

SAMS PHOTOFACT[®]

AUTO RADIO SERIES



AR-70
70
JANUARY 1970



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AUTOMATIC

Volkswagen (67)
VSC—6767

CADILLAC

(69) 95CWB1,
95CWB2 (7307205)

OLDSMOBILE

F-85 (69)
93AFP1 (7307863)

BUICK

Special (69)
94AFP1 (7306914)
Buick (69)
94BFP1 (7306934)
Riviera (69)
94EFP1 (7306964)

CHEVROLET

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Corvette (69)
91VFM2 (7303211)
91VMP11 (7303201)

OPEL

G/T (69)
94PPB1 (7312234)

SAAB

(68) 8BSA

UNIVERSAL

Gibbs CR-627
Gibbs CR-630

\$3.25

\$4.10 IN CANADA

Cat. No. AR-70

SAMS PHOTOFACT[®]

AUTO RADIO SERIES

VOLUME

70

by the *Howard W. Sams* ENGINEERING STAFF



HOWARD W. SAMS & CO., INC.

INDIANAPOLIS

INDIANA

**FIRST EDITION
FIRST PRINTING—JANUARY 1970**

**PHOTOFACT®
AUTO RADIO SERIES
VOLUME 70**

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Library of Congress Catalog Card Number: 49-11493



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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.

BUICK SPECIAL - 1969

- Step 1. Remove ashtray and bracket.
- Step 2. Remove screws from center air-condition duct and remove duct.
- Step 3. Remove knobs, control bushing nuts, and disconnect antenna lead and speaker connector. Remove screws from bottom brace.
- Step 4. Remove screws from radio trim plate and remove trim plate.
- Step 5. Remove nuts from front mounting studs and remove radio from under dash.

SPEAKER REMOVAL

- Step 1. Remove Radio.
- Step 2. Remove Glove Box.
- Step 3. Remove screws from under rear instrument panel cover.
- Step 4. Remove nuts from under rear instrument panel cover.
- Step 5. Pull instrument panel cover up and remove.
- Step 6. Remove screws from air plenum and pull out.
- Step 7. Remove screw from speaker mounting bracket and remove speaker.

BUICK - BUICK, RIVIERA 1969

- Step 1. Remove screws from center air-condition duct and remove duct.
- Step 2. Remove ashtray and ashtray housing.
- Step 3. Remove knobs, nuts from control bushing, and screw from lower mounting bracket.
- Step 4. Disconnect speaker connector and antenna lead.
- Step 5. Remove radio from under instrument panel.

RIVIERA SPEAKER REMOVAL

- Step 1. Remove radio.
- Step 2. Remove defroster hose on driver's side.
- Step 3. Remove nuts from speaker mounting.
- Step 4. Remove speaker.

CADILLAC - 1969

- Step 1. Remove screws from steering column cover. Remove panel.
- Step 2. Remove knobs and nuts from control bushings.
- Step 3. Disconnect antenna lead and speaker connector.
- Step 4. Remove screws from bottom brace.
- Step 5. Lower radio and remove.

SPEAKER REMOVAL

- Step 1. Remove screws from garnish moldings and remove.
- Step 2. Remove screws from lower instrument panel cover and screws from upper glove box.
- Step 3. Lift instrument panel cover.
- Step 4. Remove screws from speaker mounting and remove speaker.

CHEVROLET - 1970

- Step 1. Remove ashtray and ashtray housing.
- Step 2. Remove screw from heater duct, and remove duct.
- Step 3. See General Removal Information.

SPEAKER REMOVAL - CENTER SPEAKER

- Step 1. Remove radio.
- Step 2. Remove left A/C duct.
- Step 3. Remove screw from speaker mounting and remove speaker.

SPEAKER REMOVAL - RIGHT-HAND STEREO SPEAKER

- Step 1. Remove glove box.
 - Step 2. Disconnect speaker.
 - Step 3. Remove nuts from speaker mounting and remove speaker thru glove box opening.
- Chevrolet Dealer should remove left-hand stereo speaker because of critical torques involved in steering column replacement.

CHEVROLET CORVETTE - 1969

- Step 1. Remove console side covers.
- Step 2. Remove knobs and nuts from control bushings.
- Step 3. Remove screws from radio trim plate and remove plate.
- Step 4. Remove screws from lower padded dash cover and remove cover.
- Step 5. Disconnect speaker and antenna connectors.
- Step 6. Remove screw from side brace.
- Step 7. Tilt instrument panel cover forward and remove radio.

SPEAKER REMOVAL

- Step 1. Remove screws from kick panels and remove panels.
- Step 2. Remove screws from speaker mountings and remove speaker.

OLDSMOBILE F-85 - 1969

- Step 1. Remove screws from lower air-conditioning duct, and remove duct.
- Step 2. Disconnect antenna lead and speaker connector.
- Step 3. Remove knobs and nuts from control bushings.
- Step 4. Remove nut from lower mounting bracket.
- Step 5. Lower radio and remove.

SPEAKER REMOVAL

- Step 1. Remove radio.
- Step 2. Remove screws from mounting bracket and remove speaker.

OPEL - G.T. - 1969

Opel dealer should remove radio, because of critical torques involved in steering column replacement.

SAAB - 1968

See General Removal Information.

VOLKSWAGEN - 1967

- 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.



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



AUTOMATIC MODEL VSC-6767
(67 - VOLKSWAGEN)
(8-Track Stereo Player)

OPERATING INSTRUCTIONS

Insert cartridge until it locks and turns unit on.

Set operating controls as desired.

Press program selector to play desired tracks, or allow unit to select tracks automatically.

Remove cartridge to turn unit off.

CLEANING

Clean all tape contact surfaces with a soft, lint-free material and head cleaner or alcohol. Use alcohol to remove oil and grease from all driving surfaces.

LUBRICATING

Lubricate bearings and bushings lightly with #20 machine oil. Use a light film of non-hardening grease on cam surfaces.

HEAD DEMAGNETIZING

Demagnetize head when unit is serviced. Avoid using magnetic materials near head.

ADJUSTMENTS

ADJUST	REMARKS
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B1 for proper response.
Head Azimuth	Connect an AC VTVM across right output. Play a test cartridge and adjust B2 for maximum.
Flywheel Play	Loosen mounting screws and position Support (14) for a slight vertical play of flywheel.
Output Level Balance	Set separation control at center of rotation and apply a 1000-cycle tone across each section of Head (M1). Adjust R4 and R5 for equal outputs.

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TQ692

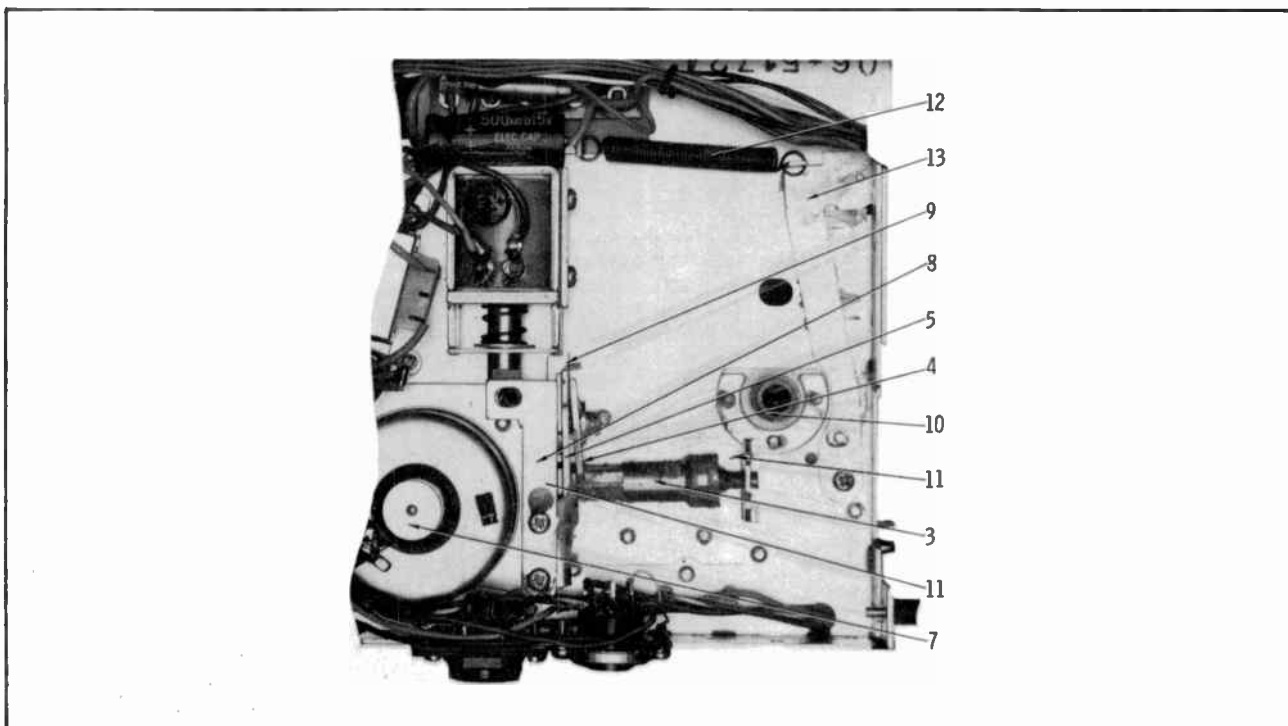
AUTOMATIC MODEL VSC-6767

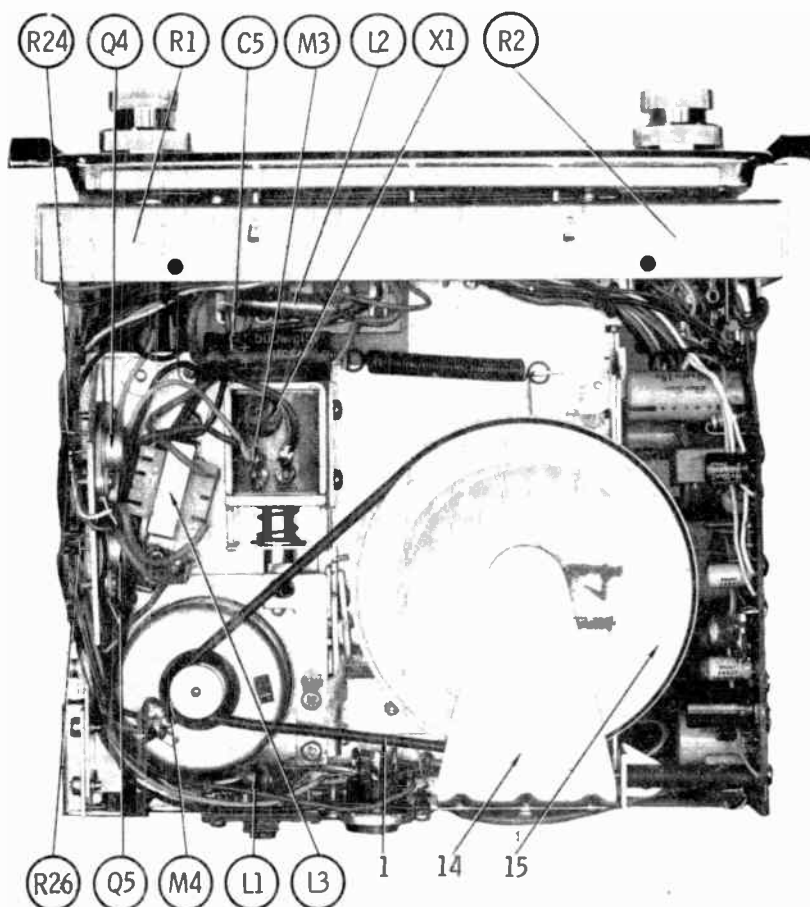
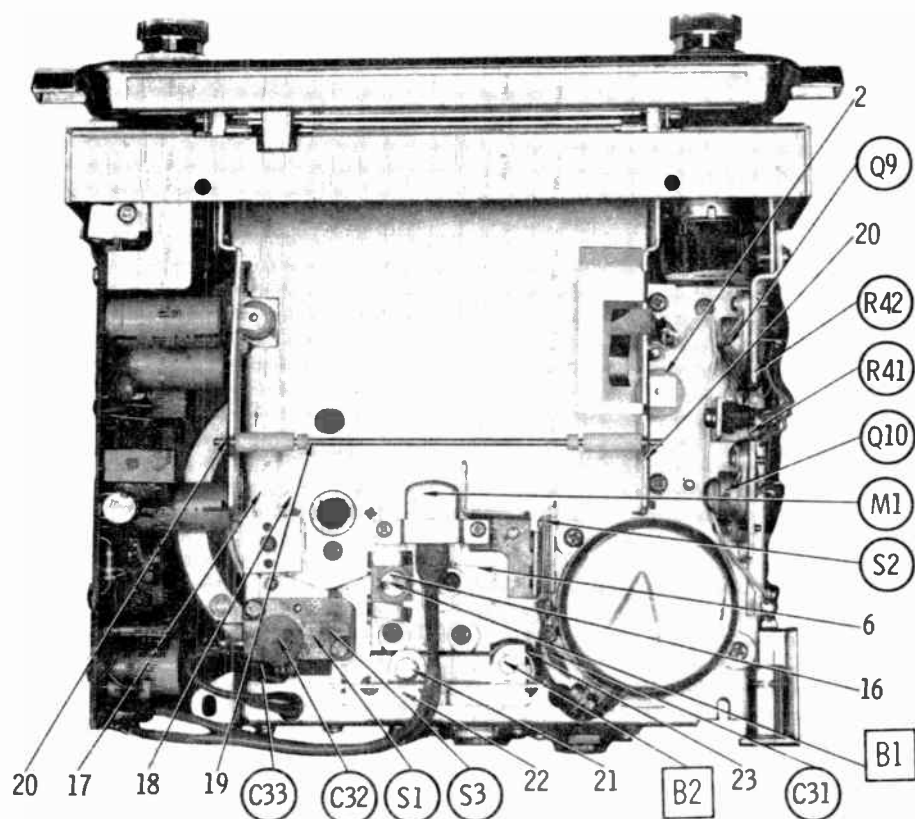
TROUBLE CHART

SYMPTOM	REMARKS
Capstan does not rotate.	Belt (1) dirty, worn, or broken. Assembly (10) binding. Motor defective or not supplied with power.
Track-shift mechanism inoperative.	Switch (S2) dirty Cam (3) binding or worn. Pawl (4) worn. Arm (6) binding. Solenoid (M3) defective or not supplied with power. Cartridge defective. Pins (11) weak or missing.
Wow or Flutter.	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective. Pins (11) weak or missing.
Sound weak or distorted.	Head dirty, misaligned, or defective. Cartridge defective. Amplifiers defective.
Tape is pulled from cartridge.	Cartridge defective. Capstan dirty or scored.

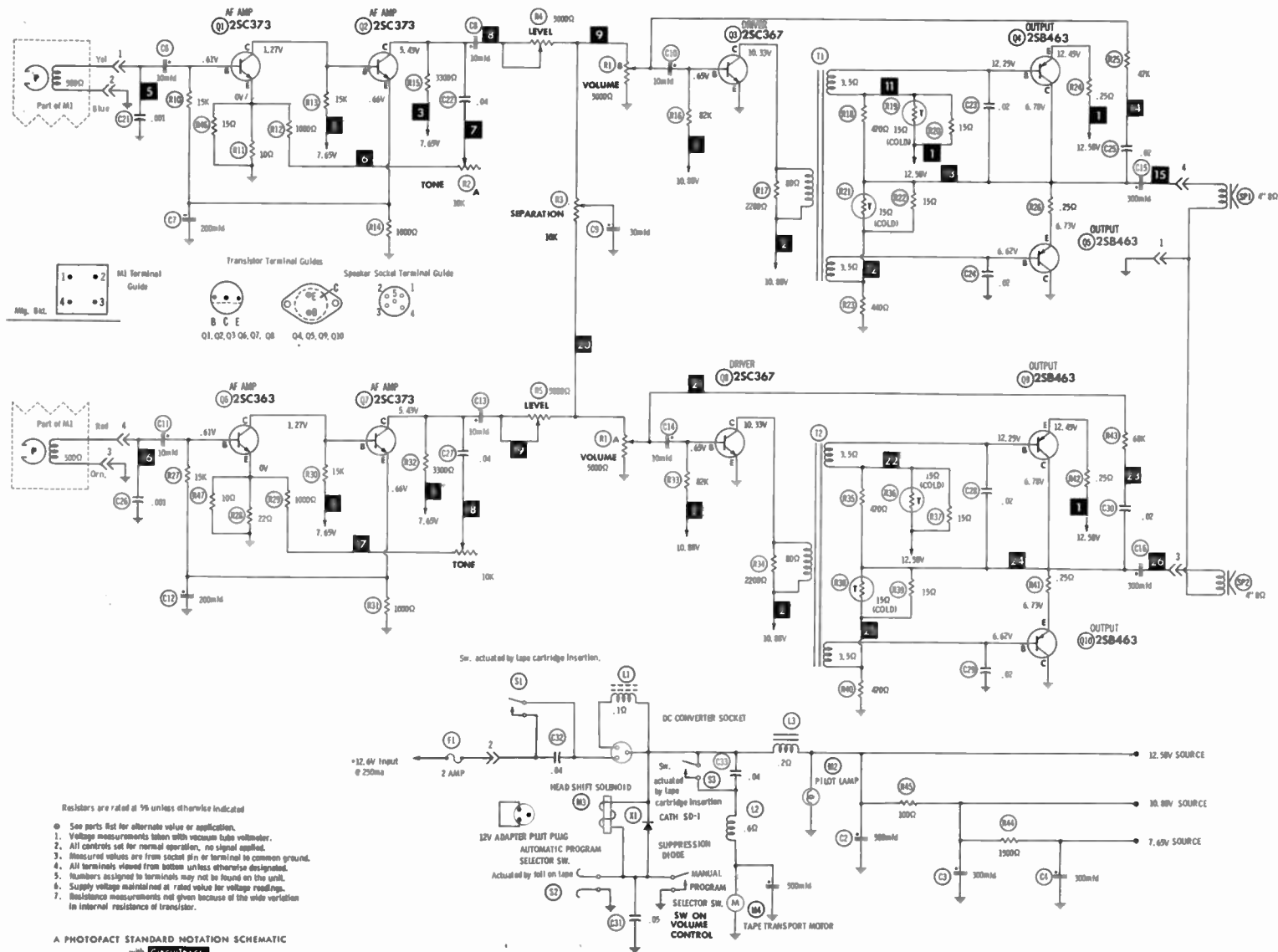
MECHANICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	67A10959	Drive Belt	13	52A11014	Roller Arm Assembly
2	135A10045	Roller Assembly	14	52A10958	Flywheel Support
3	135A11015	Track Changing Cam	15	54A10957	Flywheel
4	135A10076	Ratchet Pawl (Cam)	16	69A10985	Head Adjusting Cap
5	52A11021	Ratchet Lever	17	52A10994	Switch Actuator
6	135A11001	Head Arm Assembly	18	52A10993	Switch Actuator
7	69A10956	Motor Pulley	19	135A11008	Retainer Shaft Assembly
8	52A11020	Plunger Joint Plate	20	45A11010	Retainer Shaft Spring (2 used)
9	135A10075	Ratchet Lever Spring	21	45A10982	Head Arm Spring
10	54A10086	Capstan Bearing Assembly	22	52A10107	Head Arm Bracket
11	135A11022	Cam Stop Pin (2 used)	23	45A11005	Head Arm Bracket Spring
12	45A10069	Pressure Lever Spring			

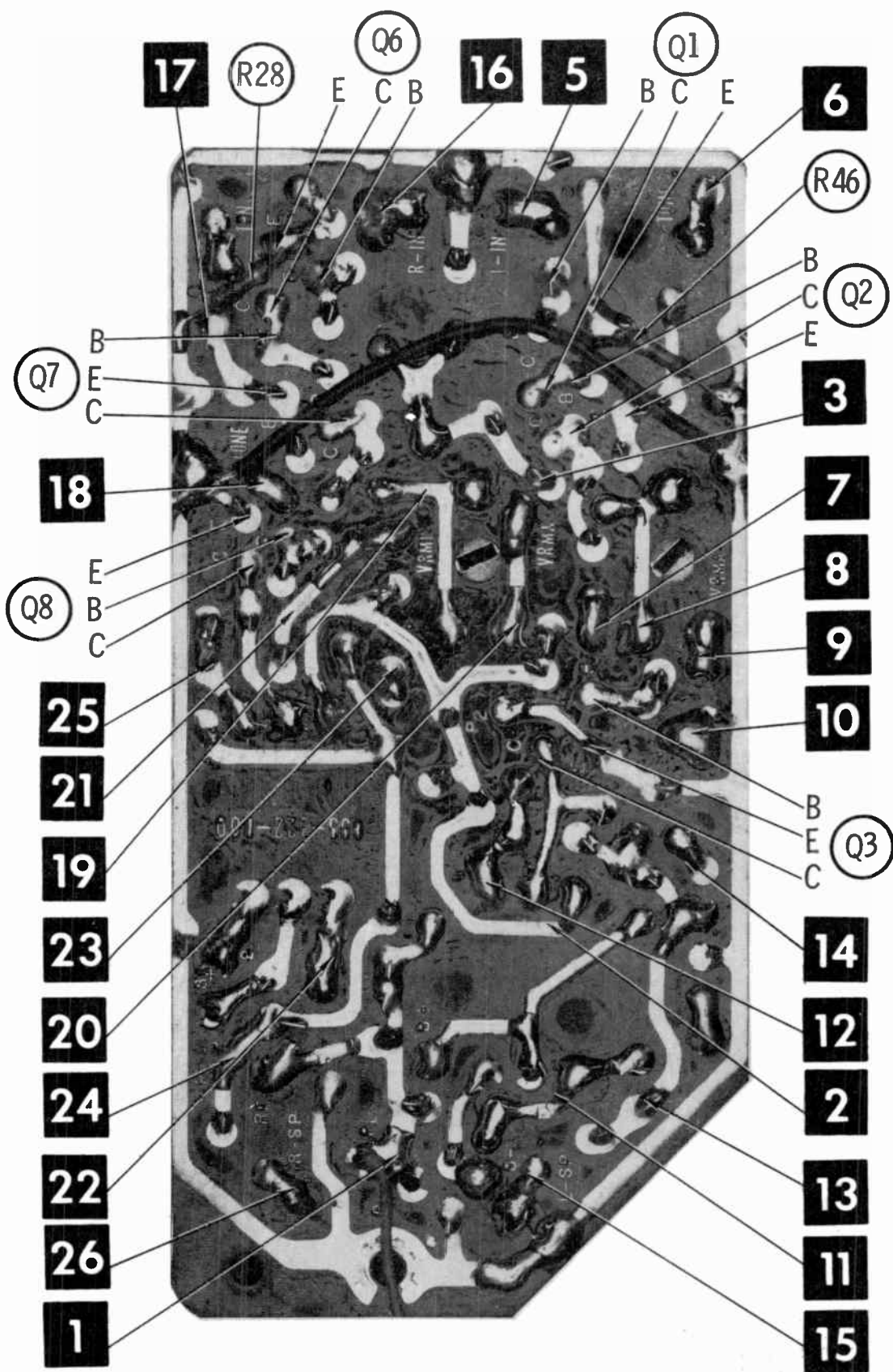


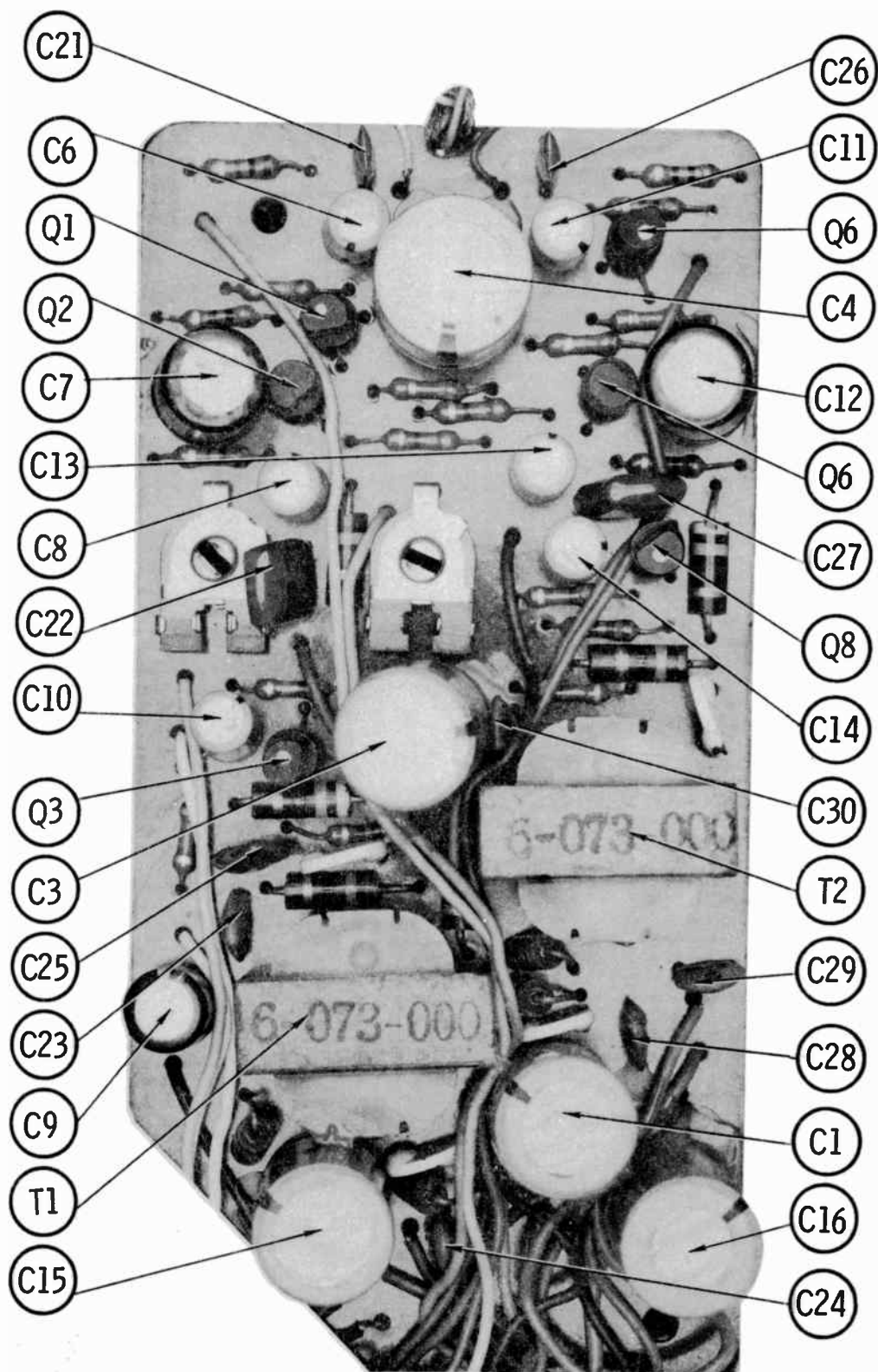


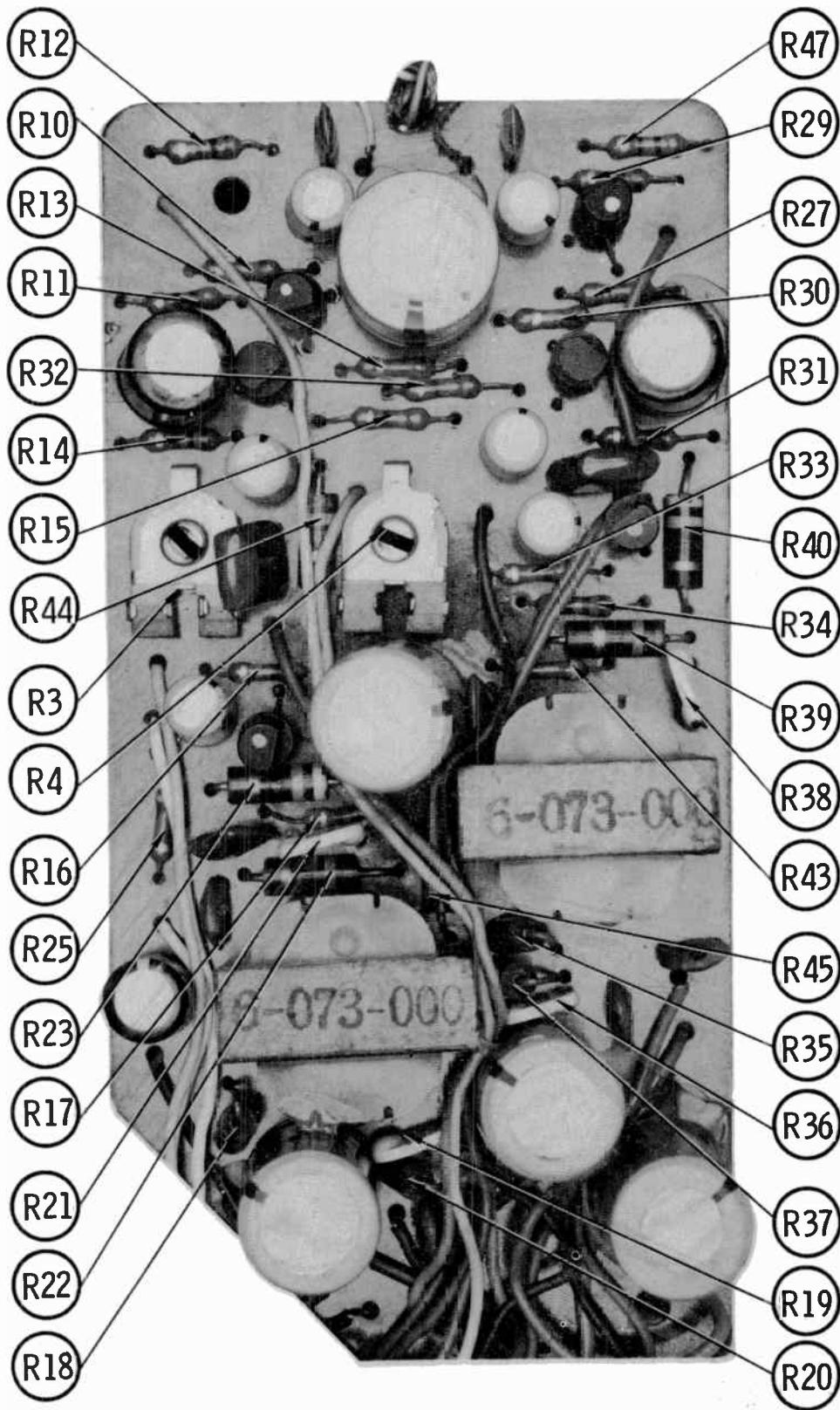
NOTE: DEMAGNETIZE HEADS AFTER SERVICING



AUTOMATIC MODEL VSC-6767







PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SC373	Preamp	8A11721	GE-17	TR-24	HEP55	SK3020	ECG 123
Q2	2SC373	Preamp		GE-17	TR-24	HEP55	SK3020	ECG 123
Q3	2SC367	Driver		GE-10	TR-24	HEP53	SK3020	ECG 123
Q4	2SB463	Output (1)						ECG 131MP*
Q5	2SB463	Output (1)	8A11721					
Q6	2SC373	Preamp	8A11721	GE-17	TR-24	HEP55	SK3020	ECG 123
Q7	2SC373	Preamp		GE-17	TR-24	HEP55	SK3020	ECG 123
Q8	2SC367	Driver		GE-10	TR-24	HEP53	SK3020	ECG 123
Q9	2SB463	Output (1)						ECG 131MP*
Q10	2SB463	Output (1)	8A11721					

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

* Matched Pair.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	SD-1	GE-504A	5A4-D	ECG 116	SK3017A	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		AUTOMATIC PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	500 15V	20A10633	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C3	500 15V	20A10633	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C4	300 15V	20A10854	BCD15300	EA15-250	PC500-16	QT1-30A	MTV400DJ15	TL-1165
C5	500 15V	20A10951	PRS1220	EA15-500	WBR500-35	QT1-30A	TC1505A	TL-1166
C6	10 15V	20A10849	BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C7	200 6V	20A10634	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C8	10 15V	20A10849	BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C9	30 15V	20A10857	BCD15025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TE-1158
C10	10 15V	20A10849	BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C11	10 15V	20A10849	BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C12	200 6V	20A10634	BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C13	10 15V	20A10849	BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C14	10 15V	20A10849	BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C15	500 15V	20A10633	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C16	500 15V	20A10633	BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

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.
C21	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C22	.04			DD-403			GP140	
C23	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C24	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C25	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C26	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C27	.04			DD-403			GP140	
C28	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C29	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C30	.01		TTP-01	CK-103	MGP01	CCD-103	TA110	TG-S10
C31	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C32	.04			DD-403			GP140	
C33	.04			DD-403			GP140	

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Volume	5000	80A10930				
B	Volume	5000					
C	Channel Selector Switch						
R2A	Tone	10K	80A10932				
B	Tone	10K					
C	Separation	10K					
R3	Level	3000	62A10208	T-5000 (1)		X201R502B (1)	MTC33L1 (1)
R4	Level	3000	62A10208	T-5000 (1)		X201R502B (1)	MTC33L1 (1)

(1) For horizontal mount, bend the two outside terminals to fit "PC" board. Use jumper wire to connect center terminal to "PC" board.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R19	15 (Cold)			5A10856
R21	15 (Cold)			5A10856

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R36	15 (Cold)			5A10856
R38	15 (Cold)			5A10856

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (10uh)	75A11712	19-1005	4622	T860
L2	RF Choke (2.4uh)	75A10054	19-1002	4606	T857

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.	
L3	250ma	.2	1.5mh	75A10954	C-4124	TC-1	TR-159	TY16XT	

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T1	6	1	1	75A10965					
T2	6	1	1						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5" PM 8 ohms	73B4176		5A1Z8	
SP2	5" PM 8 ohms	73B4176		5A1Z8	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	5 Amp							

TAPE HEADS

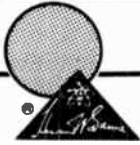
ITEM No.	MEASURED			PART No.	NORTRONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	360mh			130A10986	5800 (1)	8-Track Stereo Play (1) Use original mounting.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Indicator Lamp	130A10933	Micro Includes Tape Guide Assembly
M3	Solenoid	130A10953	
M4	Motor	130A10046	
S1	Switch, On-Off	94A10999	
S2	Switch, Automatic Program Selector	135A11006	
S3	Switch, Motor	94A10999	Micro

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Knob, Volume or Separation	47A10915	Indicator Lens	135A10923
Knob, Tone or Dummy	47A10918	Tape Door	53A10925
Escutcheon	54A10921		

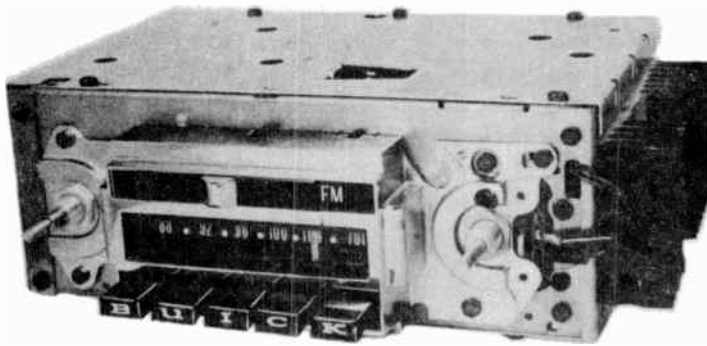


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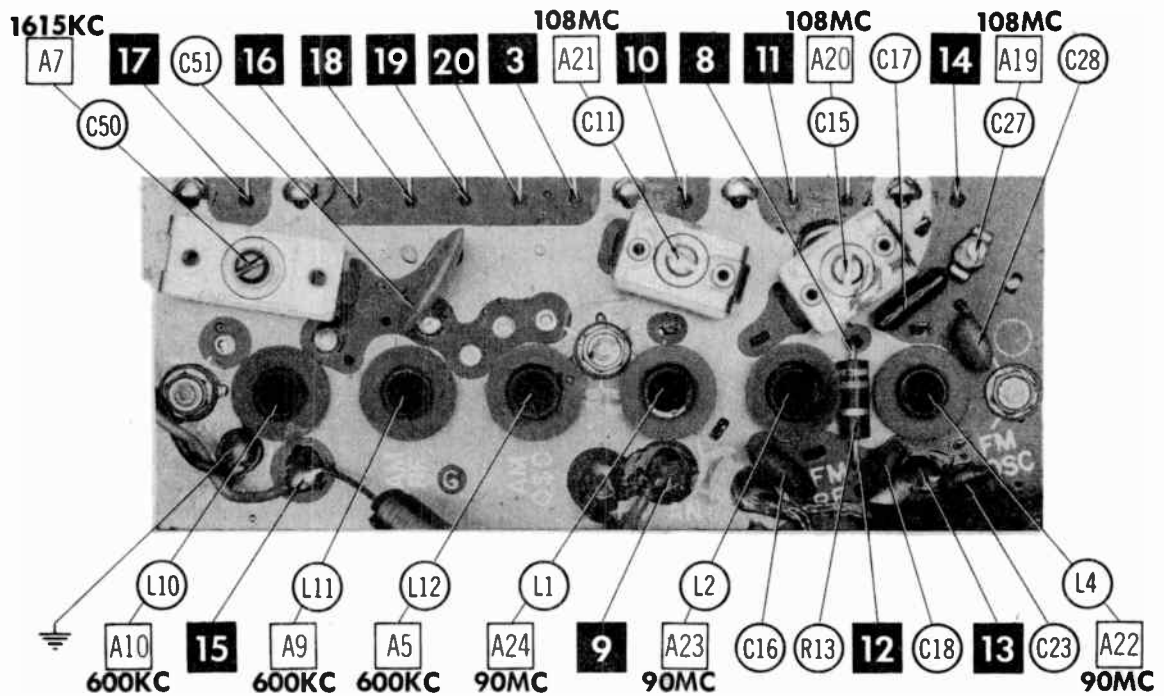
NOTE: Manufacturer Part Numbers Shown Are UNITED DELCO



BUICK MODELS 94AFP1 (7306914)
(69 Special)
94BFP1 (73069341)
(69 Buick)
94EFP1 (7306964)
(69 Riviera)

MODEL 94BFP1

BUICK MODELS 94AFP1/BFP1/EFP1

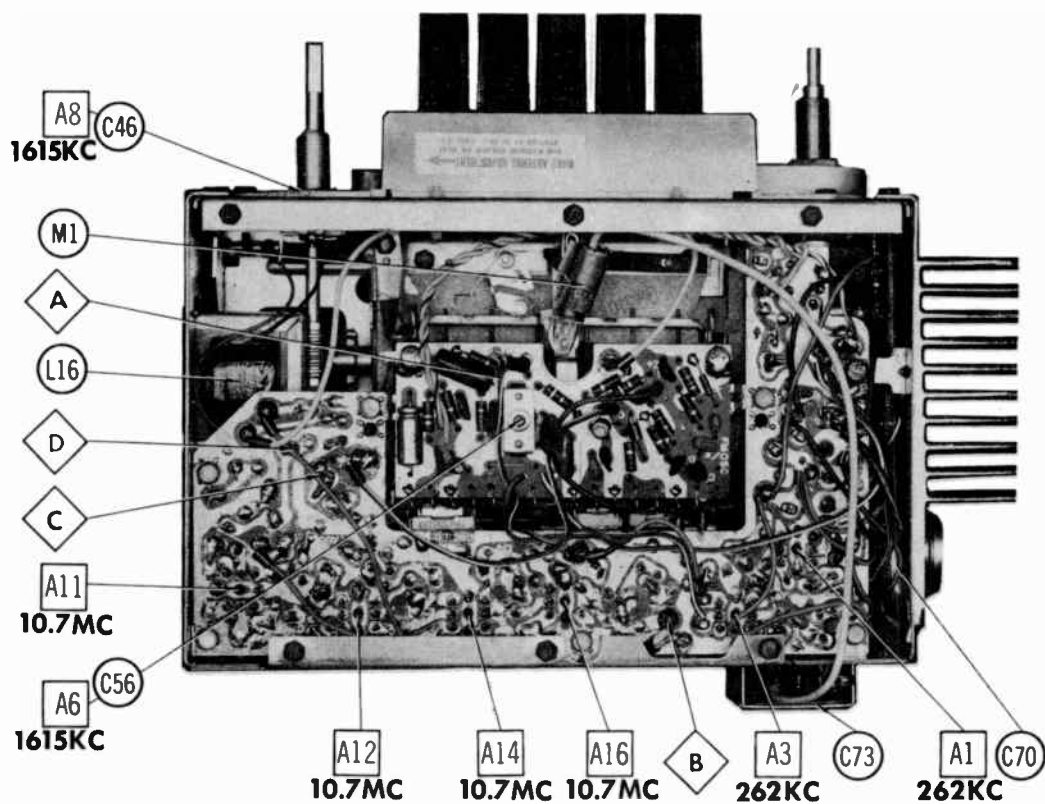
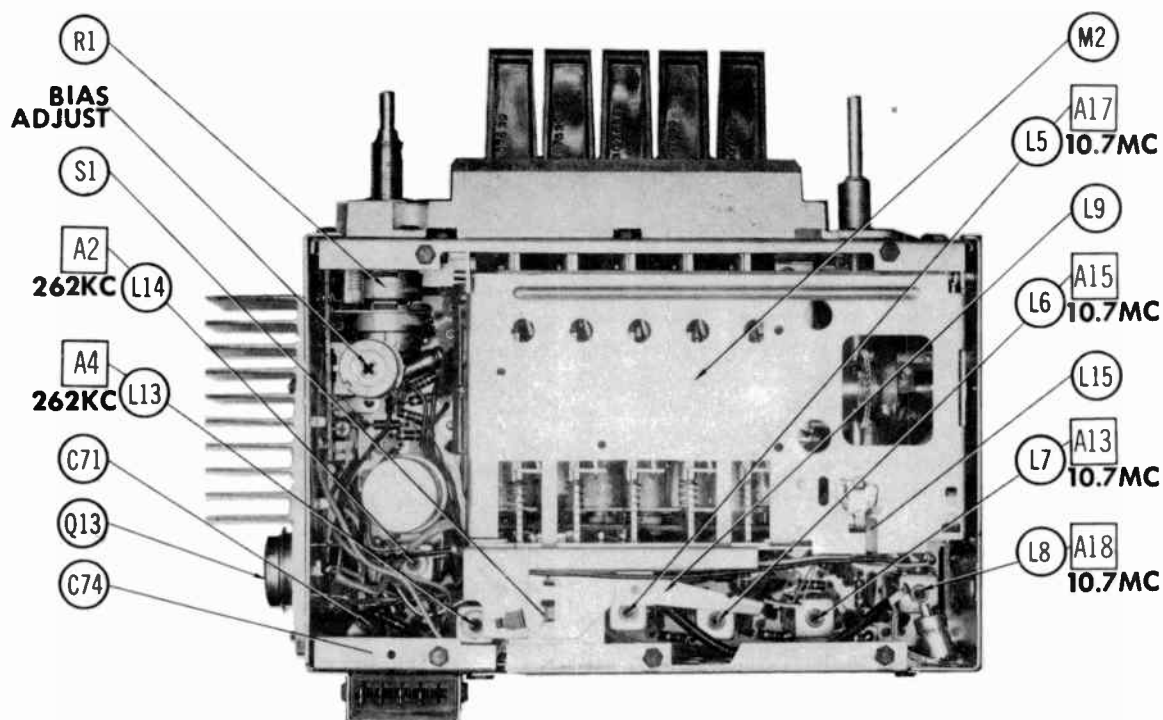


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TD653R



ALIGNMENT INSTRUCTIONS

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

A1 thru A4, A11 thru A18...GENERAL CEMENT #9296, 9297, 9300
WALSCO #2510, 2546, 2547
A6, A7, A8, A20, A21, A22....GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587

PUSH-BUTTON ADJUSTMENT

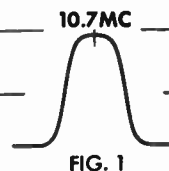
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly
4. Repeat for remaining buttons.

