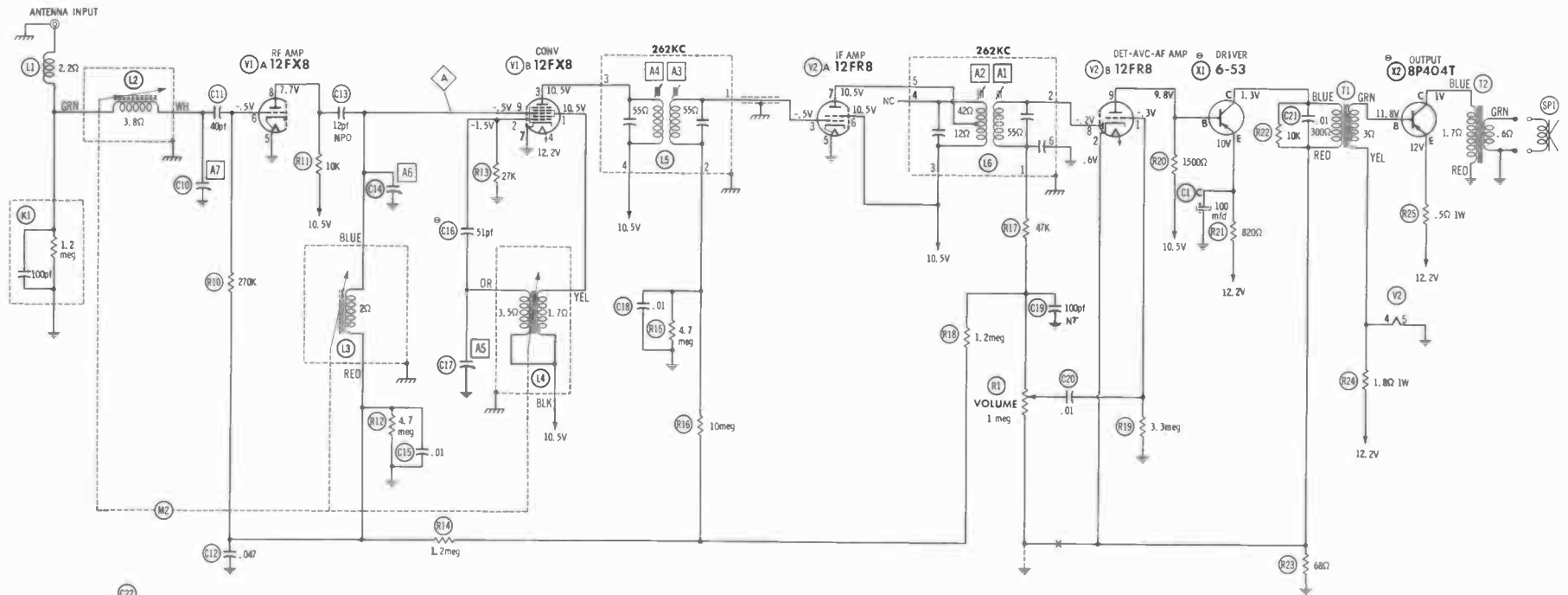
ITEM No.	USE	DESCRIPTION	ALLSTATE PART No.	REPLACEMENT DATA
K1	Antenna Isolation	1.2meg, 100pf	89-4204	Sprague-PRC-9

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Tuning, Volume Knob, Spacer	47A1235 47A1249	Dial Pointer	84A1211

ALTLATE MODELS 833.5049, 833.50490



**RESISTANCE MEASUREMENTS**

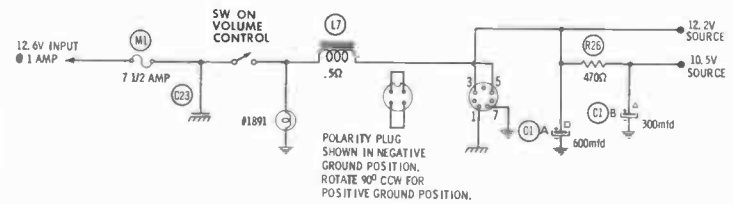
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12FX8	470Ω ▲	27K	525Ω ▲	FIL	FIL	2meg	0Ω	10K ▲	2meg
V2	12FR8	3.3meg	68Ω	4meg	FIL	FIL	470Ω ▲	485Ω ▲	1meg	1500Ω ▲

▲ MEASURED FROM CIA.  
RESISTANCE MEASUREMENTS NOT GIVEN FOR X1 & X2 BECAUSE OF THE WIDE VARIATION OF INTERNAL RESISTANCE OF THE TRANSISTOR.

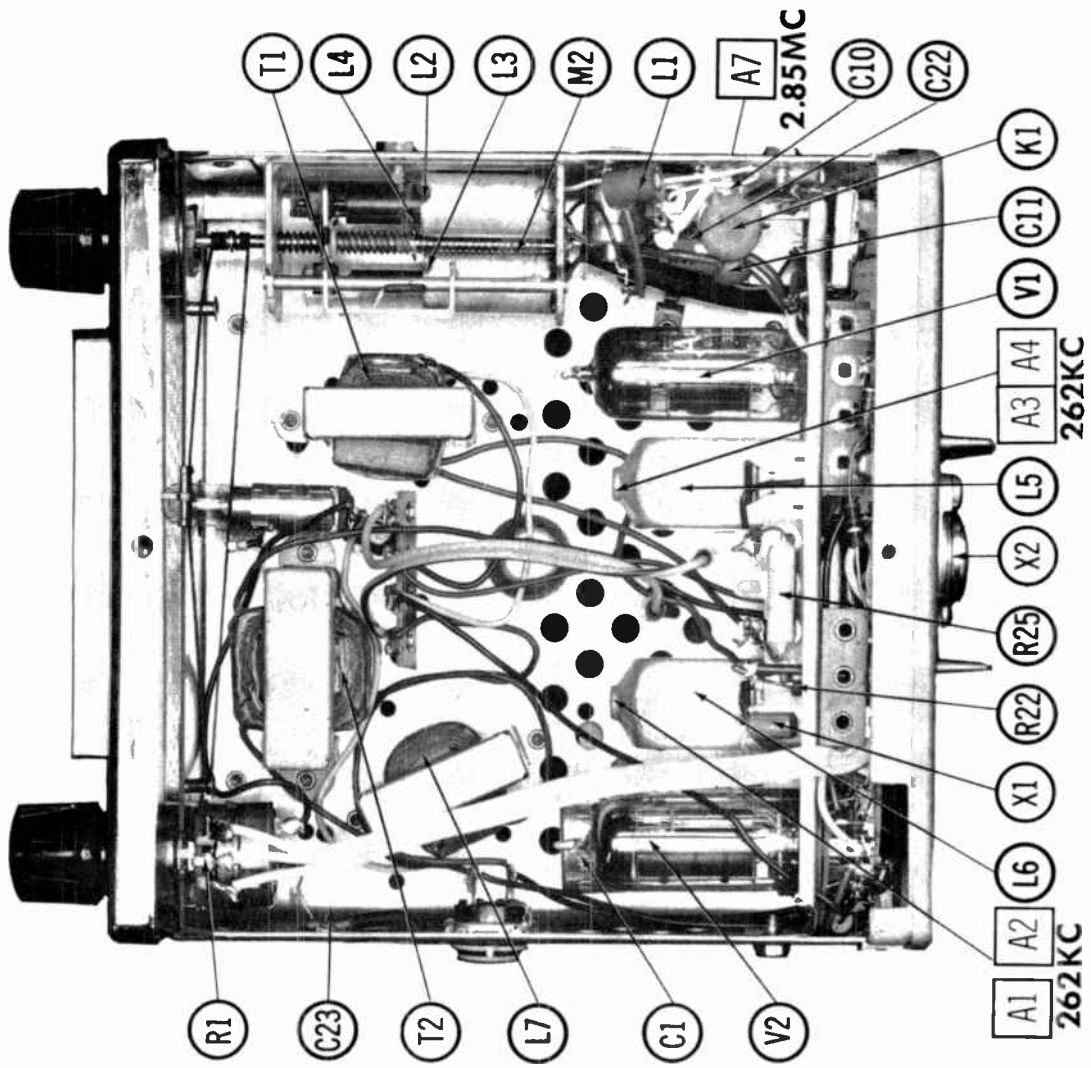
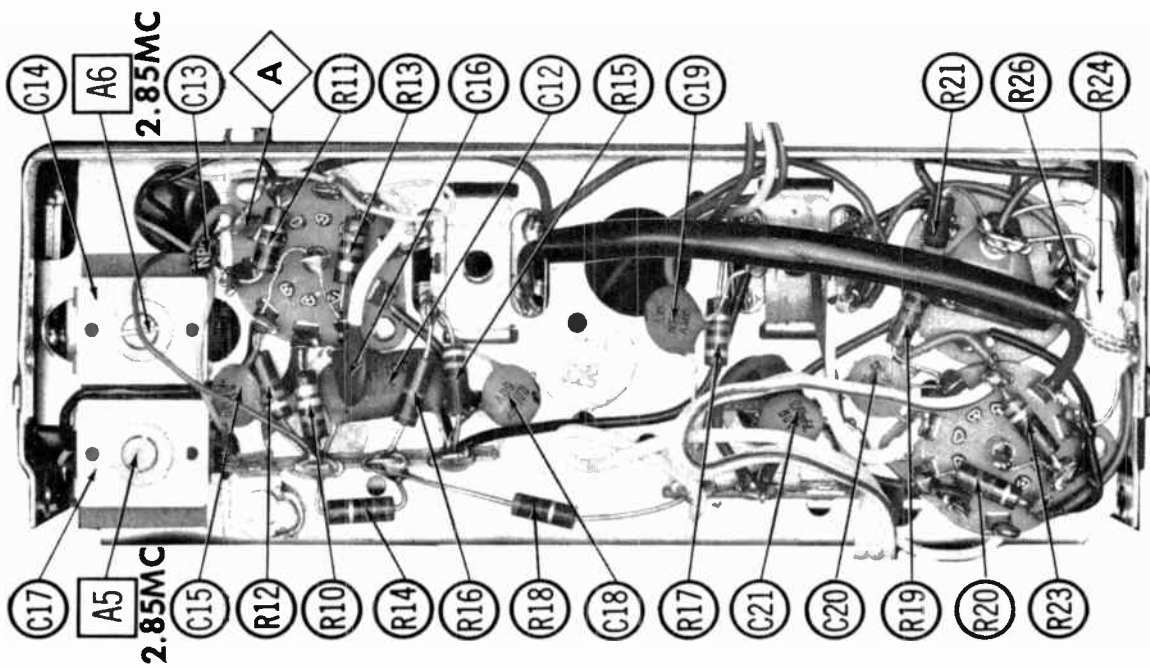
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ① 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.

▲ PHOTOFAC STANDARD NOTATION SCHEMATIC  
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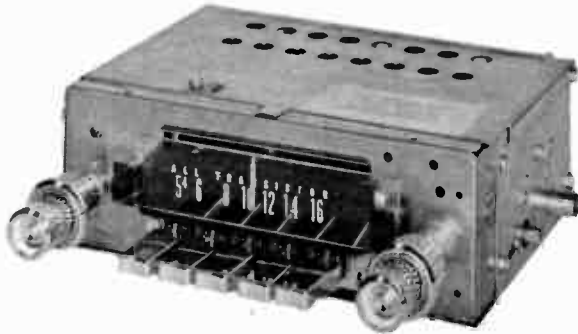


**ALLSTATE MODELS 833.5049, 833.50490**





# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Allstate Model 833.501220  
**SUPPLIER :** For Current Address, see Master Index  
**TYPE SET :** 5 Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** .44 Amp. @ 12. 6Volts DC  
**TUNING RANGE :** BROADCAST: 540-1615KC

ALLSTATE MODEL 833.501220

## ALIGNMENT INSTRUCTIONS

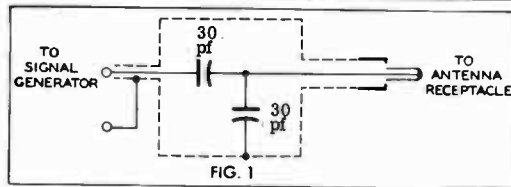
Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools: A1 thru A7      GENERAL CEMENT: 9440      WALSCO: 2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



Thru dummy (Fig. 1) to antenna receptacle.

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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60	RF Amp.	D8-25	GE-1		PNP
X2	6-61	Conv.	D8-25	GE-1		PNP
X3	6-62	IF Amp.	D8-25	GE-1		PNP
X4	6-53	Driver	D8-26	GE-2		PNP
X5	8P404V	Output	D8-520	GE-3		PNP *

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2					1N34A8
X7		1GD2					1N34A8

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		ALLSTATE PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653	AFH3-00-94.5		XC3-48.1		FP300.83	TVLS-302&14*
B	300	16							
C	100	16							
C2	25	15	20-256	PTT09	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		28-800-2L #							
C11A		28A1332 #							
B	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T25	
C12	100	N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C13	.01		BPD-01	DD-103	BYA10DM	CCD-103	B110	5HK-810	
C14	.22			UK20-204	HCC25224Z			HY-325	
C15	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C16	.05		TTD-05	CK-503	H5		TA150	TG-850	
C17									
C18		4S-216 #							

# Allstate Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A3494	F1-10K, R14-7500			† QJ-1882A	
B	Volume, Switch	7500Ω Tap @ 5100Ω		FFS104, RFS112 AK28 Ⓢ, KR-4				

† "CONCENTRKT" Equivalent: K8 Kit with Base Elements and Shafts: B11-116, P17-105(Panels)  
B21-116X, R16-118(Rear) 843 (Bushings) 76-1 (Switch)

"SNAPTROL" Equivalent: BU10 Ⓢ, CF9, CR48T, SF8, SR44, GC. Ⓢ Alter bushings to meet requirements.

## RESISTORS (Power and Special)

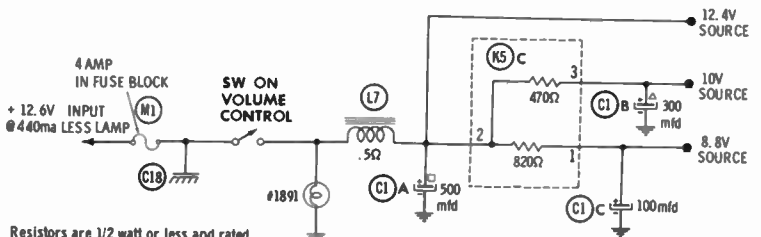
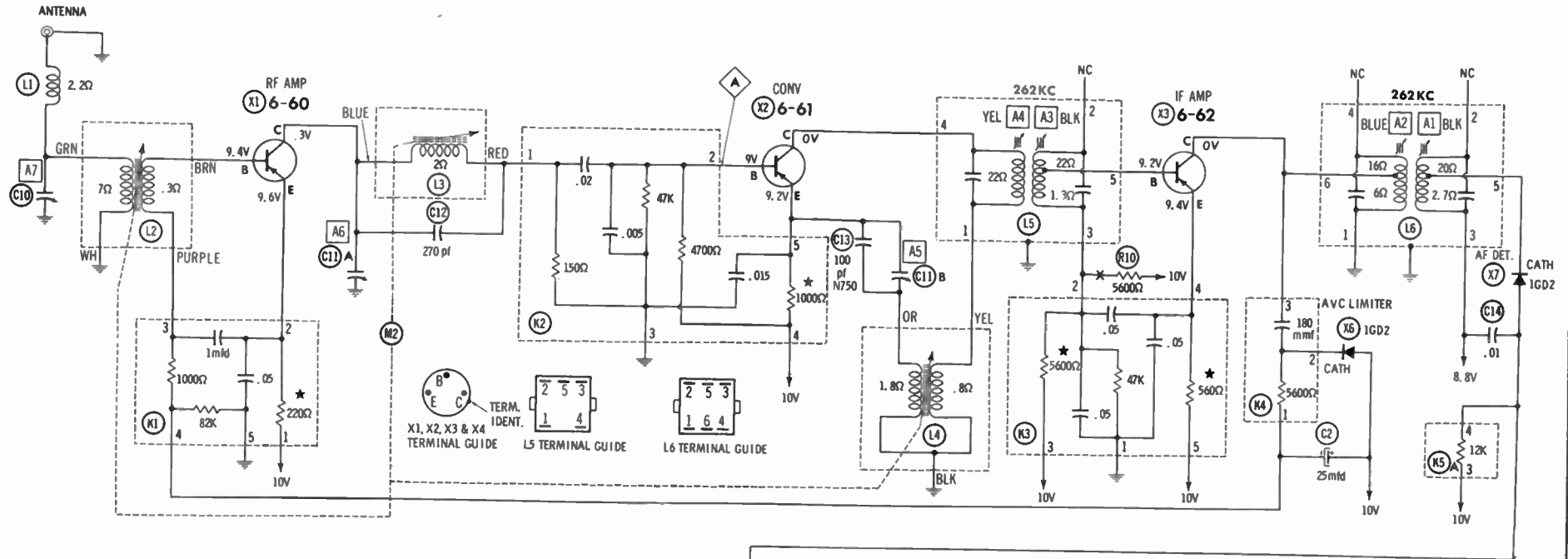
ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.			IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.
R12	1600 5W (PTC)			61-161-58	R14	.5 1W	BUH.51	WT.51	
R13	6.8Ω 1W	BUH6.8	WS6.8						

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-8520	T850
L2	Antenna	Ⓢ					
L3	RF	Ⓢ					
L4	Osc.	Ⓢ					
L5	Input IF	14-3233A	16-6718	BC-690	6570		
L6	Output IF	14-3234A					

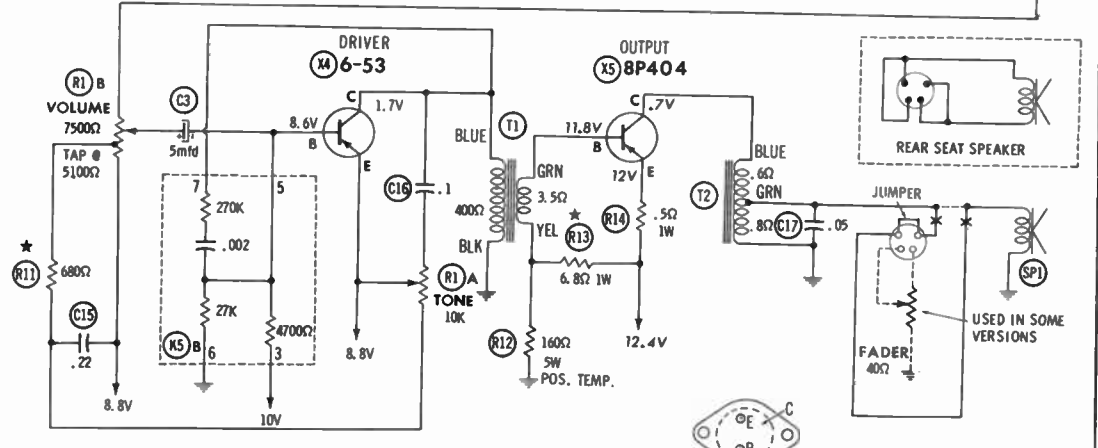
Ⓢ Part of M2.

CONTINUED ON PAGE 16



- 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 in order unless otherwise designated.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

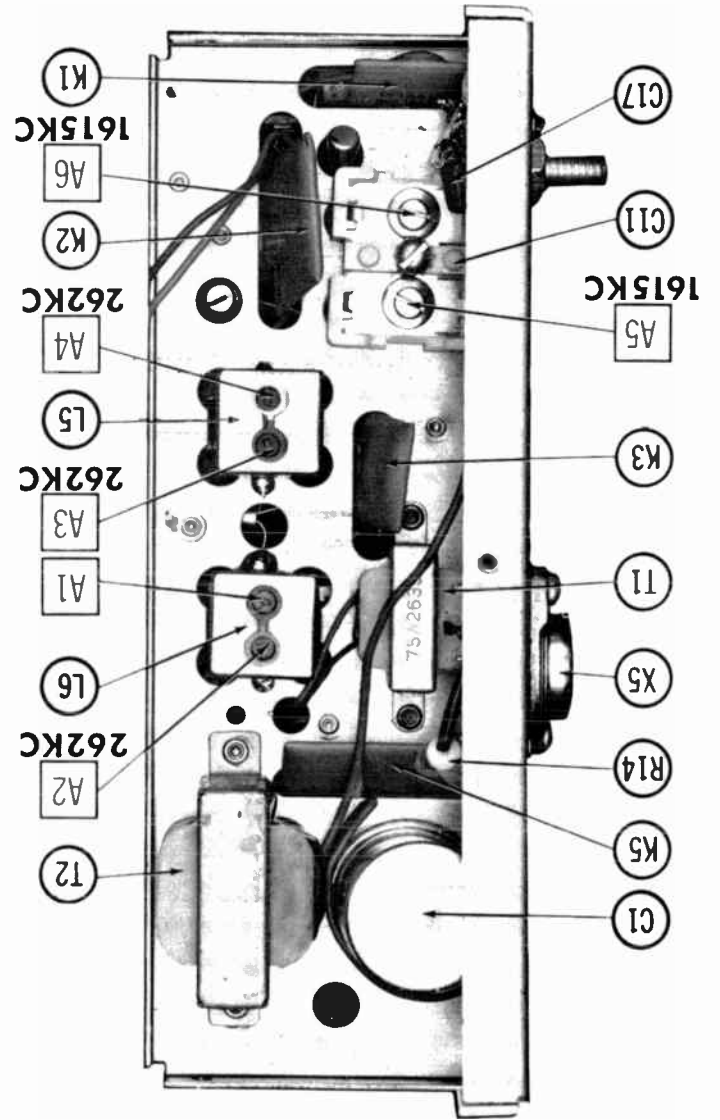
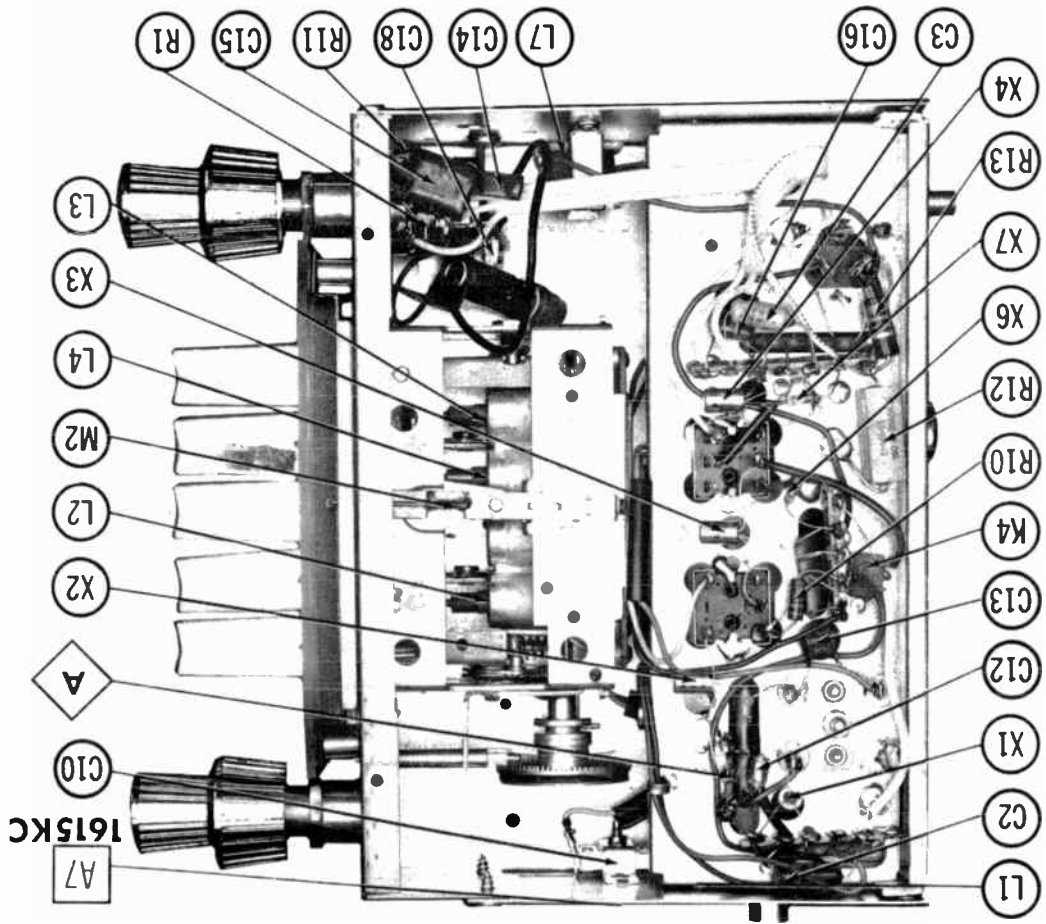
★ NOMINAL VALUE, MAY VARY.



**ALLSTATE MODEL 833.501220**



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## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	440MA	.5Ω	10MH	75A3082	C-4095	TC-2	TR-155	TY17XT	

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	8	1	75A2635			TR-184		

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T2	24Ω Tap	@8Ω	75A2638			TR-189	

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ALLSTATE PART No.	QUAM PART No.	
SP1	4" x 10" PM 8Ω	73B2737	410A2Z8	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ALLSTATE PART No.	REPLACEMENT DATA
K1	RF Network	220Ω, 1000Ω, 82K .05mfd, 1mfd		89A2582C
K2	Conv. Network	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd		89A2583B
K3	IF Network	560Ω, 5600Ω, 47K, .05mfd, .05mfd, .05mfd		89A2584B
K4	AVC Network	5600Ω, 180pf		89A2701
K5	AF Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K .002mfd		89A2585A

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			ALLSTATE		LITTELFUSE		BUSS		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGW	4	108-400	In Fuse Block	303004			AGW4	

### MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner	7BB3700	

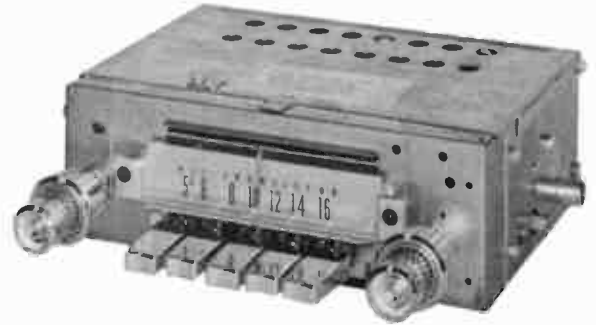
### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



# PHOTOFACT<sup>®</sup>

**TRADE NAME :** Allstate Models:  
 833.501230 (1965 Dodge Dart)  
**SUPPLIER :** 833.503060 (1965 Plymouth Belvedere)  
 For Current Address, See Master Index.  
**TYPE SET :** 5 Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** .51 Amp. @ 12.6 Volts DC  
**TUNING RANGE :** BROADCAST: 540-1615KC



## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4  
 A5, A6, A7.

GENERAL CEMENT: 8606, 8606L, 8869  
 GENERAL CEMENT: 8290, 8868, 9087

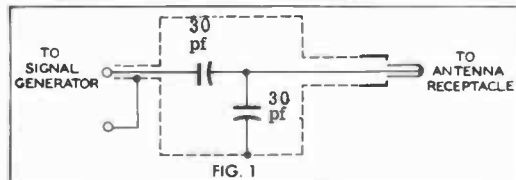
WALSCO: 2543, 2544, 2588  
 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfid to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

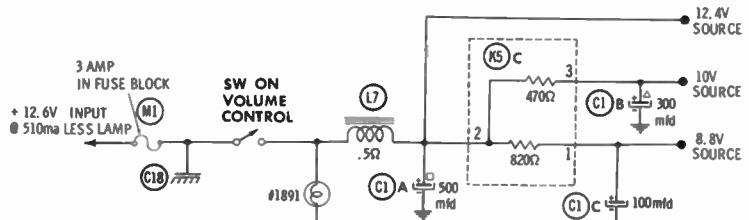
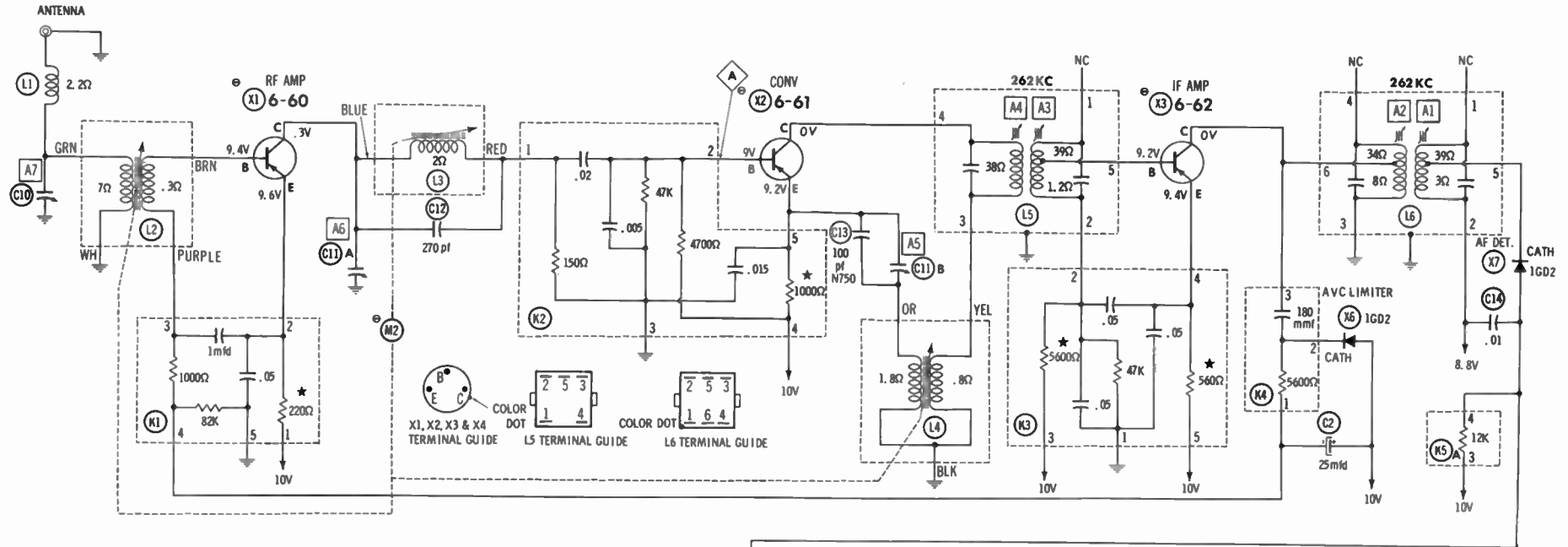
### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



ALLSTATE MODELS 833.501230, 833.503060

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

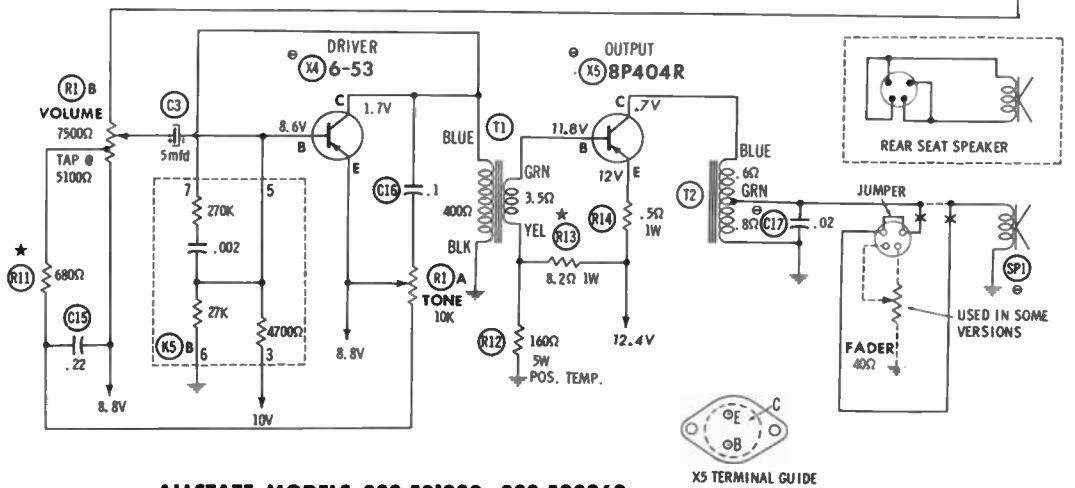


Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

See parts list for alternate value or application.

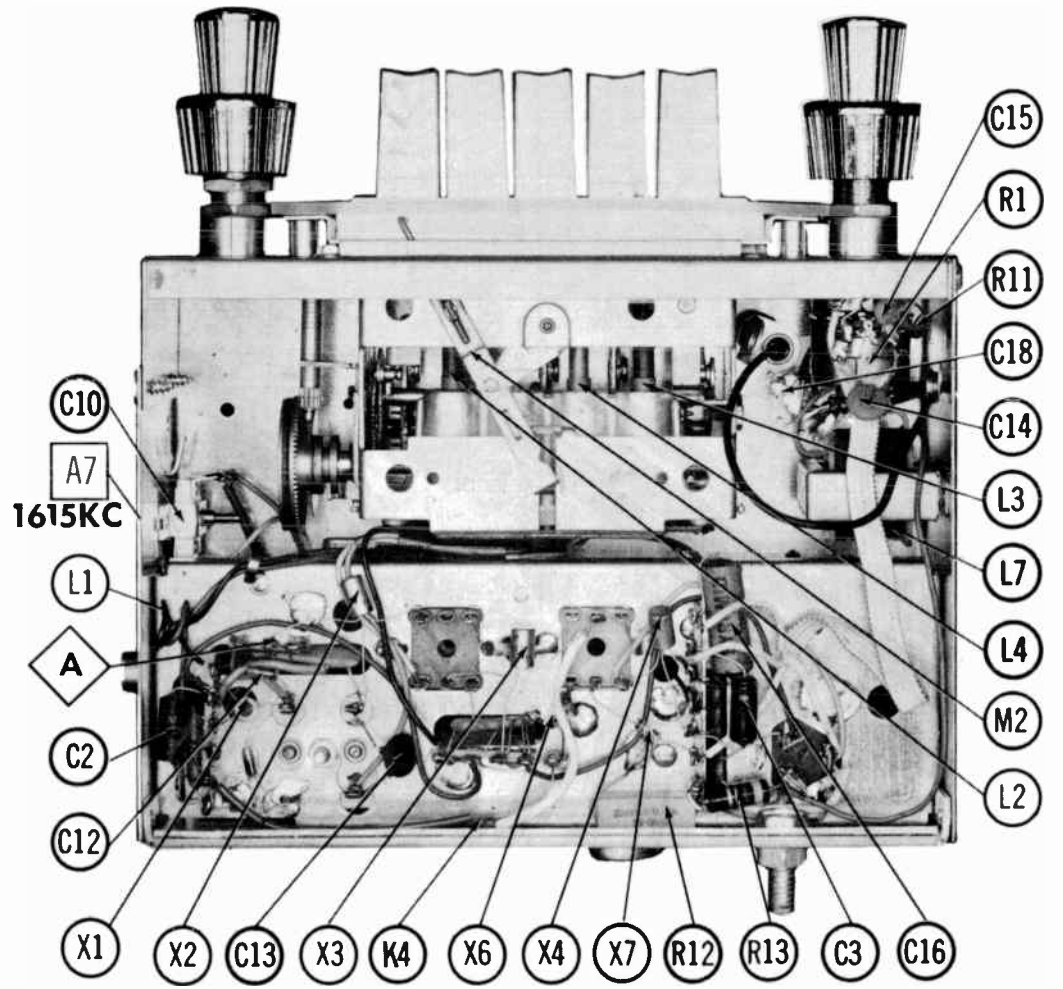
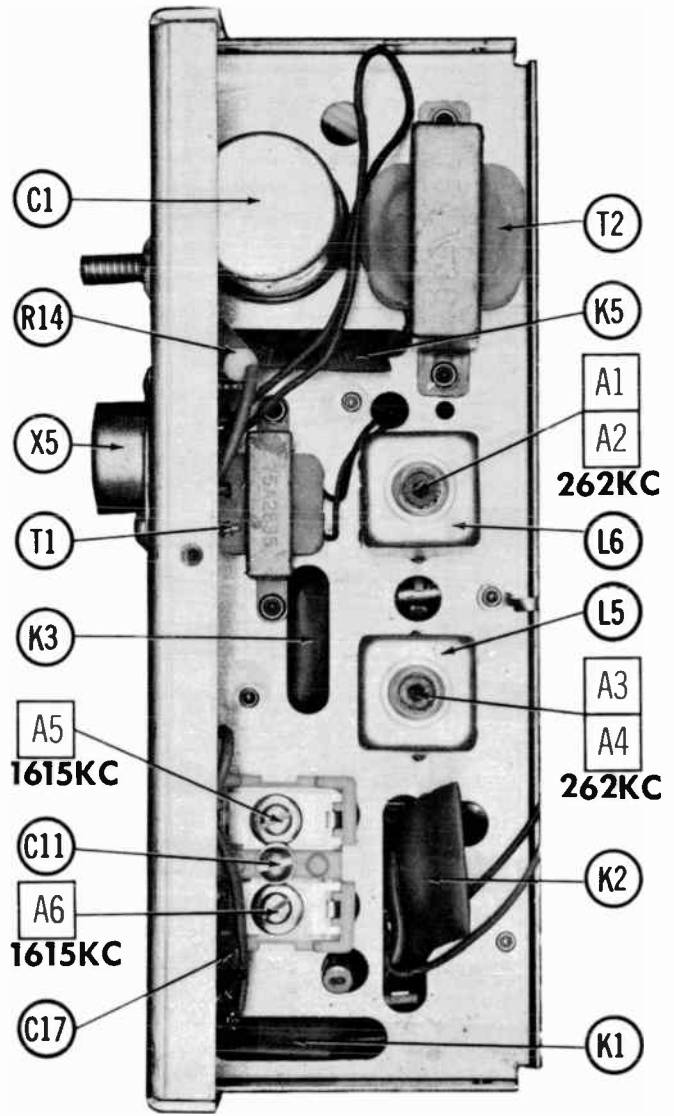
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

★ NOMINAL VALUE, MAY VARY.



ALLSTATE MODELS 833.501230, 833.503060

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ALLSTATE MODELS 833.501230, 833.503060

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N163) <sup>†</sup>	RF Amp.	D8-25	GE-1		PNP
X2	6-61 (2N163) <sup>†</sup>	Converter	D8-25	GE-1		PNP
X3	6-62 (2N163) <sup>†</sup>	IF Amp.	D8-25	GE-1		PNP
X4	6-63 (2N163) <sup>†</sup>	Driver	D8-26	GE-2		PNP
X5	(2N591) 8P404R (2N176)	Output	D8-520	GE-3		PNP *

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2					1N34AS
X7		1GD2					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ALLSTATE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653	AFH3-00-94.5		XC3-48.1		FP300.83	TVLS-3026.1 <sup>†</sup>
C1B	300	16							
C1C	100	16							
C2	25	15	20-256	PTT89	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

\* Not normally in distributors stock. Available thru distributor on order to manufacturer.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#28-800-2L							
C11A		#28A.1332							
C12	270		DI-270	DD-271	LA10 T27-C4	CCD-271	GP327	5GA-T27	
C13	100	N750	N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C15	.22			UC20-204	HCC25224Z			HY-325	
C16	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C17	.02	(.05) †	BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-S20	
C18		#43-216							

# Allstate Part Number.

† Alternate value.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A3494	F1-10K, R14-7500 FFS104, RFS112, AK28 <sup>①</sup> , KR-4			† QJ-1882A	
B	Volume	7500Ω Tap @ 5100Ω						

① Alter bushing to meet requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-116, P17-105 (Panel)  
B21-115X, R16-118 (Rear)  
S43 (Bushing)  
76-1 (Switch)

"SNAPTROL" Equivalent: BU10<sup>①</sup>, CF9, CR48T, SF8, SR44, GC.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.			IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.
R12	160Ω 5W (PTC)			61-161	R14	.5Ω 1W	BWH.51	WT51	60-5S
R13	B.2Ω 1W	BWH8.2	W88.2	60-8.2S					

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-8520	T859
L2	Antenna						
L3	RF						
L4	Osc.						
L5	Input IF	14-2654	16-8718		6570		
L6	Output IF	14-2655	16-8719		6571		

① Part of M2.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	510ma	.5Ω	10MH	75A1269	C-4095	TC-2	TR-165	TY17XT	

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	8	1	75A2635				TR-184	

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap	8Ω	75A2636				TR-169	

### SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			ALLSTATE PART No.	QUAM PART No.	
SP1	6"x9" PM	8Ω	73B2671	89A3Z8	Used in model: 833.501230
	7" PM	8Ω	73B3338	7A21Z8	Used in model: 833.503060

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ALLSTATE PART No.	REPLACEMENT DATA
K1	RF Network	220Ω, 1000Ω, 82K, .06mfd, 1mfd.	89A2582C	
K2	Converter Network	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd.	89A2583	
K3	IF Network	560Ω, 5600Ω, 47K, .05mfd, .06mfd, .05mfd.	89A2584B	
K4	AVC Network	5600Ω, 180pf	89A2701	
K5	AF Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd.	89A2585A	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			ALLSTATE PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGC	3	106-303	In Fuse Block	312002			AGC3	

### MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner	73B3700 (73B3800)	

### CABINETS & CABINET PARTS

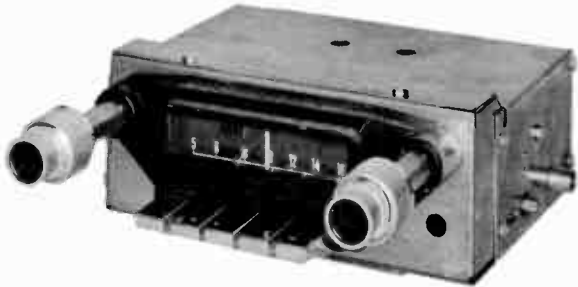
(When Ordering Specify Model, Chassis & Color)

ITEM	MODEL:	PART No.	ITEM	MODEL:	PART No.
Escutcheon	833.501230	55D4012	Knob, Tuning, Volume	833.503060	48A3932
Escutcheon	833.503060	55D4016	Knob, Tone	833.501230	48A3934
Dial Glass		39-163	Knob, Tone	833.503060	48A3933
Push Button		55A3896	Knob, Dummy	833.501230	48A3934-1
Knob, Tuning, Volume	833.501230	48A3935	Knob, Dummy	833.503060	48A3933-1
			Dial Pointer		84A3847

ALLSTATE MODELS 833.501230, 833.503060



# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Allstate Model 833.501920(1965 Comet)  
**SUPPLIER :** For Current Address, see Master Index  
**TYPE SET :** 5-Transistor AM Receiver  
**POWER SUPPLY :** 12-Volt Storage Battery  
**RATING :** .70 Amp. @ 12.6VDC  
  
**TUNING RANGE:** BROADCAST 540 – 1615KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

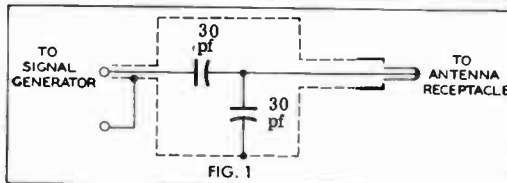
Suggested Alignment Tools: A1 thru A4..... GENERAL CEMENT #8606, 8606L, 8869  
 WALSCO #2543, 2544, 2588  
 A5, A6, A7..... GENERAL CEMENT #8290, 8868, 9087  
 WALSCO #2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400 $\nu$ Mod.)	High Freq. End Stop.	Output Meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N1637)	RF Amp.	DS-25	GE-1		PNP
X2	6-61 (2N1639)	Conv.	DS-25	GE-1		PNP
X3	6-62 (2N1638)	IF Amp.	DS-25	GE-1		PNP
X4	6-53 (2N591)	Driver	DS-26	GE-2		PNP
X5	8P404V (1N178)	Output	DS-520	GE-3		PNP *

\* When replacing apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES GENERAL ELECTRIC PART No.
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X6		1GD2					1N34AS
X7		1GD2					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ALLSTATE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653	AFH3-00-945		XC3-48.1		FP300.83	TVLS-3026,14
B	300	16							*
C	100	16							
C2	15	15	20-256	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#28-800-2L							
C11A		#28A1332							
B									
C12	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T270	
C13	100 N750		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C15	.22			UK20-204	HCC25224Z			HY-325	
C16	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C17	.05		TTD-05	CK-503	H5		TA150	TG-S50	
C18		443-216							

# Allstate Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone Volume/Switch	10K	80A3899A					# UE4568-S
B	Tap @ 5100Ω	7500Ω						
	Tone Volume/Switch	10K	80A3257Ⓛ					# UE4544-S
	Tap @ 5100Ω	7500Ω						
	Fader	40Ω	80A1137Ⓛ				† QJ-1816A	
		2W						

Ⓛ Used in some versions.

# "STA-LOC" Equivalent: PO14L, RU752T53, OS3125, IS3562, US41

# "STA-LOC" Equivalent: FK14L, RU752T, OS1687, IS2187, US41.

† "CONCENTRIKIT" Equivalent: K13 Kit with Base Elements and Shafts:

W11-020, P3-100, QCB6

"SNAPTROL" Equivalent: BU4, WF17, SF7, QCB6

## RESISTORS (Power and Special)

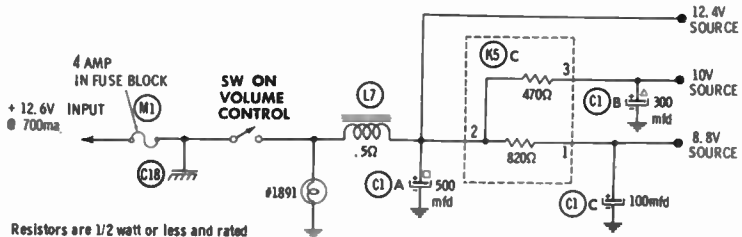
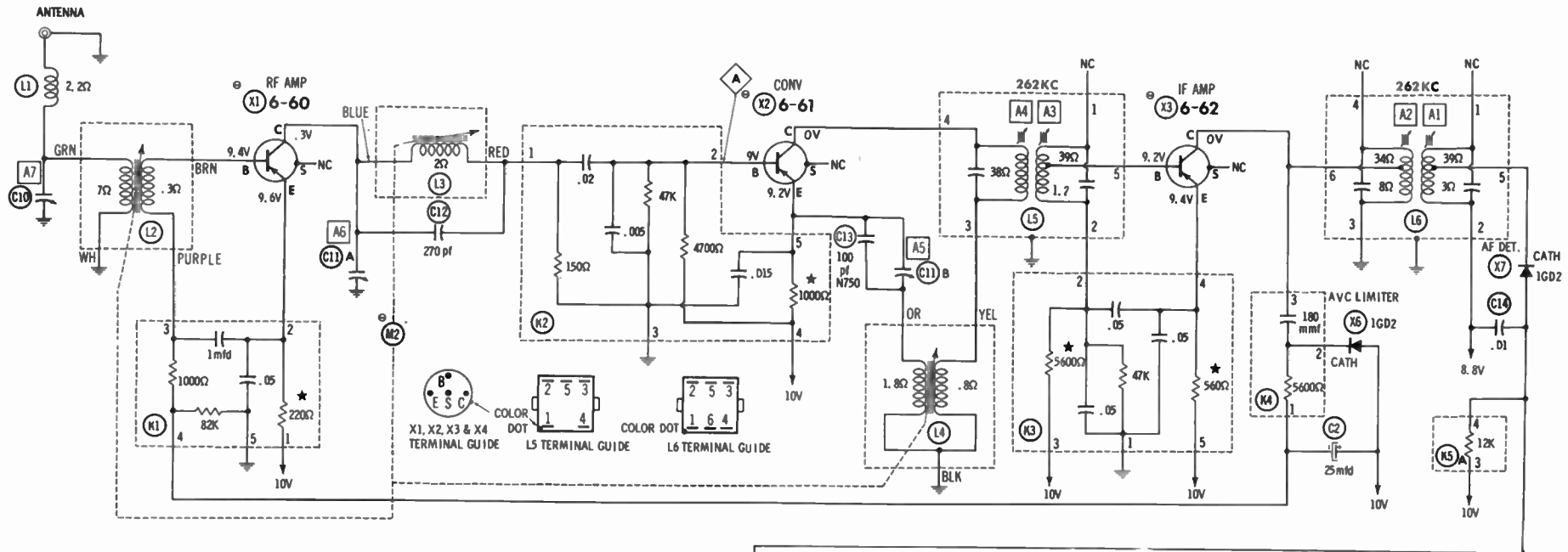
ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R12	160Ω 5W (PTC)			#61-161	R14	.5Ω 1W	BWH.51	WT51	#60-.58
R13	6.3Ω 1W (8.2Ω 1W Alt.)	BWH6.8	WS6.8						

# Allstate Part Number

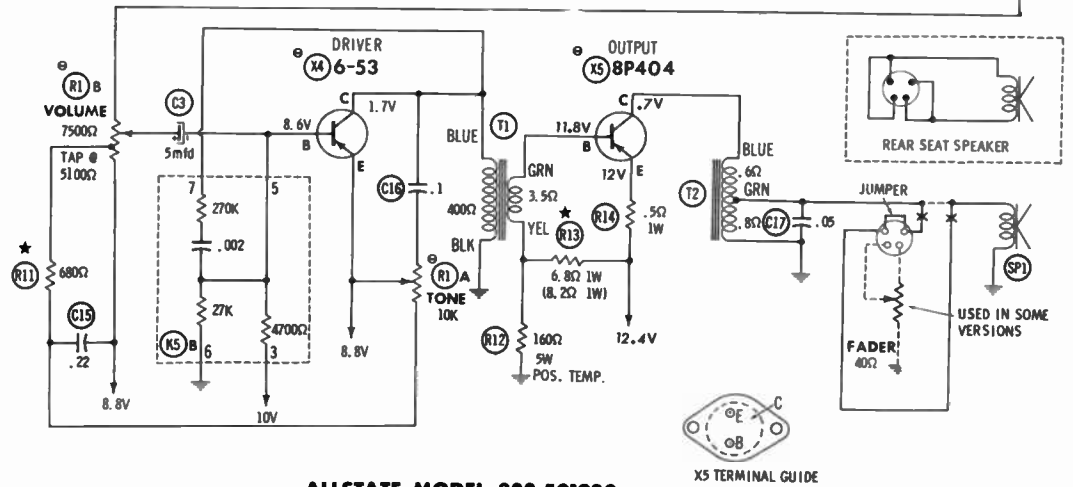
CONTINUED ON PAGE 26

ALLSTATE MODEL 833.501920





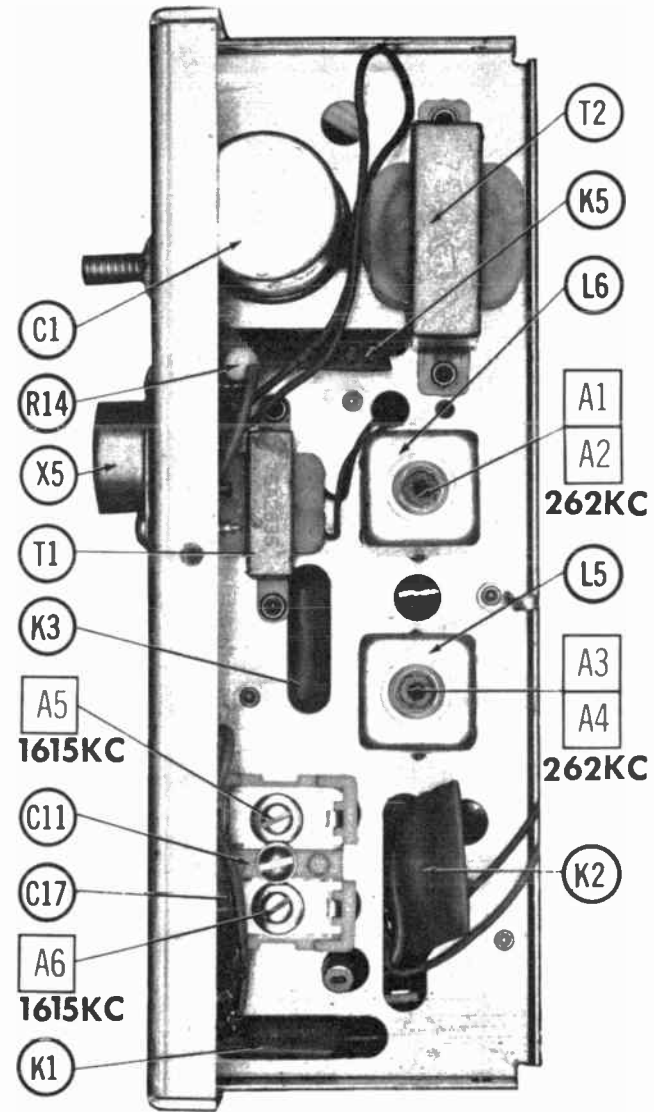
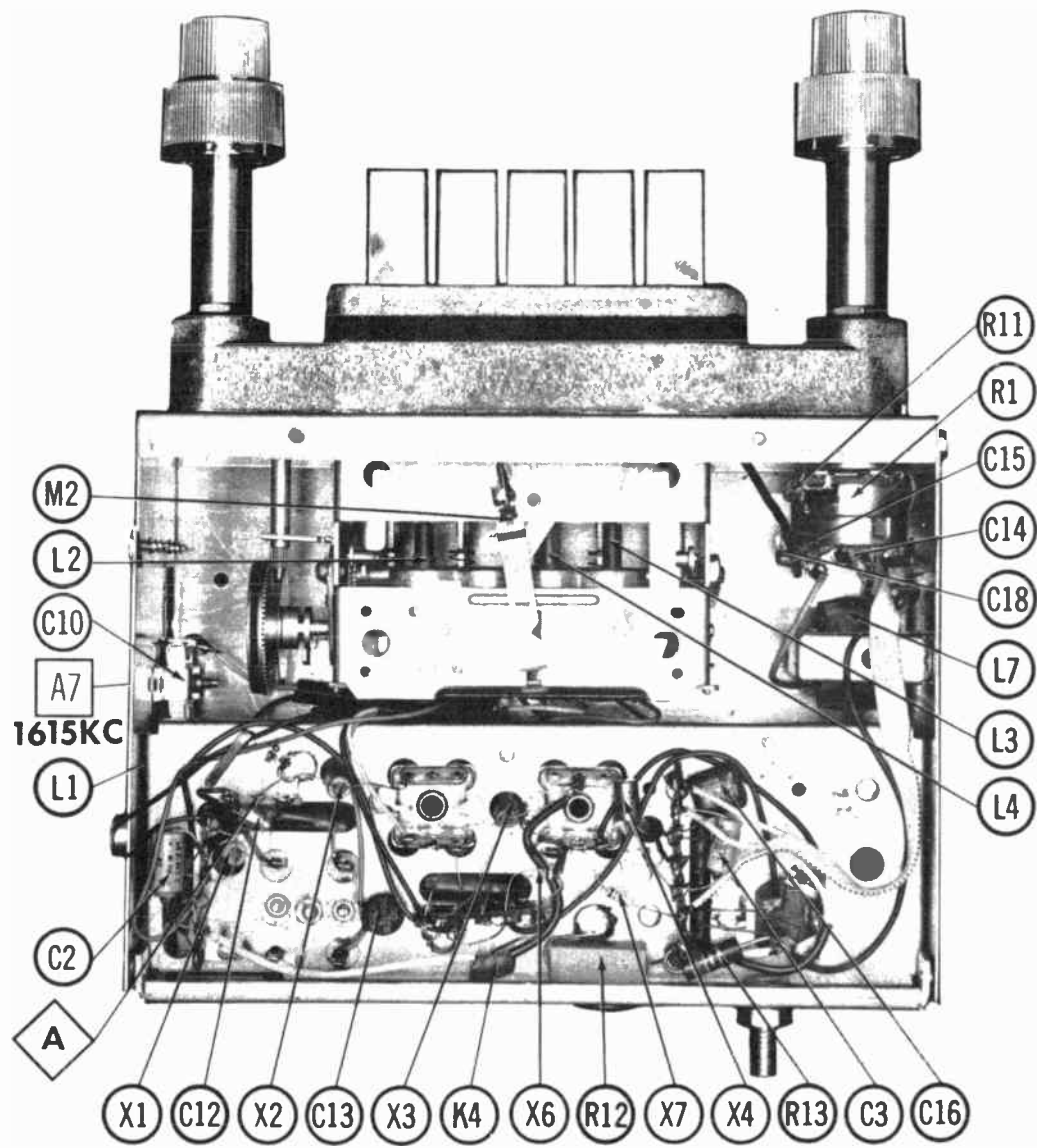
- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- ① See parts list for alternate value or application.
  - 1. Voltage measurements taken with vacuum tube voltmeter.
  - 2. All controls set for normal operation, no signal applied.
  - 3. Measured values are from socket 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.
  - 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.
- ★ NOMINAL VALUE, MAY VARY.



**ALLSTATE MODEL 833.501920**

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ALLSTATE MODEL 833.501920

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-8520	T859
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	14-2654	16-6718		6570		
L6	Output IF	14-2655	16-6719		6571		

① Part of M2

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	700ma	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT	

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	8	1	75A2635			TR-184		

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap @	8Ω	75A2636			TR-169		

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ALLSTATE PART No.	QUAM PART No.	
SP1	5" x 8" PM 8Ω	73B2786	58A1528	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ALLSTATE PART NO.	REPLACEMENT DATA
K1	RF Network	220Ω, 1000Ω, 82K, .05mfd, 1mfd	89A2582C	
K2	Conv. Network	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd	89A2583B	
K3	IF Network	580Ω, 5600Ω, 47K, .05mfd, .05mfd, .05mfd	89A2584B	
K4	AVC Network	5600Ω, 180pf	89A2701	
K5	AF Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2585A	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			ALLSTATE PART No.		LITTELFUSE PART No.		8USS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGW	4	1Q8-400	In Fuse Block	303004			AGW 4	

### MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner	73B3700 73B3800	

### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	54C3237	Push Buttons	55A3882
Knob, Tuning or Volume	47A3783	Dial Pointer	84A3902
Knob, Tone or Dummy	48A3780		

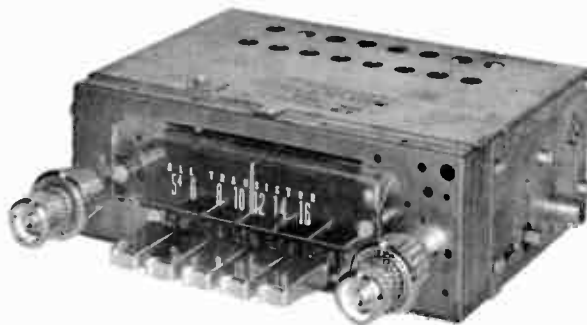
### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



# PHOTOFACT<sup>®</sup>

**TRADE NAME :** Allstate Model: 833.503050  
 (1965 Plymouth Fury)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 5 Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** .510 Amp. @ 12.6 Volts DC(Less Lamp)  
**TUNING RANGE :** BROADCAST: 540-1615KC



## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools:

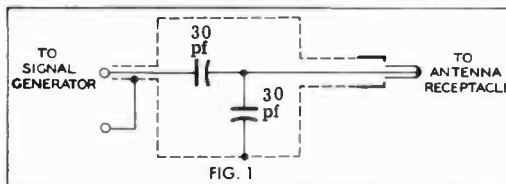
A1 thru A7      GENERAL CEMENT: 9440      WALSCO: 2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point (A), low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

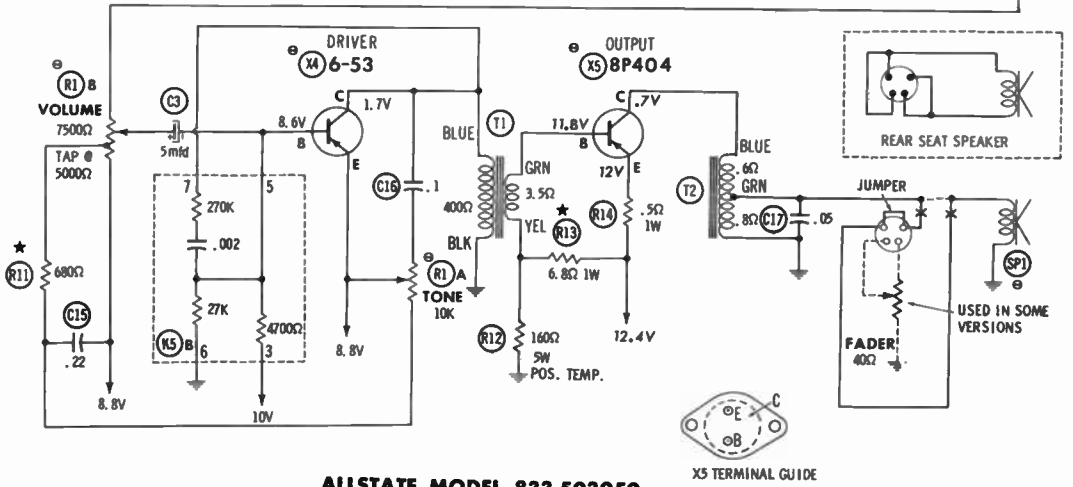
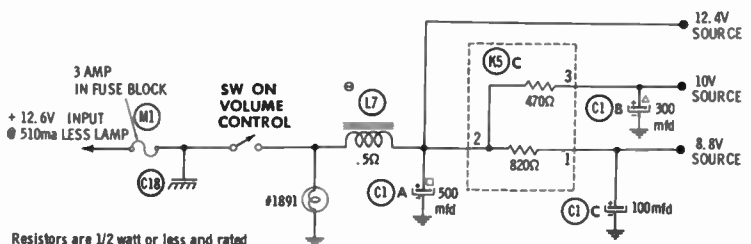
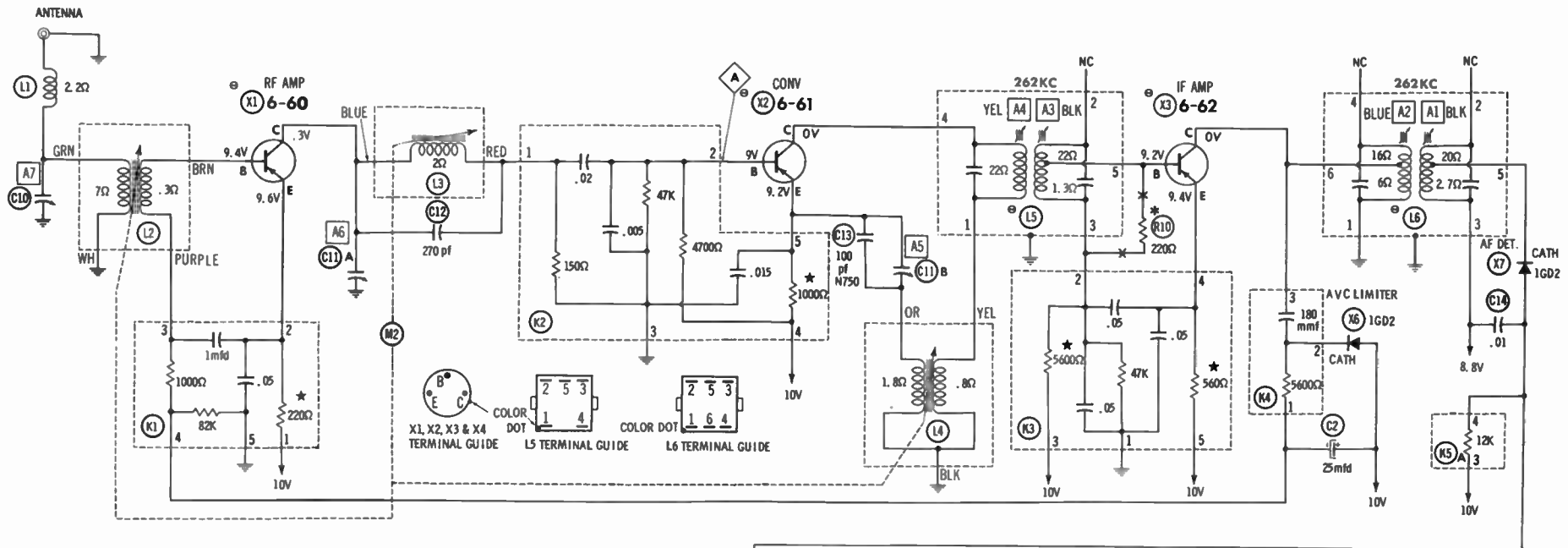
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



Thru dummy (Fig. 1) to antenna receptacle.

ALLSTATE MODEL 833.503050

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



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

See parts list for alternate value or application.

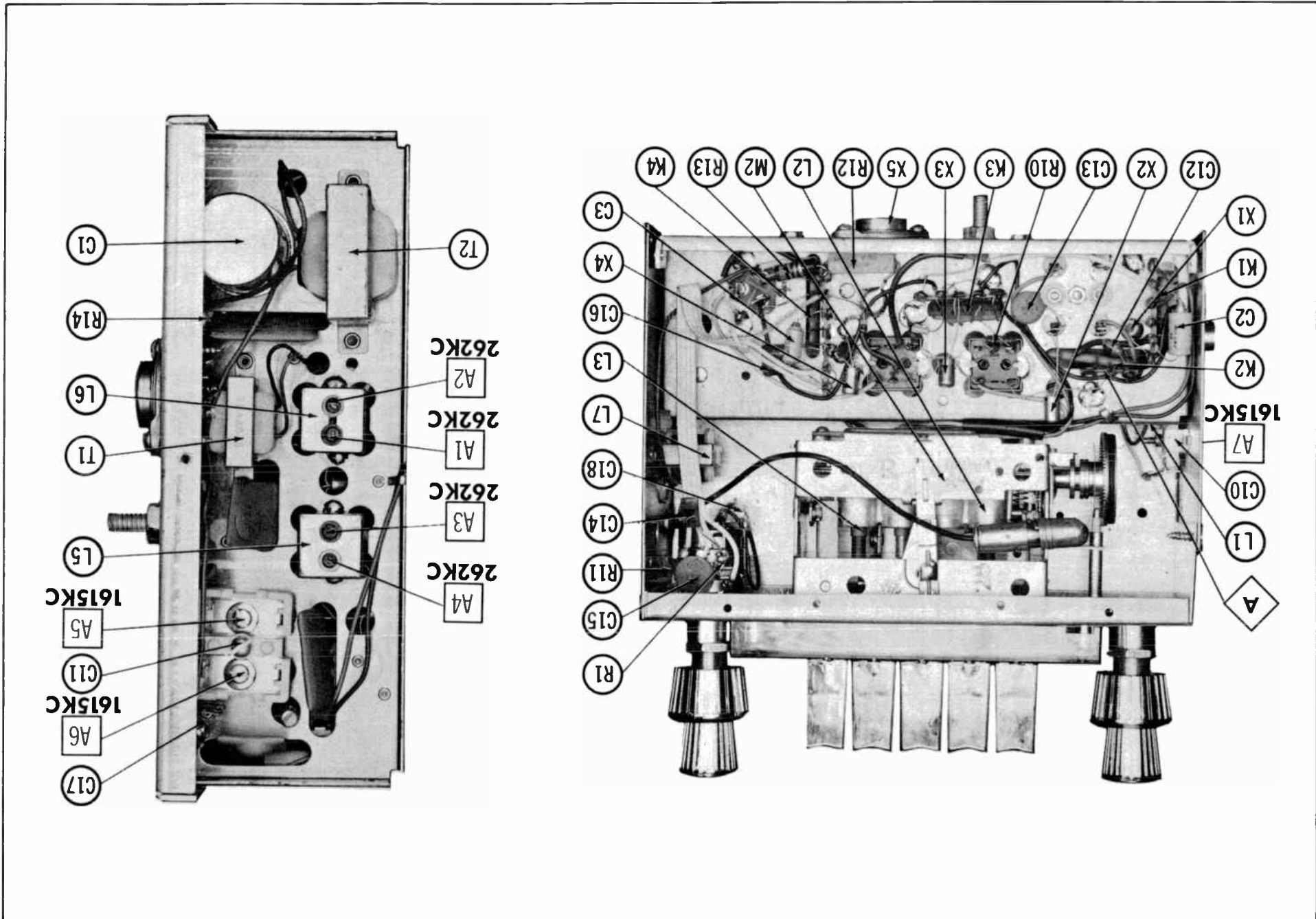
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

\* NOT USED IN SOME VERSIONS  
 \* NOMINAL VALUE, MAY VARY.

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ALLSTATE MODEL 833.503050

X5 TERMINAL GUIDE



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N1637)	RF Amp.	DS-25	GE-1		PNP
X2	6-61 (2N1639)	Conv.	DS-25	GE-1		PNP
X3	6-62 (2N1638)	IF Amp.	DS-25	GE-1		PNP
X4	6-53 (2N591)	Driver	DS-26	GE-2		PNP
X5	8P404V (2N176)	Output	DS-520	GE-3		PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2					1N34A8
X7		1GD2					1N34A8

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ALLSTATE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653	AH3-00-94.5		XC3-48.1		FP300.83	FVLS-3026.14*
B	300	16							
C	100	16							
C2	25	15	20-256	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C11		#28-800-2L							
C11A		#28A1332							
C12	.270	N750	DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T25	
C13	.100		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA1061	CCD-103	B110	5HK-810	
C15	.22			UK20-204	HCC25224Z			HY-325	
C16	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C17	.05		TTD-05	CK-503	H5		TA150	TG-S50	
C18		#43-216							

# ALLSTATE Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A3494	F1-10K, R14-7500,			† QJ-1882A	
B	Volume	7500Ω		FF8104, RFS112,				
		Tap @ 5100Ω		AK-28 ② KR-4				
	Tone	10K	80A3257 ①					■ UE-45448
	Volume/Switch	7500Ω						
		Tap @ 5100Ω						

① Used in some versions.

② Alter Bushings to meet requirements.

† "CONCENTRIKT" Equivalent: K8 Kit with Base Elements and Shafts: B11-116, P17-105(Panel)

B21-115X, R16-118(Rear) 843 (Bushings) 76-1 (Switch)

"SNAPTROL" Equivalent: BU10②, CF9, CR48T, BF8, SR44, GC.

■ "STA-LOC" Equivalent: FK14L, RU752T53, OS1687, IS2167, US41.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.			IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.
R12	160Ω 5W (PTC)			61-161	R14	.5Ω 1W	BWH.51	WT51	60.58
R13	6.8Ω 1W	BWH6.8	W86.8Ω	60-6.8S					
	8.2Ω 1W *	BWH8.2	W88.2	60-8.2S *					

\* Alternate

# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-8520	T859
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	143233A	16-6718	BC-600	6570		
L6	Output IF	14-2654 ②	16-6718	BC-600	6570		
		14-3234A					
		14-2655 ②			6571		

① Part of M2  
② Used in some versions.

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	.510ma	.5Ω .5Ω	10MH 10MH	75A3082 75A1269 †	C-4095 C-4095	TC-2 TC-2	TR-155 TR-155	TY17XT TY17XT	† Alternate.

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	75A2635			TR-184		

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap	@ 8Ω	75A2636			TR-169		

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		ALLSTATE PART No.	QUAM PART No.		
SP1	6" x 9" PM	8Ω	73B2671	69A3Z8	Used in Models DD-5125, VT-5106, VTP-5107. Used in Models DX-5121, PP-5106. Used in Model PFX-5109.
	7" PM	8Ω	73B338	7A21Z8	
	4" x 10" PM	8Ω	73B2737	410A2Z8	

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ALLSTATE PART No.	REPLACEMENT DATA
K1	RF Amp Network	220Ω, 1000Ω, 82K, .05mfd, 1mfd	89A2582C	
K2	Conv. Network	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd	89A2583B	
K3	IF Amp. Network	560Ω, 5600Ω, 47K, .05mfd, .05mfd, .05mfd	89A2584B	
K4	AVC Network	560Ω, 180pf	89A2701	
K5	AF Amp. Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2585A	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			ALLSTATE PART No.		LITELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGC	3A	106-303	In Fuse Block	312003			AGC3	

## MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner	73B3700 or 73B3800	

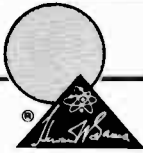
## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

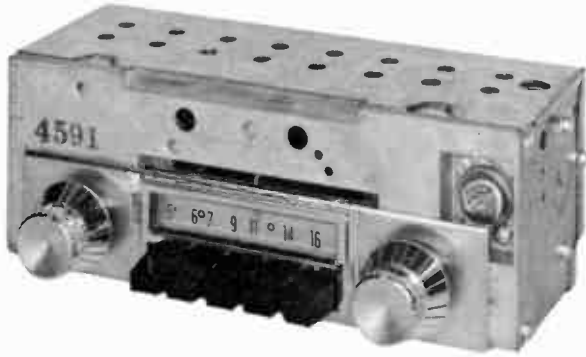
ITEM	PART No.	ITEM	PART No.
Dial Glass	39-163	Knob, Tone	48A3933
Pushbutton	55A3896	Knob, Dummy	48A3933-1
Knob, Tuning or Volume	48A3932	Dial Pointer	84A3447 or 84A3847

ALLSTATE MODEL 833.503050





# PHOTOFACT®



TRADE NAME : Allstate Models: 833.62369, 833.623690,  
833.624630

SUPPLIER : For Current Address, See Master Index.

TYPE SET : 5 Transistor AM Receiver

POWER SUPPLY : 12 Volt Storage Battery

RATING : .680 Amp. @ 12.6 Volts DC

TUNING RANGE: BROADCAST: 540-1615KC

ALLSTATE MODELS 833.623690, 833.624630

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
Use only enough generator output to provide a usable indication.  
Suggested Alignment Tools:

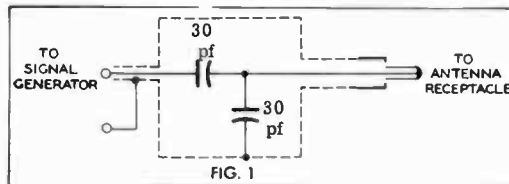
A1, thru A4    GENERAL CEMENT: 8606, 8606L, 8869    WALSCO: 2543, 2544, 2588  
A5, A6, A7    GENERAL CEMENT: 8290, 8868, 9087    WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N840)	RF Amp	D8-25	GE-1		PNP
X2	6-81 (2N642)	Conv.	D8-25	GE-1		PNP
X3	6-82 (2N641)	IF Amp	D8-25	GE-1		PNP
X4	6-53 (2N591)	Driver	D8-26	GE-2		PNP
X5	8P404T (2N176)	Output	D8-520	GE-3		PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X6		1GD2					IN34AS
X7		1GD2					IN34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		ALLSTATE PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2853	AFH3-00-94.5	CC0012	XC3-48.1	TMT3002	FP300.83	TVLS-3026.14
B	300	16							
C	100	16							
	600	15	20-327①	AFH3-00-95.4	CC0008	XC3-48	TMT3002.10	WSP300.87	PCLS-3026.10
	300	15							
	100	15							
C2	25	15	20-256	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

① Alternate.

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

## FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
				AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	.05	100V	#28-800-3L						
C11	.05	100V		DBE685		DPMS285	IDP-2-503	PVC215	2P8-850
C12	1mfd				UK-105	HCC3105P			HY-135
C13A			#28A1332						
B									
C14	270			DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T270
C15	.02			BPD-02	DD-203	BYA682	CCD-203	B-120	5HK-820
C16	.0047			BPD-005	DD-502	BYA10D47	CCD-472	B-247	5HK-D47
C17	.015	200V		DBE4815		WMF2815	4DP-1-153	PVC2115	4P8-815
C18	100	N750		N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C19	.05	100V		DBE685		DPMS285	IDP-2-503	PVC215	2P8-850
C20	.05	100V		DBE685		DPMS285	IDP-2-503	PVC215	2P8-850
C21	.05	100V		DBE685		DPMS285	IDP-2-503	PVC215	2P8-850
C22	180			DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18
C23	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-810
C24	.22		①		UK20-204	HCC25224Z			HY-325
C25	.002		①	BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C26	.1			TTD-1	CK-104	H8		TA-010	TG-P10
C27	.05		(.003) †	TTD-05	CK-503	H5		TA-150	TG-850
C28			#43-215						

# Allstate Part Number

① Not Used In Some Versions

† Alternate Value

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A2201	F1-10K②, R14-7500, FFS100, RFS108, KR-4			†QJ-1859A	FA14L②, RU14T53, OS1000A, 181500, US41
B	Volume/Switch	7500Ω Tap @ 5200Ω						
	Tone	300K	80A1710①	F2-500K, ② R1-10K, FFS015 RFS108	P-350E-Z ②, R-10KE, CP-015		††QJ-1850A	
	Volume/Switch	10K		KR-4	SWE-13			

† CONCENTRIKIT<sup>™</sup> Equivalent: K8 Kit ② with Base Elements and Shafts:

B11-118, P22-100 (Panel)

B19-118X, R28-112 (Rear) 76-1 (Switch)

†† "CONCENTRIKIT<sup>™</sup> Equivalent: K8 Kit ② with Base Elements and Shafts:

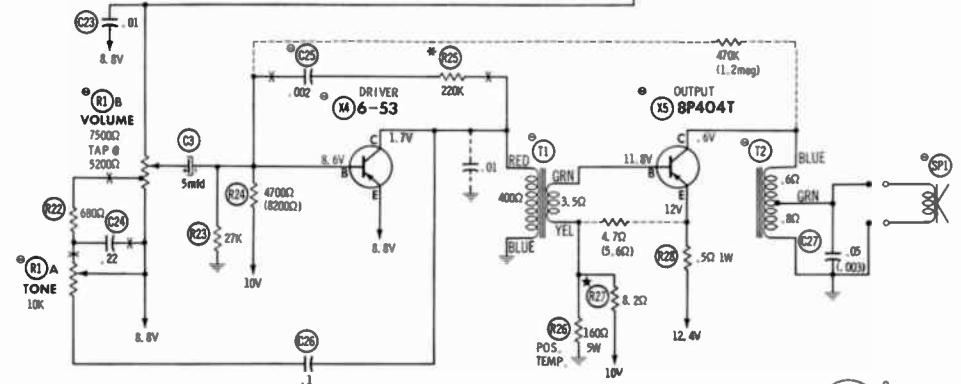
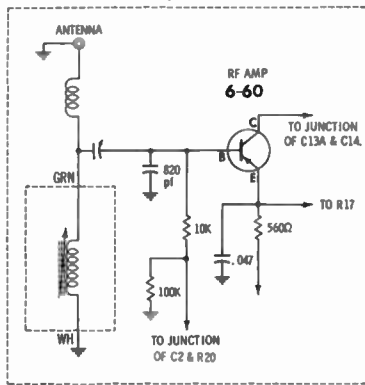
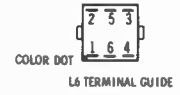
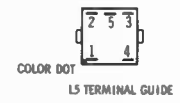
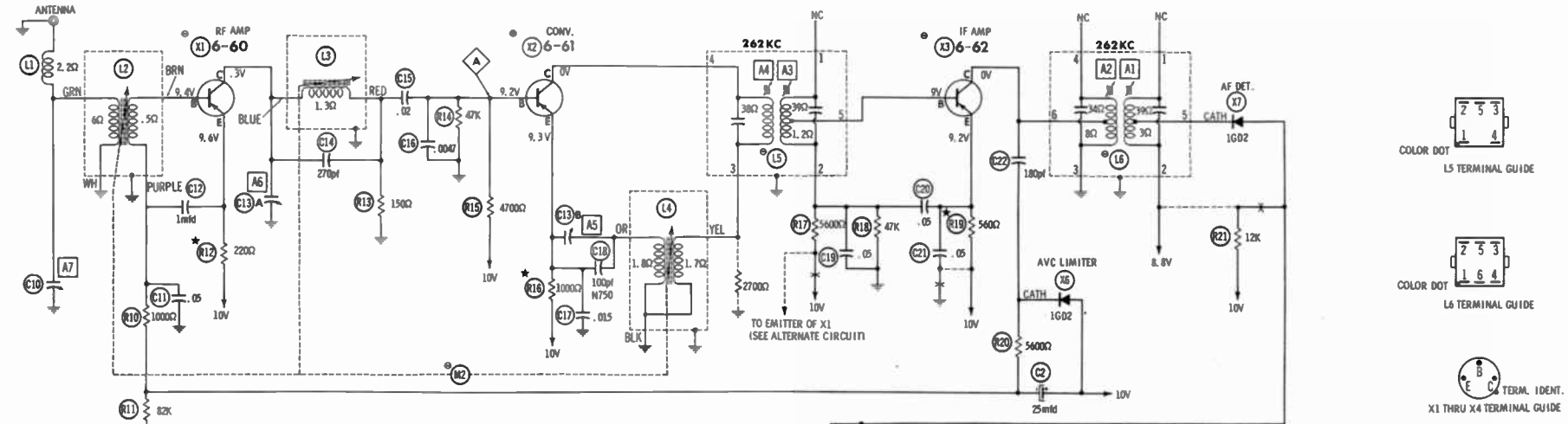
B13-132, P22-100 (Panel)

B11-118, R26-112 (Rear) 76-1 (Switch)

① Used in some versions.

② Use original spring mounting clips.

CONTINUED ON PAGE 36



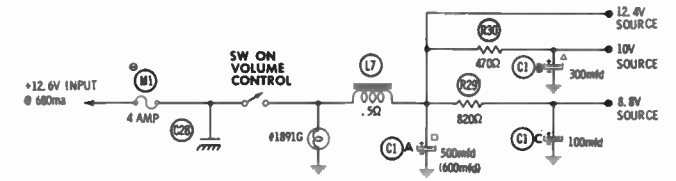
\* NOT USED IN SOME VERSIONS

\* NOMINAL VALUE, MAY VARY.

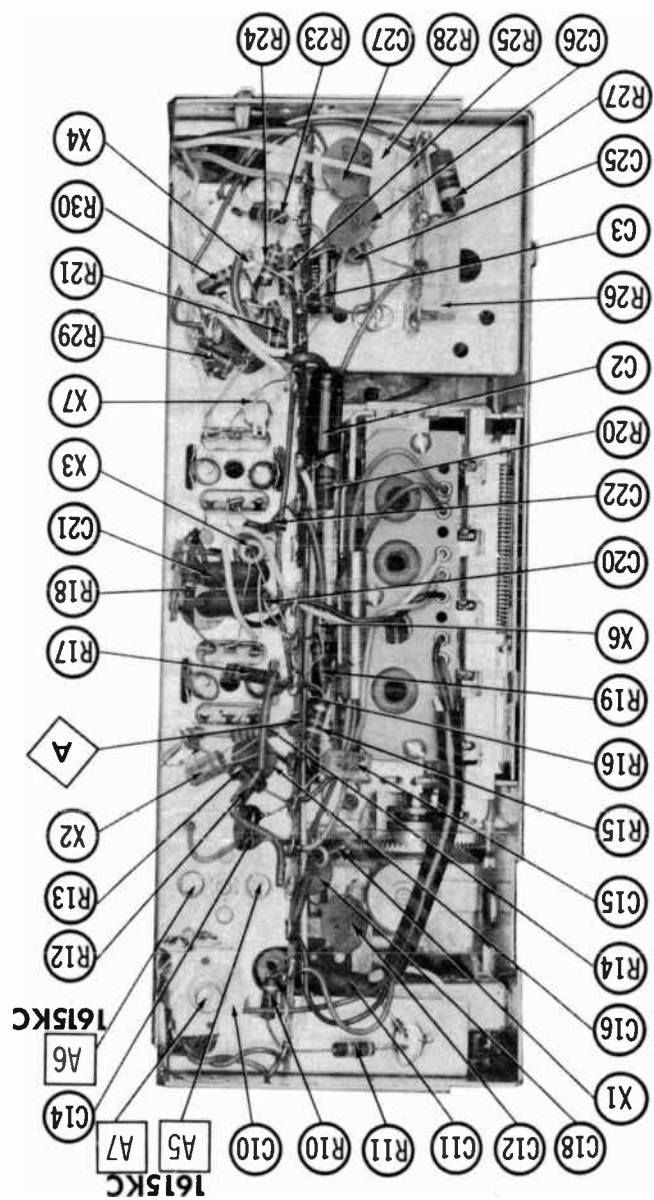
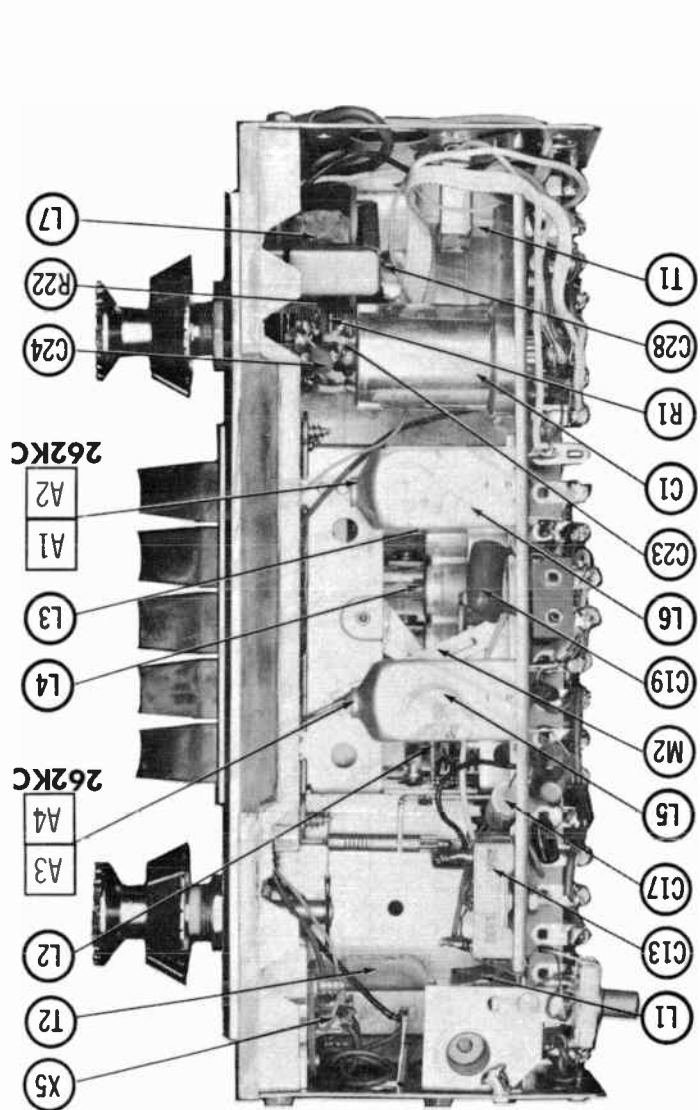
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊙ 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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ALLSTATE MODELS 833.623690, 833.624630



# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.			IRC PART No.	WORKMAN PART No.	ALLSTATE PART No.
R26	160Ω5W (PTC)			61-161-58	R28	.5Ω 1W	BWH.5Ω	WT51	60-5-18
R27	8.2Ω 1W	BWH8.2Ω	W88.2	60-8.2					

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-8520	T859
L2	Antenna						
L3	RF						
L4	OSC						
L5	Input IF	14-2654 14-270	16-6718 16-6718		6570 6570		
L6	Output IF	14-2655 14-271	16-6719 16-6719	BC-690 BC-691	6571 6571		TF606

① Part of M2.  
② Alternate

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000--)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	680ma	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT	

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8 6.5	1 1	75A2635 75A1810			TR-184 TR-183		May be used in some versions.

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap 14Ω Tap	@8Ω @4Ω	75A2636 75A1860	A-4093	TA-50	TR-169 TR-160	TY3XT	May be used in some versions.

## SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA			NOTES
			ALLSTATE PART No.	QUAM PART No.		
SP1	6"X9" 6"X9"	PM 8Ω PM 4Ω	73B2671 73-905	69A3Z8 69A3		May be used in some versions.

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ALLSTATE PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGW SFE	4 7½	108-400 108-100	12-090 12-090	303004 30707.5	155004 155004	AGW4 SFE7½	HDH HDH

## MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner Tuner	78B2162 78B1762A	Used in some versions.

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass	55A1443A	Knob, Tone	55A1736
Escutcheon	54A1719	Knob, Dummy	55A1736-1
Knob, Tuning or Volume	54B1738	Pushbutton	55A1734

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8783 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)



# PHOTOFACT<sup>®</sup>

**TRADE NAME :** Allstate Model 833. 625510(1965 Chevrolet)  
**SUPPLIER :** For Current Address, see Master Index  
**TYPE SET :** 5-Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** .69 Amp. @ 12.6VDC  
**TUNING RANGE :** BROADCAST 540 – 1615KC



ALLSTATE MODEL 833.625510

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
Use only enough generator output to provide a usable indication.  
Suggested Alignment Tools:

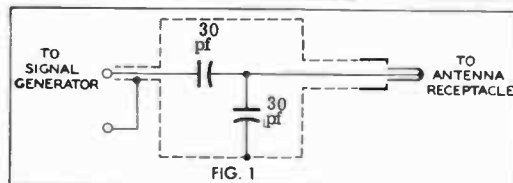
A1 thru A7, . . . . GENERAL CEMENT #9440. . . . WALSCO #2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

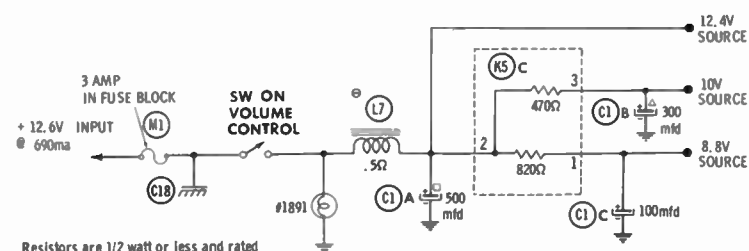
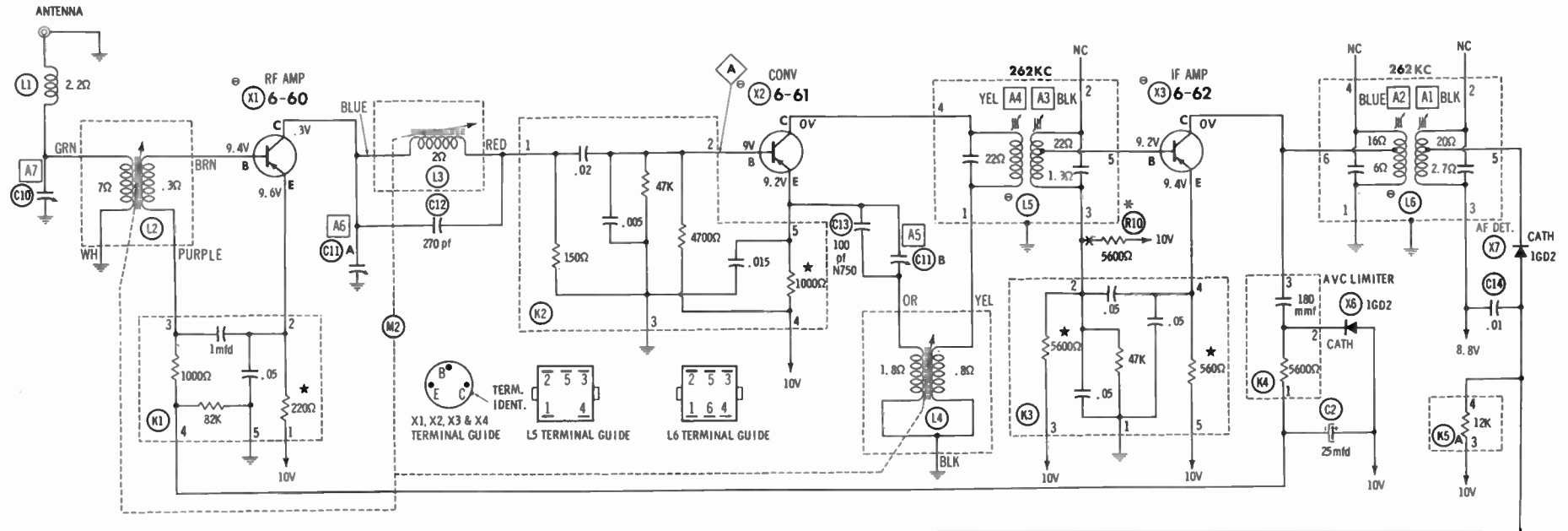
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

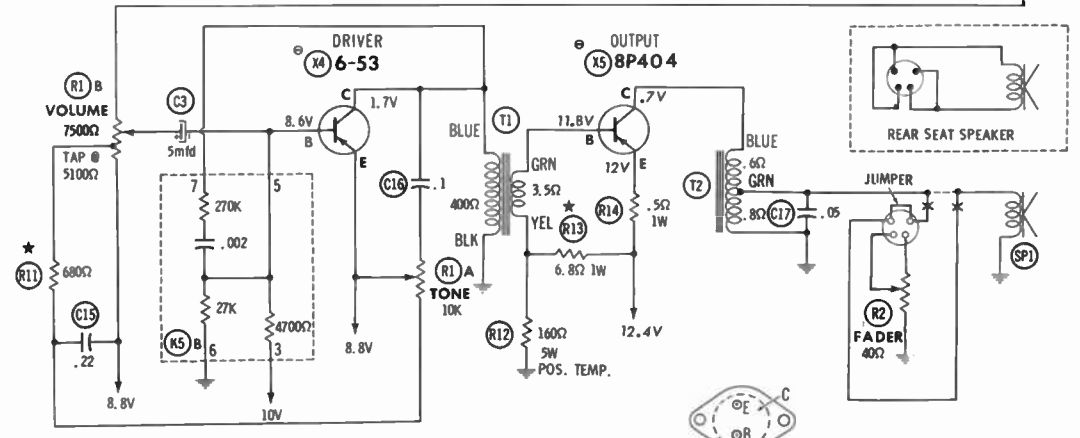


**HOWARD W. SAMS & CO., INC.** Indianapolis 6, Indiana



- 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

\* NOT USED IN SOME VERSIONS  
 \* NOMINAL VALUE, MAY VARY.

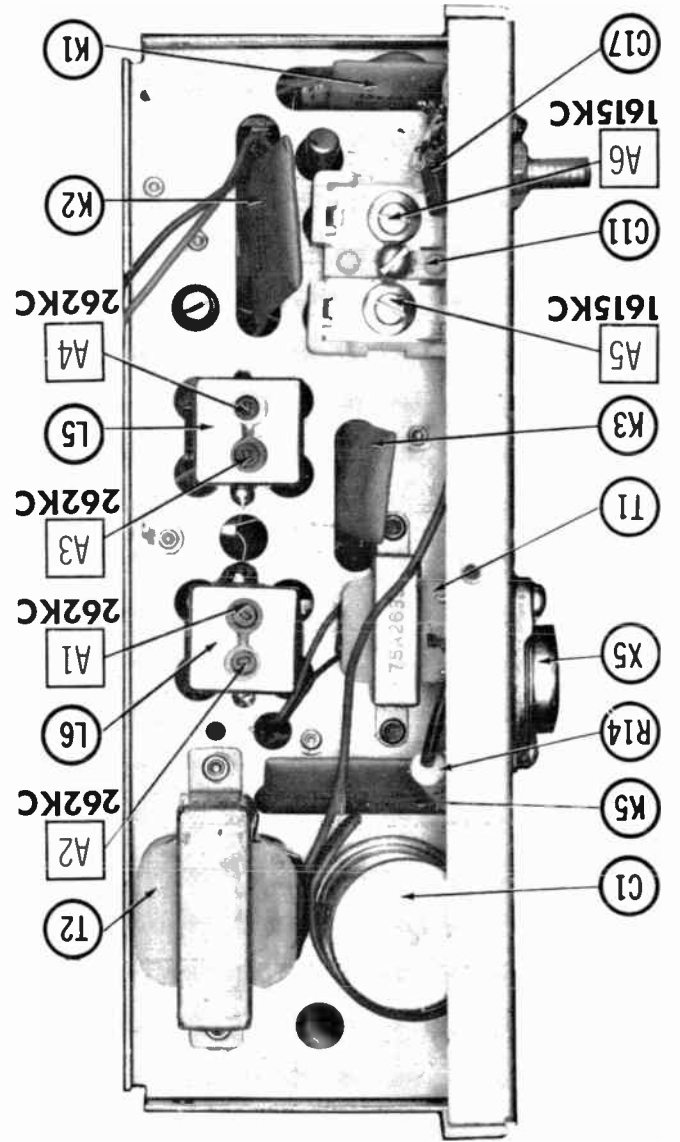
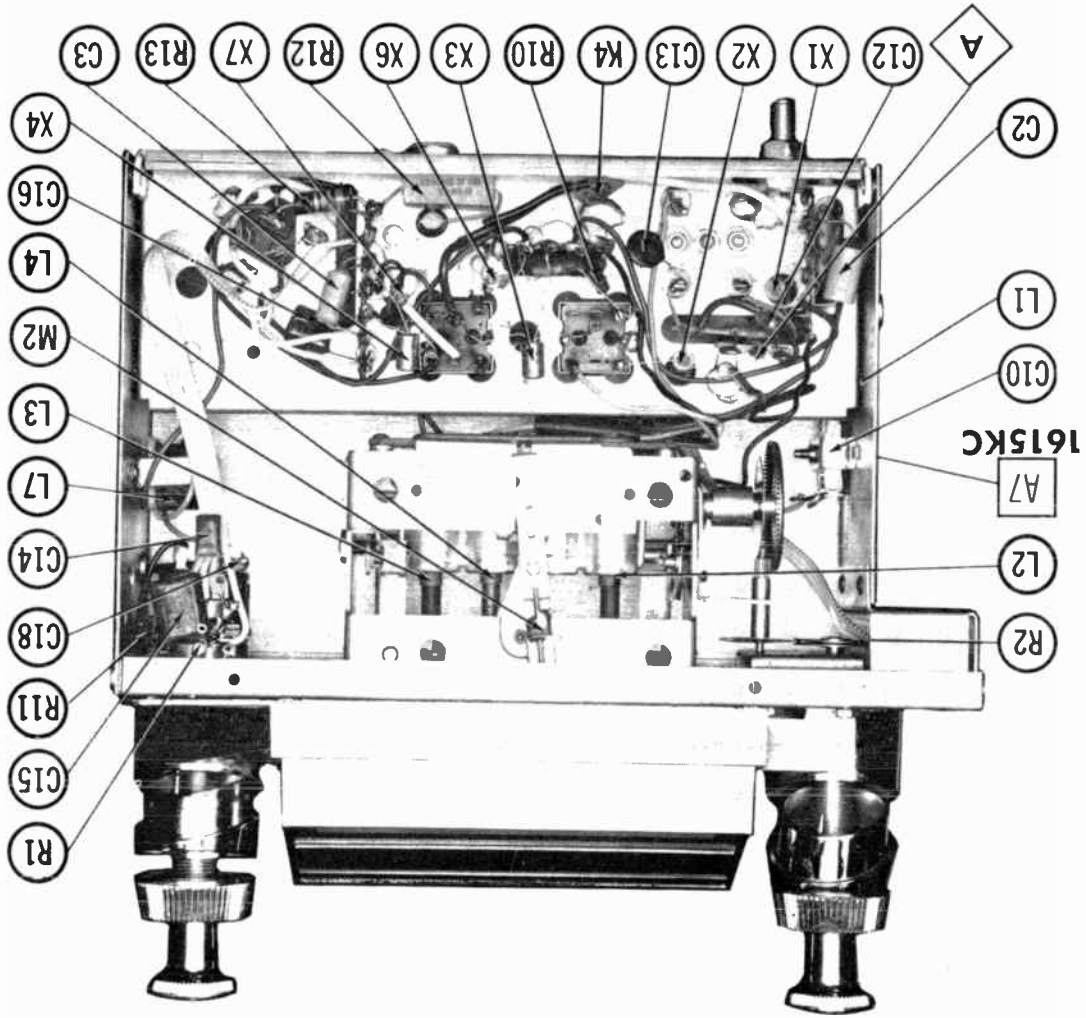


**ALLSTATE MODEL 833.625510**



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ALLSTATE MODEL 833.625510





# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-80 (2N1637)	RF Amp.	DS-25	GE-1		PNP
X2	6-81 (2N1639)	Conv.	DS-25	GE-1		PNP
X3	6-82 (2N1638)	IF Amp.	DS-25	GE-1		PNP
X4	8-53 (2N591)	Driver	DS-28	GE-2		PNP
X5	8P404V (2N178)	Output	DS-820	GE-3		PNP *

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2					1N34AS
X7		1GD2					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		ALLSTATE PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	#500	16	20-2653	AFH3-00-94.5		XC3-48.1		FP300.83	TVLS-3028.14
B	300	16							
C	100	16							
C2	25	15	20-256	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#28-800-2L							
C11A		#28A1332							
C12	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T27	
C13	100 N750		N750-D1100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA1061	CCD-103	B110	5HK-810	
C15	.22			UK20-204	HCC25224Z			HY-325	
C18	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C17	.05		TTD-05	CK-503	H5		TA150	TG-850	
C18		#43-216							

# Allstate Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	10K	80A2772A				† QJ-1821	# UE44698
B	Volume/Switch	7500Ω Tap @ 5100Ω						
R2	Fader	40Ω 2W	81A3916					

† "CONCENTRIT" Equivalent: K8 Kit with Base Elements and Shaft: B11-116, P13-200 (Panel)

B21-115X, R26-215 (Rear)...89 (Bushing)...76-1 (Switch)

"SNAPTROL" Equivalent: BU8, CF9, CR48T, SF18, SR53, GC.

# "STA-LOC" Equivalent: FG14L, RU752T53, OS2000, IS2437, US41

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R12	160Ω 5W (PTC)			#61-161	R14	.5Ω 1W	BWH. 51	WT51	#60-. 58
R13	8.8Ω 1W	BWH6.8	WSS.8						

# Allstate Part Number.

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-8520	T859
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	14-3233A	16-8718	BC-690	6570		
		14-2654 ②	16-8718	BC-690	6570		
		14-3234A	16-8719	BC-691	6571		
L6	Output	14-2655 ②	16-8719	BC-691	6571		TF606

① Part of M2

② Alternate

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	690ma	.5Ω .5Ω	18MH 10MH	75A3082 75A1289	C-4095 C-4095	TC-2 TC-2	TR-155 TR-155	TY17XT TY17XT	Alternate

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	8	1	75A2635				TR-184	

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap @ 8Ω	75A2636				TR-169	

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ALLSTATE PART No.	QUAM PART No.	
SP1	4" x 10" PM 8Ω	73B2737	410A2Z8	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ALLSTATE PART NO.	REPLACEMENT DATA
K1	RF Network	220Ω, 1000Ω, 82K, .05mfd, 1mfd	89A2582C	
K2	Conv. Network	150Ω, 1000Ω, 4700Ω, .005mfd, .015mfd, .02mfd	89A2583B	
K3	IF Network	560Ω, 5600Ω, 47K, .05mfd, .05mfd, .05mfd	89A2584B	
K4	AVC Network	5600Ω, 180Ω	89A2701	
K5	AF Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2585A	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			ALLSTATE PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGC	3	108-303	In Fuse Block	312003			AGC 3	

### MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner	78B3737	

### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon (Manual Model)	54C3858-1	Knob, Tuning or Volume	48A3921
Escutcheon (Push Button Model)	54C3858	Knob, Tone or Dummy	48A3928
Dial Glass	39-170	Dial Pointer	84A3902

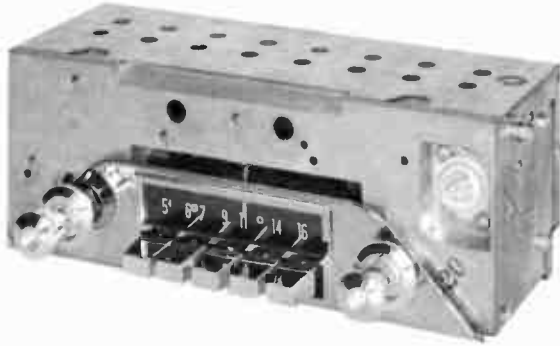
### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

ALLSTATE MODEL 833.625510



# PHOTOFACT®



TRADE NAME : Allstate Models 833.62800, 833.628000  
 SUPPLIER : For Current Address, see Master Index  
 TYPE SET : 3-Tube, 2-Transistor AM Receiver  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : 1.4 Amp. @ 12.6Volts DC  
 TUNING RANGE: BROADCAST 540 - 1615KC

ALLSTATE MODELS 833.62800, 833.628000

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

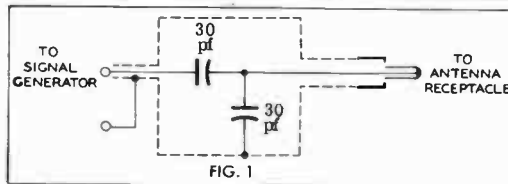
Suggested Alignment Tools: A1 thru A4.... GENERAL CEMENT #8606, 8606L, 8869  
 WALSCO #2543, 2544, 2588  
 A5, A6, A7.... GENERAL CEMENT #8290, 8868, 9087  
 WALSCO #2525, 2528, 2587

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TUBES

• AMPEREX •		GENERAL ELECTRIC		• RCA •		• SYLVANIA •	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE	
V1	RF Amp.	12BL6		V3	IF Amp. -Det. -AVC- AF Amp.	12FR8	
V2	Conv.	12AD6					

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-6S (2N591)	Driver	DS-26	GE-2		PNP
X2	8P404† (2N176)	Output	DS-520	GE-3		PNP •

• When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ALLSTATE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	■ 600	15	20-327	AFH3-00-95.4	CC0008	XC3-48	TMT3002.10	WP300.87	PCLS-3026.10
B	▲ 300	15							
C	100	15							

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#28-800L							
C11	40		DI-39	DD-390	LA10Q89-S3	CCD-390	GP439	5GA-Q39	
C12	.05		TTD-05	CK-503	H5		TA150	TG-850	
C13		#28-431							
C14	8.5	(5pd) †	NPO-DI 8.2						10TCC-V82
C15	40		DI-39	DD-390	LA10Q39-S3	CCD-390	GP439	5GA-Q39	
C16	100 N750		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C17		#28-431							
C18	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C19	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
C20	.002	①	BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-S10	
C23	.003		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33	
C24	.47		DBE2P47		DPMS2P47	1DP-4-474	PVC1047	2PS-P47	
C25		① #43-215							

# Allstate Part Number.

† Alternate Value

① Not used in some versions.

## CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			ALLSTATE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume - Switch	2meg 1meg Tap @ 180K	80A2540		P-2meg ①, RF1-1meg, CPO15, CSR108, SWE-13	† QJ-1756A	FA26A ①, RU16T184, OSR000A, IS1500, US41

① Use Original Spring Mounting Clips.

† "CONCENTRIKT" Equivalent: K8 Kit with Base Elements and Shafts: B13-139, P22-100 (Panel)  
B13-137X, R26-112 (Rear) 76-1 (Switch)

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R25	180Ω 5W (PTC) 140Ω 5W (PTC)			#61-161-5S  #80-141-5S ①	R26 R27	100 1W .50 1W (1Ω 1W)	BWH10Ω BWH.51Ω BWH 1Ω	WS10Ω WT 51 WS 1Ω	#60-100-S #60-5-S #60-1-S ①

① Used in some versions.

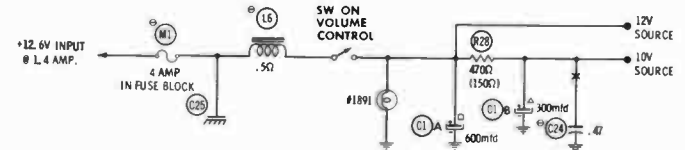
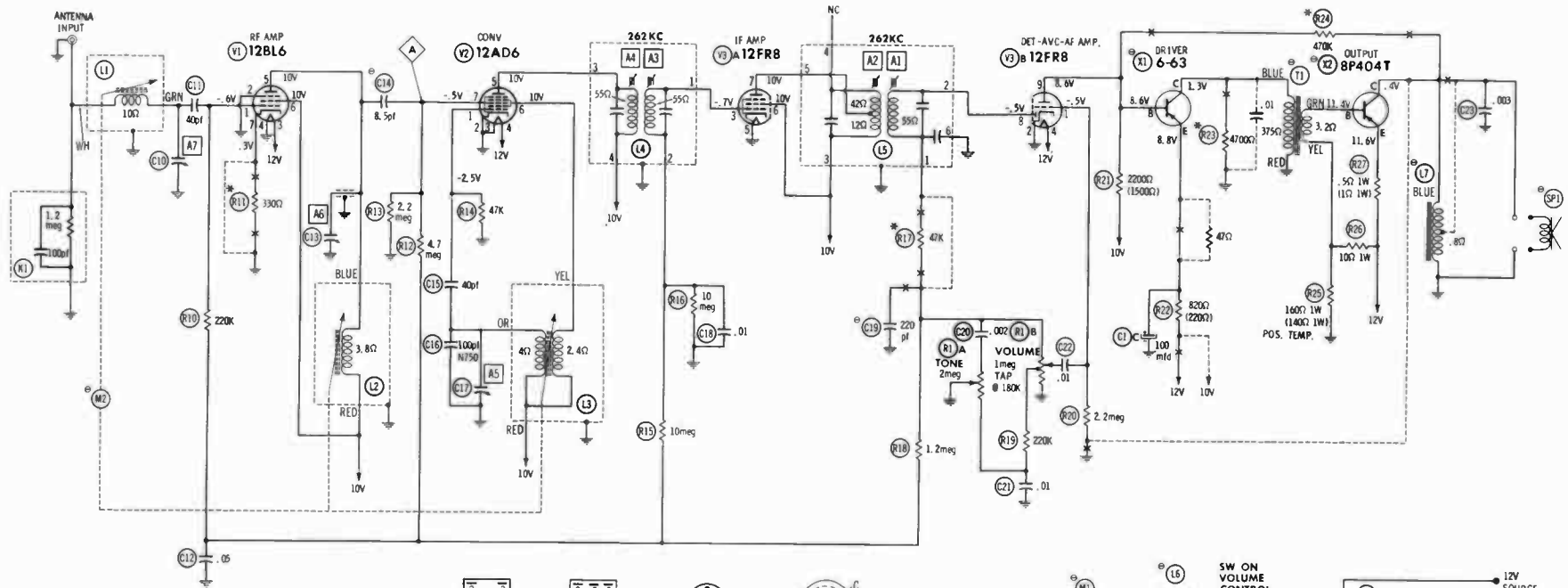
# Allstate Part Number.

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		ALLSTATE PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	Ant.	①					
L2	RF	①					
L3	Osc.	①					
L4	Input IF	14-272	16-6752	BC-350	6540	RTC-8638	TF605
L5	Output IF	14-273	16-6703	BC-424	6572		

① Part of M2

CONTINUED ON PAGE 46



\* NOT USED IN SOME VERSIONS

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊖ 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.

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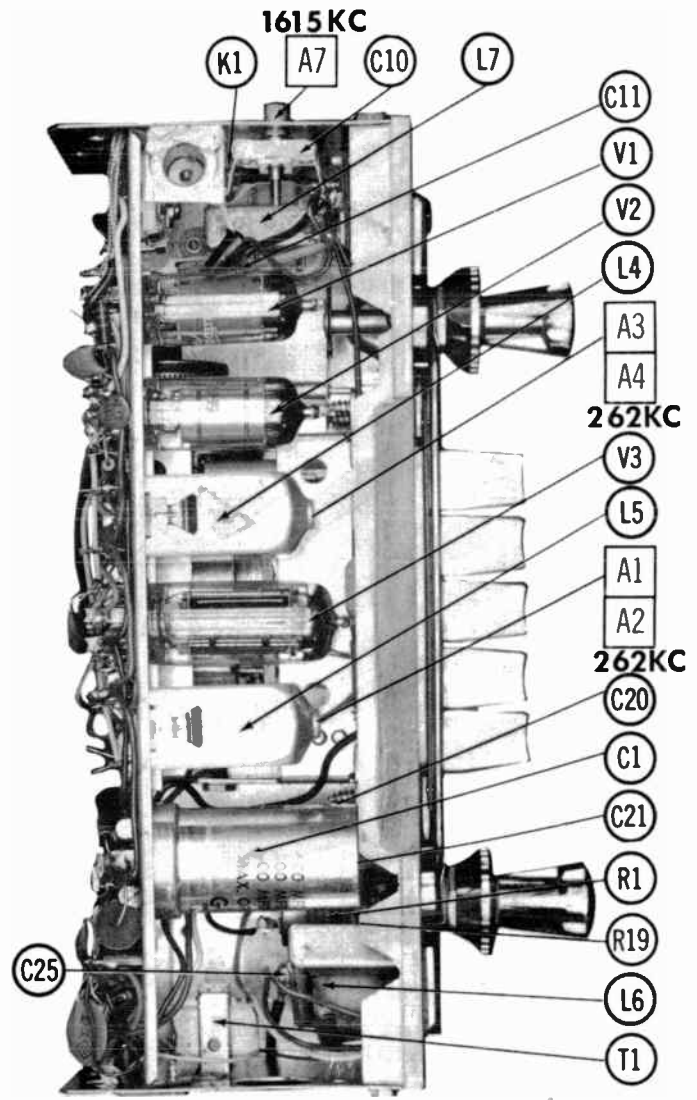
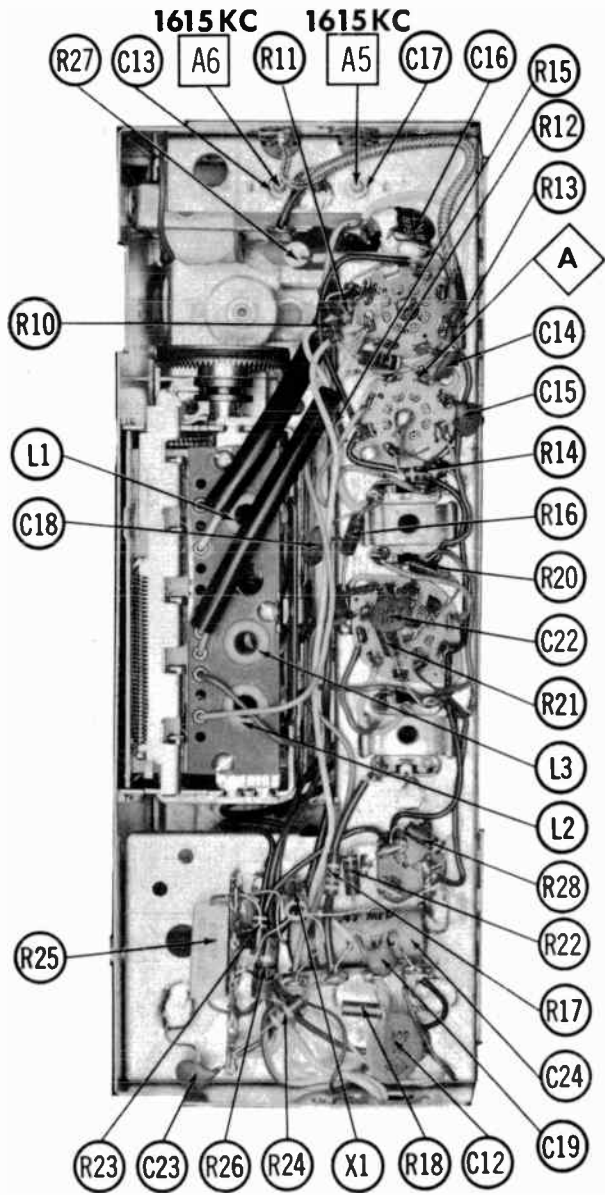
### RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BL6	1.7meg	0Ω	FIL.	FIL.	470Ω▲	470Ω▲	330Ω		
V2	12AD6	47K	0Ω	FIL.	FIL.	525Ω▲	470Ω▲	1.7meg		
V3	12FR8	2.2meg	0Ω	5meg	FIL.	FIL.	470Ω▲	490Ω▲	85Ω	1300Ω▲

▲ MEASURED FROM CIA

RESISTANCE MEASUREMENTS NOT GIVEN ON X1 & X2 BECAUSE OF THE WIDE VARIATION IN INTERNAL RESISTANCE OF TRANSISTOR.

ALLSTATE MODELS 833.62800, 833.628000



ALLSTATE MODELS 833.62800, 833.628000

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	1.4Amp	.5Ω .5Ω	10MH 10MH	75A1269 75A6001	C-4095 C-4095	TC-2 TC-2	TR-155 TR-155	TY17XT TY17XT	

### CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	20MH	75A2043					
	IMPEDANCE						
	PRL	SEC.					
	24Ω Tap @ 4 Ω	75A1437			TR-168		Used in some versions.

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ALLSTATE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		ALLSTATE PART No.	QUAM PART No.	
SP1	6" x 9" PM 20Ω	73B2578	69A3Z20	Used in some versions.
	6" x 9" PM 4Ω	73-905	69A3	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ALLSTATE PART NO.	REPLACEMENT DATA
K1	Ant. Isolation	1.2meg, 100pf	69-4204	Sprague PRC-9

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			ALLSTATE PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGW	4		In Fuse Block	303004			AGW 4	
	SFE	7 1/2			30707.5			SFE 7 1/2	

① Used in some versions.

### MISCELLANEOUS

ITEM No.	PART NAME	ALLSTATE PART No.	NOTES
M2	Tuner Tuner	78B2338 78A1641	(Used in some versions)

### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

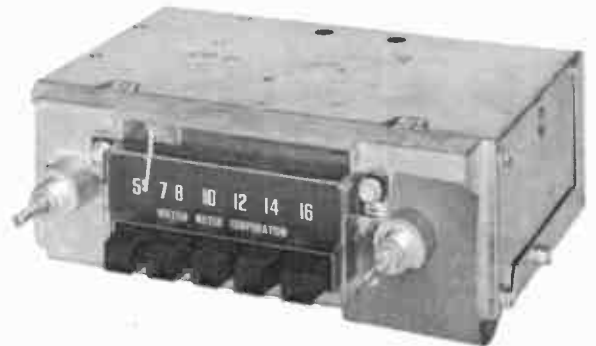
ITEM	PART No.	ITEM	PART No.
Escutcheon	54A1719	Knob, Tuning Volume	54B1738
Dial Glass	55A1443	Knob, Tone	55A1738
Dial, Pointer	84A1633	Knob, Dummy	55A2736-1

### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



**TRADE NAME:** Austin Healy and MG Model HAC700 (4TMB), (1964) Austin Healy 3000 Mark III, Austin Healy Sprite & MGB, MG Midget, MG-1100.  
**SUPPLIER:** For Current Address, See Master Index.  
**TYPE SET:** 6 Transistor AM Receiver  
**POWER SUPPLY:** 12 Volt Storage Battery  
**RATING:** .920 Amp. @ 12.6 Volts DC  
**TUNING RANGE:** BROADCAST 540-1615KC



AUSTIN HEALY AND MG MODEL HAC700 (4TMB)

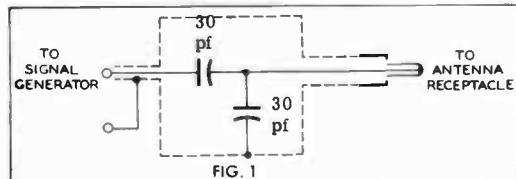
## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools:  
 A1 thru A10      GENERAL CEMENT: 5009, 8987, 8728A      WALSCO. 2531-X, 2536

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.						
3.	High side thru 82pf to antenna receptacle, low side to ground.	1000KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.						

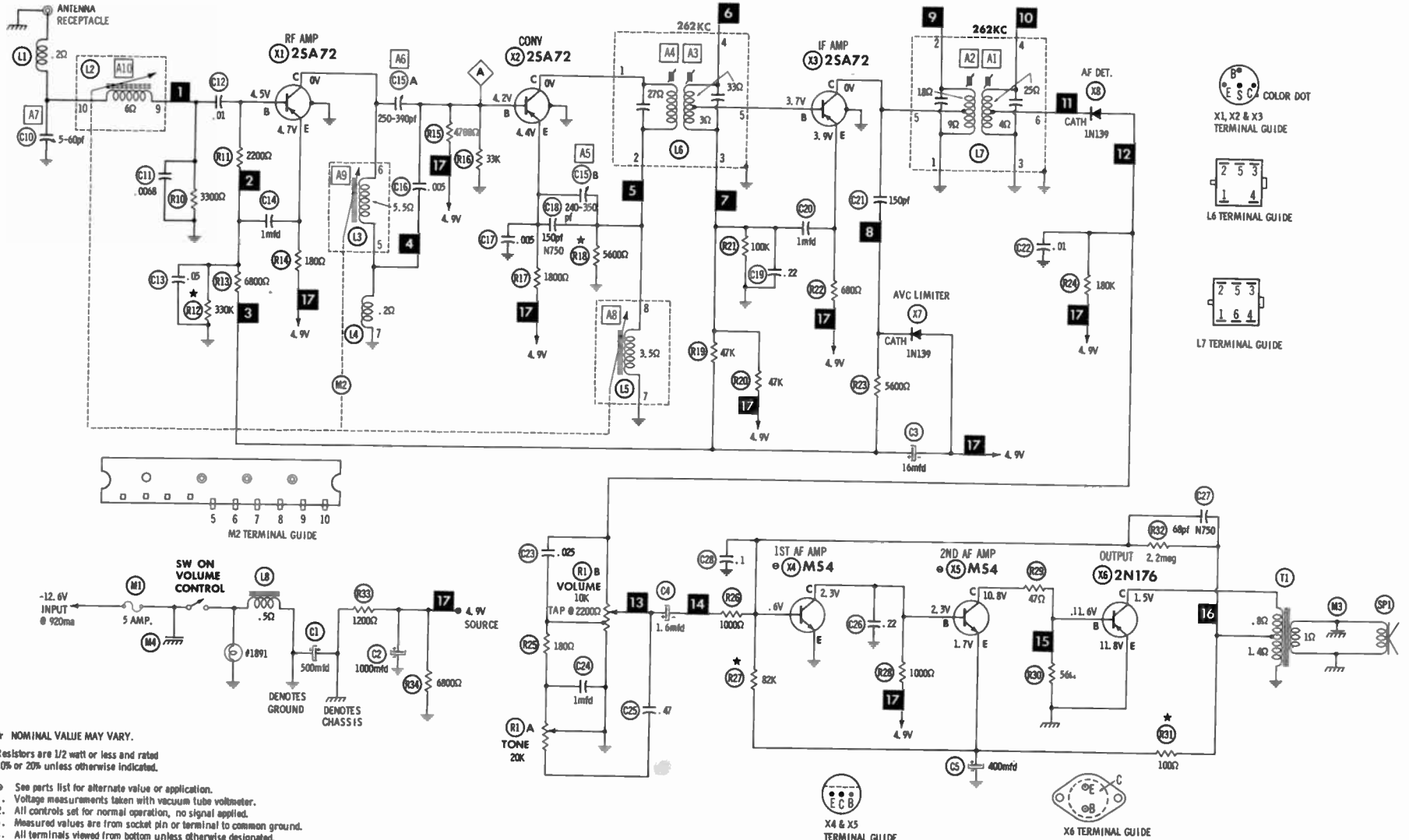
### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



Thru dummy (Fig. 1) to antenna receptacle.





★ NOMINAL VALUE MAY VARY.

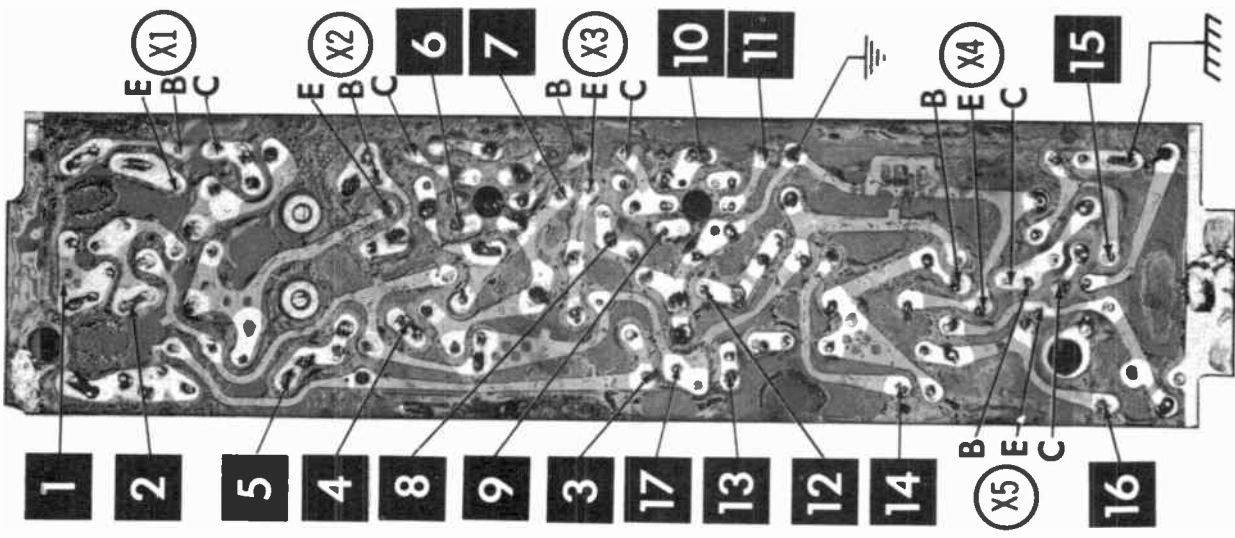
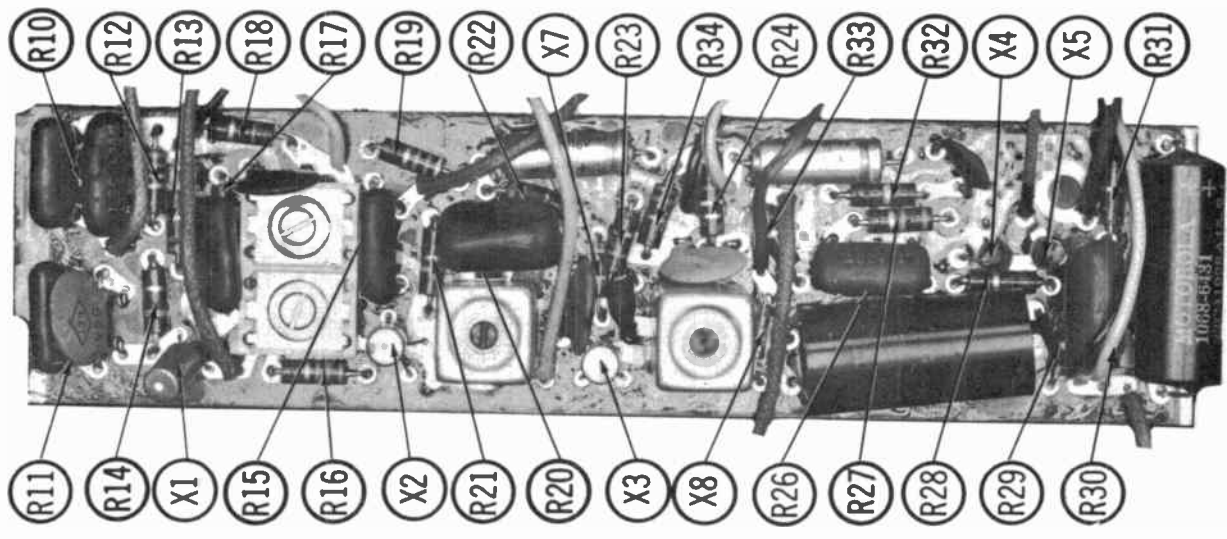
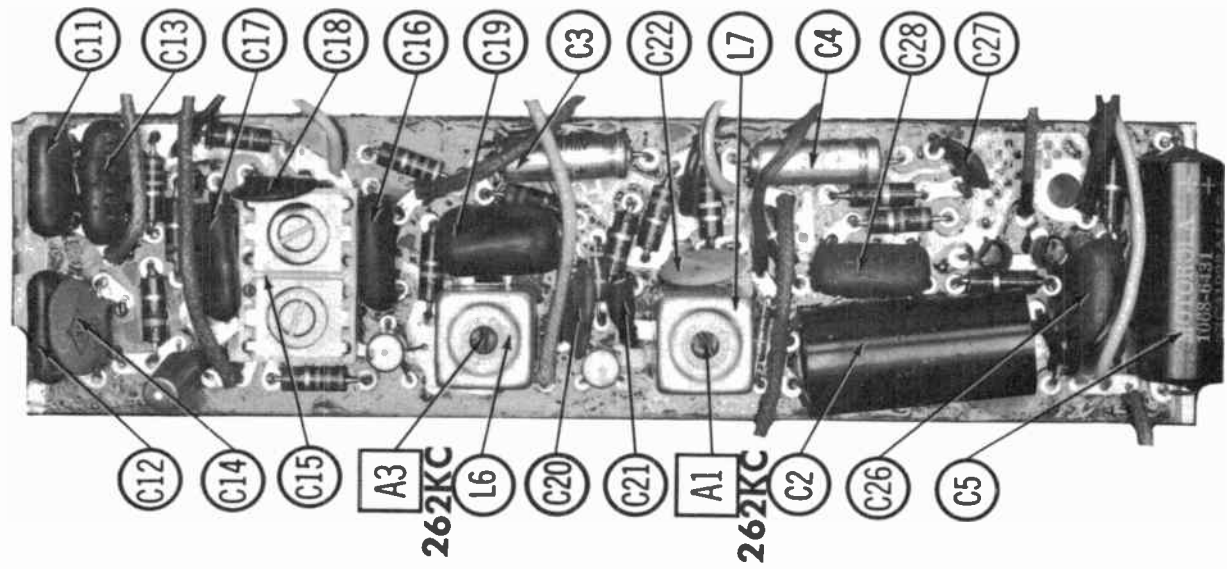
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with CIRCUITRACE

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**AUSTIN HEALY AND MG  
MODEL HAC700 (4TMB)**



AUSTIN HEATY AND MG MODEL HAC700 (4TMB)

A Howard W. Sams CIRCUITRACE® Photo

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>(1)</sup> for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA72	RF Amp.	D8-25	GE-1		PNP
X2	2SA72	Conv.	D8-25	GE-1		PNP
X3	2SA72	IF Amp.	D8-25	GE-1		PNP
X4	M54 (2N2712)	1st AF Amp.	D8-46	GE-10		NPN
X5	M54 (2N2712)	2nd AF Amp.	D8-46	GE-10		NPN
X6	2N176	Output	D8-520	GE-3		PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X7		1N139					1N295
X8		1N139					1N295

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Motorola PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500	16	23C41928A19	PR81290	BR500-25	QT1-32	TD-500-25	TC2506	TVA-1209
C2	1000	10	23C41928A10	PR81160	BR1000-12	QT1-32	BL2430		TVAS-1126*
C3	16	16	23C41928A13	CRE609A	NLW15-25	MT1-11	MLV15-25	TT25X15	TL-1156
C4	1.6	16	23C41928A09	CRE601A	NLW2-50	MT1-1	BL1160	TT50X2	TL-1201
C5	400	16	23C41928A15	PR81220	BR500-15	QT1-30	BL2340	TC1505	TVA-1162

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	5-80	#02C4094406							
C11	.0068 100V		DBE8D68	CPR-6800J	WFM2D68	8DP-1-682	PVC4268		6PS-D68
C12	.01 100V		DBE4S1	CPR-10000J	WFM1S1	1DP-1-103	PVC211		4PS-810
C13	.05 100V		DBE685		DPMS285	1DP-2-503	PVC215		2PS-850
C14	1mfd			UK-105	HCCS105P				HY-135
C15A	250-390	#20C40481A07							
B	240-350								
C16	.005 100V		DBE6D5	CPR-5000J	DPMS8D5	1DP-1-502	PVC625		6PS-D50
C17	.005 100V		DBE6D5	CPR-5000J	DPMS8D5	1DP-1-502	PVC625		6PS-D50
C18	150 N750		N750-DI 150	DTN-150	C10T15U	CCTN-151	CN7315		10TCU-T15
C19	.22 100V		DBE2P22		DPMS2P22	1DP-3-224	PVC1022		2PS-P22
C20	1mfd			UK-105	HCCS105P				HY-135
C21	150		DI-150	DD-151	LA10T1-83	CCD-151	GP315		5GA-T15
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110		5HK-810
C23	.025		TTD-025	CK-253	H4		TA125		TG-825
C24	1mfd			UK-105	HCCS105P				HY-135
C25	.47			UK10-404	HCC1047Z				HY-330
C26	.22 100V		DBE2P22		DPMS2P22	1DP-3-224	PVC1022		2PS-P22
C27	68 N750		N750-DI 68	DTN-68	C10Q68U	CCTN-680	CN7468		10TCU-Q68
C28	.1 100V		DBE2P1		WFM1P1	1DP-2-104	PVC101		2PS-P10

# Motorola Part Number

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Motorola PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone, Volume/Switch	20K 10K Tap @ 2200G	16D42832A08 ①	F1-25K② R16-10K, FFS107, RFS200, KR-4			† QJ-1681A	FA24L④, RUI4T53, OS1437A, IS2000, U841

① Part #16D42832A02 used in some versions.

② Use original spring mounting clips.

† "CONCENTRIKIT" Equivalent: K8③ Kit with Base Elements and Shafts: B11-119, P17-115 (Panel)  
B19-116K, R1-130 (Rear)  
76-1 (Switch)

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		Motorola PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (1.5uh)	24C40788A04	19-1001	BC-562	4604	RTC-8516	T856
L2	Ant.	①					
L3	RF	①					
L4	RF Choke (1.5uh)	24C40788A11	19-1001	BC-562	4604	RTC-8516	T856
L5	Osc.	①					
L6	Input IF	24D42517A01					
L7	Output IF	24D42517A02					

① Part of M2.