	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\diamond$ A, low side to ground.	262KC 400 cycle modulation	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 input, 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 extended 31", tune in a weak station near 1400KC and adjust A8 for maximum output. Antenna adjustment (A8) is located behind Tuning & Dummy Knob.						

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond$ B, low side to ground.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond$ C, common to ground.	All thru A17	Adjust for maximum.
5.	"	"	DC probe of VTVM to point $\diamond$ D, common to ground.	A18	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

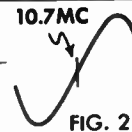
High side of generator thru .001mfd to point $\diamond$ B, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.

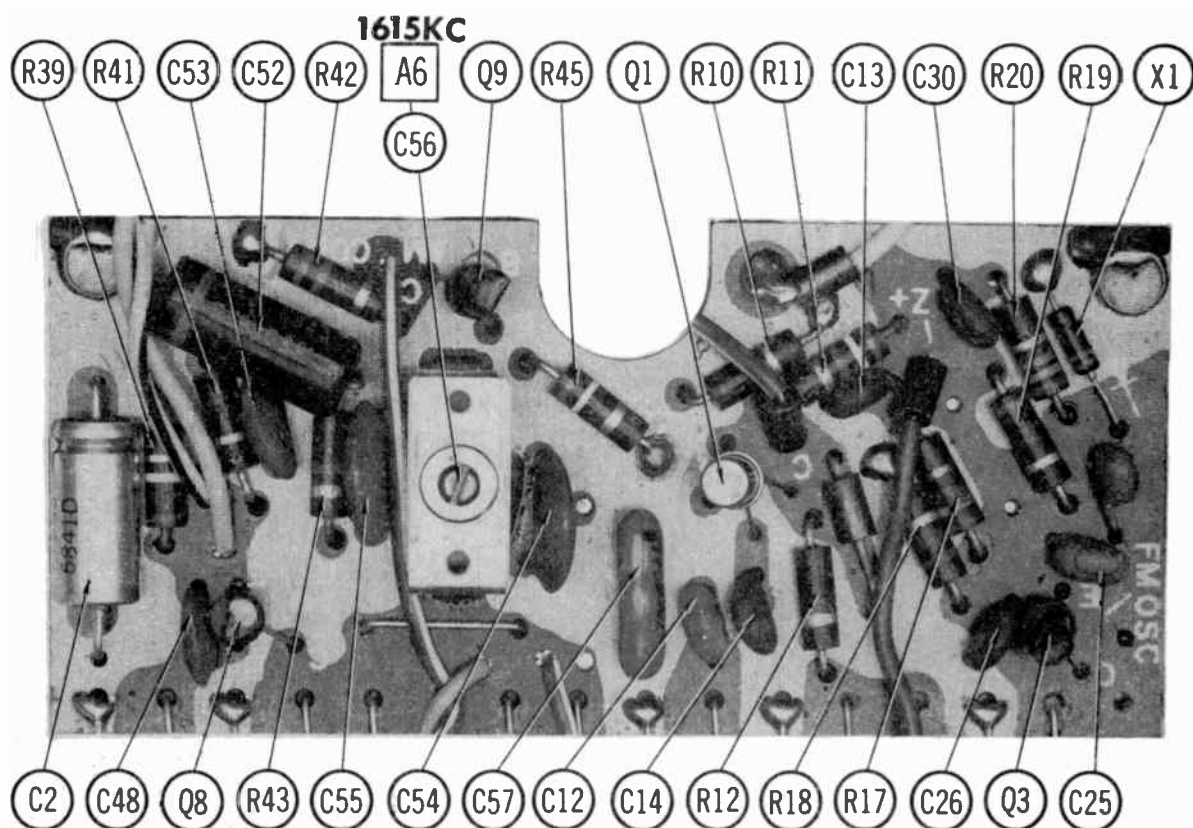
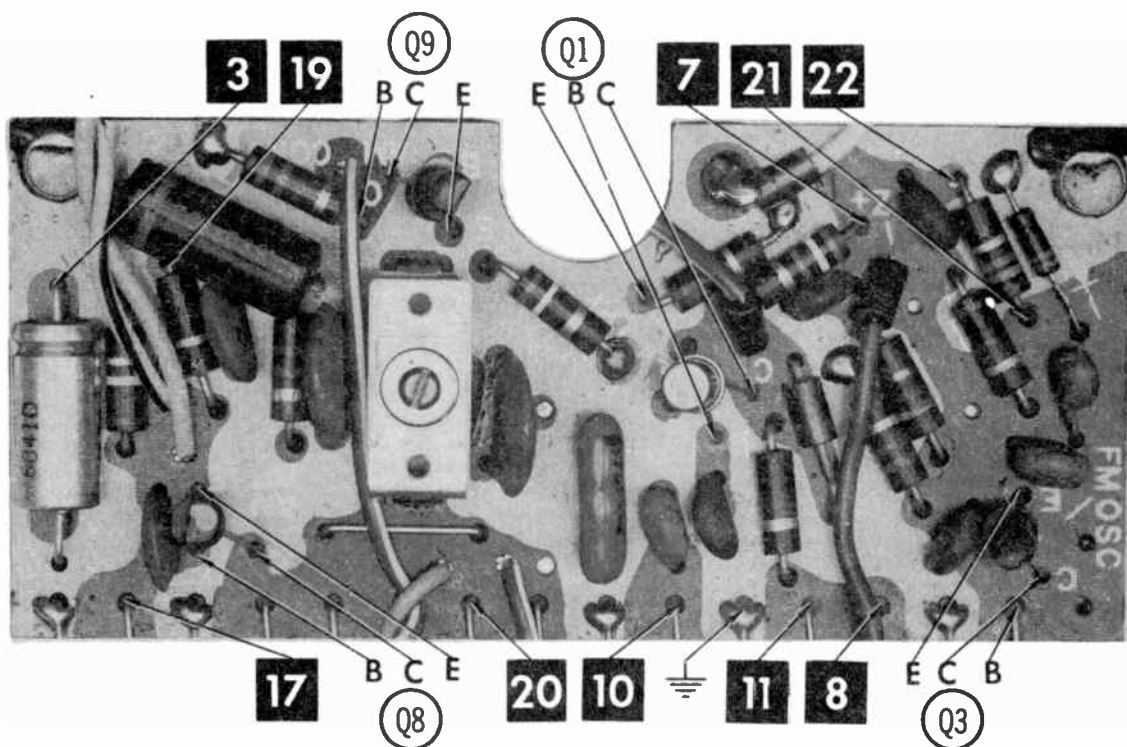
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC 450KC Sweep	Point of non-interference	Vert. amp of scope to point $\diamond$ C, low side to ground.	All thru A17	Disconnect stabilizing capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C4.
5.	"	"	Vert. amp of scope to point $\diamond$ D, low side to ground.	A18	Adjust A18 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A11 (primary) for maximum amplitude and straightness of line.

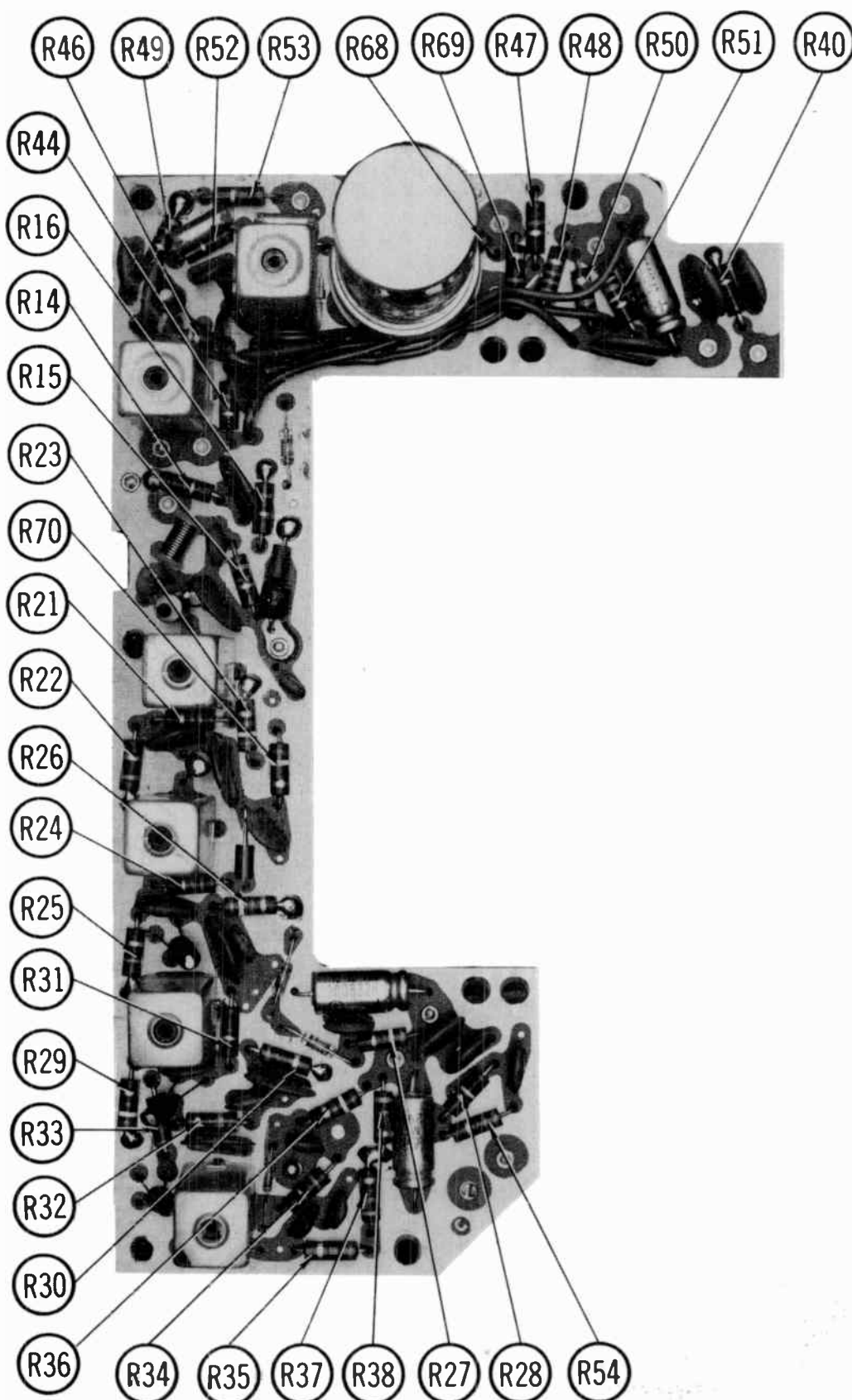
FM RF ALIGNMENT—SELECTOR IN FM POSITION

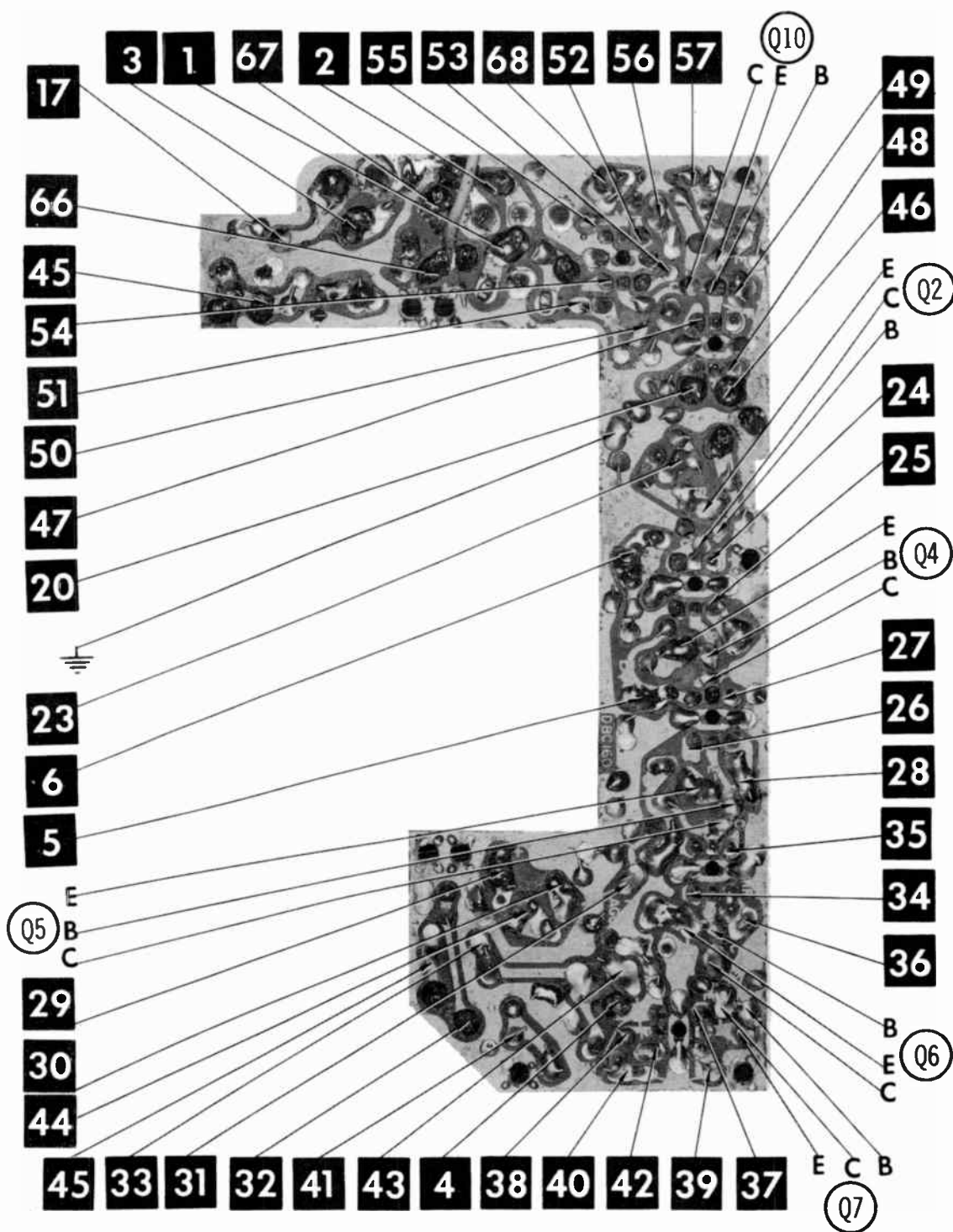
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. NOTE: Rear of Osc. core (A22) should be 1 3/8" from mounting end of Coil form.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6.	108MC	High freq. end	DC probe of VTVM to point $\diamond$ C, common to ground.	A19, A20, A21	Adjust for maximum.
7.	90MC Unmodulated	Tune to signal.	"	A23, A24	Rock tuning and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.

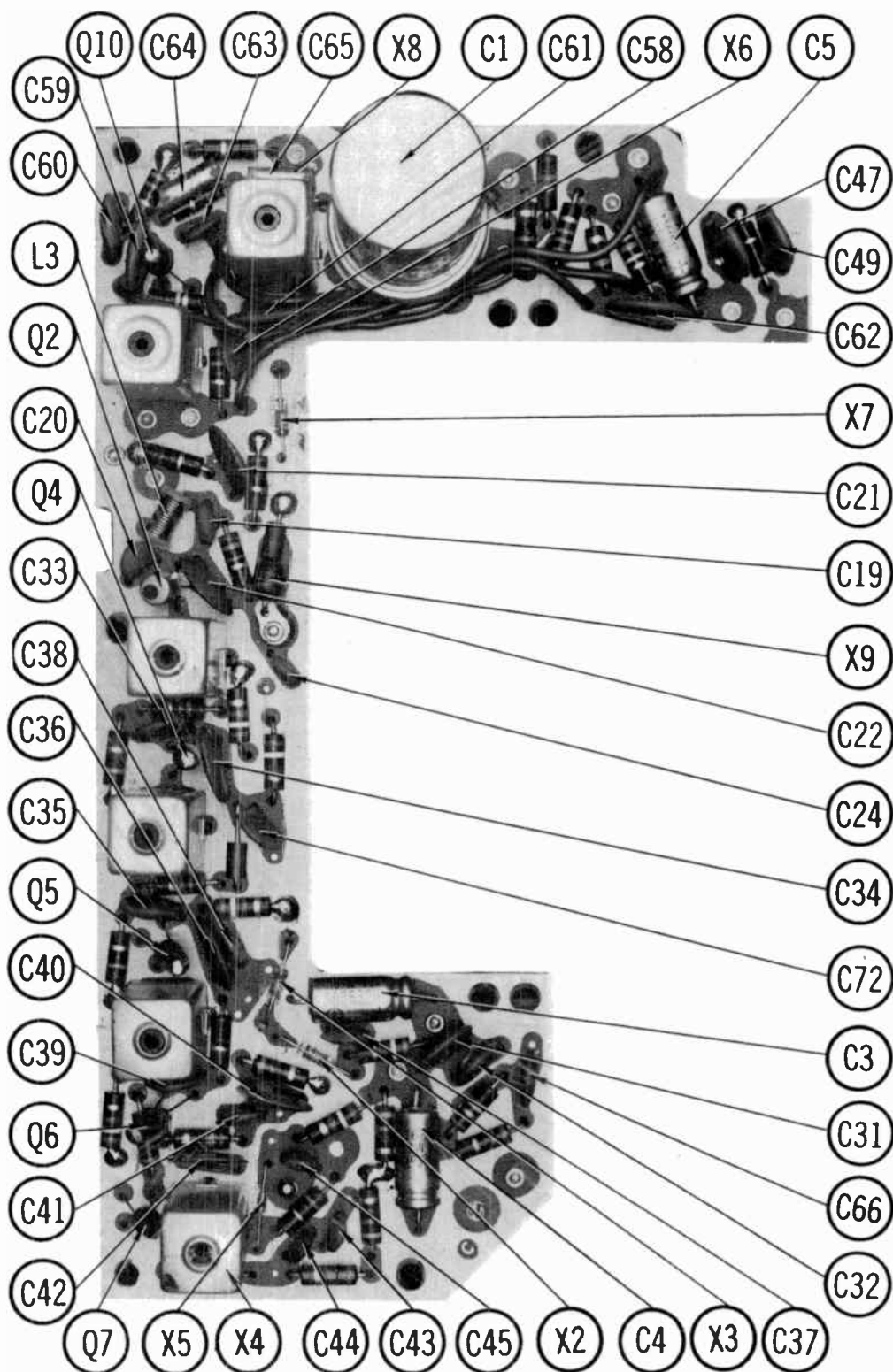


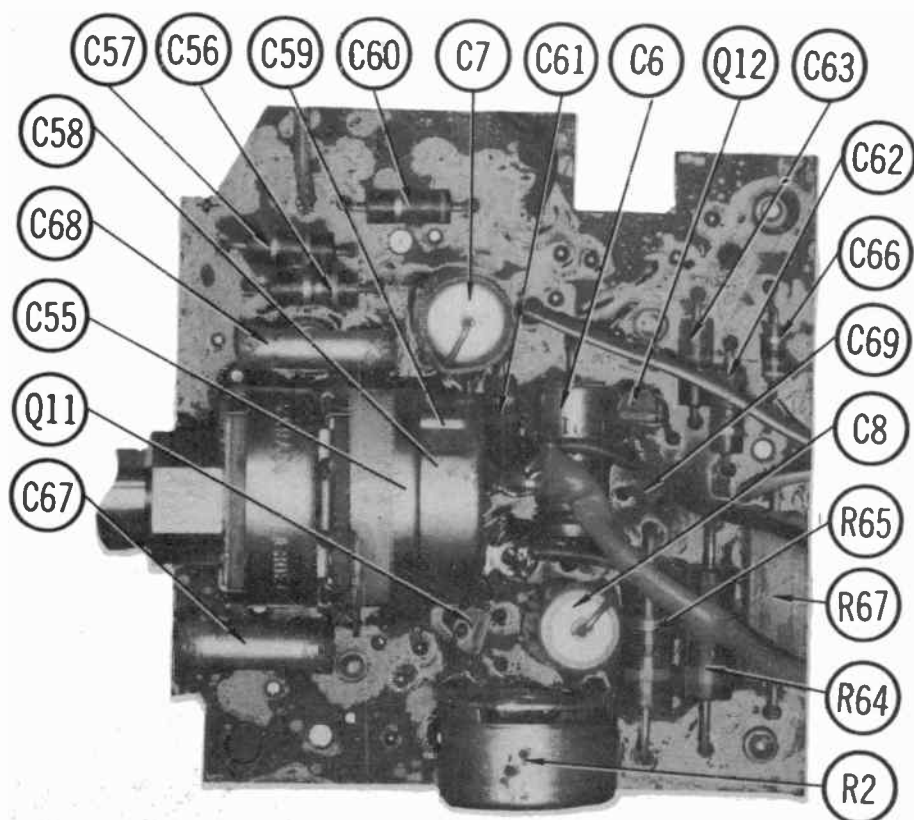
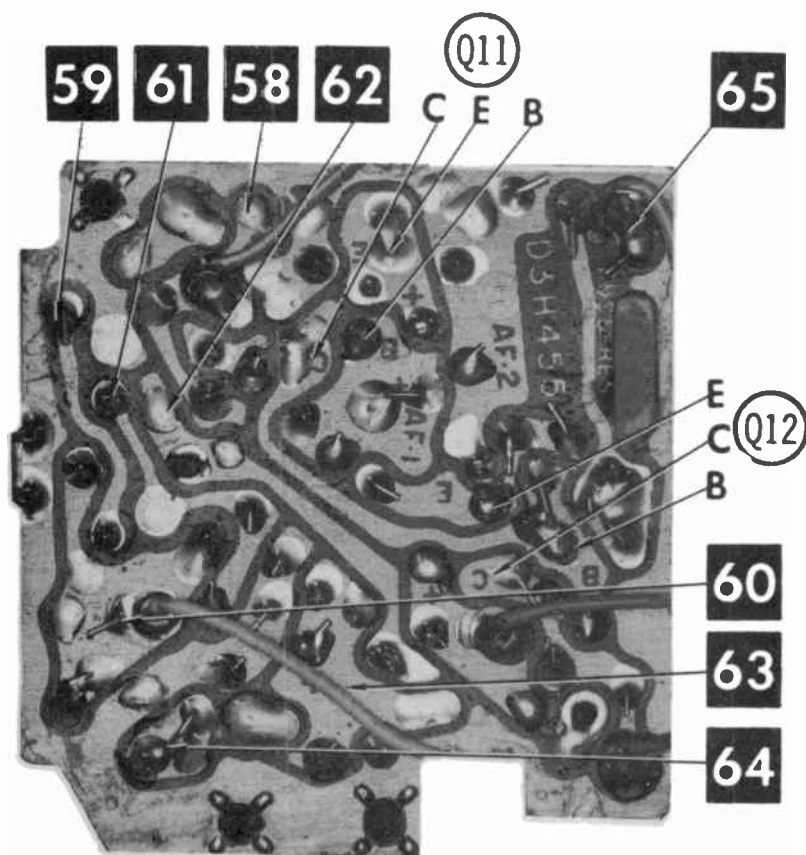






A Howard W. Sams **CIRCUITRACE** Photo





PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-78	FM RF Amp		GE-17	TR-22	HEP50	SK3018	ECG 108
Q2	DS-78	FM Mixer		GE-17	TR-22	HEP50	SK3018	ECG 108
Q3	DS-74	FM Oscillator		GE-11	TR-21	HEP56	SK3018	ECG 108
Q4	DS-85	1st FM IF Amp		GE-17	TR-21	HEP53	SK3018	ECG 108
Q5	DS-85	2nd FM IF Amp		GE-17	TR-21	HEP53	SK3018	ECG 108
Q6	DS-73	3rd FM IF Amp		GE-17	TR-21	HEP53	SK3018	ECG 108
Q7	DS-85	Limiter		GE-17	TR-21	HEP53	SK3018	ECG 108
Q8	DS-71	AM RF Amp		GE-20	TR-21	HEP53	SK3018	ECG 108
Q9	DS-72	AM Converter		GE-20	TR-21	HEP53	SK3018	ECG 108
Q10	DS-72	AM IF Amp		GE-20	TR-21	HEP53	SK3018	ECG 108
Q11	DS-67	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q12	DS-66	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q13	DS-501	Output *		GE-4	TR-03	HEP233	SK3012	ECG 105

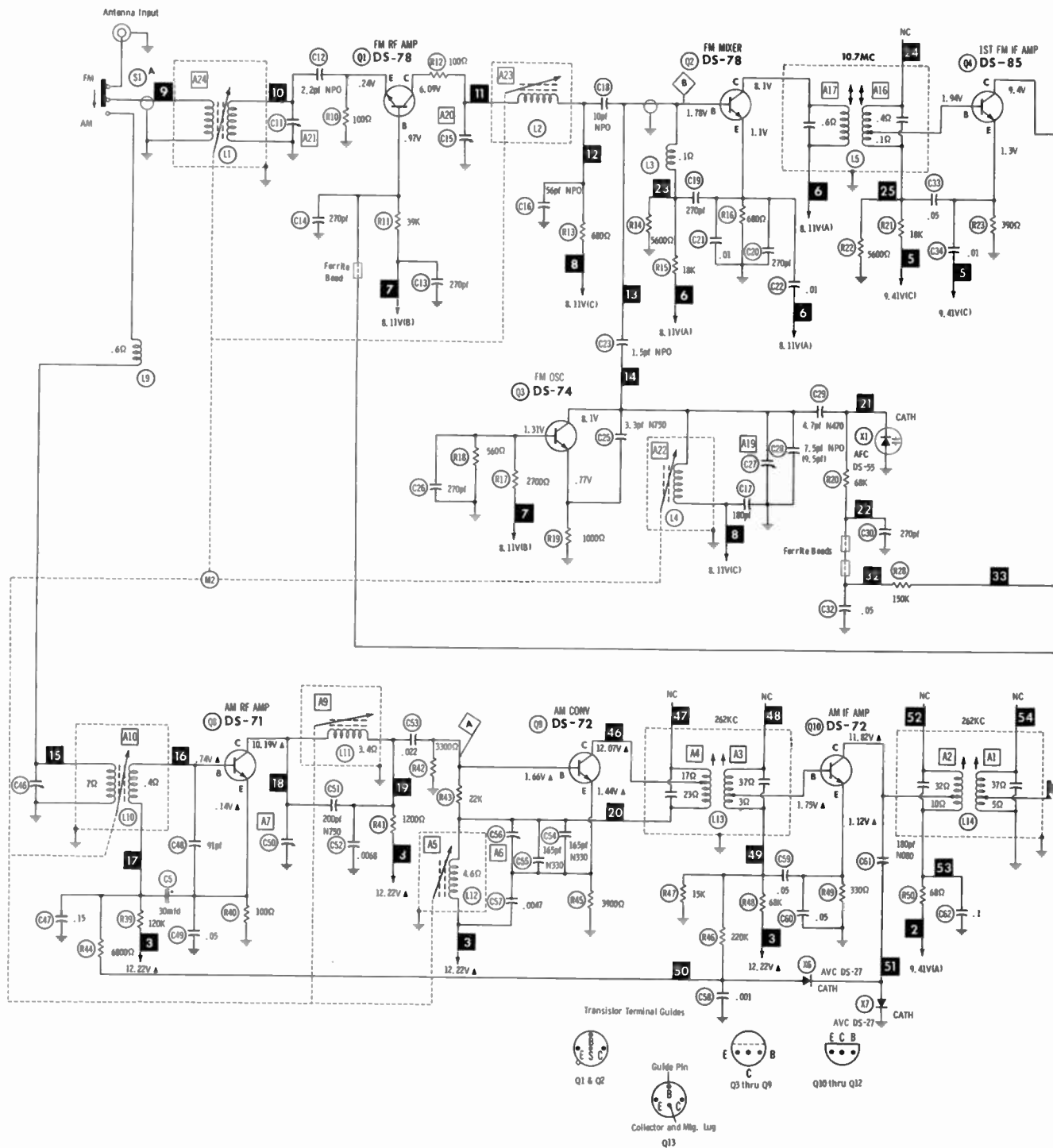
* When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-55					(1) Matched Pair
X2	DS-27	1N34AS	1N34A	ECG 109		
X3	DS-27	1N34AS	1N34A	ECG 109		
X4	DS-39 (1)	1N60	1N542 (1)	ECG 110 (1)		
X5	DS-39	1N60				
X6	DS-27	1N34AS	1N34A	ECG 109		Zener 8.2V
X7	DS-27	1N34AS	1N34A	ECG 109		
X8	DS-27	1N34AS	1N34A	ECG 109		
X9	DS-49	GE-X11	1ZMB.2			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1000 16V	7283675	AFH3-54-41		CC0006		FPS300.91	PCL-3021.8
B	500 16V							
C	4 11.5Vrms							
C2	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	MTA10035	TL-1128
C3	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	MTA10035	TE-1128
C4	3 12V	7291860	PTT50	EA15-5	NLW3-15	MT1-3	MTA3050	TE-1122
C5	30 6V	7296313	PTT27	EA6-25	NLW30-6	MT1-13	MTA30D15	TE-1132.1
C6	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	MTA10035	TL-1128
C7	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	MTA125E6	TE-1102
C8	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	MTA125E6	TE-1102



- See parts list.
 ▲ Measured with switching in "AM" position.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter.
 No signal applied and controls adjusted for normal operation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
 with CIRCUITRACE
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PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

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		#7293221						
C12	2.2 NPO		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C13	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C14	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C15		#7291003						
C16	56 NPO			TCZ-56		CCT0-560	CN0456	10TCC-Q56
C17	180		GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	10TS-T18
C18	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10
C19	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C20	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C21	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C22	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C23	1.5 NPO		NPO-DI 1.5	DTZ-1R5			CN0515	10TCC-V15
C24	470		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C25	3.3		NPO-DI 3.3	DTZ-3R3			CN0533	10TCC-V33
C26	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C27		#7292611						
C28	7.5 NPO	#7300236						
C29	4.7 N470					*	*	10TCT-V47
C30	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C31	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C32	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C33	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C34	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C35	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C36	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C37	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C38	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10
C39	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C40	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C41	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C42	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C43	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C44	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C45	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C46		#7283618						
C47	.15		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C48	91			TCN-91				
C49	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C50		#7295193						
C51	200 N750		N750-DI 200	DTN-200		CCTN-201	CN7320	10TCU-T20
C52	.0068 75V		DBE6D68	CPR-6800J	WMF1D68	1DP-1-682	PVC4268	6PS-D68
C53	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C54	165 N330					*	*	
C55	165 N330					*	*	
C56		#7295192						
C57	.0047 75V		DBE6D5	CPR-5000J	WMF1D5	1DP-1-502	PVC625	6PS-D50
C58	.001		GPD X5F102K	DM-102	JBX601YP102K	CCD-102	SM210	2SS-D10
C59	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C60	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C61	180 N080					*	*	10TCN-T18
C62	.1		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C63	.001		GPD X5F102K	DM-102	JBX601YP102K	CCD-102	SM210	2SS-D10
C64	.012 75V		V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391WD3
C65	.012 75V		V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391WD3
C66	.033		TTP-03	CK-303		CCD-303	GP130	TG-S30
C67	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391WD3
C68	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C69	470		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C70	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C71	.47 75V		DBE2P47		DPMS2P47	1DP-4-504	PVC105	2PS-P50
C72	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C73		#7271564						
C74		#7271564						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Delco Part Number.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume/Switch	100K 20K Tap @ 11K	7303993	F2-100K, R14-25K, FFS104, RFS112, BB100, SB004, KR-4		* QJ-2523A	P15A, 4100, SH4375, RU24T14, OX1250A, IS1750, US41 MR600P
R113	Bias	600 2W	729487B	V-600	U39-600	110-600	

* "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements & Shafts: B13-128, P22-109 (Panel), B19-119X, R26-121 (Rear), S6 (1) (Bushing), N4 (Spacer Nut), 76-1 (Switch)

"SNAPTROL" Equivalent: BUB (1), CF52, CR50T, SF9, SR9, N4, GC
(1) Alter Bushing & adjust Spacer Nut to meet requirements.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R67	.47 (Fusible)			7281890

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	(1)			
L2	FM RF	(1)			
L3	FM IF Trap (1uh)	7296856	19-1000	4602	T855
L4	FM Oscillator	(1)			
L5	FM Input IF	7296100			
L6	FM Interstage IF	7296101			
L7	FM Interstage IF	7296102			
L8	Ratio Detector	7299984			
L9	RF Choke (8uh)	7255738	19-1009	4611	T822
L10	AM Antenna	(1)			
L11	AM RF	(1)			
L12	AM Oscillator	(1)			
L13	AM IF Input	7295169			
L14	AM IF Output	7295170		8006	

(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.	TRIAD PART No.	
L15	1.1 Amp	.6	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

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CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L16	30mh	1222297					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 10" PM 10 ohms 4" x 10" PM 10 ohms	1222661 7307254		410A2Z10	Models 94AFP1, 94BFP1 Model 94EFP1

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3AG 10 Amp		In Fuse Block	AGC 10		311010		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1 M2 S1	Dial Lamp Tuner Coil Assy. Switch, Selector	1222504 7284009	#216

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Dial Drum, Model 94AFP1	7303402	Push Button "U", Model 94AFP1	7303364
Dial Drum, Models 94BFP1, 94EFP1	7304002	Push Button "I", Model 94AFP1	7303365
Escutcheon, Model 94AFP1	7309169	Push Button "C", Model 94AFP1	7303366
Escutcheon, Model 94BFP1	7307468	Push Button "K", Model 94AFP1	7303367
Escutcheon, Model 94EFP1	7309172	Push button "B", Models 94BFP1/94EFP1	7304003
Dial Glass, Model 94AFP1	7303197	Push Button "U", Models 94BFP1/94EFP1	7304004
Dial Glass, Model 94BFP1	7307476	Push Button "I", Models 94BFP1/94EFP1	7304005
Dial Glass, Model 94EFP1	7304014	Push Button "C", Models 94BFP1/94EFP1	7304006
Dial Pointer, Model 94AFP1	7303405	Push button "K", Models 94BFP1/94EFP1	7304007
Dial Pointer, Model 94BFP1	7307488	Knob, Tuning or Volume	1231081
Dial Pointer, Model 94EFP1	7303987	Knob, Tone	1383647
Push Button "B", Model 94AFP1	7303363	Knob, Dummy	1383646



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are UNITED DELCO



CADILLAC MODELS 95CWB1
95CWB2
(7307205)
(69-Cadillac)

CADILLAC MODELS 95CWB1/2

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 #9296,9297,9300
WALSCO #2510, 2546, 2547

A6,A7,A8.....GENERAL CEMENT #8290,8868,9087
WALSCO #2525, 2528, 2587

PUSH-BUTTON ADJUSTMENT

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

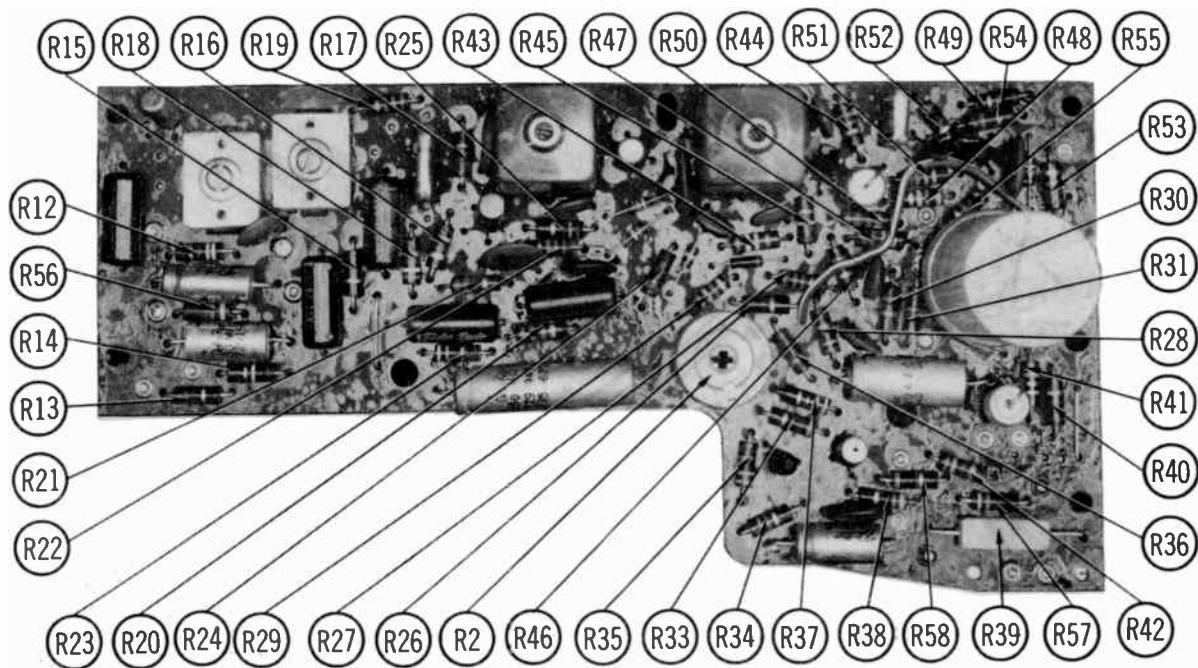
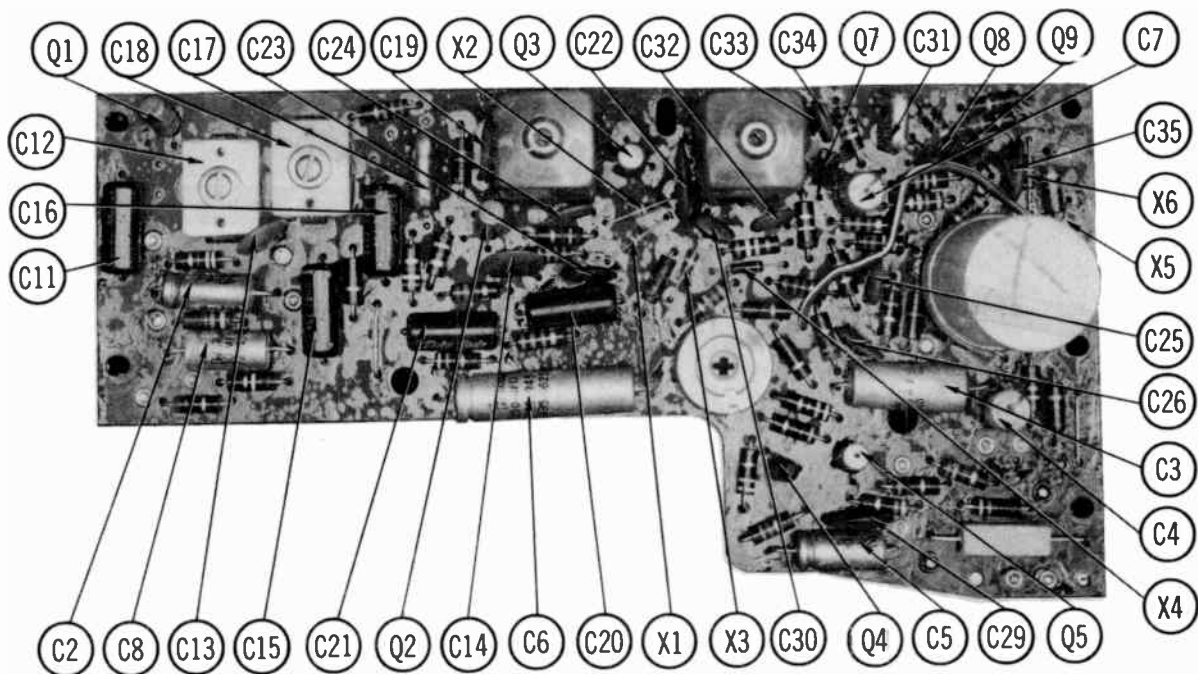
	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\diamond$, low side to ground.	262KC 400 cycle modulation	High freq. end stop.	Output meter across voice coil.	A1,A2, A3,A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 5/8" from mounting end of coil form.						
2.	High side thru 82pf to antenna input, 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.