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L8	920ma	.5Ω	11MH	25D42032A07	C-4095	TC-2	TR-154	TY17XT

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
T1	25Ω	8Ω	25D42101A10				

### SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			MOTOROLA PART No.	QUAM PART No.	
SP1	5" PM	8Ω	50C42887A02	5A15Z8	Used in Model Austin Healy Sprite & MG Midget & Austin Healy 3000 Mark III Used in Model MGB. Used in Model MG-1100
	5½" X 7¼" PM	8Ω	50C42888A01		
	5" PM	8Ω	50C42887A01		

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGA	5A	65R122345	9C41095A17	301005	155004A	AGA5	HAF

### MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Tuner	77D42372A02	AT-508
M3	Spark Plate	64A41068A01	
M4	Spark Plate	64A41068A01	

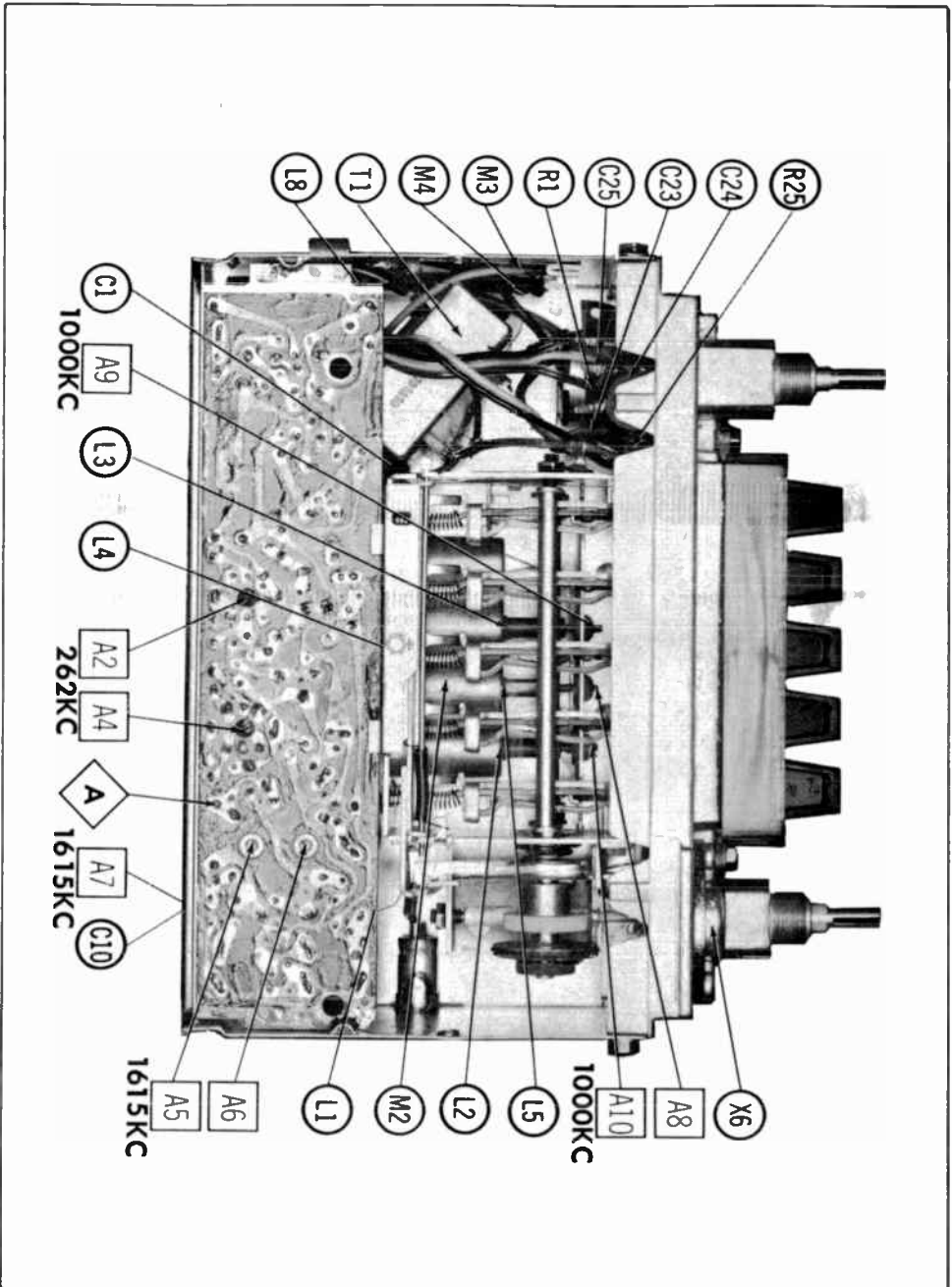
### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Scale	34C42880A01	Knob, Tuning or Volume	36B543876
Pushbutton	38B502848	Knob, Tone or Dummy	36B543877
Dial Pointer	52B42800A01		

### WIRING DATA

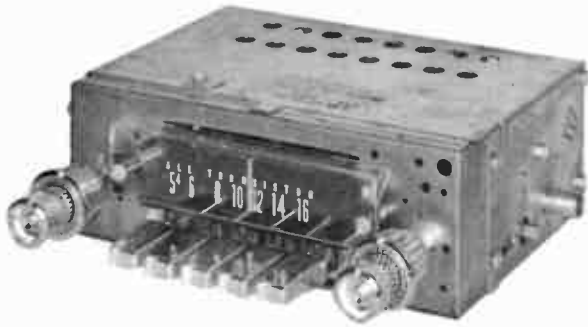
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



AUSTIN HEALY AND MG MODEL HACT00 (4TMB)



# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Automatic Models DD-5125 (1965 Dodge Dart), DX-5121 (1965 Dodge Coronet), PFX-5109 (1965 Plymouth Fury), PP-5105 (1965 Plymouth Belvedere), VT-5108 (1965 Plymouth Valiant), VTP-5107 (1965 Plymouth Valiant)

**SUPPLIER :** For Current Address, See Master Index.

**TYPE SET :** 5 Transistor AM Receiver

**POWER SUPPLY :** 12 Volt Storage Battery

**RATING :** .510 Amp. @ 12.6 Volts DC (Less Lamp)

**TUNING RANGE :** BROADCAST 540-1615KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
Use only enough generator output to provide a usable indication.  
Suggested Alignment Tools:

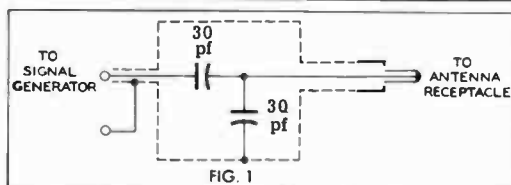
A1 thru A7    GENERAL CEMENT: 9440    WALSCO: 2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point A, low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N1637)	RF Amp.	D8-25	GE-1		PNP
X2	6-61 (2N1639)	Conv.	D8-25	GE-1		PNP
X3	6-62 (2N1638)	IF Amp.	D8-25	GE-1		PNP
X4	6-53 (2N501)	Driver	D8-26	GE-2		PNP
X5	8P404V (2N176)	Output	D8-520	GE-3		PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2					1N34AS
X7		1GD2					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Automatic PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2853	AH3-00-94.5		KCS-48.1		FP300.83	TVLS-3026.14*
B	300	16							
C	100	16							
C2	25	15	20-256	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C11		#28-800-2L							
C11A		#28A1332							
B									
C12	270	N750	DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T25	
C13	100		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C14	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-810	
C15	.22			UK20-204	HCC25224Z			HY-325	
C16	.1		TTD-1	CK-104	H8		TA010	TG-P10	
C17	.05		TTD-05	CK-503	H5		TA150	TG-550	
C18		#43-216							

# Automatic Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Automatic PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RIA	Tone	10K	80A3494	F1-10K, R14-7500,			† QJ-1882A	
B	Volume	7500Ω Tap @ 5100Ω		FFS104, RFS112, AK-28 ② KR-4				
	Tone	10K	80A3257 ①					# UE-4544S
	Volume/Switch	7500Ω Tap @ 5100Ω						

① Used in Models VT-5108, VTP-5107

② Alter Bushings to meet requirements.

† "CONCENTRIKIT" Equivalent: K3 Kit with Base Elements and Shafts: B11-116, P17-105(Panels)

B21-115X, R16-118(Rear) S43 (Bushings) 76-1 (Switch)

"SNAPTROL" Equivalent: BU10 ② CF9, CR48T, SF8, SR44, GC.

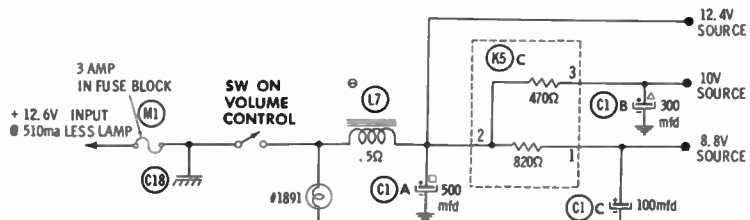
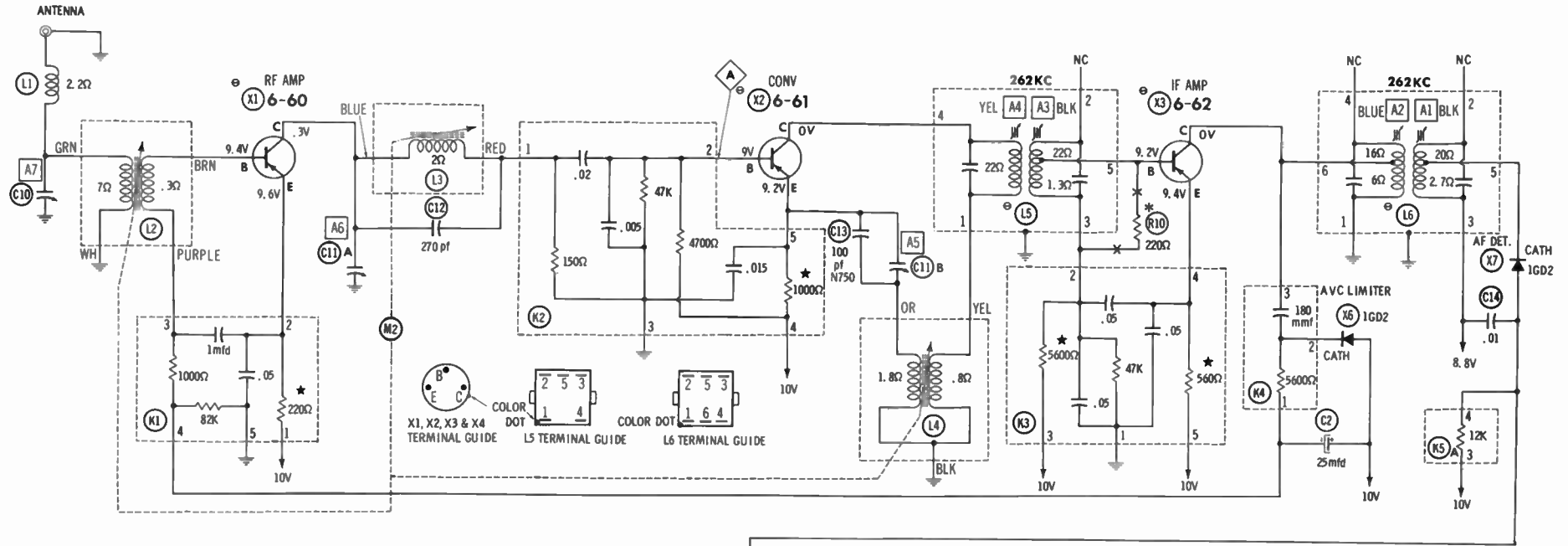
# "STA-LOC" Equivalent: FK14L, RU752T53, O81887, IS2187, US41.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Automatic PART No.			IRC PART No.	WORKMAN PART No.	Automatic PART No.
R12	160Ω 5W (PTC)			61-161	R14	.5Ω 1W	BWH.51	WT51	60.58
R13	6.8Ω 1W 8.2Ω 1W *	BWH6.8 BWH8.2	W86.8Ω W88.2	60-6.8S 60-8.2S *					

\* Alternate

CONTINUED ON PAGE 56



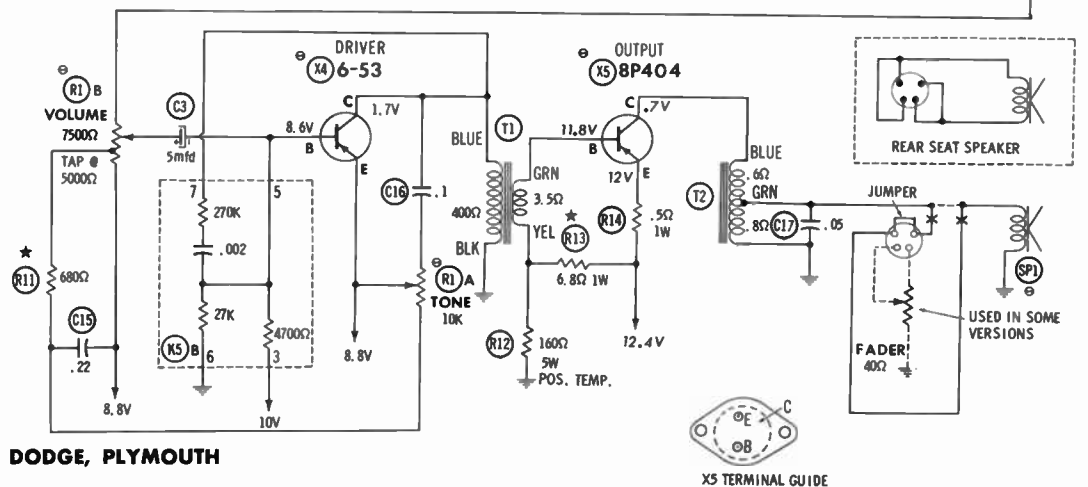
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

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
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

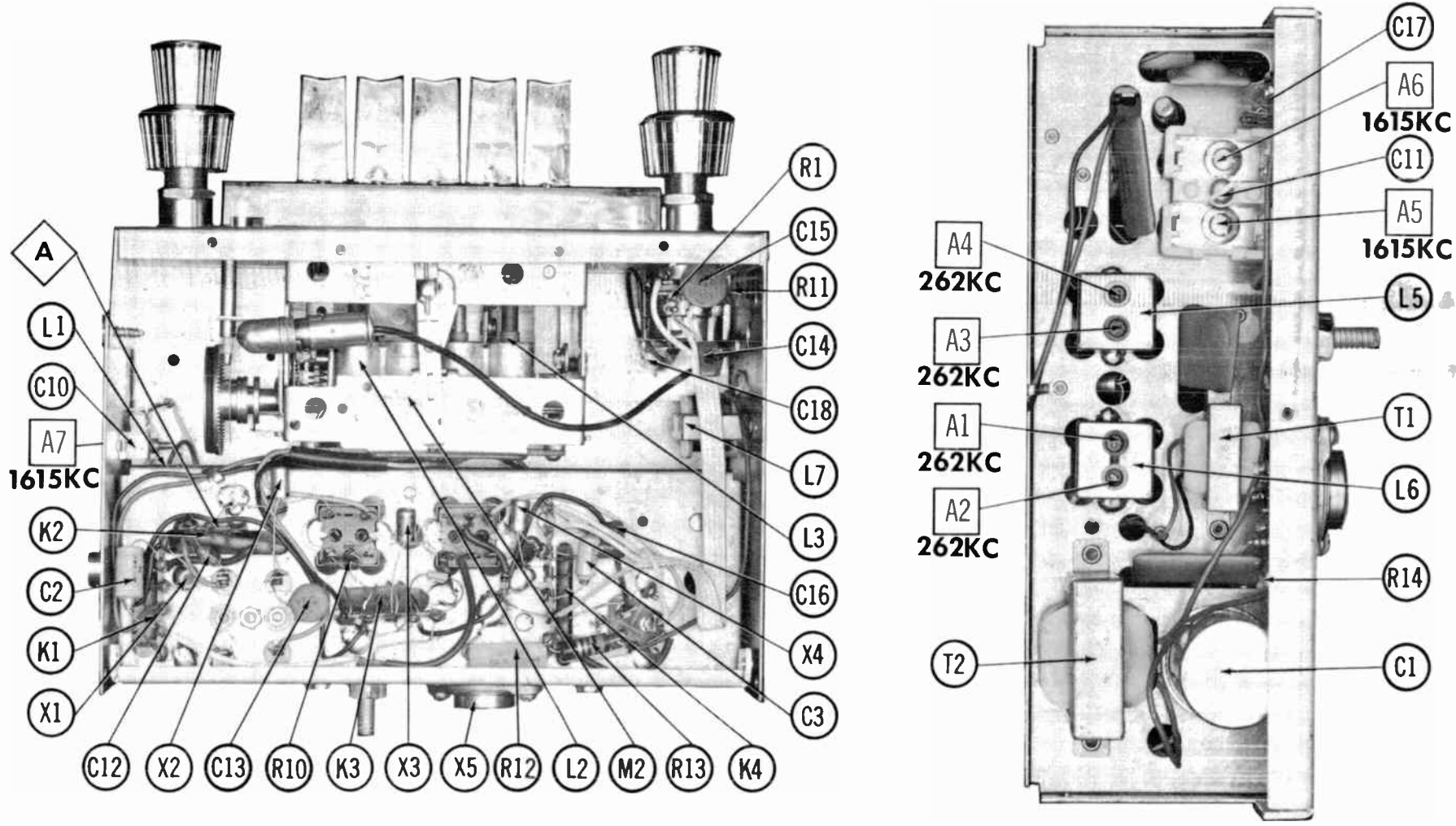
\* NOT USED IN SOME VERSIONS

\* NOMINAL VALUE, MAY VARY.



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**AUTOMATIC (1965) DODGE, PLYMOUTH  
CUSTOM SERIES**





## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		Automatic PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	14-6.2	19-1004	BC-565	4610	RTC-6520	T859
L2	Ant.	①					
L3	RF Osc.	①					
L4	Input IF	143233A	16-6718	BC-600	6570		
L5	Input IF	14-2854 ②	16-8718	BC-600	6570		
L6	Output IF	14-3234A					
		14-2855 ②			6571		

① Part of M2  
② Used in some versions.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	.510ma	.5Ω .5Ω	10MH 10MH	75A3082 75A1289 †	C-4095 C-4095	TC-2 TC-2	TR-155 TR-155	TY17XT TY17XT	† Alternate.

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	6	1	75A2635				TR-164	

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap @ 8Ω	75A2636			TR-169		

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		Automatic PART No.	QUAM PART No.		
SP1	6" x 9" PM	8Ω	73B2671	69A3Z6	Used in Models DD-5125, VT-5108, VTP-5107. Used in Models DX-5121, PP-5105. Used in Model PFX-5109.
	7" PM	8Ω	73B3336	7A21Z6	
	4" x 10" PM	8Ω	73B2737	410A2Z6	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Automatic PART NO.	REPLACEMENT DATA
K1	RF Amp Network	220Ω, 1000Ω, 82K, .05mfd, 1mfd	89A2582C	
K2	Conv. Network	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd	89A2583B	
K3	IF Amp. Network	560Ω, 5600Ω, 47K, .05mfd, .05mfd, .05mfd	89A2584B	
K4	AVC Network	560Ω, 180pf	89A2701	
K5	AF Amp. Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2585A	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			Automatic PART No.		LITELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGC	3A	108-303	In Fuse Block	312003			AGC3	

### MISCELLANEOUS

ITEM No.	PART NAME	Automatic PART No.	NOTES
M2	Tuner	73B3700 or 73B3600	

### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon-Model DD-5125	55D4012	Knob, Tuning or Volume-Models PP5105, PFX-5109, VT-5108, VTP-5107	48A3932
Escutcheon-Model DX-5121	55D3973	Knob, Tone-Models DD-5125, DX-5121	48A3934
Escutcheon-Model PP-5105	55D4016	Knob, Tone-PP-5105, PFX-5109, VT-5108, VTP-5107	48A3933
Escutcheon-Model VT-5108	55C3406-1	Knob, Dummy-Models DD-5125, DX-5121	48A3934-1
Escutcheon-Model VTP-5107	55C3406	Knob, Dummy-Models PP-5105, PFX-5109	48A3933-1
Dial Glass-All Models	39-163	VT-5108, VTP-5107	
Pushbutton-All Models	55A3896	Dial Pointer-All Models	84A3447 or 84A3847
Knob, Tuning or Volume-Models DD-5125, DX-5121	48A3935		



**TRADE NAME :** Automatic Model MB-72  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 2 Tube, 2 Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** 1 Amp. @ 12.6 Volts DC  
**TUNING RANGE :** BROADCAST: 540-2850KC



## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1 thru A4.....GENERAL CEMENT #8606, 8606L, 8869  
 WALSCO #2543, 2544, 2588

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	2.8MC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.						
3.	High side thru 82mmf to antenna receptacle, low side to ground.	1000KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.

With radio installed in car and antenna fully extended, tune in a weak station near 2.4MC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

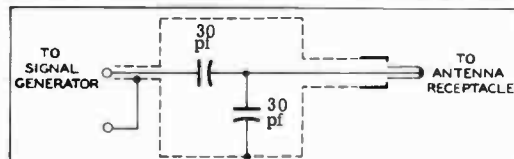
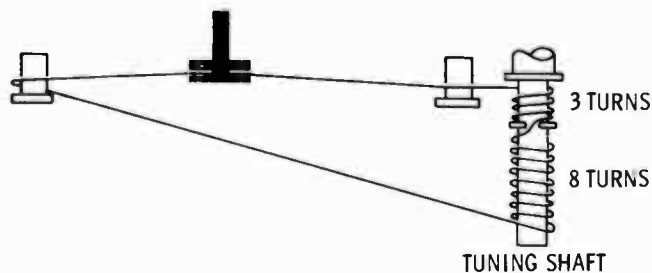
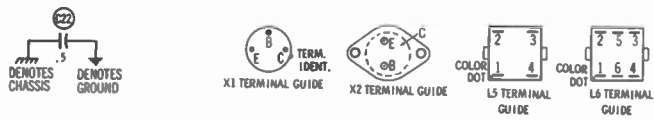
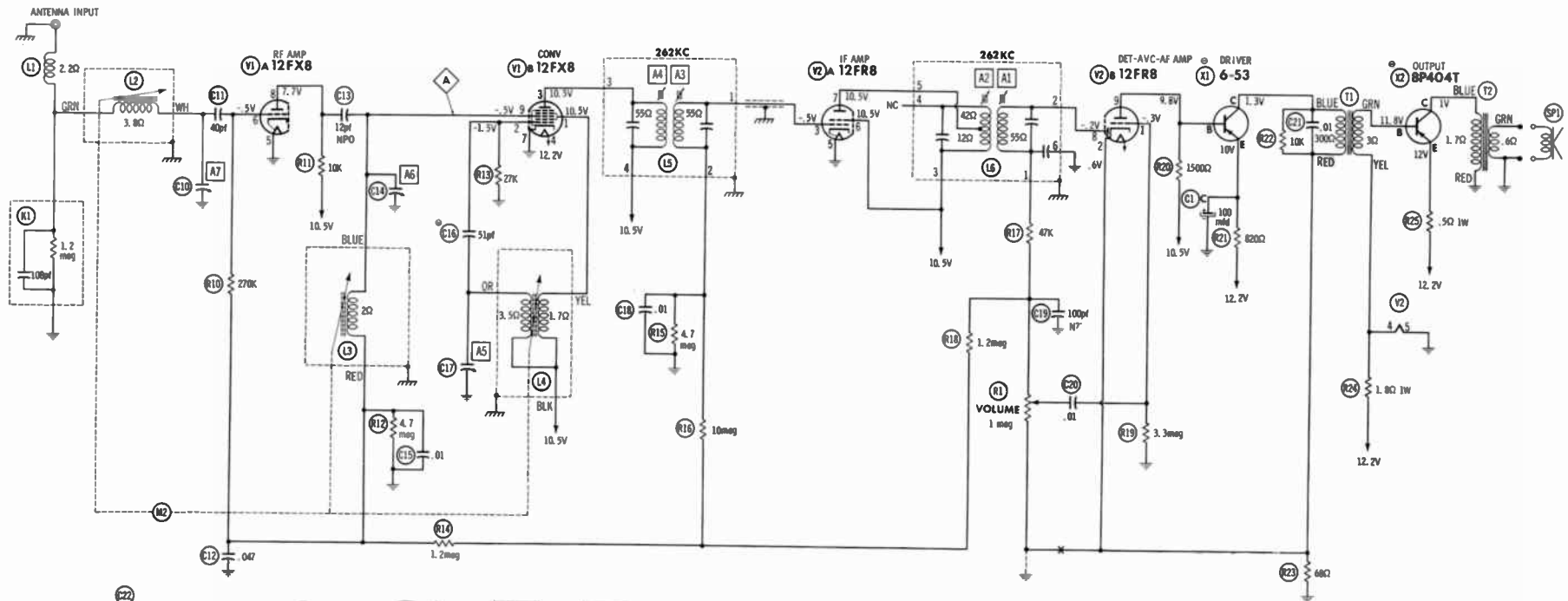


FIG. 1

## DIAL CORD STRINGING



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



**RESISTANCE MEASUREMENTS**

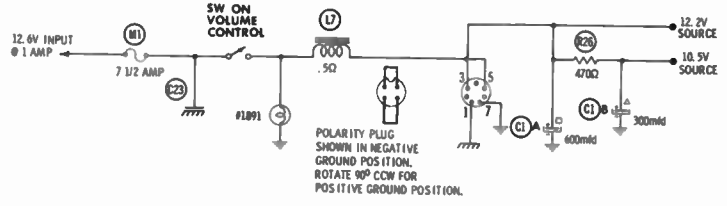
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12FX8	470Ω Δ	27K	525Ω Δ	FIL	FIL	2meg	0Ω	10K Δ	2meg
V2	12FR8	3.3meg	68Ω	4meg	FIL	FIL	470Ω	485Ω Δ	1meg	1500Ω Δ

▲ MEASURED FROM C1A.  
RESISTANCE MEASUREMENTS NOT GIVEN FOR X1 & X2 BECAUSE OF THE WIDE VARIATION OF INTERNAL RESISTANCE OF THE TRANSISTOR.

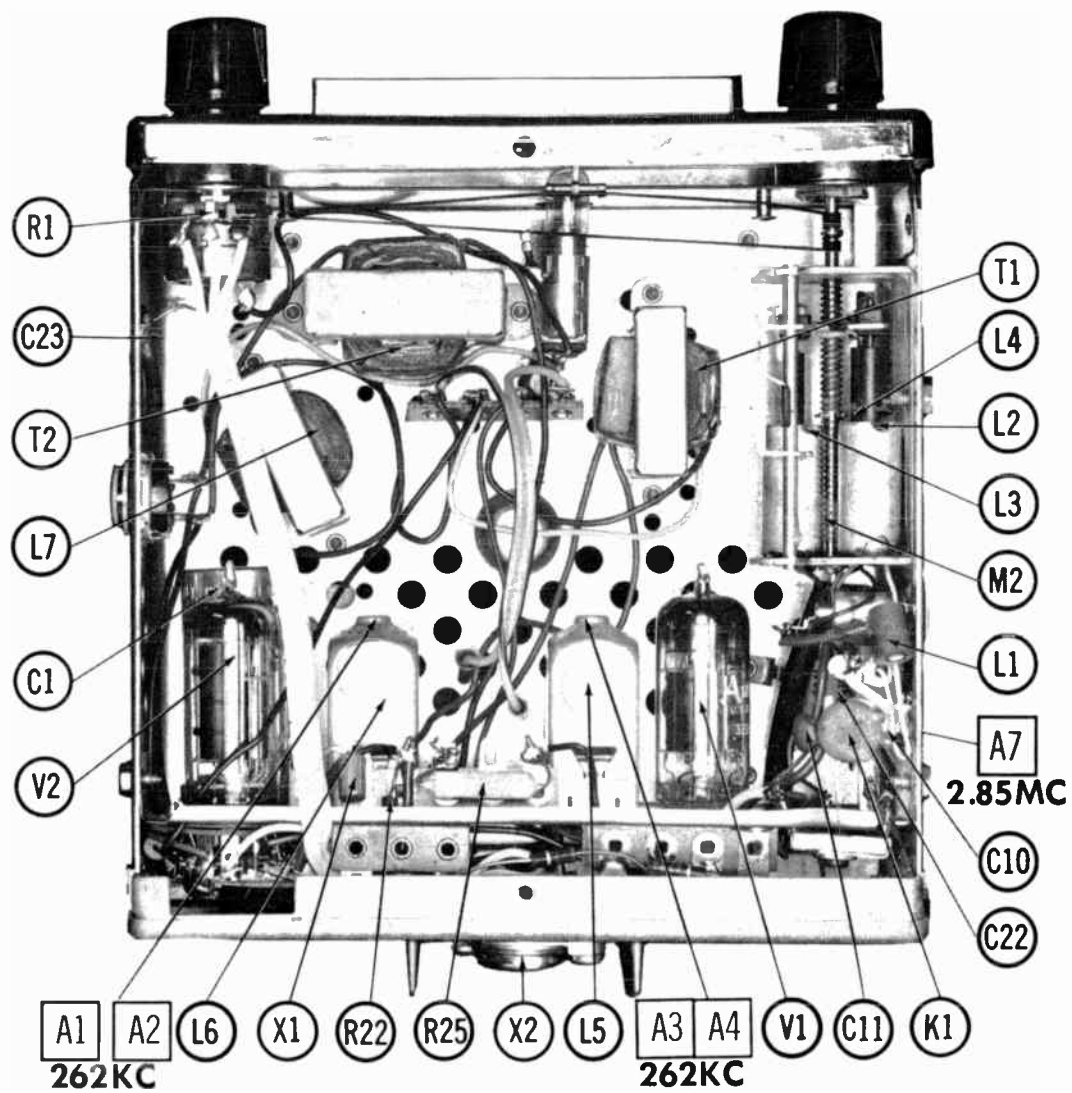
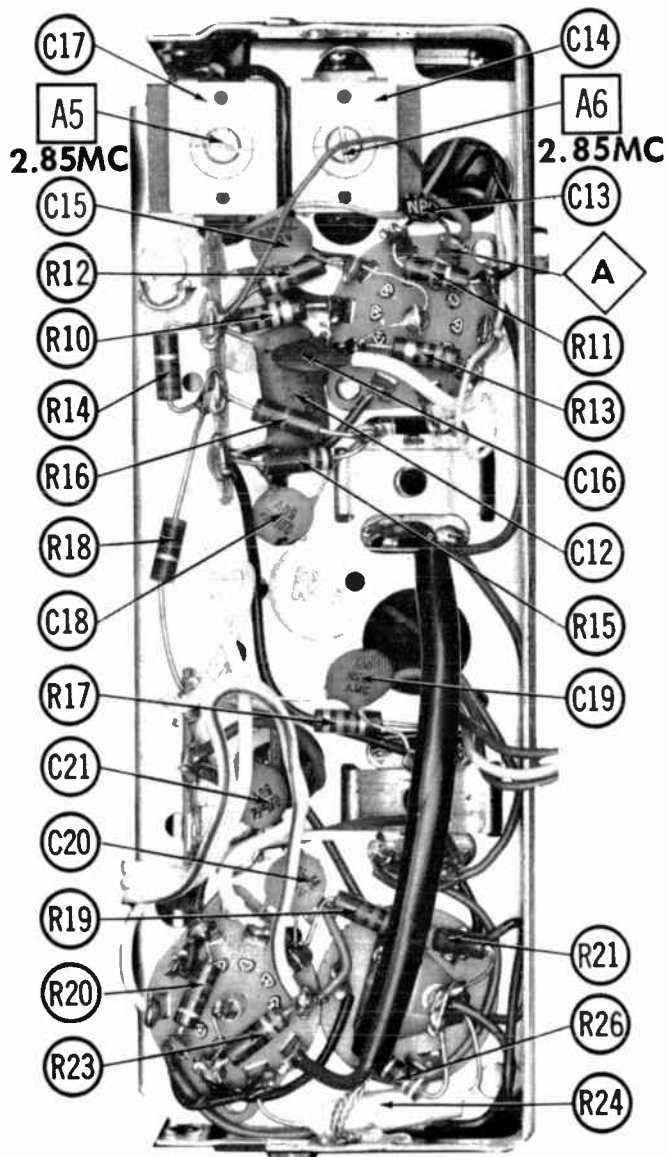
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ① 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.

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**AUTOMATIC MODEL MB-72**



**AUTOMATIC MODEL MB-72**

# PARTS LIST AND DESCRIPTION

## WIRING DATA

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## RESISTORS (Power and Special)

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8524 (Stranded) Available in 12 Colors
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8885
Bonding Strap .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Automatic PART NO			IRC PART No.	WORKMAN PART No.	Automatic PART NO
R24	1.8Ω 1W	BWH1.8	W81.8	60-1.8-18	R25	.5Ω 1W	BW.51	WT51	60-.5-18

## TUBES

♦ AMPEREX ♦		GENERAL ELECTRIC ♦		RCA ♦		SYLVANIA ♦	
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	TYPE
V1	RF Amp.-Conv.	12FX8	V2	IF Amp.-Det.-AVC-AF Amp.	12FR8		

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-53 (2N591)	Driver	DS-28	GE-2		PNP
X2	8P404T (2N176)	Output	DS-520	GE-3		PNP *

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	Automatic PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	800	15	20-327	AFH3-00-95.4	CC0008	XC3-48	TMT3002.10	WP300.87	PCL8-3028.10
C1B	300	15							
C1C	100	15							

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	40	#28-800-2L							
C11	.047	100V NPO	DBE2847	TCN-39	C10Q39U WMP2847	CCTN-390	CN7439	10TCU-Q39	
C12	12			TCZ-12		1DP-2-473	PVC1147	2P8-847	
C13						CCTO-120	CN0412	10TCC-Q12	
C14		#28-281							
C15	.01		BPD-01	DD-103	BYA1081	CCD-103	B110	5HK-810	
C16	51	(40pf) †	DI-50	DD-500	LA10Q5-83	CCD-500	GP450	5GA-Q50	
C17		#28-281							
C18	.01		BPD-01	DD-103	BYA1081	CCD-103	B110	5HK-810	
C19	100	N750	N750-DI100	DYN-100	C10T1U	CCTN-101	CN7310	10TCU-T10	
C20	.01		BPD-01	DD-103	BYA1081	CCD-103	B110	5HK-810	
C21	.01		BPD-01	DD-103	BYA1081	CCD-103	B110	5HK-810	
C22	.5	200V	BE2P5		DPM82P5	1DP-4-504	PVC105	2P8-P50	
C23		#43-215							

# Automatic Part Number.

† Alternate Value.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			Automatic PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Volume, Switch	1meg	80A1240	F2-1meg, SF8212, AK31 (U), KR4 or (AB-70, AK33, AK31 (U), KR-4)			QCB4, B13-137, TM8, 76-1or (BU14 (U), CF26, 884, GC) *	

① Alter bushing to meet requirements.  
\* "SNAPTROL"

## COILS (RF-IF)

ITEM No.	USE	Automatic PART No.	REPLACEMENT DATA				
			MEISSNER PART No.	MERIT PART No.	MULLER PART No.	STANCOR PART No.	
L1	RF Choke (6.2uh)	14-8.2	19-1004	BC-565	4610	RTC-8520	T859
L2	Antenna RF						
L3	RF Osc.						
L4	Input IF	14-272	16-8752	BC-350	8584	RTC-8638	TF805
L5	Output IF	14-273	16-8703	BC-424			

① Part of M2.

## FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES	INDUCTANCE (0 CURRENT 1000~)	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	1Amp.	.5Ω	10MH	75A1289	C-4095	TC-2	TR-155	TY17XT

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	75A1859				TR-184	

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Automatic PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	16Ω	4Ω	75A1272				TR-181	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			Automatic PART No.	LITTELFUSE PART No.	BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	8FE	7 1/2			30707.5	155009	8FE 7 1/2	HDE

## MISCELLANEOUS

ITEM No.	PART NAME	Automatic PART No.
M2	Tuner	78A2448

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		Automatic PART No.	QUAM PART No.
SP1	5" PM 4Ω	73A1275	5A05

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Automatic PART NO.	REPLACEMENT DATA
K1	Antenna Isolation	1.2meg, 100pf	89-4204	Sprague-PRC-9

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Tuning, Volume	47A1235	Dial Pointer	84A1211
Knob, Spacer	47A1249		



# PHOTOFACT®

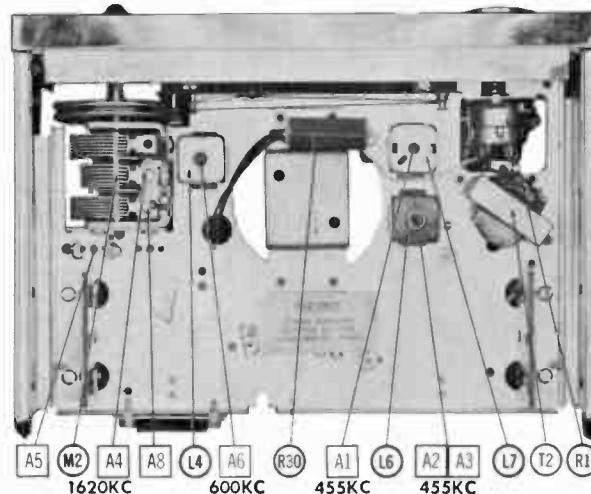
TRADE NAME : Automatic Model PA-74R  
SUPPLIER : For Current Address, see Master Index  
TYPE SET : 6-Transistor AM Receiver  
POWER SUPPLY : 12 Volt Storage Battery or 9 Volts DC  
RATING : .44 Amp. @ 12.6Volts DC  
.018 Amp. @ 9VDC (No Signal)  
TUNING RANGE : BROADCAST 540 – 1620KC



## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
Fashion loop of several turns of wire and connect generator across loop.  
Adjust output of generator to radiate only enough signal into receiver to obtain a suitable indication.  
Suggested Alignment Tools: A1 ..... GENERAL CEMENT #5097, 8727  
WALSCO #2515  
A2, A3, A5, A9.. GENERAL CEMENT #8282, 8606, 9302  
WALSCO #2543, 2544, 2588  
A4, A7, A8 ..... GENERAL CEMENT #8290, 8868, 9087  
WALSCO #2525, 2528, 2587

SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455KC (400% Mod.)	Tuning gang fully open.	Output Meter across voice coil.	A1, A2, A3	Adjust for maximum. Repeat as required.
2. 1620KC	"	"	A4	Adjust for maximum.
3. 600KC	Tune to Signal.	"	A5, A6	Rock tuning gang and adjust for maximum. Repeat steps 2 and 3.
4. 1400KC	"	"	A7, A8	Adjust for maximum.
5. 600KC	"	"	A9	Adjust for maximum.

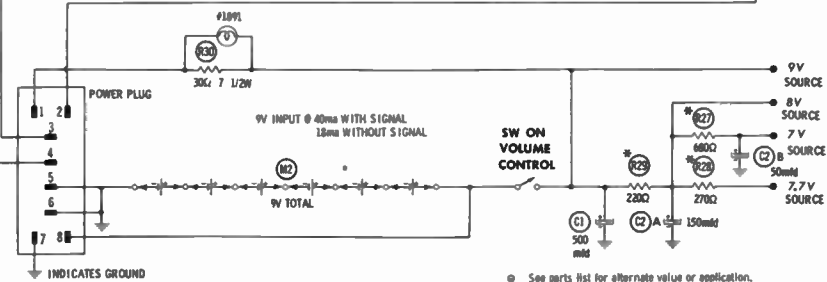
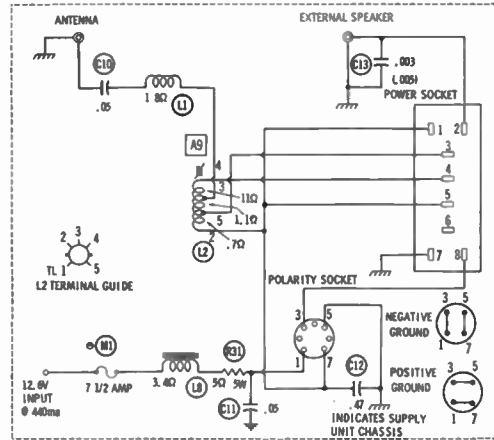
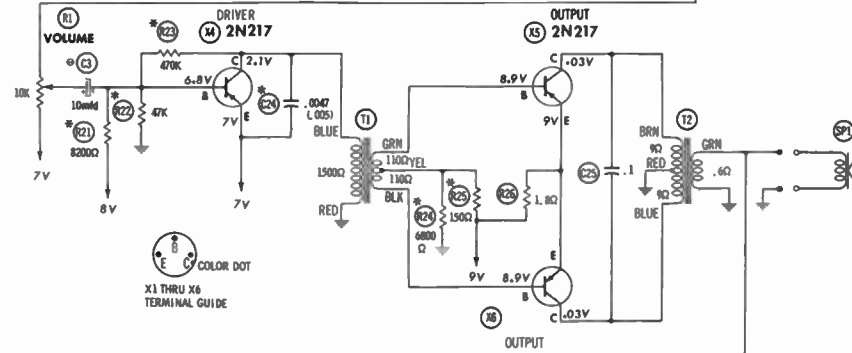
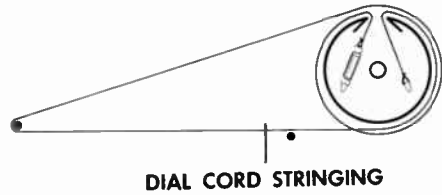
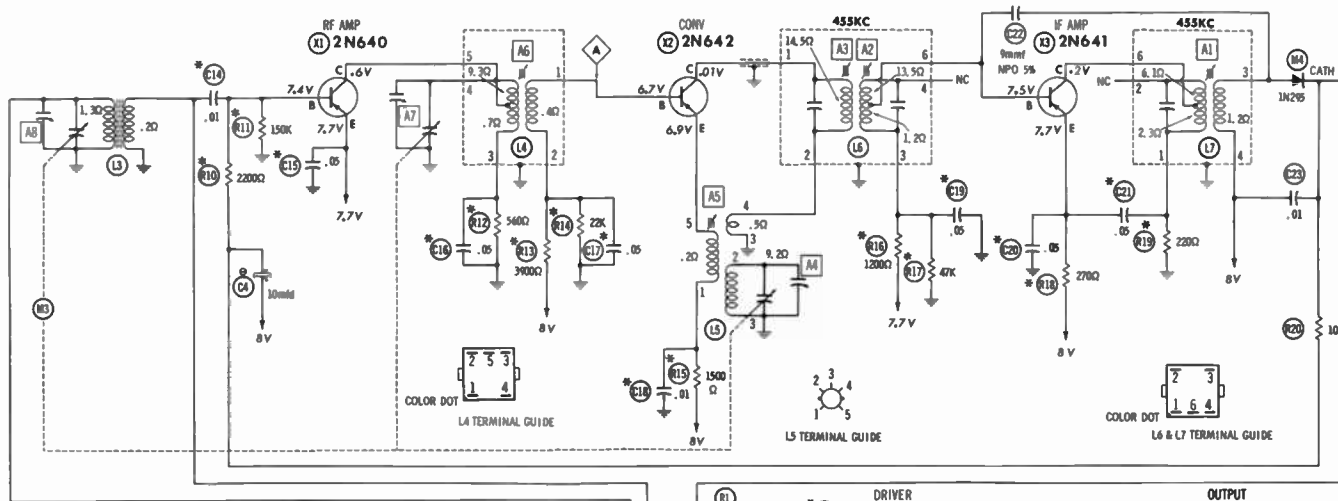


AUTOMATIC MODEL PA-74R

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

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World Radio History



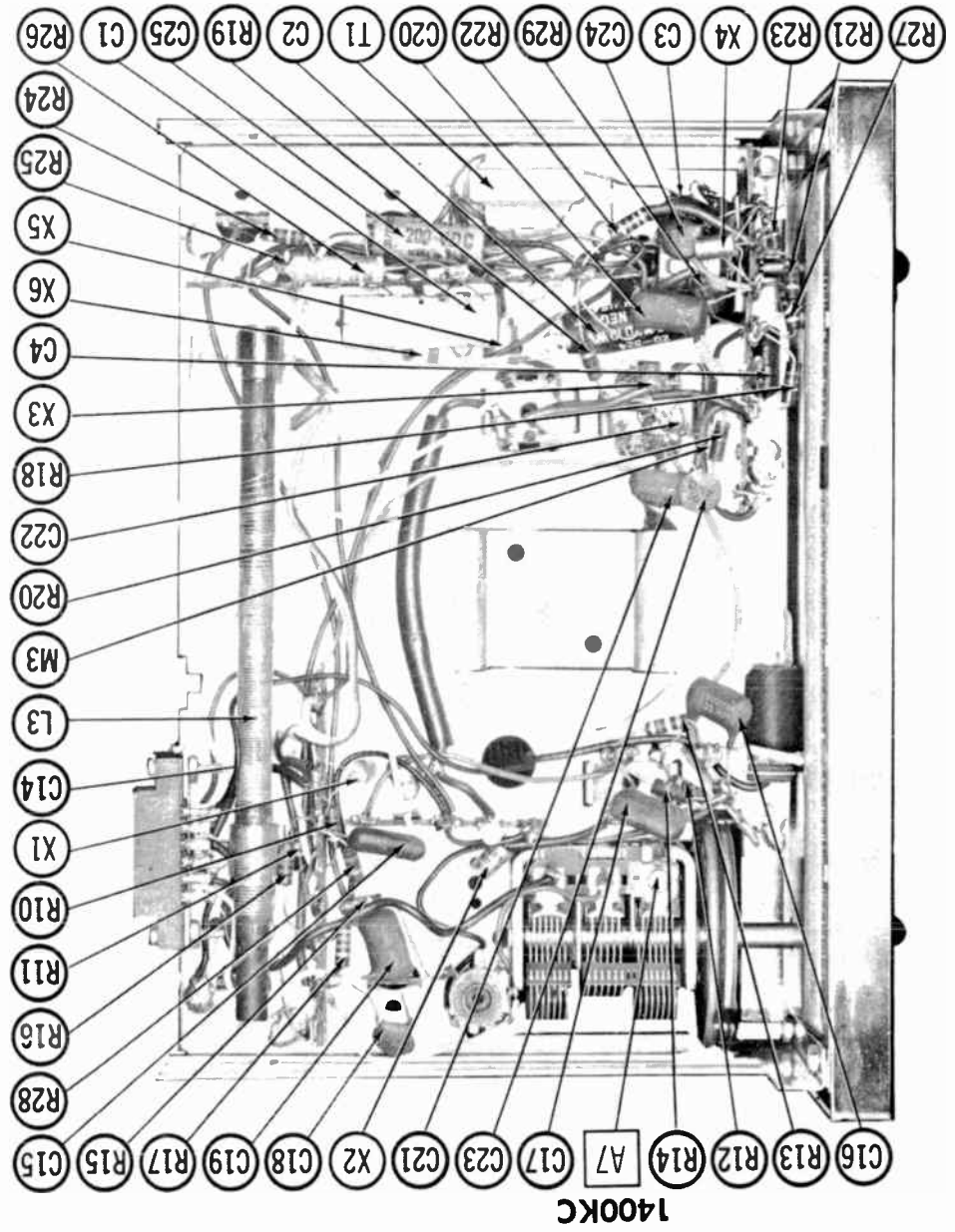
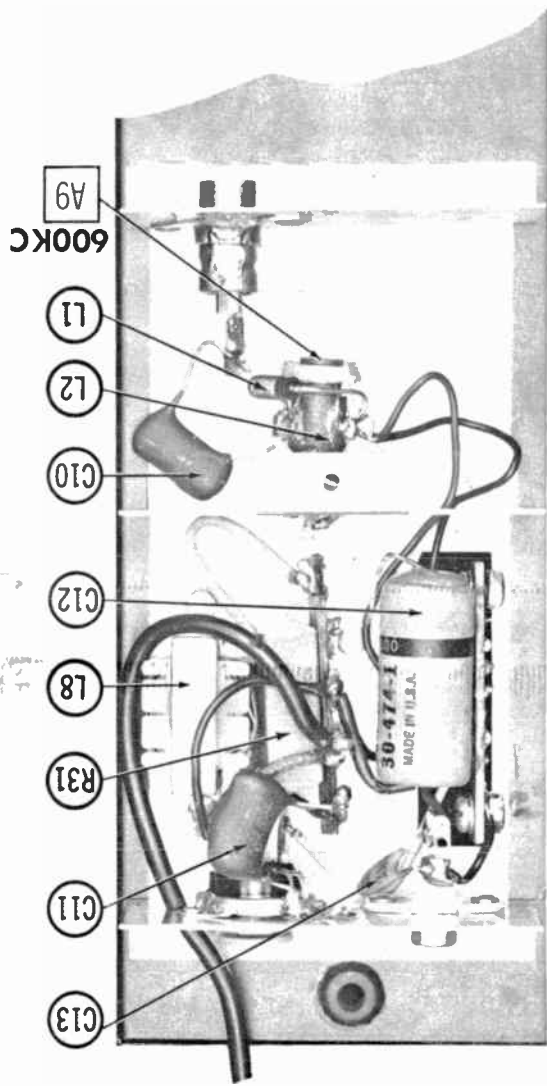
\* PART OF RF CONV. MODULE (H8A206H OR IF AND AUDIO MODULE (H8A207H) IN SOME VERSIONS.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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- © 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. Resistance measurements not given because of the wide variation in internal resistance of transistor.

**AUTOMATIC MODEL PA-74R**

**AUTOMATIC MODEL PA-74R**





# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N640	RF Amp.	D625	G21	2N640	PNP
X2	2N642	Converter	D625	G21	2N642	PNP
X3	2N641	IF Amp.	D625	G21	2N641	PNP
X4	2N217	Driver	D626	G22	2N217	PNP
X5	2N217	Output	D626	G22	2N217	PNP
X6	2N217	Output	D626	G22	2N217	PNP

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	AUTOMATIC PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500	15	20-507	QR81220	BR500-15		BL2342	TC-1505	TVAl162
C2A	150	10	20-324	CRF428A	NLW150-10		MLV150-12	TT12X150	TE-1136
B	50	10		CRF417A	NLW50-10	MT1-23	MLV50-10	TT10X50	TE-1119
C3	10	15	Note 1	CRF457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155
C4	10	15	Note 1	CRF457A	NLW10-15	MT1-5	MLV10-15	TT15X10	TE-1155

Note 1. Some variations may use 10mfd 10V, part #20-106.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMenco PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C11	.05 100V	Note 1	P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C12	.47 100V	Note 1	P288N-47		WMF1P47	IDP-4-474	PVC1047	2TM-P47
C13	.003	(.005) †	DX-3000	DM-302	LA10D3-C4	CCD-302	GP230	10T8-D30
C14	.01		BPD-01	DD-103	BYA1081	CCD-103	B-110	5HK-D10
C15	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C16	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C17	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C18	.01		BPD-01	DD-103	BYA1081	CCD-103	B-110	5HK-810
C19	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C20	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C21	.05 100V		P288N-05	DDA-503	PM288	IDP-2-503	PVC215	2TM-860
C22	9mmf NPO 5%	#18-9	BPD-01	DD-103	BYA1081	CCD-103	B-110	5HK-810
C23	.01		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C24	.0047	(.005) †	P288N-1	DDA-104	PM288	IDP-2-503	PVC215	2TM-P10
C25	.1 200V		P288N-1	DDA-104	PM288	IDP-2-503	PVC215	2TM-P10

Note 1. Not used in some variations.  
 † Alternate Value

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			AUTOMATIC PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume, Switch	10K	80A1620, B	AB-15, A-K-33 KR-7 or (F2-10K, SF8212, KR-7)	A47-10K-Z, R8-3/16 SWE-23	B13-116, SK9, 76-2	UA14A, 8D3500, U8-42 or (RU14A, BL35, 181375, U8-42) or (U18, DG-37, U8-27)

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		AUTOMATIC PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2					
L2	Ant. Matching	14A2017					
L3	Loopstick	10A2015					
L4	RF	14-23					
L5	Osc.	14A2016					
L6	Input IF	14-21					
L7	Output IF	14-22					

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (D CURRENT 1000~)	AUTOMATIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L8	440 MA	3.4Ω	37 MH	75A1636				

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	AUTOMATIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	2, 2	1	75A787C				

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	AUTOMATIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T2	100Ω CT	3-4Ω	75A1561				

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		AUTOMATIC PART No.	QUAM PART No.	
SP1	4 1/2" x 4 1/2" PM 3-4Ω	78A636		

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			AUTOMATIC PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFF	7 1/2 Amp			307007.5 (7 1/2 Amp)	15507.5	SFF 7 1/2	
	3AG	2 Amp	108-100	12A1912B		155020	AGC 2	

## BATTERIES

ITEM No.	VOLTAGE	AUTOMATIC PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M2	1 1/2V		230 (AL-2)	A100 (E95)	M-13R (MN1300)	6 used

## MISCELLANEOUS

ITEM No.	PART NAME	AUTOMATIC PART No.	NOTES
M3	Tuning Cap.	35A1682	3 Gang
M4	Def. - AFC Diode	1N295	

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Glass Facutcheon	55A1606 54C1804	Knob, Volume, Tuning	48A1613

## WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in 12 Colors  
 8524 (Stranded) Available in 12 Colors  
 Shielded Hook-up Wire ..... Use BELDEN No. 8885  
 Rear Seat Speaker Extension Cable ..... Use BELDEN No. 8782 (Stranded) Coded Parallel Leads  
 Bonding Strap ..... Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



# PHOTOFACT<sup>®</sup> with **CIRCUITRACE<sup>®</sup>**

TRADE NAME : Buick Models 7285424 1965 Buick,  
7289734 1965 Riviera.  
SUPPLIER : For Current Address, See Master Index.  
TYPE SET : 6 Transistor AM Receiver  
POWER SUPPLY : 12 Volt Storage Battery  
RATING : 1.2 Amp. @ 12.6 Volts DC  
TUNING RANGE : BROADCAST 540-1615KC



BUICK MODELS 7285424, 7289734

## ALIGNMENT INSTRUCTIONS

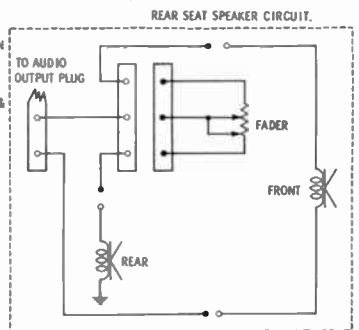
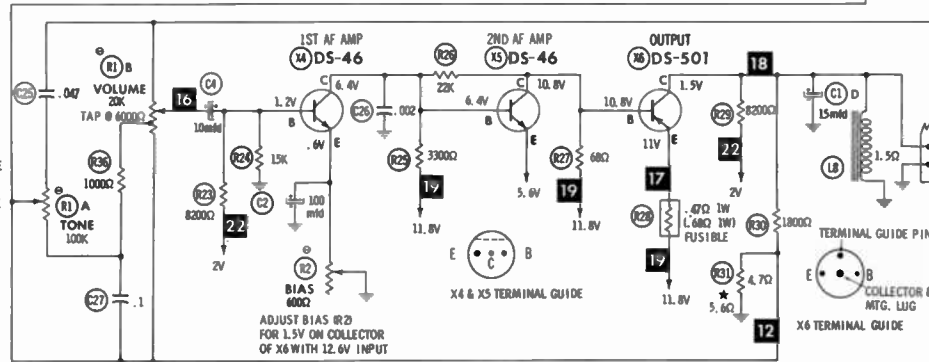
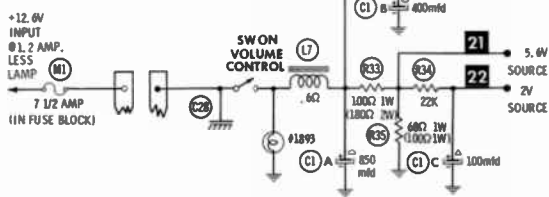
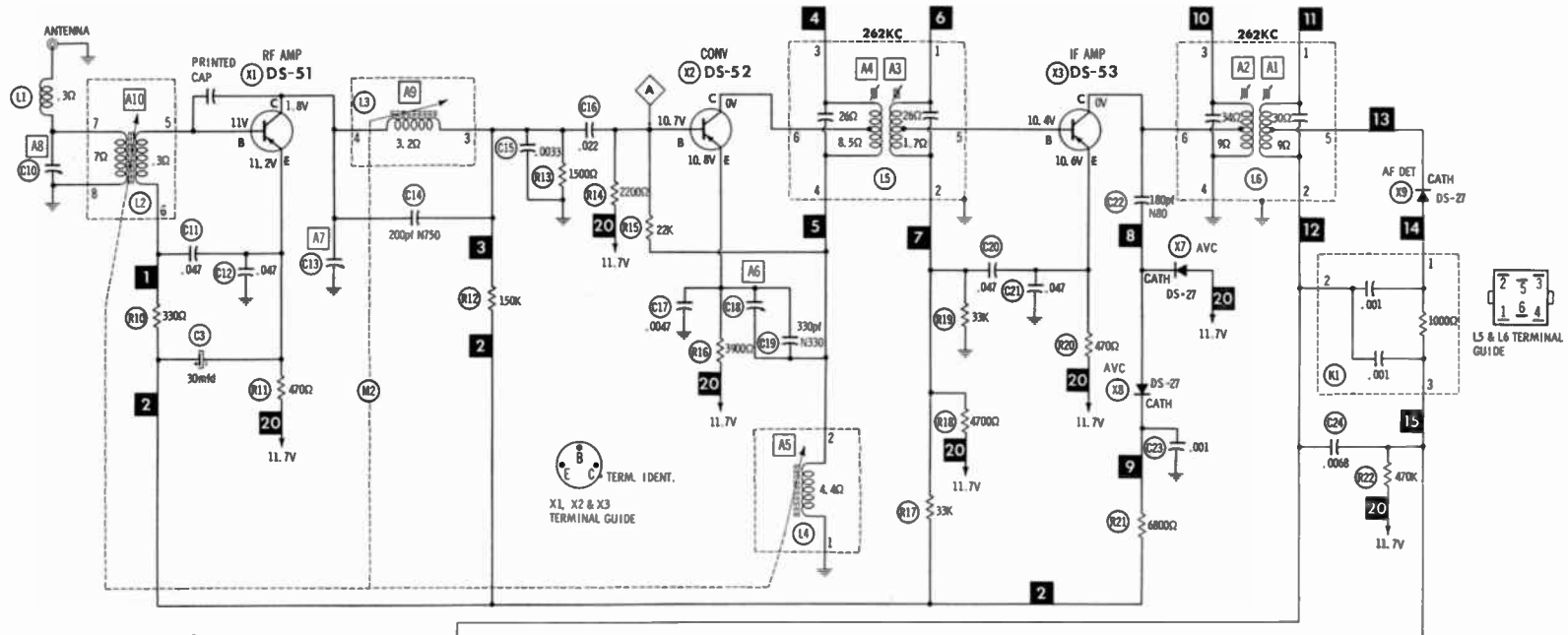
Check for specified source voltage.  
Use only enough generator output to provide a usable indication.  
Suggested Alignment Tools: A1 thru A5, A9, A10    GENERAL CEMENT: 5009, 8728A, 8987    WALSCO: 2531X, 2536  
A6, A7, A8    GENERAL CEMENT: 8290, 8868, 9087    WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ A, low side to ground.	262KC (400 $\mu$ Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
3.	"	600KC	600KC Signal	"	A9, A10	Adjust for maximum. Repeat step 2.
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A8 for maximum output.						

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

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



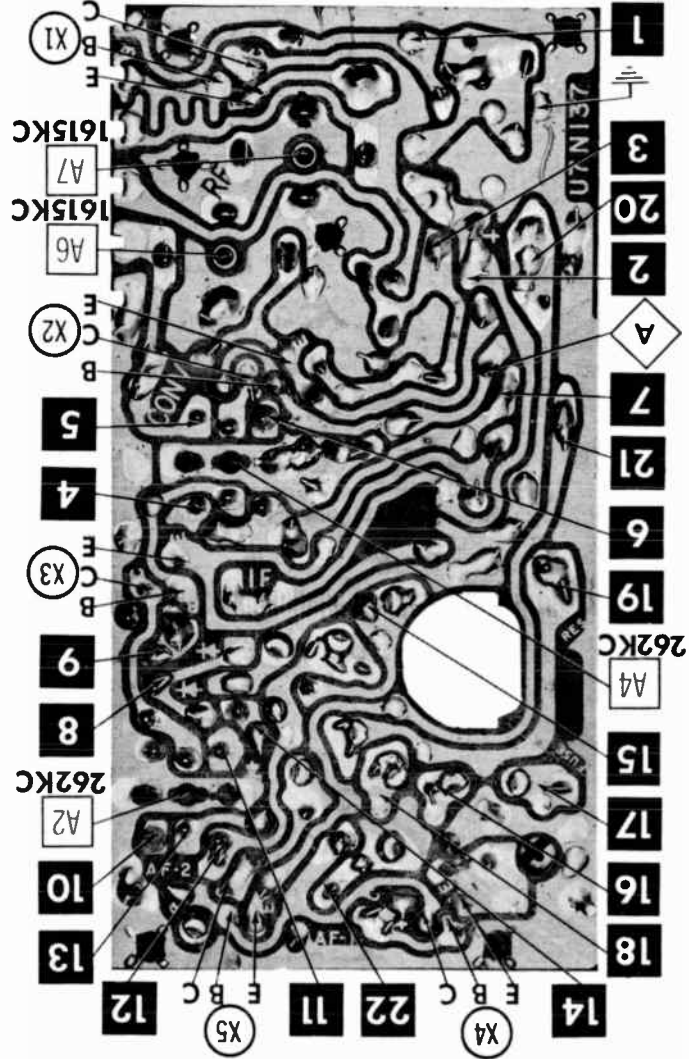
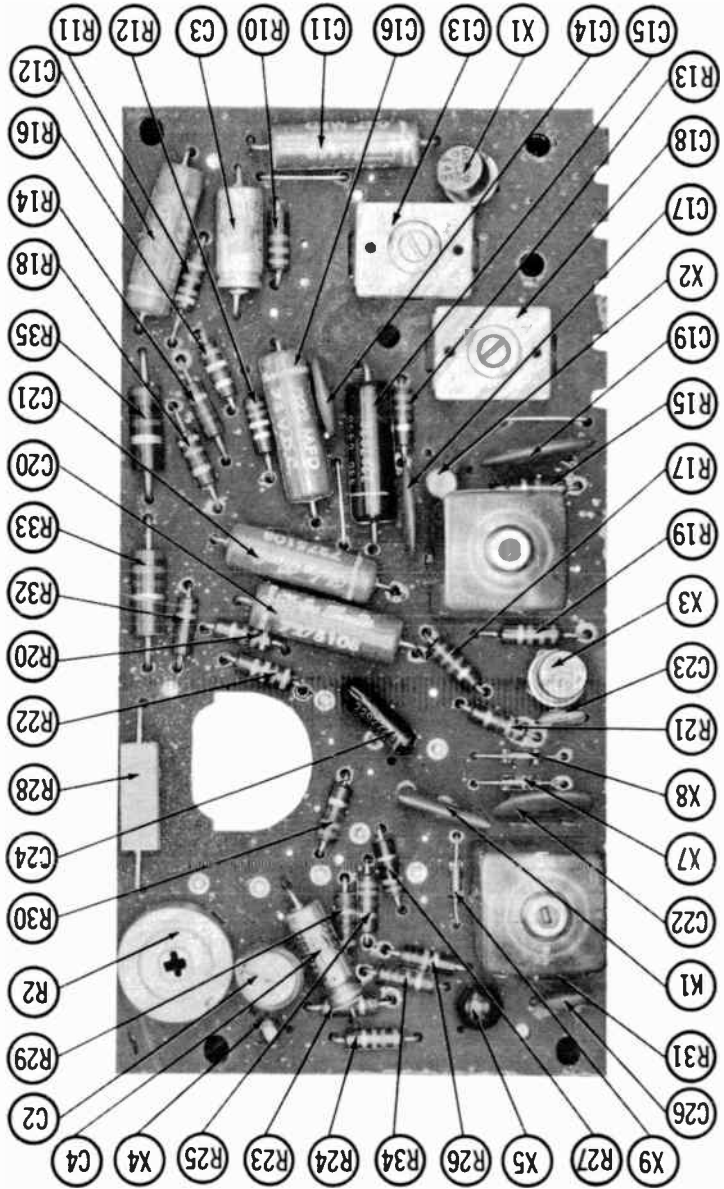
\* NOMINAL VALUE, MAY VARY.  
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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- ⊙ 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

BUICK MODELS 7285424, 7289734



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DB-51	RF Amp.	DB-25	GE-1		PNP
X2	DB-52	Converter	DB-25	GE-1		
X3	DB-53	IF Amp.	DB-25	GE-1		
X4	DB-48	1st. AF Amp.	DB-48	GE-10		
X5	DB-48	2nd. AF Amp.	DB-48	GE-10		
X6	DB-501	Output	DB-501	GE-4		

\* Check bias adjustment.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X7		DB-27					1N34AS
X8		DB-27					1N34AS
X9		DB-27					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	850	18	7291788						TVLS-4208*
B	400	18							
C	100	4							
D	15	11.5rms							
C2	100	4	7291810	PTT30	NLW125-8	MT1-21	BL1720	TT6X100	TE-1102
C3	30	8	7270808	PTT27	NLW30-15	MT1-13	MLV30-8	TT6X30	TE-1092
C4	10	12	7292738	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1128

\* Not normally in distributors stock. Available thru distributor on order to manufacturer.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10		#7281971						
C11	.047	75V	DBE2847		WMF2847	1DP-2-473	PVC1147	2PS-847
C12	.047	75V	DBE2847		WMF2847	1DP-2-473	PVC1147	2PS-847
C13		#7293277						
C14	200	N750	N750-DI200	DTN-200	C10T2U	CCTN-201	CN7320	10TCU-T20
C15	.0033	75V	DBE8D33	CPR-3300J	WMF1D33	8DP-1-332	PVC4233	8PS-D33
C18	.022	75V	DBE2822		WMF1822	1DP-1-223	PVC1122	2PS-822
C17	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C18		#7282165						
C19	330	N330						10TCS-T33
C20	.047	75V	DBE2847		WMF2847	1DP-2-473	PVC1147	2PS-847
C21	.047	75V	DBE2847		WMF2847	1DP-2-473	PVC1147	2PS-847
C22	180	N80						10TCN-T80
C23	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10
C24	.0068	75V	DBE8D68	CPR-6800J	WMF4D68	1DP-1-882	PVC4268	8PS-D68
C25	.047	75V	DBE2847		WMF2847	1DP-2-473	PVC1147	2PS-847
C28	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20
C27	.1		TTD-1	CK-104	H8		TA010	TG-P10
C28		#7271564						

# Delco Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	100K	7291951 ①	F1-100K, R14-25K			†QJ-1886A	
B	Volume, Switch	20K Tap @6000Ω		F1-100K, RFS108, AK28, ①KR-4				
	Tone	100K	7292885 ②	F1-100K, R14-35K			†† QJ-1887A	
R2	Volume, Switch	20K Tap @6000Ω		F1-100K, RFS112, AK28 ③, KR4				
	Bias	800Ω 2W	7288601	V-600	U39-800	110-800		MR600P

① Used in Model: 7281951

② Used in Model: 7289734

③ Alter bushing to meet requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-128, P17-024(Panel) B19-119X, R26-112(Rear) S46 (Bushings) 76-1 (Switch)

"SNAPTROL" Equivalent: BU8 ③, CF13, CR50T, SF3, SR7, GC.

†† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-128, P22-027(Panel)

B19-119X, R16-118(Rear) S46 (Bushings) 76-1(Switch)

"SNAPTROL" Equivalent: BU8 ③, CF13, CR50T, SF5, SR9, GC.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	DELCO PART No.
R28	.47Ω 1W Fusible	BWH. 47	WS. 47	7281890	R28 (Alt.)	.68Ω 1W Fusible	BUH. 68	WS. 47	7288602

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		DELCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (8.2uh)	7281948	19-1004	BC-585	4810	RTC-8520	T859
L2	Antenna						
L3	RF						
L4	Osc.						
L5	Input IF	1221858	16-8704		8542		TA853
L8	Output IF	1221857	16-8705		8543		TA853

① Part of M2.

## FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	1.2 Amp.	.6Ω	8MH	1221823	C-4095	TC-2	TR-154	TY17XT

## CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	29.5MH	7282278					

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES	
		DELCO PART No.	QUAM PART No.		
8P1	4"x10" PM	10Ω	7280974	410A2Z10	Model: 7285424 Model: 7289734
	4"x10" PM	10Ω	7280354	410A2Z10	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART NO.	REPLACEMENT DATA
K1	Det. Comp.	1000Ω, .001mfd, .001mfd	7287253	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			DELCO PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7½		In Fuse Block	30707.5		SFE 7½	

### MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Tuning Coil Assembly	7287957	

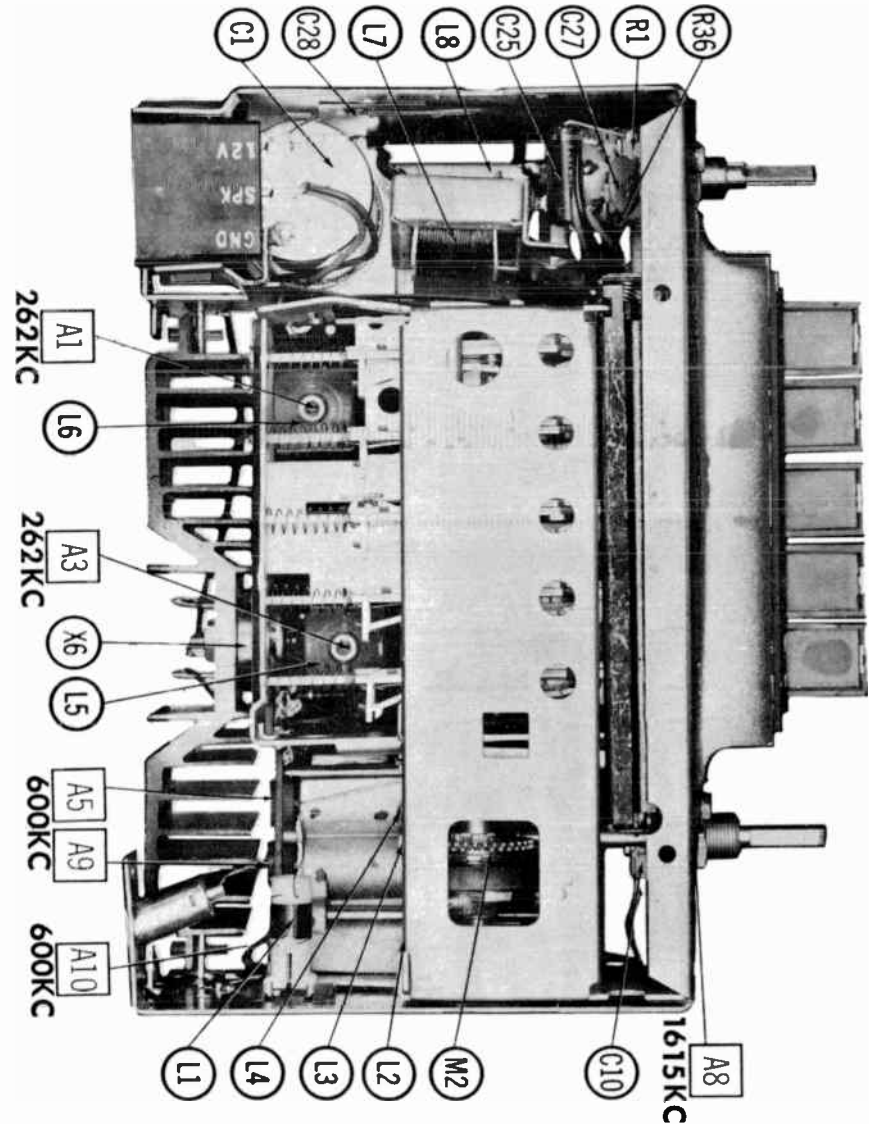
### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	MODEL	PART No.	ITEM	MODEL	PART No.
Escutcheon	7285424	7282555	Pushbutton "K"	7285424	7288547
Escutcheon	7289734	7290544	Pushbutton, Individual	7289734	7290415
Dial Pointer	7285424	7282557	Knob, Tuning or Volume	7285424	1370758
Dial Pointer	7289734	7290541	Knob, Tuning or Volume	7289734	1370815
Pushbutton "B"	7285424	7288543	Knob, Tone or Dummy	7285424	1370850
Pushbutton "U"	7285424	7288544	Knob, Tone	7289734	1369113
Pushbutton "T"	7285424	7288545	Knob, Dummy	7289734	1371764
Pushbutton "C"	7285424	7288546			

### WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)

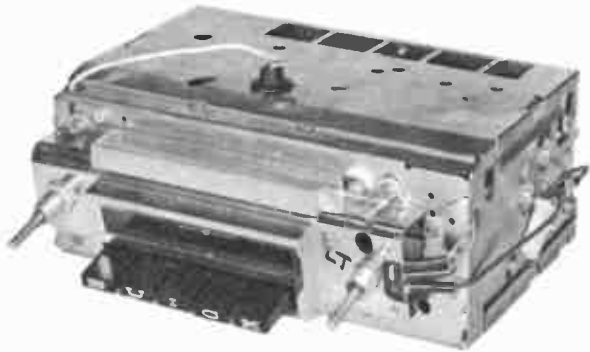


BUICK MODELS 7285424, 7289734



PHOTOFACT<sup>®</sup> with

CIRCUITRACE<sup>®</sup>



TRADE NAME : Buick Model 7289714 (1965 Special)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 6 Transistor AM Receiver  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .620 Amp. @ 12.6 Volts DC  
 TUNING RANGE : BROADCAST: 540-1615KC

BUICK MODEL 7289714

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A5, A9, A10    GENERAL CEMENT: 5009, 8728A, 8987    WALSCO: 253 1X, 2536  
 A6, A7, A8    GENERAL CEMENT: 8290, 8868, 9087    WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point <b>A</b> , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
3.	"	600KC	600KC Signal	"	A9, A10	Adjust for maximum. Repeat step 2.

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A8 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DS-51	RF Amp.	DS-25	GE-1		PNP
X2	DS-52	Converter	DS-25	GE-1		PNP
X3	DS-53	IF Amp.	DS-25	GE-1		PNP
X4	DS-46	1st. AF Amp.	DS-46	GE-10		NPN
X5	DS-46	2nd. AF Amp.	DS-46	GE-10		NPN
X6	DS-503	Output	DS-503	GE-3		PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely. Check bias adjustment.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X7		DS-27 (AVC)					1N34AS
X8		DS-27 (AVC)					1N34AS
X9		DS-27 (A.F. Det.)					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	.850	16	7292515						TVLS-4206, 1
B	.400	16							
C	.100	4							
D	.4	11.5 RMS							
C2	100	4	7291810	PTT30	NLW125-6	MT1-21	BL1720	TT6X100	TE-1102
C3	30	6	7279896	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30	TE-1092
C4	10	12	7292738	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1128

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	.047	75V	#7281971						
C11	.047	75V							
C12	.047	75V							
C13			#7293277						
C14	200	N750							
C15	.0033	75V							
C16	.022	75V							
C17	.0047								
C18			#7282165						
C19	330	N330							
C20	.047	75V							
C21	.047	75V							
C22	180	N80							
C23	.001								
C24	.0068	75V							
C25	.047	75V							
C26	.002								
C27	.015	75V							
C28	.15	75V							
C29			#7271564						

# Delco Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	100K	7285845	F1-100K, R14-25K FFS104, RFS200, AK28①, KR4		†QJ-1601A	#UE45068
	Volume, Switch	20K Tap @ 6000Ω					
R2	Bias	600Ω 2W	7286601	V-600	U39-600	110-600	MR600P

① Alter Bushing to Meet Requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: "SNAPTROL" Equivalent: BU8①, CF13, CR50T, SF9, SR11, GC

B11-126, P17-105 (Panel)  
B19-119X, R16-127(Rear)  
S7 (Pushing)  
76-1(Switch)

# "STA-LOC" Equivalent: FR15L, RU253T53, O61250A, IS2000, U841

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	REMARKS
R26	.68Ω 1W (Fusible)	BWH.68	WS.68	7267480					

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		DELCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6, 2uh)	7281946	19-1004	BC-565	4610	RTC-8520	T659
L2	Antenna						
L3	RF						
L4	Osc.						
L5	Input IF	1221656	16-6704		6542		TA653
L6	Output IF	1221657	16-6705		6543		TA653

① Part of M2.

## FILTER CHOKE

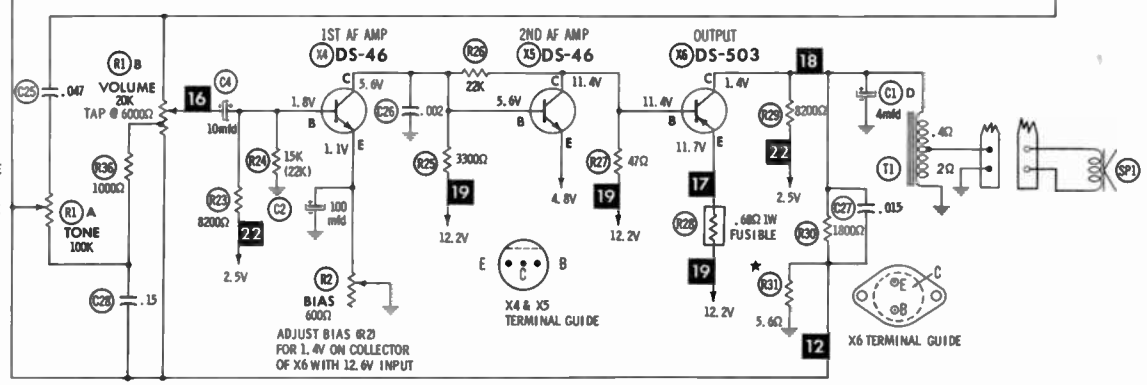
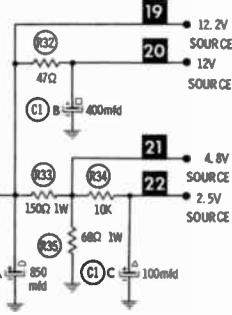
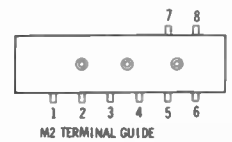
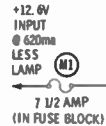
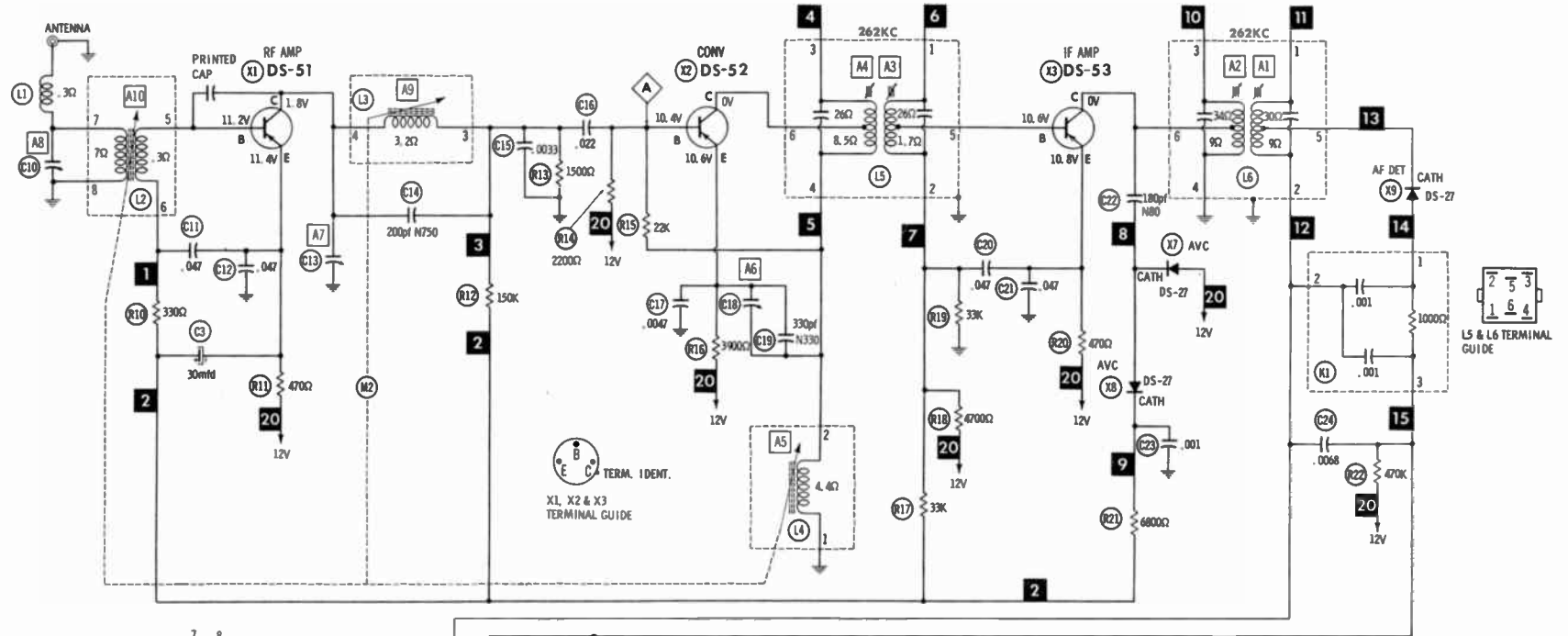
ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	620 ma	.6Ω	6MH	1221623	C-4095	TC-2	TR-154	TY17XT	

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	12Ω Tap @	10Ω	7282057				

BUICK MODEL 7289714





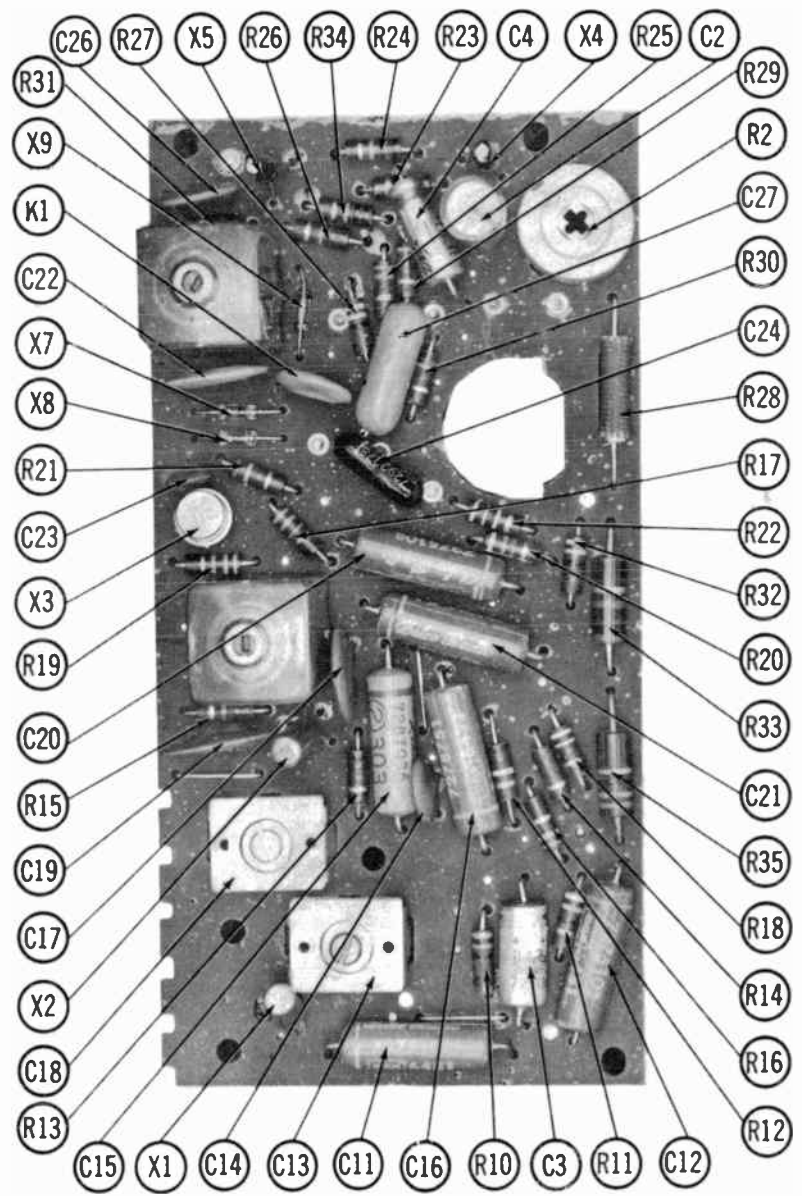
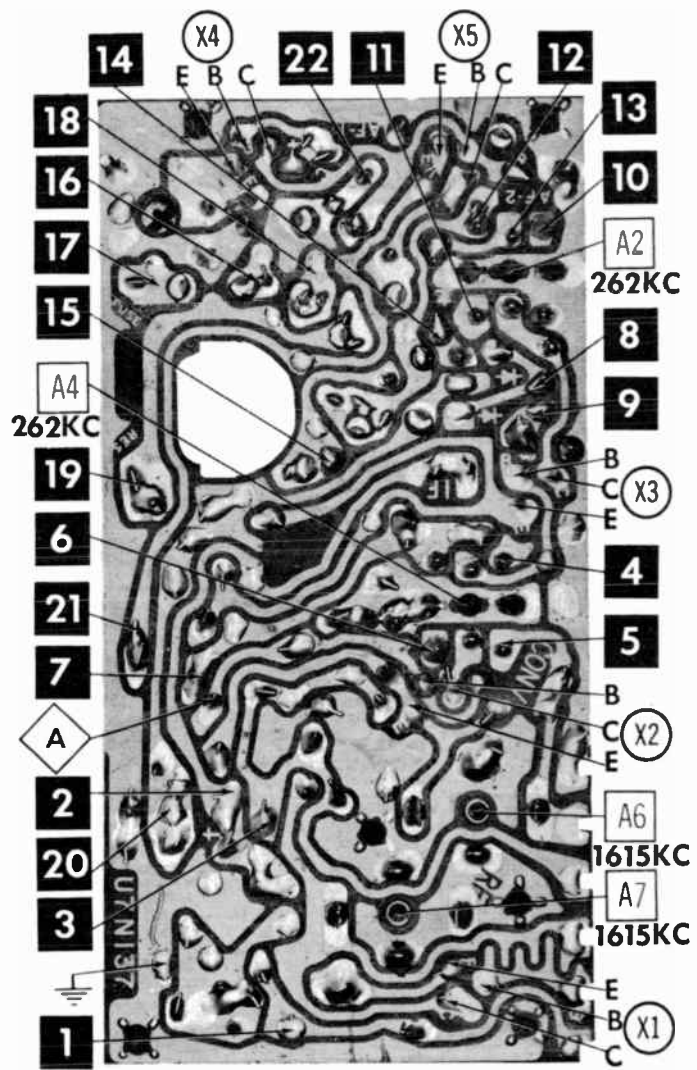
\* NOMINAL VALUE, MAY VARY.  
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

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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.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

**BUICK MODEL 728971A**



A Howard W. Sams **CIRCUITRACE** Photo

**BUICK MODEL 7289714**

# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	6" PM 10Ω	7290914	6A15Z10	

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART No.	REPLACEMENT DATA
K1	Det. Comp.	1000Ω, .001mfd, .001mfd	7287253	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			DELCO PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7 1/2		In Fuse Block	30707, 5		SFE7 1/2	

## MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Tuning Coil Assembly	7287957	

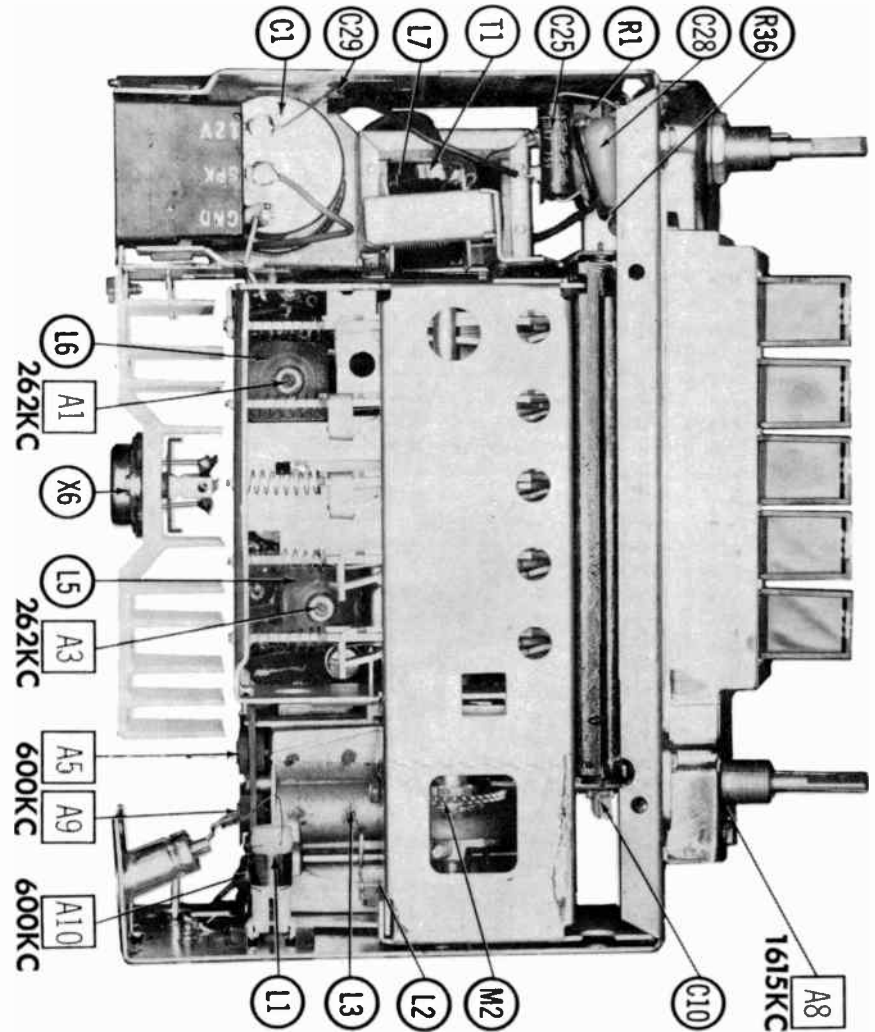
## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	7290396	Pushbutton "T"	7285866
Dial Pointer	7290398	Pushbutton "C"	7285867
Pushbutton "B"	7285864	Pushbutton "K"	7285868
Pushbutton "U"	7285865	Knob, Volume or Tuning	1370815
		Knob, Tone or Dummy	1370801

## WIRING DATA

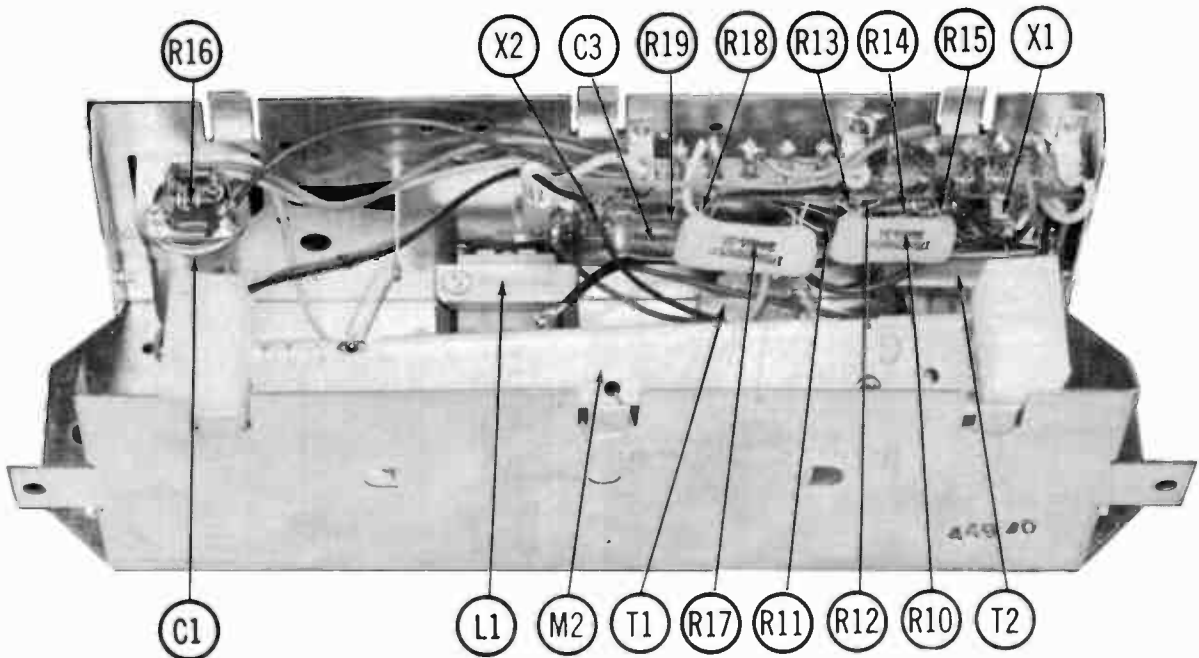
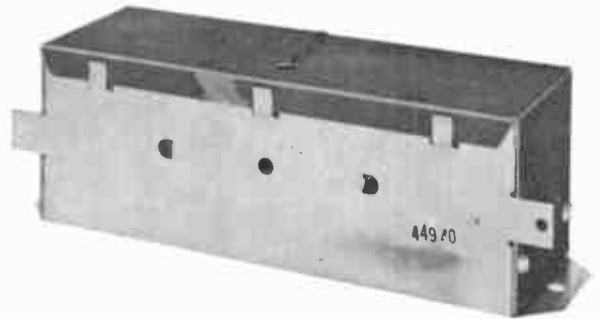
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 6661 (3/8 in.) or 8670 (3/4 in.)





# PHOTOFACT<sup>®</sup>

TRADE NAME : Ford Models: RV4D, RV4D-NS (1965)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 2 Transistor Reverberation Unit  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .55 Amp. @ 12.6 Volts DC

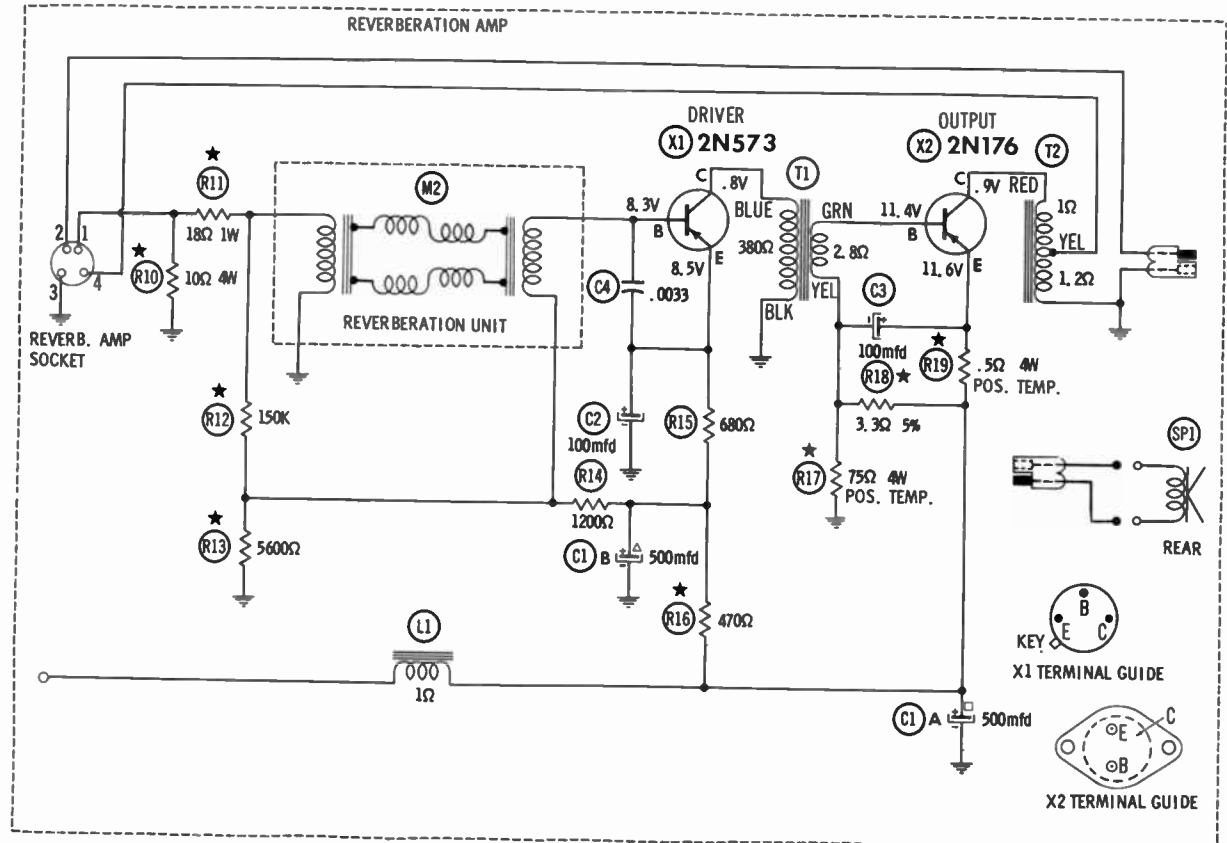
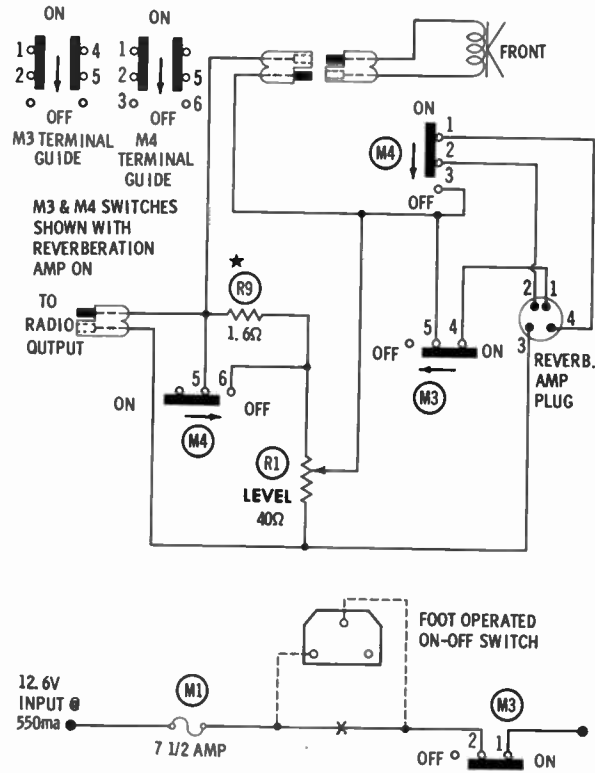


FORD MODELS RV4D, RV4D-NS

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

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World Radio History



★ NOMINAL VALUE, MAY VARY .

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

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.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
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FORD MODELS RV4D, RV4D-NS

## PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1 X2	2N573 2N176	Driver Output	D8-26 D8-520	GE-2 GE-3		PNP PNP

• When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

### ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						NOTES
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	
C1A B C2 C3	500 500 100 100	16 16 16 4	23C41361A01 (23C41361A02) 23C41928A11 (23C41928A01) 23C41928A12 (23C41928A02)	AFH2-02-40 CRE623A CRE323A	B0040 NLW100-25 NLW100-12	XC2-44 MT1-20 MT1-21	TMD2015 BL2050 BL1720	FP200.6 TT25X100 TT6X100	TVL-2157 TL-1162 TL-1102

### FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					NOTES
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	
C4	.0033		BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33

### CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				NOTES
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	
R1	Level	400 2W	18C42346A01				

### RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MOTOROLA PART No.			IRC PART No.	WORKMAN PART No.	MOTOROLA PART No.
R10 R17	100 4W 750 4W (PTC)			17C40259A06 17C40259A02	R19	.50 4W (PTC)			17C41995A05

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L1	550ma	10	11MH	25C41871A05	C-4095	TC-2	TR-152	TY17XT	

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	120 Tap @	80	25C41927A02				

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	8" x 9" PM	80	50D42787A01 69A2Z8	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			MOTOROLA PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7 1/2 A	65R122346	9C41095M15	30707.5	15507.5	SFE7 1/2	HDH

### MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M2	Reverb. Unit	1C41206A01	
M3	On-Off Switch	40B41913A02	
M4	Speaker Switch	40B41913A01	

### WIRING DATA

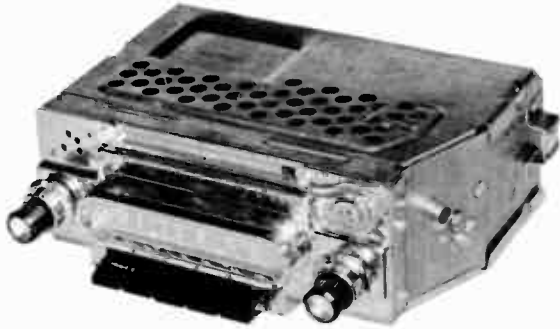
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

**FORD MODELS RV4D, RV4D-NS**



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>



**TRADE NAME :** Ford Models 04BF (Late Production) (COAF-18806, COAZ-18805) 1960 Ford 14BF (C1AF-18805, C1AF-18806) 1961 Ford 14BM (C1MF-18805, C1MF-18806) 1961 Mercury  
For Current Address, See Master Index.

**SUPPLIER :**

**TYPE SET :** 4 Tube, 2 Transistor AM Receiver

**POWER SUPPLY :** 12 Volt Storage Battery

**RATING :** 1.5 Amp. @ 12.6 Volts DC

**TUNING RANGE :** BROADCAST: 540-1600KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4

A5, A6

A8, A9, A10

GENERAL CEMENT: #8282, 8606, 8606-L

WALSCO: #2526, 2543, 2544

GENERAL CEMENT: #5000, 5003, 5066

WALSCO: #2512, 2525, 2528

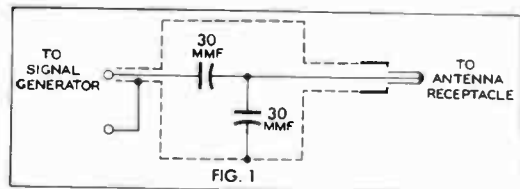
GENERAL CEMENT: #8271, 8279, 8897

WALSCO: #2521, 2524

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1605KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.						
3.	Thru dummy (Fig. 1) to antenna receptacle.	1200KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.						



FORD MODELS 04BF (Late Prod.), 14BF & MERCURY 14BM

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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TUBES

• AMPEREX •		GENERAL ELECTRIC		RCA		SYLVANIA	
ITEM No.	USE	TYPE		ITEM No.	USE	TYPE	
V1	RF Amplifier Converter	12BL6		V3	IF Amplifier Det. -AVC-AF Amp.	12EK6	
V2		12AD6		V4		12FK6 (12FM6) *	

\* Alternate

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N1287	Driver Output	DS-26	GE-2		PNP PNP *
X2	2N1227-3		DS-520	GE-3		

• When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BENDIX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	450	16	220S53-16	PWH3-00-92				WP300.6†	PCL8-3025.2 <sup>†</sup> ①
B	100	16							
C	50	16							

† Use printed circuit adaptor kit FPA.

① Some versions may use 450-100-100mfd in this application (Part #2091503-2).

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	4-75	#219083-1①				462		
C3	150		DI-150	DD-151	L10T15	CCD-151	B-315	10TS-T15
C4	33 N750		N750-DI33	DTN-33	C10Q33U	CCTN-330	CCTN-330	10TCU-Q33
C5	.1 100V		P266N-1	DF-104	CUB2P1	IDP-2-104	GEM-201	2TM-P10
C6	.1 100V		P288N-1	DF-104	CUB2P1	IDP-2-104	GEM-201	2TM-P10
C7	470		BPD-00047	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C8A	120-450		#219092-2					
B	100							
C	370-445							
C9	1000		② BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C10	51		③ DI-50	DD-510	L10Q51	CCD-500	GP450	10TS-Q50
C11	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-810
C12	2700		DI-2700	DD-272	BYA10D27	CCD-272	B-227	10TS-D27
C13	.0068 100V	P266N-0068	D6-682	CUB6D68	IDP-1-682	GEM-6268	6TM-D68	

① Models 14BF and 14BM use 5-60mmf (Part #2091504-2).

② Models 14BF and 14BM use 330mmf

③ Value varies. Replace with original value.

† Bendix Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume, Switch	8.4meg. 1.2meg. 240K Tap	2090405-1①	FB-60/1 or F1-4meg., R14-1meg., FFS101, RFS109, KR-7	P-3meg-5 RF1-1meg. CP-102, CBR-110 SWE-13	†QJ-1275A or (6005) or (6106)	±UE41378
B							
R2	Sensitivity	600Ω (2W)	2090161-2	V-600	U39-600	110-600	MR600P

① Models 14BF, 14BM use Part #2090405-6

† "CONCENTRIKIT" Equivalent: K-6, Kit with Base Elements and Shafts: B11-140, P22-103 (Panel)  
 B13-138X, R26-112 (Rear)  
 76-2 (Switch)  
 R5 (Retainer)

± "STA-LOC" Equivalent: FBS6L, RU125T254, OS1000A, B1500, U842

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		BENDIX PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	Antenna	2090088-6	①				
L2	RF Choke						
L3	RF						
L4	Osc.						
L5	Input IF	2090907-5	②	BC596	6514		
L6	Output IF	2090908-4					
L7	Hash Choke(450uh)	216188-20	③				TF612

① Part of M1

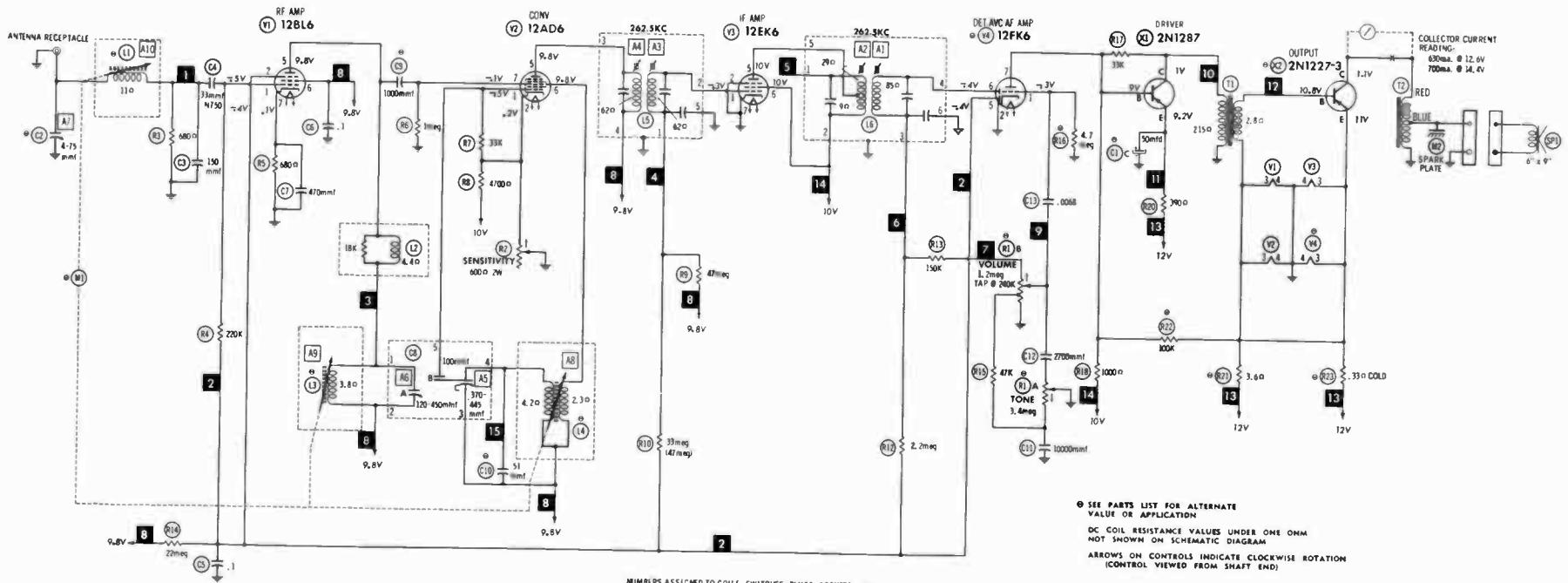
② Includes 18K Resistor

③ #2091107-3 (1.1MH) Used in Models 14BF, 14BM

CONTINUED ON PAGE 82

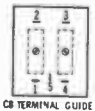
FORD MODELS 04BF (Late Prod.), 14BF & MERCURY 14BM



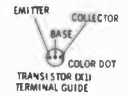


SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION  
 DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM  
 ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

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.



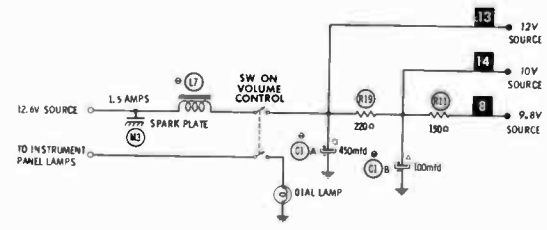
- DC voltage measurements taken with vacuum tube voltmeter
- Socket connections shown as bottom views
- Measured values are from socket pin to common ground.
- Battery voltage maintained at 12.6 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
- 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
V1	12BL6	3.5meg	3.3meg	20	00	†3700	†3700	6800
V2	12AD6	33K	800	20	00	†4300	†3700	1meg
V3	12EK6	33meg	00	20	00	†2500	†2200	00
V4	12FK6	4.7meg	00	20	00	3.2meg	1.1meg	

† MEASURED FROM JUNCTION OF C1A & R19.  
 TRANSISTOR CIRCUIT RESISTANCE NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

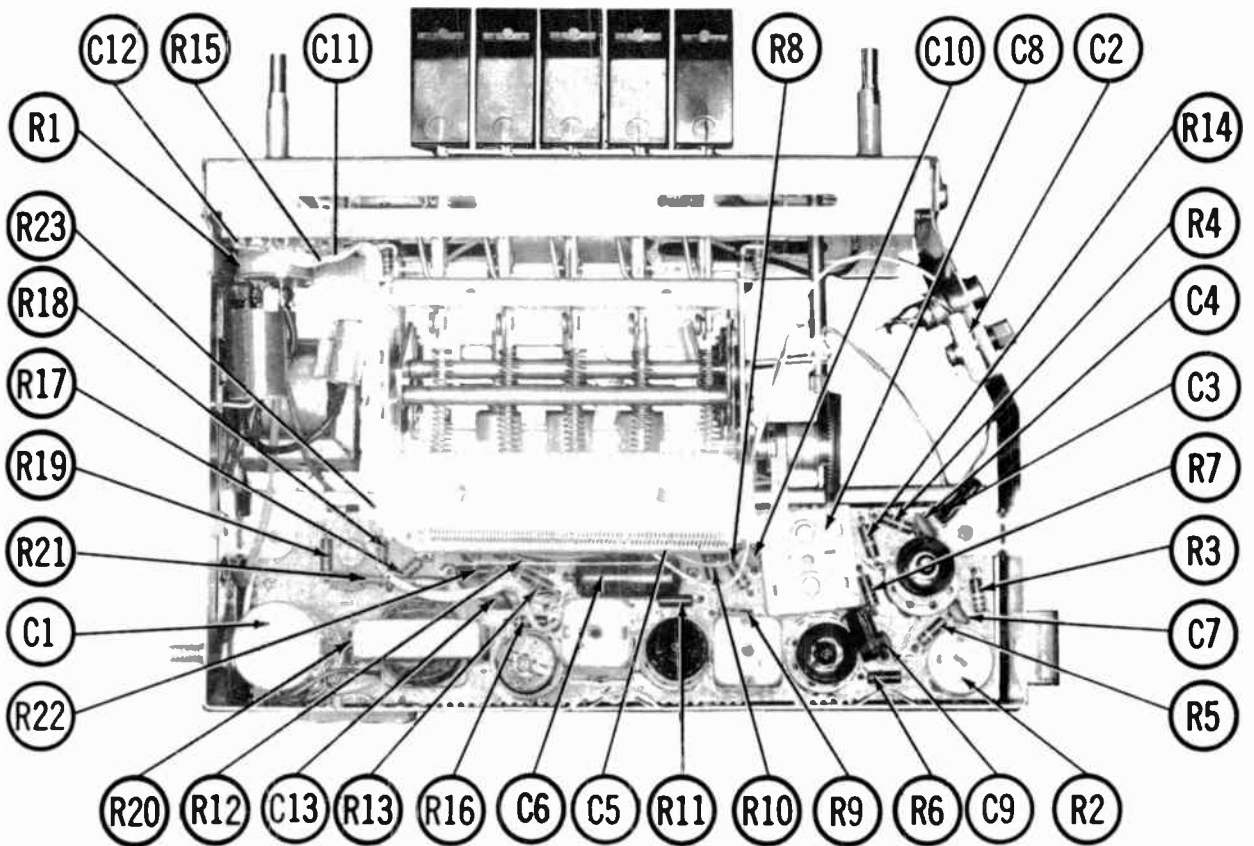
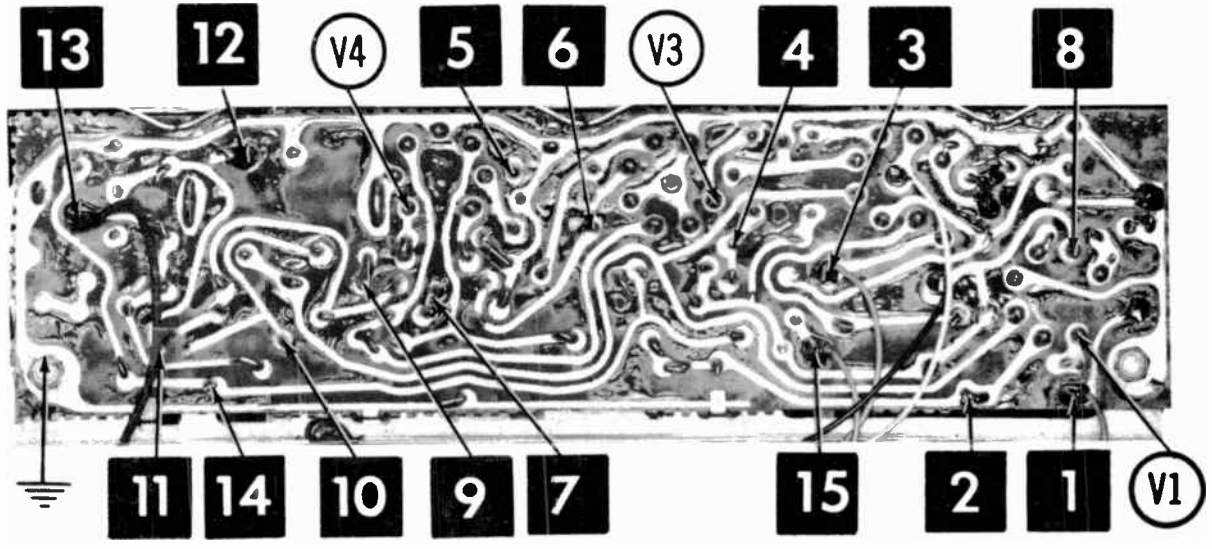


A PHOTOFACIT STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

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ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

A Howard W. Sams **CIRCUITRACE** Photo



FORD MODELS 048F (Late Prod.), 148F & MERCURY 148M

# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	3.8	1	2090433-6					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	12Ω Tap@	6-8Ω	2090849-1					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		BENDIX PART No.	QUAM PART No.	
SP1	6" x 9" PM 6-8Ω	2091269-6	69A228.5	

## MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M1	Tuner Assembly	2090383-2	Complete with pushbuttons, Model 04BF
M2	Tuner Assembly	2090383-5	Complete with pushbuttons, Models 14BF, 14BM
M3	Spark Plate	220267-9	200mmf
	Spark Plate	220267-9	200mmf
	Printed Board	2090468-1	Less tubes, Model 04BF
	Printed Board	2091494-1	Less tubes, Models 14BF, 14BM
	Printed Board	2091152	Tone, small board, Model 04BF
	Printed Board	2091152-2	Tone, small board, Models 14BF, 14BM

## CABINETS & CABINET PARTS

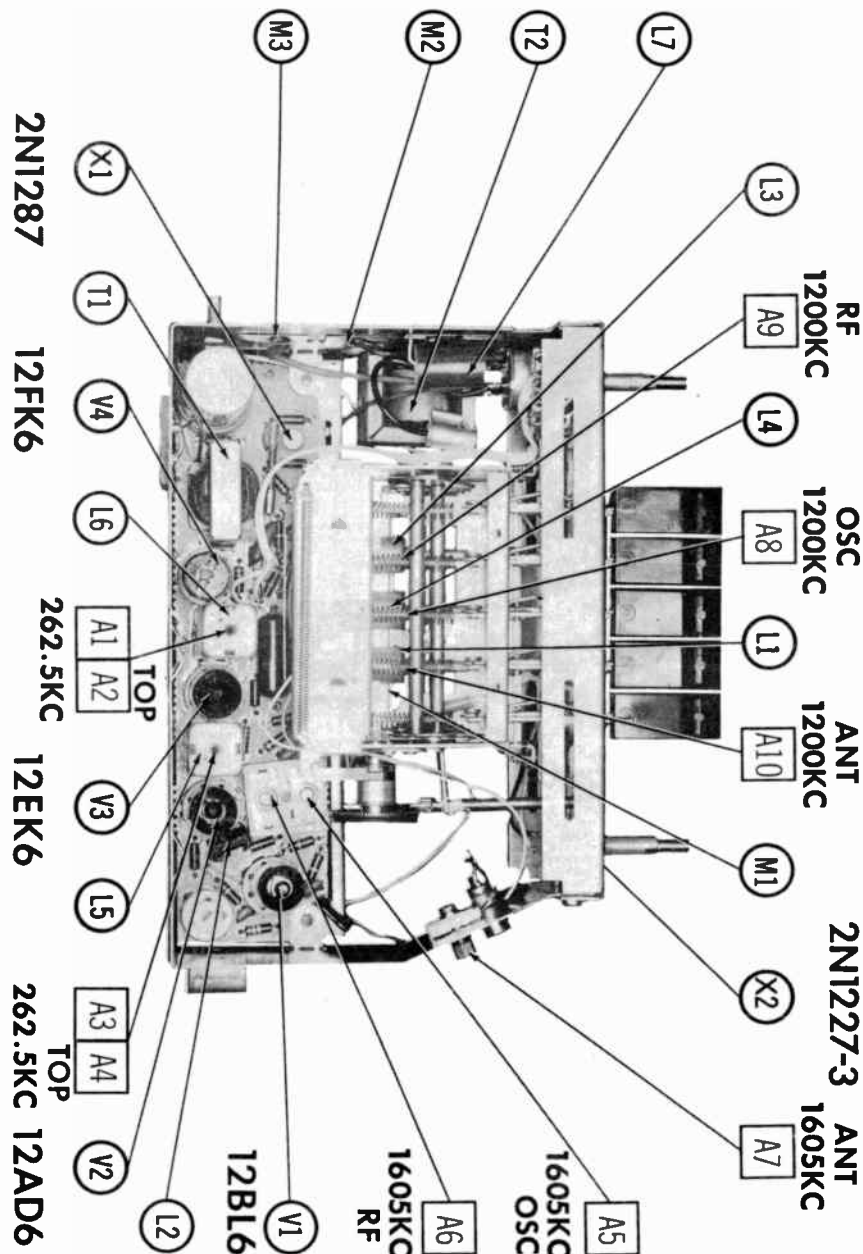
(When Ordering Specify Model, Chassis & Color)

ITEM	MODEL	PART No.	ITEM	MODEL	PART No.
Dial Glass	14BM	2091367-1	Knob, Tuning, Volume		2090413-1
Dial Glass	14BF	2091501-1	Knob, Tone	14BM	2091524-1
Dial Glass	04BF	2090209-1	Knob, Tone	04BF, 14BF	2090411-1
Dial Pointer	(RCC)	2090129-17	Pushbutton	14BM, 14BF	2090381-2
Dial Pointer	(GIC)	2090129-18	Pushbutton	04BF	2090381-1

## WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8985
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)

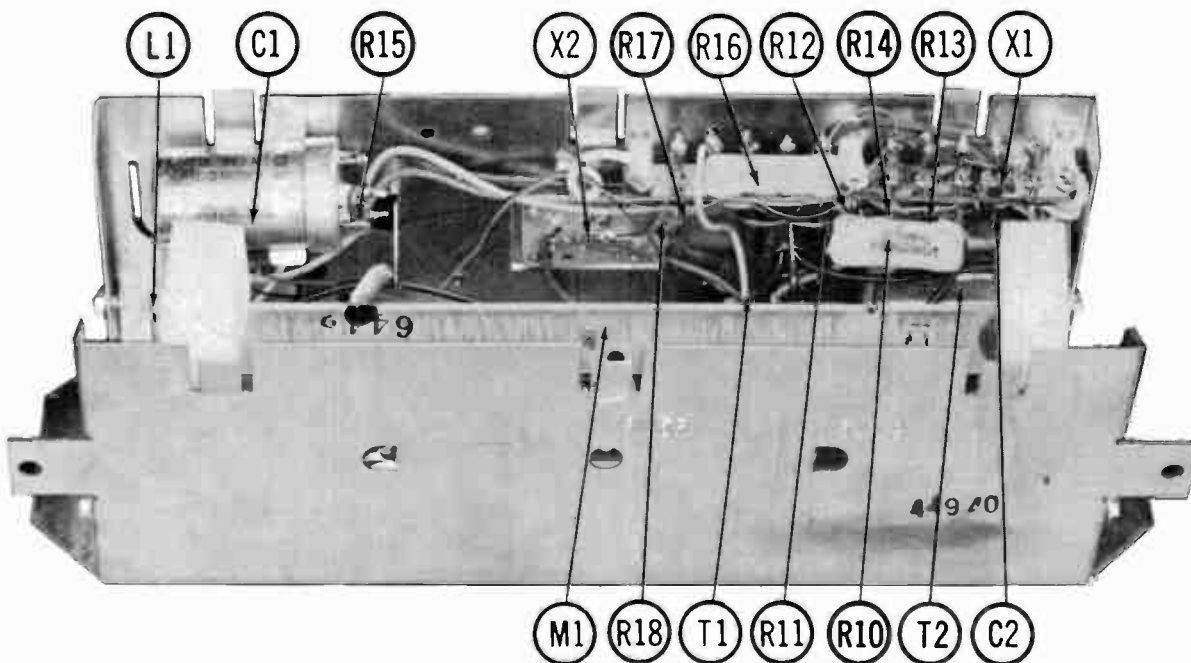
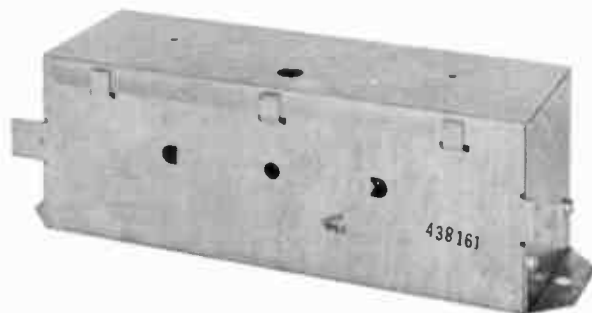
## CHASSIS—TOP VIEW





# PHOTOFACT<sup>®</sup>

TRADE NAME : Mopar Models: RV5C, RV5CC, RV5CL (1965)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 2 Transistor Reverberation Unit  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .640 Amp. @ 12.6 Volts DC

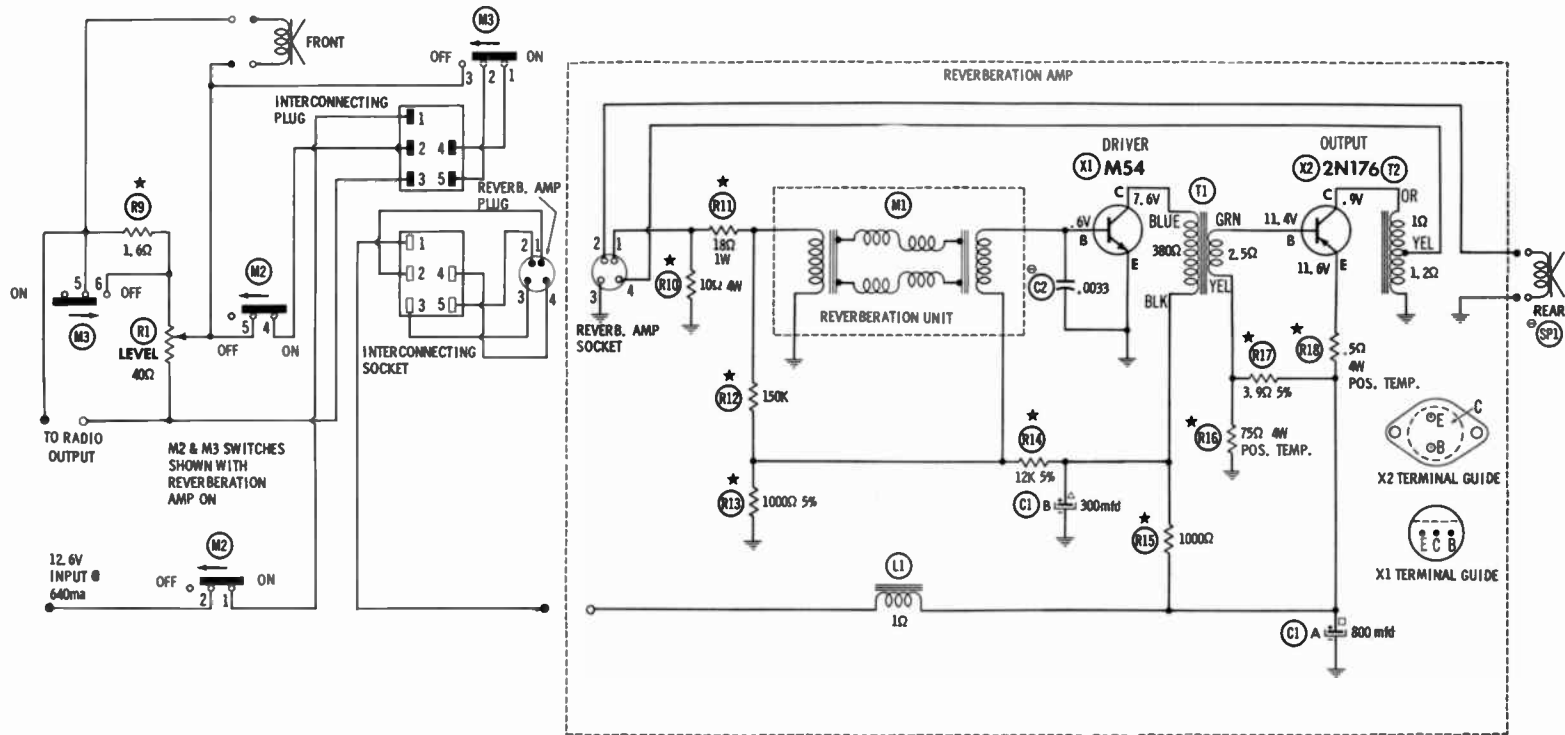


MOPAR MODELS RV5C, RV5CC, RV5CL

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

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World Radio History



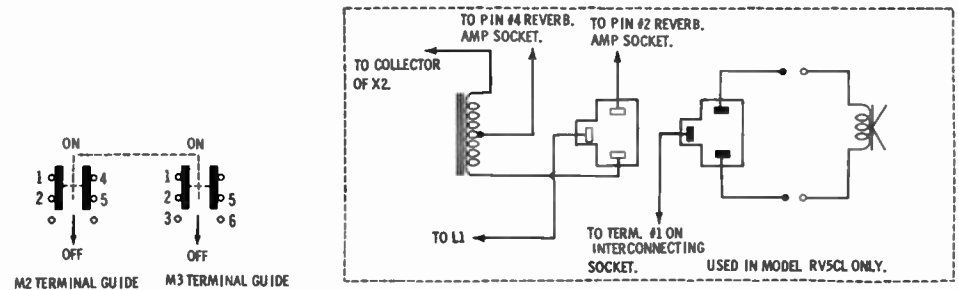
★ NOMINAL VALUE, MAY VARY.

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊖ 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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**MOPAR MODELS RVSC, RVSCC, RVSCL**



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	M54	Driver Output	DS-46	GE-10		NPN PNP *
X2	2N176		DS-520	GE-3		

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MOTOROLA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	800	16	23C41361A03	PWH2-02-60	BPC015	XC2-43.1	TMD2015	WP200, 21A	PCL52181*
B	3300	16							

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	.0033	(.01) †	BPD-0033	DD-332	BYA10D33	CCD-332	B233	5HK-D33

† Alternate Value.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1	Level	40Ω 2W	18C41829A05 (18C41829A06) ①					

① Used in Model RV5CL

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MOTOROLA PART No.			IRC PART No.	WORKMAN PART No.	MOTOROLA PART No.
R10	10Ω 4W			17C40259A06	R18	.5Ω 4W (PTC)			17C41995A02
R16	75Ω 4W (PTC)			17C40259A02					

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L1	640ma	1Ω	11MH	25C41871A03	C-4095	TC-2	TR-154	TY17XT	

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MOTOROLA PART No.	QUAM PART No.	
SP1	6" x 9" PM 5" x 7" PM	8Ω 8Ω	50D42304A01 50D42990A01	69A2Z8 57A1Z8 Model: RV5C Model: RV5CC

## MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M1	Reverb. Unit	1C41208A02	
M2	On-Off Switch	40B41913A02	
M3	Speaker Switch	40B41913A01	

## WIRING DATA

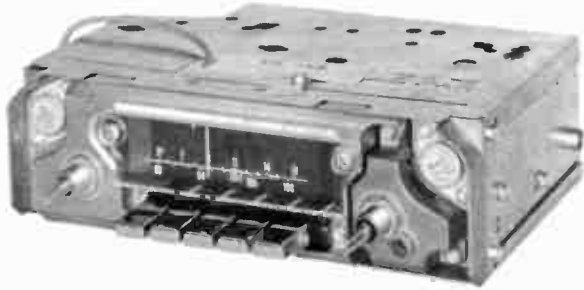
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

MOPAR MODELS RV5C, RV5CC, RV5CL



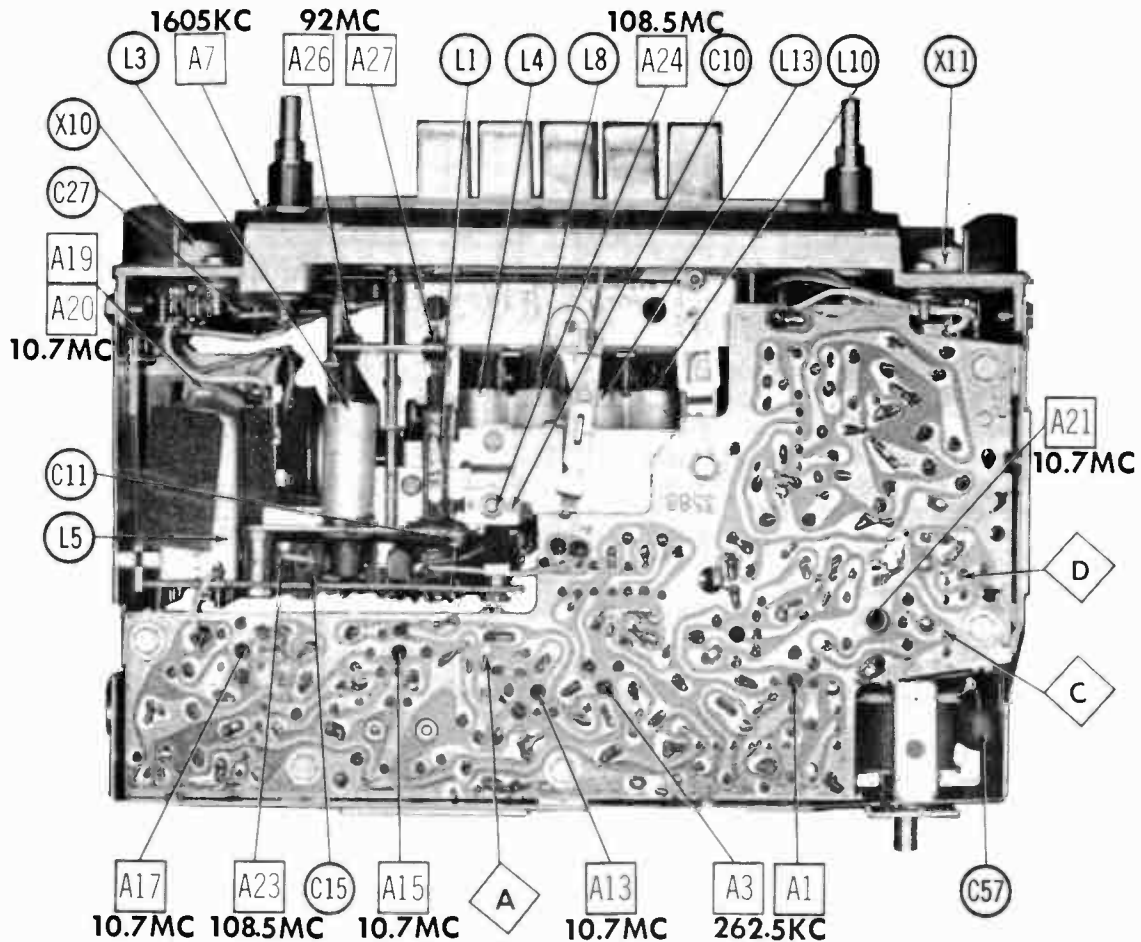
# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>



**TRADE NAME** Mopar Models 360 (5FBP), 361 (5FBPD)  
 1965 Plymouth  
 362 (5FBD), 364 (5FBDD) 1965 Dodge  
 366 (5FBC) 1965 Chrysler  
 367 (5FBI) 1965 Imperial  
**SUPPLIER:** For Current Address, See Master Index  
**TYPE SET:** 11 Transistor AM-FM Receiver  
**POWER SUPPLY:** 12 Volt Storage Battery  
**RATING:** .120 Amp. @ 12.6 Volts DC  
**TUNING RANGE:** BROADCAST 535-1605KC  
 FREQ. MOD. 87.5-108.5MC

MOPAR MODELS 360, 361, 362, 364, 366, 367



**HOWARD W. SAMs & CO., INC.** Indianapolis 6, Indiana

# ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Use only enough generator output to provide a usable indication. Suggested Alignment Tools: A1 thru A10, A12 thru A20, A22, A23, A24 A11, A21					<b>PUSH-BUTTON ADJUSTMENT</b>  1. Pull button out. 2. Tune manually to desired station. 3. Press button in firmly. 4. Repeat for remaining buttons.
GENERAL CEMENT: 9440 GENERAL CEMENT: 8806, 8806L, 8869 WALSCO: 2501 WALSCO: 2543, 2544, 2588					
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mf to point $\diamond$ , low side to ground.	282.5KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy (Fig. 1) to antenna receptacle.	1805KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.					
3. Thru dummy (Fig. 1) to antenna receptacle.	1000KC	Tune to Signal.	Output Meter across voice coll.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna extended 40", tune in a weak station near 1400KC and adjust A7 for maximum output.					

### FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side thru .1mf to Point $\diamond$ , low side to ground.				
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond$ ; common to ground.	A11 thru A20	Adjust for maximum.
5. "	"	DC probe to point $\diamond$ ; common to ground.	A21	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

### FM IF ALIGNMENT USING FM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side thru .1mf to Point $\diamond$ , low side to ground. Use only enough marker signal to obtain indication. Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.				
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point $\diamond$ ; low side to ground.	A11 thru A20	Adjust for maximum gain and symmetry of response similar to Fig. 3 with marker as shown.
5. "	"	Vert. amp. to point $\diamond$ ; low side to	A21	Adjust A21 (Secondary) to place marker at center of crossover lines similar to Fig. 4. Adjust A11 (Primary) for maximum amplitude and straightness of crossover lines.

### FM RF ALIGNMENT

Connect generator thru Dummy Ant. Fig. 2 to Antenna Receptacle.				
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
6. 108.5MC	Set at high end.	DC probe of VTVM to point $\diamond$ ; common to ground.	A22, A23, A24	Adjust for maximum.
7. 92MC	Tune to signal.	"	A25, A26, A27	Rock (tuning) and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.

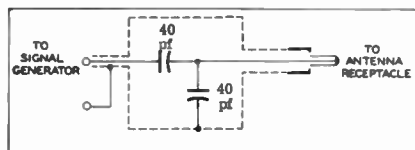


FIG. 1

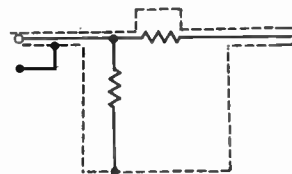


FIG. 2

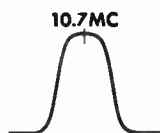


FIG. 3

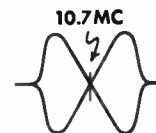
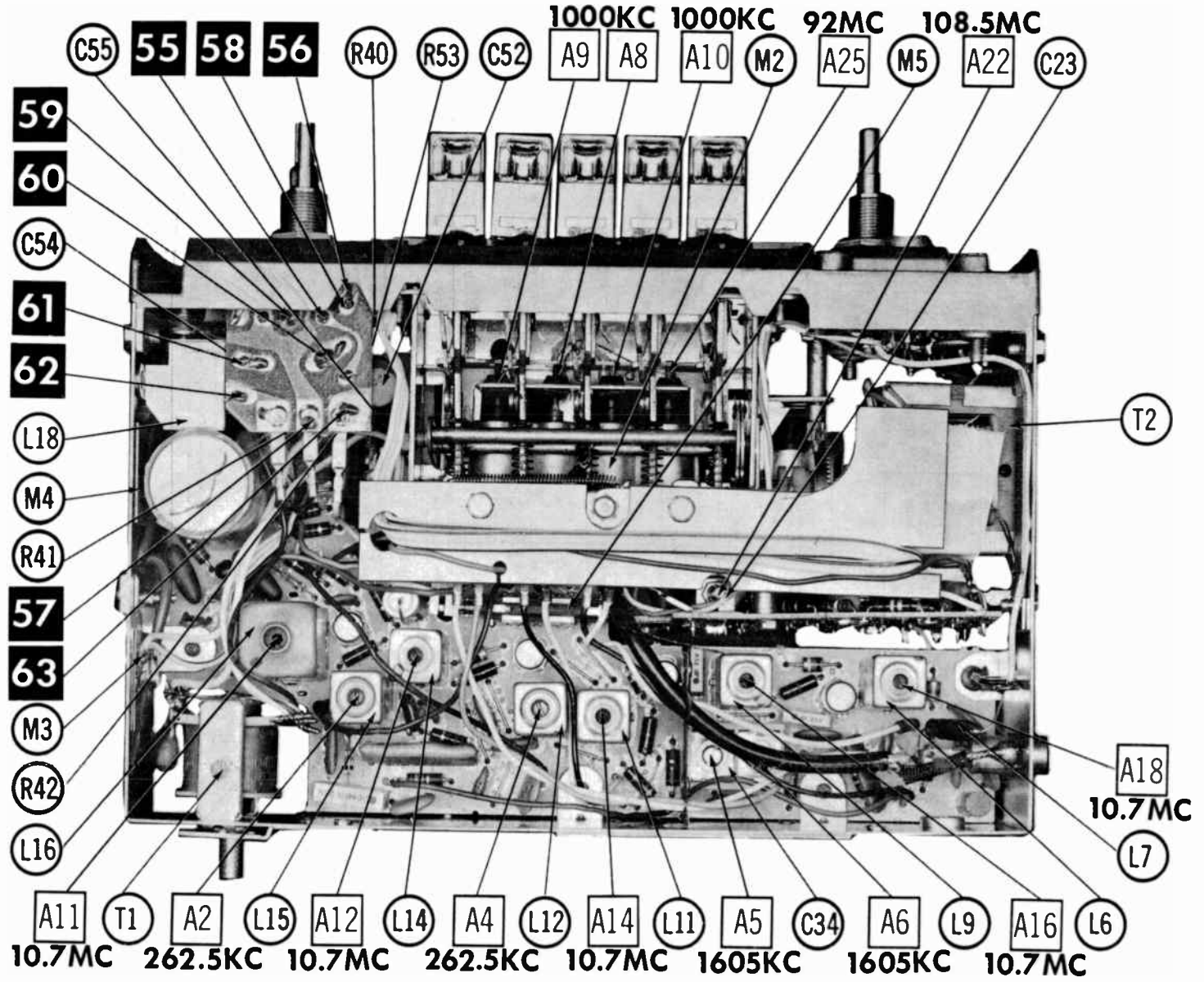


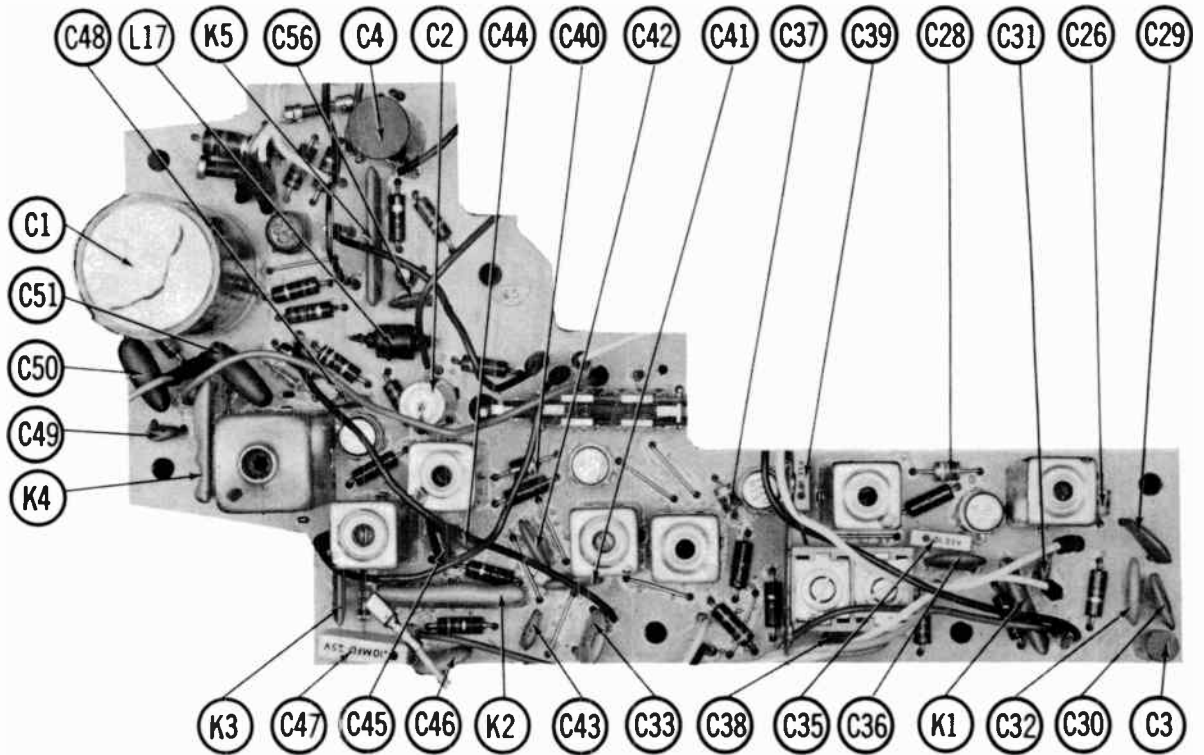
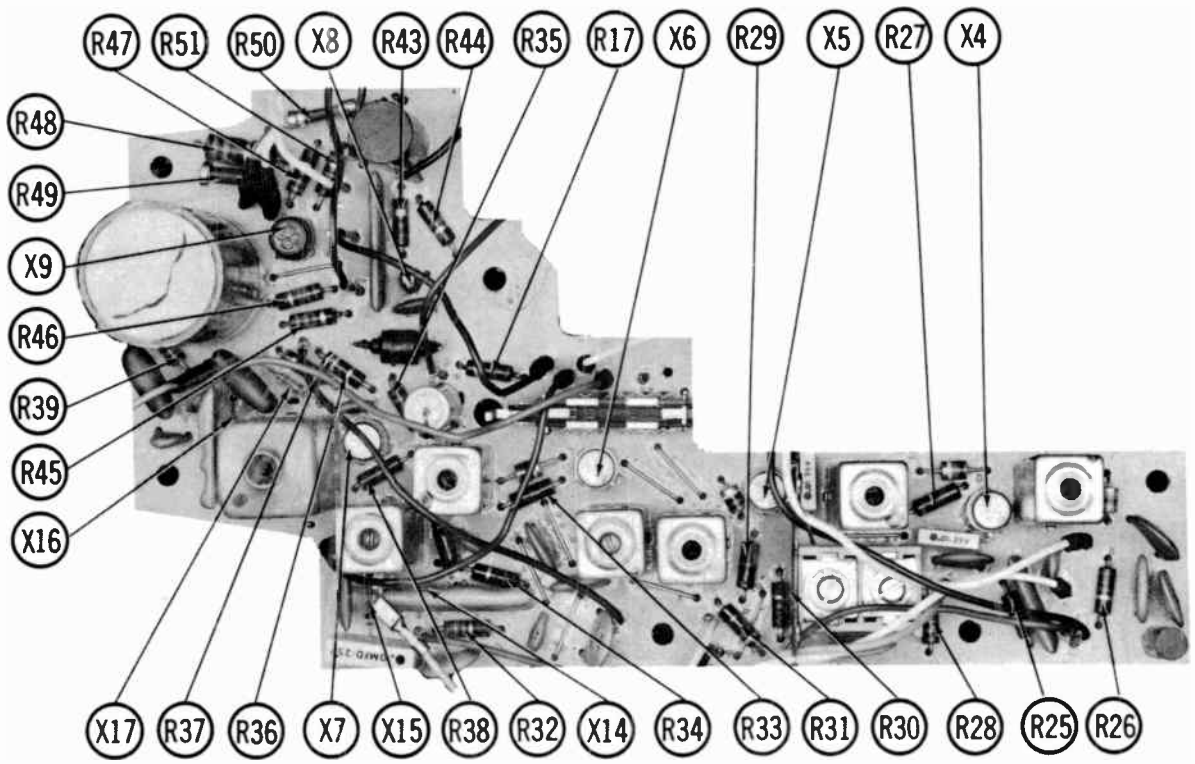
FIG. 4

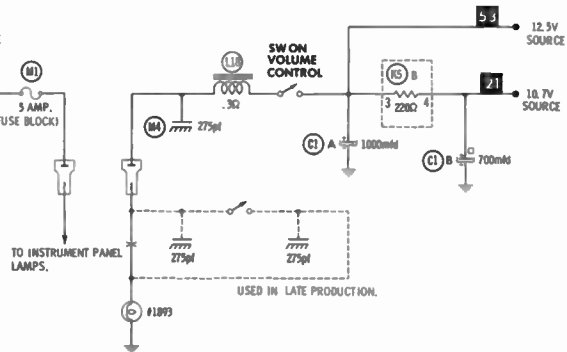
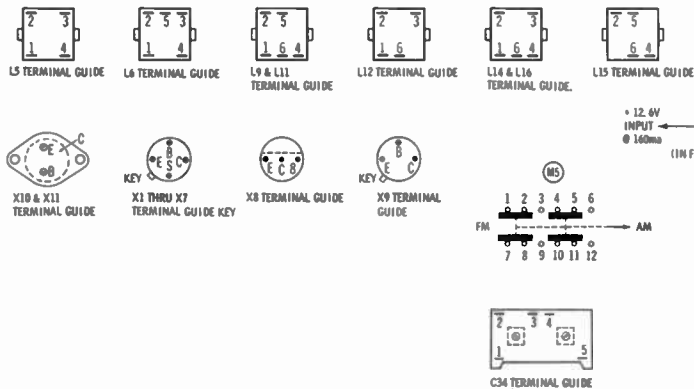
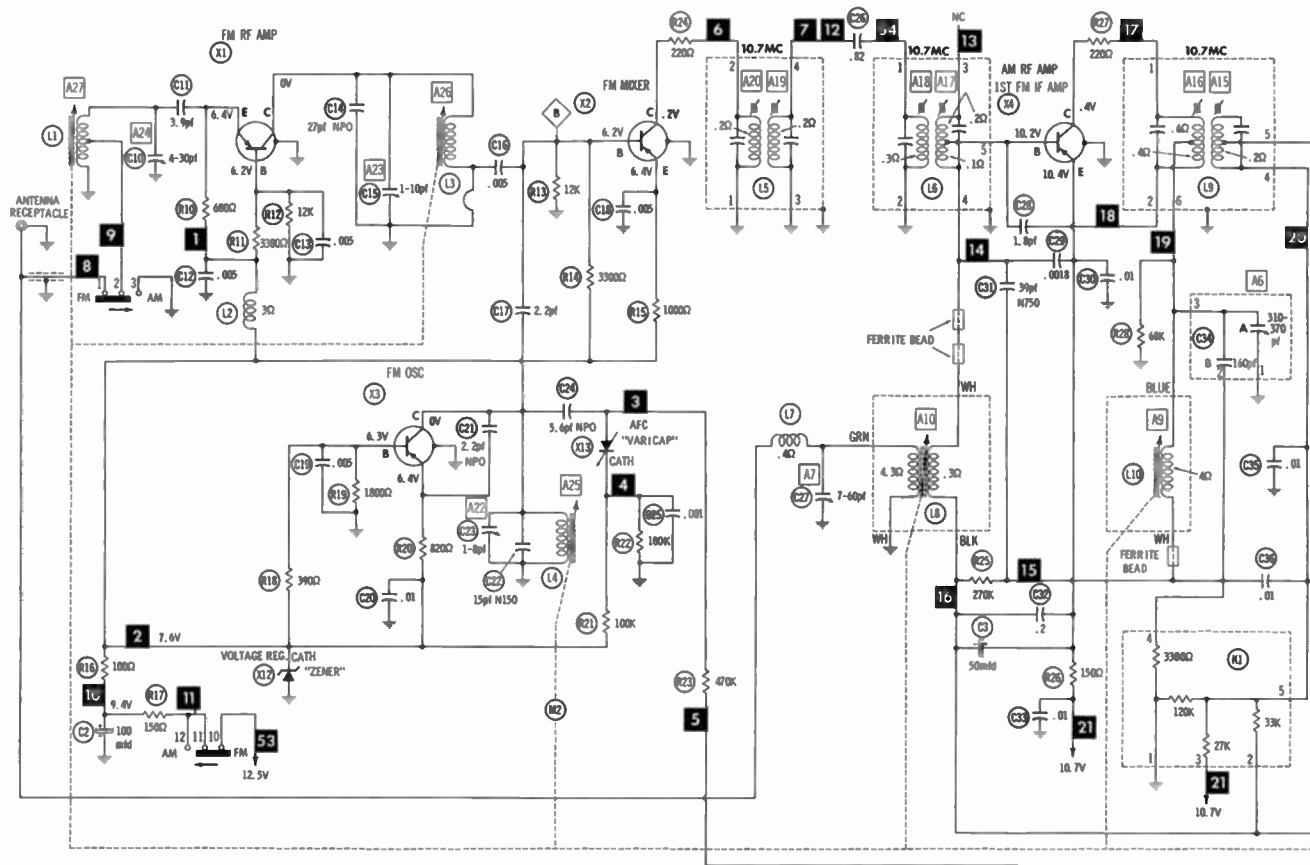
MOPAR MODELS 360, 361, 362, 364, 366, 367





A Howard W. Sams  
CIRCUITRACE<sup>®</sup> Photo

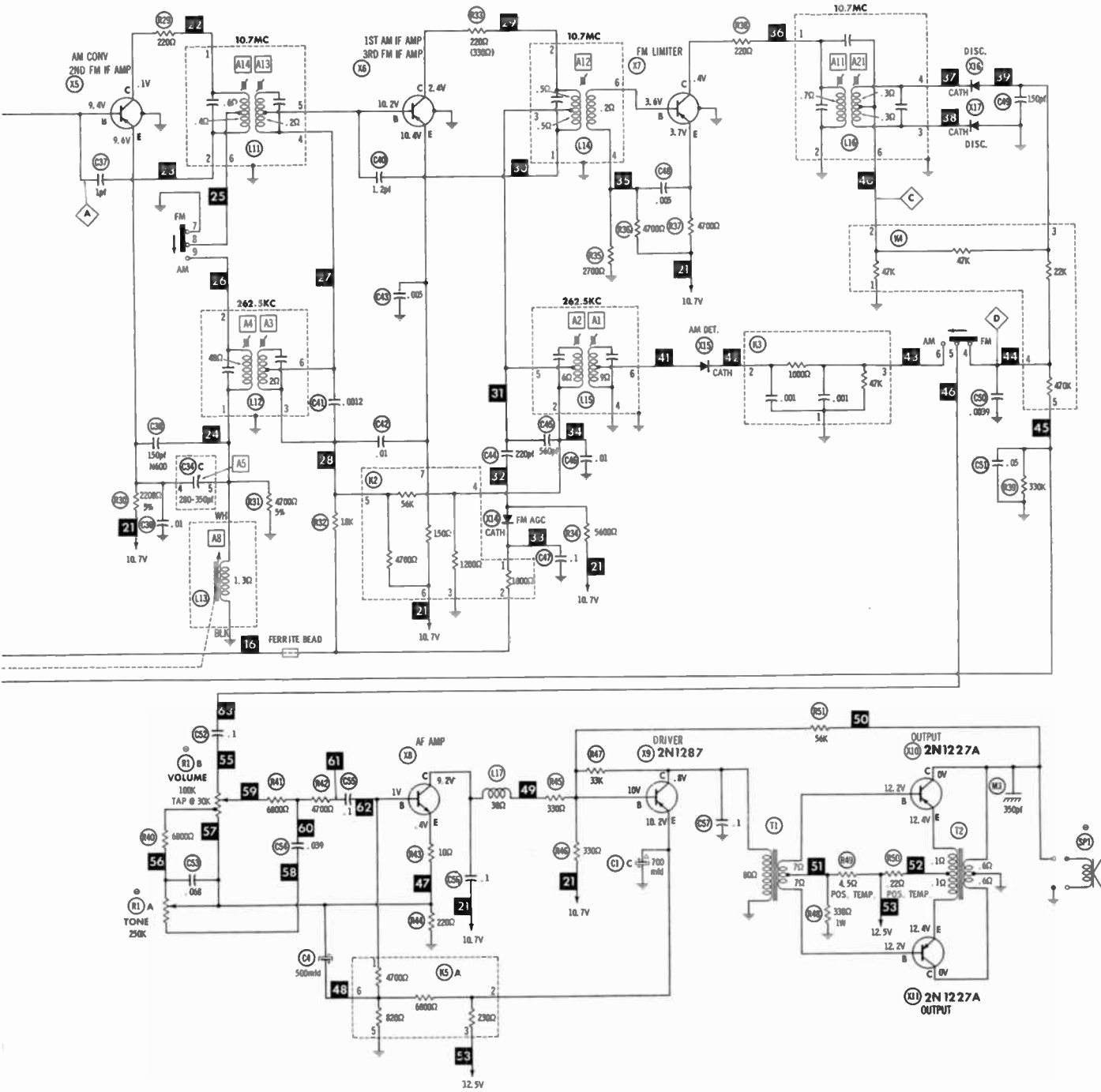




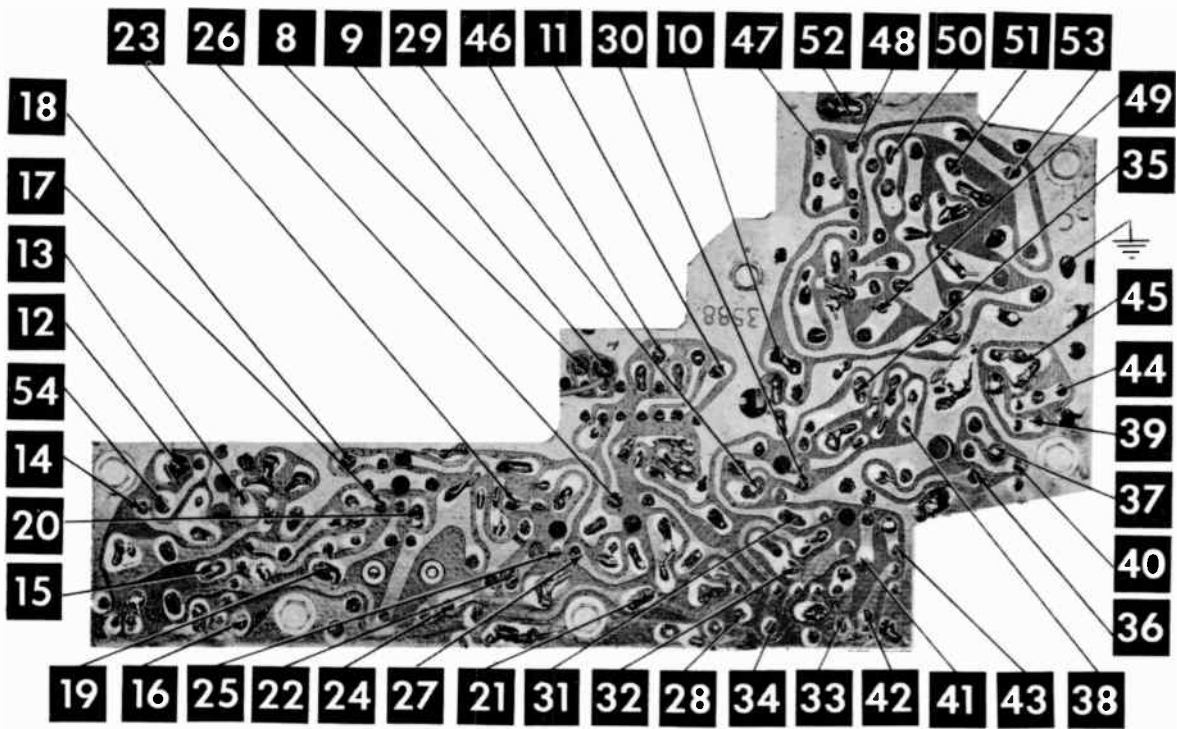
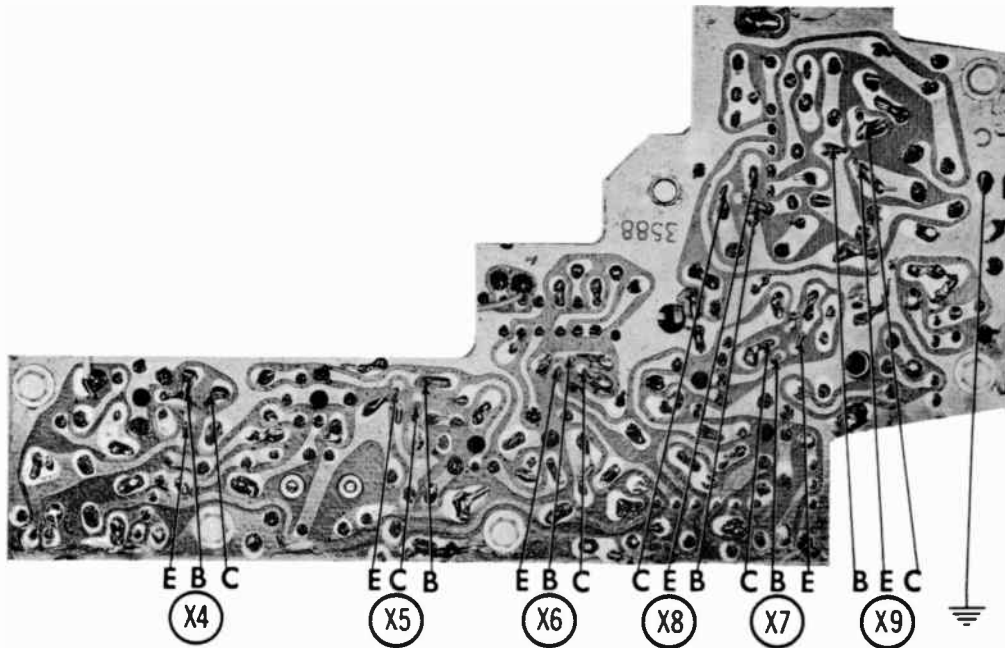
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

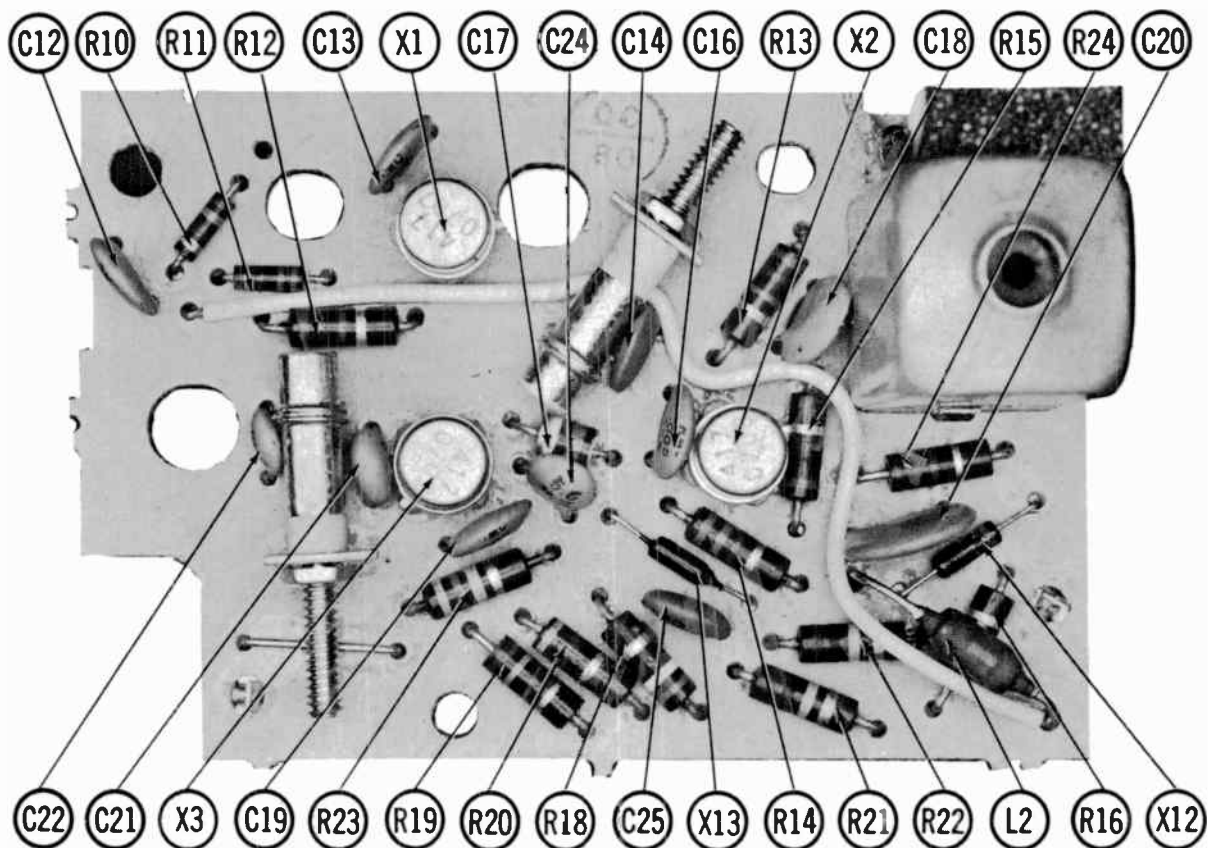
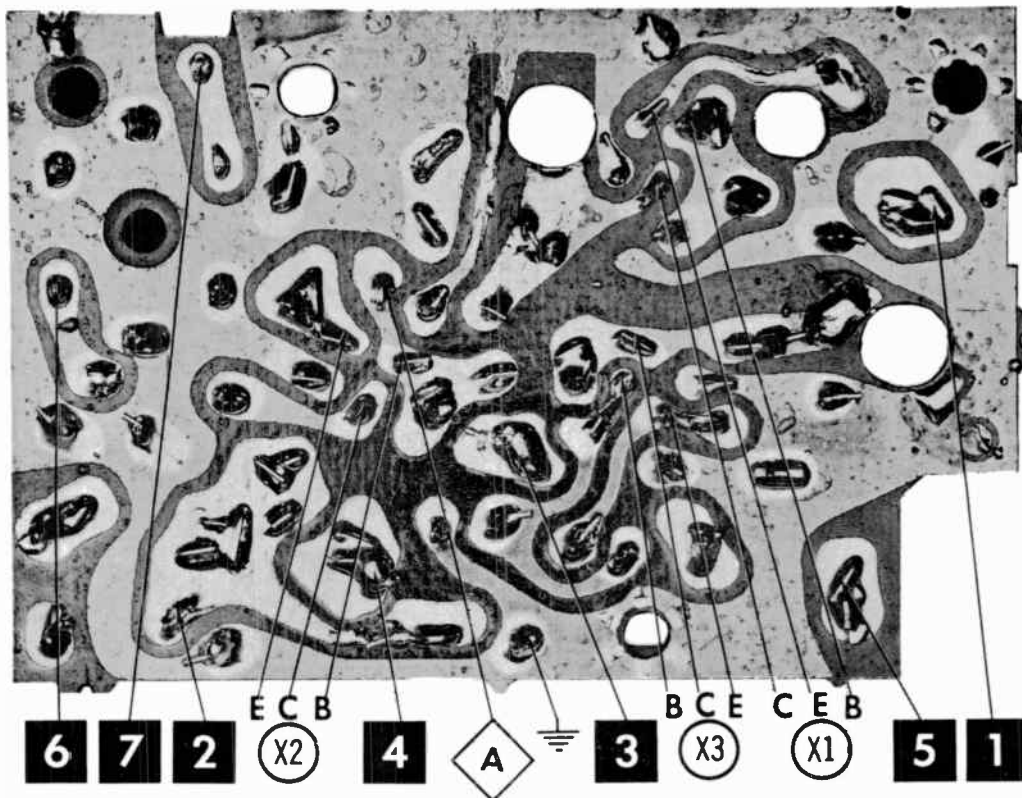
- 1. See parts list for alternate value or application.
- 2. Voltage measurements taken with vacuum tube voltmeter.
- 3. All controls set for normal operation, no signal applied.
- 4. Measured values are from socket pin or terminal to common ground.
- 5. All terminals viewed from bottom unless otherwise designated.
- 6. Numbers assigned to terminals may not be found on the unit.
- 7. Supply voltage maintained at rated value for voltage readings.
- 8. Resistance measurements not given because of the wide variation in internal resistance of transformer.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with CIRCUITRACE  
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MOPAR MODELS 360, 361, 362, 364, 366, 367





MOPAR MODELS 360, 361, 362, 364, 366, 367

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		FM RF Amp.	D8-41			PNP	2092417-0707
X2		FM Mixer	D8-41			PNP	2092417-0708
X3		FM Osc.	D8-41			PNP	2092417-0709
X4		AM RF Amp. -1st FM IF	D8-58			PNP	2092418-0708
X5		AM Conv. -2nd FM IF	D8-58			PNP	2092418-0711
X6		AM IF-3rd FM IF	D8-58			PNP	2092418-0710
X7		FM Limiter	D8-58			PNP	2092418-0710
X8		A.F. Amp.	D8-48	GE-10		NPN	2092609-0707
X9	2N1287	Driver	D8-26	GE-2		PNP	2091578-0702
X10	2N1227A	Output	D8-520	GE-3		PNP	2091859-0714
X11	2N1227A	Output	D8-520	GE-3		PNP	2091859-0714

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS &amp; SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X12		2092055-0005					
X13		2092055-0003					
X14		2092055-0001					1N344B
X15		2092055-0001					1N344B
X16		2092055-0007					1N344B
X17		2092055-0007					1N344B

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BENDIX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1000	18	2092963-0705						TVLS3027.9*
B	700	16							
C	700	16							
C2	100	16	2093667-0708	PTT88	NLW100-25	MT1-25	BL2050	TT25X100	TL-1162
C3	50	3	2090480-0015	BCD3050	ECSP50-3	MT1-18	BL1410	PET1575	VL1045
C4	500	3	2090480-0009	CRE243A	NLW450-3	MT1-26	BL2111	PET290	TE-1068

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	4-30	#2093115-0703						10TCC-V39
C11	3.9							5HK-D50
C12	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C13	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C14	27	NPO	NPO-DI25	TCZ-27	C10Q25C	CCTO-270	CNO427	10TCC-Q27
C15	1-10							
C16	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C17	2.2		NPO-DI 2.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522	10TCC-V22
C18	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C19	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C20	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810
C21	2.2	NPO	NPO-DI 2.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522	10TCC-V22
C22	15	N150						10TCP-Q15
C23	1-8							
C24	5.8	NPO	#2093105-0001					10TCC-V58
C25	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10

## FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C26	.82		NPO-DI 1	TCZ-R88				CNO510	10TCC-V10
C27	7-60	#2093486-0701							
C28	1.8		NPO-DI 2.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522	10TCC-V22	
C29	.0018		DI-1800	DD-182	JB6D18		GP218	10T8-D18	
C30	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C31	.39	N750		TCN-39	C10Q39U	CCTN-390	CN7439	10TCU-Q39	
C32	.2			UK20-204	HCC25224Z			HY-325	
C33	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C34A	310-370	#2092422-0707							
B	160								
C	280-350								
C35	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C36	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C37	1		NPO-DI 1.0	TCZ-1			CNO510	10TCC-V10	
C38	150	N600	#2093030-0705						
C39	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C40	1.2		NPO-DI 1.0	TCZ-1			CNO510	10TCC-V10	
C41	.0012		DI-1800	DD-122	LA10D12-C4	CCD-122	GP212	5GA-D12	
C42	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C43	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50	
C44	220		DI-220	DD-221	LA10T22-83	CCD-221	GP322	10T8-T22	
C45	860		IX-580	DD-581	LA10T58-C4	CCD-581	GP356	5GA-T58	
C48	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-810	
C47	.1		TTD-1	CK-104	H8		TA010	TG-P10	
C48	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50	
C49	150		DI-150	DD-151	LA10T15-83	CCD-151	GP315	5GA-T15	
C50	.0039	100V	DBE6D39	CPR-3900J	DPMS6D39	8DP-1-392	PVC8239	8P8-D39	
C51	.06	100V	DBE685		DPMS285	1DP-2-503	PVC215	2P8-550	
C52	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C53	.068		DBE4868		WMF1568	1DP-2-683	PVC1168	4P8-688	
C54	.039			DD-403		CCD-403	GP140	5GA-840	
C55	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C58	.1		TTD-1	CK-104	H6		TA010	TG-P10	
C57	.1	100V	DBE2P1		WMF1P1	1DP-2-104	PVC101	2P8-P10	

\* Bendix Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	250K	2093471-0701				
B	Volume/Switch	100K @ 30K Tap	①				

① Part #2093471-0703 used in some versions.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	BENDIX PART No.			IRC PART No.	WORKMAN PART No.	BENDIX PART No.
R49	4.5Ω (PTC)			280629-0016	R50	.22Ω (PTC)			2090948-0007

## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		BENDIX PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	FM Ant.	① 2092210-0008	19-1005	BC-568	4612	RTC-8522	T880
L2	RF Choke (9uh)						
L3	FM RF						
L4	FM Osc.						
L5	1st FM IF						
L6	2nd FM IF						
L7	RF Choke (2uh)						
L8	AM Ant.						
L9	3rd FM IF						
L10	AM RF						
L11	4th FM IF						
L12	1st AM IF						
L13	AM Osc.						
L14	5th FM IF						
L15	2nd AM IF						
L16	Discriminator						
L17	Tone Choke (8MH)						
			19-1002	BC-563	74F226AP	RTC-8517	TA812

① Part of M2 (Tuner Assy.) or FM coil assembly, Part #2093394-0706, AM coil assembly, Part #2098131-0085.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L18	120ma.	.3Ω	1.9MH	2090520-0710	C-4124	TC-1	TR-157	TY16XT	

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	2.2	1	2092192-0704					

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	25Ω Tap @ 8Ω	2091880-0706					
	Turns Ratio						
	Pri Emitter Winding						
	8Ω						

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		BENDIX PART No.	QUAM PART No.	
SP1	6" X 9" PM	2093157-0001	69A2Z8	Model 366
	7" PM	2093158-0001		Models 360, 362
	4" X 10" PM	2093913-0701	410A2Z8	Model 361
	4" X 10" PM	2093913-0702		Model 364

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	BENDIX PART No.	REPLACEMENT DATA
K1	AM RF Bias	3300Ω, 27K, 33K, 120K	2093581-0701	
K2	IF Bias	150Ω, 1000Ω, 1200Ω, 4700Ω, 56K	2093582-0701	
K3	AM Det. Comp.	1000Ω, 47K, .001mf, .001mf	2093583-0701	
K4	Discriminator	22K, 47K, 47K, 470K	2093584-0701	
K5	AF Bias	220Ω, 230Ω, 820Ω, 4700Ω, 6800Ω	2093585-0702	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				
			BENDIX PART No.		LITTELFUSE		BUSS PART No.
			FUSE	HOLDER	FUSE	HOLDER	
M1	AGC	5A	2091811-0016	In Fuse Block	311005		AGC5

### MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
M2	Tuner	2093549-0509	Models 360, 361
	Tuner	2093549-0510	Models 362, 364
	Tuner	2093549-0511	Model 366
	Tuner	2093549-0512	Model 367
M3	Spark Plate	2093050-0706	350pt
M4	Spark Plate	2093050-0002	275pt
M5	Selector Switch	2093539-0701	
	Printed Circuit Board	2093547-0501	IF-AF Complete
	Printed Circuit Board	2093547-0503	FM Tuner
	Printed Circuit Board	2093578-0002	Volume Control

### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	MODEL	PART No.	ITEM	MODEL	PART No.
Escutcheon	360, 361, 362	2093579-0501	Pushbutton	366	2093519-0001
Escutcheon	364	2093580-0003	Pushbutton	367	2093493-0001
Escutcheon	366	2093580-0001	Knob, Tuning or Volume	360	2093493-0501
Escutcheon	367	2093580-0002	Knob, Tuning or Volume	361	2093493-0502
Dial Glass	360, 362	2093513-0001	Knob, Tuning or Volume	362, 364	2093910-0501
Dial Glass	361	2093514-0001	Knob, Tuning or Volume	366	2093911-0501
Dial Glass	364	2093517-0001	Knob, Tone or Dummy	360, 361	2093494-0501
Dial Glass	366, 367	2093516-0001	Knob, Tone or Dummy	362, 364	2093915-0501
Pushbutton	360, 361	2093512-0001	Knob, Tone or Dummy	366	2093905-0501
Pushbutton	362, 364	2093930-0501	Dial Pointer		2090129-0065

### WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Boarding Strap	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)





# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>



TRADE NAME : Oldsmobile Model 7289313 (1965)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 6 Transistor AM Receiver  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : 1.2 Amp. @ 12.6 Volts DC (Less Lamp)  
 TUNING RANGE : BROADCAST 540-1615KC

OLDSMOBILE MODEL 7289313

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools:

A1 thru A5, A9, A10  
 A6, A7, A8

GENERAL CEMENT: 5009, 8728A, 8987  
 GENERAL CEMENT: 9087, 8290, 8868

WALSCO: 2531-X, 2536  
 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point <b>A</b> , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82 pf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
3.	"	600KC	600KC Signal	"	A9, A10	Adjust for maximum. Repeat step 2.

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A8 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	D8-51	RF Amp.	D8-25	GE-1		PNP
X2	D8-52	Conv.	D8-25	GE-1		PNP
X3	D8-53	IF Amp.	D8-25	GE-1		PNP
X4	D8-46	1st AF Amp.	D8-46	GE-10		NPN
X5	D8-46	2nd AF Amp.	D8-46	GE-10		NPN
X6	D8-501	Output	D8-501	GE-4		PNP*

\* Check bias adjustment.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X7		D8-27					1N34AS
X8		D8-27					1N34AS
X9		D8-27					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		DELCO PART No.	REPLACEMENT DATA						
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	.850	16	7291786 ①							TVL84206*
B	.400	16								
C	.100	4								
D	15	1.5RMS								
C2	100	4	7291810 ②	PTT30	NLW125-6	MT1-21	BL1720	TT6X100		TE-1102
C3	30	6	7279896	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30		TE-1092
C4	10	12	7292738	PTT53	NLW10-15	MT1-5	BL1241	TT12X10		TL-1128

① Sect. C may be part of C2 in some versions. \* Not normally in distributor's stock. Available thru distributor on order to manufacturer.  
② May be 100-100 @ 4V in some versions.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#7281971							
C11	.047 75V		DBE2847	W	WMF2847	1DP-2-473	PVC1147		2PS-847
C12	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147		2PS-847
C13		#7293277							
C14	200 N750		N750-DI200	DTN-200	C10T2U	CCTN-201	CNT320		10TCU-T20
C15	.0033 75V	75V	DBE6D33	CPR-3300J	WMF1D33	6DP-1-332	PVC4233		6PS-D33
C16	.022 75V		DBE2822		WMF1822	1DP-1-223	PVC1122		2PS-822
C17	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247		5HK-D47
C18		#7282165							
C19	330 N330								
C20	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147		2PS-847
C21	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147		2PS-847
C22	180 N80								10TCN-T80
C23	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210		5HK-D10
C24	.0068 75V		DBE6D68	CPR-6800J	WMF4D68	1DP-1-682	PVC4268		6PS-D68
C25	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147		2PS-847
C26	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220		5HK-D20
C27	.1		TTD-1	CK-104	H6		TA010		TG-P10
C28		#7271564							

# Delco Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	100K	7289769	F1-100K, R14-25K			†QJ-1690A	
B	Volume, Switch	20K Tap @ 6000Ω		FFS104, RFS115, AK28, ①KR4				
R2	Bias	600Ω 2W	7286601	V-600	U39-600		110-600	MR600P

① Alter bushing to meet requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-126, P17-105 (Panel)

B19-119K, R26-124 (Rear) S6 (Bushing) 76-1 (Switch)

"SNAPTROL" Equivalent: BU8①, CF13, CR50T, SF8, SR11, GC.

## RESISTORS (Power and Special)

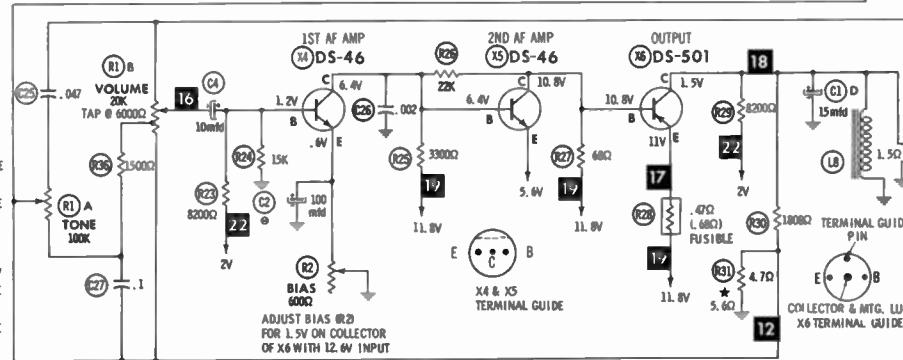
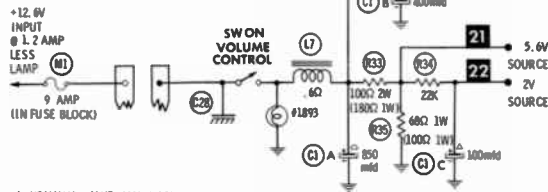
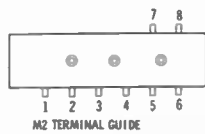
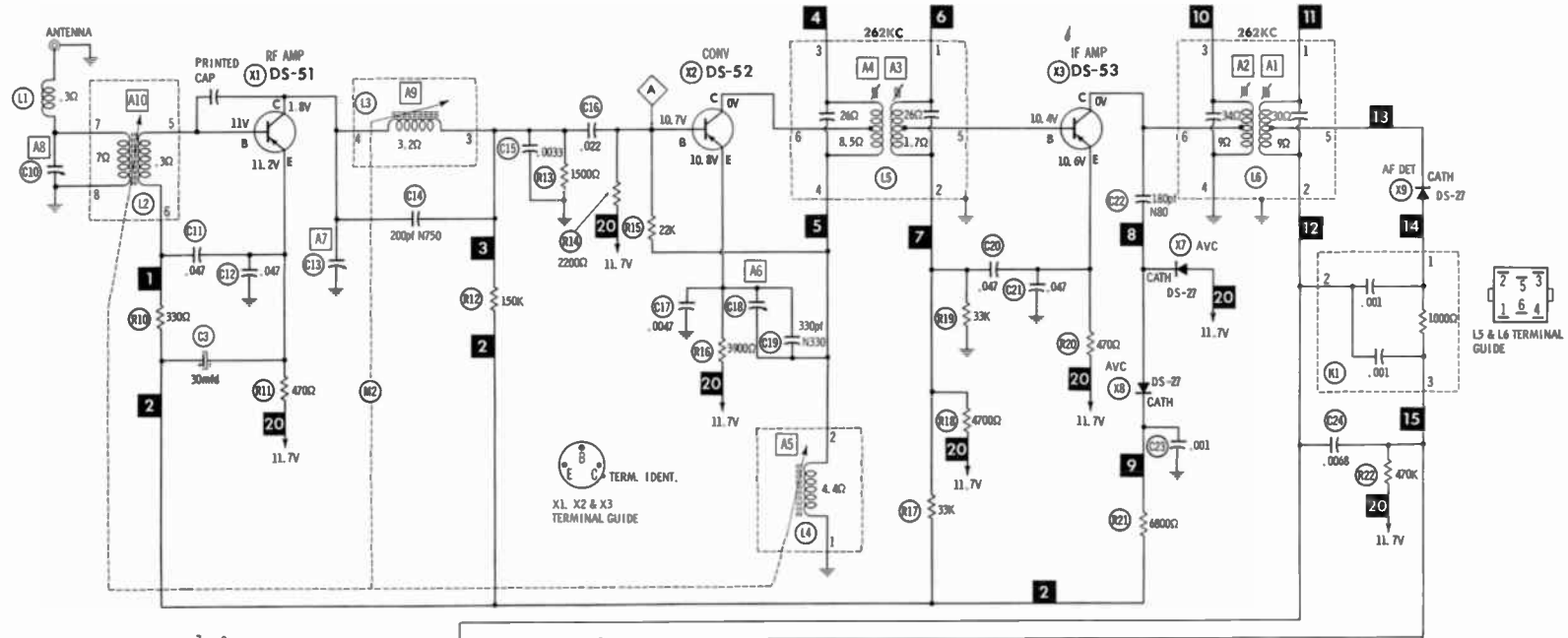
ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	DELCO PART No.
R28	.47Ω (Fusible)	BWH. 47	WS. 47Ω	7281890		.68Ω	BWH. 68Ω	WS. 68Ω	7287480 (Alt.)

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		DELCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uH)	7281946	19-1004	BC-585	4610	RTC-8520	T859
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	1221856	18-8704		6542		TA653
L6	Output IF	1221857	18-8705		6543		TA653

① Part of M2.

CONTINUED ON PAGE 100



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.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

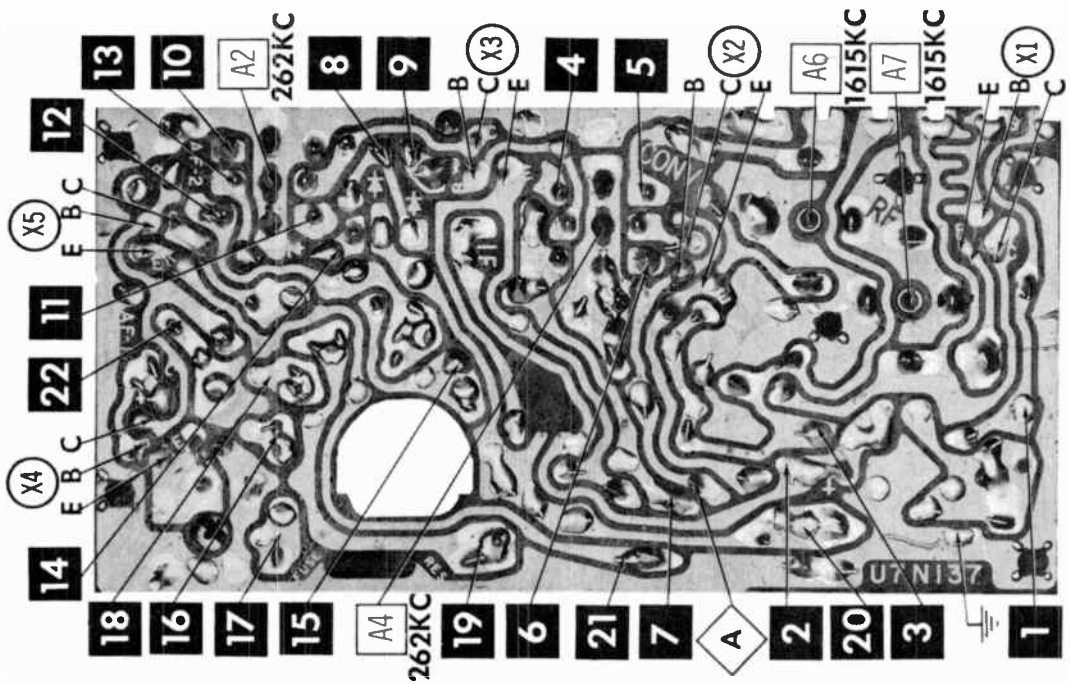
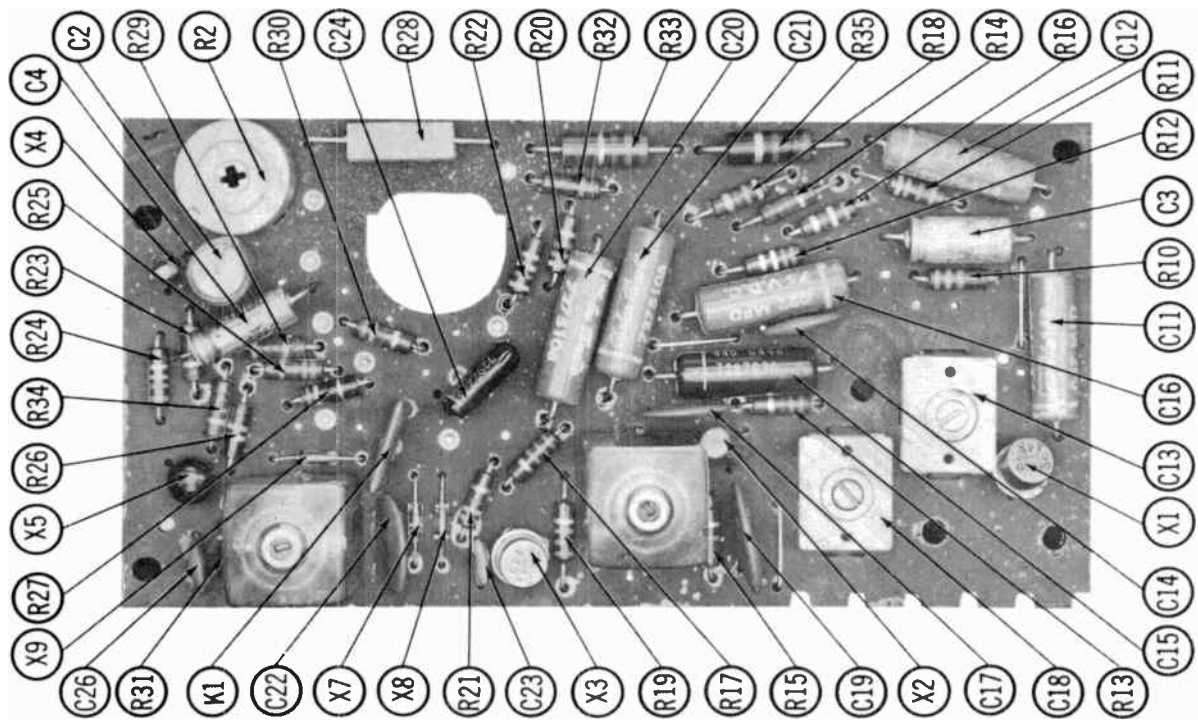
★ NOMINAL VALUE, MAY VARY.  
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with CIRCUITRACE

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OLDSMOBILE MODEL 7289313

A Howard W. Sams CIRCUITRACE Photo



# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	1.2 Amp.	.6Ω	8MH	1221823	C-4095	TC-2	TR-154	TY17XT	

## CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	29.5MH	7282278					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	NOTES
SP1	4" X 10" PM	10Ω 7289986 410A2Z10	

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART No.	REPLACEMENT DATA
K1	Det. Comp.	1000Ω, .001mfd, .001mfd	7287253	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			DELCO PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	SFE	9		In Fuse Block	307009			SFE 9	

## MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Tuning Coil Assembly	7287957	

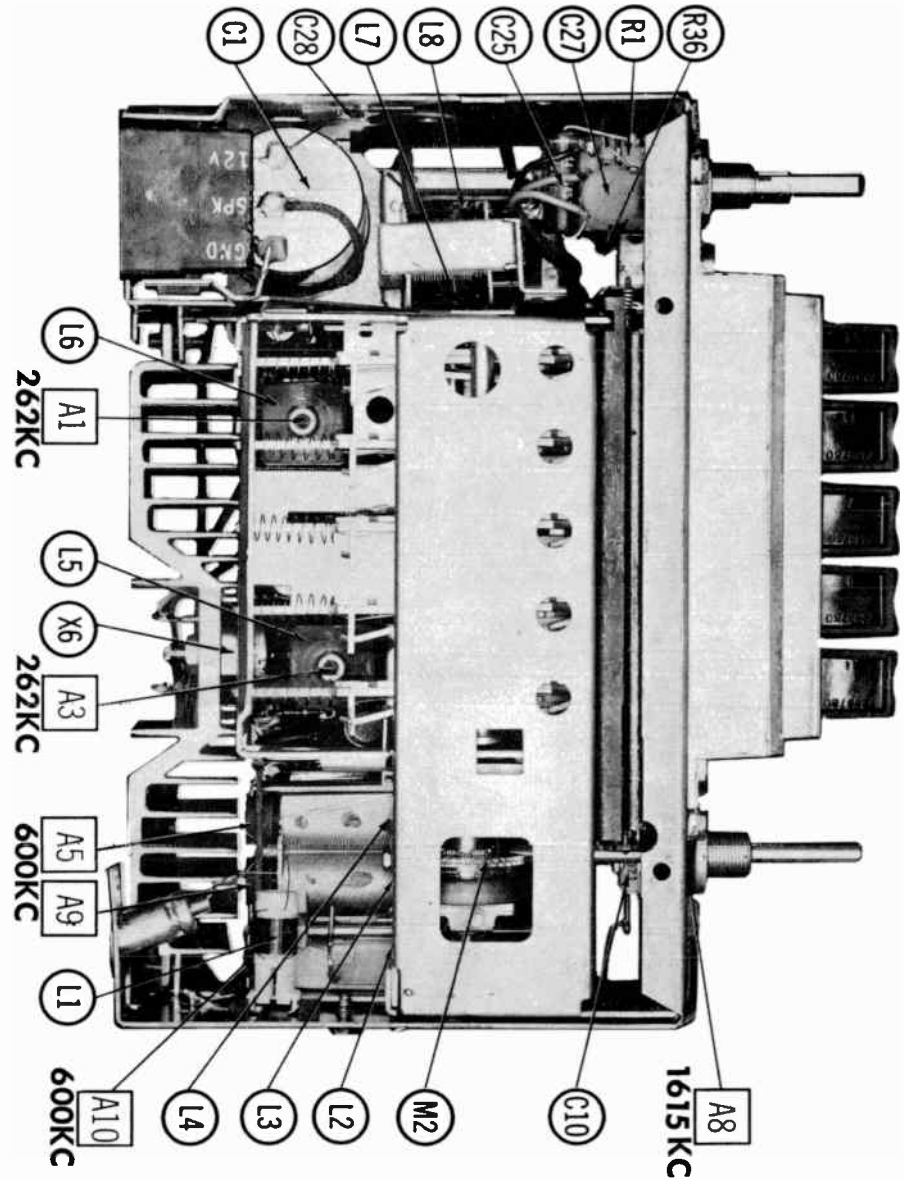
## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	7289761	Knob, Tuning, Volume	589822
Dial Pointer	7299753	Knob, Tone	387512
Pushbutton	7289750	Knob, Dummy	387513

## WIRING DATA

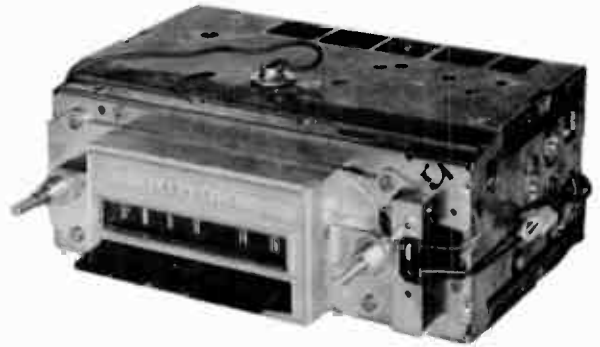
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)





# PHOTOFACT<sup>®</sup> with CIRCUITRACE<sup>®</sup>

TRADE NAME : Oldsmobile Model 7291063 (1965 F-85)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 6 Transistor AM Receiver  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .670 Amp. @ 12.6 Volts DC (Less Lamp)  
 TUNING RANGE : BROADCAST 540-1615KC



## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1 thru A5, A9, A10  
 A6, A7, A8

GENERAL CEMENT: 5009, 8728A, 8987  
 GENERAL CEMENT: 8290, 8868, 9087

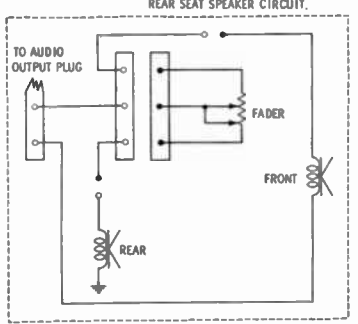
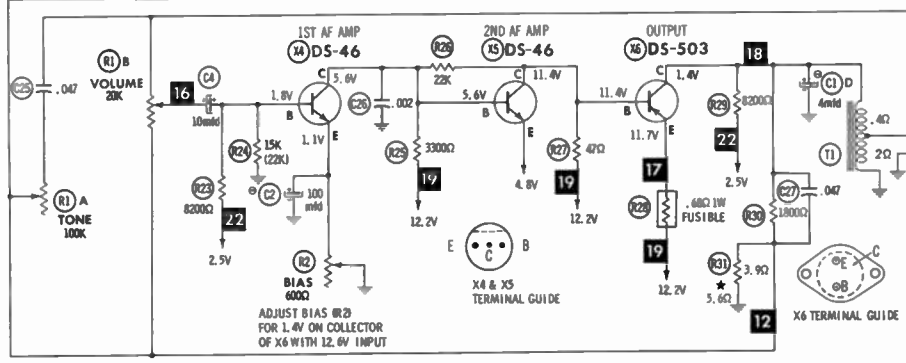
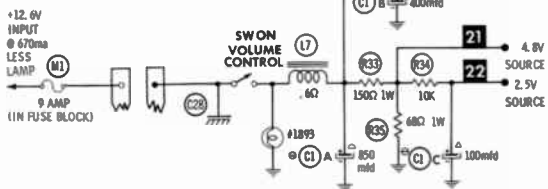
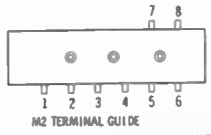
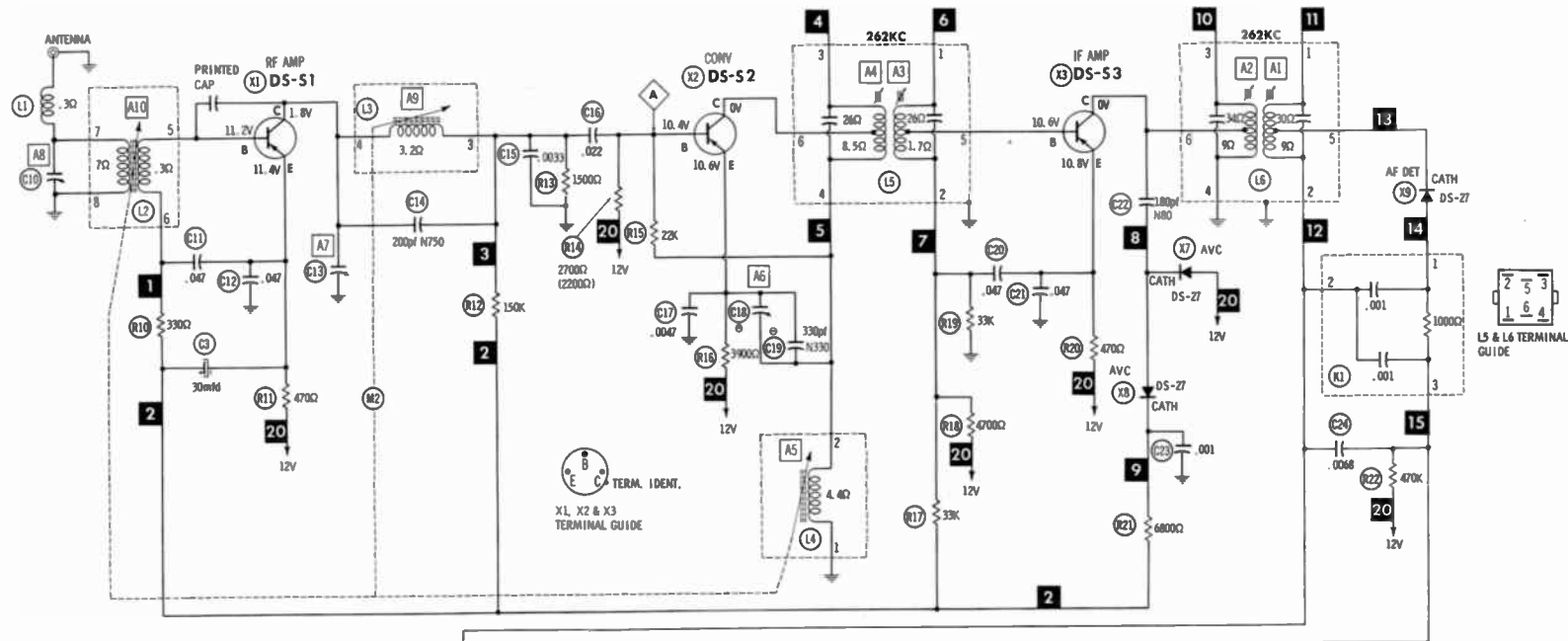
WALSCO: 2531-X, 2536  
 WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (40% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1/8" from mounting end of coil form.						
2.	High side thru 82pf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
3.	"	600KC	600KC Signal	"	A9, A10	Adjust for maximum. Repeat step 2.
With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A8 for maximum output.						