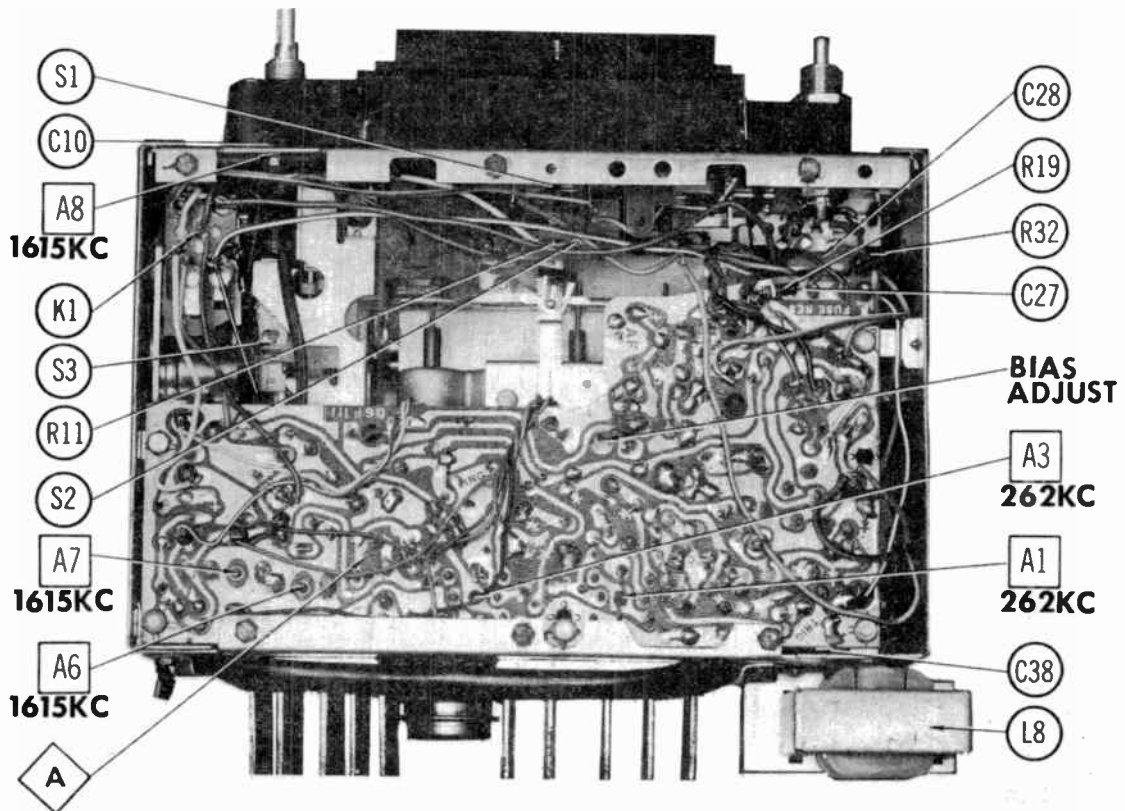
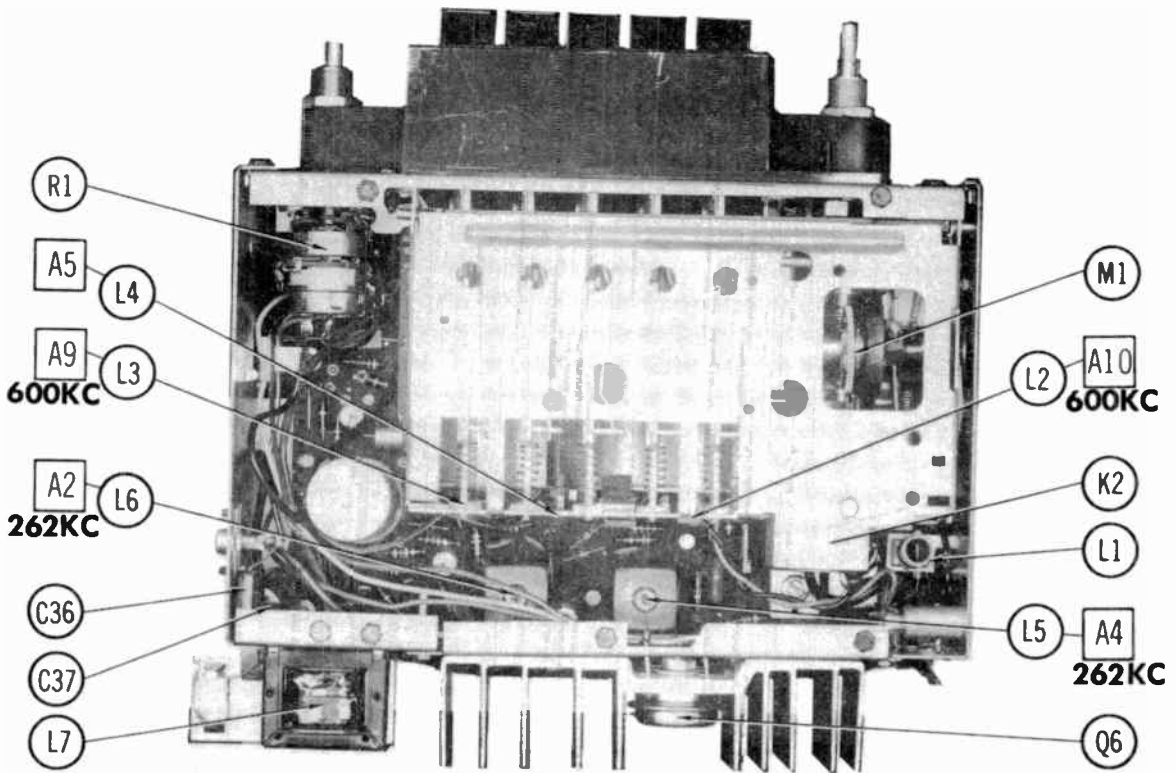
With radio installed in car and antenna extended to desired height, tune in a weak station near 1400KC and adjust A8 for maximum output. Antenna adjustment (A8) is located behind Tuning & Dummy Knob.

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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TD648R









World Radio History

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

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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.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-51	RF Amp		GE-9A	TR-06	HEP639	SK3008	ECG 126
Q2	DS-52	Converter		GE-9A	TR-06	HEP639	SK3008	ECG 126
Q3	DS-53	IF Amp		GE-9A	TR-06	HEP639	SK3008	ECG 126
Q4	DS-67	AF Amp		GE-10	TR-21	HEP55	SK3030	ECG 123
Q5	DS-66	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q6	DS-501	Output *		GE-4	TR-03	HEP233	SK3012	ECG 105
Q7	DS-47	Trigger Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q8	DS-67	Relay Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q9	DS-67	Relay Control		GE-10	TR-21	HEP54	SK3020	ECG 123

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-27	1N34AS	1N34A	ECG 109		Zener 8.2V
X2	DS-27	1N34AS	1N34A	ECG 109		
X3	DS-27	1N34AS	1N34A	ECG 109		
X4	DS-31	1N34AS	1N34A	ECG 109		
X5	DS-49	GE-X11	Z1108			
X6	DS-27	1N34AS	1N34A	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1000 16V	7291356	PWH3-54-45		CC0007A		FPS300.93	PCL-3021.9
B	500 16V							
C	15 11.5V rms							
C2	3 12V	7291860	PTT50	EA15-5	AL3-150	MT1-3	MTA3D50	TE-1122
C3	150 4V	7290898	CRE328A	EA6-150	WBR150-35	MT1-23	MTA150E6	TE-1103
C4	10 12V	7292738	PTT53	EA15-10	AL10-25	MT1-5	MTA10D35	TL-1128
C5	10 12V	7292738	PTT53	EA15-10	AL10-25	MT1-5	MTA10D35	TL-1128
C6	250 16V	7307357	PRS1210	EA15-250	WBR250-50	QT1-28	MTA250F15	TE-1165
C7	2 12V	7292529	PTT88	EA15-2	AL2-50	MT1-1	MTA2D50	TE-1121
C8	30 6V	7296313	PTT27	EA6-25	AL30-6	MT1-13	MTA30D15	TE-1132.1

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

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		#7283618						
C11	.0047 75V		DBE6D5	CPR-5000J	WMF1D5	1DP-1-502	PVC625	6PS-D50
C12		#7296946						
C13	200 N750		N750-D1 200	DTN-200		CCTN-201	CN7320	10TCU-T20
C14	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C15	.0082 75V		DBE6D82	CPR-8200J	WMF1S82	6DP-2-822	PVC6282	6PS-D82
C16	.022 75V		V1612S22		DMF1S22	1DP-1-223	PVC1122	225P22391WD3
C17	.0047 75V		DBE6D5	CPR-5000J	WMF1D5	1DP-1-502	PVC625	6PS-D50
C18		#7282165						
C19	165 N150	#7297355				*	*	
C20	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391WD3
C21	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391WD3
C22	180 N080	#7279821				*	*	10TCN-T18
C23	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C24	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C25	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C26	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C27	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391WD3
C28	.1 75V		DBE2P1		DMF1P1	1DP-2-104	PVC101	225P10491WD3
C29	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C30	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C31	.012 75V		V1612S15	DD-153	DMF1S15	1DP-1-153	PVC2115	225P15391WD3
C32	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C33	.05		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50
C34	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C35	.05		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50
C36	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391WD3
C37	.47 75V		DBE2P47		DMF2P47	2DP-5-474	PVC2047	2PS-P47
C38		#7271564						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Delco Part Number.

CADILLAC MODELS 95CWB1/2

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume/Switch	100K 20K Tap @ 6000	7307807				
R2	Bias	600 2W	7286601	V-600	U39-600	110-600	MR600P
R3	Fader	100 2W	7307804				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R39	.47 (Fusible)			7281890

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	7291946			
L2	Antenna	7296939 (1)	19-1004	4610	T859
L3	RF	7296943 (1)			
L4	Oscillator	1221616 (1)			
L5	Input IF	1221856	16-6704	6542	TA653
L6	Output IF	1221857	16-6705	6543	TA653

(1) Part of M1.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

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	1.2 Amp	.6	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	30mh	1222297					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 10" PM 10 ohms	7311275		410A2210	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3AG 7 1/2A		In Fuse Block	AGC 7 1/2		31107.5		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Tuner Coil Assembly	1222394	
K1	Relay	7295713	
K2	Solenoid	1221409	
S1	Switch, Start	1222917	
S2	Switch, Sensitivity	7309438	
S3	Switch, Solenoid	7268030	
S4	Switch, Foot		

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	7309444	Push Button	7307799
Dial Glass	7307796	Knob, Tuning or Volume	1493535
Dial Pointer	7309435	Knob, Tone or Fader	1493536

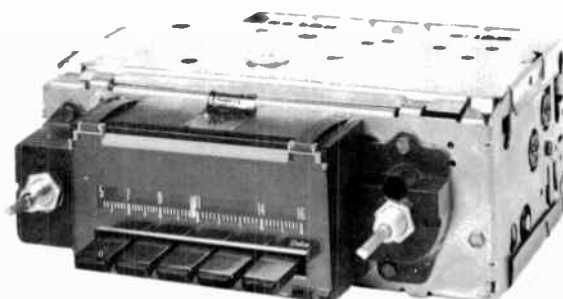


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CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are UNITED DELCO



CHEVROLET MODELS 01BPB1
01BPB2
(7313091)
(70 Chevrolet)

CHEVROLET MODELS 01BPB1/2

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 #5009,8728A,8987

WALSCO #2531X, 2536

A5 thru A8...GENERAL CEMENT #8290,8868,9087

WALSCO #2525,2528,2587

PUSH-BUTTON ADJUSTMENT

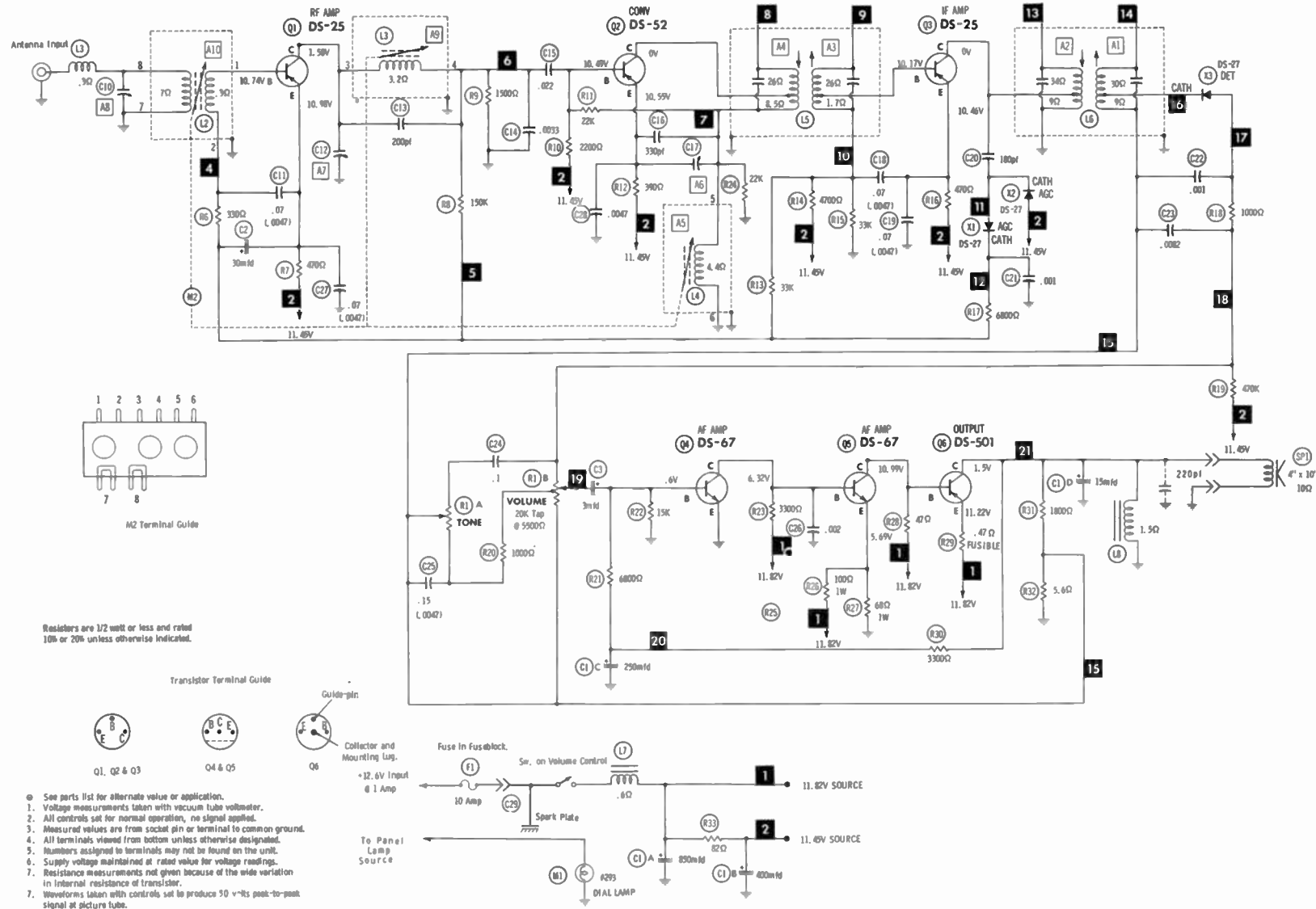
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point  , low side to ground.	262KC 400 cycle modulation	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 input, 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 extended to desired height, tune in a weak station near 1400KC and adjust A8 for maximum output. Antenna adjustment (A8) is located behind tuning and dummy knobs.						

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TD700

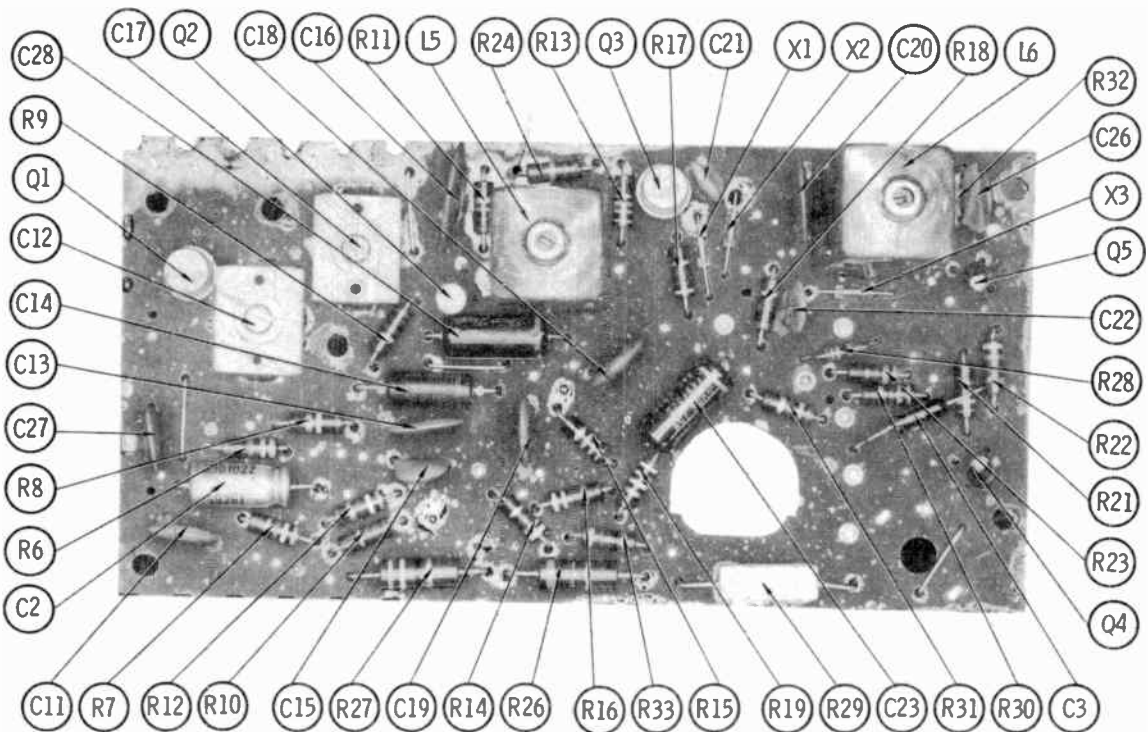


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with CIRCUITRACE

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CHEVROLET MODELS D18PB1/2



PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-25	RF Amp		GE-9	TR-14	HEP2	SK3006	ECG 126
Q2	DS-52	Converter		GE-9	TR-14	HEP2	SK3006	ECG 126
Q3	DS-25	IF Amp		GE-9	TR-14	HEP2	SK3006	ECG 126
Q4	DS-67	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q5	DS-67	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q6	DS-501	Output *		GE-4	TR-03	HEP231	SK3012	ECG 105

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-27	1N34AS	1N34A	ECG 109		
X2	DS-27	1N34AS	1N34A	ECG 109		
X3	DS-27	1N34AS	1N34A	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		DELCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	850 16V	7311993			D00009A			
B	400 16V							
C	250 2V							
D	15 11.5Vrms							
C2	30 6V	7296313	8CD15025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TE-1132.1
C3	3 12V	7296348	PTT127	EA15-2	AL3-150	MT1-3	MTA3D50	TE-1122

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		#7294355						
C11	.07							
C12		#7287935						
C13	200 N750		N750-DI 200	DTN-200	N220	CCTN-201	CN7201	10TCU-T20
C14	.0033 75V		DBE6D33	CPR-3300J	6D33	6DP-1-332	PVC6233	6PS-D33
C15	.022		V1612S22		DPMS6S22	1DP-1-223	PVC1122	225P22391WD3
C16	330 N180					*	*	
C17		#7282165						
C18	.07							
C19	.07							
C20	180 N80							
C21	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C22	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C23	.0082 75V		DBE6D82	CPR-B200J	6D82	6DP-2-822	PVC6282	6PS-D82
C24	.1		TTP-1	CK-104			TA010	TG-P10
C25	.15 75V		DBE6P15		DPMS4P15	4DP-4-154	PVC6015	4PS-P15
C26	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C27	.07							
C28	.0047 75V		DBE6D5	CPR-5000J	DPMS6D5	1DP-1-502	PVC625	6PS-D50
C29		#7271564						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Delco Part Number.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

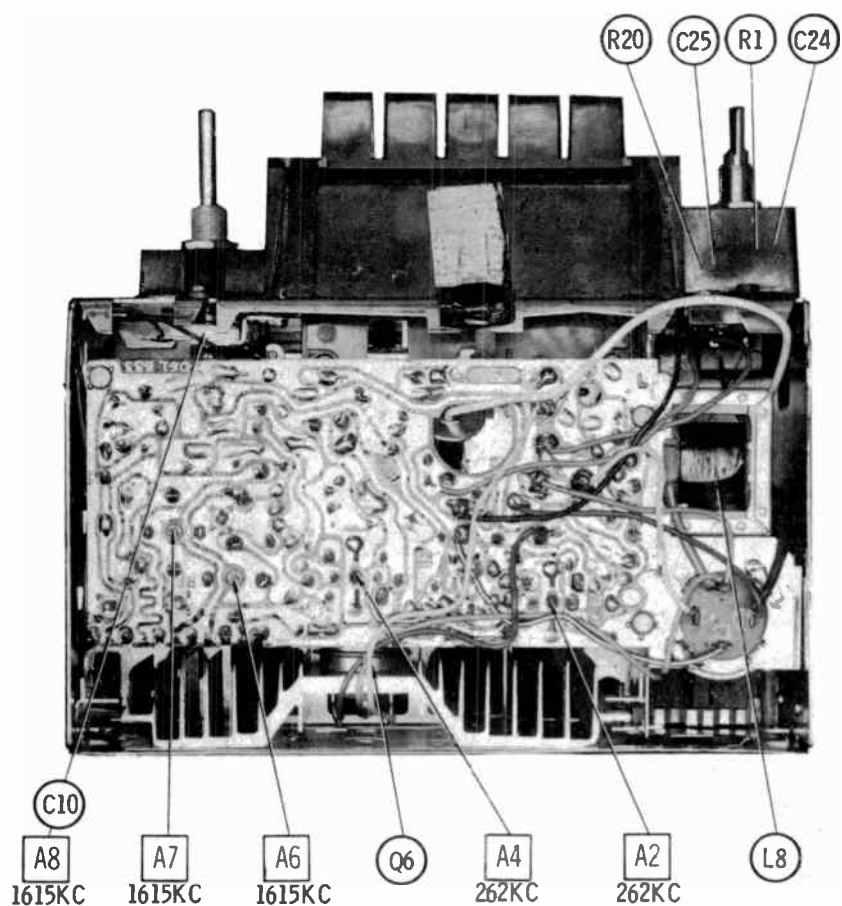
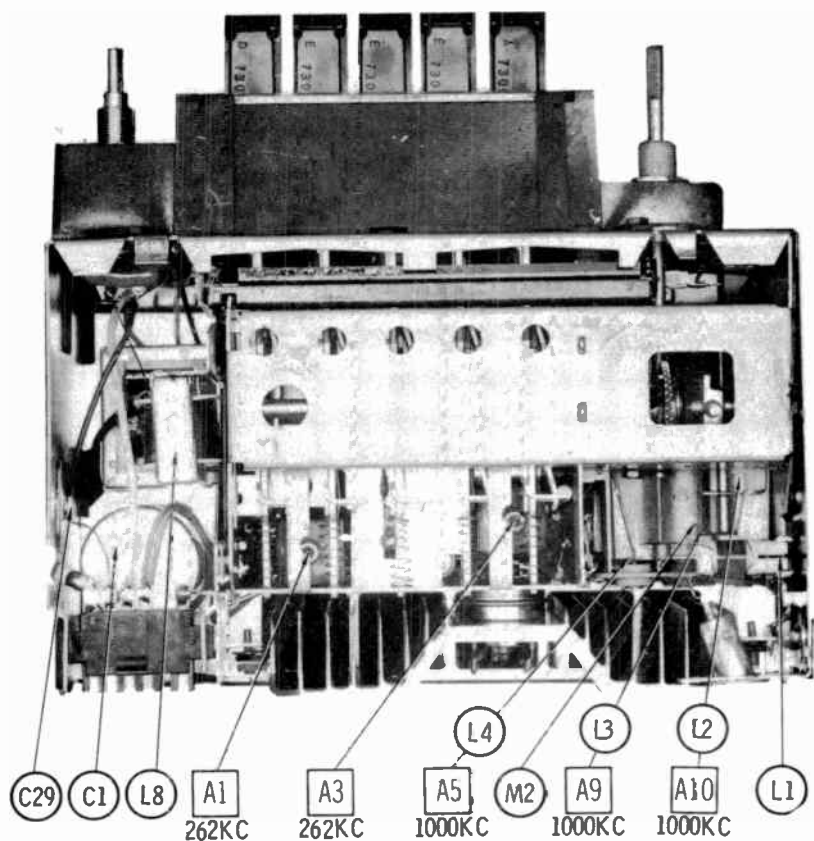
ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.
R1A	Tone	40K	7307760	F1-50K, R14-25K,		(1) QJ-2580A
B	Volume/Switch	20K Tap @ 5500		FFS101, RFS1D9, BB014, SB004, KR-4		P54L, 4100, SH41, RU24T14, 0X1000A, IS1500, US41

(1) "CONCENTRIKIT Equivalent: KB Kit with Base Elements and Shafts: B11-123, P22-100 (Panel), B19-119X, R9-115 (Rear), S6 * (Bushing), N4 (Spacer Nut), 76-1 (Switch)

"SNAPTROL" Equivalent: BUB *, CF12, CR5DT, SF6, SR7, N4, GC.

* Alter Bushing and adjust Spacer Nut (N4) to meet requirements.

(CONTINUED ON PAGE 42)



PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R29	.47			7281890

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke	7281946	19-1004	4610	T859
L2	Antenna	(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~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	1 Amp	.6	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	30mh	1222297					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA				NOTES
		PART No.	JENSEN PART No.	QUAM PART No.		
SP1	4" x 10" PM 10 ohms	7312751				

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1	3AG 10 Amp			AGC 10		311010	

MISCELLANEOUS

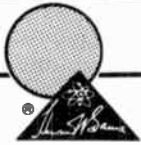
ITEM No.	PART NAME	PART No.	NOTES
M1	Dial Lamp		
M2	Tuner Coil Assembly	7287957	#293

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	7307757	Knob, Volume or Tuning	3954238
Dial Scale	7313480	Knob, Tone	3954239
Dial Pointer	7307763	Knob, Dummy	3954240
Push button	7306391		

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.)

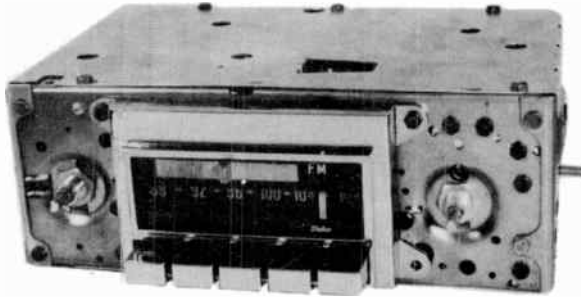


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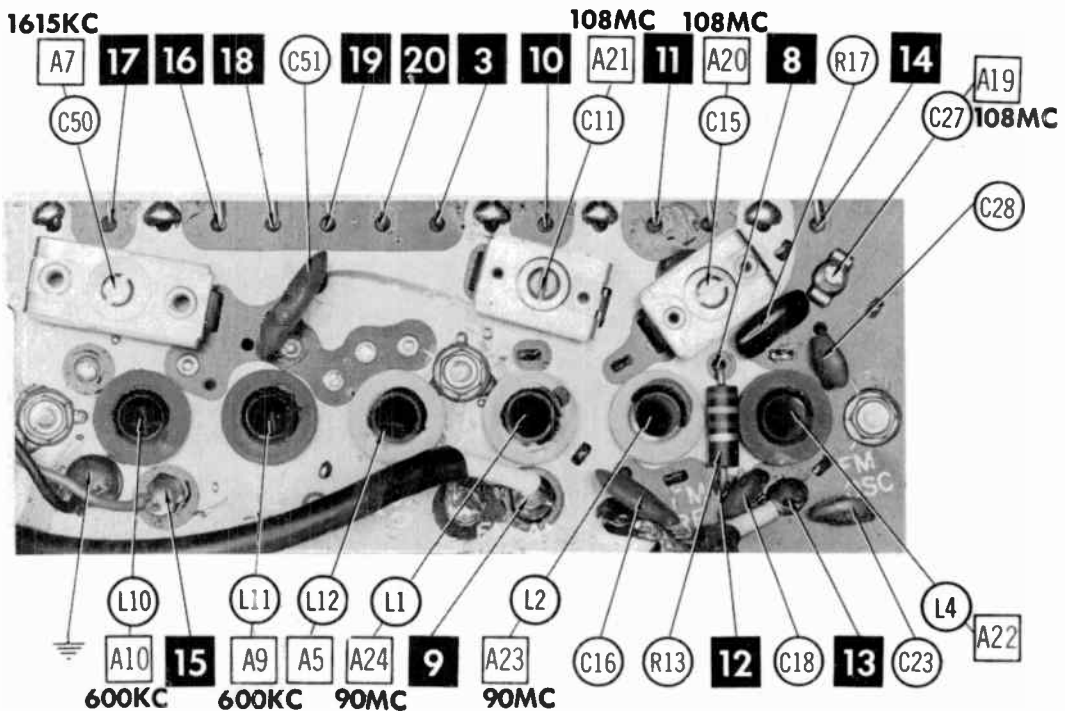
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For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are UNITED DELCO



CHEVROLET MODELS 91VFM2 (RADIO)
91VMP11 (MPX)
(69 - Corvette)



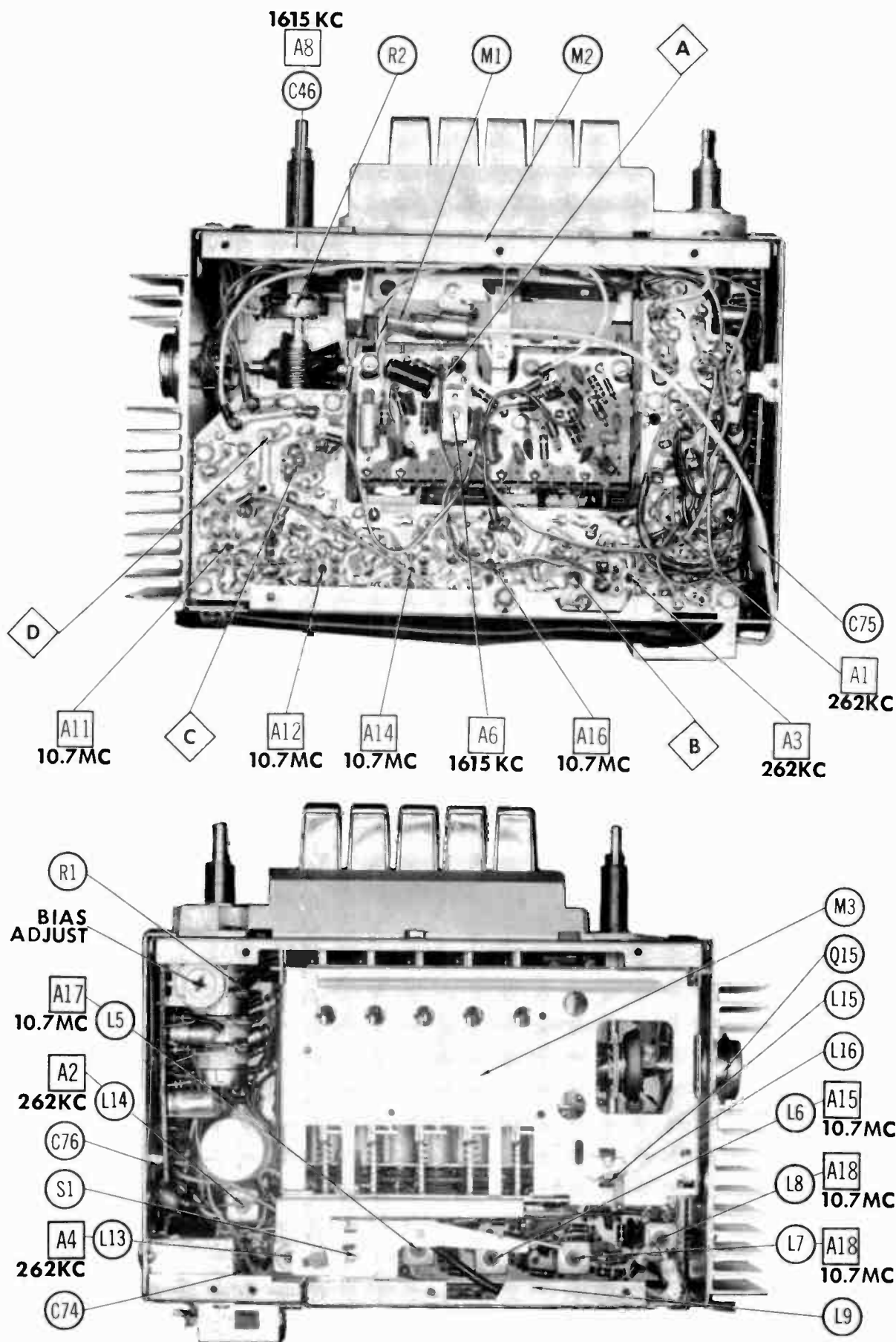
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CHEVROLET MODELS 91VFM2/VMP11

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TD533R



ALIGNMENT INSTRUCTIONS

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

A1 thru A4, A11 thru A18...GENERAL CEMENT #9296, 9297, 9300
WALSCO #2510, 2546, 2547
A6, A7, A8, A20, A21, A22....GENERAL CEMENT #8290, 8868, 9087
WALSCO #2525, 2528, 2587

PUSH-BUTTON ADJUSTMENT

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

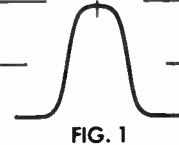
	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\diamond A$, low side to ground.	262KC 400 cycle modulation	High freq. end stop.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82pf to antenna input, 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 extended 31", tune in a weak station near 1400KC and adjust A8 for maximum output. Antenna adjustment (A8) is located behind Tuning & Dummy Knob.						

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond B$, low side to ground.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond C$, common to ground.	All thru A17	Adjust for maximum.
5.	"	"	DC probe of VTVM to point $\diamond D$, common to ground.	A18	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

10.7MC



FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

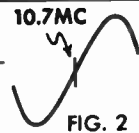
High side of generator thru .001mfd to point $\diamond B$, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.

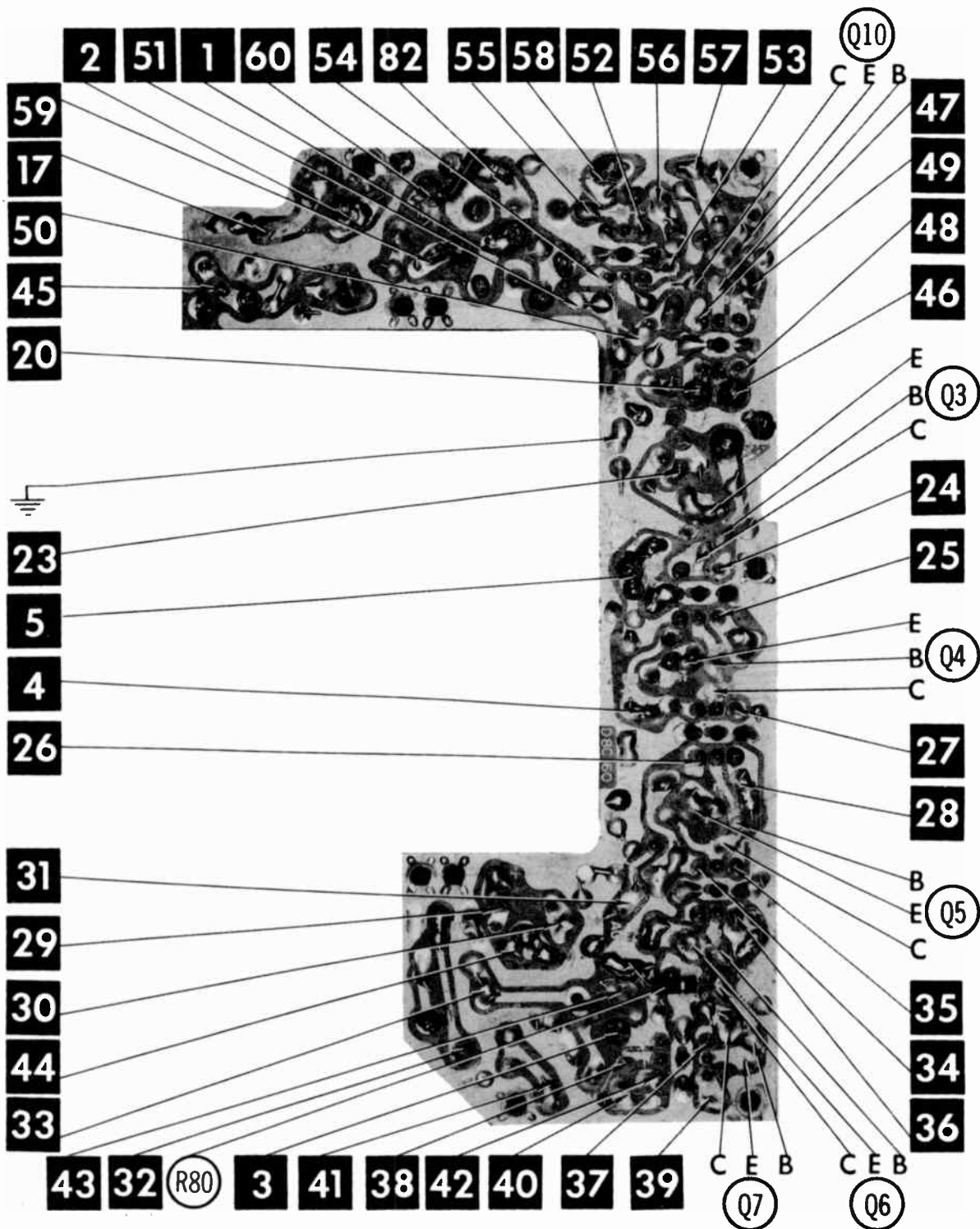
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC 450KC Sweep	Point of non-interference	Vert. amp of scope to point $\diamond C$, low side to ground.	All thru A17	Disconnect stabilizing capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C4.
5.	"	"	Vert. amp of scope to point $\diamond D$, low side to ground.	A18	Adjust A18 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A11 (primary) for maximum amplitude and straightness of line.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

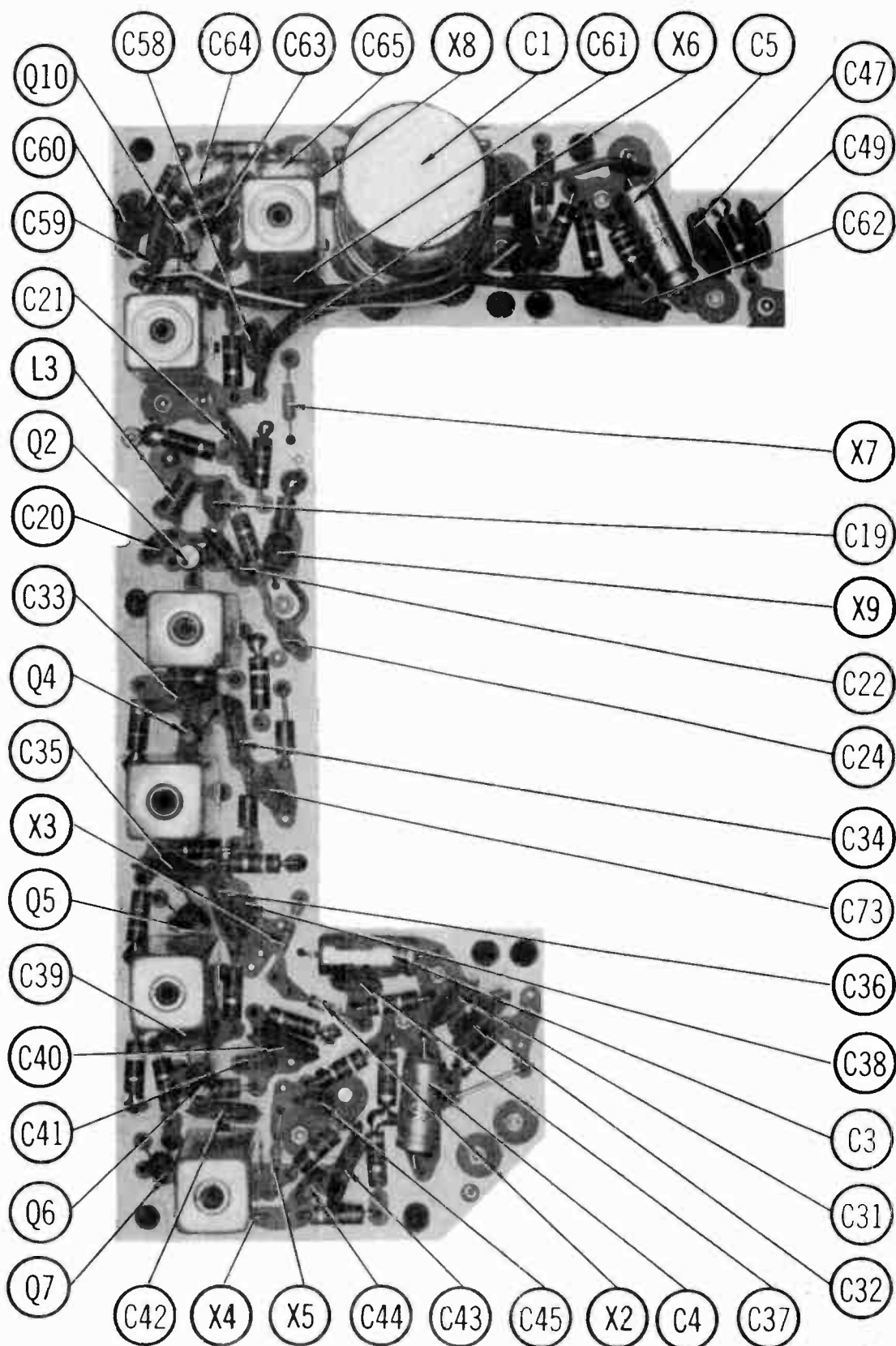
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. NOTE: Rear of Osc. core (A22) should be 1 3/8" from mounting end of Coil form.