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

OLDSMOBILE MODEL 7291063



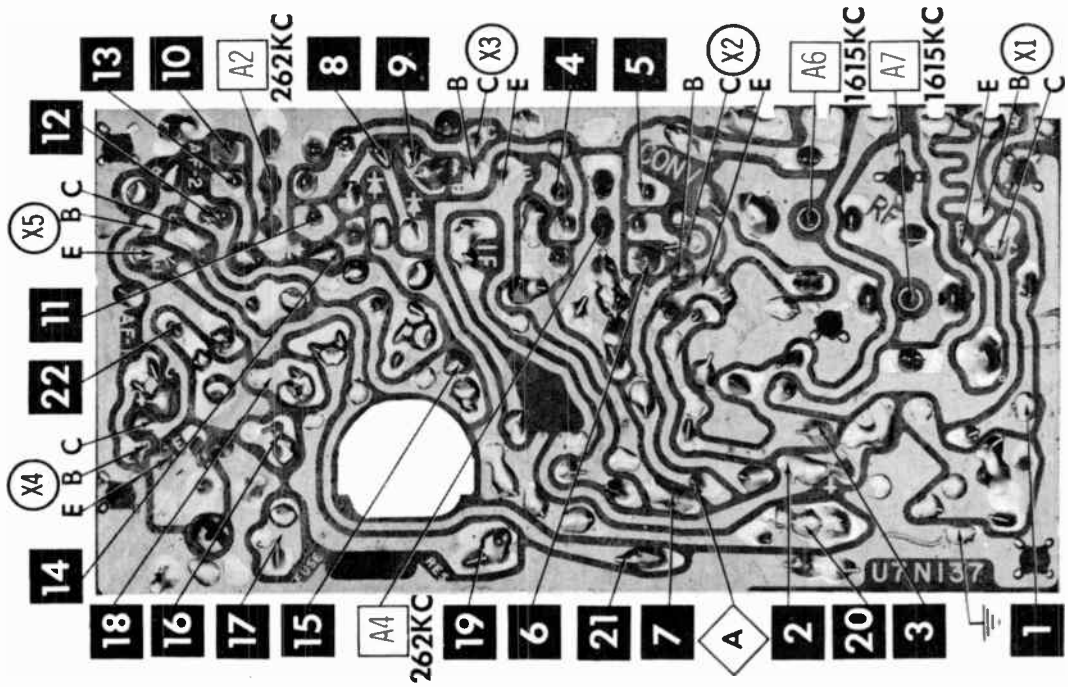
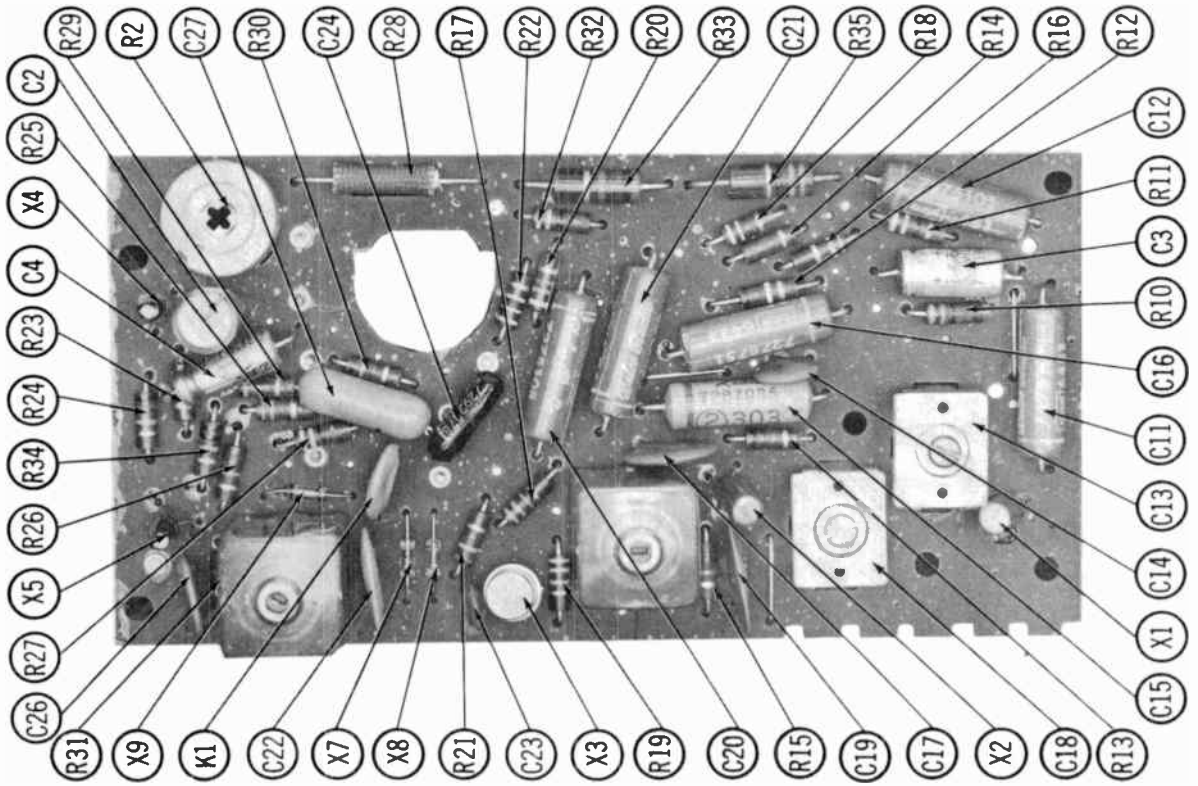
\* NOMINAL VALUE, MAY VARY.  
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**

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- ⊙ 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

**OLDSMOBILE MODEL 7291063**



OLDSMOBILE MODEL 7291063

A Howard W. Sams CIRCUITRACE Photo



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	DB-51	RF Amp.	DB-25	GE-1		PNP
X2	DB-52	Conv.	DB-25	GE-1		PNP
X3	DB-53	IF Amp.	DB-25	GE-1		PNP
X4	DB-46	1st AF Amp.	DB-46	GE-10		NPN
X5	DB-46	2nd AF Amp.	DB-46	GE-10		NPN
X6	DB-503	Output	DB-503	GE-3		PNP

• When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely. Check bias adjustment.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Port or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X7		DB-27					1N34A8
X8		DB-27					1N34A8
X9		DB-27					1N34A8

## ELECTROLYTIC CAPACITORS

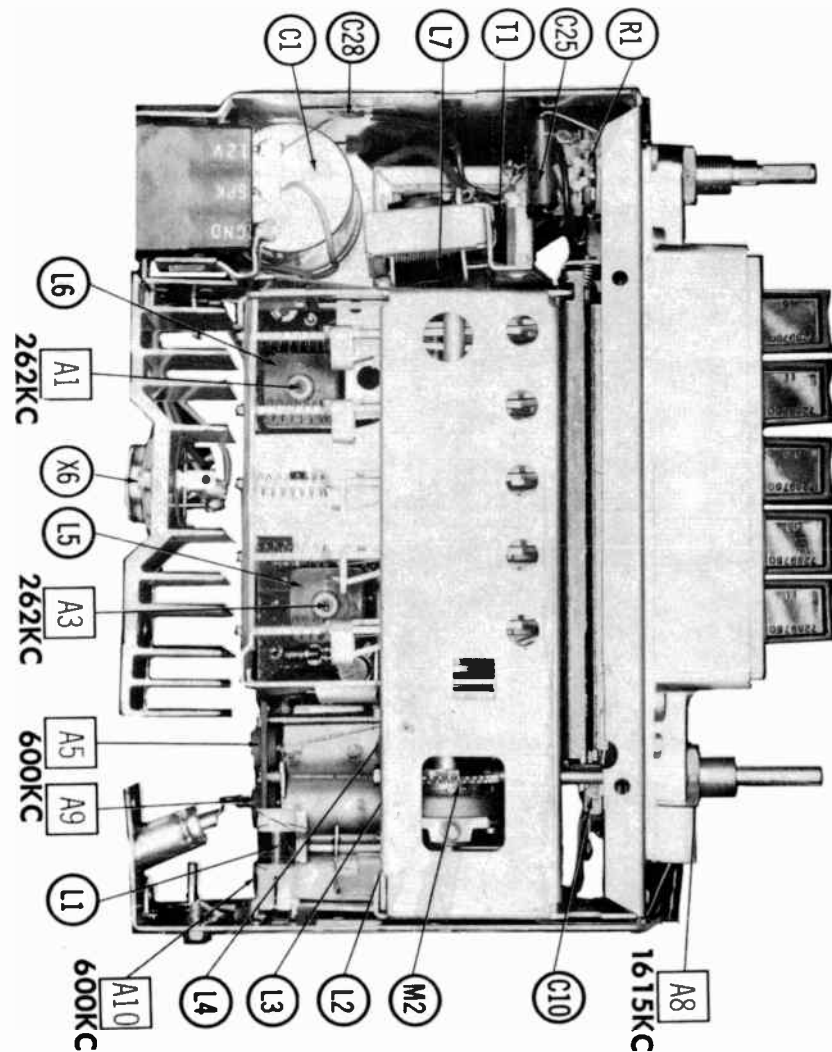
ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	.850	16	7292515 ①						TVL-4206.1
B	.400	16							
C	.100	4							
D	4	11.5RMS							
C2	100	4	7291810 ②	PTT30	NLW125-6	MT1-21	BL1720	TT6X100	TE-1102
C3	30	6	7279896	PTT27	NLW30-15	MT1-13	MLV30-6	TT6X30	TE-1092
C4	10	12	7292738	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1126

① 850-400-16V and 4 @ 11.5RMS used in some versions.  
 ② 100-100 @ 4 used in some versions.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMenco PART No.	MALLORY PART No.	SPRAGUE PART No.
C10		#7281971	DBE2847		WMF2847	1DP-2-473	PVC1147	2P8-847
C11	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2P8-847
C12	.047 75V	#7293277						
C13								
C14	.200 N750		N750-DI 200	DTN-200	C10T2U	CCTN-201	CN7320	10TCU-T20
C15	.0033 75V		DBE6D63	CPR-3300J	WMF1D63	#DP-1-332	PVC4233	6P8-D33
C16	.022 75V		DBE2822		WMF1822	1DP-1-223	PVC1122	2P8-822
C17	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47
C18		#7282165						
C19	.330 N330							
C20	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	10TC8-T33
C21	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2P8-847
C22	.180 N80							10TCN-T80
C23	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10
C24	.0068 75V		DBE6D68	CPR-6800J	WMF4D68	1DP-1-682	PVC4268	6P8-D68
C25	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2P8-847
C26	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20
C27	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2P8-847
C28		#7271564						

① Delco Part Number.



# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume	100K 20K	7287256	F1-100K, R2-25K RFS104, RFS112, AK26 <sup>①</sup> , KR-4		↑QJ-1754A	■UE4508
R2	Bias	600Ω	7286601	V-600	U39-600	110-600	MR600P

① Alter Bushing to Meet Requirements.

↑ "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-128, P22-109 (Panel)  
B13-120, R28-124 (Rear)  
87<sup>①</sup>, (Bushing)  
76-1 (Switch)

"SNAPTROL" Equivalent: BU8<sup>①</sup>, CF13, CR507, SF9, SR10, GC

■ "STA-LOC" Equivalent: FM15L, RU24A, OB1375, IB1875, U841

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	REMARKS
R28	.68Ω (Fusible)	BWL 68	WB. 68Ω	7287480					

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		DELCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6. Sub)	7281946	19-1004	BC-565	4610	RTC-8520	T859
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	1221856	16-6704		6542		TA653
L6	Output IF	1221857	16-6705		6543		TA653

① Part of M2.

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	670ma.	.6Ω	8MH	1221623	C-4005	TC-2	TR-154	TY17XT	

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	T1	12Ω Tap	@ 10Ω	7282057				

## SPEAKER

ITEM No.	TYPE	RATING	REPLACEMENT DATA		NOTES
			DELCO PART No.	QUAM PART No.	
SP1	4" X 10" PM	10Ω	7291063	410A2210	

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART NO.	REPLACEMENT DATA
K1	Det. Comp.	1000Ω, .001mfd, .001mfd	7287253	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			DELCO PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	SFE	9Amp.		In Fuse Block	307009			SFE9	

## MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Tuning Coil Assy.	7287957	

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

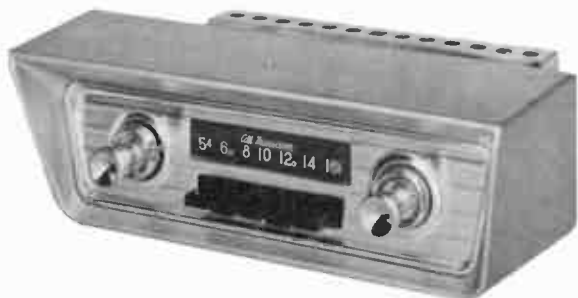
ITEM	PART No.	ITEM	PART No.
Escutcheon	7290948	Knob, Tuning, Volume	387464
Dial Pointer	1222003	Knob, Tone	387465
Pushbuttons	7289750	Knob, Dummy	387466

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Penney's Model 3118 (982-0093)

**SUPPLIER :** For Current Address, See Master Index.

**TYPE SET :** 5 Transistor AM Receiver

**POWER SUPPLY :** 12 Volt Storage Battery

**RATING :** 525MA @ 12.6 Volts DC (Less Lamp)

**TUNING RANGE :** BROADCAST 540-1615KC

PENNEY'S MODEL 3118 (982-0093)

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

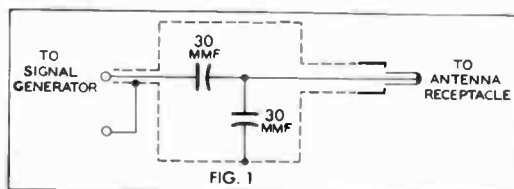
A1 thru A4.....GENERAL CEMENT #8606, 8606L, 8869  
WALSCO #2543, 2544, 2588  
A5, A6, A7, .....GENERAL CEMENT #8290, 8868, 9087  
WALSCO #2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point A, low side to ground.	262KC (400 $\sim$ Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap	Use BELDEN No. 8661 (3/8 in.) or 8870 (3/4 in.)

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2N640	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	2N642	Conv.	DS-25	GE-1	2N1639	PNP
X3	2N641	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	2N591	Driver	DS-26	GE-2	2N591	PNP
X5	2N176	Output	DS-520	GE-3	2N301	PNP (Note 1)

Note 1. When replacing, apply silicone grease to both sides of insulator.  
Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	PENNEYS PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	800	15	20-327	AFH3-00-95.4				WP-300.87	PCLB-3026.10*
B	300	15							
C	100	15							
C2	25	15	15025	PTT69	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	15015	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	1mfd	#28-900-2L (.05) †	P288N-05	UK-105	HCC3105P	IDP-2-503	PVC-215	HY-135	
C11	.05 100V								
C12	.05 100V								
C13A	270	#28A1332	DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T25	
B									.02 200V
C									.005 200V
C14	.015 200V		P288N-005	DD-502	DPM86D5	8DP-1-502	PVC-425	6TM-D60	
C15	.015 200V		P288N-015		WMP2815	4DP-1-153	PVC-2115	4PB-815	
C16	100 N750		N750-D1 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10	
C17	.05 100V		P288N-05		PM285	IDP-2-503	PVC-215	2PB-850	
C18	.1 16V		TTD-1	CK-104	H6		TA-010	TG-P10	
C19	.05 100V		P288N-05		PM285	IDP-2-503	PVC-215	2PB-850	
C20	.1 16V		TTD-1	CK-104	H6		TA-010	TG-P10	
C21	.05 100V		P288N-05		PM285	IDP-2-503	PVC-215	2PB-850	
C22	180		DI-180	DD-181	LA10T18-S3	CCD-181	GP318	5GA-T18	
C23	.01 50V		TTD-01	CK-103	H2		TA-110	TG-810	
C24	.22 50V			UK20-204	HCC25224Z			HY-325	
C25	.05 50V		TTD-05	CK-503	H5		TA-150	TG-850	

# PENNEYS Part Number.

† Alternate Value.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PENNEYS PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume & Switch	10K	80A2291				
B		10K					
		Tap @ 5K					

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES		
		PENNEYS PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.			
L1	RF Choke(6, 2ub)	14-6.2	BC-565	4610	RTC-8520	T859	① Part of M1.		
L2	Ant.	14-270(B) 14-271(B)	BC-690 BC-691	6570 6571					
L3	RF								
L4	Osc.								
L5	Input IF								
L6	Output IF								

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000-)	PENNEYS PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	525ma	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT	

## CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PENNEYS PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	27MH	75A2189					

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PENNEYS PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8:	1	75A1869			TR-184		

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		PENNEYS PART No.	QUAM PART No.	
SP1	6" x 9" PM 20Q	73B2221	69A3Z20	

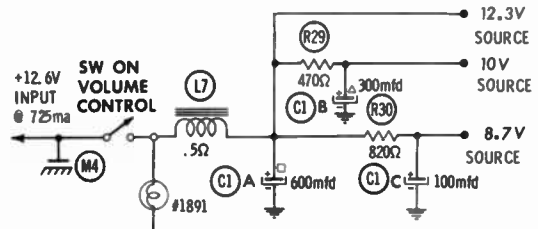
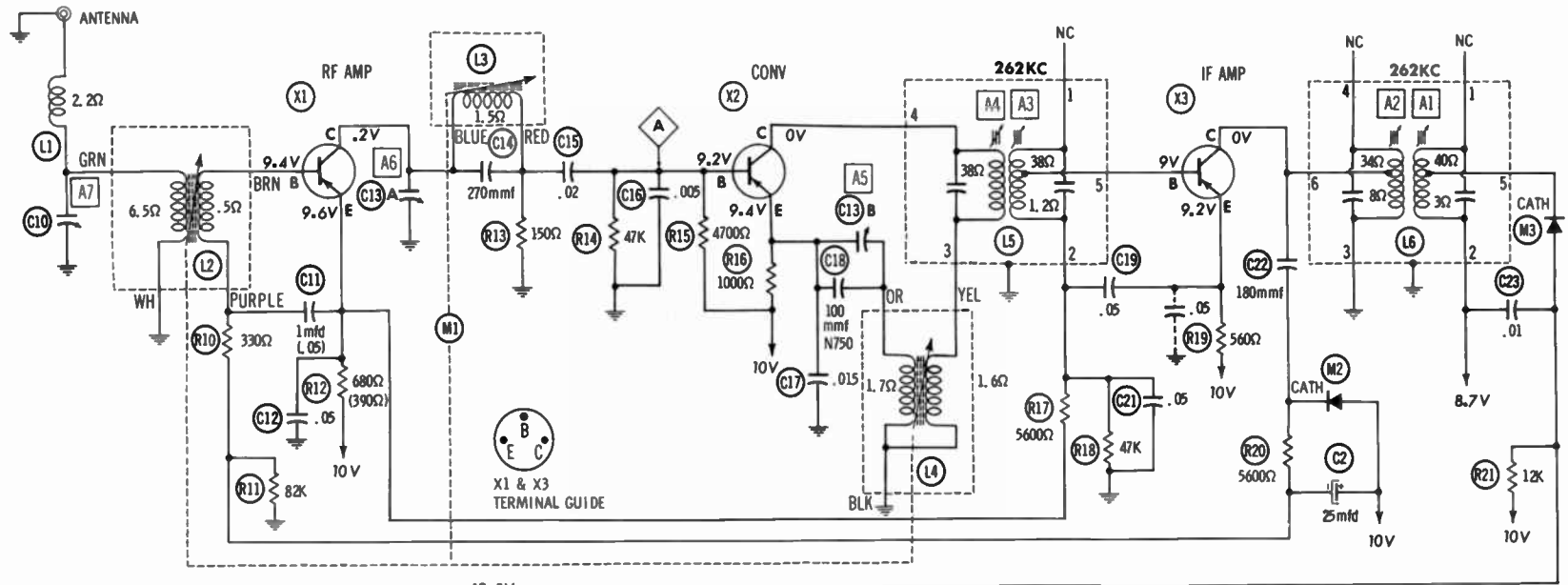
## MISCELLANEOUS

ITEM No.	PART NAME	PENNEYS PART No.	NOTES
M1	Tuner	78B2290	Push Button
	Tuner	78B2234	Manual
M2	AVC		IGD2
M3	Detector		IGD2
M4	Spark Plate		

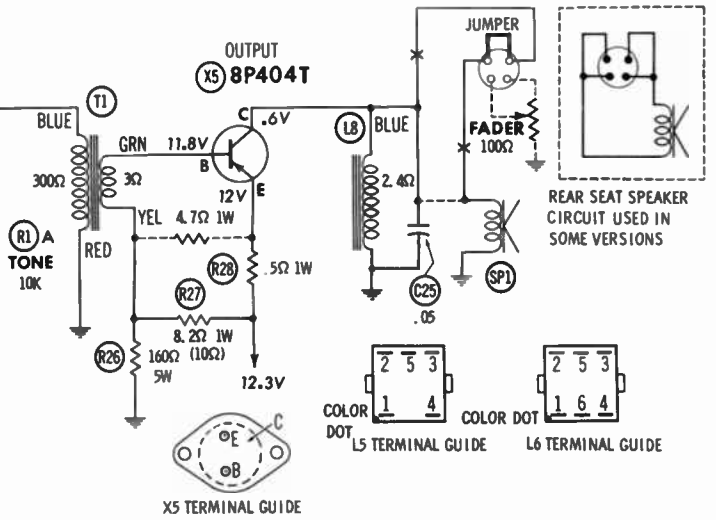
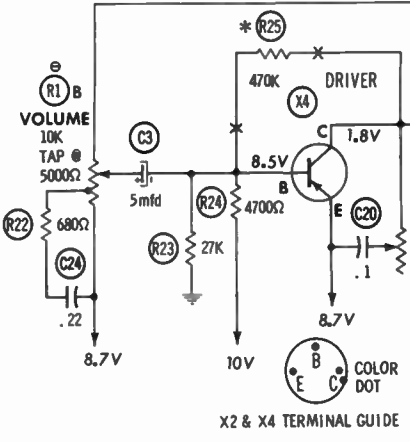
## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Volume, Tuning	54A1714	Knob - Dummy	48A1063-1A
Knob - Tone	48A1063	Push Button	55A1748

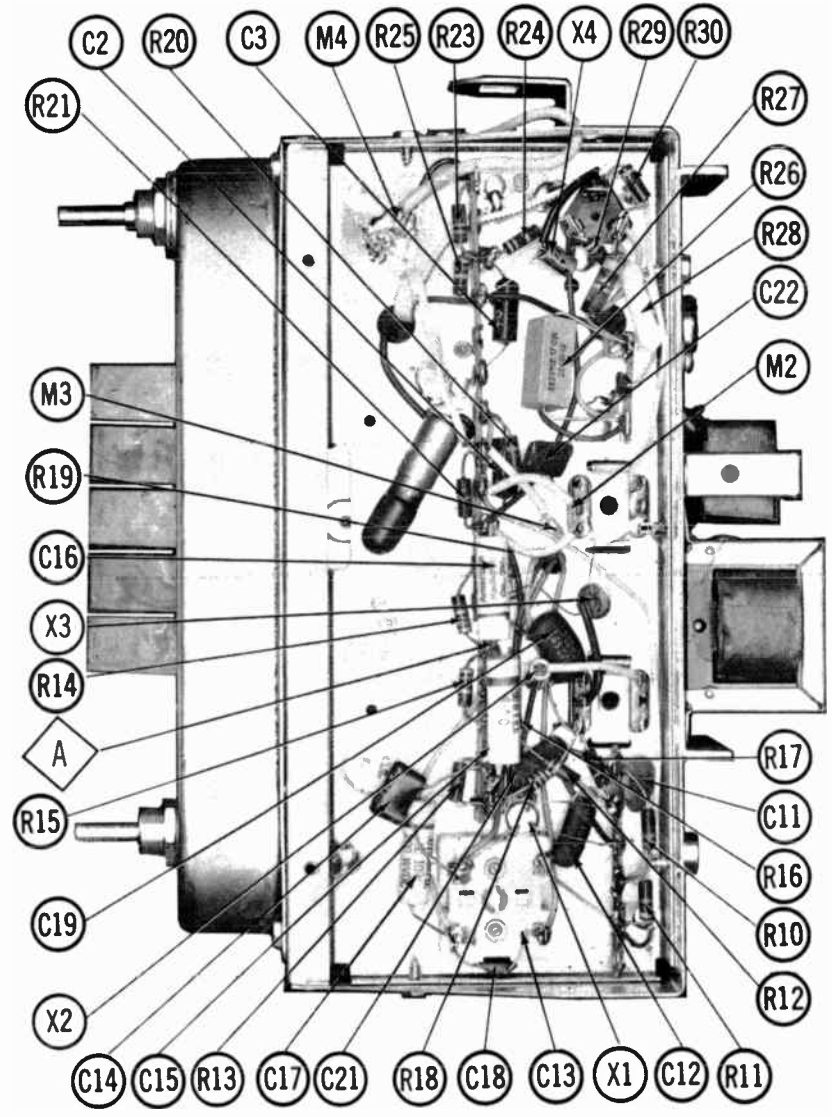
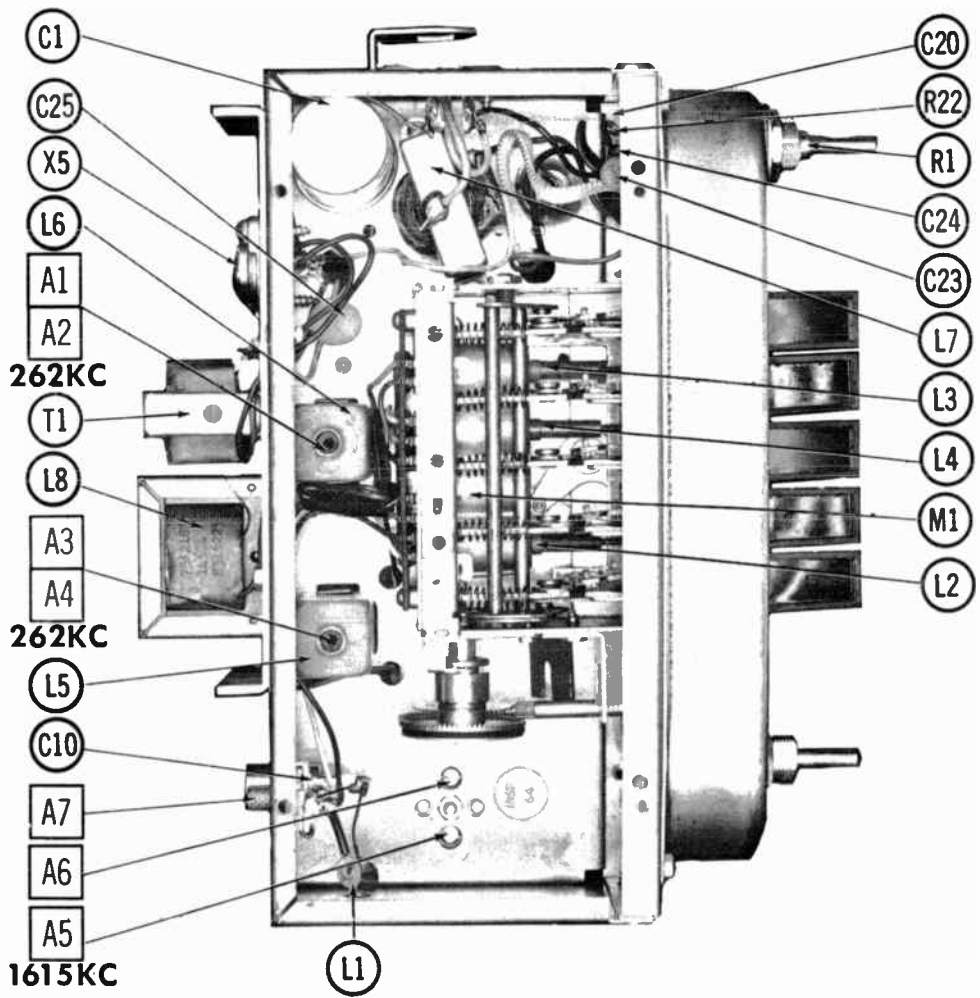


- \* NOT USED IN SOME VERSIONS  
 Ⓞ See parts list for alternate value or application.  
 1. Voltage measurements taken with vacuum tube voltmeter.  
 2. All controls set for normal operation, no signal applied.  
 3. Measured values are from socket pin or terminal to common ground.  
 4. All terminals 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.  
 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



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PENNEY'S MODEL 3118 (982-0093)



PENNEY'S MODEL 3118 (982-0093)



# PHOTOFACT®



**TRADE NAME :** Pennys Model 3121 (981-4021)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 7 Transistor AM Tractor Receiver  
**POWER SUPPLY :** 6 (or) 12 Volt Storage Battery  
**RATING :** .2 Amp. @ 6.3 VDC  
 .42 Amp. @ 12.6 VDC  
**TUNING RANGE :** BROADCAST: 540-1615KC

PENNEY'S MODEL 3121 (981-4021)

## ALIGNMENT INSTRUCTIONS

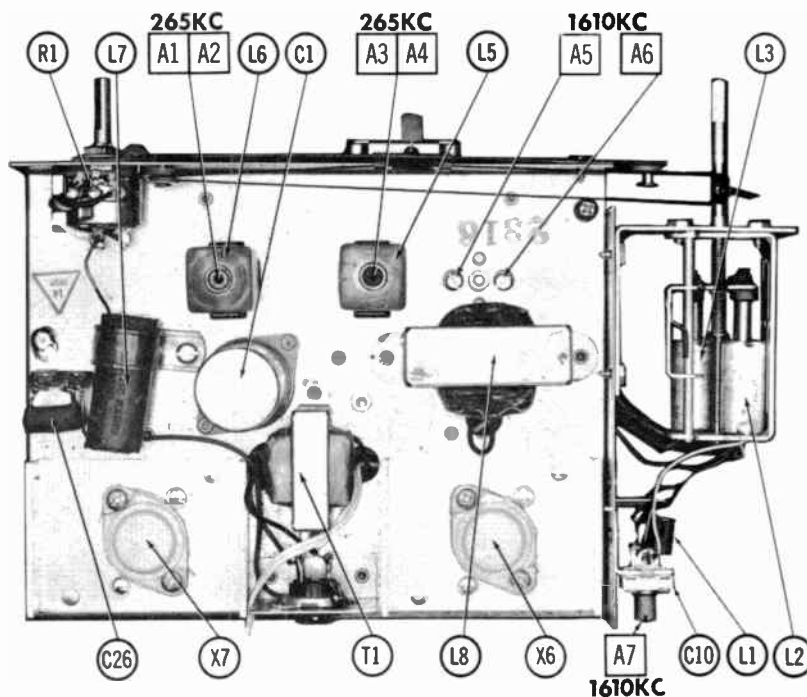
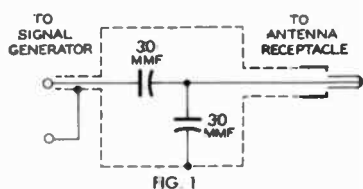
Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: GENERAL CEMENT .... 8282, 8606, 9302  
 WALSCO ..... 2543, 2544, 2588

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to pin 7 of V2, low side to ground.	265KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1610KC	1610KC	Output Meter across voice coil.	A5, A6, A7	Adjust for maximum.

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60D	RF Amp.	DS-25	GE-1	2N640	PNP
X2	6-61D	Converter	DS-25	GE-1	2N642	PNP
X3	8-62D	IF Amp.	DS-25	GE-1	2N641	PNP
X4	6-63	AF Amp.	DS-26	GE-2	2N591	PNP
X5	6-63	Driver	DS-26	GE-2	2N591	PNP
X6	8P404	Output	DS-520	GE-3	2N176	Note 1
X7	8P404	Output	DS-520	GE-3	2N176	Note 1

Note 1 When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely. Check Bias A adjustment.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	15	20-328	PWH3-00-94		XC3-48.1		PWP300.4A	PCL-3026.6
C1B	250	15							
C2	250	15							
C	25	15	20-256-015	CRE462A	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505-015	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152
C4	5	15	20-505-015	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

## FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	.05	100V	# 28-800-3L	P288N-05	CK-503	PM485	1DP-2-503	GEM-415	2TM-850
C11	.1	16V		TTD-	CK-104	H6		TA-010	TG-P10
C12	.270			1468LS-270		22R5T27	CM-15-E-271J	MCB-240.8	MS-327
C13			#28A1332						
C14	.02		(.015)*	BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-820
C15	.0047			BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C16	.01	200V		P288N-.01	DM-103	WMF281	4DP-1-103	PVC-211	2TM-S10
C17	.047	100V		N750-D1 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C18	.047	100V		TTD-05	CK-503				
C19	.047	100V		TTD-05	CK-503				
C20	.047	100V		TTD-05	CK-503				
C21	.180			1468LS-180		22R5T18	CM-15-E-181J		MS-318
C22	.01			BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.1			TTD-1	CK-104	H6		TA-010	TG-P10
C24	.05	100V		P288N-.05	CK-503	PM285	1DP-2-503	GEM-415	2TM-850
C25	.270			1468LS-270					
C26	.05	100V		P288N-.05	CK-503	PM285	1DP-2-503	GEM-415	2TM-850
C27	.47	200V		P288N-.47		PM2P47	2DP-5-474	GEM2047	2TM-P47

\* Alternate Value # Automatic Part Number

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
RI	Volume & Switch	10K	80A2090				

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2					① Part of M2.
L2	Ant.						
L3	RF						
L4	Osc.						
L5	Input IF	14-270					
L6	Output IF	14-271				TF806	
L7	"A" Lead Choke (200uh)	75A6002					

## CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	7.5mh	75A2075					

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	2.1	1	75A2074					

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	3AG	3Amp. 250V	108-303	12-TR12	312003 (3Amp.)	155020	AGC3	HMJ

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		PART No.	QUAM PART No.
SP1	6" X 9" PM 6-8Ω	73B2093	69A326.4

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.
Knob, Volume, Tuning	48A1069

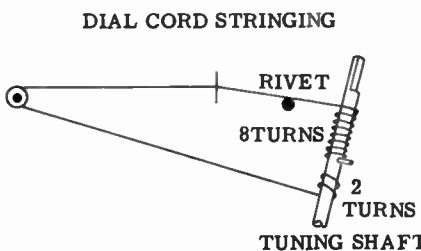
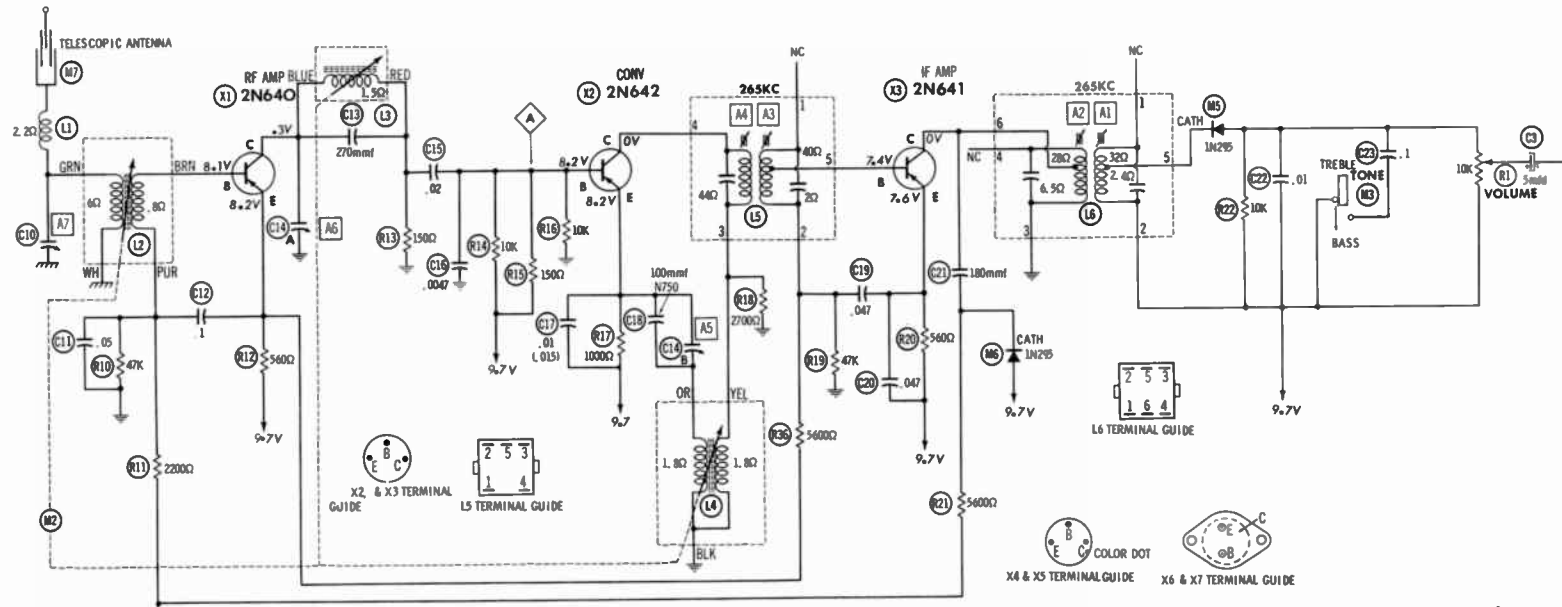
## MISCELLANEOUS

ITEM No.	PART NAME	PART No.
M2	Tuner	78A2089
M3	Switch Tone	94-SS-1
M4	Spark Plate	43-215
M5	Detector	1N295(or 1GD2)
M6	AVC	1N295(or 1GD2)
M7	Antenna	10-TR12

## WIRING DATA

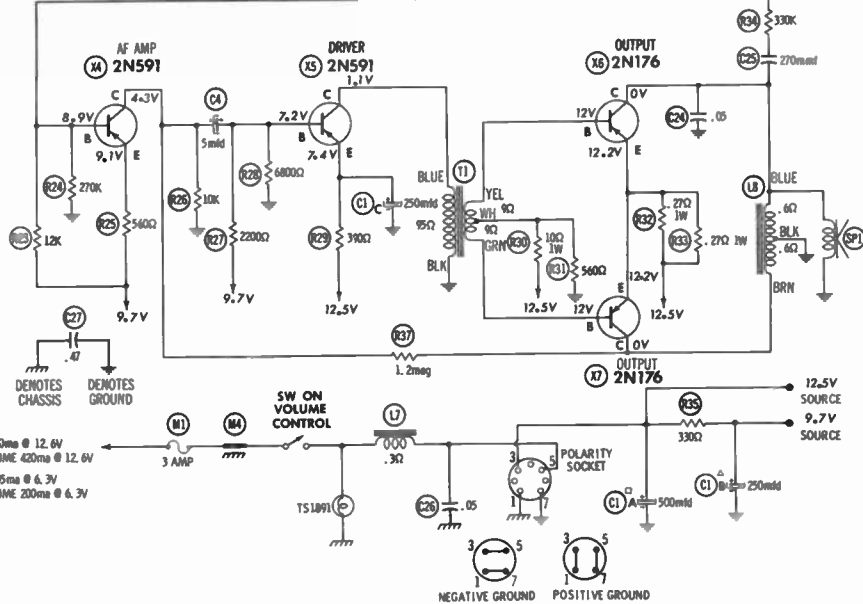
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)



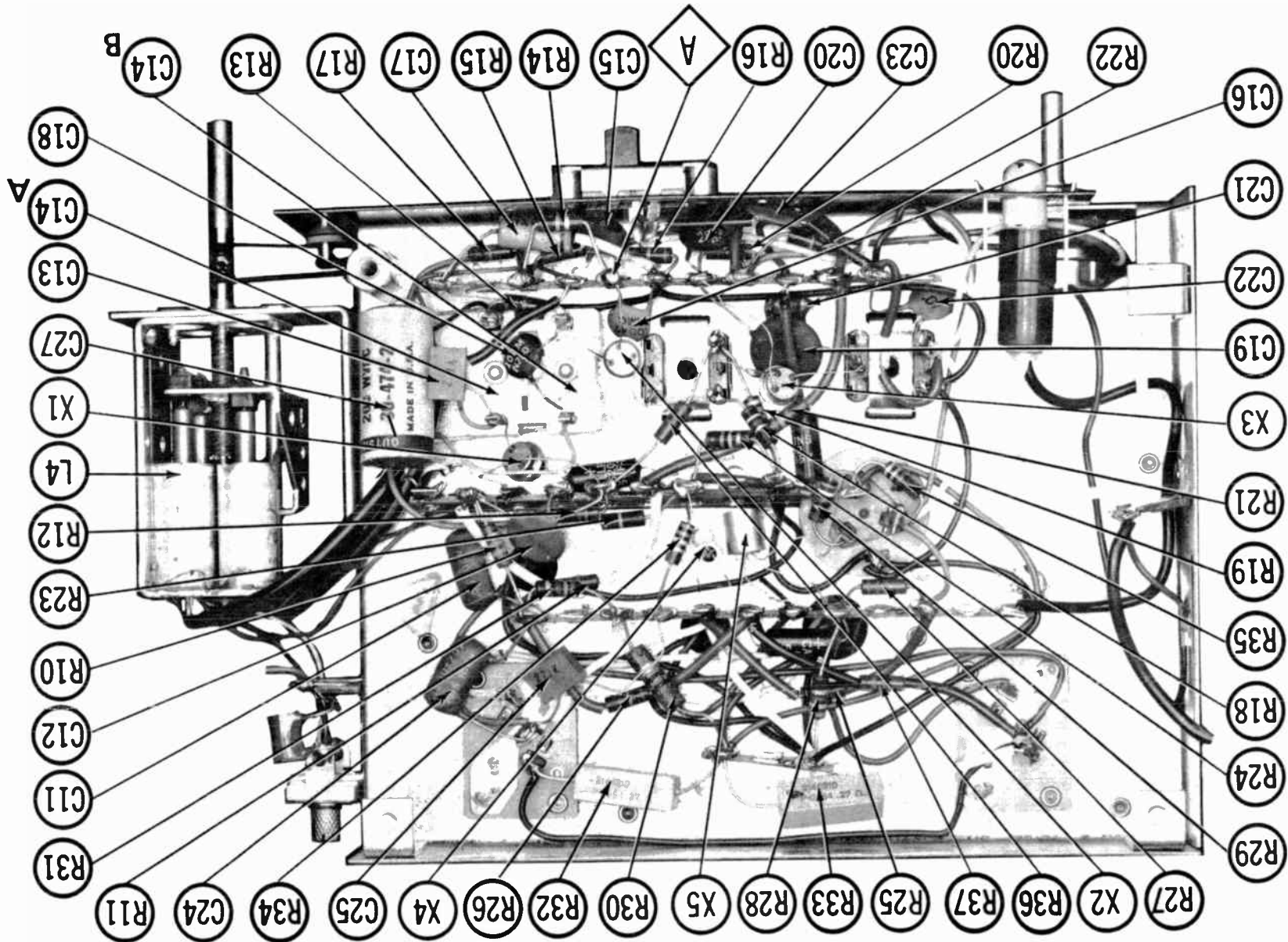


VOLTAGES TAKEN AT 12.6V NEGATIVE GROUND  
VOLTAGES TAKEN AT 6.3V ARE APPROXIMATELY 1/2 OF VALUES SHOWN.

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.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



NO SIGNAL 425ma @ 12.6V  
NORMAL VOLUME 425ma @ 12.6V  
NO SIGNAL 195ma @ 6.3V  
NORMAL VOLUME 200ma @ 6.3V





# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Pennys Model 3122 (981-4031)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 6 Transistor AM Receiver  
**POWER SUPPLY :** 6 or 12 Volt Storage Battery  
**RATING :** 1.2 Amp. @ 12.6 VDC  
**TUNING RANGE :** BROADCAST: 540-1615KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools:

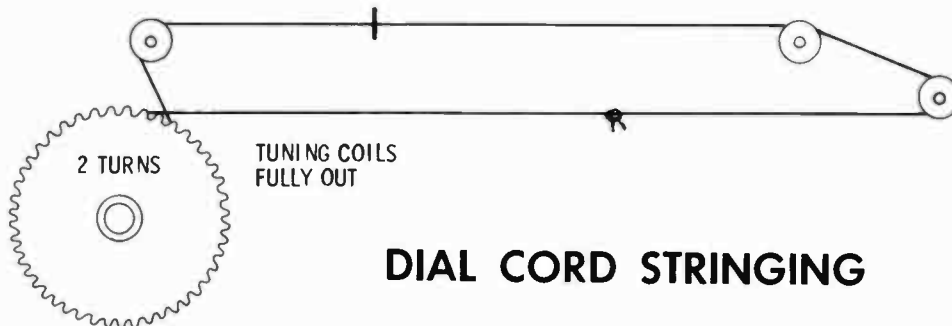
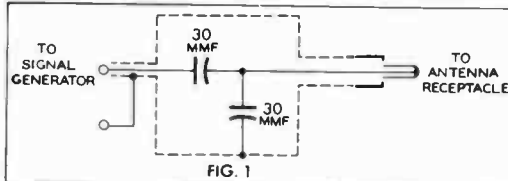
A1, A2, A3, A4	GENERAL CEMENT #8606, 8606L, 8869 WALSCO #2543, 2544, 2588
A5, A6, A7	GENERAL CEMENT #9087, 8290, 8868 WALSCO #2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A8 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	MFG. PART No.	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60	RF Amplifier	DS-25	GE-1	2N1637	PNP
X2	6-61	Converter	DS-25	GE-1	2N1639	PNP
X3	6-62	IF Amplifier	DS-25	GE-1	2N1638	PNP
X4	6-63	AF Amplifier	DS-26	GE-2	2N591	PNP
X5	6-63	Emitter Follower	DS-26	GE-2	2N591	PNP
X6	8P404T	Output	DS-520	GE-3	2N301	PNP (Note 1)

Note 1. When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

## COILS (RF-IF)

ITEM No.	USE	PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6, 2	BC-565	4610	RTC-8520	T859	⊕ Part of M2
L2	Ant.						
L3	RF						
L4	Osc.						
L5	Input IF	14-274					
L6	Output IF	14-275					

## CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	PART No.	REPLACEMENT DATA				NOTES
			MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	13MH	75A2057					

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L8	.8A	.5Ω	10MH	75A1269			TR-155	

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
CLA	250	15	20-328	PWH3-00-94	XC3-48.1			PCL-3026, 6	
B	250	15							
C	500	15							
C2	25	15	25-256	PTT69	NLW25-15	MT1-14	TD-25-25	TT15X25	TE-1207
C3	750	3	20-757				BL2211		
C4	25	15	25-256	PTT69	NLW25-15	MT1-14	TD-25-25	TT15X25	TE-1207

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10		#20-800-2L						HY-310
C11	.047	#28A1332						
C12A								
B								
C13	270		1459-00027	DD-271	5R5T27	CCD-271	GP327	5GA-T27
C14	.02		TTD-02	CK-203	H0582		TA-120	TG-820
C15	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B-247	5HK-D47
C16	.01		TTD-01	CK-103	H0581		TA-110	TG-810
C17	100 N750		N750-D1 100	DTN-100	C10TIU	CCTN-101	CN7-310	10TCU-T10
C18	.047							HY-310
C19	.047							HY-310
C20	180		1459-00018	DD-181	22R5T18	CCD-181	GP318	5GA-T18
C21	.01		TTD-01	CK-103	H0581		TA-110	TG-810
C22	1mfd			UK-105	HCC3105P			HY-135
C23	.1	Note 1	TTD-1	CK-104	H05P1		TA-010	TG-P10
C24	.047							HY-310
C25	.05		TTD-05	CK-503	H0585		TA-150	TG-850

# Part Number.  
Note 1. Not used in some versions.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	7500Ω	80A2364				

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R34	5Ω 10W		10W-SQ-5						

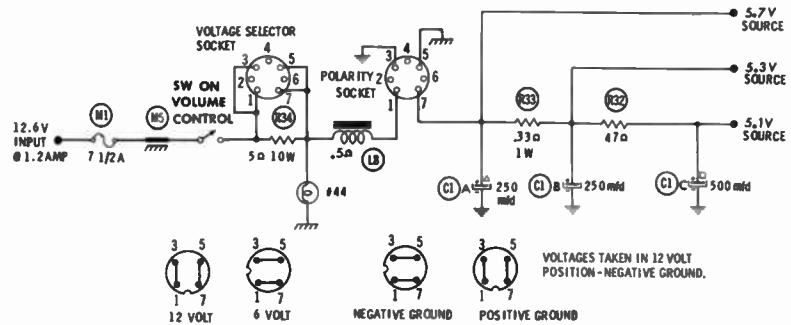
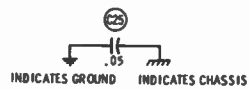
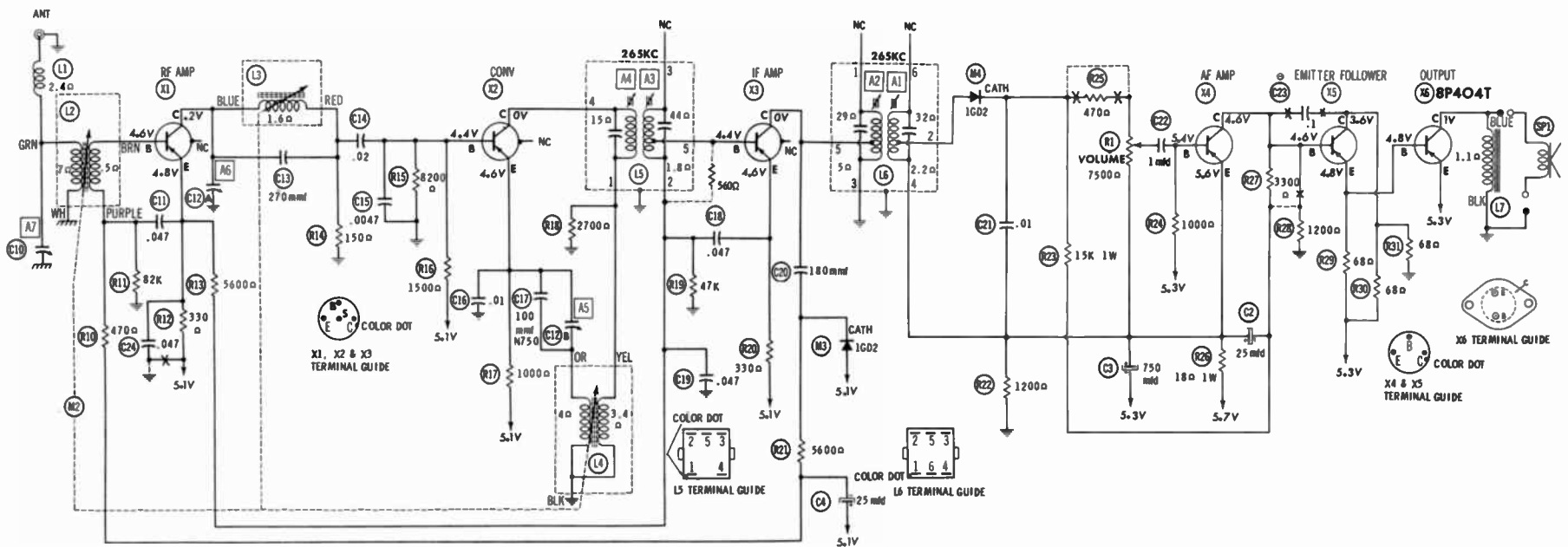
## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

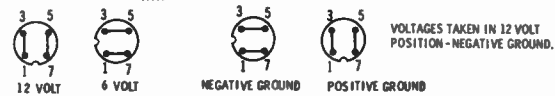
ITEM	PART No.	ITEM	PART No.
Knob - Tuning, Volume	47-52B	Knob - Dummy	47A1249

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

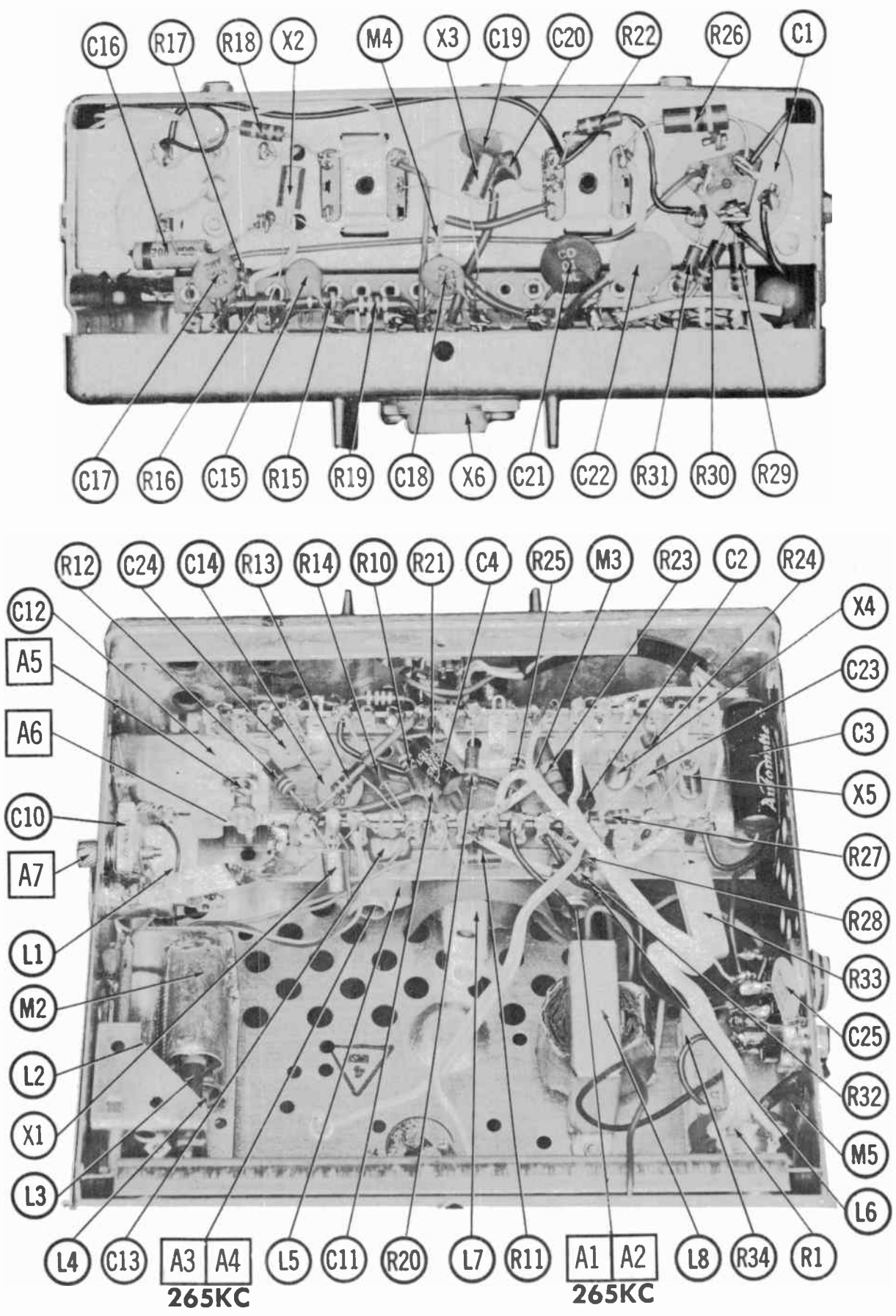


- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned to terminals may not be found on the unit.
- 6. Supply voltage maintained at rated value for voltage readings.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



VOLTAGES TAKEN IN 12 VOLT POSITION - NEGATIVE GROUND.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Penneys Model 3129 (985-6816)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 5 Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** 530 ma @ 12.6 Volts DC  
  
**TUNING RANGE :** BROADCAST 540-1615KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1 thru A4

GENERAL CEMENT #8606, 8606L, 8869

WALSCO #2543, 2544, 2588

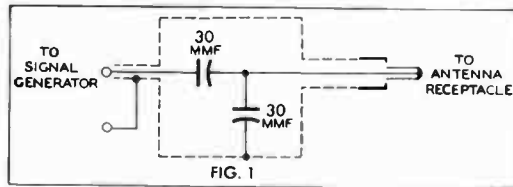
A5, A6, A7

GENERAL CEMENT #8290, 8868, 9087

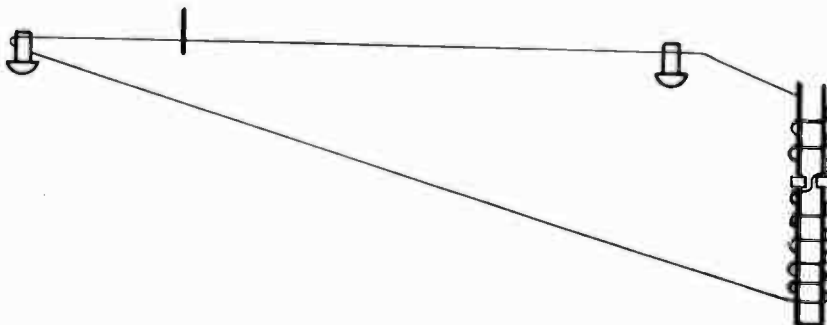
WALSCO #2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A7 for maximum output.



## DIAL CORD STRINGING



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N640)	RF Amp.	DS-25	GE-1	2N1637	PNP
X2	6-51 (2N842)	Conv.	DS-25	GE-1	2N1639	PNP
X3	6-82 (2N641)	IF Amp.	DS-25	GE-1	2N1638	PNP
X4	6-53 (2N591)	Driver	DS-26	GE-2	2N591	PNP
X5	8P404 (2N178)	Output	DS-520	GE-3	2N301	PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screw securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	PENNEY'S PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653 ①	AFH3-00-94.5	CCOO12	XC3-48.1		FP-300.83	PCL8-3026.1
C1B	300	18							
C1C	100	18							
C2	25	15	20-256	PTT89	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

① Some versions may use 600-300-100mfd (Part #20-327).

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	270	#28-800-2L	D1-271	DD-271	LA10T27-C4	CCD-271	GP227	5GA-T27
C11		#28-431A						
C12		#28-461						
C13	.01	200V	BPD-01	DD-103	BYA1081	CCD-103	B-110	5HK-S10
C14			P288N-47		WMF1P47	IDP-4-474	PVC-1047	2PS-P47

# PENNEYS Part Number.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PENNEYS PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	7500Ω	80A2918A	F2-10K, 5FB212, AK-31, KR-4		B13-116, TM8, QCB4 ①, 76-1 ②, or (BU14 ③, CF61, 8S4, GC)*	

① Use instead of TM plate in TM8. ② Use switch with metal housing. ③ Cut to proper length. \* "SNAPTROL"

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		PENNEYS PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6.2uh)	14-6.2	BC-585	4810	RTC-8520	T859	① Part of M2
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	14-2854	BC-690	6570			
L6	Output IF	14-2855	BC-691	6571		TF606	

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PENNEYS PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	450ma	.5Ω	10MH	75A8001	C-4095	TC-2	TR-155	TY17XT

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO	REPLACEMENT DATA					NOTES
		PENNEYS PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	6.5: 1	75A1810			TR-183		

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
		PENNEYS PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap ① 8Ω	75A2638			TR-189		

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PENNEYS PART No.	REPLACEMENT DATA
K1	RF Amp. Bias	220Ω, 1000Ω, 82K, .05mfd, 1mfd	89A2582-C	
K2	Converter Bias	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd	89A2583	
K3	IF Amp. Bias	560Ω, 5600Ω, 47K, .05mfd, .05mfd, .05mfd	89A2584B	
K4	AVC	5600Ω, 180mmf	89A2701	
K5	Audio Bias	470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2585A	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PENNEYS PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	SFE	7 1/2			30707.5	15507.5	SFE 7 1/2	HME

## MISCELLANEOUS

ITEM No.	PART NAME	PENNEYS PART No.	NOTES	SPEAKER	
				ITEM No.	TYPE
M2	Tuner	78A2815			
M3	AVC		1GD2/1N295		
M4	AF Det.		1GD2/1N295	SP1	5" PM 8"
M5	Spark Plate	4S-215			73A2183 5A0528

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

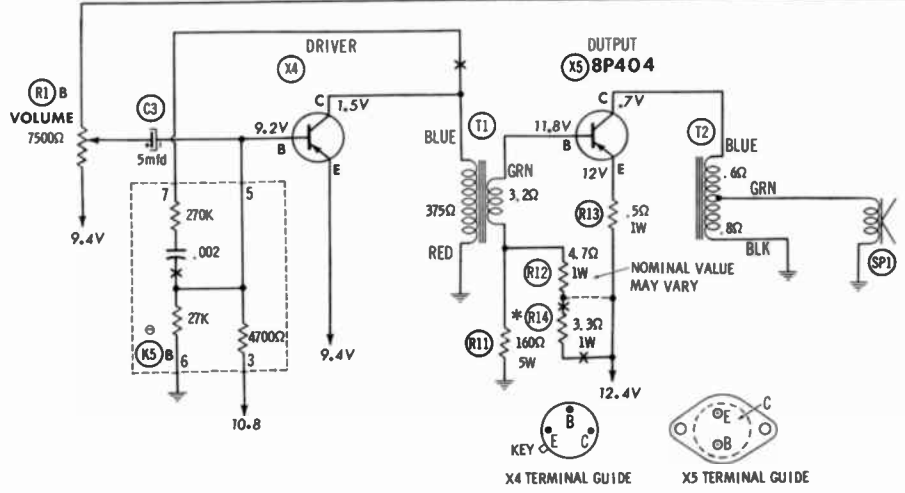
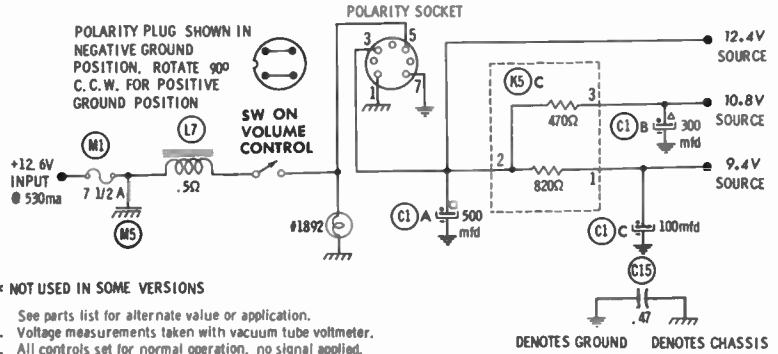
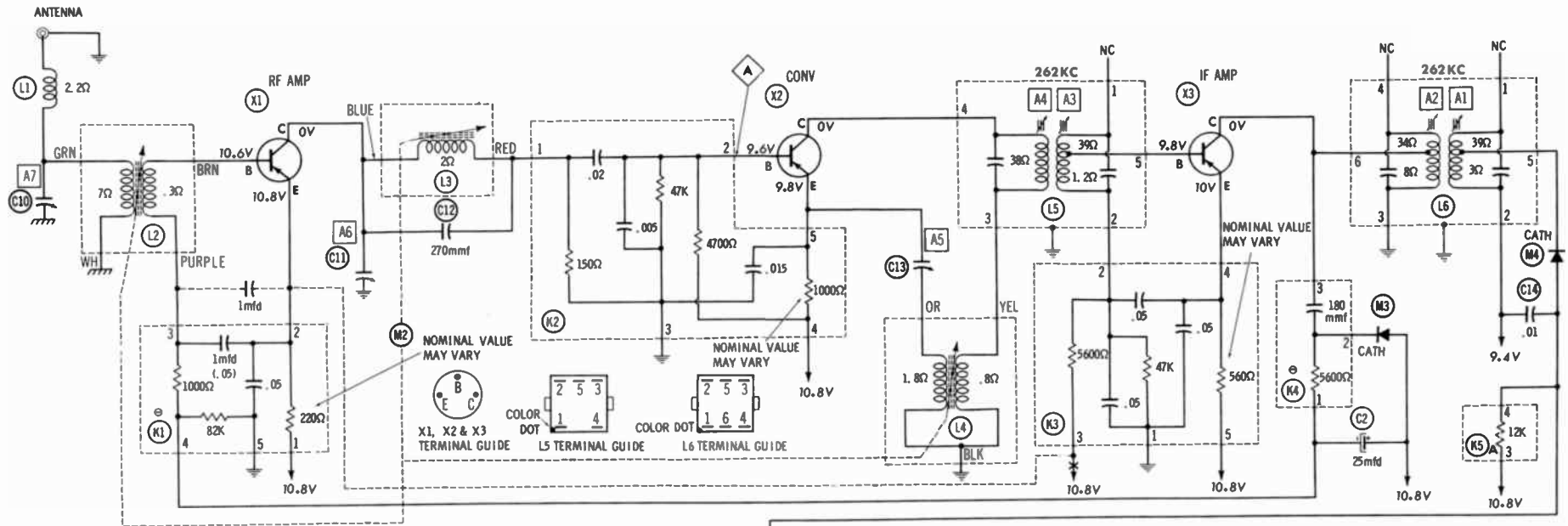
ITEM	PART No.	ITEM	PART No.
Escutcheon	54C1233	Knob, Tuning or Volume	47A1235

## WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire	Use BELDEN No. 8524 (Stranded) Available in 12 Colors
Rear Seat Speaker Extension Cable	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
	Use BELDEN No. 8861 (3/8 In.) or 8670 (3/4 In.)