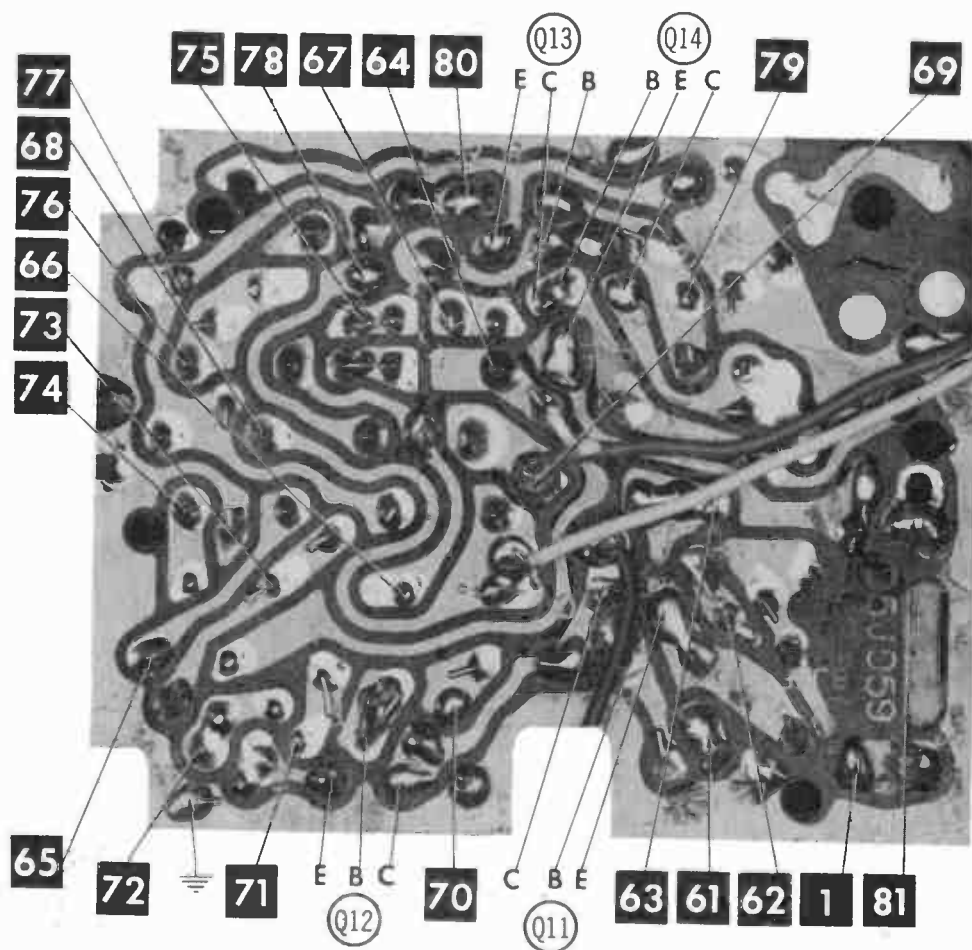
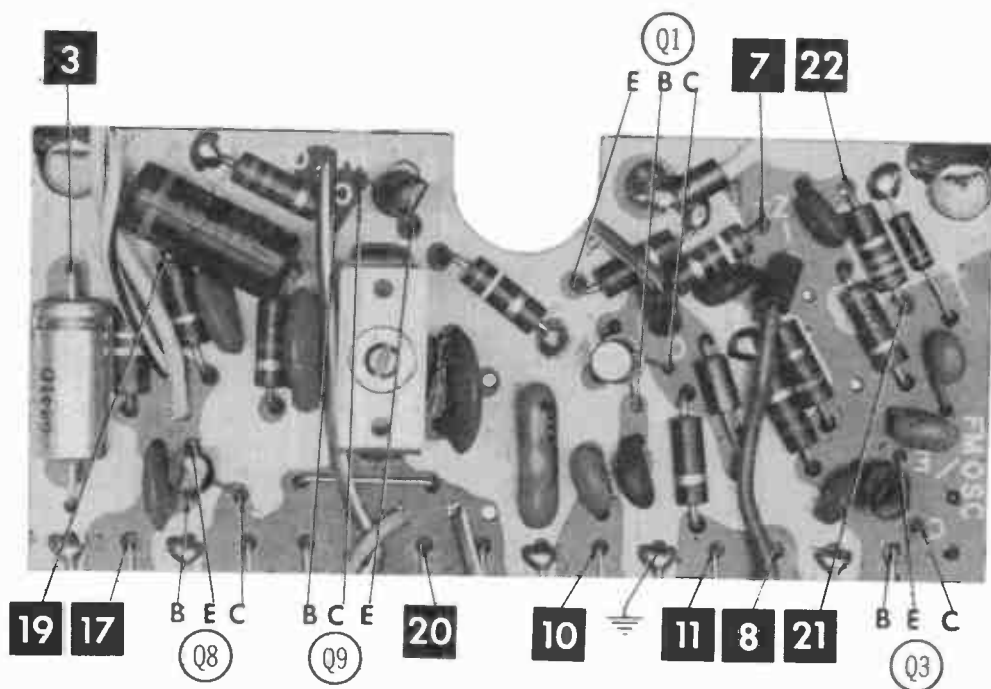
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6.	108MC	High freq. end	DC probe of VTVM to point $\diamond C$, common to ground.	A19, A20, A21	Adjust for maximum.
7.	90MC Unmodulated	Tune to signal.	"	A23, A24	Rock tuning and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.



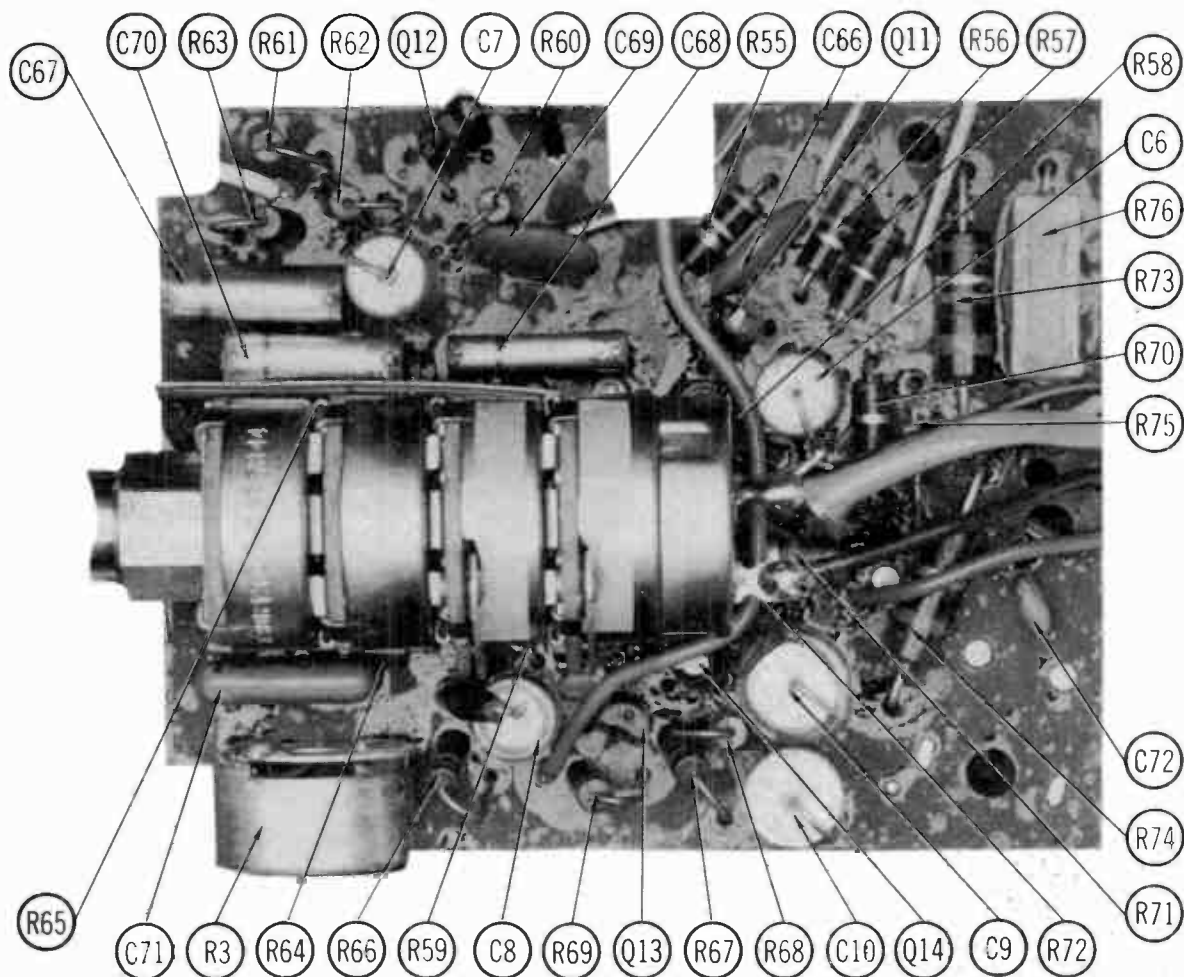
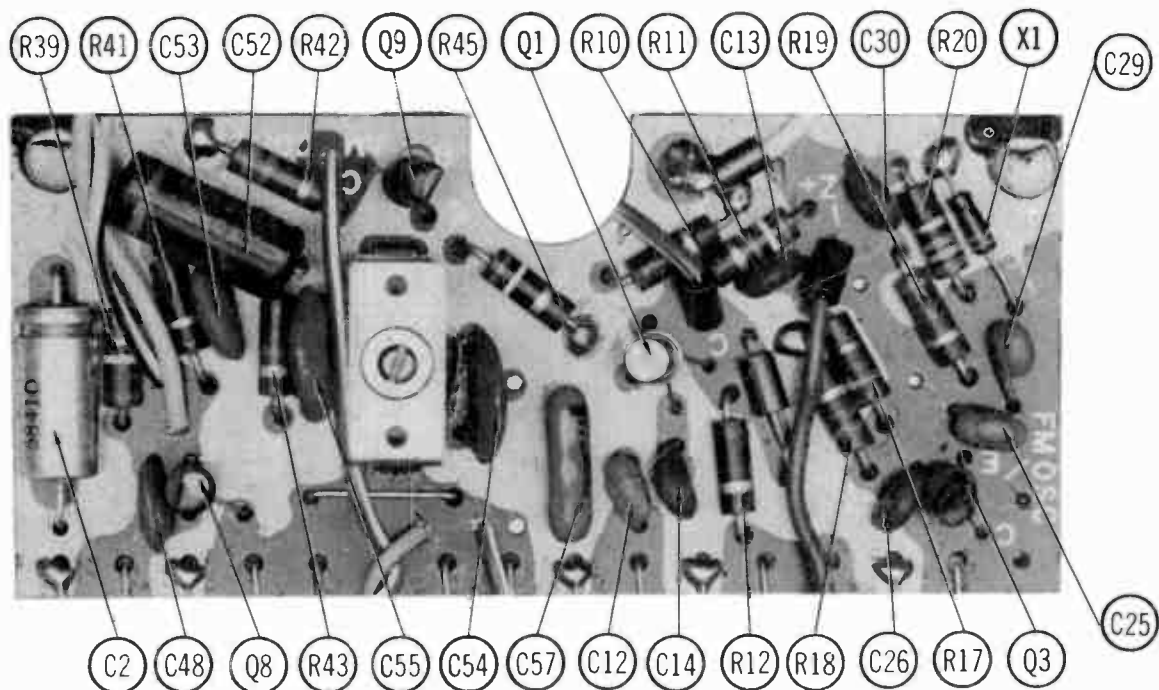


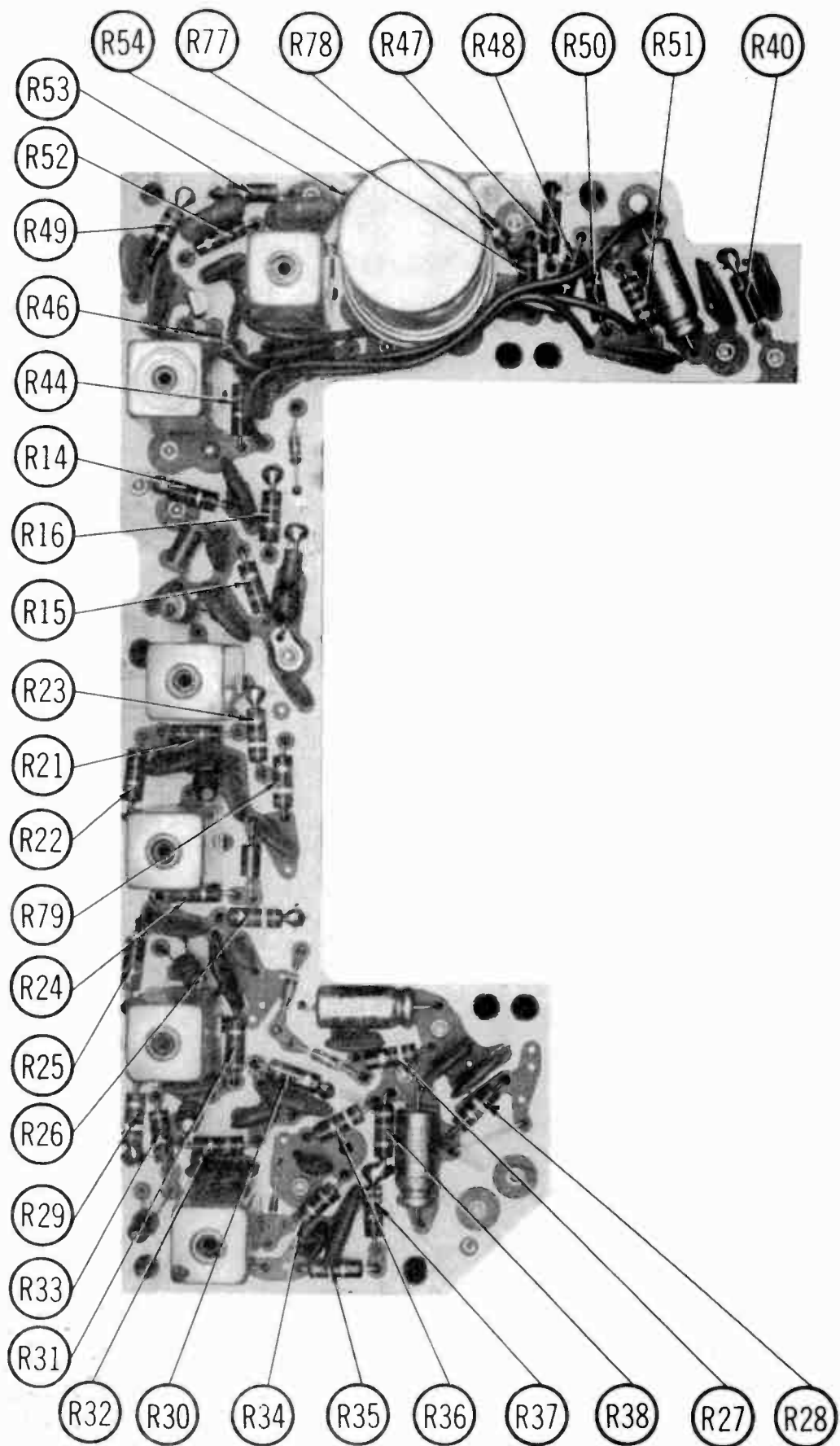
A Howard W. Sams **CIRCUITRACE** Photo





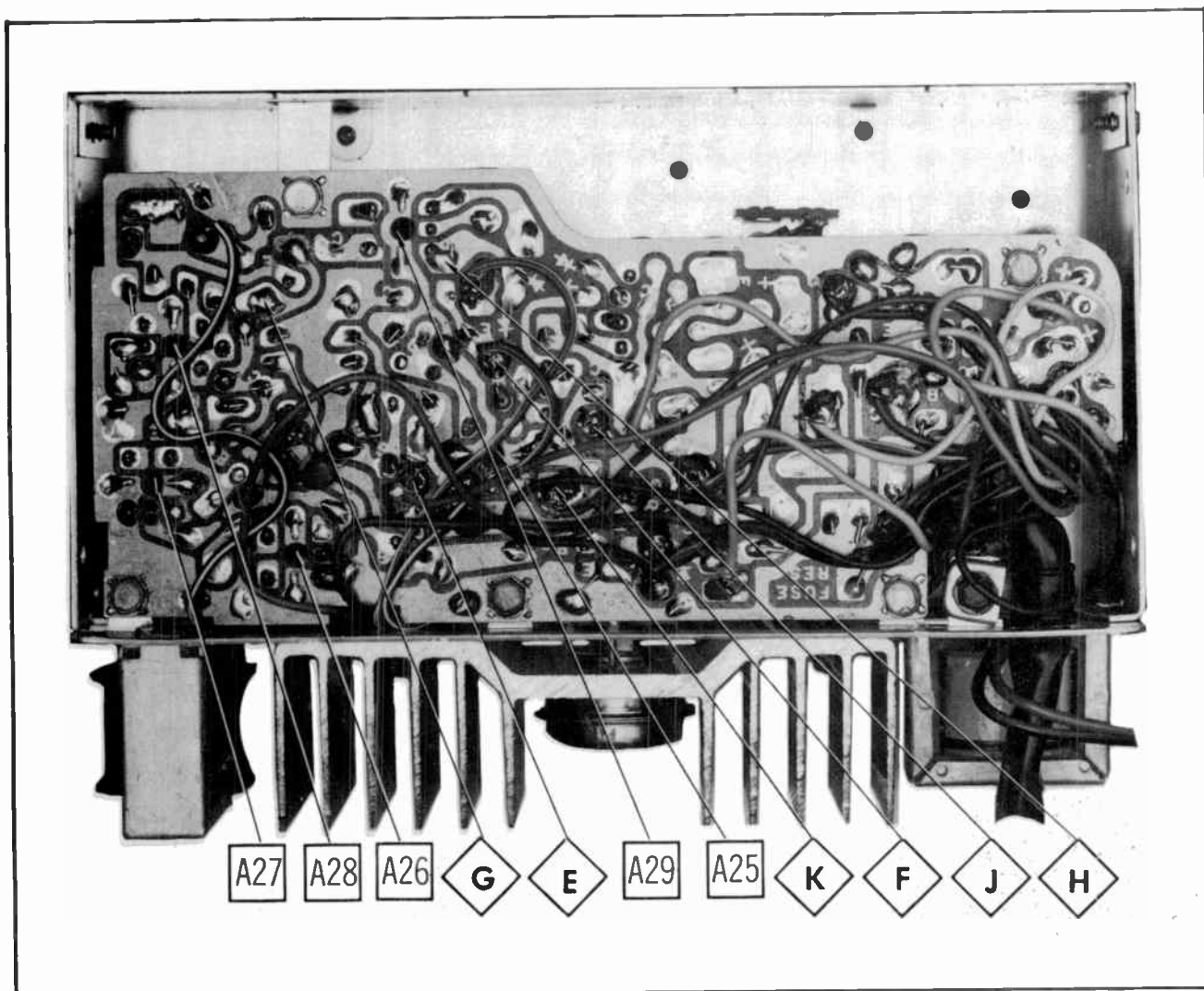
A Howard W. Sams CIRCUITRACE Photo

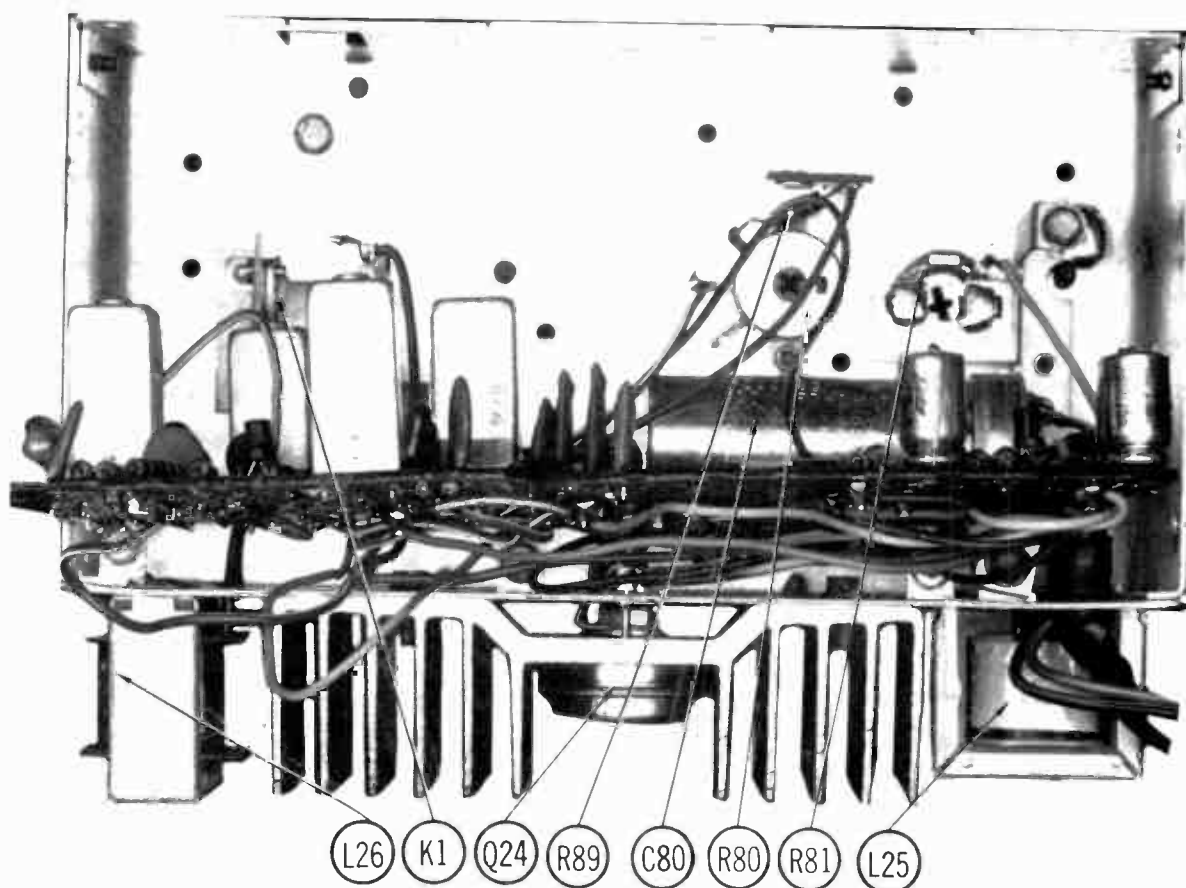
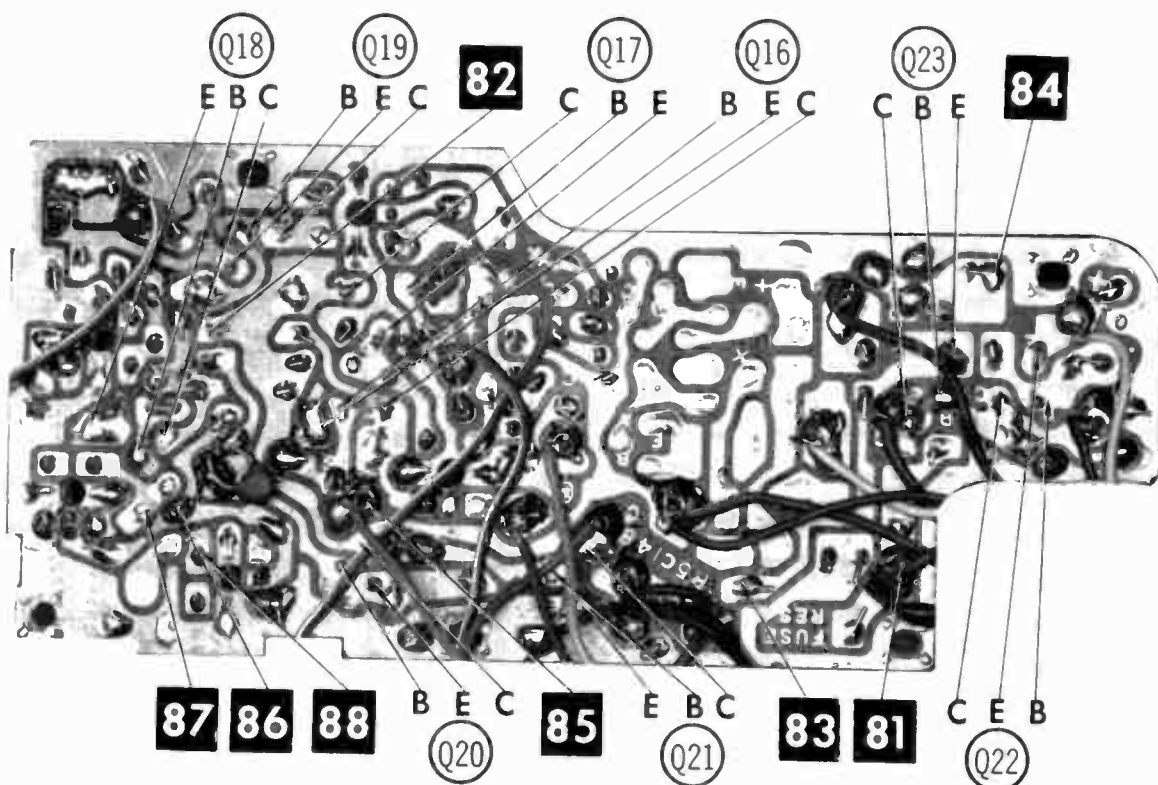


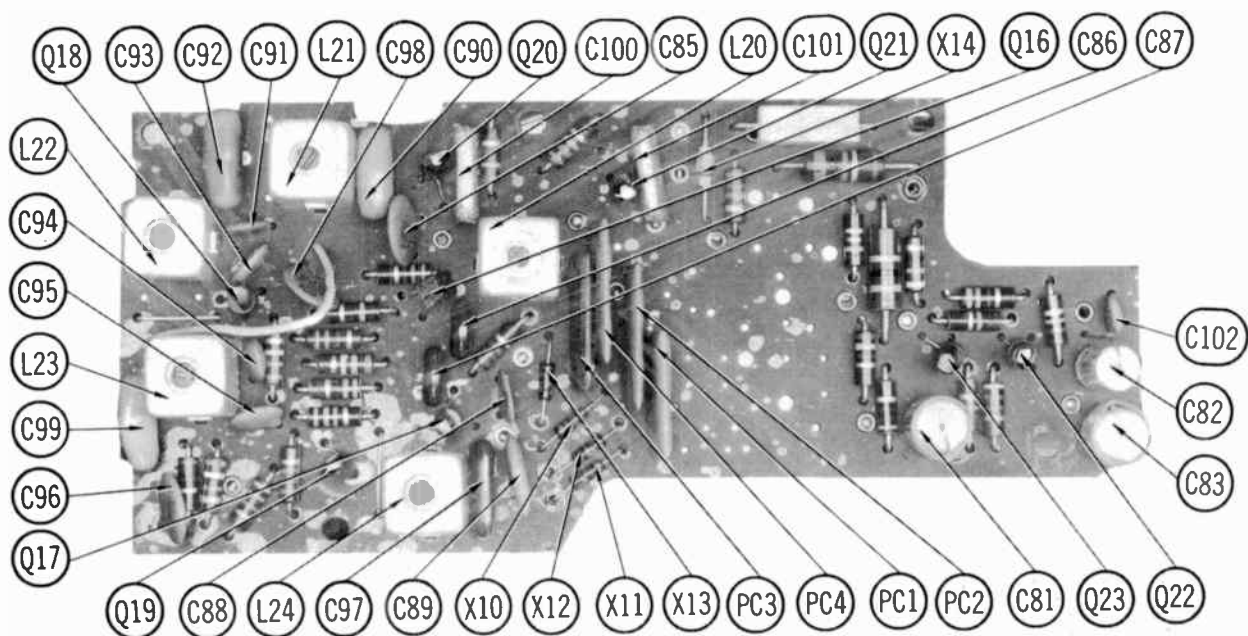
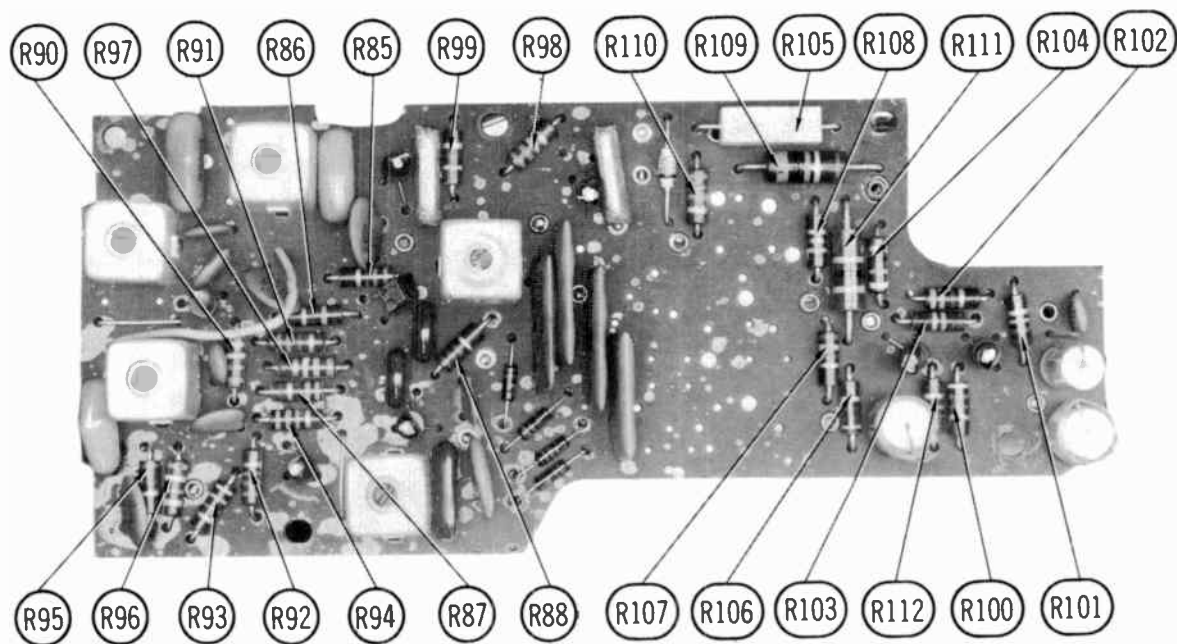


FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR (± .0001% ACCURACY)

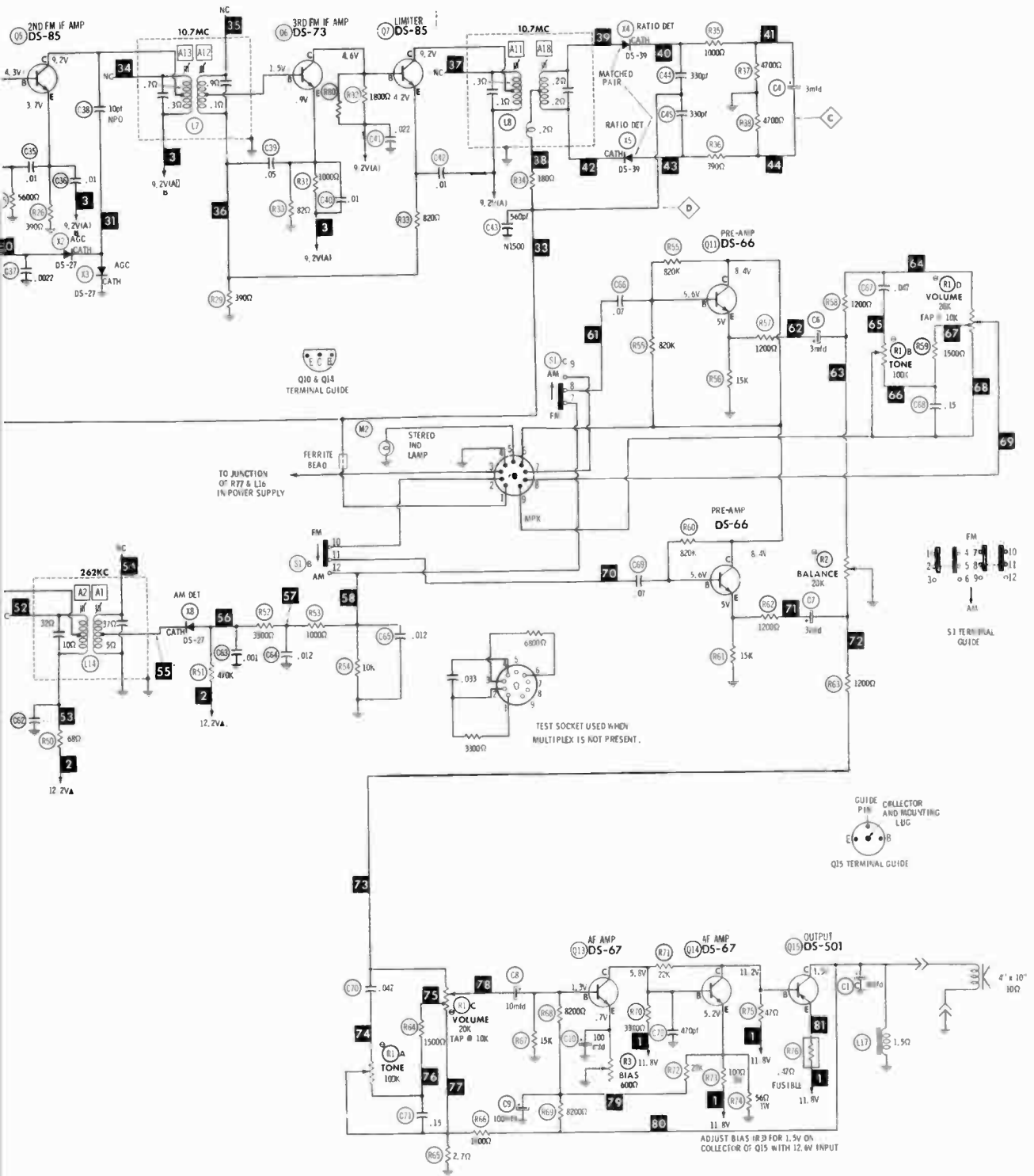
High side of generator thru 47K to point $\diamond E$, low side to ground.			
GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
8. 67KC	Vert. amp of scope thru 47K to point $\diamond F$, low side to ground.	A25	Adjust for MINIMUM
9. 19KC	Vert. amp of scope thru 47K to point $\diamond G$, low side to ground.	A26, A27, A28	Adjust for maximum.
10. "	Vert. amp of scope thru 47K to point $\diamond H$, low side to ground.	A29	Adjust for maximum 38KC response.
11. Modulated Left Channel	Vert. amp of scope to point $\diamond J$, low side to ground.	A26, A27, A28, A29, & R80	Adjust for MINIMUM. This step should require only slight adjustment.
12. Modulated Right Channel	Vert. amp of scope to point $\diamond K$, low side to ground		Check for MINIMUM. If necessary, make compromise adjustment of A26, A27, A28, A29 & R80



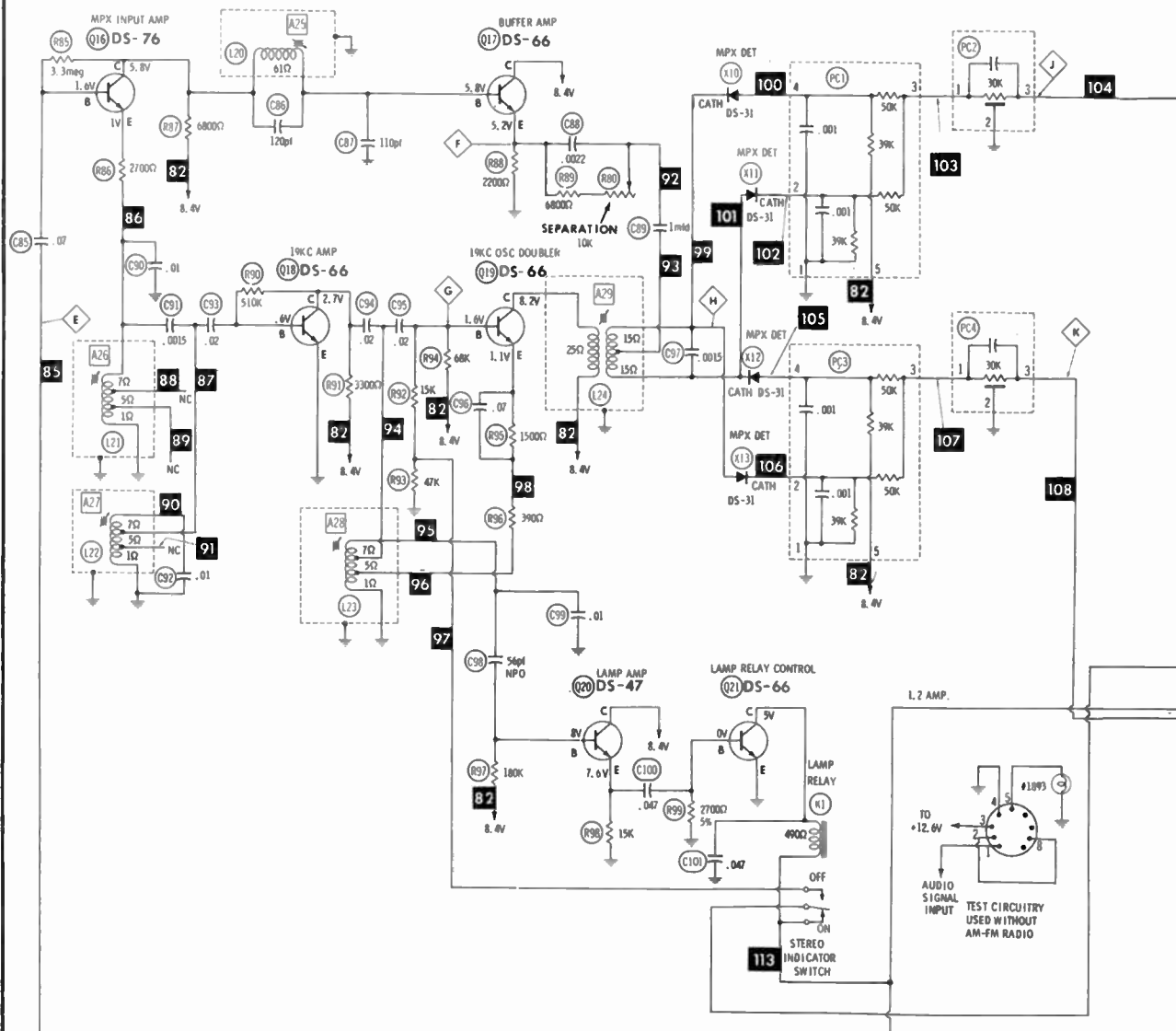








CHEVROLET MODEL 91VFM2



NC NO CONNECTION

* NOT USED IN SOME VERSIONS.

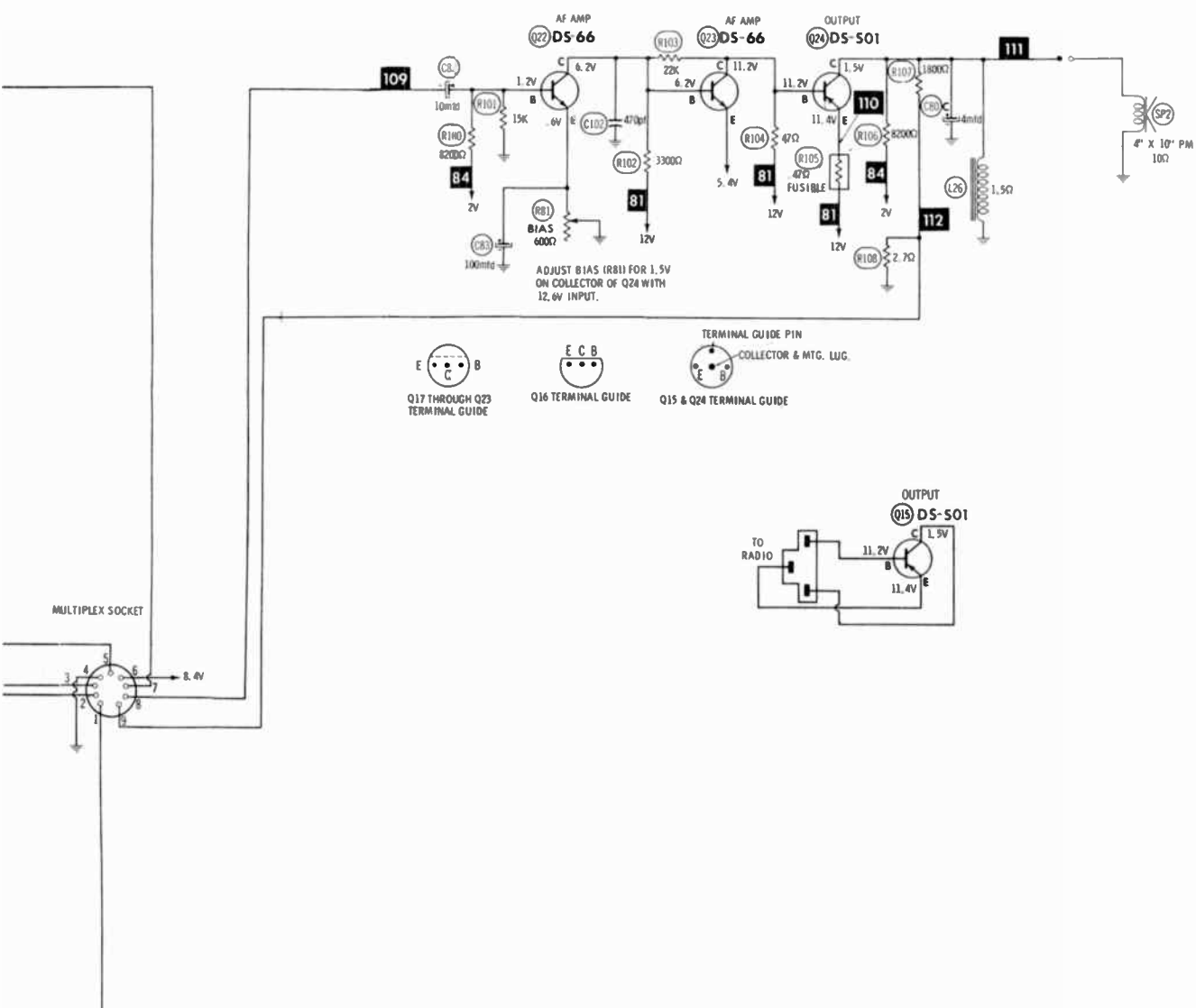
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

① See parts list

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

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**CHEVROLET MODEL VMP11**

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.

RADIO

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.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-78	FM RF Amp			GE-17	TR-22	HEP50	SK-3018	ECG 108
Q2	DS-78	FM Mixer			GE-17	TR-22	HEP50	SK-3018	ECG 108
Q3	DS-74	FM Oscillator			GE-11	TR-21	HEP56	SK-3018	ECG 108
Q4	DS-85	1st FM IF Amp			GE-17	TR-21	HEP53	SK-3018	ECG 108
Q5	DS-85	2nd FM IF Amp			GE-17	TR-21	HEP53	SK-3018	ECG 108
Q6	DS-73	3rd FM IF Amp			GE-17	TR-21	HEP53	SK-3018	ECG 108
Q7	DS-85	Limiter			GE-17	TR-21	HEP53	SK-3018	ECG 108
Q8	DS-71	AM RF Amp			GE-20	TR-21	HEP53	SK-3018	ECG 108
Q9	DS-72	AM Converter			GE-20	TR-21	HEP53	SK-3018	ECG 108
Q10	DS-72	AM IF Amp			GE-20	TR-21	HEP53	SK-3018	ECG 108
Q11	DS-67	Preamp			GE-10	TR-21	HEP54	SK-3020	ECG 123
Q12	DS-67	Preamp			GE-10	TR-21	HEP54	SK-3020	ECG 123
Q13	DS-67	AF Amp			GE-10	TR-21	HEP54	SK-3020	ECG 123
Q14	DS-66	AF Amp			GE-10	TR-21	HEP54	SK-3020	ECG 123
Q15	DS-501	Output *			GE-4	TR-03	HEP233	SK-3012	ECG 105

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-55	1N34AS	1N34A	ECG 109		* Matched Pair
X2	DS-27	1N34AS	1N34A	ECG 109		
X3	DS-27	1N34AS	1N34A	ECG 109		
X4	DS-39	1N295	1N542 *	ECG 110 *		
X5	DS-39	1N295				
X6	DS-27	1N34AS	1N34A	ECG 109		Zener
X7	DS-27	1N34AS	1N34A	ECG 109		
X8	DS-27	1N34AS	1N34A	ECG 109		
X9	DS-149					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1000 16V	7283675	AFH3-54-41		CC0006		FPS300.91	PCL-3021.8
8	500 16V							
C	4 11.5RMS							
C2	10 12V	7292738	PTT114	EA15-10	NLW10-15	MT1-5	MTA10D35	TL-1128
C3	10 12V	7292738	PTT114	EA15-10	NLW10-15	MT1-5	MTA10D35	TL-1128
C4	3 12V	7291860	PTT127	EA15-2	NLW3-15	MT1-3	MTA3D50	TE-1122
C5	30 6V	7296313	PTT27	EA6-25	NLW30-6	MT1-13	MTA30D15	TE-1132.1
C6	3 12V	7291860	PTT127	EA15-2	NLW3-15	MT1-3	MTA3D50	TE-1122
C7	3 12V	7291860	PTT127	EA15-2	NLW3-15	MT1-3	MTA3D50	TE-1122
C8	10 12V	7292738	PTT114	EA15-10	NLW10-15	MT1-5	MTA10D35	TL-1128
C9	100 4V	7291810	PTT30	EP6-100	DLW125-6	MT1-21	MTA125E6	TE-1102
C10	100 4V	7291810	PTT30	EP6-100	NLW125-6	MT1-21	MTA125E6	TE-1102

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

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.
C11		#7293221	NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C12	2.2 NPO		GPD X5F271K	DD-271	RR05CW271K	CCD-271	GP327	56A-T27
C13	270		GPD X5F271K	DD-271	RR05CW271K	CCD-271	GP327	56A-T27
C14	270							
C15		#7291003						
C16	56 NPO			TCZ-56		CCTO-560	CN0456	10TCC-Q56
C17	180		GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	10TS-T18
C18	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CN0410	10TCC-Q10
C19	270		GPD X5F271K	DD-271	RR05CW271K	CCD-271	GP327	56A-T27
C20	270		GPD X5F271K	DD-271	RR05CW271K	CCD-271	GP327	56A-T27
C21	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C22	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C23	1.5 NPO		NPO-DI 1.5	DTZ-1R5			CN0515	10TCC-V15
C24	470		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C25	3.3 N750			TCN-3R3			CN7533	10TCU-V33
C26	270		GPD X5F271K	DD-271	RR05CW271K	CCD-271	GP327	56A-T27
C27		#7292611						
C28	7.5 NPO	#7300236						
C29	4.7 N470					*	*	10TCT-V47
C30	270		GPD X5F271K	DD-271	RR05CW271K	CCD-271	GP327	56A-T27
C31	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C32	1mfd			UK-105	HGX3R0XR105P		MAG31	HY-135
C33	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C34	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C35	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C36	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C37	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C38	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CN0410	10TCC-Q10
C39	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C40	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C41	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C42	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C43	560 N1500					*	*	10TCW-T56
C44	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C45	330		GPB X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C46		#1283618						
C47	.15		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C48	91 N750			TCN-91				
C49	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C50		#7295193						
C51	200 N750		N750-DI 200	DTN-200		CCTN-201	CN7320	10TCU-T20
C52	.0068 75V		DBE6D68	CPR-6800J	WMF1D68	1DP-1-682	PVC4268	6PS-D68
C53	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C54	165 N330					*	*	
C55	165 N330					*	*	
C56		#7295192						
C57	.0047 75V		DBE6D47	CPR-4700J	WMF1S47	6DP-1-472	PVC6247	6PS-D47
C58	.001		GPD X5F102K	DM-102	JBX601YP102K	CCD-102	SM210	2SS-D10
C59	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C60	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C61	180 N080					*	*	10TCN-T18
C62	.1		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C63	.001		GPD X5F102K	DM-102	JBX601YP102K	CCD-102	SM210	2SS-D10
C64	.012		V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391
C65	.012		V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391
C66	.07	#7288631						
C67	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391
C68	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C69	.07	#7288631						
C70	.047		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391
C71	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C72	470		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C73	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C74	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C75	.82	#7302433						
C76		#7271564						

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

Delco Part Number.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	100K	7304275				
B	Tone	100K					
C	Volume	20K Tap @ 8000					
D	Volume/Switch	20K Tap @ 8000					
R2	Balance	25K	7304274				
R3	Bias	600 2W	7294878	V-600	U39-600	110-600	MR850T

CHEVROLET MODELS 91VFM2/VMP11

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	(1)	19-1009	4611	T822
L2	FM RF	(1)			
L3	FM IF Trap (1uh)	7296856			
L4	FM Oscillator	(1)			
L5	FM Input IF	7296100			
L6	FM Interstage IF	7296101			
L7	FM Interstage IF	7296102			
L8	Ratio Detector	7299984			
L9	RF Choke (8uh)	7255738			
L10	AM Antenna	(1)			
L11	AM RF	(1)			
L12	AM Oscillator	(1)			
L13	AM Input IF	7295169		8006	
L14	AM Output IF	7295170			

(1) Part of M3.

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.	
L15	2.5 Amp	.1	300uh	7302543	C-4095	TC-2	TD-154	TY17XT	
L16	2 Amp	.6	8mh	1221623					

CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L17	30mh	1222297					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 10" PM 10 ohms	7307181		410A2Z10	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA							
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	
F1	3AG		In Fuse Block	AGC 10		311010			

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Dial Lamp	7296866	#216
M2	Stereo Indicator Lamp		
M3	Tuning Coil Ass'y.	1222504	
S1	AM-FM Selector Sw.	7285141	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Dial Drum	7303823	Dial Pointer	7303825
Escutcheon	7304774	Pushbutton	7303280
Dial Glass	7303279	Knobs: Available thru Chevrolet Dealer	

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.

MULTIPLEX

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q15	DS-501	Output *		GE-4	TR-03	HEP231	SK3012	ECG 105
Q16	DS-76	MPX Input Amp		GE-18	TR-25	HEP243	SK3024	ECG 128
Q17	D-66	Buffer		GE-18	TR-25	HEP243	SK3024	ECG 128
Q18	DS-66	19KC Amp		GE-18	TR-25	HEP243	SK3024	ECG 128
Q19	DS-66	19KC Osc		GE-18	TR-25	HEP243	SK3024	ECG 128
Q20	DS-47	Lamp Amp		GE-18	TR-25	HEP243	SK3024	ECG 128
Q21	DS-66	Lamp Relay Control		GE-18	TR-25	HEP243	SK3024	ECG 128
Q22	DS-66	AF Amp		GE-18	TR-25	HEP243	SK3024	ECG 128
Q23	DS-66	AF Amp		GE-18	TR-25	HEP243	SK3024	ECG 128
Q24	DS-501	Output *		GE-4	TR-03	HEP231	SK3012	ECG 105

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X10	DS-31	1N34AS	1N34A	ECG 109		Zener Diode
X11	DS-31	1N34AS	1N34A	ECG 109		
X12	DS-31	1N34AS	1N34A	ECG 109		
X13	DS-31	1N34AS	1N34A	ECG 109		
X14	DS-49					

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		DELCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C80A	1000 16V	7292083	AFH3-54-41		CC0006		FPS300.91	PCL-3021.8
B	500 16V							
C	4 11.5rms							
C81	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	TT6X100	TE-1102
C82	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	TT12X10	TL-1128
C83	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	TT6X100	TE-1102
C84	3 12V	7291860	PTT50	EA15-2	NLW3-15	MT1-3	TT12X3	TE-1122

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.
C85	.07	#7288631	DI-120	DD-121	JBZ601YP121K	CCD-121	GP312	5GA-T12
C86	120		NPO-DI 100	DD-100	CV601CG101K	CCT0-101	CN0310	10TCC-T10
C87	110		GPD X5F222K	DD-222	GP2200	CCD-222	GP222	10T5-D22
C88	.0022			UK-105	HXC3R0X105R		MAG31	HY-135
C89	1mfd			CPR-10000J	DPMS6S1	1DP-1-103	PVC211	225P10391WD3
C90	.01 75V		V1612S1	DD-152		CCD-152	GP215	10T5-D15
C91	.0015		GPD X5F152K	CPR-10000J	DPMS6S1	1DP-1-103	PVC211	225P10391WD3
C92	.01 75V		V1612S1	CK-203	MGP02	CCD-203	TA120	TG-S20
C93	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C94	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C95	.02	#7288631						
C96	.07							
C97	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10T5-D15
C98	56 NPO			TCZ-56		CCT0-560	CN0456	10TCC-Q56
C99	.01 75V		V1612S1	CPR-10000J	DPMS6S1	1DP-1-103	PVC211	225P10391WD3
C100	.047 75V		V1612S47		DPMS6S47	1DP-2-473	PVC1147	225P47391WD3
C101	.047 75V		V1612S47		DPMS6S47	1DP-2-473	PVC1147	225P47391WD3
C102	470		GPD X5F471K	DD-471	GP470	CCD-471	GP347	10T5-T47

Delco Part Number.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R80	Separation	10K 2W	7297389			P115R103A or [BU11,WF9,SS6]*	MR10KT
R81	Separation Bias	10K 2W 600 2W 600 2W	7298087 (1) 7286601 7286864 (1)	V-600 V-600	U39-600 U39-600	117R103A 110-600 110-600	MR10KF MR600P MR850T

* "SNAPTROL" (1) Alternate Part Number.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R105	.47 (Fusible)			7281890

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L20	67KC Trap	7291023			
L21	19KC Input	7291019			
L22	19KC Input	7291019			
L23	19KC Oscillator	7291019			
L24	38KC	7291020			

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.	
L25	1.2 Amp	.6	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

CHOKE (Audio Output)

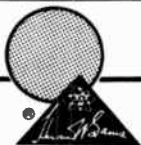
ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L26	30mh	1222297					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP2	4" x 10" PM 10 ohms	7307181	P4X10T9	410A2Z10	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
PC1	Stereo Detector	7291090	
PC2	38KC Notch Filter	7291089	CENTRALAB Replacement #PC-410
PC3	Stereo Detector	7291090	
PC4	38KC Notch Filter	7291089	CENTRALAB Replacement #PC-410



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



GIBBS MODEL CR-627
(8-Track Stereo Player)

OPERATING INSTRUCTIONS

Insert cartridge until it locks and turns unit on.

Set operating controls as desired.

Press program selector to play desired tracks, or allow unit to select tracks automatically.

Remove cartridge to turn unit off.

CLEANING

Clean all tape contact surfaces with a soft, lint-free material and head cleaner or alcohol. Use alcohol to remove oil and grease from all driving surfaces.

LUBRICATING

Lubricate bearings and bushings lightly with #20 machine oil. Use a light film of non-hardening grease on cam surfaces.

HEAD DEMAGNETIZING

Demagnetize head when unit is serviced. Avoid using magnetic materials near head.

GIBBS MODEL CR-627

HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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TD687

ADJUSTMENTS

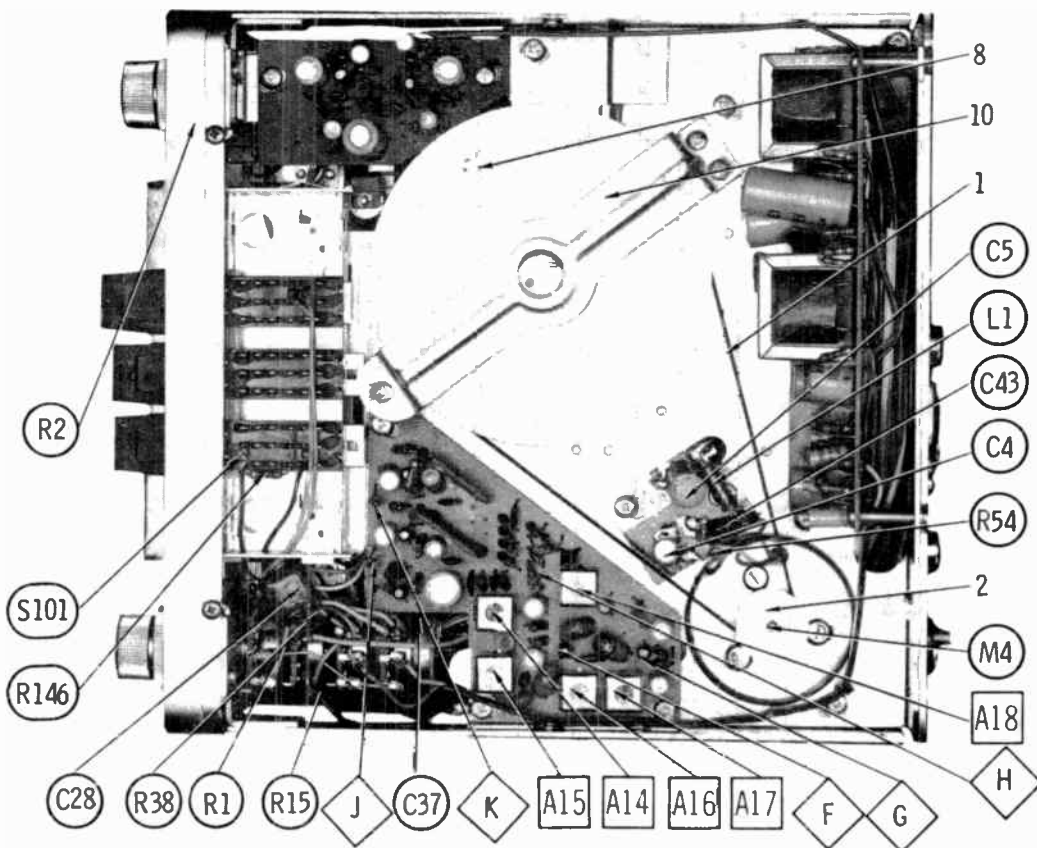
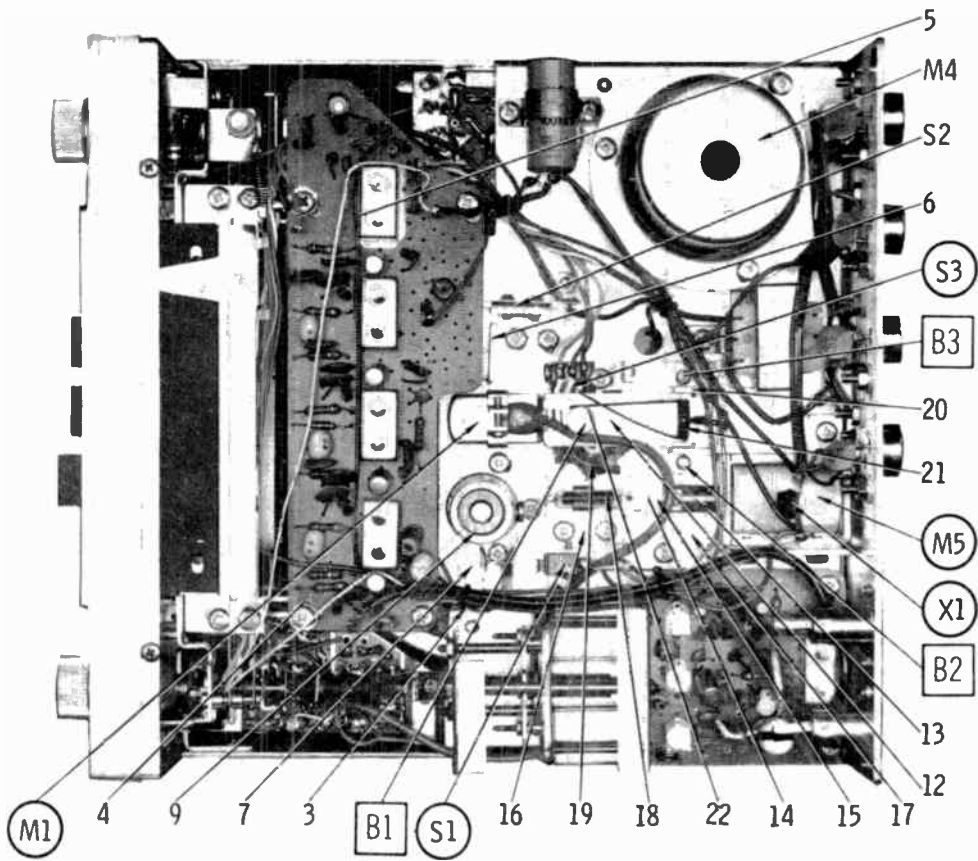
ADJUST	REMARKS
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B1 for proper response.
Head Azimuth	Connect an AC VTVM across right output. Play a test cartridge and adjust B2 and B3 equally in opposite directions for maximum output.
Play Level Balance	Set Balance control at center of rotation and apply a 1000-cycle tone at .02V rms across the left-channel section of the play head. Connect an AC VTVM across the left-channel volume control and note reading. Apply the 1000-cycle tone at the same level across right-channel section of play head and adjust R3 for the same voltage across right-channel volume control as obtained across left-channel volume control.

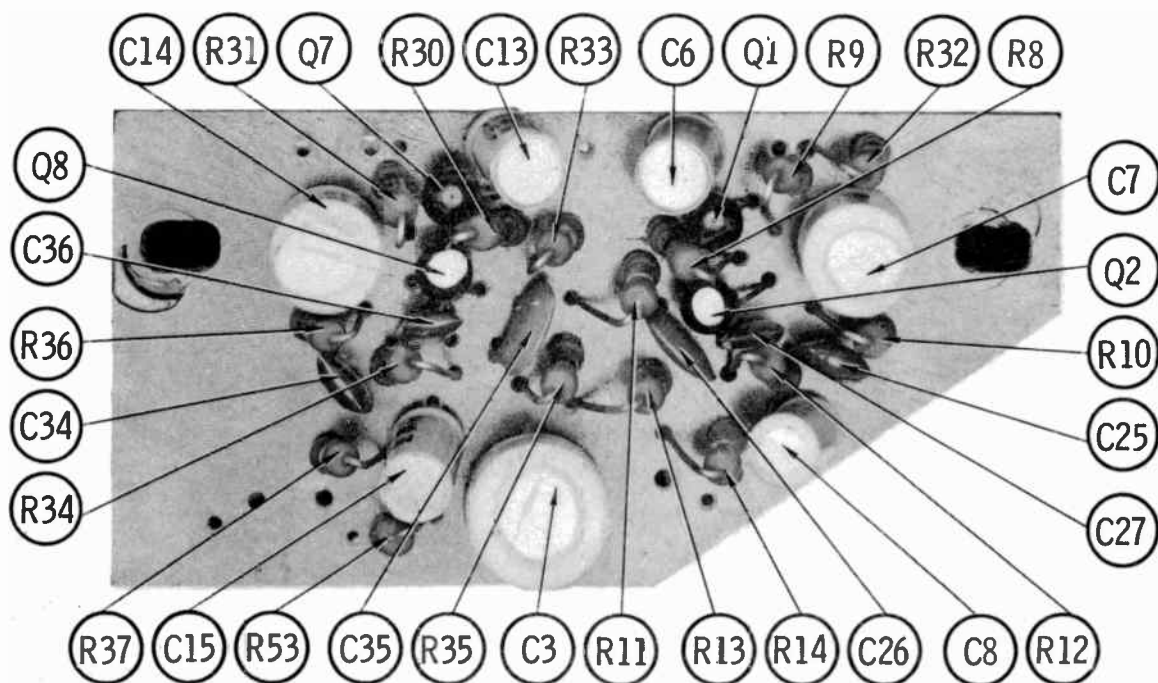
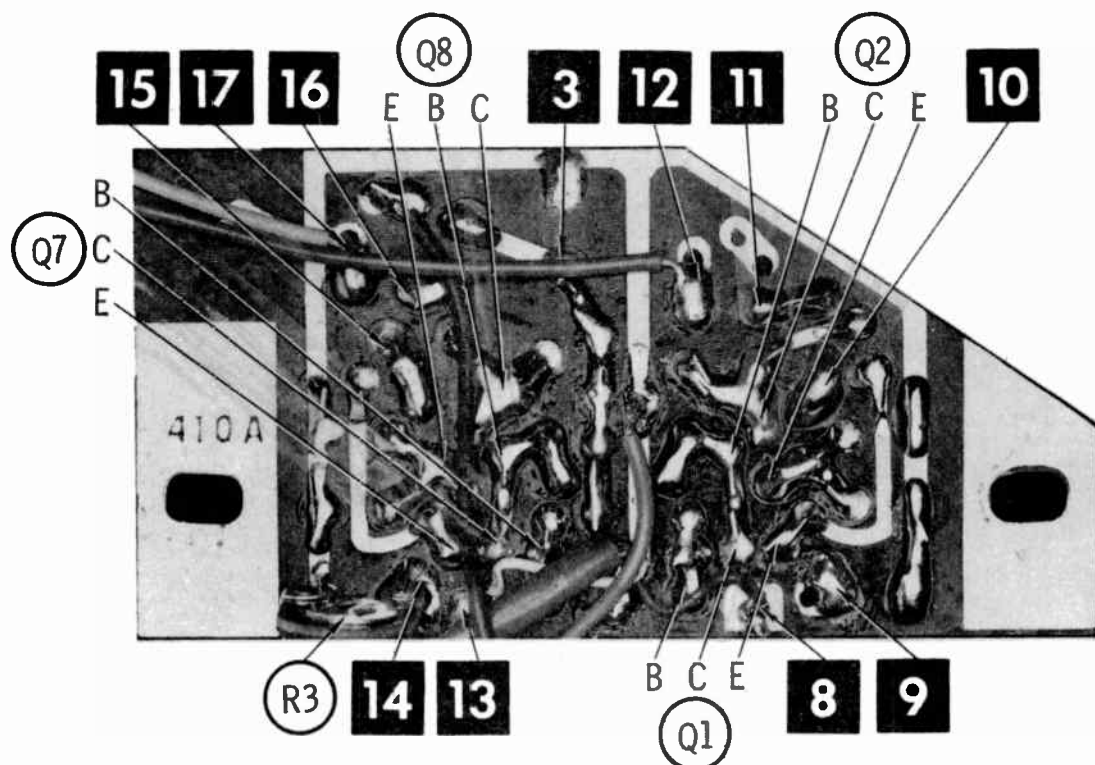
TROUBLE CHART

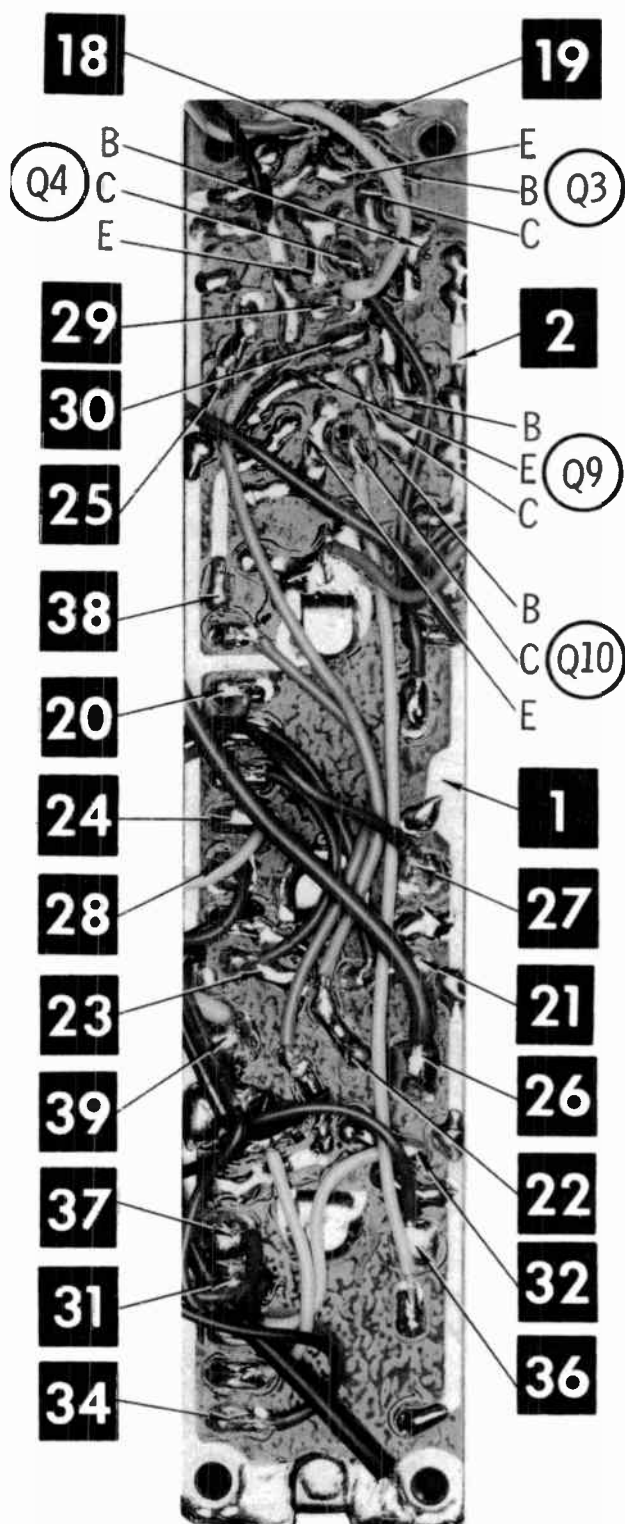
SYMPTOM	REMARKS
Capstan does not rotate.	Belt (1) dirty, worn, or broken. Bearing (9) binding. Motor defective or not supplied with power.
Track-shift mechanism inoperative.	Switch (S2) dirty. Ratchet (19) binding or defective Spring (3) weak or missing. Spring (18) weak or missing. Plunger (13) worn or binding. Solenoid (M5) defective or not supplied with power. Cartridge defective. Arm (14) broken.
Wow or Flutter.	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective.
Sound weak or distorted.	Head dirty, misaligned, or defective. Cartridge defective. Amplifiers defective.
Tape is pulled from cartridge.	Cartridge defective. Capstan dirty or scored.

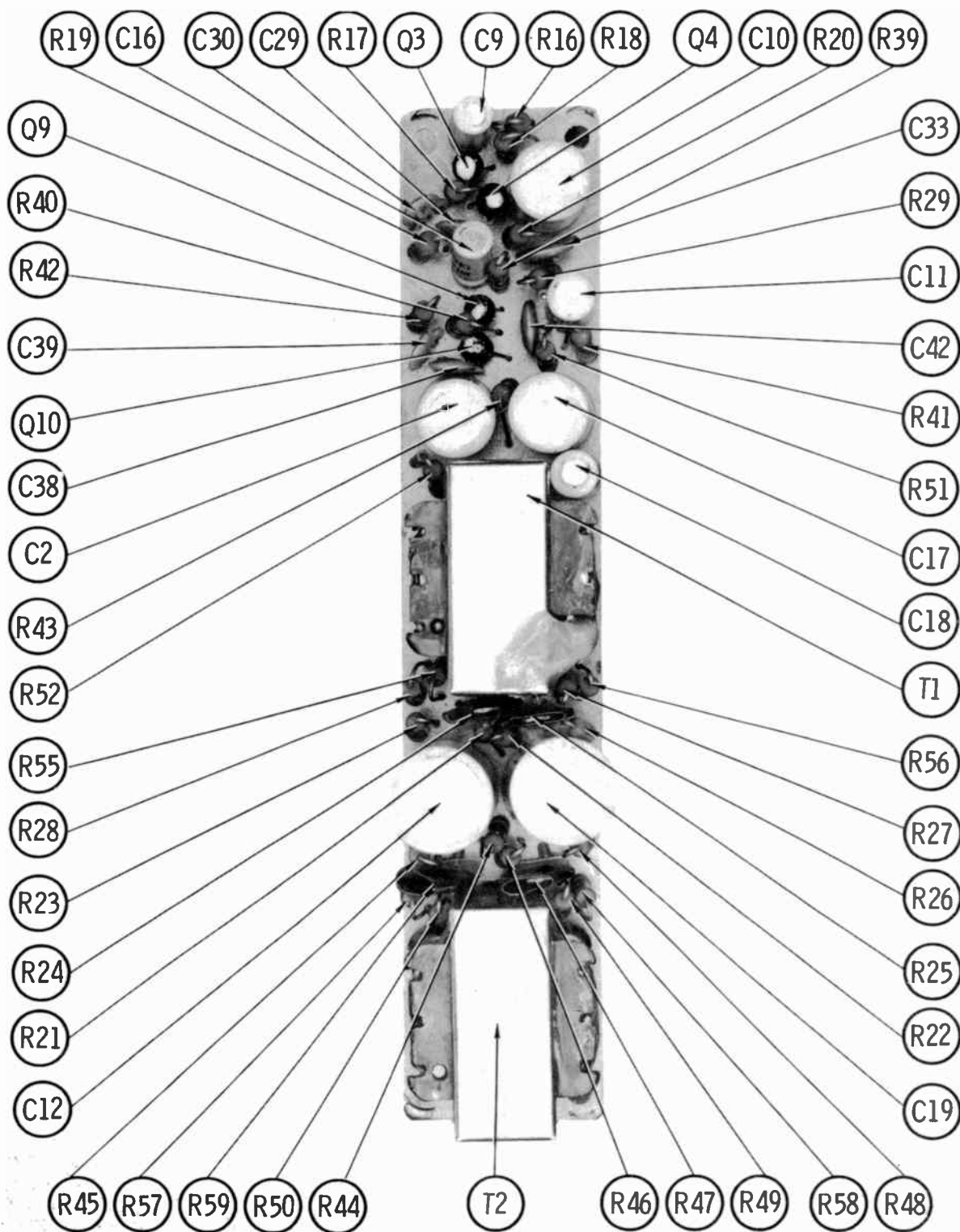
MECHANICAL PARTS LIST

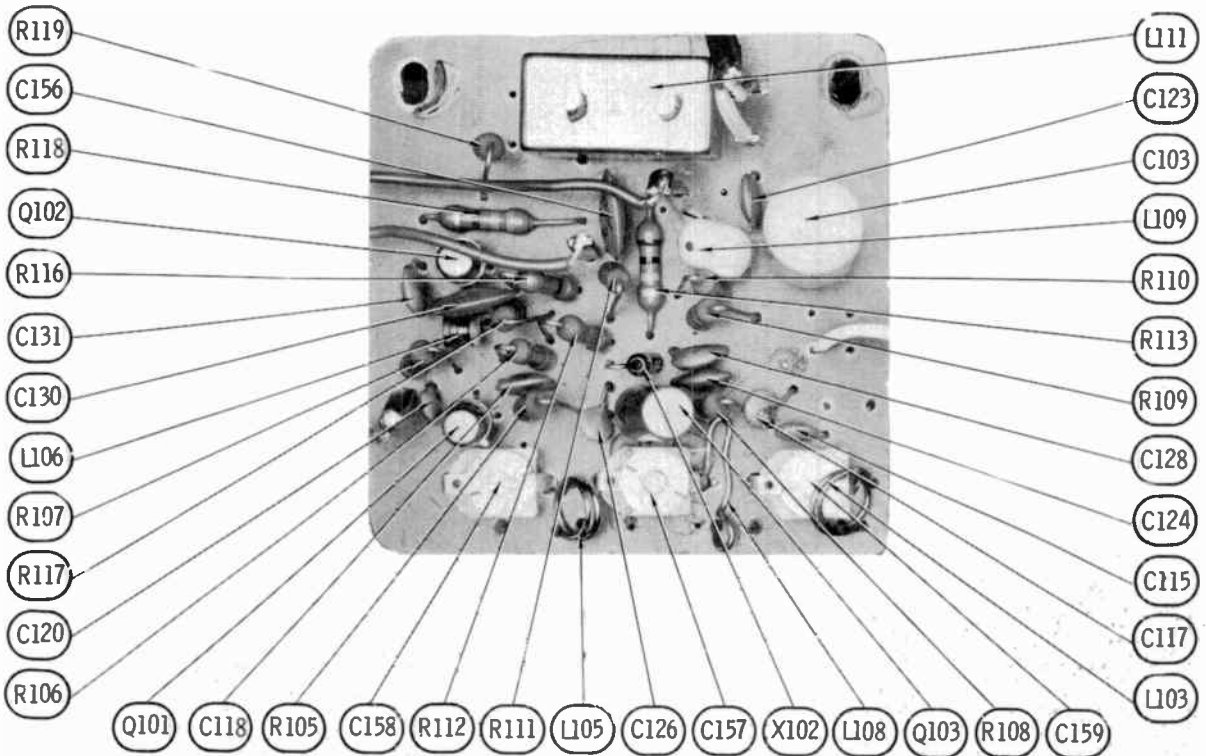
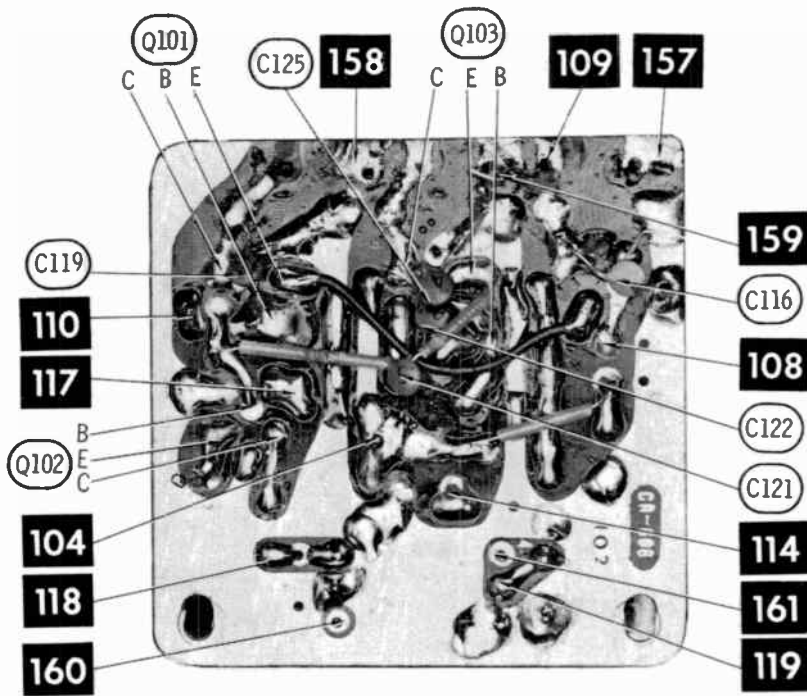
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	M00250	Flywheel Belt	12	S01262	Tape Head Arm
2	N00238	Motor Pulley	13	P00265	Plunger
3	S00902	Cartridge Lock Spring	14	S00918	Plunger Arm
4	N00232	Cartridge Lock Roller	15	S00925	Spring Holder
5	N00233	Cartridge Guide Roller	16	S00919	Ratchet Stop
6	S00922	Tape Guide	17	S00920	Plunger Arm Guide
7	S01497	Actuator	18	W00443	Plunger Arm Spring
8	M00325	Flywheel	19	M00326	Cam Ratchet
9	S00984	Capstan Thrust Bearing	20	S01263	Tape Head Support Bracket
10	S00981	Flywheel Support Bracket	21	W00444	Tape Head Suppressor Spring
11	W00420	Door Spring	22	W00445	Tape Head Adjustment Spring











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 #8606L,9440..WALSCO #2501,2544

A11,A12,A13.....GENERAL CEMENT #8605.....WALSCO #2505

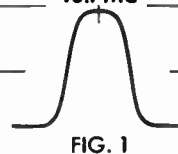
A14 thru A18GENERAL CEMENT #9087.....WALSCO #2528

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond B$, low side to ground.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond C$, common to ground.	A1 thru A9	Adjust for maximum.
2.	"	"	DC probe of VTVM to point $\diamond D$, common to ground.	A10	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

10.7MC



FM IF ALIGNMENT USING FM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond B$, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.