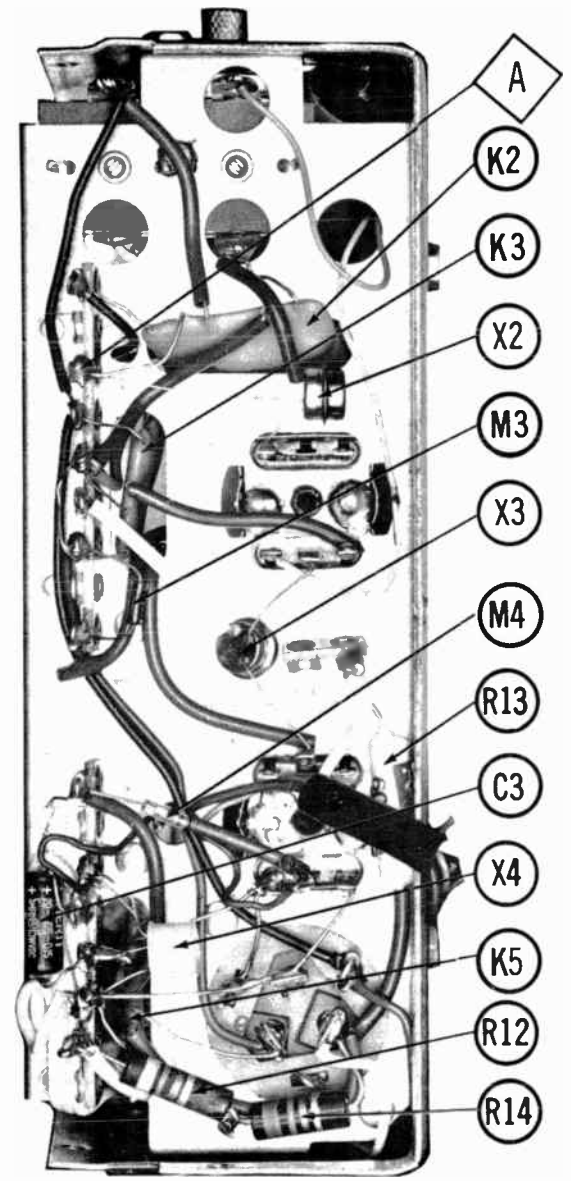
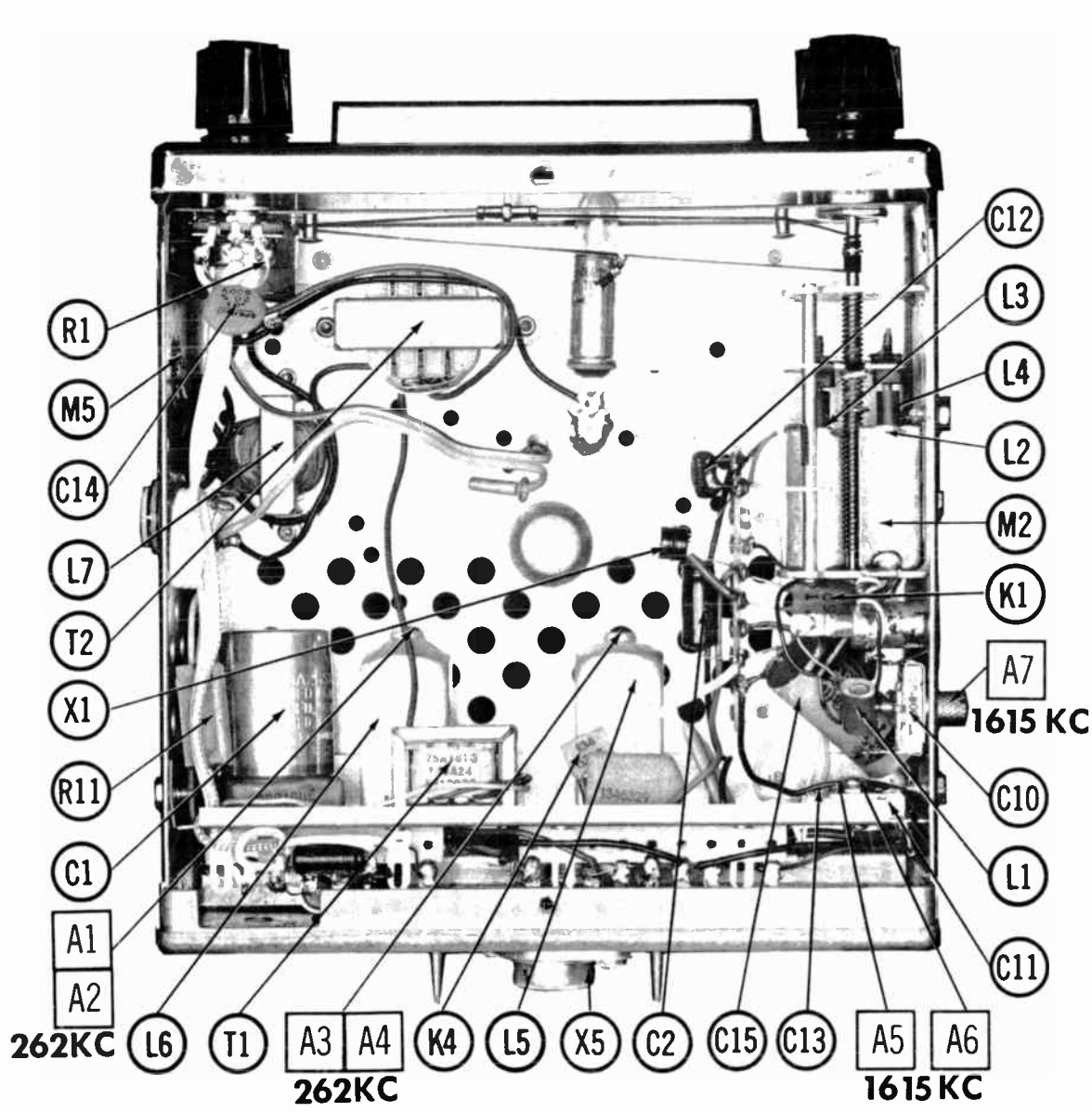
PENNEY'S MODEL 3129 (985-6819)





- \* NOT USED IN SOME VERSIONS**
- ⊖ 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.
  - 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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PENNEY'S MODEL 3129 (985-6816)



# PHOTOFACT<sup>®</sup>



**TRADE NAME :** Penneys Models 3144 (985-8374)  
 3151 (985-8341)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 5 Transistor AM Receiver  
**POWER SUPPLY :** 6 or 12 Volt Storage Battery  
**RATING :** .440 Amp. @ 6.3 Volts DC  
 .660 Amp. @ 12.6 Volts DC  
**TUNING RANGE :** BROADCAST 540-1615KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

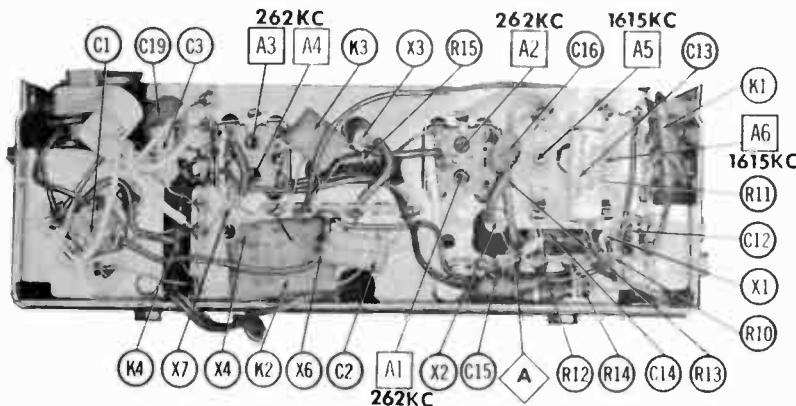
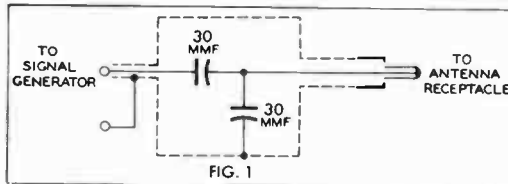
Suggested Alignment Tools: A1 thru A7      GENERAL CEMENT:9440      WALSCO: 2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



**HOWARD W. SAMs & CO., INC.** Indianapolis 6, Indiana

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N640)†	RF Amp.	D8-25	GE-1	2N1637	PNP
X2	6-61 (2N642)†	Conv.	D8-25	GE-1	2N1639	PNP
X3	6-62 (2N641)†	IF Amp.	D8-25	GE-1	2N1636	PNP
X4	6-53 (2N591)†	Driver	D8-26	GE-2	2N591	PNP
X5	6P404 (2N176)†	Output	D8-520	GE-3	2N301	PNP <sup>a</sup>

† Alternate Type Number.

<sup>a</sup> When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2 (1N295)†					1N34AS
X7		1GD2 (1N295)†					1N34AS

† Alternate type number.

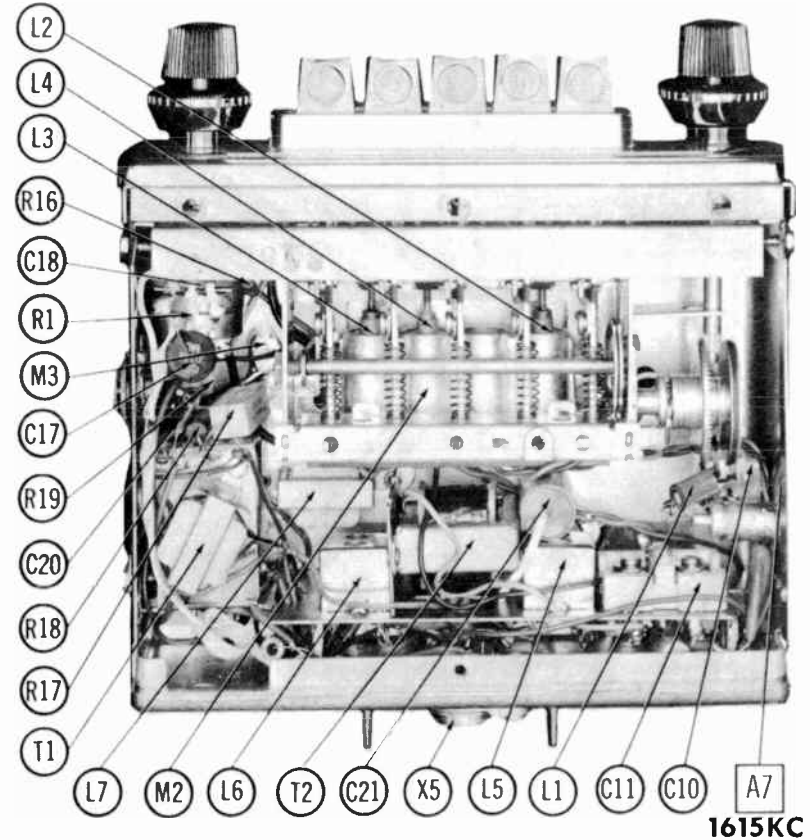
## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653	AFES-00-04.5		XC3-48.1		FP300.83	TVLS-3026.1*
C	300	16							
B	100	16							
C2	25	15	20-256	PTT89	NLW25-15	MT1-10	MLV25-15	TT15X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1152

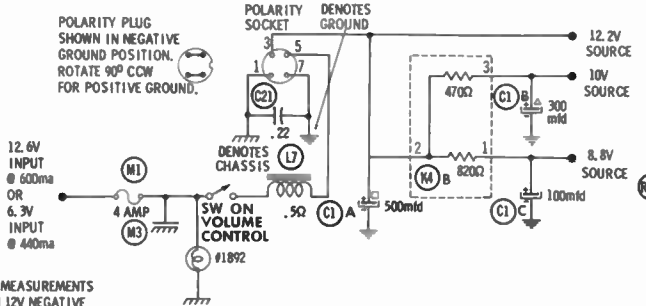
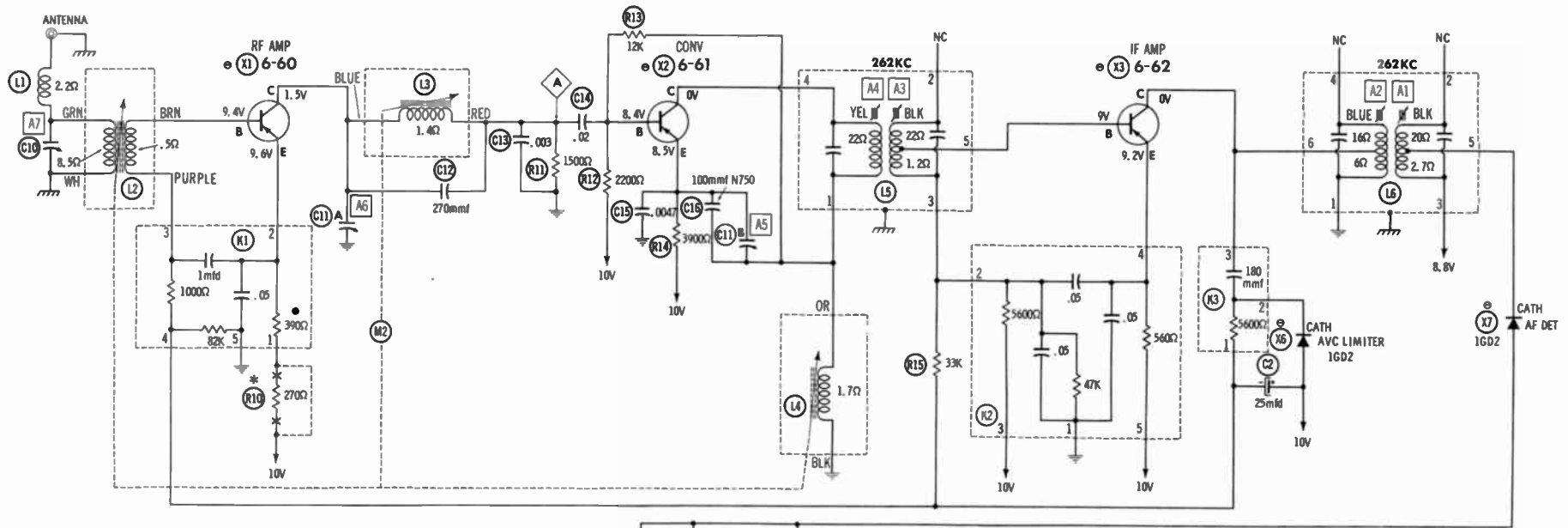
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10		#28-600-2L #28A1332						
C12	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T270
C13	.003 200V		BE6D3	CPR-3000J	DPMS6D33	6DP-1-302	PVC423	6PS-D30
C14	.02		BPD-02	DD-203	BYA6S2	CCD-203	B120	5HK-820
C15	.0047 200V		P268N-0047	CPR-4700J	WME2D47	6DP-1-472	PVC4247	6PS-D47
C16	100 N750		N750-DI100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B110	5HK-810
C18	.22 3V			UK20-204	HCC25224Z			HY-325
C19	.1 16V		TTD-1	CK-104	H8		TA010	TG-P10
C20	.05		TTD-05	CK-503	H5		TA150	TG-850
C21	.22 200V		P268N-22		DPMS2P22	1DP-3-224	PVC1022	2PS-P22



1615KC

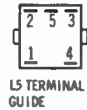


VOLTAGE MEASUREMENTS TAKEN IN 12V NEGATIVE GROUND POSITION.

\* NOT USED IN SOME VERSIONS  
 • NOMINAL VALUE MAY VARY

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



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## PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume/Switch	10K 7500Ω Tap @ 4800Ω	80A3568			7QJ-1786A	

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-118, P17-112 (Panel)  
"SNAPTROL" Equivalent: BU15, CF9, CR4RT, SF10, SR9, GC. B21-115K, R-26-121 (Rear)  
QCB5 (Bushing)  
76-1 (Switch)

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1 L2 L3 L4 L5 L6	RF Choke (0.2ub) Ant. RF Osc. Input IF Output IF	14-0.2 ① ① ① 14-3233A 14-3234A	BC-565	4810	RTC-8520	T859	① Part of M2.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L7	800ma @ 12.6V 440ma @ 6.3V	.5Ω	10MH	75A3082	C-4095	TC-2	TR-155	TY17XT

### TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8:	1	75A2635				TR-184	

### TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω Tap	@ 8Ω	75A2638				TR-169	

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		PART No.	QUAM PART No.	
SP1	5" X 7" PM 4" Round PM	8Ω 8Ω	73B2825 73B3553	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Automatic PART No.	REPLACEMENT DATA
K1 K2	RF Amp. Network IF Amp. Network	390Ω, 1000Ω, 82K, .05mfd, 1mfd 580Ω, 5800Ω, 47K, .05mfd, .05mfd, .05mfd	89A2582C 89A2584	
K3 K4	AVC Audio Network	5800Ω, 180mmf 470Ω, 820Ω, 4700Ω, 12K, 27K, 270K, .002mfd	89A2701 89A2585	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		BUSS PART No.			
			FUSE	HOLDER	FUSE	HOLDER		
M1	AGW	4A			303004	155009	AGW4	HDB

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner	78B3567	Pushbutton Manual
	Tuner	78B3591	
M3	Spark Plate	43-216	

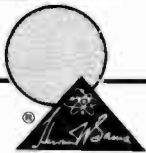
### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	54C2357	Knob-Dummy	48A393-1
Knob-Tuning or Volume	47-50BC	Knob-Spacer	47A1249
Knob-Tone	47B393	Pushbutton	56A1734

### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 in.) or 8670 (3/4 in.)



# PHOTOFACT®



TRADE NAME : Penneys Model 3146 (985-8390)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 8 Transistor FM Converter  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .330 Amp. @ 12.6 Volts DC  
 TUNING RANGE : FREQ. MOD. 88-108MC

PENNEY'S MODEL 3146 (985-8390)

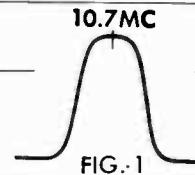
## ALIGNMENT INSTRUCTIONS

Maintain line voltage at 117 volts. Use only enough generator output to obtain a suitable indication. Allow a 15 minute warmup for receiver and equipment.  
**CAUTION:** Use isolation transformer, if available. If not, observe polarity when connecting test equipment.  
 Suggested Alignment Tools:  
 A1 thru A13      GENERAL CEMENT: 5009, 8728A, 8987      WALSCO: 2531X, 2536

### FM ALIGNMENT USING AM SIGNAL GENERATOR - SELECTOR IN FM POSITION

High side to of generator thru .01mfd to point  $\diamond A$ , low side to ground for IF.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond B$ ; common to ground.	A1 thru A8	Adjust for maximum.
"	"	DC probe to point $\diamond C$ ; common to	A9	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.



### FM IF ALIGNMENT USING FM SIGNAL GENERATOR - SELECTOR IN FM POSITION

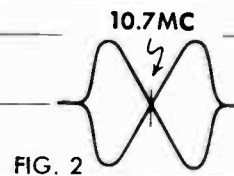
High side thru .01mfd to point  $\diamond A$ , low side to ground. Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point $\diamond B$ ; low side to ground.	A1 thru A8	Disconnect stabilizing capacitor C3. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C3.
"	"	Vert. amp. to point $\diamond C$ ; low side to	A9	Adjust to place marker at center of crossover lines similar to Fig. 2. SLIGHTLY retouch A1 for maximum amplitude and straightness of crossover lines.

### FM RF ALIGNMENT

Connect generator across antenna input with 120Ω carbon resistors in series with each lead.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MC	108MC	DC probe of VTVM to point $\diamond B$ ; common to ground.	A10, A11, A12	Adjust for maximum.



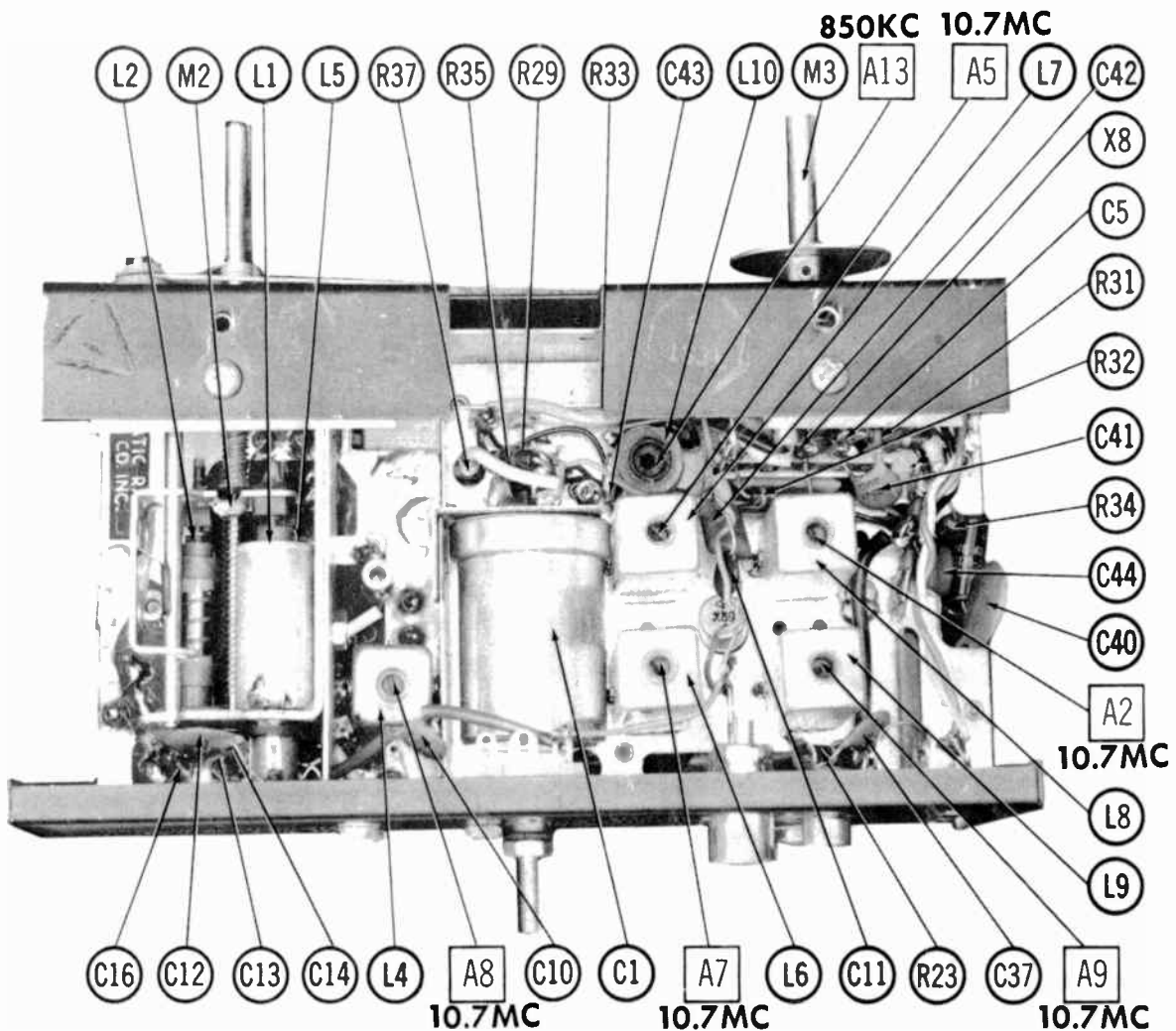
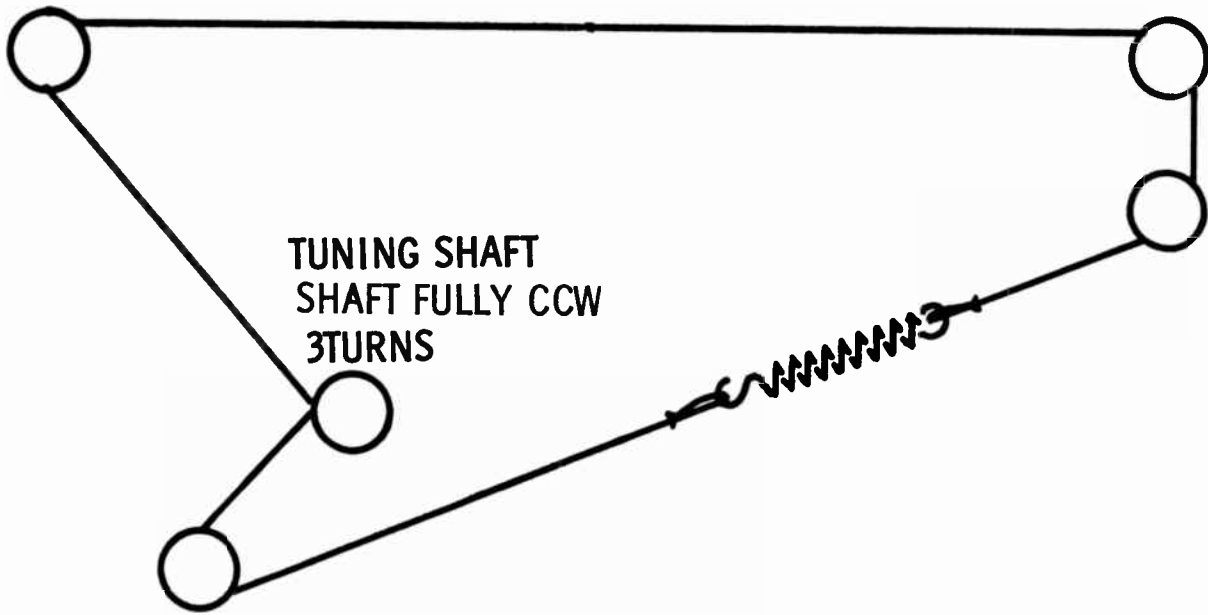
After unit is installed in car, tune in the AM receiver to a point of noninterference near 850KC. Tune in an FM signal and adjust A13 for maximum output.

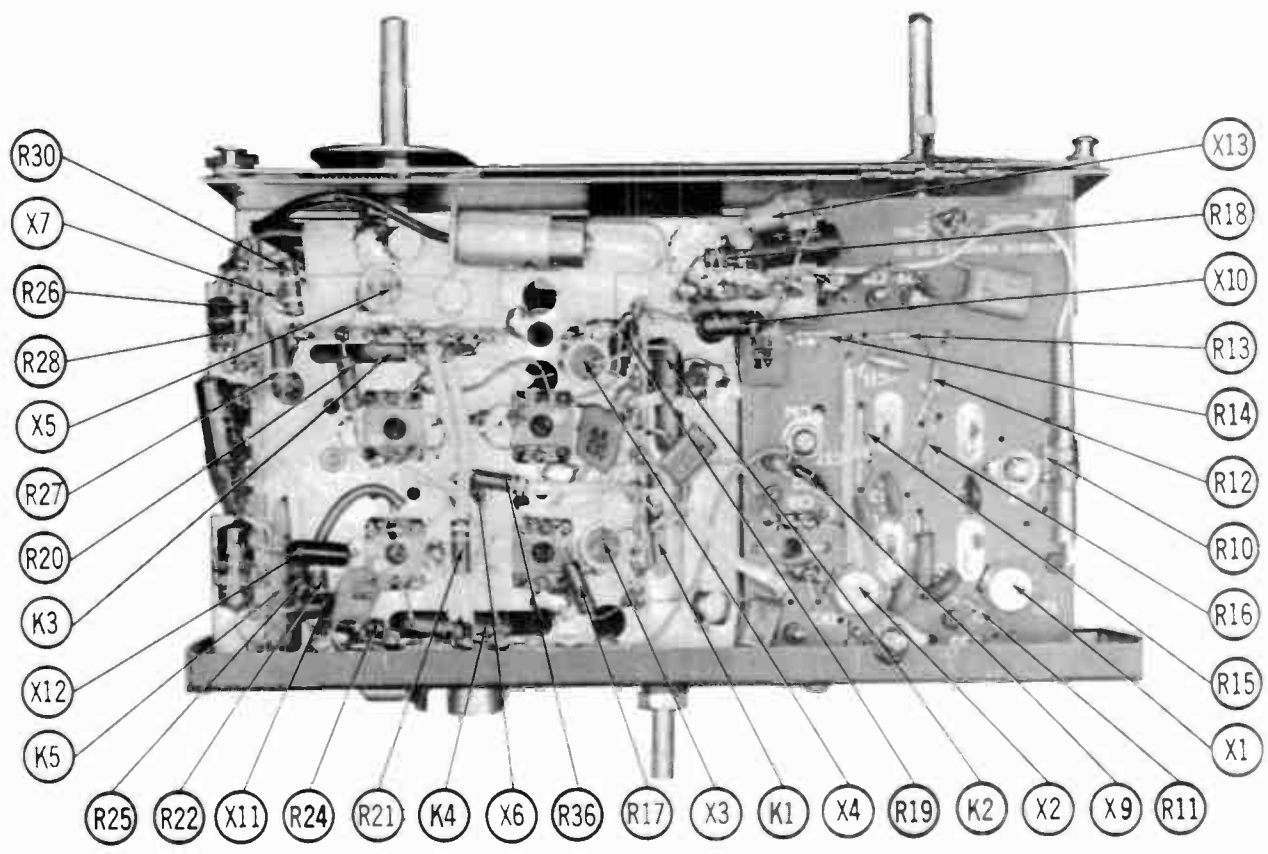
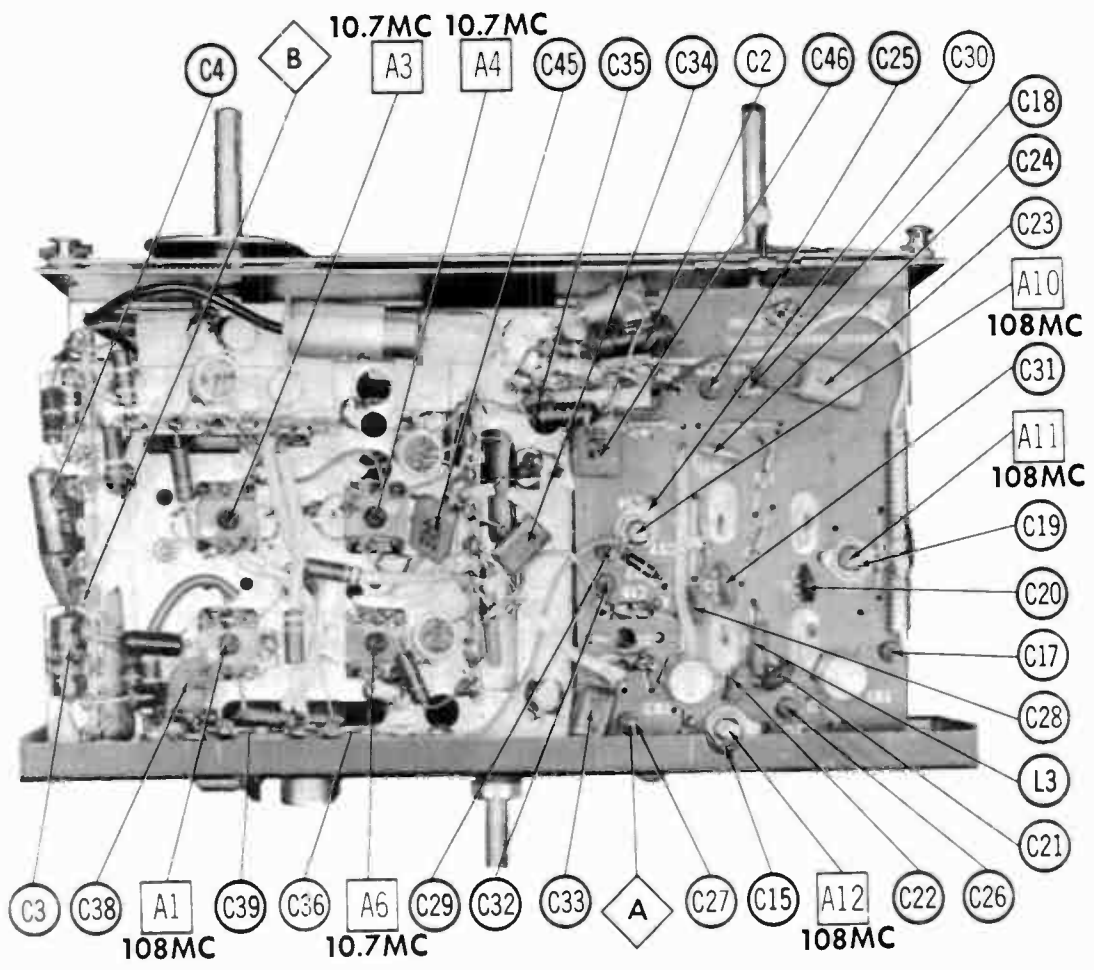
**HOWARD W. SAMS & CO., INC.** Indianapolis 6, Indiana

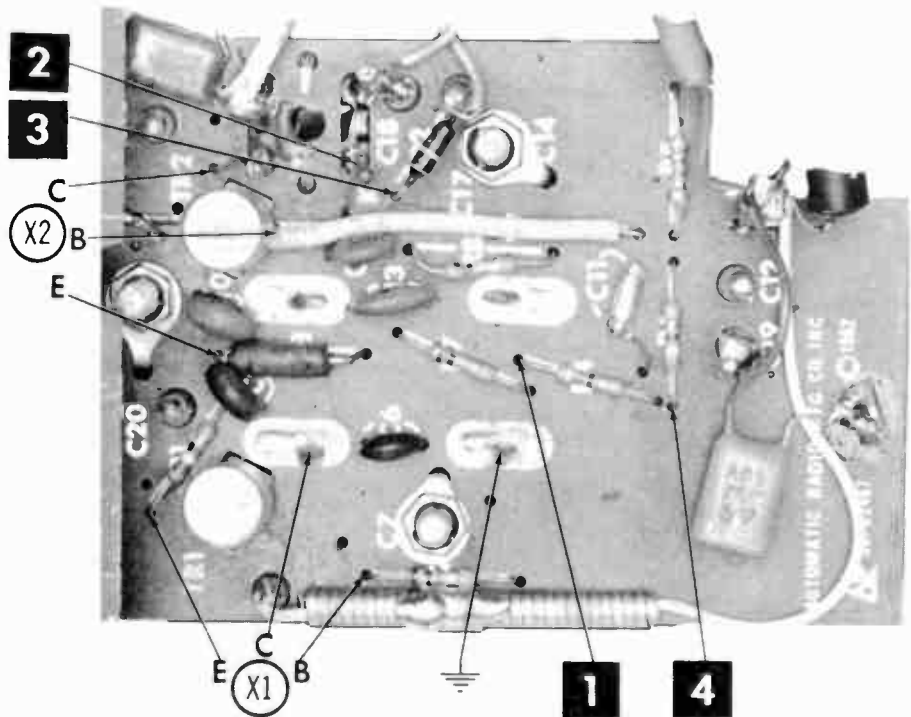
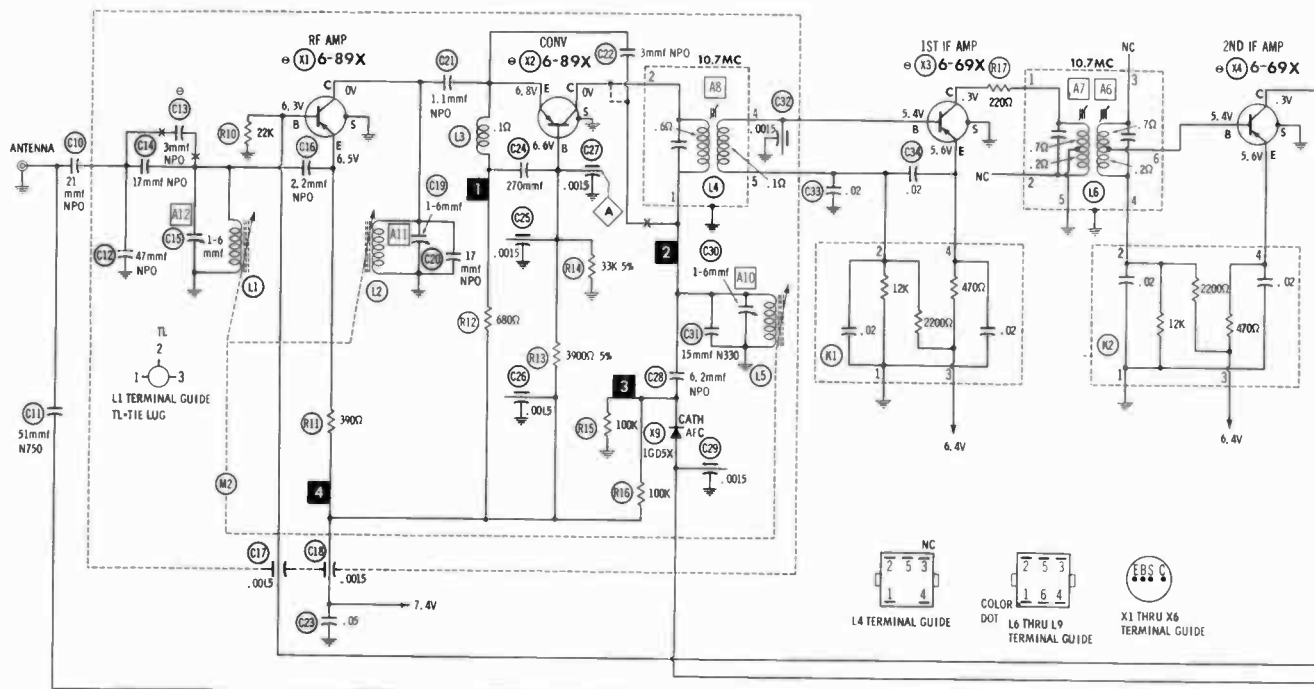




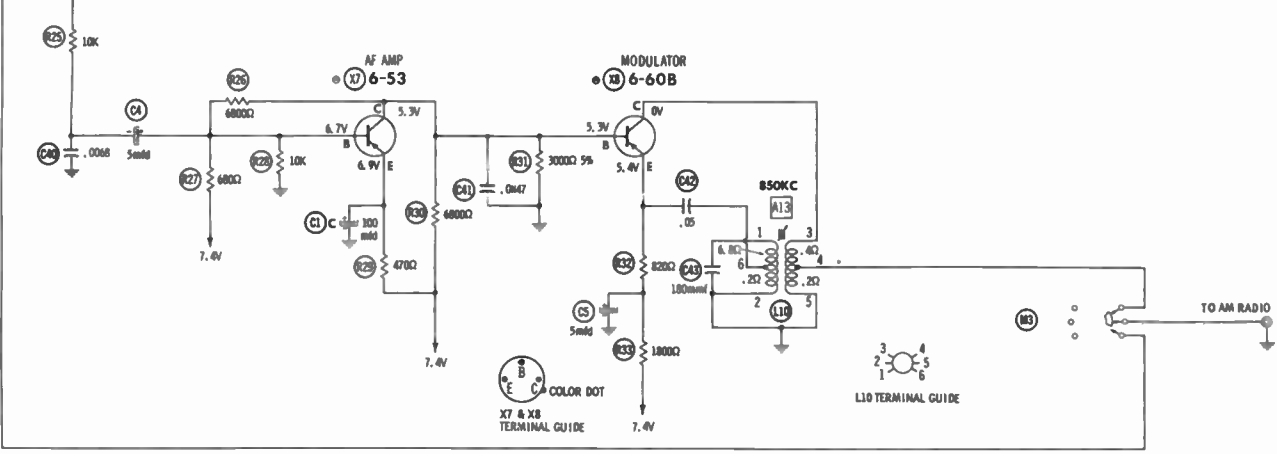
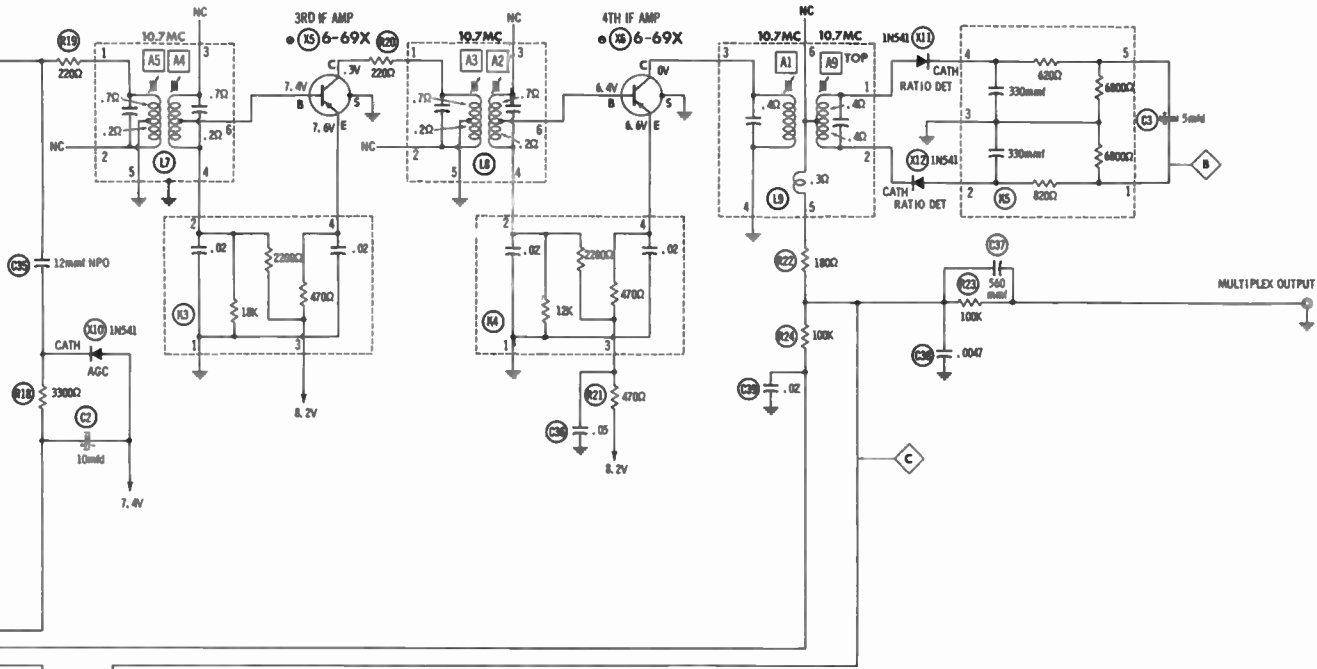
# DIAL CORD STRINGING





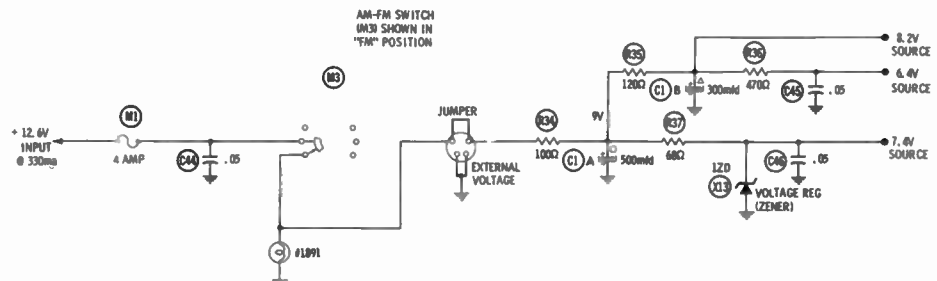


A Howard W. Sams **CIRCUITRACE** Photo



Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- 1. See parts list for alternate value or application.
- 2. Voltage measurements taken with vacuum tube voltmeter.
- 3. All controls set for normal operation, no signal applied.
- 4. Measured values are from socket pin or terminal to common ground.
- 5. All terminals viewed from bottom unless otherwise designated.
- 6. Numbers assigned to terminals may not be found on the unit.
- 7. Supply voltage maintained at rated value for voltage readings.
- 8. Resistance measurements not given because of the wide variation in internal resistance of transistor.

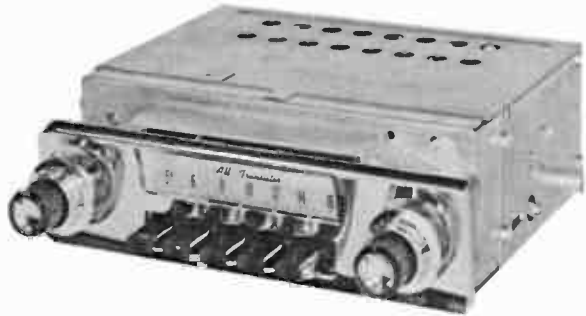


PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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# PHOTOFACT®



**TRADE NAME:** Penney's Models:  
 3163 (985-8432) 1964 Comet  
 3168 (985-8481) 1964 Ford  
 3169 (985-8499) 1964 Falcon  
 3170 (985-8507) 1964 Falcon  
 3172 (985-8523) 1964 Fairlane  
 3173 (985-8531) 1964 Mercury  
**SUPPLIER:** For Current Address, See Master Index.

**TYPE SET:** 5 Transistor AM Receiver

**POWER SUPPLY:** 12 Volt Storage Battery

**RATING:** .740 Amp. @ 12.6 Volts DC

**TUNING RANGE:** BROADCAST 540-1615KC

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

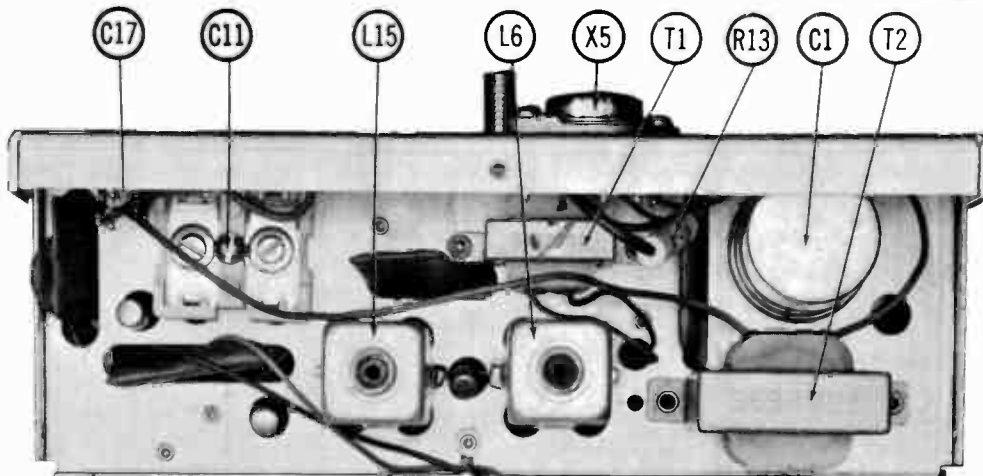
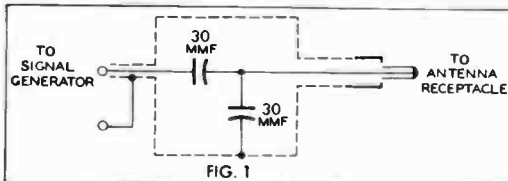
Suggested Alignment Tools: A1 thru A4      GENERAL CEMENT: 8606, 8606L, 8869      WALSCO: 2543, 2544, 2588  
 A5, A6, A7      GENERAL CEMENT: 8290, 8868, 9087      WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1615KC	"	"	A5, A6, A7	"

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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## PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

### TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	6-60 (2N640)†	RF Amp.	D8-25	GE-1	2N1637	PNP
X2	6-61 (2N642)†	Conv.	D8-25	GE-1	2N1639	PNP
X3	6-62 (2N641)†	IF Amp.	D8-25	GE-1	2N1638	PNP
X4	6-53 (2N591)†	Driver	D8-26	GE-2	2N591	PNP
X5	BP404 (2N176)†	Output	D8-520	GE-3	2N301	PNP*

† Alternate Type Number.

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

### POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X6		1GD2 (1N295)†					1N34AB
X7		1GD2 (1N295)†					1N34AB

† Alternate type number.

### ELECTROLYTIC CAPACITORS

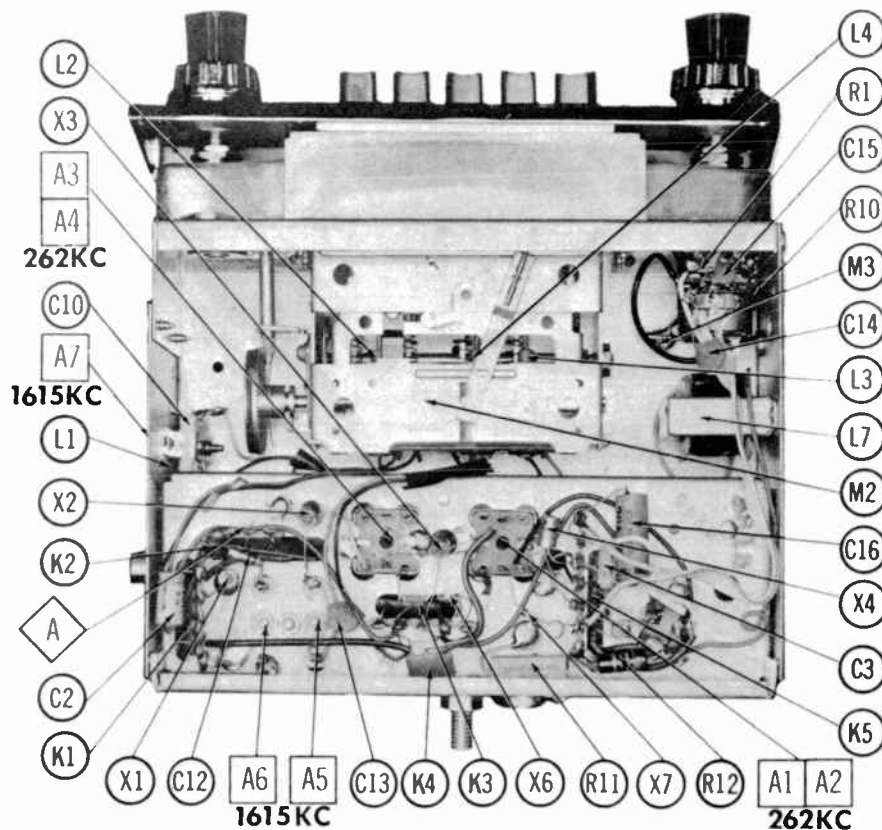
ITEM No.	RATING		PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	20-2653	AFH3-00-94.5		XC3-48.1		FP300.83	TVLB-3026.1*
B	300	16							
C	100	16							
C2	25	15	20-256	PTT98	NLW25-15	MT1-10	MLV25-15	TT13X25	TE-1157.1
C3	5	15	20-505	CRE454A	NLW5-15	MT1-3	MLV5-15	TT25X5	TE-1182

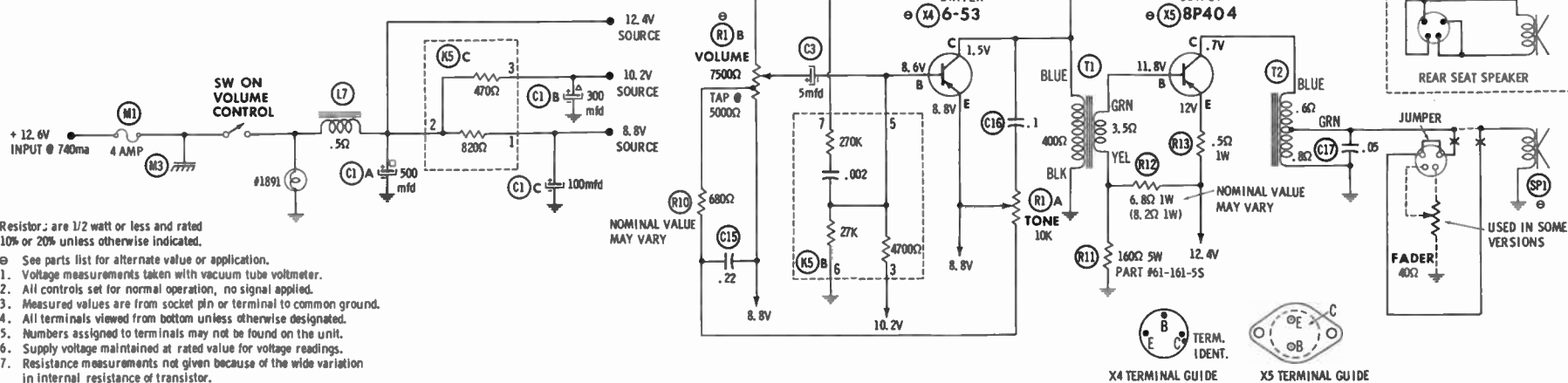
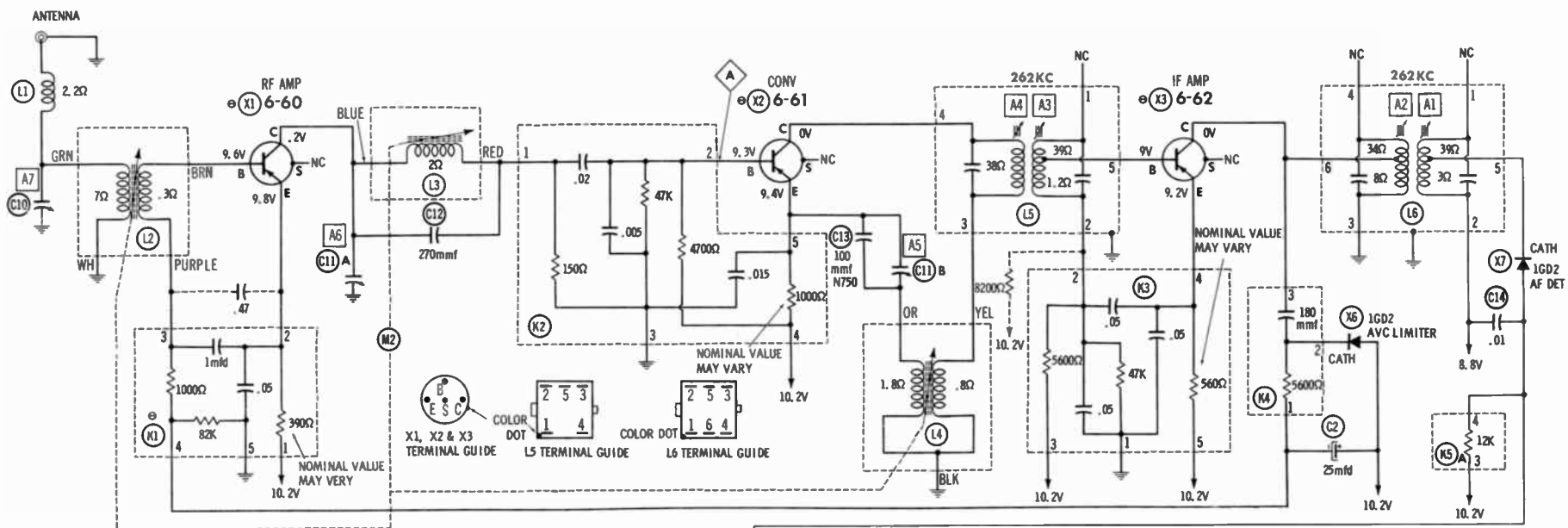
\* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

### FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10		#28A1332						
C11A								
B								
C12	270		DI-270	DD-271	LA10T27-C4	CCD-271	GP327	5GA-T25
C13	100 N750		N750-DL100	DTN-100	C10T1U	CCTN-101	CN7310	10TCU-T10
C14	.01		BPD-01	DD-103	BYA1081	CCD-103	B110	5HK-S10
C15	.22			UK20-204	HCC25224Z			HY-325
C16	.1	200V	BE2P1		WMP1P1	1DP-2-104	PVC101	2PB-P10
C17	.05		TTD-05	CK-503	H5		TA150	TG-850

# Automatic Part Number.





Resistor: are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊙ 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
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PENNEY'S MODELS 3163/68/69/70/72/73

# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume/Switch	10K 7500Ω Tap @ 5000Ω	80A22398 ①				
R1A	Tone Volume/Switch	10K 2500Ω Tap @ 5000Ω	80A25658C ②				
R1A	Tone Volume/Switch	10K 7500Ω Tap @ 5000Ω	80A3257 ③				

- ① Used in Model 3172
- ② Used in Models 3168, 3173
- ③ Used in Models 3163, 3169, 3170

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	RF Choke (6, 2uh)	14-6.2	BC-565	4610	RTC-8520	T859	① Part of M2.
L2	Ant.	①					
L3	RF	①					
L4	Osc.	①					
L5	Input IF	14-2654	BC-690	6570			
L6	Output IF	14-2655	BC-691	6571		TF606	

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	740ma	.5Ω	10MH	75A1269	C-4095	TC-2	TR-155	TY17XT	

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8:	1	75A2635			TR-184		

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	24Ω	Tap @ 8Ω	75A2636 ①			TR-169		① Alternate part #75A2693.

## SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			PART No.	QUAM PART No.	
SP1	5" x 8" PM 8Ω 6" x 10" PM 8Ω		73B2786 73B2724	58A15Z8 610A1Z8	Models 3163, 3169, 3170, 3172 Models 3168, 3173

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PART NO.	REPLACEMENT DATA
K1	RF Network	390Ω, 1000Ω, 8.2K, .05mfd, 1mfd	98A2582C	
K2	Converter Network	150Ω, 1000Ω, 4700Ω, 47K, .005mfd, .015mfd, .02mfd	89A2583	
K3	IF Network	560Ω, 5600Ω, 47K, .05mfd, .06mfd, .05mfd	89A2584	
K4	AVC Network	5600Ω, 180mmf	89A2701	
K5	Audio Network	470Ω, 820Ω, 4700Ω, 12K, 27K, 27K, 270K, .002mfd	89A2585	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA						
			PART No.		LITTELFUSE PART No.		BUSS PART No.		
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER	
M1	AGW	4A	108-400	In Fuse Block	303004			AGW4	

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Tuner Spark Plate	78B2236	
M3			

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob-Tuning or volume Knob-Tone	47-52B 48A1522	Knob-Dummy Pushbutton	48A1522-1 55A2183

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8524 (Stranded) Available in 12 Colors
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8885
Bonding Strap .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)





PHOTOFACT<sup>®</sup> with

CIRCUITRACE<sup>®</sup>



TRADE NAME : Pontiac Model 7291562 (1965 Tempest)  
 SUPPLIER : For Current Address, See Master Index.  
 TYPE SET : 6 Transistor AM Receiver  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .620 Amp. @12.6 VoltsDC (Less Lamp)  
 TUNING RANGE : BROADCAST 540-1615KC

PONTIAC MODEL 7291562

### ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1 thru A5, A9, A10  
 A6, A7, A8

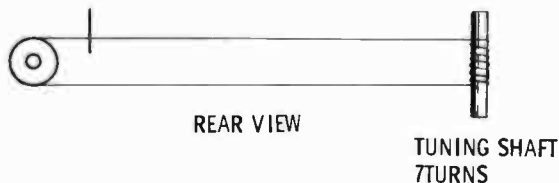
GENERAL CEMENT: 5009, 8728A, 8987  
 GENERAL CEMENT: 9087, 8290, 8868

WALSCO: 2531-X, 2536  
 WALSCO: 2525, 2528, 2587

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.					
2. High side thru 82pf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coil.	A6, A7, A8	Adjust for maximum.
3. "	600KC	600KC Signal	"	A9, A10	Adjust for maximum. Repeat step 2.

With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A8 for maximum output.

### DIAL CORD STRINGING



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

# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	D8-51	RF Amp.	D8-25	GE-1		PNP
X2	D8-52	Conv.	D8-25	GE-1		PNP
X3	D8-53	IF Amp.	D8-25	GE-1		PNP
X4	D8-46	1st AF Amp.	D8-46	GE-10		NPN
X5	D8-46	2nd AF Amp.	D8-46	GE-10		NPN
X6	D8-503	Output	D8-503	GE-3		PNP*

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely. Check bias adjustment.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X7		D8-27					1N34AS
X8		D8-27					1N34AS
X9		D8-27					1N34AS

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	850	16	7282272 ①	AFH3-54-30	CC0002	XCS-6.1		WP300.7A	TVL-3021
B	400	16							
C	4	4							
C2A	100	4	7286539 ②	BCD4X100100				PET2150	VLS-2120*
B	100	4							
C3	30	6	7279696	PTT27	NLW30-15	MT1-13	NLW30-6	TT6X30	TE-1092
C4	10	12	7292736	PTT53	NLW10-15	MT1-5	BL1241	TT12X10	TL-1128

① Early production uses Part #7292515: 650-400 @ 16V, 4mfd @ 1L 5RMS, 100mfd @ 4V.  
 ② Section A in C1 in early production. Single 100mfd @ 4V Part #7291810 for Sect "B".

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10		#7281971							
C11	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2PB-847	
C12	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2PB-847	
C13		#7293277							
C14	200 N750		N750-DI200	DTN-200	C10T2U	CCTN-201	CN7320	10TCU-T20	
C15	.0033 75V		DBE6DS3	CPR-3300J	WMF1S33	6DP-1-332	PVC4233	6PB-D33	
C16	.022 75V		DBE2822		WMF1S22	1DP-1-223	PVC1122	2PB-822	
C17	.0047		BPD-0047	DD-472	BYA10D47	CCD-472	B247	5HK-D47	
C18		#7282165							
C19	330 N330							10TC8-T33	
C20	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2PB-847	
C21	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2PB-847	
C22	180 N80							10TCN-T80	
C23	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10	
C24	.0068 75V		DBE6D68	CPR-6800J	WMF4D68	1DP-1-682	PVC4268	6PB-D68	

## FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C25	.047 75V		DBE2847		WMF2847	1DP-2-473	PVC1147	2PB-847
C26	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20
C27	.047 75V	#7271564	DBE2847		WMF2847	1DP-2-473	PVC1147	2PB-847

# Delco Part Number

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone Volume, Switch	100K 20K	7291794	F2-100K, R2-25K FFB013, RFB108 AK26 ①, KR-4		† QJ-1891A	
R2	Bias	600Ω	7286601	V-600	U39-600	110-600	MR600P

① Alter Bushing to Meet Requirements.

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B13-126, P17-024 (Panel)  
 B13-120, R26-112 (Rear)  
 846 (Bushing)  
 76-1 (Switch)

"SNAPTROL" Equivalent: BU8 ①, CF52, CR6, SF4, SR6, GC

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	REMARKS
R28	.68Ω (Fusible)	BWH. 68	WS, 68Ω	7287480					

## COILS (RF-IF)

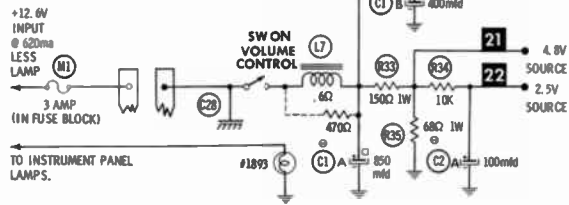
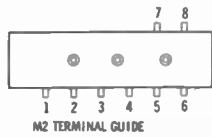
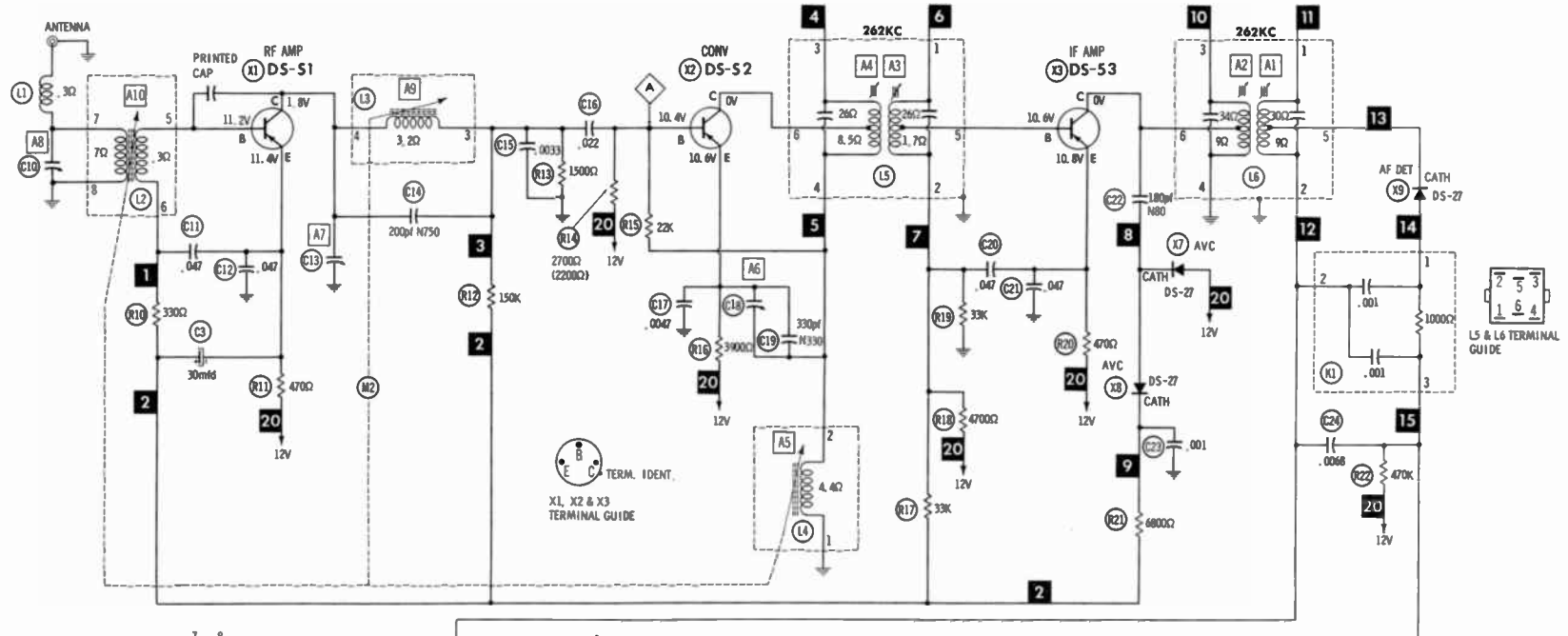
ITEM No.	USE	REPLACEMENT DATA					
		DELCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	7281946	19-1004	BC-565	4610	RTC-8520	T859
L2	Ant.						
L3	RF	①					
L4	Osc.	1221856	16-6704		6542		TA653
L5	Input IF	1221857	16-6705		6543		TA653
L6	Output IF						

① Part of M2.

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	620ma	.6Ω	8MH	1221623	C-4095	TC-2	TR-154	TY17XT	

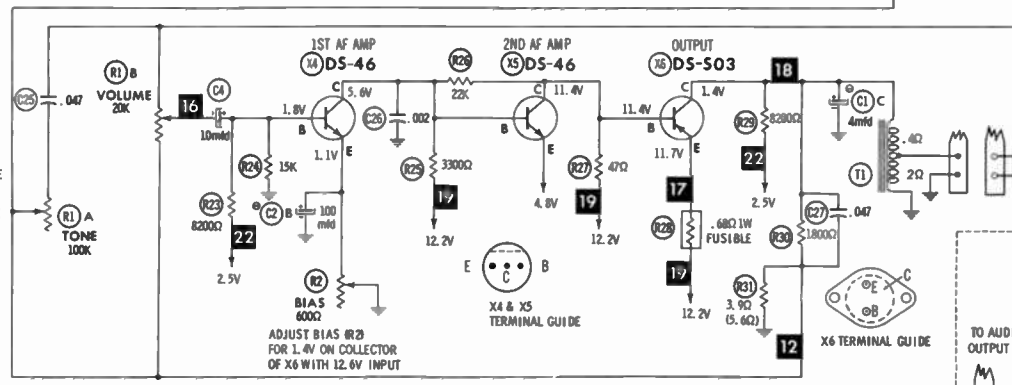
PONTIAC MODEL 7291562



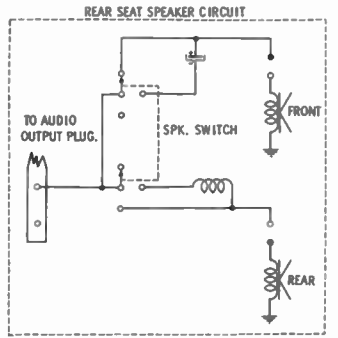
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE

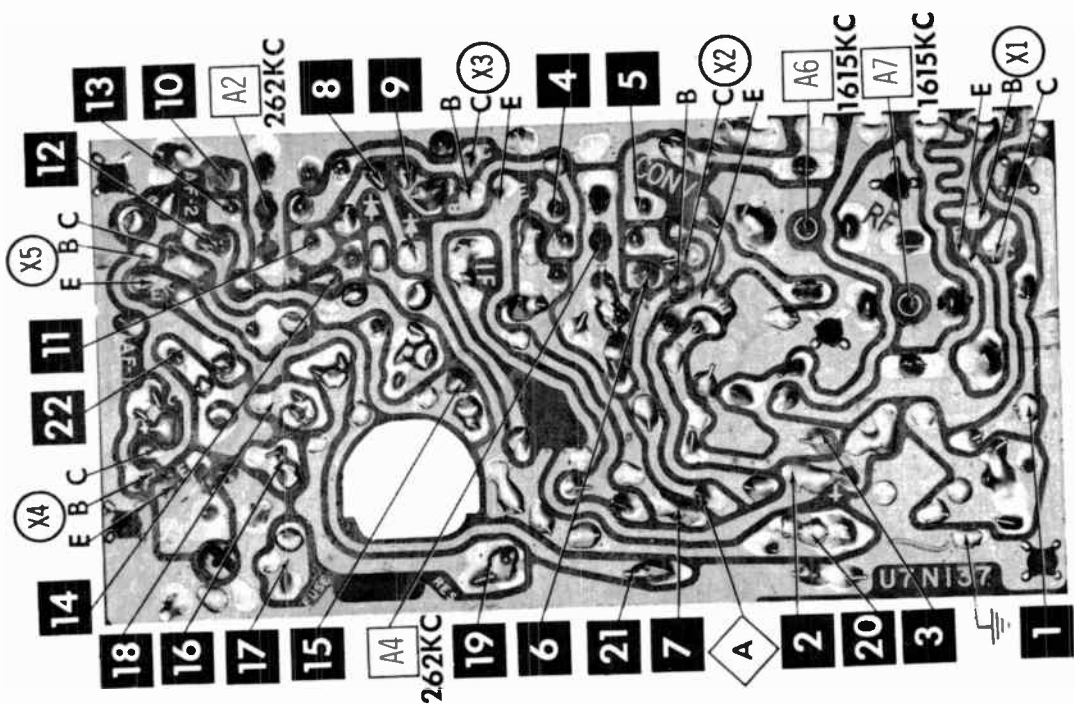
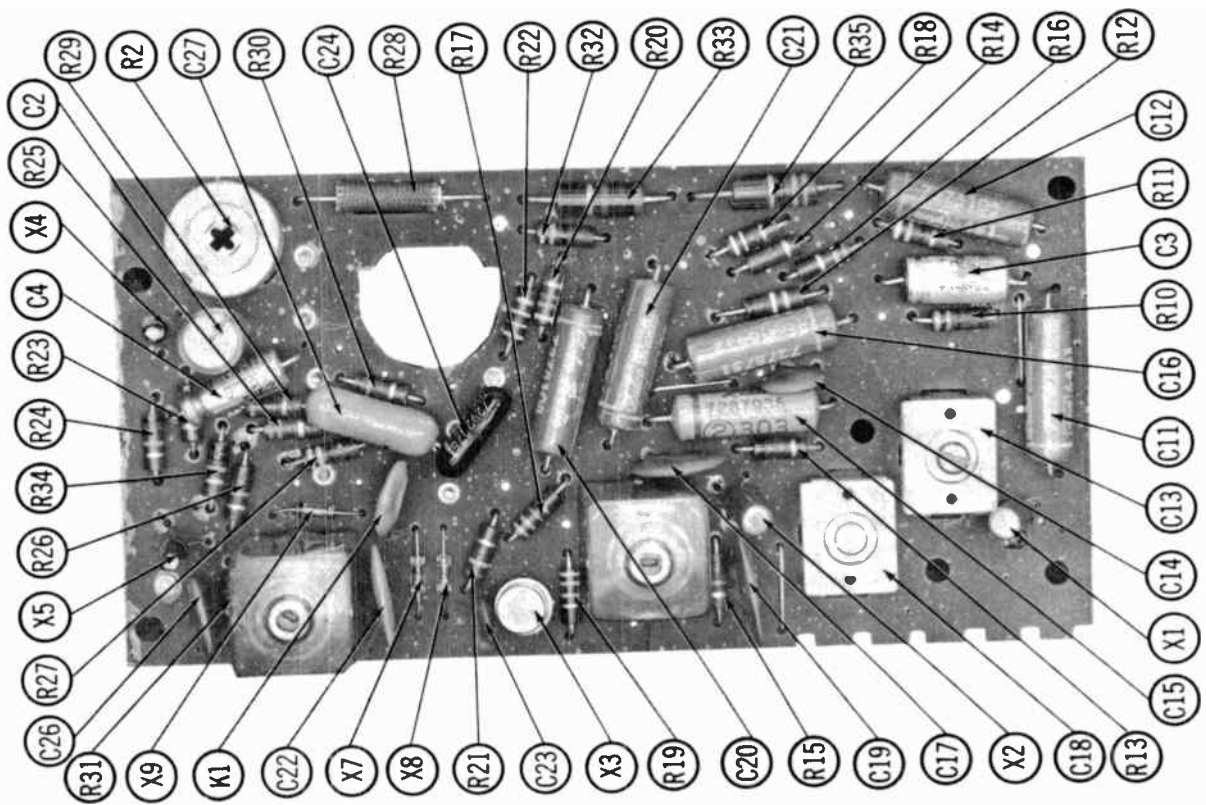
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- © See parts list for alternate value or application.
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.



PONTIAC MODEL 7291562



# PARTS LIST AND DESCRIPTION (CONTINUED)

Replacement parts shown may be superseded by the availability of newly introduced replacements.  
 Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	12Ω Tap	@ 10Ω	7282057					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		DELCO PART No.	QUAM PART No.	
SP1	4" x 10" PM 10Ω	7286462	410A2Z10	

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART No.	REPLACEMENT DATA
K1	Det. Comp.	1000Ω, .001mfd, .001mfd	7287253	

## FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			DELCO PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	AGC	3A	In Fuse Block		312003		AGC3	

## MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M2	Tuning Coil Assembly	7287957	

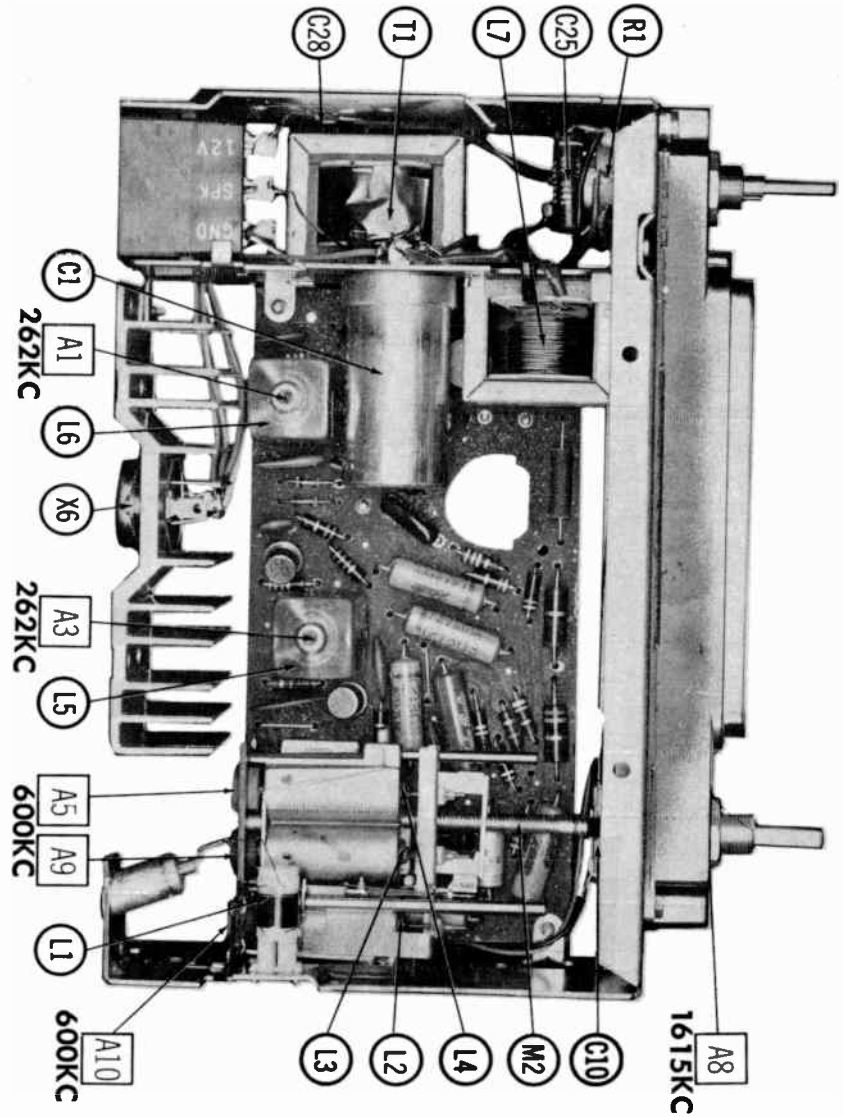
## CABINETS & CABINET PARTS

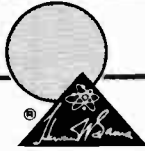
(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	1222242	Knob, Tone	9773916
Dial Pointer	7272125	Knob, Dummy	9773915
Knob, Tuning or Volume	9775398		

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8661 (3/8 In.) or 8670 (3/4 In.)

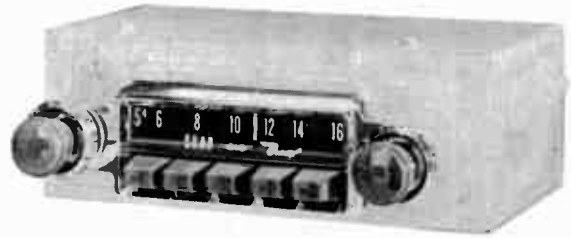




# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

**TRADE NAME :** Saab Model 4BH (1964)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 6 Transistor AM Receiver  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** .7 Amp. @ 12.6 Volts DC  
**TUNING RANGE :** BROADCAST 540-1605KC



SAAB MODEL 4BH

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

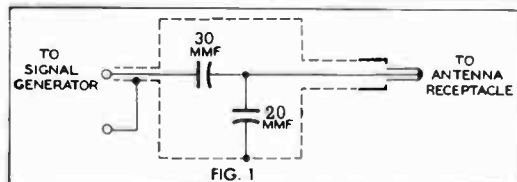
Use only enough generator output to provide a usable indication.

Suggested Alignment Tools: A1 thru A4      GENERAL CEMENT: 8606, 8606L, 8869      WALSCO: 2543, 2544, 2588  
 A5, A6, A7      GENERAL CEMENT: 8290, 8868, 9087      WALSCO: 2525, 2528, 2587

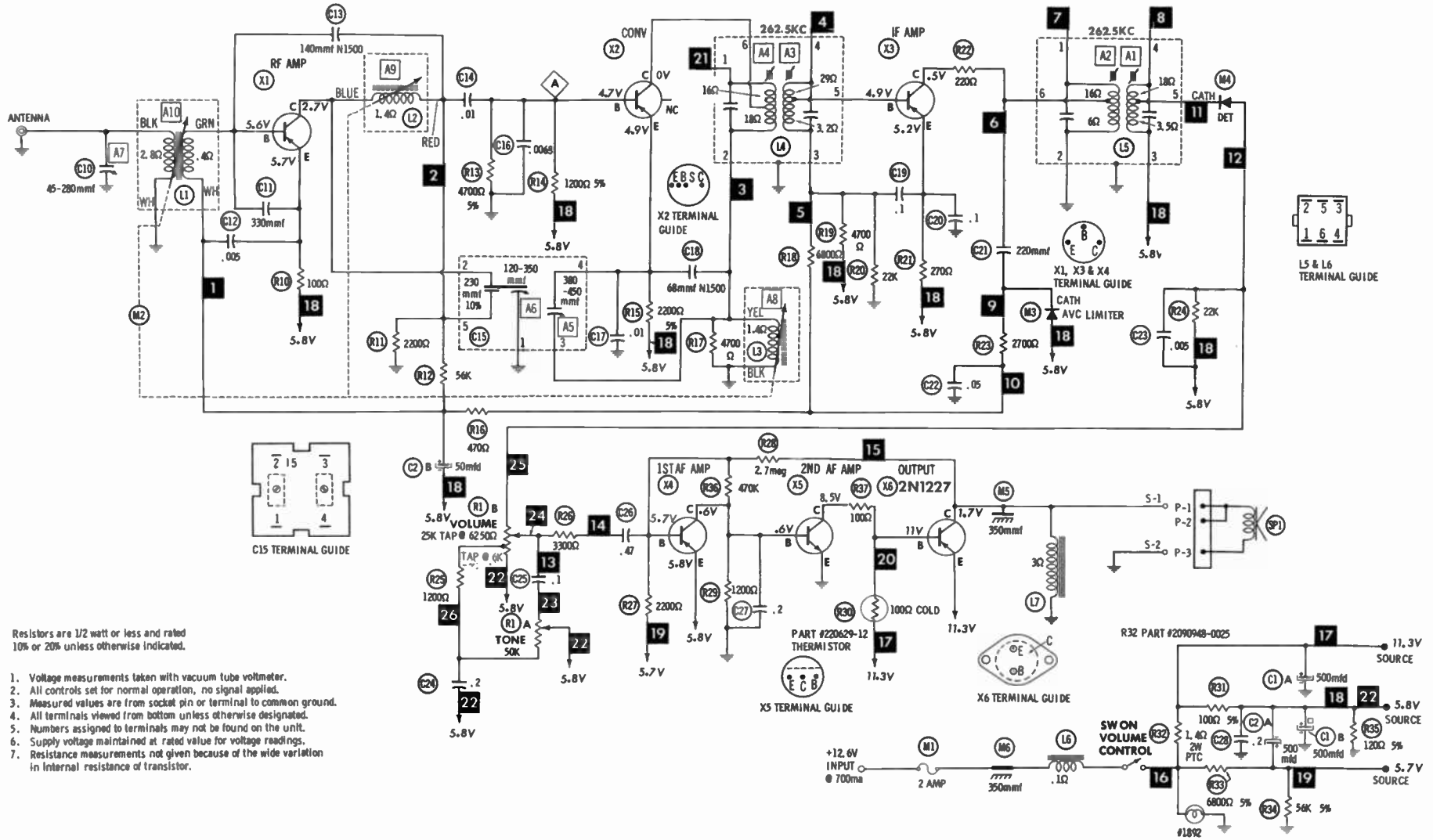
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1605KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.						
3.	Thru dummy (Fig. 1) to antenna receptacle.	1000KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna fully extended, tune in a weak station near 1600KC and adjust A7 for maximum output.						

### PUSH-BUTTON ADJUSTMENT

1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.



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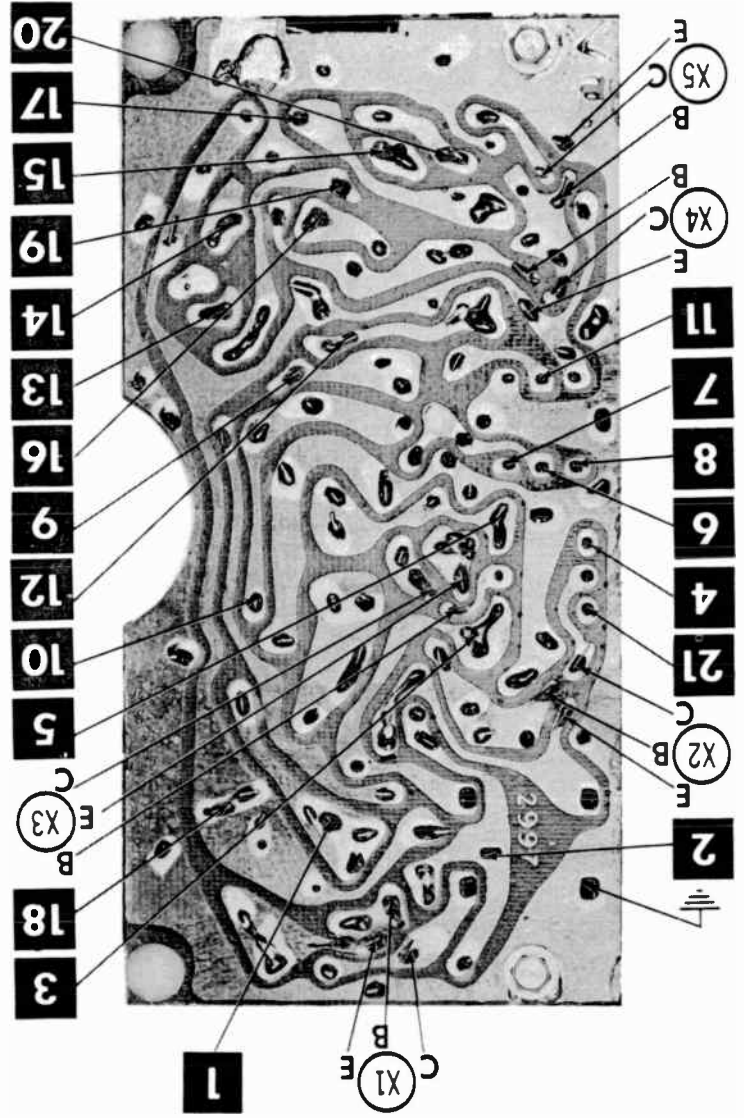
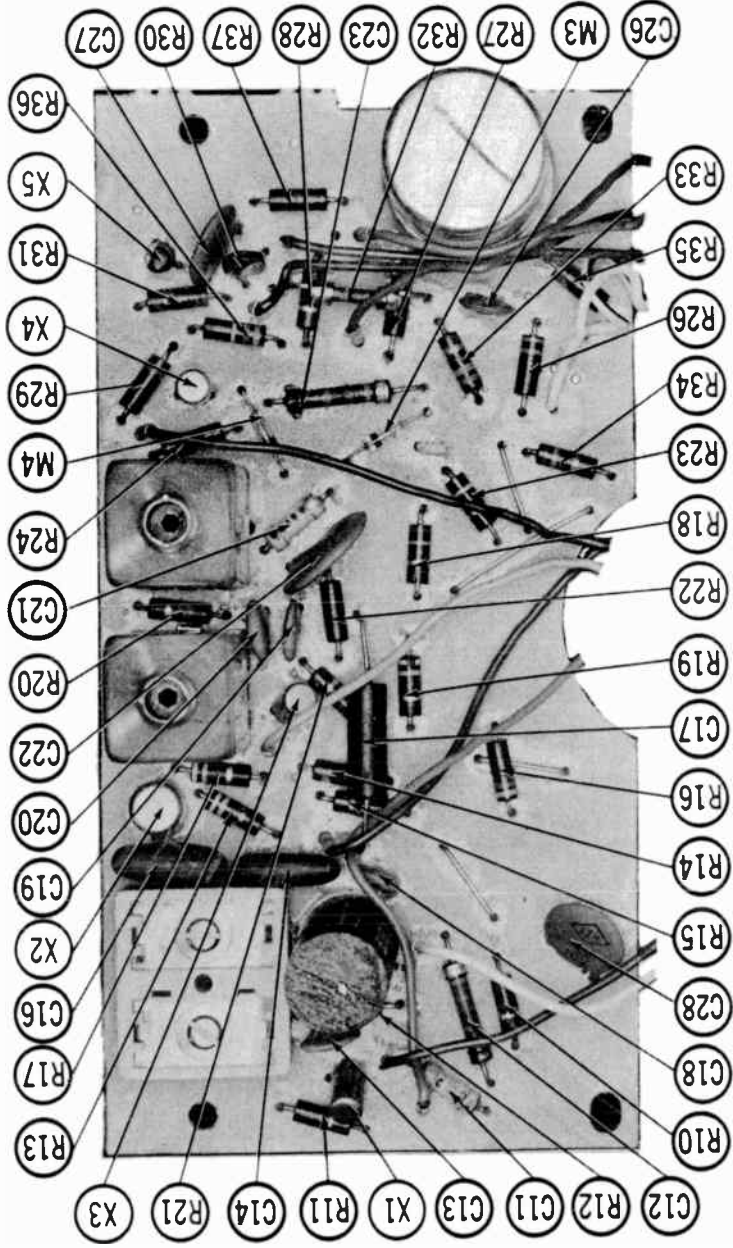
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

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.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**

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**SAAB MODEL 4BH**





# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements.

Have your local distributor check Sams COUNTER FACTS<sup>®</sup> for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX Part No.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		RF Amp.	DS-25	GE-1	2N1637	PNP	2091241-0015
X2		Conv.	DS-25	GE-1	2N1639	PNP	2091241-0013
X3		IF Amp.	DS-25	GE-1	2N1636	PNP	2091241-0014
X4		1st AF Amp.	DS-26	GE-2	2N591	PNP	2090924-0006
X5		2nd AF Amp.	DS-46	GE-10	2N649	NPN	2092609-0002
X6	2N1227	Output	DS-520	GE-3	2N301	PNP*	2091860-0713

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		PART No.	REPLACEMENT DATA					
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500	16	220353-30	PWH2-02-40				PFP200.65	PCL8-2161.5*
B	500	8							
C2A	500	3	2092246-0001	BCDSX50050				PET290	VLS-2116*
B	50	3							

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	45-260	#2091221-0008							
C11	330		DI-330	DD-331	LA10T33-C4	CCD-331	GP333	10TS-T33	
C12	.005		BPD-006	DD-502	BYA10D5	CCD-502	B250	9PK-D50	
C13	140 N1500	#2093030-0037							
C14	.01 100V		BE2S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	4PS-S10	
C15A	120-350	#219092-23							
B	230								
C	360-450								
C16	.0066 100V		BE6D66	CPR-6600J	WMF1D66	1DP-1-662	PVC4266	6PS-D68	
C17	.01 100V		BE2S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	4PS-S10	
C18	68 N1500	#2093030-0034							
C19	.01 10V		TTD-1	CK-104	H6			TA010	TG-P10
C20	.1 10V		TTD-1	CK-104	H6			TA010	TG-P10
C21	220		DI-220	DD-221	LA10T22-S3	CCD-221	GP322	10TS-T22	
C22	.05		TTD-05	DDA-503	HO6S5		TA150	TH-S50	
C23	.005		BPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50	
C24	.2 10V			UK20-204	HCC25224Z			HY-325	
C25	.1 10V			CK-104	H6		TA010	TG-P10	
C26	.47 3V		TTD-1	UK10-404	HCC10474Z			HY-330	
C27	.2 10V			UK20-204	HCC25224Z			HY-325	
C28	.2 10V			UK20-204	HCC25224Z			HY-325	

# Bendix Part Number.

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

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA					
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
RIA	Tone	50K	2091258-0004	F1-50K D			† QJ-1752A	FA14L D
B	Volume/Switch	25K Tap @ 6250Ω		R14-25K, FFS111, RFS203, KR4				RU253 T53, OS1687, IS2167, US41

① Use original Tab Mounting Plate.

† "CONCENTRIKIT" Equivalent: K6 Kit with Base Elements and Shafts: B11-123, P17-123 (Panel)

B19-119X, R9-202 (Rear)

"SNAP-TROL" Equivalent: BU7, CF12, CR50T, SF13, SR49, GC.

76-1 (Switch)

R5 (Retainer)

## COILS (RF-IF)

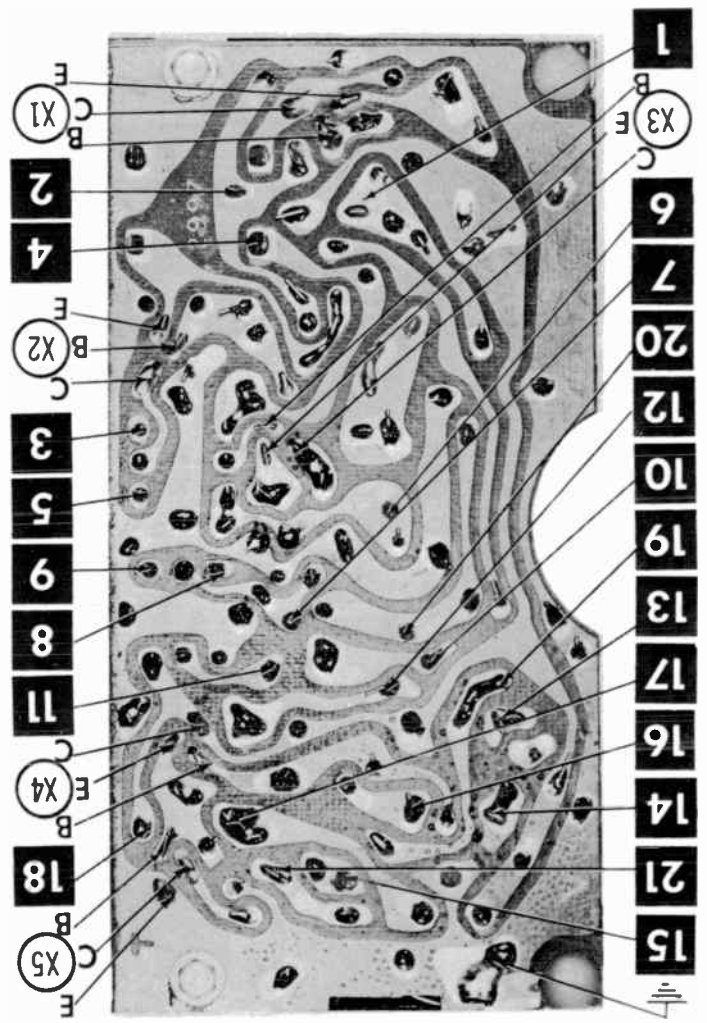
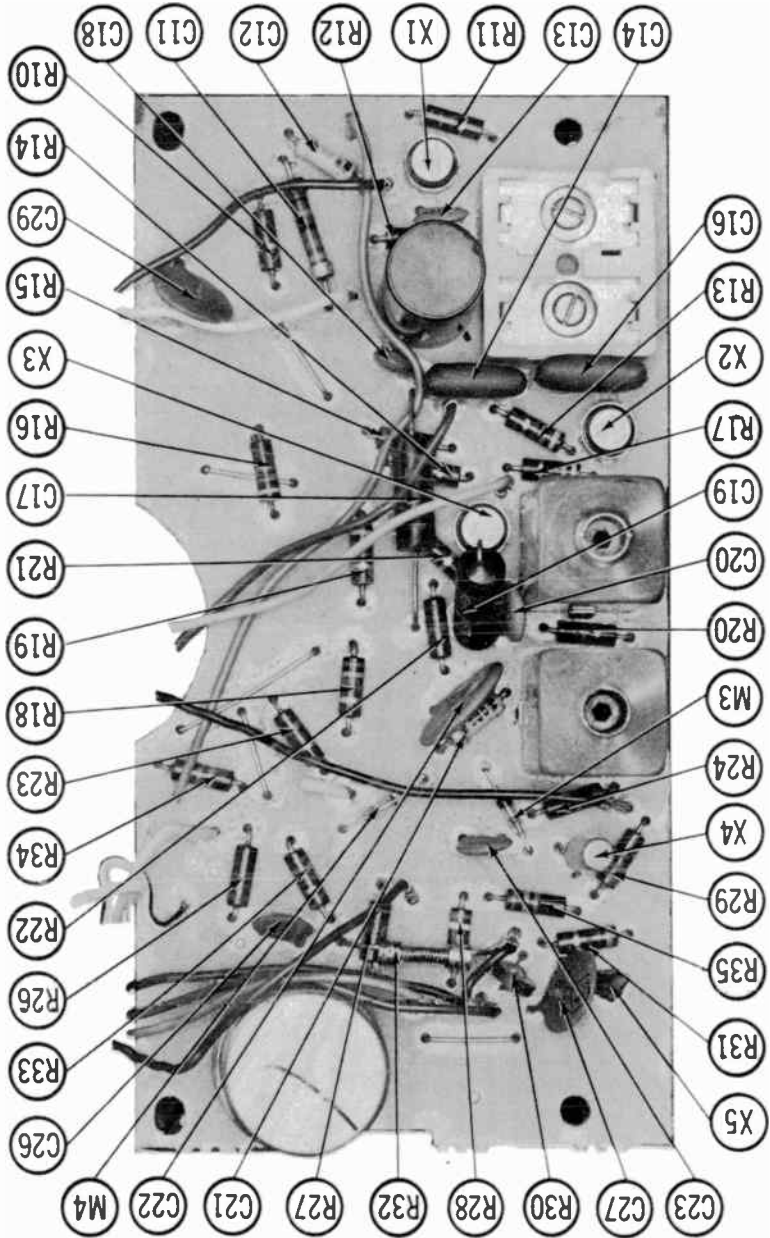
ITEM No.	USE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Ant.	①					① Part of M2.
L2	RF	①					
L3	Osc.	①					
L4	Input IF	2093001-0701		6520			
L5	Output IF	2093002-0701		6521			

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	
L6	.7 Amp.	.1Ω	240uh	2092050-0014				

## CHOKE (AUDIO OUTPUT)

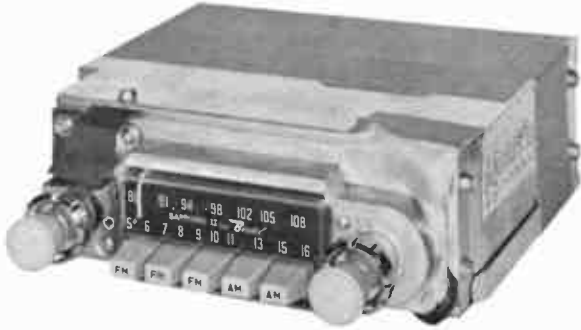
ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	50MH	2092245-0005					





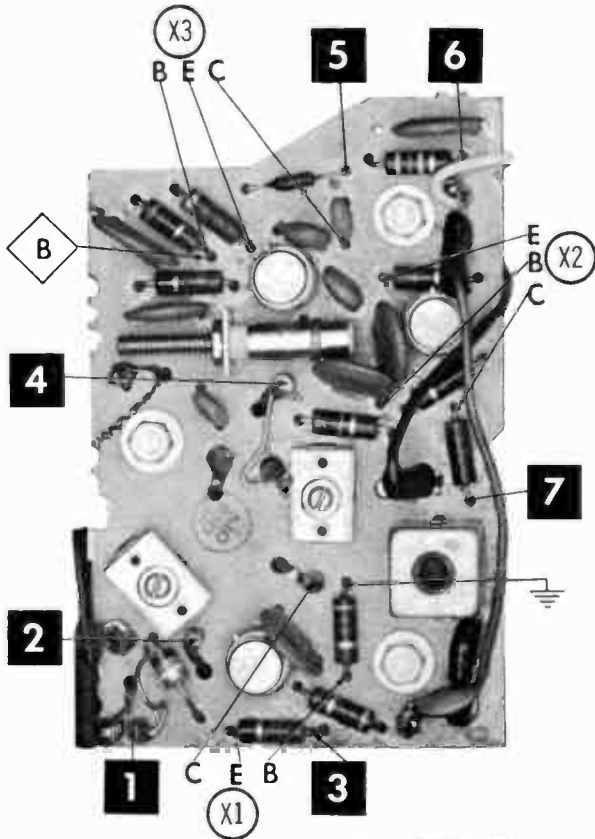
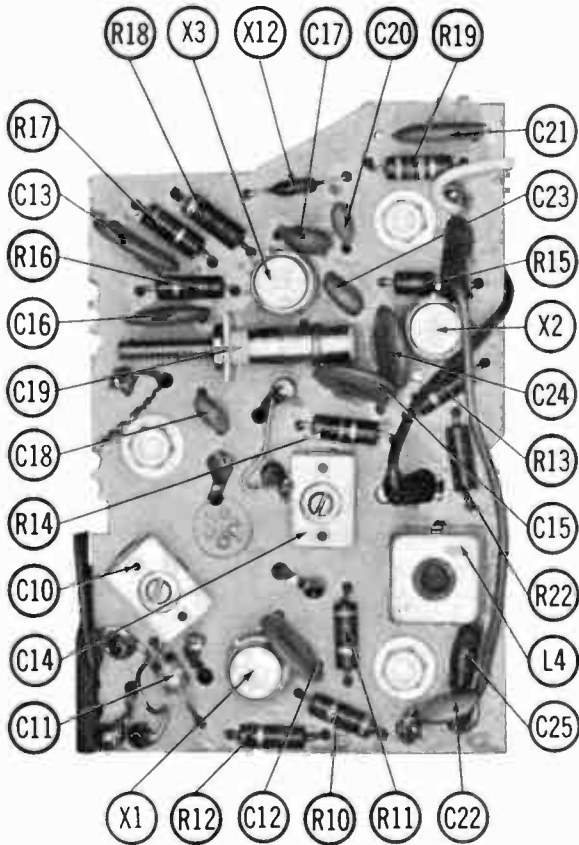
# PHOTOFACT<sup>®</sup> with

# CIRCUTRACE<sup>®</sup>



**TRADE NAME :** Volkswagen Models:  
 5FMBG (1965 Karmann Ghia)  
 5FMBT (1965 Transporter)  
 5FMBV (1965 Sedan)  
**SUPPLIER :** For Current Address, See Master Index.  
**TYPE SET :** 11 Transistor AM-FM Receiver  
**POWER SUPPLY :** 6 Volt Storage Battery  
**RATING :** .95 Amp. @ 6.3 Volts DC  
**TUNING RANGE :** BROADCAST: 540-1605KC  
 FREQ. MOD. 88-108.5MC

VOLKSWAGEN MODELS 5FMBG, 5FMBT, 5FMBV



A Howard W. Sams CIRCUITRACE<sup>®</sup> Photo

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

# ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Use only enough generator output to provide a usable indication. Suggested Alignment Tools: A1 thru A25    GENERAL CEMENT: 8290, 8868, 9087    WALSCO: 2525, 2528, 2587					<b>PUSH-BUTTON ADJUSTMENT</b> 1. Pull button out. 2. Tune manually to desired station. 3. Press button in firmly. 4. Repeat for remaining buttons.
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\diamond$ , low side to ground.	282.5KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy (Fig. 1) to antenna receptacle.	1605KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.					
3. Thru dummy (Fig. 1) to antenna receptacle.	1000KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna extended 38", tune in a weak station near 1400KC and adjust A7 for maximum output.					

### FM ALIGNMENT USING AM SIGNAL GENERATOR — SELECTOR IN FM POSITION

High side thru .1mfd to Point $\diamond$ , low side to ground.					
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS	
4. 10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\diamond$ ; common to ground.	A11 thru A21	Adjust for maximum.	
5. "	"	DC probe to point $\diamond$ ; common to	A22	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.	

### FM IF ALIGNMENT USING FM SIGNAL GENERATOR — SELECTOR IN FM POSITION

High side thru .1mfd to Point $\diamond$ , low side to ground. Use only enough marker signal to obtain indication. Use 60v frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.					
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS	
4. 10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point $\diamond$ ; low side to ground.	A11 thru A21	Adjust for maximum gain and symmetry of response similar to Fig. 3 with marker as shown.	
5. "	"	Vert. amp. to point $\diamond$ ; low side to	A22	Adjust A 22 (Secondary) to place marker at center of crossover lines similar to Fig. 4. Adjust A 11 (Primary) for maximum amplitude and straightness of crossover lines.	

### FM RF ALIGNMENT

Connect generator thru dummy Ant. Fig. 2.					
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS	
6. 108.5MC	Set at high end.	DC probe of VTVM to point $\diamond$ ; common to ground.	A23, A24, A25	Adjust for maximum.	

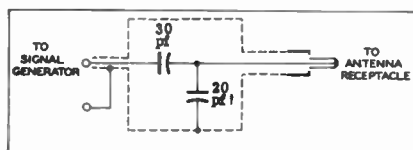


FIG. 1

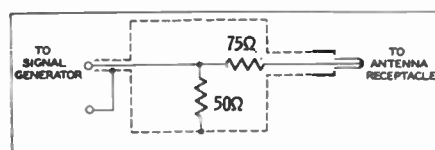


FIG. 2

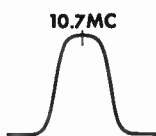


FIG. 3

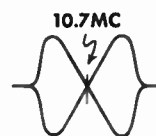
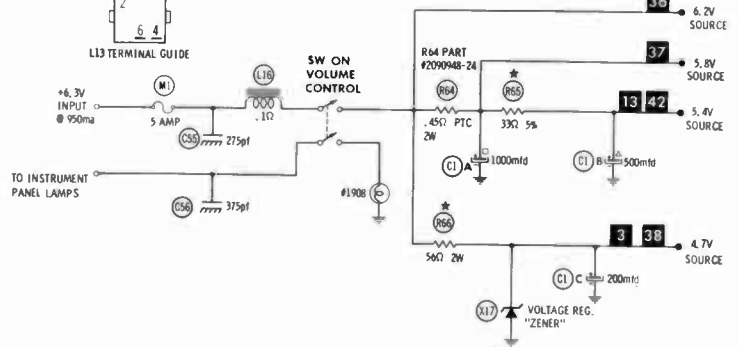
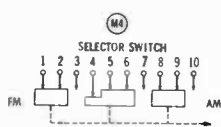
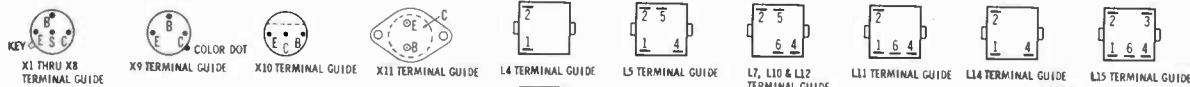
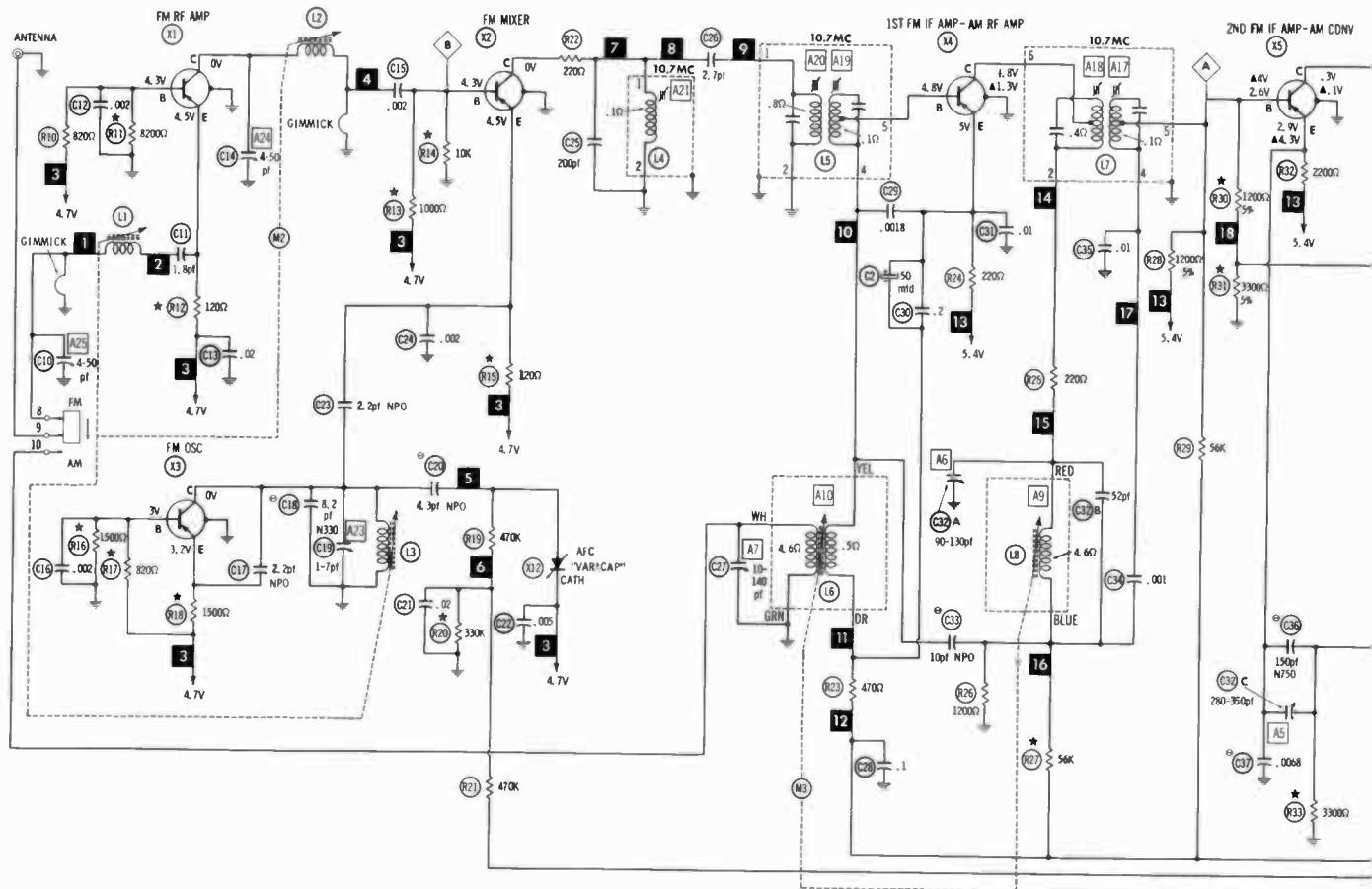


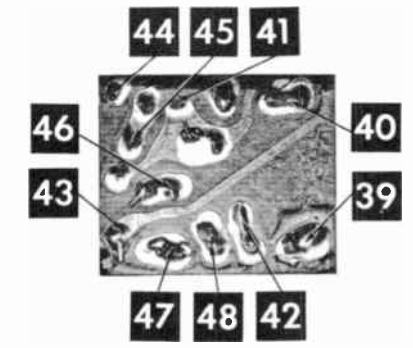
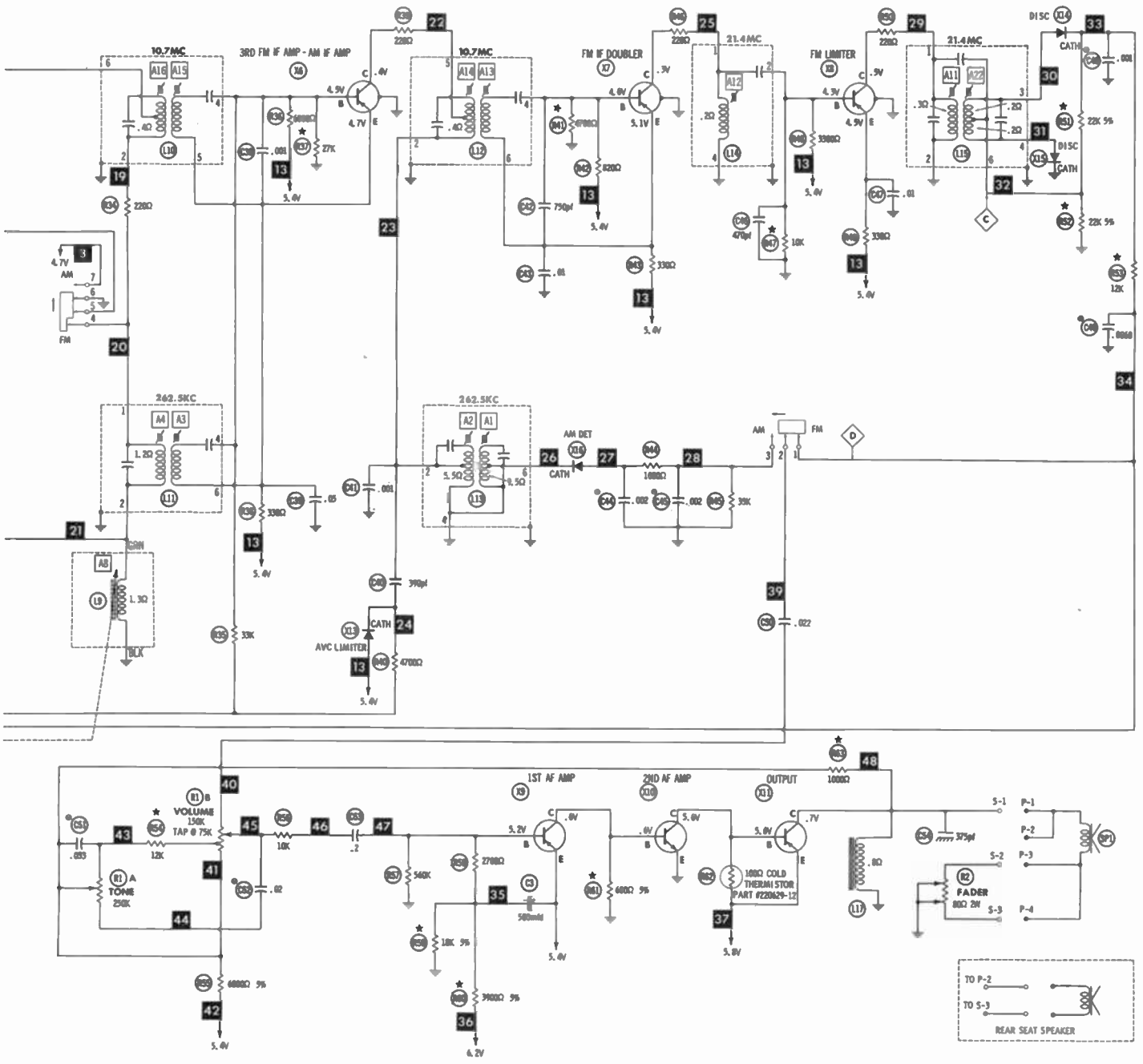
FIG. 4

VOLKSWAGEN MODELS SFMBG, SFMBT, SFMBV



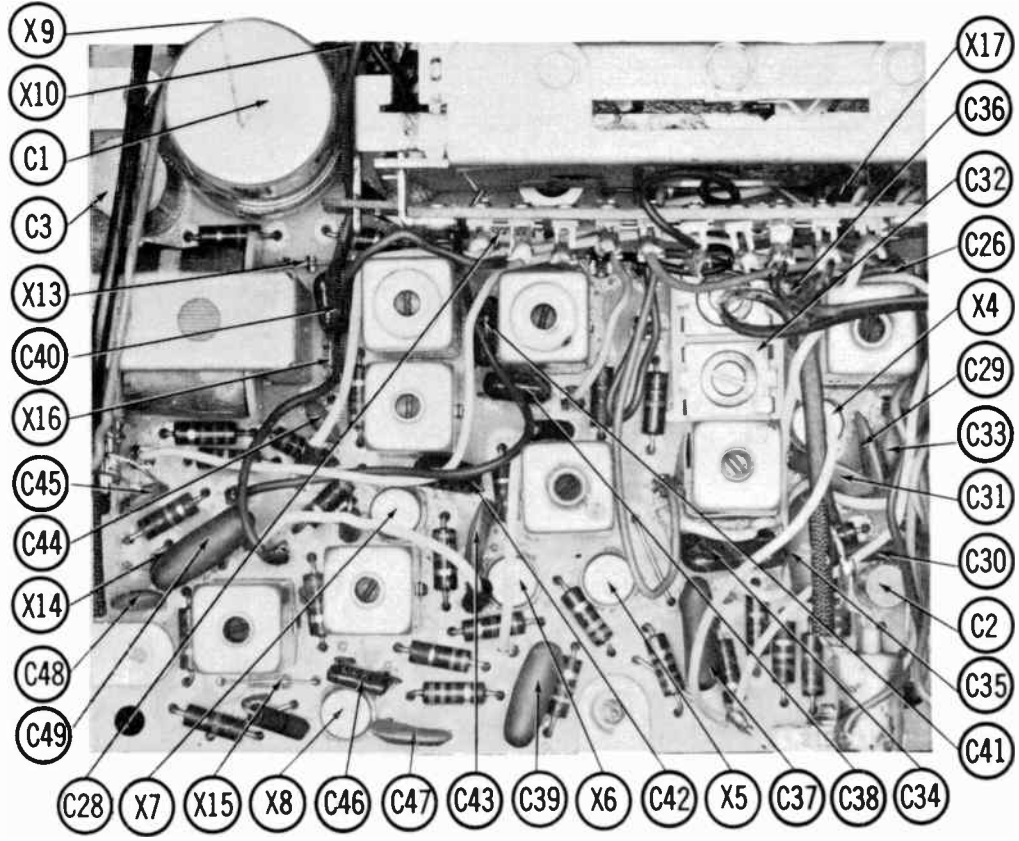
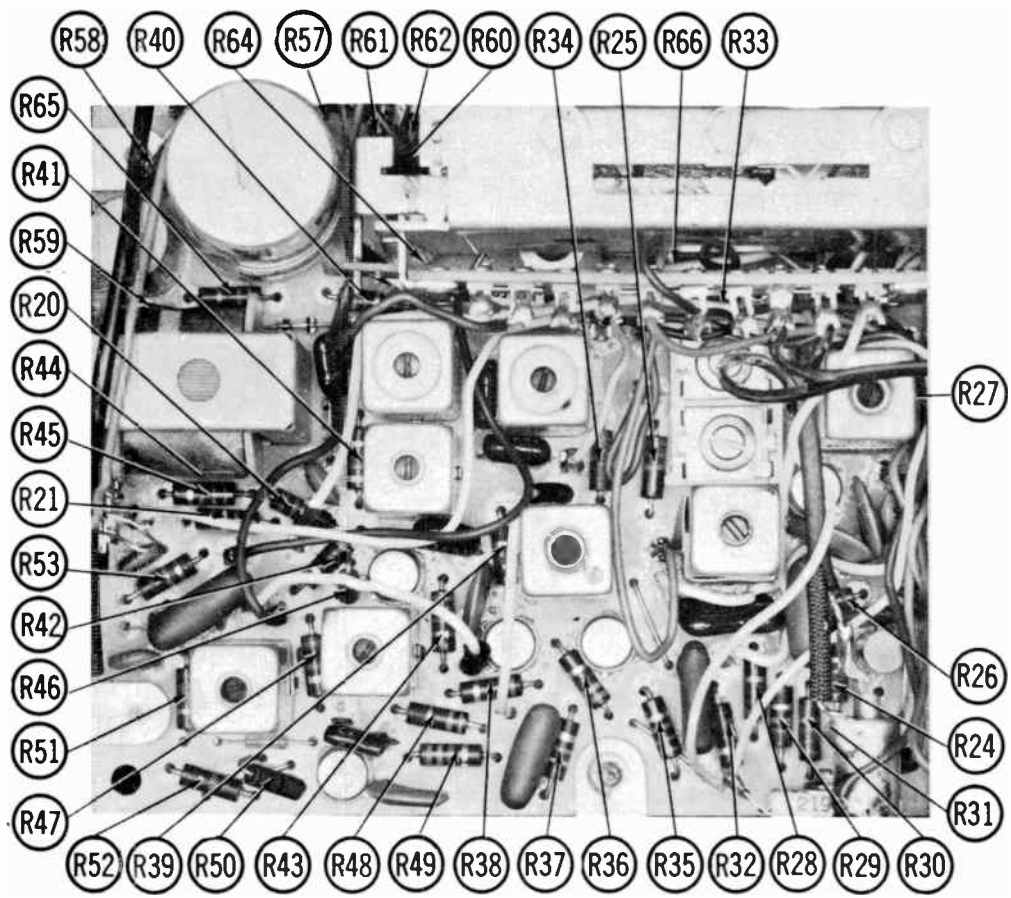
- ★ NOMINAL VALUE, MAY VARY.
- VOLTAGE MEASUREMENTS TAKEN IN FM POSITION UNLESS OTHERWISE INDICATED.
- ▲ TAKEN IN AM POSITION.
- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
- ⊙ See parts list for alternate value or application.
- 1. Voltage measurements taken with 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.
- 7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

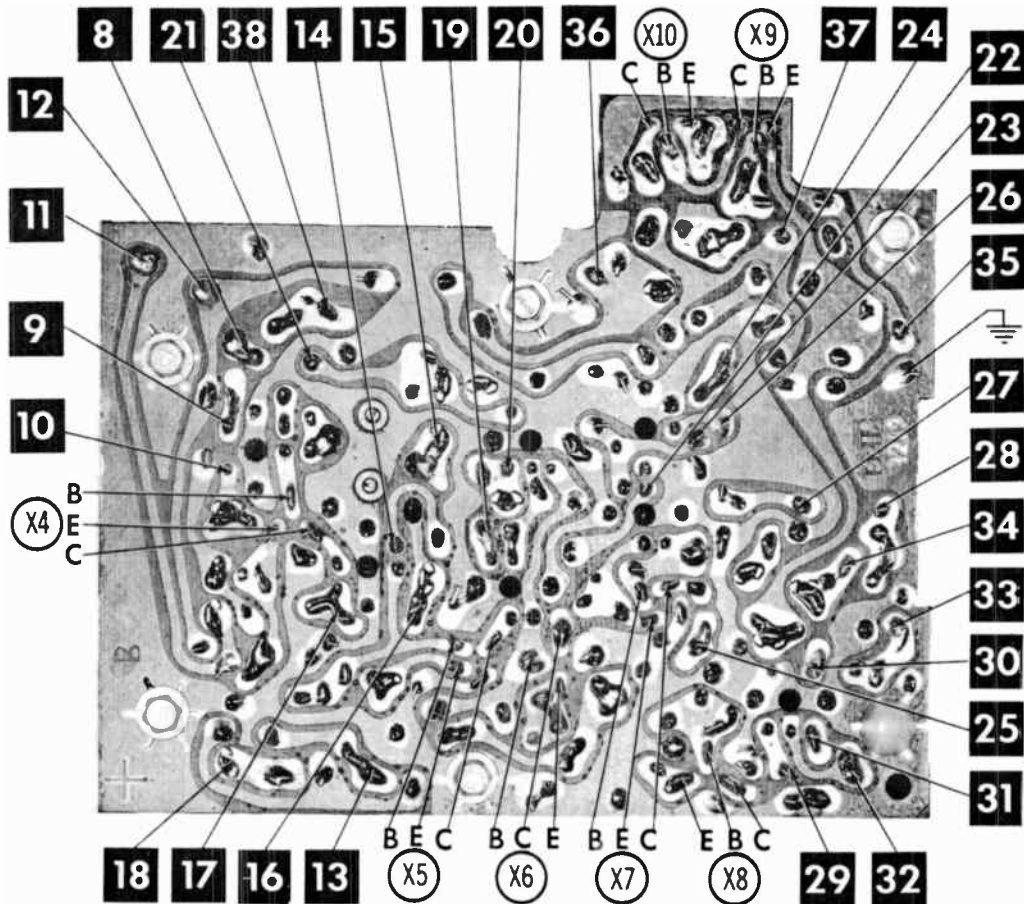
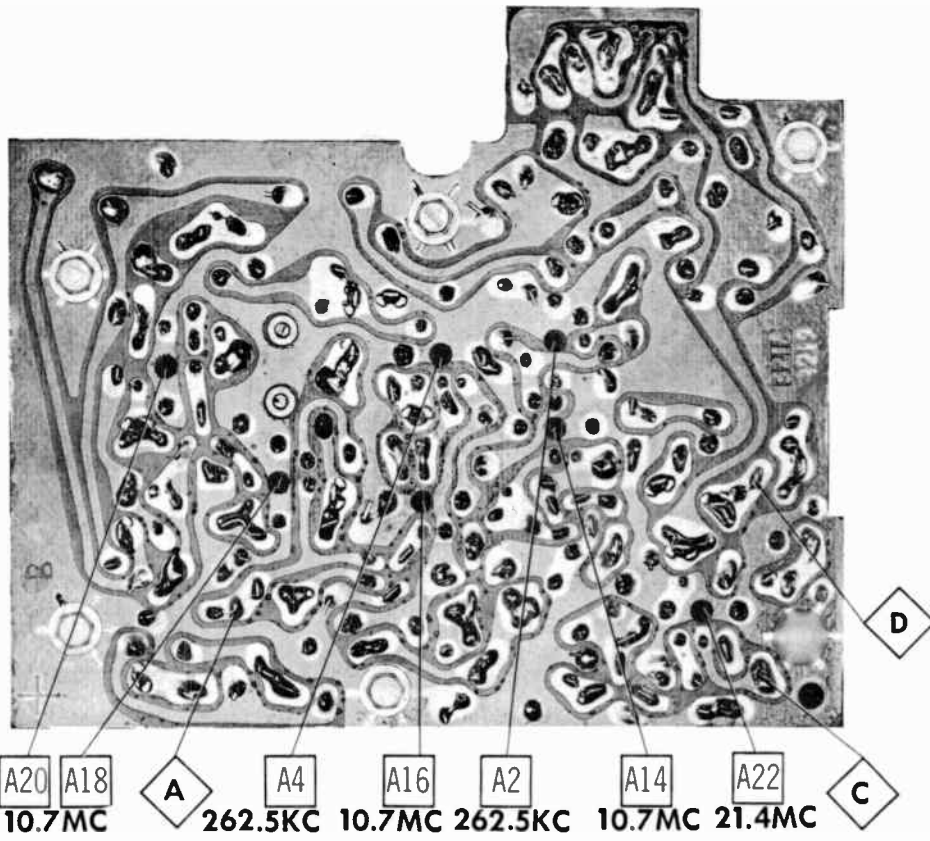
A PHOTOFACT STANDARD NOTATION SCHEMATIC with **Circuitrace**  
 © Howard W. Sams & Co., Inc. 1965



A Howard W. Sams CIRCUITRACE Photo

VOLKSWAGEN MODELS 5FM8G, 5FM8T, 5FM8V





A Howard W. Sams **CIRCUITRACE** Photo



# PARTS LIST AND DESCRIPTION

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES	BENDIX PART NO.
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.		
X1		FM RF Amp.	D8-41			PNP	2092417-0707
X2		FM Mixer	D8-41			PNP	2092417-0708
X3		FM Osc.	D8-56			PNP	2092418-0712
X4		1st. FM IF-AM RF Amp.	D8-56			PNP	2092418-0712
X5		2nd. FM IF-AM Conv.	D8-56			PNP	2092418-0712
X6		3rd. FM IF-AM IF	D8-56			PNP	2092418-0712
X7		FM IF Doubler	D8-56			PNP	2092418-0712
X8		FM Limiter	D8-56			PNP	2092418-0712
X9		1st. AF Amp.	D8-26	GE-2		PNP	2090924-0008
X10		2nd. AF Amp.	D8-46	GE-10		PNP	2092609-0002
X11		Output	D8-520	GE-3		PNP	2091859-0717

\* When replacing, apply silicon grease to both sides of insulator. Tighten mounting screws securely.

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS				DIODES
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.	GENERAL ELECTRIC PART No.
X12		2092055-0003 (AFC Varicap)					
X13		2092065-0001 (AVC Limiter)					1N34AS
X14		2092055-0711 (Discriminator)					1N34AS
X15		2092065-0711 (Discriminator)					1N34AS
X16		2092055-0001 (AM Detector)					1N34AS
X17		2092055-0004 (Voltage Regulator, Zener Diode 4.5V)					

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BENDIX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1000	8	220353-0037	PWH3-54-13					PCL8-3016*
B	500	8							
C	200	6							
C2	50	3	2093386-0702	BCD8050	NLW50-3	MT1-18	BL1410	PET1575	VL-1045
C3	500	3	2093386-0701	BCD12500	NLW450-3	MT1-26	BL2111	PET290	TE-1068

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

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C10	4-50	#2093115-0702	NPO-D12.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522	10TCC-V22	
C11	1.8		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C12	.002		BPD-02	DD-203	BYA682	CCD-203	B120	5HK-S20	
C13	.02	#2093115-0702							
C14	4-50		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C15	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C16	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C17	2.2		NPO	NPO-D12.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522	10TCC-V22
C18	0.2		N350						10TCC-V22

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C19	1-7	#2093105-0001 #2093135-0706							
C20	4.3		NPO						
C21	.02			BPD-02	DD-203	BYA682	CCD-203	B120	5HK-S20
C22	.005			NPD-005	DD-502	BYA10D5	CCD-502	B250	5HK-D50
C23	2.2		NPO	NPD-D12.2	DTZ-2R2	C10V22C	CCTO-2R2	CNO522	10TCC-V22
C24	.002			BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20
C25	200				DM-201				10TCC-V27
C26	2.7								
C27	10-140	#219083-0007							
C28	.1		TTD-1	CK-104	H6			TA010	TG-P10
C29	.0018		DI-1800	DD-182	JB6D18	HCC25224Z		GP218	1078-D18
C30	.2			UK20-204	HCC25224Z				HY-325
C31	.01			DD-103	BYA10G1			5HK-810	
C32A	90-130	#2092422-0708							
52									
B	280-350								
C33	10	NPO	NPO-D110	DTZ-10	C10Q1C	CCTO-100	CNO410	10TCC-Q10	
C34	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10	
C35	.01	100V	BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-S10	
C36	150	N750	N750-D1150	DTN-150	C10T15U	CCTN-151	CN7315	10TCU-T15	
C37	.0068	100V	BE6D68	CPR-6800J	WMF1D68	6DP-1-682	PVC4268	6PS-D68	
C38	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10	
C39	.05	100V	P288N-05		DPMS285	1DP-2-503	PVC215	2PS-S50	
C40	390		DI-390	DD-391	LA10T39C4	CCD-391	GF339	5GA-T36	
C41	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10	
C42	750		DI-750	DD-751	LA10T75C4	CCD-751	GF375	5GA-T75	
C43	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-S10	
C44	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C45	.002		BPD-002	DD-202	BYA10D2	CCD-202	B220	5HK-D20	
C46	.470		DI-470	DD-471	JB6T47	CCD-471	GP347	1078-T47	
C47	.01		BPD-01	DD-103	BYA10G1	CCD-103	B110	5HK-S10	
C48	.001		BPD-001	DD-102	BYA10D1	CCD-102	B210	5HK-D10	
C49	.0068	100V	BE6D68	CPR-6800J	WMF1D68	6DP-1-682	PVC4268	6PS-D68	
C50	.022	100V	DBE2822		WMF1822	1DP-1-223	PVC1122	2PS-S22	
C51	.033		TTD-03	CK-303				TG-S30	
C52	.02		BPD-02	DD-203	BYA682	CCD-203	B120	5HK-S20	
C53	.2			UK20-204	HCC25224			HY-325	
C54	375								
C55	275								
C56	375								

\* Bendix Part Number.  
\* Nominal Value.

## CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	250K	#091258-0003	F1-250K, R16-250K, FFS115,RFS207, AK-38, KR-7			
B	Volume/Switch	150K Tap @ 75K				↑ QJ-1788A	■ UE4454-B
R2	Fader	80K 2W	#092415-0001				

↑ "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-128, P22-121 (Panel)  
 "SNAPTROL" Equivalent: BU7, CF15, CR34T, SF13, SR49, WF. B13-130X, R-16-205 (Rear) 78-2 (Switch)  
 "STA-LOC" Equivalent: FA254L(1) RU154T653, OS1687, IS2187, US42.  
 † Use original tab mounting plate.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	BENDIX PART No.			IRC PART No.	WORKMAN PART No.	BENDIX PART No.
R62	100Ω Cold (Thermistor)			220629-0012	R64	.45Ω 2W Cold (PTC)			2090948-0027

## PARTS LIST AND DESCRIPTION (CONTINUED)

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					
		BENDIX PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.
L1	FM Antenna	①					
L2	FM RF	①					
L3	FM Osc.	①					
L4	1st. FM IF	2093149-0706					
L5	2nd. FM IF	2093149-0708					
L6	AM Antenna	②					
L7	3rd. FM IF	2093149-0707					
L8	AM RF	②					
L9	AM Osc.	②					
L10	4th. FM IF	2093149-0703					
L11	1st. AM IF	2092419-0709					
L12	5th. FM IF	2093149-0704					
L13	2nd. AM IF	2092419-0710					
L14	FM IF Doubler	2093149-0705					
L15	Discriminator	2093216-0701					

① Part of M2. ② Part of M3.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L18	950ma	.1Ω	1MH	2092424-0002					

### CHOKE (AUDIO OUTPUT)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L17	14MH	2092138-0711	C-4095	TC-2	TR-152	TY17XT	

### FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			BENDIX PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M1	1AG	5A 32V	2091811-0009	2091899-0001	301005	155004	AGA5	HAF

### MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.
M2	FM Tuner	2093394-0707
M3	AM Tuning Coils	2090131-0086
M4	AM-FM Tuner SelectorSW	2093142-0704 2092702-0005

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA	
		BENDIX PART No.	QUAM PART No.
SP1	6" PM 8Ω	2091246-0004	6A21Z8

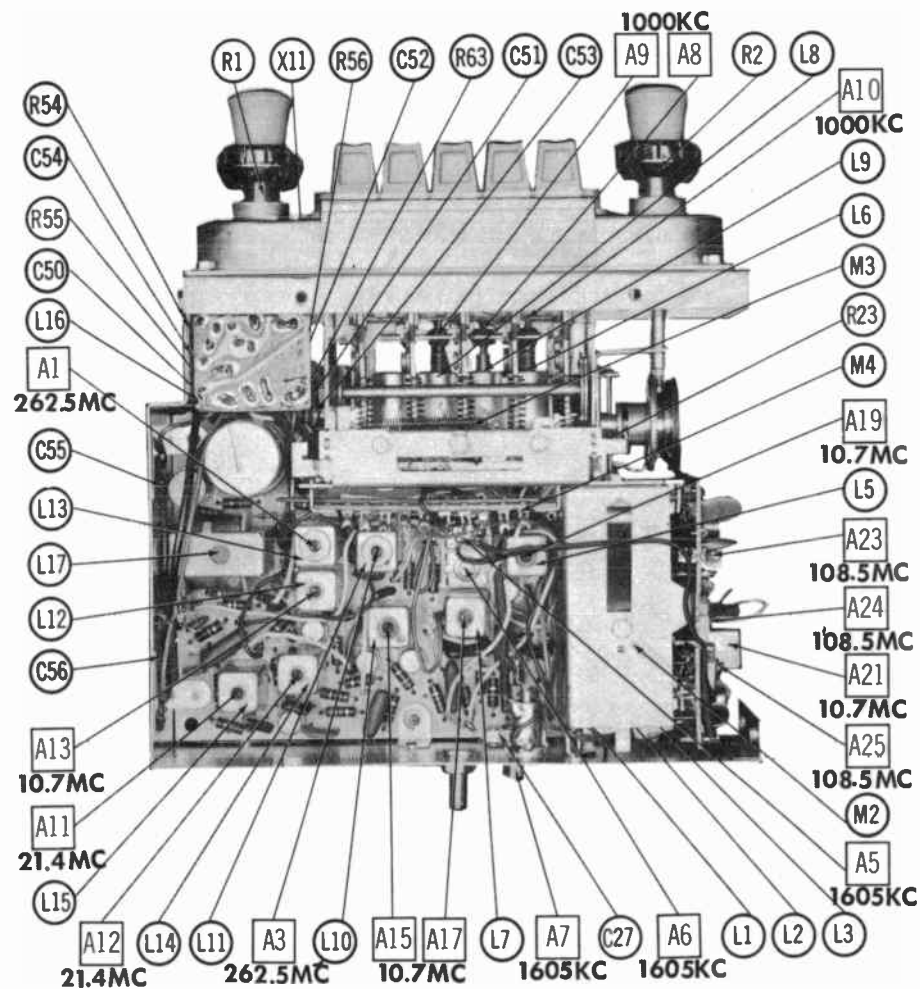
### CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

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Escutcheon	2092187-0502	Pushbutton (FM)	2092397-0003
Dial Glass	2092404-0003	Pushbutton (AM)	2092397-0004
Knob, Volume or Tuning	2091244-0503	Pointer Assembly	2090129-0037
Knob, Tone or Fader	2092235-0001		

### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 6762 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN No. 8861 (3/8 in.) or 8870 (3/4 in.)



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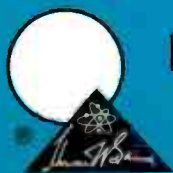


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