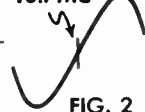
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	10.7MC 450KC Sweep	Point of non-interference	Vert. amp of scope to point $\diamond C$, low side to ground.	A1 thru A9	Disconnect stabilizing capacitor C105. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C105.
2.	"	"	Vert. amp of scope to point $\diamond D$, low side to ground.	A10	Adjust A10 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A1 (primary) for maximum amplitude and straightness of line.

FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
3.	108.5MC	High freq. end	DC probe of VTVM to point $\diamond C$, common to ground.	A11, A12, A13	Adjust for maximum.

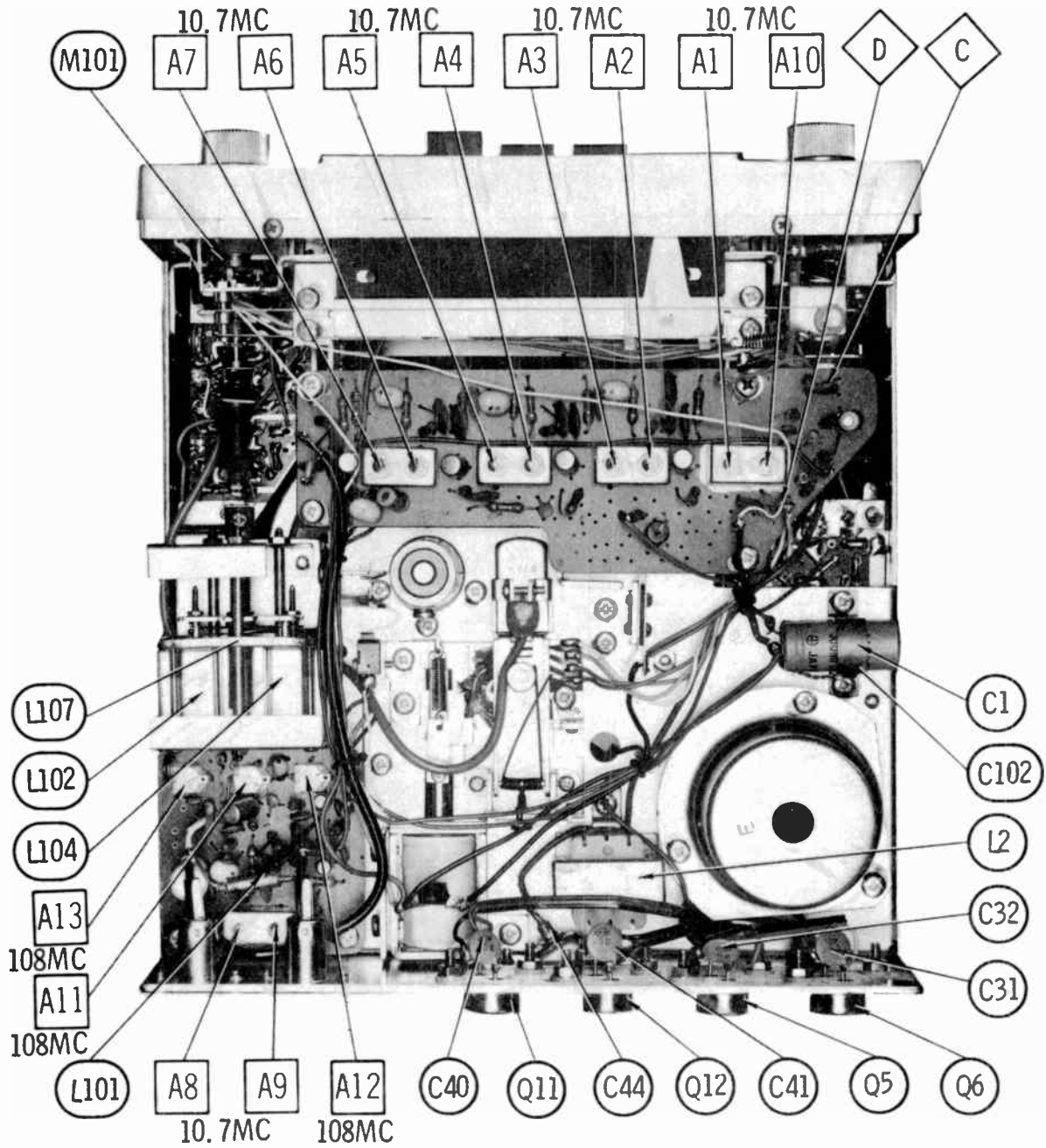
10.7MC

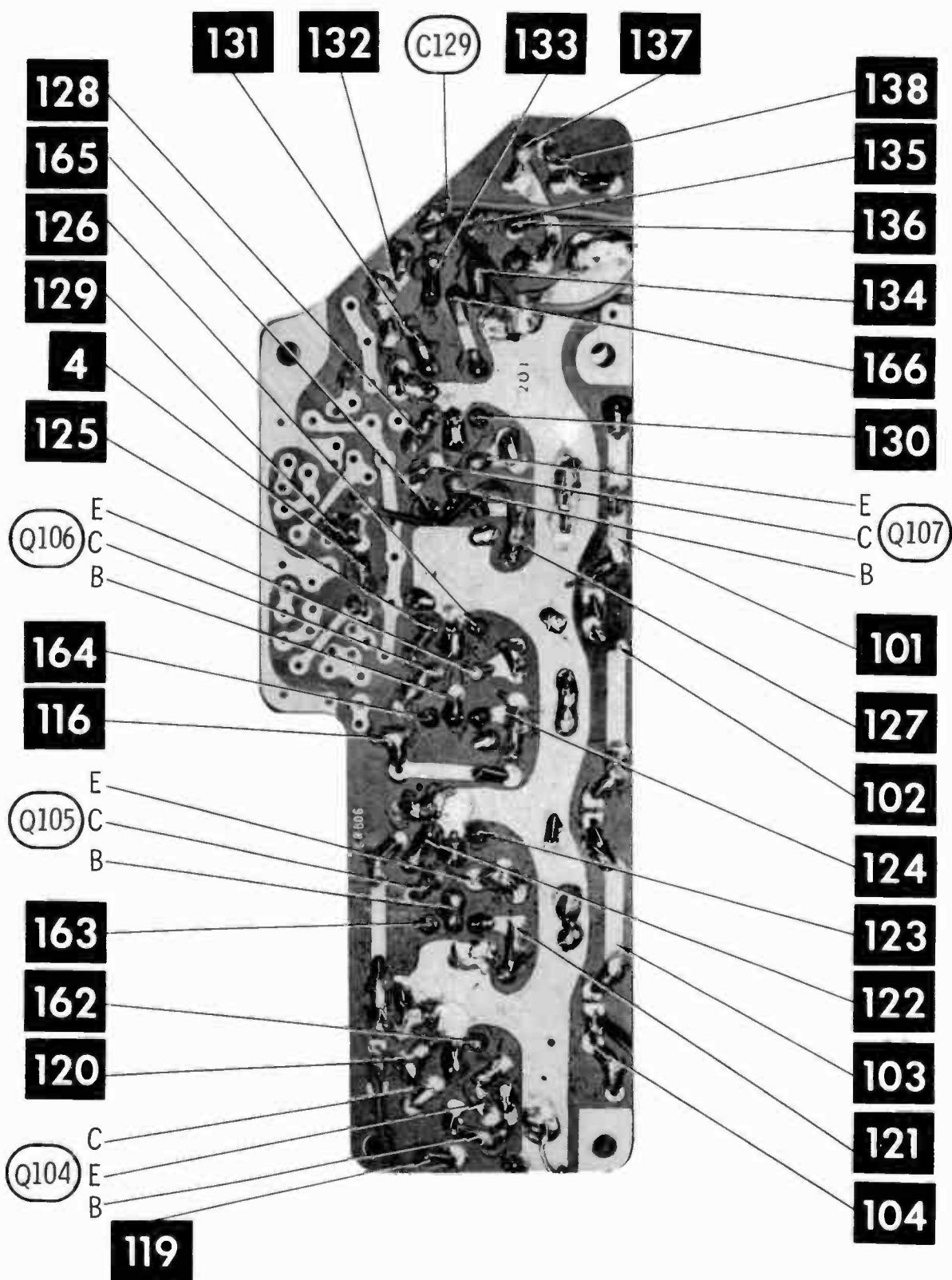


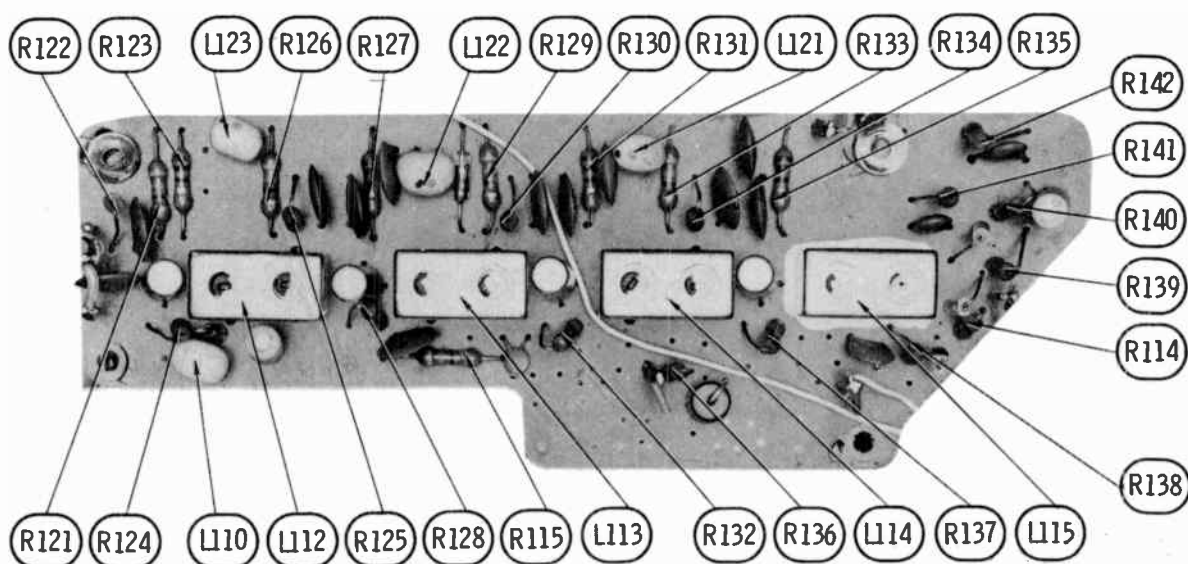
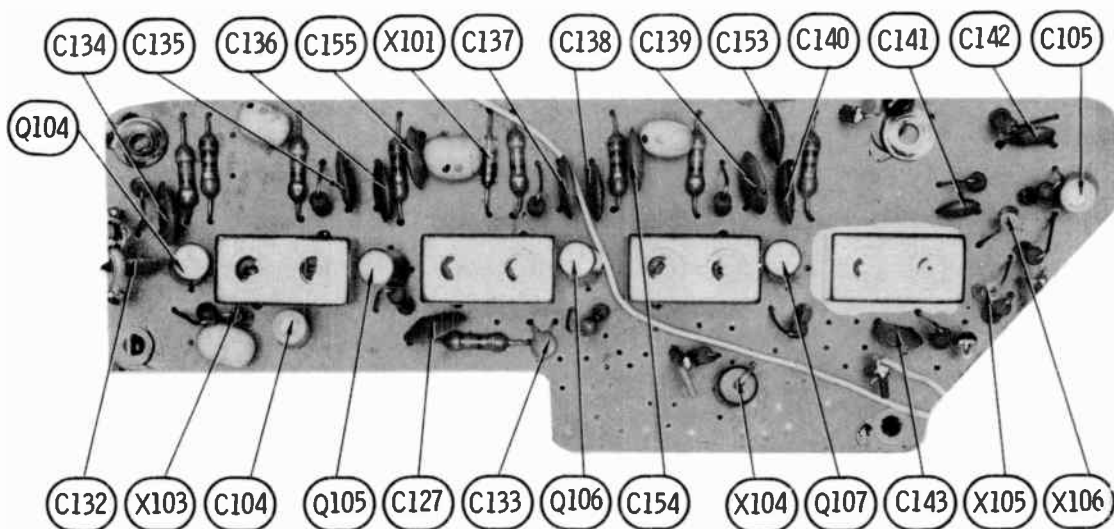
FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR ($\pm .0001\%$ ACCURACY)

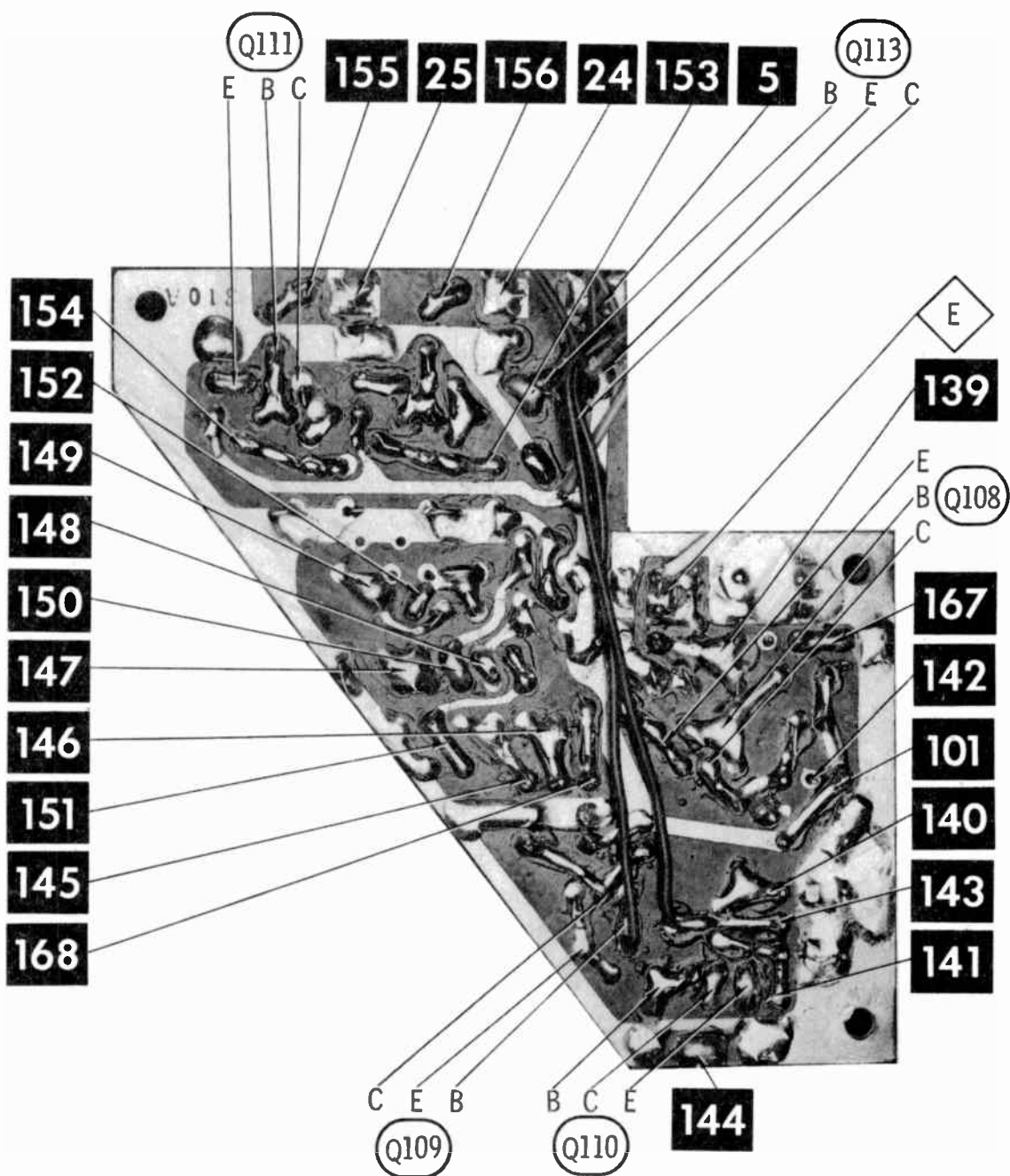
High side of generator thru 47K to point $\diamond E$, low side to ground.

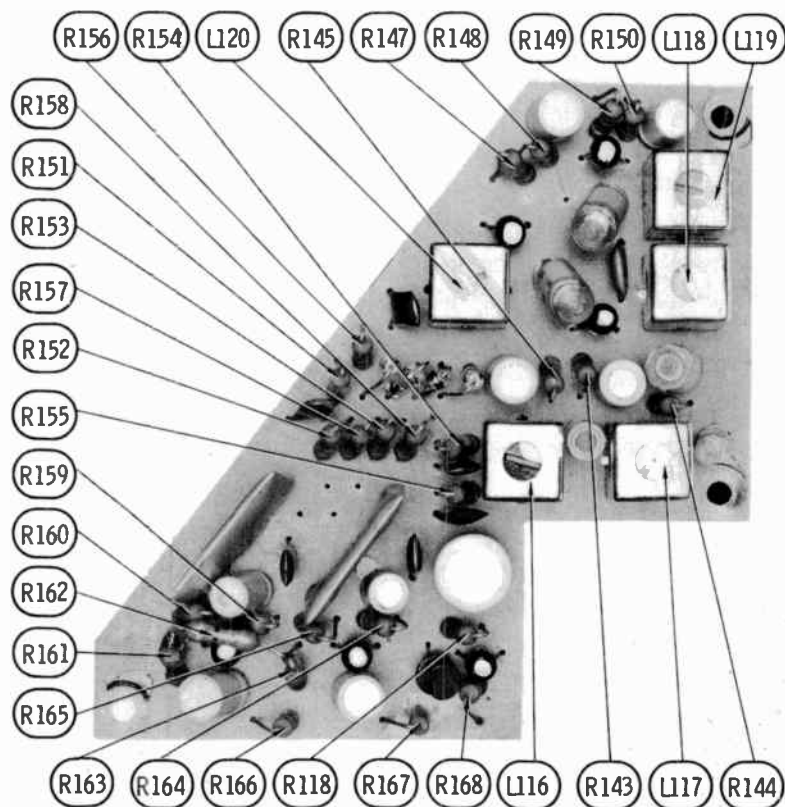
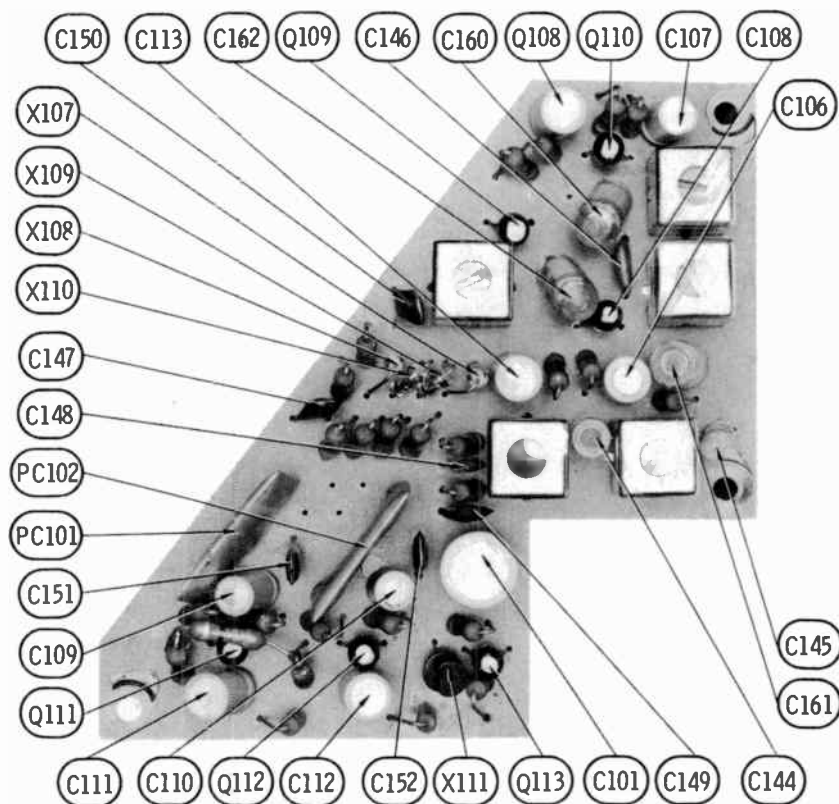
	GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
4.	67KC	Vert. amp of scope thru 47K to point $\diamond F$, low side to ground.	A14	Adjust for MINIMUM
5.	72KC		A15	
6.	19KC	Vert. amp of scope thru 47K to point $\diamond G$, low side to ground.	A16, A17	Adjust for maximum.
7.	"	Vert. amp of scope thru 47K to point $\diamond H$, low side to ground.	A18	Adjust for maximum 38KC response.
8.	Modulated Left Channel	Vert. amp of scope to point $\diamond J$, low side to ground.	A16, A17, A18	Adjust for MINIMUM. This step should require only slight adjustment.
9.	Modulated Right Channel	Vert. amp of scope to point $\diamond K$, low side to ground		Check for MINIMUM. If necessary make compromise adjustment of A16,A17,A18.

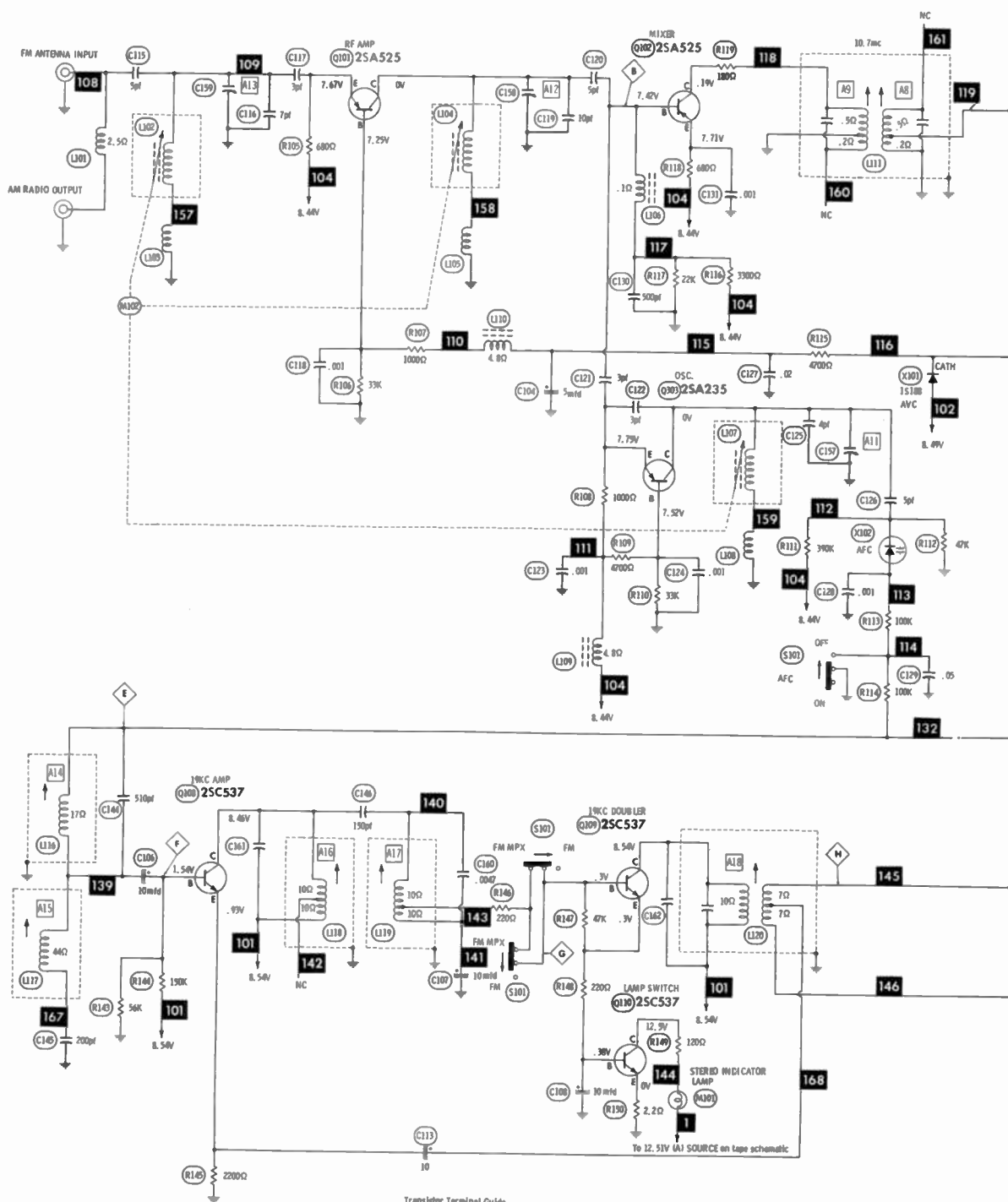










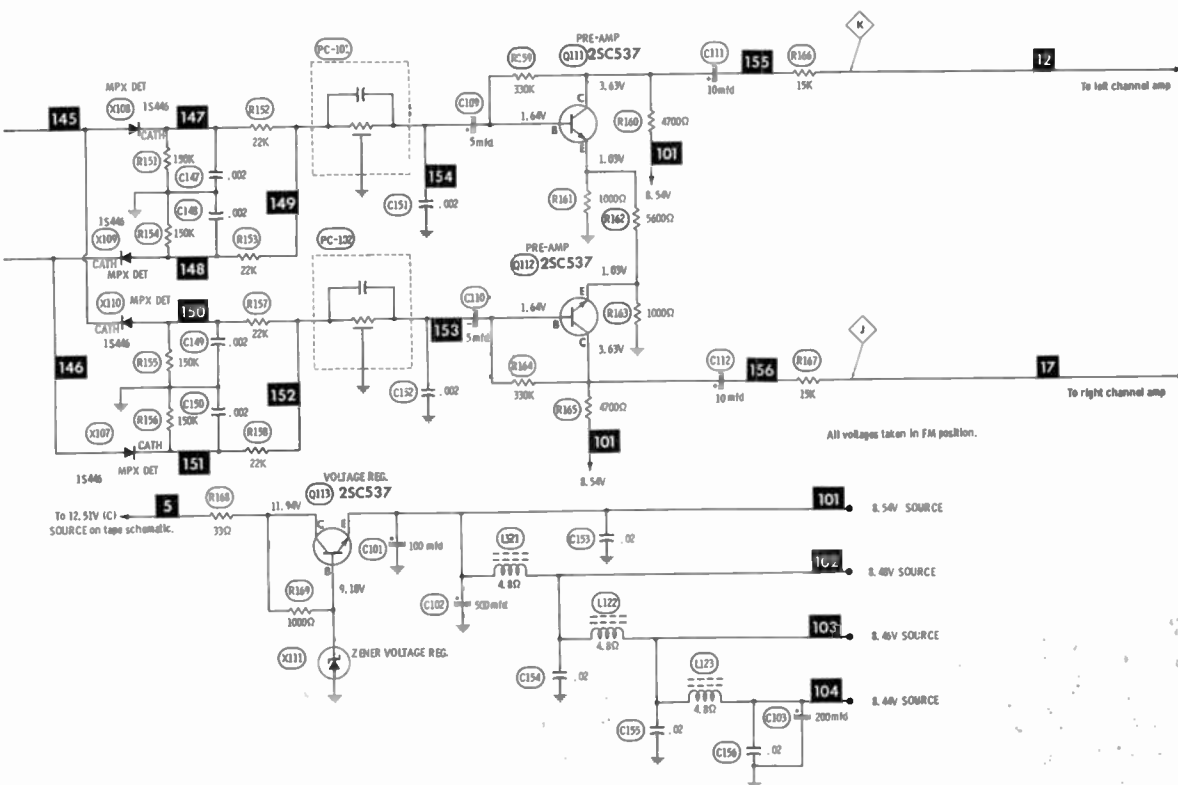
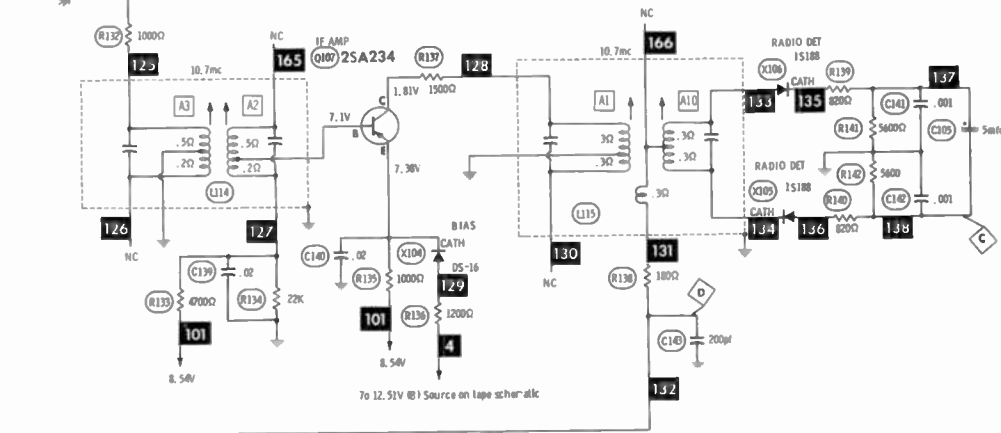
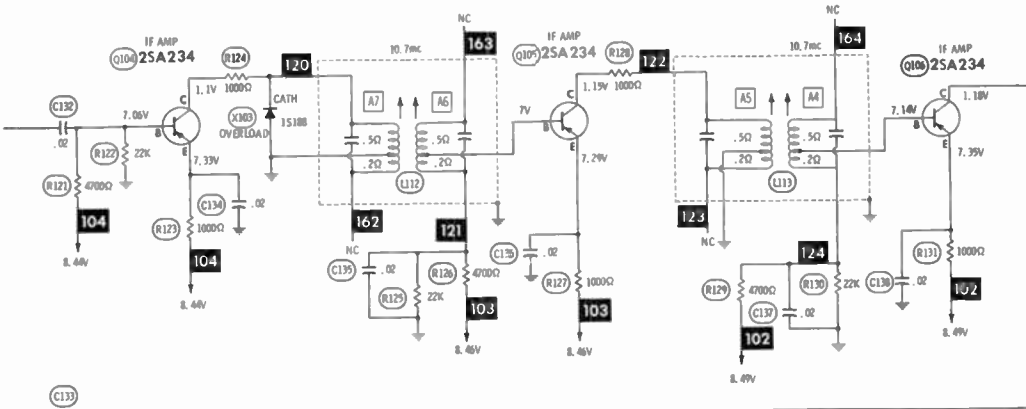


Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
Supply voltage maintained at rated value for measurements.
Voltage and resistance measured with VTVM or equivalent meter,
no signal applied and controls adjusted for normal operation.
Numbers assigned to terminals may not be found on the unit.
Transistor resistances vary widely. No resistance measurements taken.
Measurements taken with switching in position shown unless
otherwise indicated.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

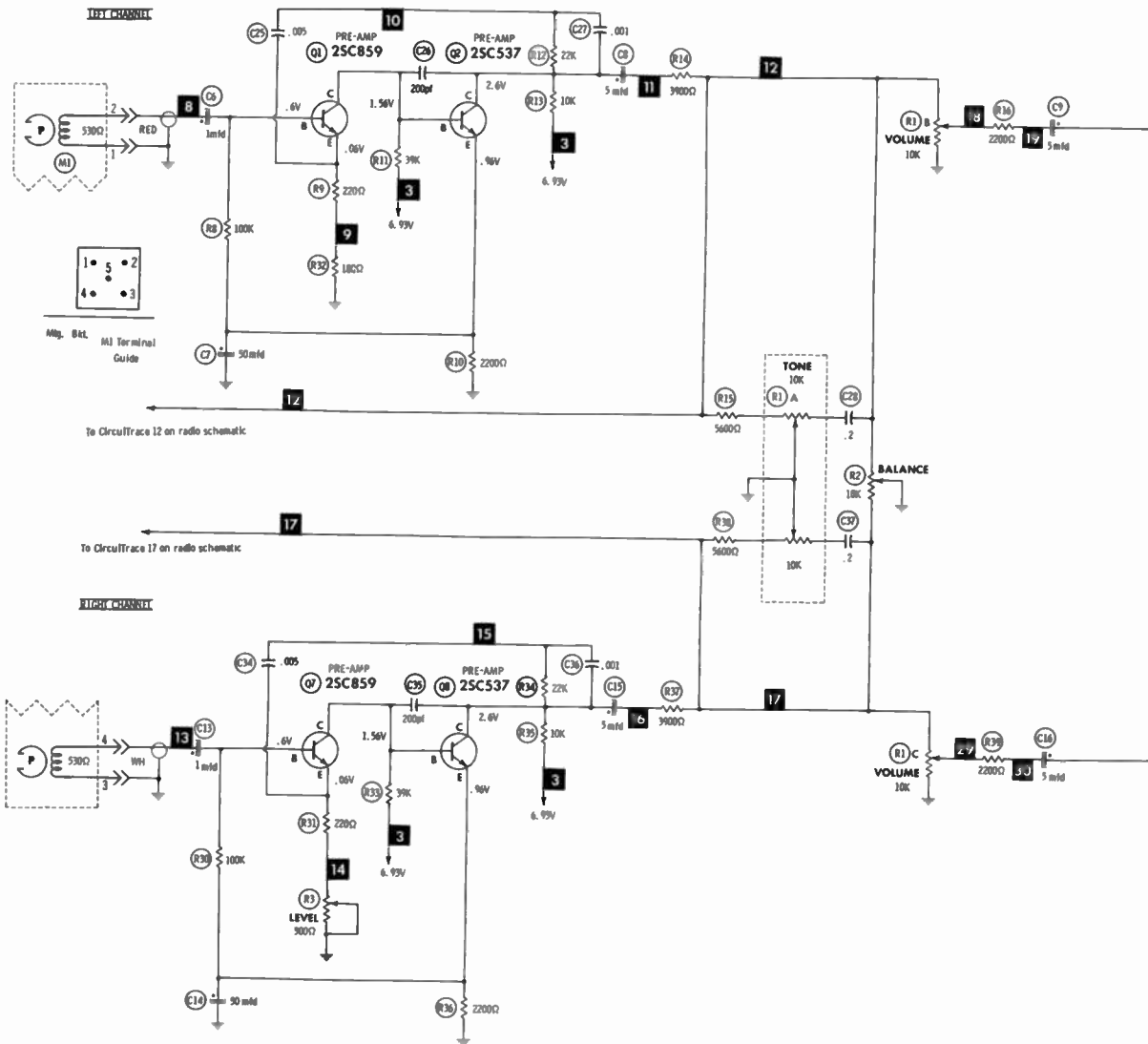
with **CIRCUITRACE**

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GIBBS MODEL CR-627

NOTE: DEMAGNETIZE HEADS AFTER SERVICING



Transistor Terminal Guides



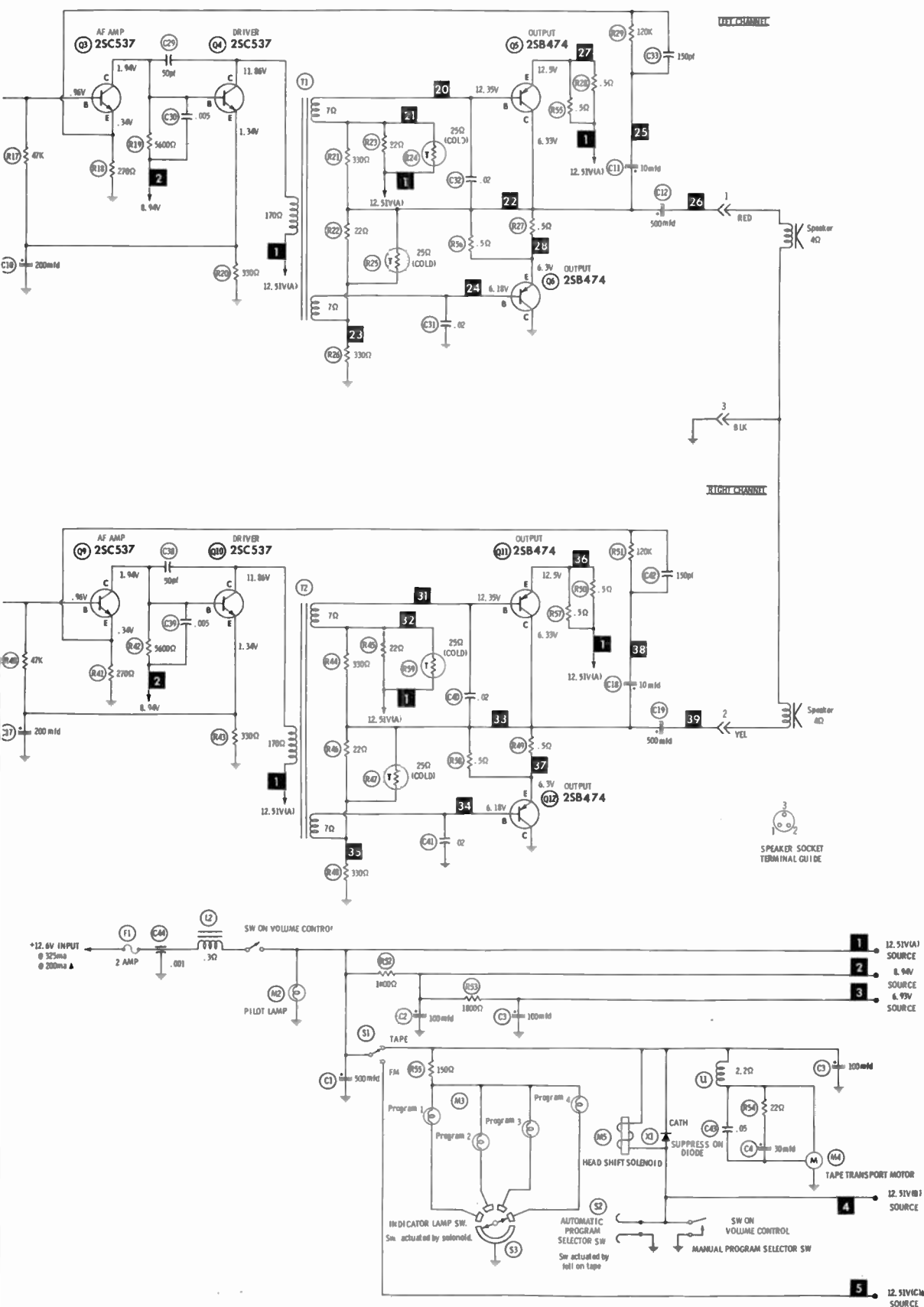
05.06.0114 012

▲ Measured in FM position.

Measurements taken in TAPE position unless otherwise indicated.
Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
Supply voltage maintained at rated value for measurements.
Voltage and resistance measured with VTVM or equivalent meter,
no signal applied and controls adjusted for normal operation.
Numbers assigned to terminals may not be found on the unit.
Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFACET STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**



GIBBS MODEL CR-627

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.

RADIO

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire	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.)

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q101	2SA525	RF Amp		GE-22	TR-19	HEP52		ECG 106
Q102	2SA525	Mixer		GE-22	TR-19	HEP52		ECG 106
Q103	2SA235	Osc.		GE-9	TR-17	HEP637	SK3006	ECG 126
Q104	2SA234	1st IF Amp		GE-9	TR-17	HEP637	SK3006	ECG 126
Q105	2SA234	2nd IF Amp		GE-9	TR-17	HEP637	SK3006	ECG 126
Q106	2SA234	3rd IF Amp		GE-9	TR-17	HEP637	SK3006	ECG 126
Q107	2SA234	4th IF Amp		GE-9	TR-17	HEP637	SK3006	ECG 126
Q108	2SC537	19KC Amp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q109	2SC537	19KC Doubler		GE-17	TR-24	HEP723	SK3020	ECG 123
Q110	2SC537	Lamp Switch		GE-17	TR-24	HEP723	SK3020	ECG 123
Q111	2SC537	Preamp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q112	2SC537	Preamp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q113	2SC537	Voltage Regulator		GE-17	TR-24	HEP723	SK3020	ECG 123

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X101	1S188	1N34AS	1N34A	ECG 109	SK3016	Vari-Cap (13pf @ 10V)
X102	1S351					
X103	1S188	1N34AS	1N34A	ECG 109		
X104	DS-16E	GE-504	8D4	ECG 116		
X105	1S188	1N34AS	1N34A	ECG 109		
X106	1S188	1N34AS	1N34A	ECG 109		
X107	1S446	1N34AS	1N34A	ECG 109		
X108	1S446	1N34AS	1N34A	ECG 109		
X109	1S446	1N34AS	1N34A	ECG 109		
X110	1S446	1N34AS	1N34A	ECG 109		
X111	1S1718	GE-ZD-9.1	1ZM9.1	ECG 139		
						Zener (9.5V @ .3 Watts)

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		GIBBS PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C101	100 12V		BCD15100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C102	500 15V		BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C103	200 10V		BCD10190	EA15-250	PC200-16	MT1-23	MTV200CK10	TL-1137
C104	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C105	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C106	10 12V		BCD25010	EP15-10	PC10-50	MT1-3	MTV10CB50	TE-1155
C107	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C108	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C109	5 10V		BCD25005	EP6-5	PC5-100	MT1-5	MTV10CB50	TE-1155
C110	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C111	10 12V		BCD25010	EP15-10	PC10-50	MT1-3	MTV5CB50	TL-1084
C112	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C113	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

RADIO

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.
C115	5		NPO-DI 5.0		NP05			10TCC-V50
C116	7		NPO-DI 6.8	DTZ-6R8	NP06P8		CN0568	10TCC-V68
C117	3		NPD-DI 3.0					10TCC-V30
C118	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C119	10		NPD-DI 10	DTZ-10	NP010	CCT0-100	CN0410	10TCC-Q10
C120	5		NPD-DI 5.0		NP05			10TCC-V50
C121	5		NPD-DI 5.0		NP05			10TCC-V50
C122	3		NPD-DI 3.0		NP05			10TCC-V50
C123	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C124	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C125	4				NP03P9			10TCC-V39
C126	5		NPO-DI 5.0		NP05			10TCC-V50
C127	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C128	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C129	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C130	500		GPD X5F501K	DM-501	GP500	CCD-501	GP350	10TS-T50
C131	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C132	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C133	5		NPO-DI 5.0		NP05			10TCC-V50
C134	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C135	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C136	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C137	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C138	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C139	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C140	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C141	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C142	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C143	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C144	510			CPR-510J	CD15FD511J03	DM-15-511	SX351	MS-351
C145	200			CPR-200J	CD15FD201J03	DM-10-221	SX320	MS-32
C146	150		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C147	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C148	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C149	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C150	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C151	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C152	.002		GPD X5F202K	DM-202	GP2000	CCD-202	GP220	2SS-D20
C153	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C154	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C155	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C156	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C157								
C158								
C159								
C160	.0047			CPR-4700J	CD19FD472J03	DM-19-472	SX247	MS-247
C161	.0047			CPR-4700J	CD19FD472J03	DM-19-472	SX247	MS-247
C162	.0047			CPR-4700J	CD19FD472J03	DM-19-472	SX247	MS-247

GIBBS MODEL CR-627

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFRG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	10K	P00366				
B	Channel Selector						
C	Switch						
D	Volume	30K					
	Volume/Power Switch	30K					
R2	Balance	30K					
R3	Bias	500		T-500 (1) (2)		X201R501B (1)(2)	MTC52L1 (1) (2)

- (1) Modify terminals to fit "PC" board.
(2) Cut off one of the outside terminals.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

RADIO

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L101	RF Choke (10uh)		19-1005	4612	T860
L102	Antenna	(1)			
L103	Antenna Adjust				
L104	RF	(1)			
L105	RF Adjust				
L106	IF Trap (.4uh)	L00128			
L107	Osc.	(1)			
L108	Osc. Adjust				
L109	RF Choke (470uh)	L00127			
L110	RF Choke (470uh)	L00127		73F474AF	
L111	Input IF	L00130		73F474AF	
L112	Interstage IF	L00130			
L113	Interstage IF	L00130			
L114	Interstage IF	L00130			
L115	Ratio Detector	L00130			
L116	67KC Trap	L00131			
L117	72KC Trap				
L118	19KC Trap				
L119	19KC Trap				
L120	38KC Trap				
L121	RF Choke (470uh)	L00127			
L122	RF Choke (470uh)	L00127		73F474AF	
L123	RF Choke (470uh)	L00127		73F474AF	

(1) Part of M102.

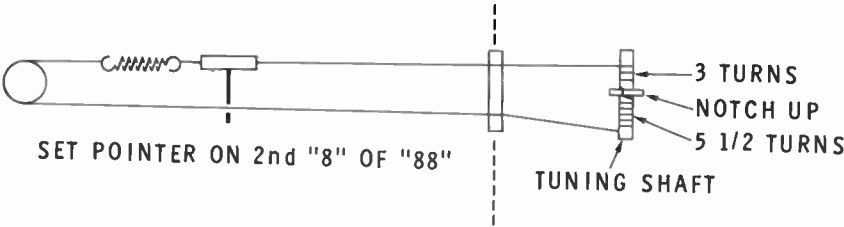
MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M101	Stereo Indicator Lamp		6 Volts @ 30ma
M102	Tuner	L00135	
PC101	38KC Notch Filter	3H02	
PC102	38KC Notch Filter	3H02	
S101	Switch, FM-AFC-MPX Selector		

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
FM Tuner Circuit Board	W00387	Escutcheon	M00334
FM IF Circuit Board	W00382	Knob, Volume or Tuning	M00338
FM MPX Circuit Board	W00477	Knob, Tone or Balance	M00339
Preamp Circuit Board	W00478	Dial Glass	S01395
Power Amp Circuit Board	W00479	Door, Tape	S01107
Motor Noise Filter Circuit Board	W00481	Indicator Lens	M00327
Dial Pointer	S01365		

DIAL CORD STRINGING—TOP VIEW



PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

TAPE

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	25C859	Preamp		GE-20	TR-24	HEP54	SK3020	ECG 123
Q2	25C537	Preamp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q3	25C537	AF Amp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q4	25C537	Driver		GE-17	TR-24	HEP723	SK3020	ECG 123
Q5	25B474	Output (1)						ECG 131MP*
Q6	25B474	Output (1)						
Q7	25C859	Preamp		GE-20	TR-24	HEP54	SK3020	ECG 123
Q8	25C537	Preamp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q9	25C537	AF Amp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q10	25C537	Driver		GE-17	TR-24	HEP723	SK3020	ECG 123
Q11	25B474	Output (1)						ECG 131MP*
Q12	25B474	Output (1)						

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	2S-16E	GE-504A	804	ECG 116	SK3016	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		GIBBS PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500 15V		BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C2	100 12V		BCD15100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C3	100 12V		BCD15100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C4	30 15V		BCD15025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TE-1158
C5	100 15V		BCD15100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C6	1 6V		BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1080
C7	50 6V		BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133
C8	5 10		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C9	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C10	200 6V		BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C11	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C12	500 15V		BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C13	1 6V		BCD50001		PC1-100	MT1-1	MTV1CB50	TE-1080
C14	50 6V		BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133
C15	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C16	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C17	200 6V		BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C18	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C19	500 15V		BCD15500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENC0 PART No.	MALLORY PART No.	SPRAGUE PART No.
C25	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C26	.200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C27	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C28	.2			UK16-204			MAG25022	HY-470
C29	.50		NPO-DI 50	DTZ-50	NPO50	CCT0-510	CN0450	10TCC-Q50
C30	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C31	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C32	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C33	.150		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C34	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C35	.200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C36	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C37	.2			UK16-204			MAG25022	HY-470
C38	.50		NPO-DI 50	DTZ-50	NPO50	CCT0-510	CN0450	10TCC-Q50
C39	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C40	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C41	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C42	.150		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C43	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C44	.001							

GIBBS MODEL CR-627

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

TAPE

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (7.5uh)	L00129	19-1009	4611	T960

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.	
L2	200ma * 325ma	.3	5mh		C-4095	TC-2	TR-156	TY17XT	* Measured in FM Position

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T1	7	1	1						
T2	7	1	1						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
	PM 4 ohms PM 4 ohms				

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	2 Amp		P00055	AGC 2	HDJ	312002	150145	

TAPE HEADS

ITEM No.	MEASURED			PART No.	NORTONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	375mh			P00296	5800	8-Track Stereo Play

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Lamp, Power Indicator		(16V)
M3	Lamp, Program Indicator		4 used (6V @ 30ma)
M4	Motor	P00303	
M5	Solenoid	P00265	
S1	Switch, Tape-Radio	P00297	
S2	Switch, Automatic Program Selector	S00923	
S3	Switch, Program Indicator Selector	W00503	Circuit Board
	Switch, Contact	S01264	Used on Cam Ratchet



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index



GIBBS MODEL CR-630
(8-Track Stereo Player)

GIBBS MODEL CR-630

OPERATING INSTRUCTIONS

Insert cartridge until it locks and turns unit on.

Set operating controls as desired.

Press program selector to play desired tracks, or allow unit to select tracks automatically.

Remove cartridge to turn unit off.

CLEANING

Clean all tape contact surfaces with a soft, lint-free material and head cleaner or alcohol. Use alcohol to remove oil and grease from all driving surfaces.

LUBRICATING

Lubricate bearings and bushings lightly with #20 machine oil. Use a light film of non-hardening grease on cam surfaces.

HEAD DEMAGNETIZING

Demagnetize head when unit is serviced. Avoid using magnetic materials near head.

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TQ688

ADJUSTMENTS

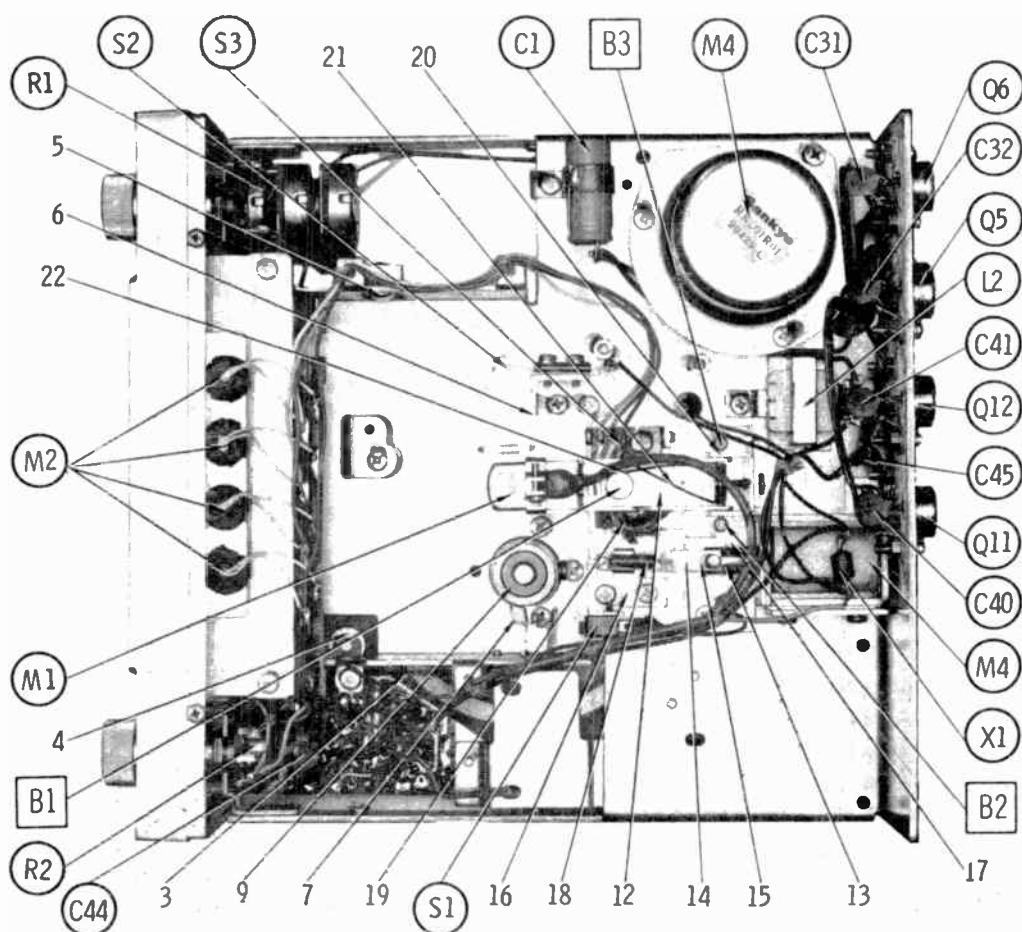
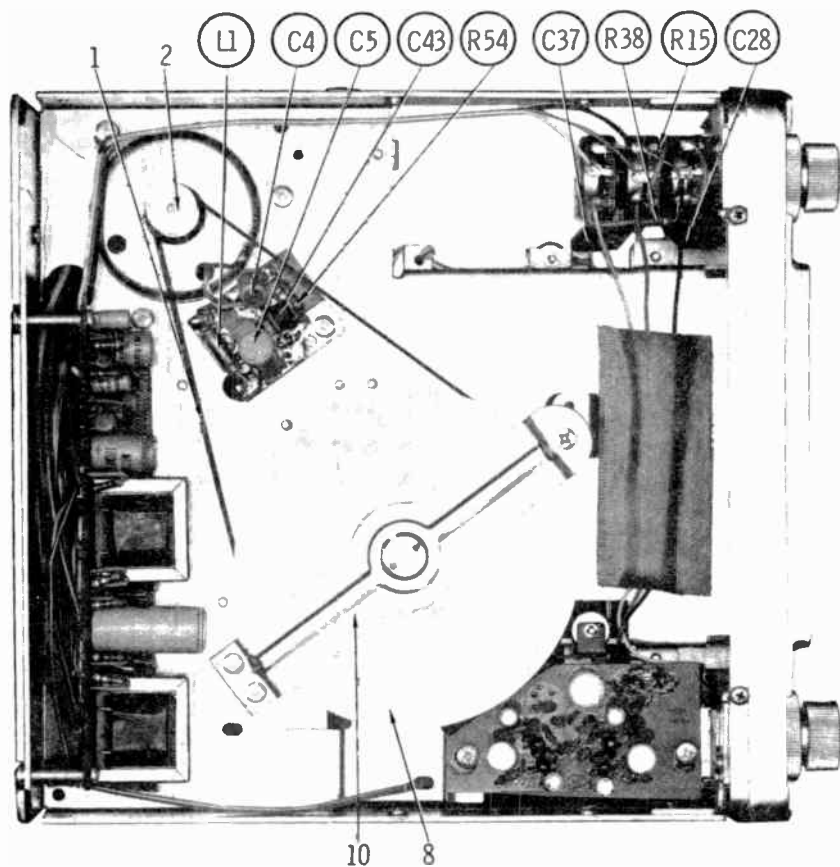
ADJUST	REMARKS
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B1 for proper response.
Head Azimuth	Connect an AC VTVM across right output. Play a test cartridge and adjust B2 and B3 equally in opposite directions for maximum output.
Play Level Balance Adjustment	Apply a 1000-cycle tone at .0005V rms across the left (right) section of the play head. Set Balance Control and Volume Control at center of rotation and adjust R3 and R4 until output is equal for left and right channels.

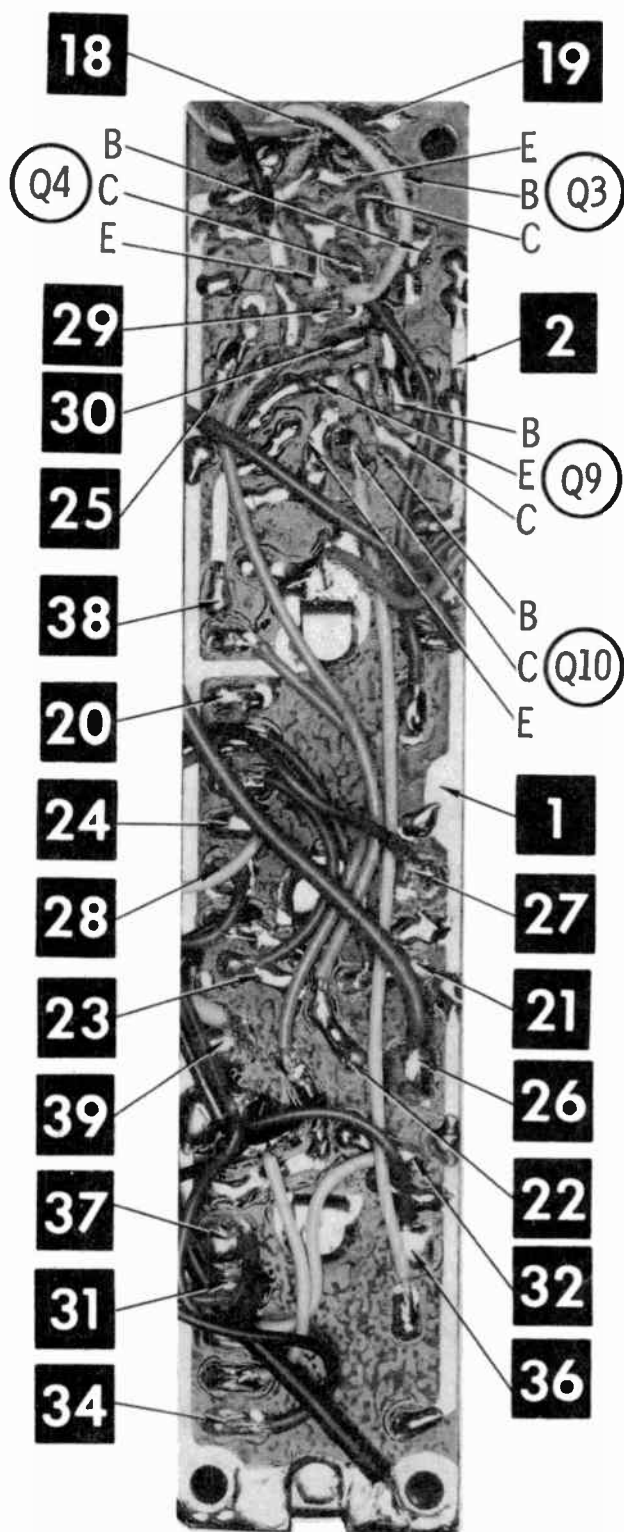
TROUBLE CHART

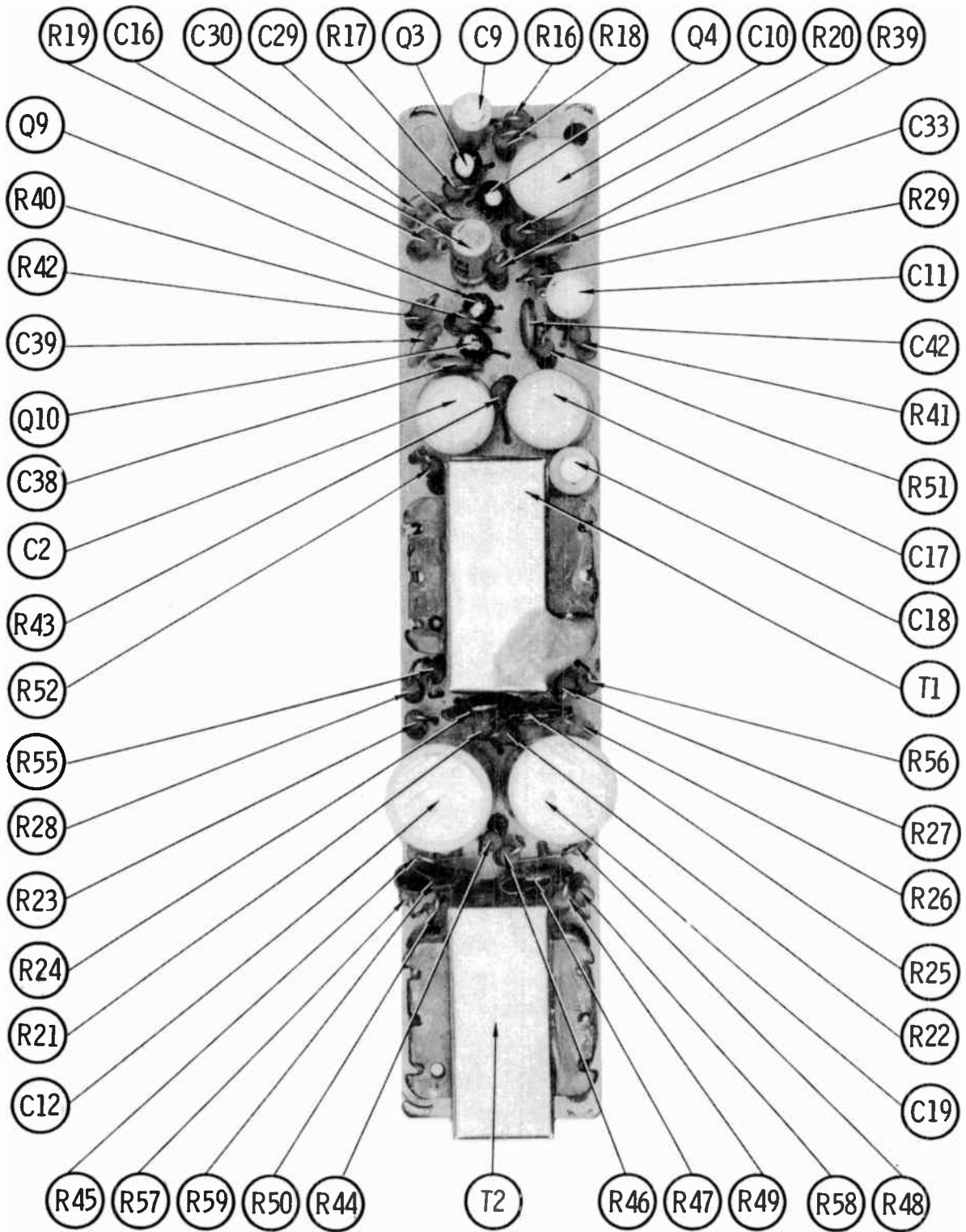
SYMPTOM	REMARKS
Capstan does not rotate	Belt (1) dirty, worn, or broken. Bearing (9) binding. Motor defective or not supplied with power.
Track-Shift mechanism inoperative	Switch (S2) dirty. Ratchet (19) binding or defective. Arm (14) broken. Spring (18) weak or missing. Plunger (13) worn or binding. Solenoid (M4) defective or not supplied with power. Cartridge defective.
Wow or Flutter.	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective.
Sound weak or distorted.	Head dirty, misaligned, or defective. Cartridge defective. Amplifiers defective.
Tape is pulled from cartridge.	Cartridge defective. Capstan dirty or scored.

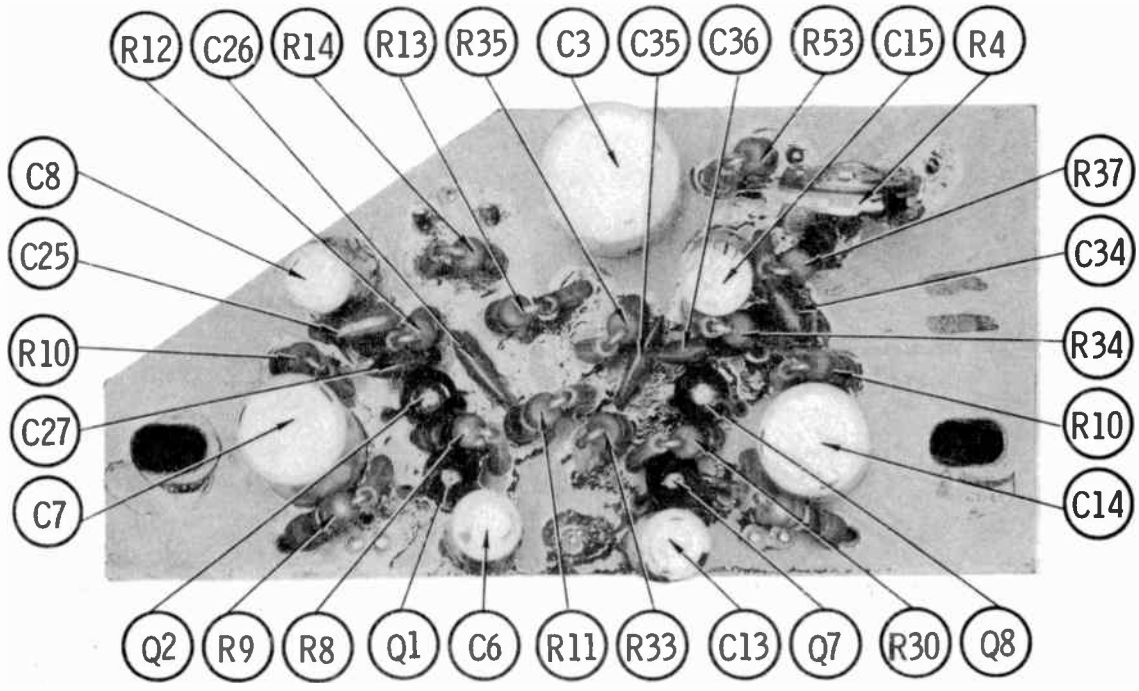
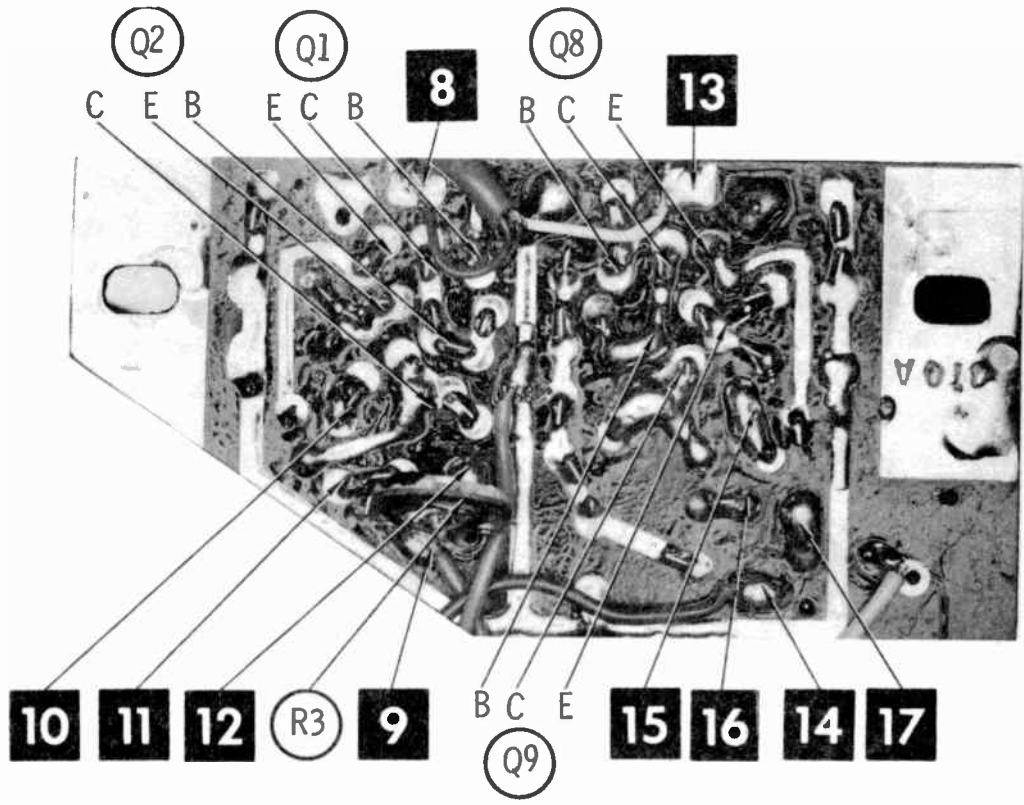
MECHANICAL PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	M00250	Flywheel Belt	12	S01262	Tape Head Arm
2		Motor Pulley	13	P00265	Plunger
3	S00907	Cartridge Lock Spring	14	S00918	Plunger Arm
4	N00232	Cartridge Lock Roller	15	S00925	Spring Holder
5	N00233	Cartridge Guide Roller	16	S00919	Ratchet Stop
6	S00922	Tape Guide	17	S00920	Plunger Arm Guide
7	S01497	Actuator	18	W00443	Plunger Arm Spring
8	M00325	Flywheel	19	M00326	Cam Ratchet
9	S00984	Capstan Thrust Bearing	20	S01263	Tape Head Support Bracket
10	S00981	Flywheel Support Bracket	21	W00502	Tape Head Suppressor Spring
11	W00420	Door Spring	22	W00445	Tape Head Adjustment Spring









PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SC859	Preamp		GE-20	TR-24	HEP54	SK3020	ECG 123
Q2	2SC537	Preamp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q3	2SC537	AF Amp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q4	2SC537	Driver		GE-17	TR-24	HEP723	SK3020	ECG 123
Q5	2SB474	Output (1)						ECG 131MP*
Q6	2SB474	Output (1)						
Q7	2SC859	Preamp		GE-20	TR-24	HEP54	SK3020	ECG 123
Q8	2SC537	Preamp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q9	2SC537	RF Amp		GE-17	TR-24	HEP723	SK3020	ECG 123
Q10	2SC537	Driver		GE-17	TR-24	HEP723	SK3020	ECG 123
Q11	2SB474	Output (1)						ECG 131MP*
Q12	2SB474	Output (1)						

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

* Matched Pair.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-16E	GE-504A	BD4	ECG 116	SK3016	

ELECTROLYTIC CAPACITORS

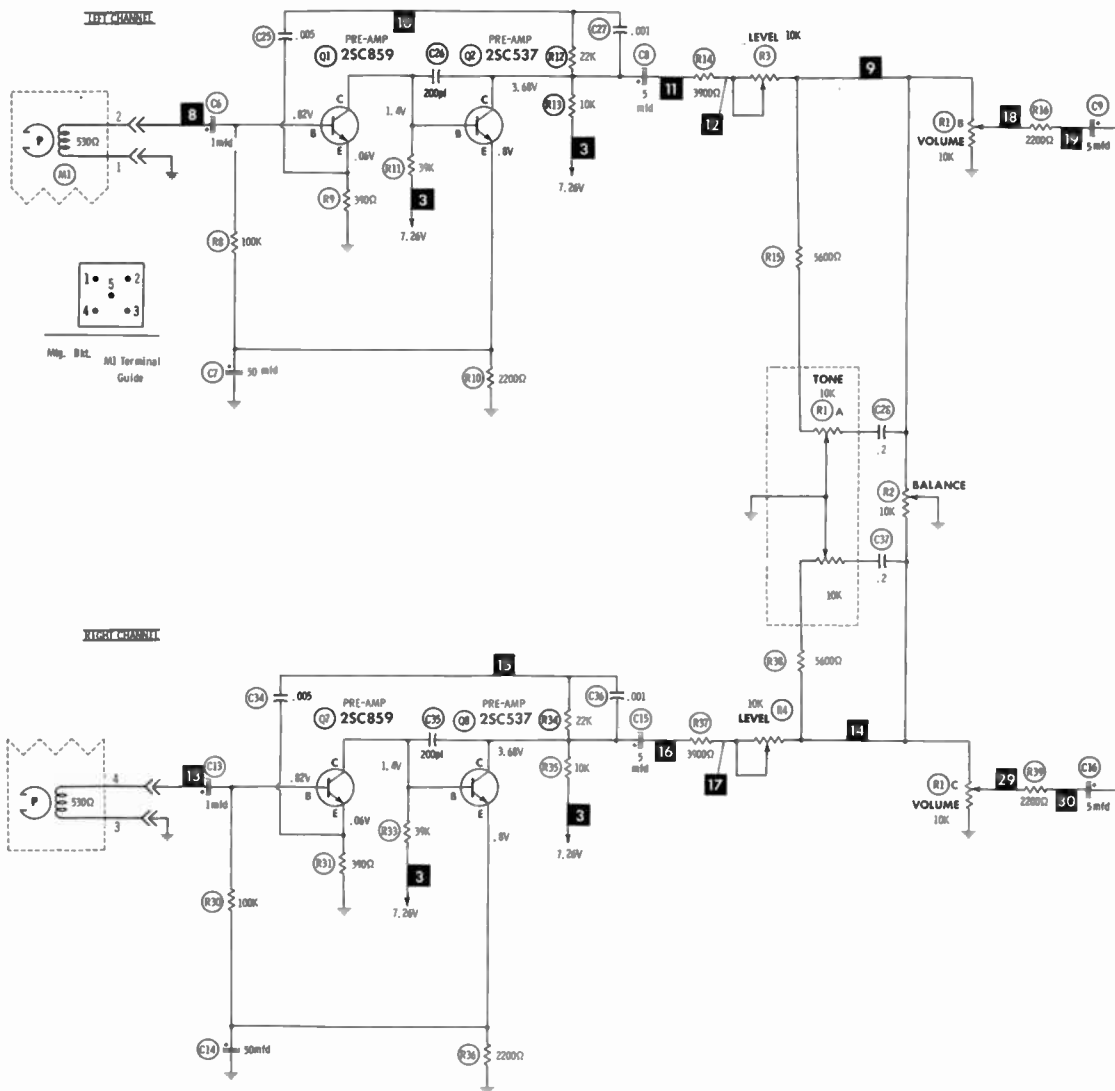
ITEM No.	RATING	REPLACEMENT DATA						
		GIBBS PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	500 15V		BC015500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C2	100 12V		BC015100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C3	100 12V		BC015100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C4	30 15V		BC015025	EP15-25	PC30-35	MT1-13.5	MTV30CB25	TE-1158
C5	100 15V		BC015100	EP15-100	PC100-16	MT1-19	MTV100CF15	TE-1162
C6	1 6V		BCD50001		PC1-100	MT1-1	MTV1C850	TE-1080
C7	50 6V		BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133
C8	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C9	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C10	200 6V		BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C11	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C12	500 15V		BC015500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166
C13	1 6V		BCD50001		PC1-100	MT1-1	MTV1C850	TE-1080
C14	50 6V		BCD6050	EP6-50	PC50-16	MT1-15	MTV50CB15	TE-1133
C15	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C16	5 10V		BCD25005	EP6-5	PC5-100	MT1-3	MTV5CB50	TL-1084
C17	200 6V		BCD6200	EA6-250	PC200-16	MT1-23	MTV200CK10	TE-1104
C18	10 12V		BCD25010	EP15-10	PC10-50	MT1-5	MTV10CB50	TE-1155
C19	500 15V		BC015500	EA15-500	PC500-16	QT1-30A	MTV500DN15	TL-1166

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.
C25	.005		TTP-085	CK-502	MGP005	CCD-502	TA250	TG-D50
C26	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C27	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C28	.2			UK16-204			MAG25022	HY-470
C29	50		NPR-D1 50	DTZ-50	NP050	CCT0-510	CNO450	10TCC-Q50
C30	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-D50
C31	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C32	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C33	150		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C34	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-O50
C35	200		GPD X5F201K	DM-201	GP200	CCD-201	GP320	10TS-T20
C36	.001		GPD X5F102K	DM-102	GP1000	CCD-102	SM210	2SS-D10
C37	.2			UK16-204			MAG25022	HY-470
C38	50		NPD-D1 50	DTZ-50	NP050	CCT0-510	CNO450	10TCC-Q50
C39	.005		TTP-005	CK-502	MGP005	CCD-502	TA250	TG-O50
C40	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C41	.02		TTP-02	CK-203	MGP02	CCD-203	TA120	TG-S20
C42	150		GPD X5F151K	DD-151	GP150	CCD-151	GP315	10TS-T15
C43	.05		TTP-05	CK-503	MGP05	CCD-503	TA150	TGL-S50
C44	.02			CK-203	MGP02	CCD-203	TA120	TG-S20
C45	.001							

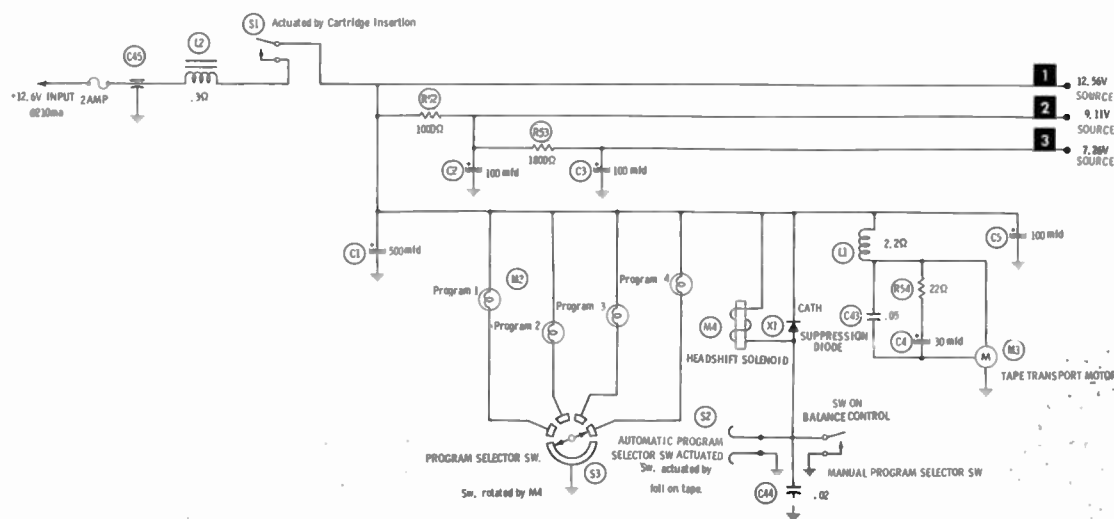
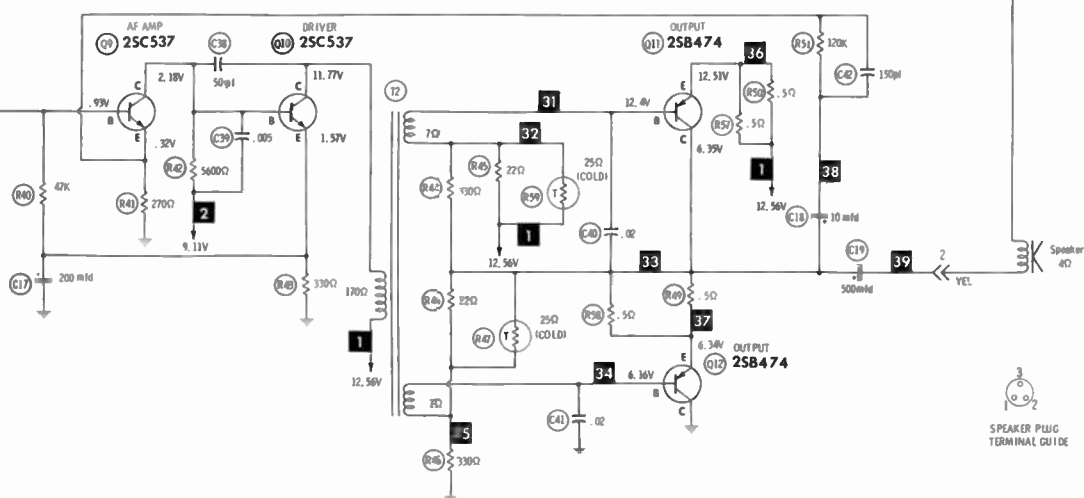
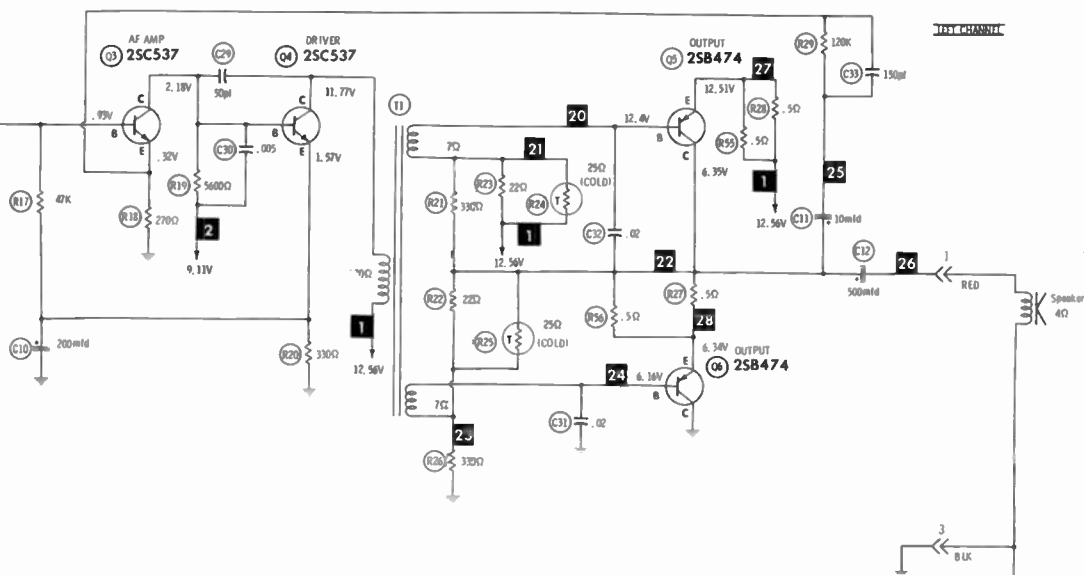
GIBBS MODEL CR-630

NOTE: DEMAGNETIZE HEADS AFTER SERVICING



Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
Supply voltage maintained at rated value for measurements.
Voltage and resistance measured with VTVM or equivalent meter,
no signal applied and controls adjusted for normal operation.
Numbers assigned to terminals may not be found on the unit.
Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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GIBBS MODEL CR-630

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS—IRC PART No.	MALLORY PART No.
R1A B C R2	Tone Volume Volume Balance/ Channel Selector Switch Level	10K 30K 30K 30K					
R3	Level	10K		T-10K (1) (2)		X201R103B (1) (2)	MTC14L1 (1) (2)
R4	Level	10K		T-10K (1) (2)		X201R103B (1) (2)	MTC14L1 (1) (2)

(1) Modify terminals to fit "PC" board.
(2) Cut off one of the outside terminals.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.			IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R23	25 (Cold)				R47	25 (Cold)			
R24	25 (Cold)				R59	25 (Cold)			

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (7.5uh)		19-1009	4611	T960

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.	
L2	210ma	.3	5mh		C-4095	TC-2	TR-156	TY17XT	

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T1	7	1	1						
T2	7	1	1						

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	2 Amp		P00055	AGC2	HDJ	312002	150145	

TAPE HEADS

ITEM No.	MEASURED			PART No.	NORTRONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	340mh			P00296	5800	8-Track Stereo Play

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Program Indicator Lamp		4 used
M3	Motor	P00303	
M4	Solenoid	P00265	
S1	Switch, On-Off	P00297	
S2	Switch, Automatic	P00923	
S3	Program Switch, Program Indicator Contact Switch	W00503 S01264	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM		PART No.	ITEM		PART No.
Knob, Volume or Program Selector		M00338	Program Indicator Lens		S01377
Knob, Tone or Balance		M00339	Tape Door		S01107

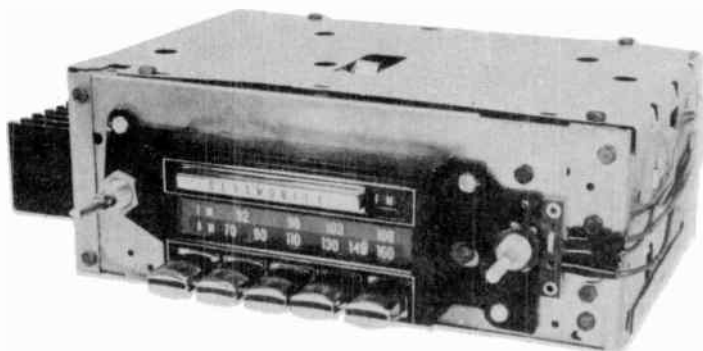


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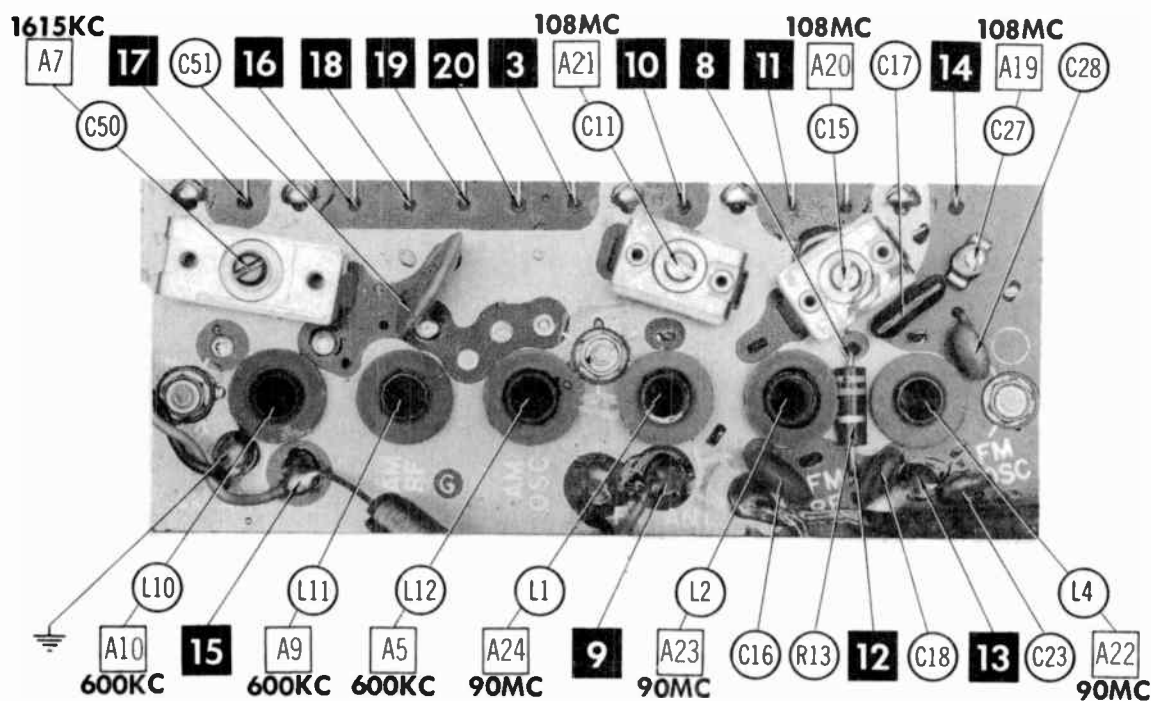
For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are UNITED DELCO



OLDSMOBILE MODEL 93AFP1
(7307863)
(69-F-85)

OLDSMOBILE MODEL 93AFP1

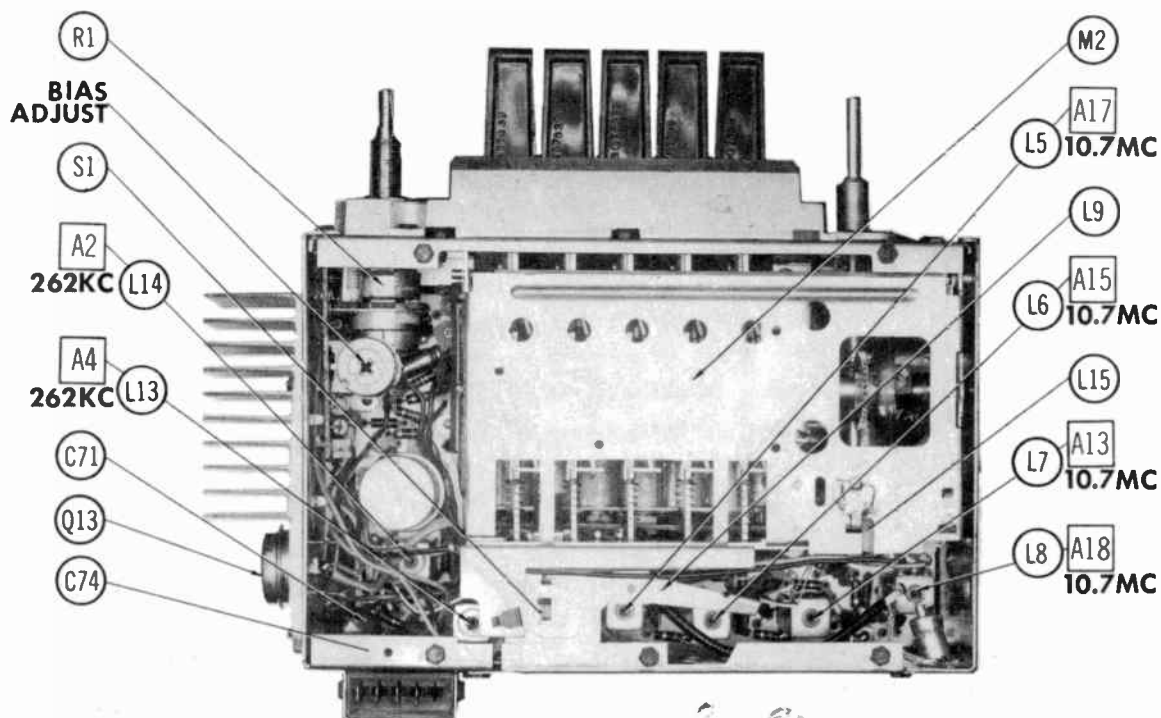
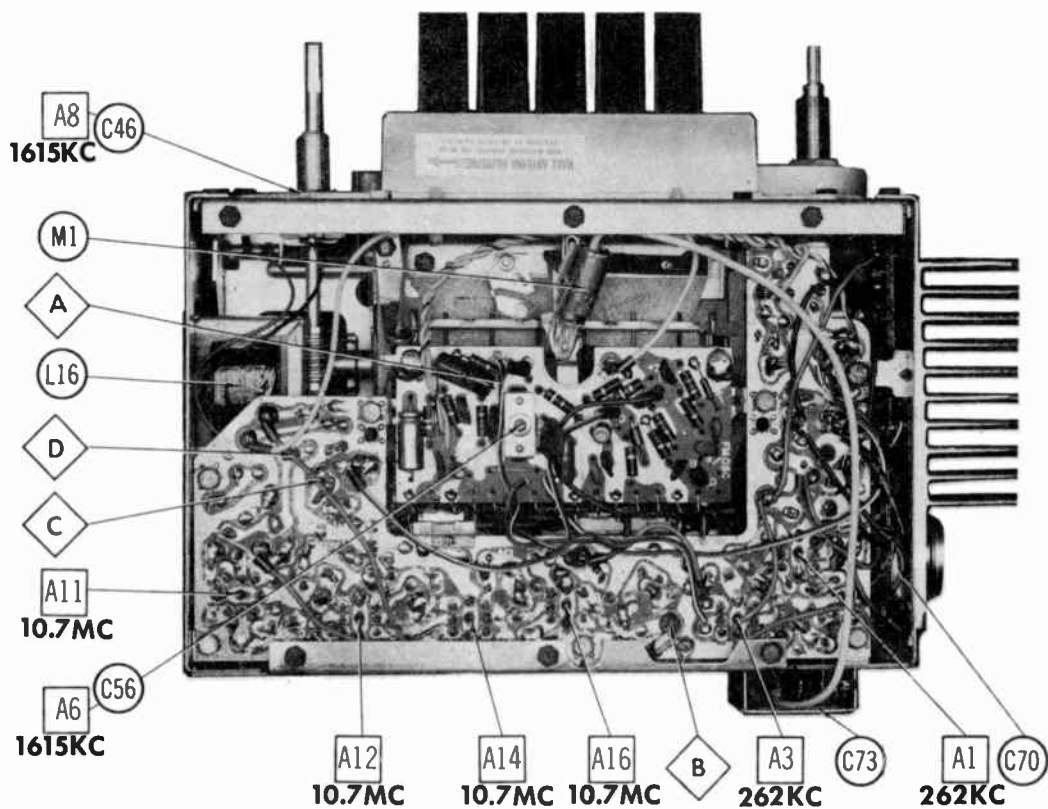


A Howard W. Sams CIRCUITRACE Photo

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TD653R



ALIGNMENT INSTRUCTIONS

Check for specified source voltage.

Use only enough generator output to provide a usable indication.

Suggested Alignment Tools:

A1 thru A4, A11 thru A18... GENERAL CEMENT #9296, 9297, 9300

WALSCO #2510, 2546, 2547

A6, A7, A8, A20, A21, A22... GENERAL CEMENT #8290, 8868, 9087

WALSCO #2525, 2528, 2587

PUSH-BUTTON ADJUSTMENT

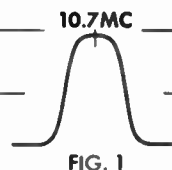
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly
4. Repeat for remaining buttons.

	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\diamond A$, low side to ground.	262KC 400 cycle modulation	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 input, 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 extended 31", tune in a weak station near 1400KC and adjust A8 for maximum output. Antenna adjustment (A8) is located behind Tuning & Dummy Knob.						

FM IF ALIGNMENT USING AM SIGNAL GENERATOR—SELECTOR IN FM POSITION

High side of generator thru .001mfd to point $\diamond B$, low side to ground.

	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC Unmodulated	Point of non-interference	DC probe of VTVM to point $\diamond C$, common to ground.	A11 thru A17	Adjust for maximum.
5.	"	"	DC probe of VTVM to point $\diamond D$, common to ground.	A18	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

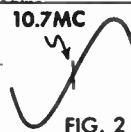
High side of generator thru .001mfd to point $\diamond B$, low side to ground. Use only enough marker signal for indication. Use 60 cycle frequency modulated signal with 450KC sweep. Use 60 cycle sawtooth voltage in scope for horizontal deflection.

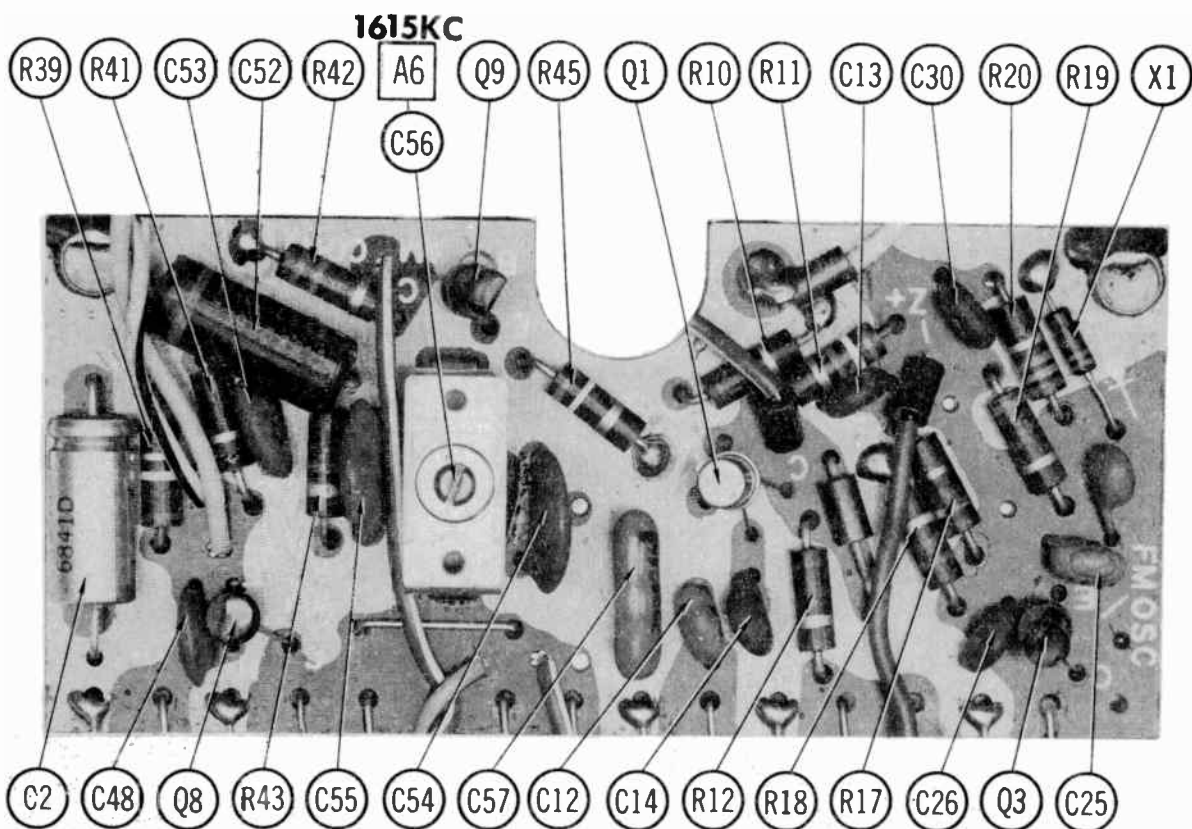
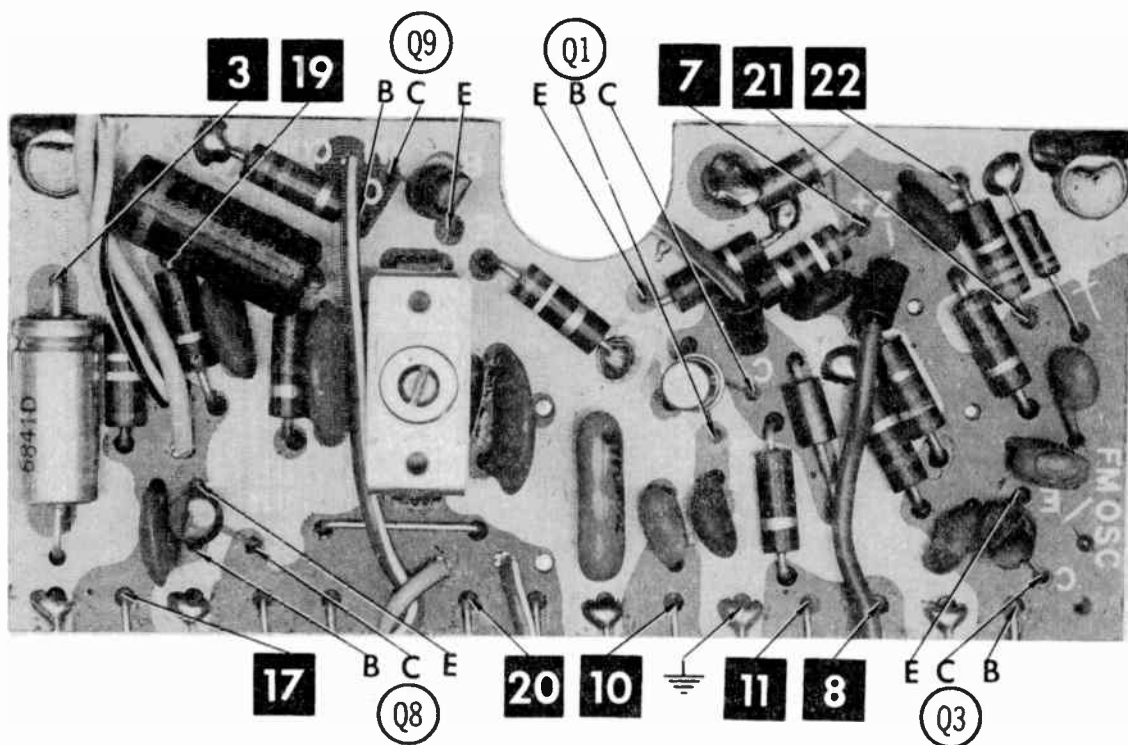
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC 450KC Sweep	Point of non-interference	Vert. amp of scope to point $\diamond C$, low side to ground.	A11 thru A17	Disconnect stabilizing capacitor C4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C4.
5.	"	"	Vert. amp of scope to point $\diamond D$, low side to ground.	A18	Adjust A18 (secondary) to place marker at center of "S" curve similar to Fig. 2. Readjust A11 (primary) for maximum amplitude and straightness of line.

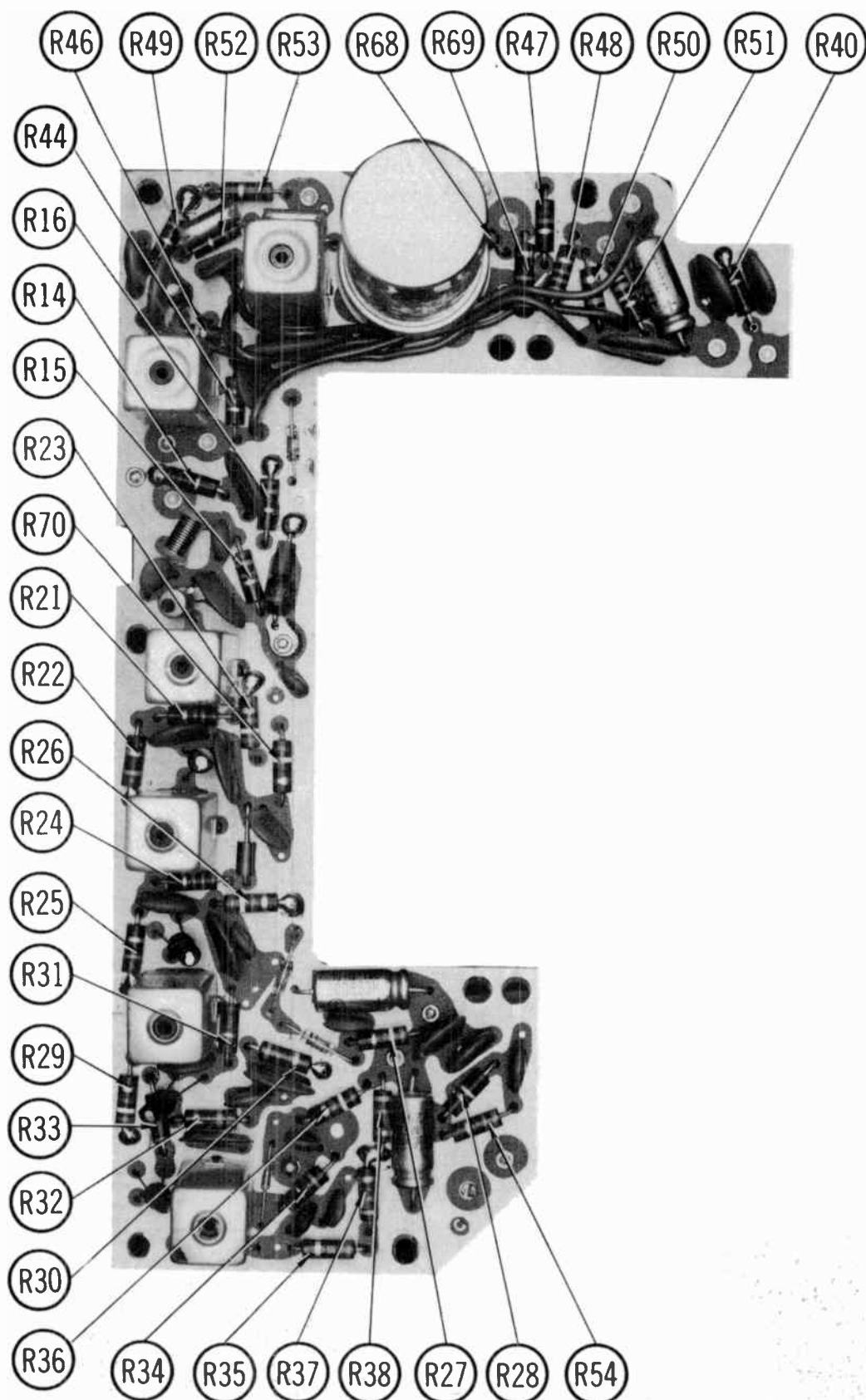
FM RF ALIGNMENT—SELECTOR IN FM POSITION

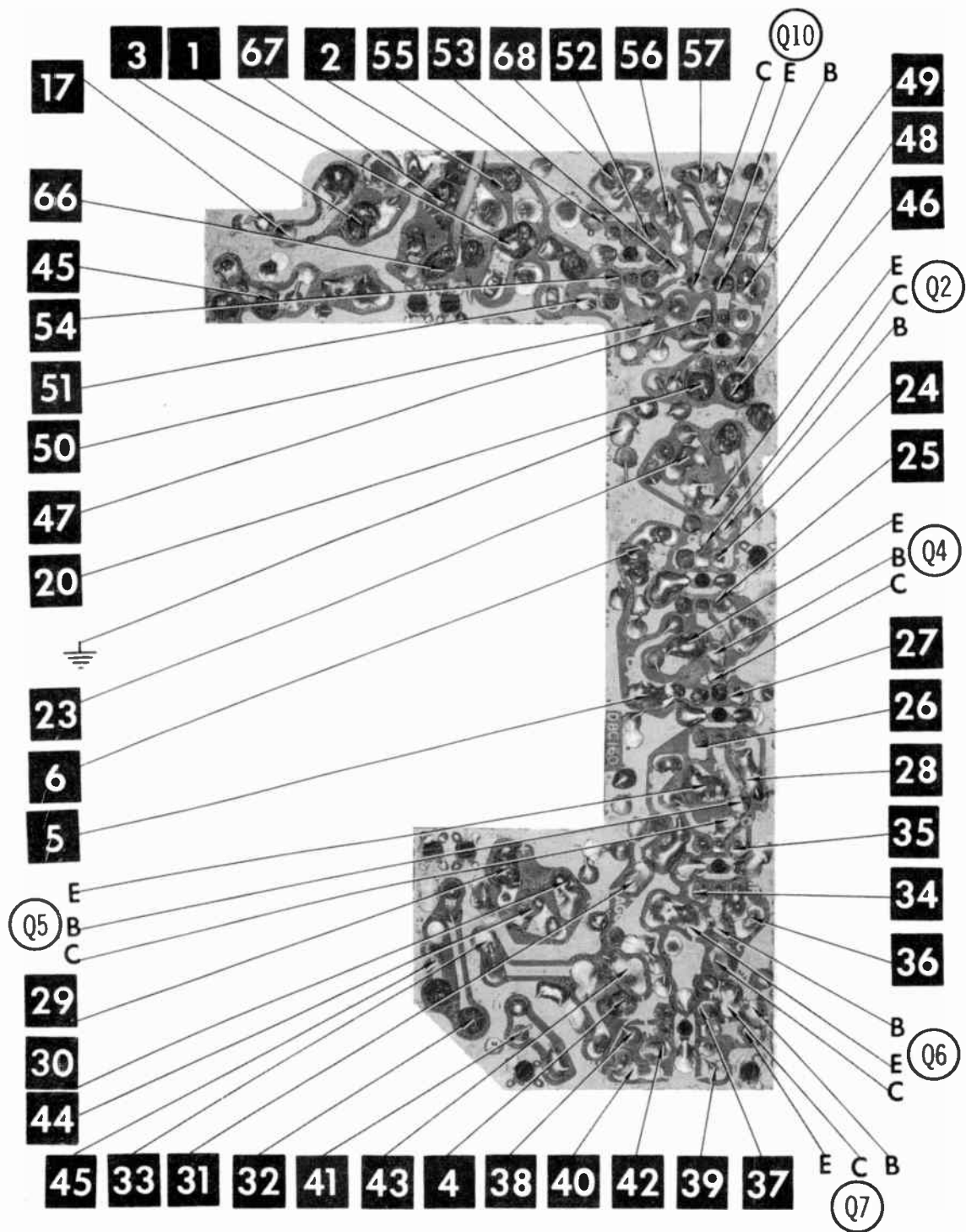
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. NOTE: Rear of Osc. core (A22) should be 1 3/8" from mounting end of Coil form.

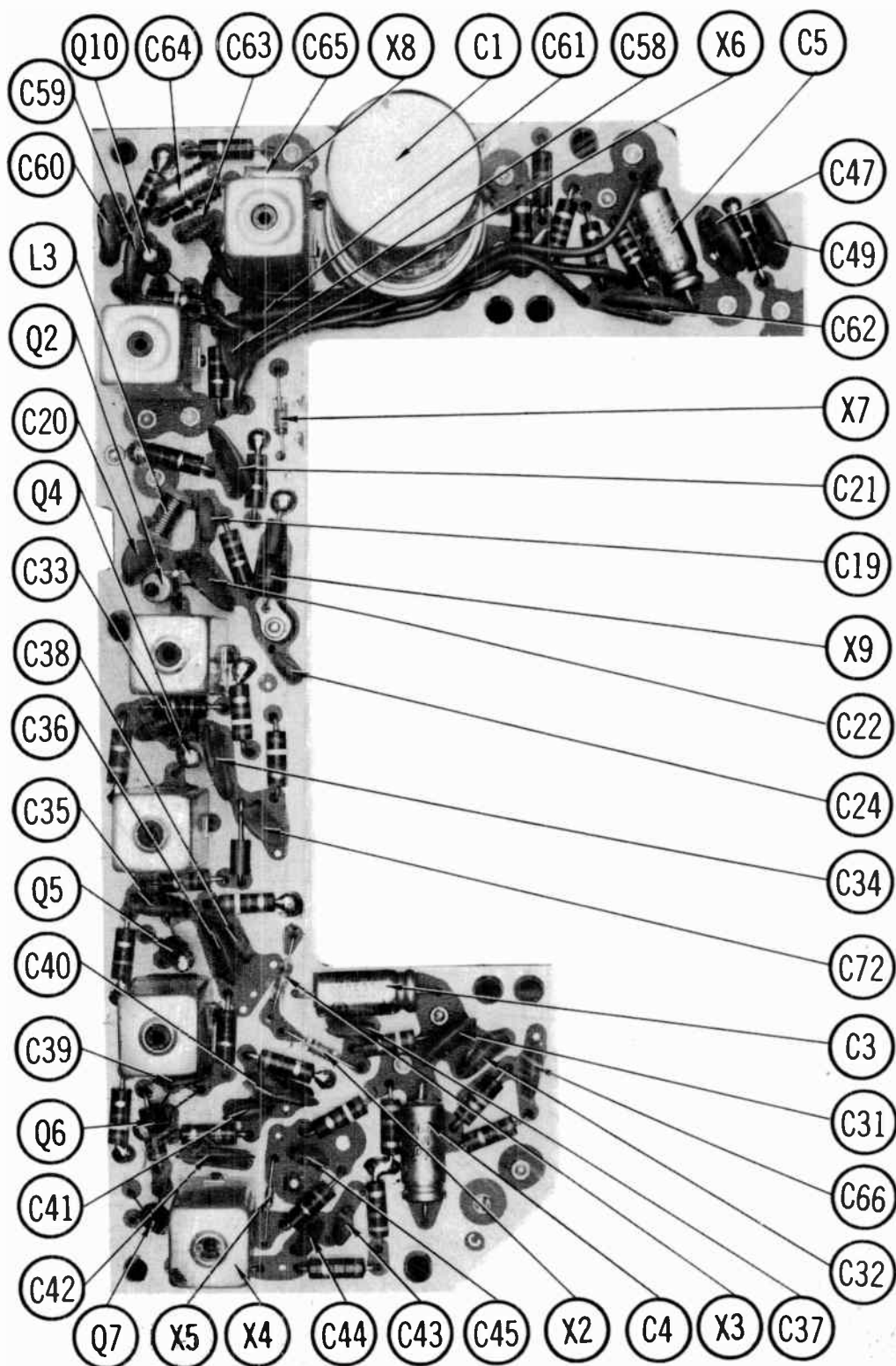
	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
6.	108MC	High freq. end	DC probe of VTVM to point $\diamond C$, common to ground.	A19, A20, A21	Adjust for maximum.
7.	90MC Unmodulated	Tune to signal.	"	A23, A24	Rock tuning and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.

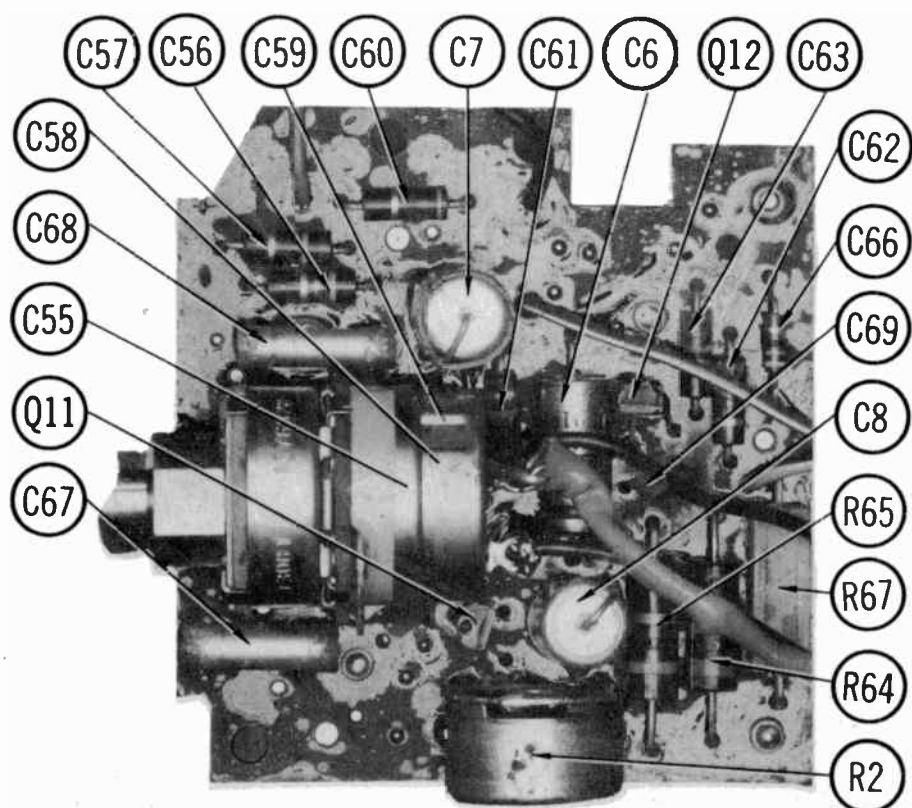
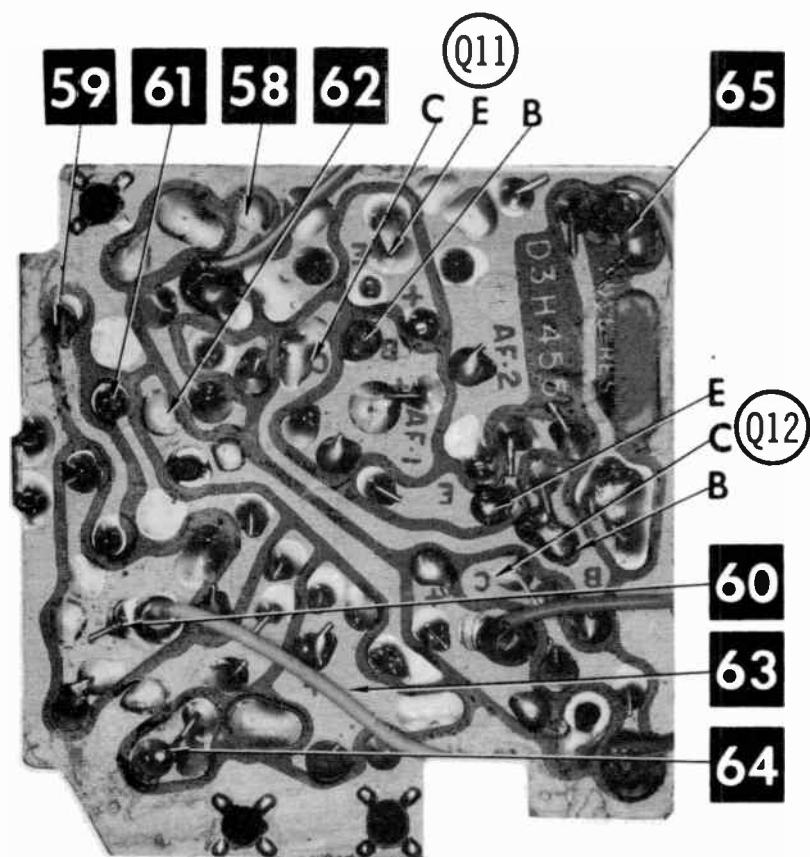












PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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 BELOEN 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.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-78	FM RF Amp		GE-17	TR-22	HEP50	SK3018	ECG 108
Q2	DS-78	FM Mixer		GE-17	TR-22	HEP50	SK3018	ECG 108
Q3	DS-74	FM Oscillator		GE-11	TR-21	HEP56	SK3018	ECG 108
Q4	DS-85	1st FM IF Amp		GE-17	TR-21	HEP53	SK3018	ECG 108
Q5	DS-85	2nd FM IF Amp		GE-17	TR-21	HEP53	SK3018	ECG 108
Q6	DS-73	3rd FM IF Amp		GE-17	TR-21	HEP53	SK3018	ECG 108
Q7	DS-85	Limiter		GE-17	TR-21	HEP53	SK3018	ECG 108
Q8	DS-71	AM RF Amp		GE-20	TR-21	HEP53	SK3018	ECG 108
Q9	DS-72	AM Converter		GE-20	TR-21	HEP53	SK3018	ECG 108
Q10	DS-72	AM IF Amp		GE-20	TR-21	HEP53	SK3018	ECG 108
Q11	DS-67	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q12	DS-66	AF Amp		GE-10	TR-21	HEP54	SK3020	ECG 123
Q13	DS-501	Output *		GE-4	TR-03	HEP233	SK3012	ECG 105

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

OLDSMOBILE MODEL 93AFPI

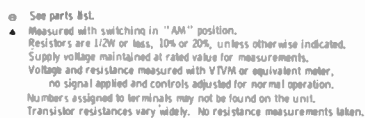
POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-55					(1) Matched Pair Zener 8.2V
X2	DS-27	1N34AS	1N34A	ECG 109		
X3	DS-27	1N34AS	1N34A	ECG 109		
X4	DS-39 (1)	1N60	1N542 (1)	ECG 110 (1)		
X5	DS-39	1N60				
X6	DS-27	1N34AS	1N34A	ECG 109		
X7	DS-27	1N34AS	1N34A	ECG 109		
X8	DS-27	1N34AS	1N34A	ECG 109		
X9	DS-49	GE-X11	1ZM8.2			

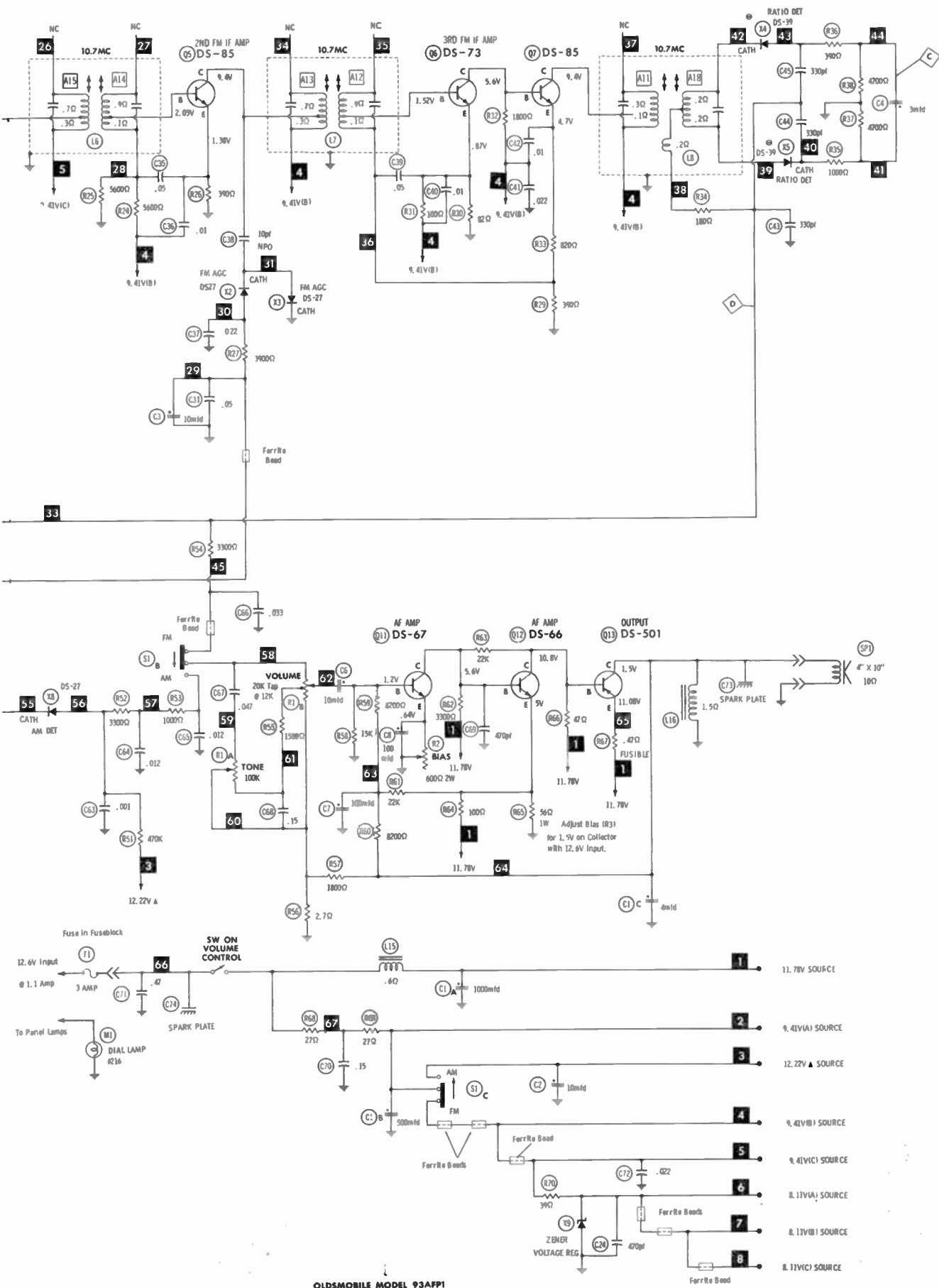
ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	1000 16V	7283675	AFH3-54-41		CC0006		FPS300.91	PCL-3021.8
B	500 16V							
C	4 11.5Vrms							
C2	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	MTA10035	TL-1128
C3	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	MTA10035	TE-1128
C4	3 12V	7291860	PTT50	EA15-5	NLW3-15	MT1-3	MTA3050	TE-1122
C5	30 6V	7296313	PTT27	EA6-25	NLW30-6	MT1-13	MTA30015	TE-1132.1
C6	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	MTA10035	TL-1128
C7	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	MTA125E6	TE-1102
C8	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	MTA125E6	TE-1102

(CONTINUED ON PAGE 106)



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OLDSMOBILE MODEL 93AFPI

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

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		#7293221						
C12	2.2 NPO		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C13	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C14	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C15		#7291003						
C16	56 NPO			TCZ-56		CCD-560	CN0456	10TCC-Q56
C17	180		GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	10TS-T18
C18	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCD-100	CN0410	10TCC-Q10
C19	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C20	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C21	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C22	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C23	1.5 NPO		NPO-DI 1.5	DTZ-1R5			CN0515	10TCC-V15
C24	470		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C25	3.3		NPO-DI 3.3	DTZ-3R3			CN0533	10TCC-V33
C26	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C27		#7292611						
C28	7.5 NPO	#7300236						
C29	4.7 N470					*	*	10TCT-V47
C30	270		GPD X5F271K	DD-271	GP270	CCD-271	GP327	5GA-T27
C31	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C32	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C33	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C34	.01		TTP-01	CK-103	HOV101ZV103P	CCD-103	TA110	TG-S10
C35	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C36	.01		TTP-01	CK-103	HOV101ZV103P	CCD-103	TA110	TG-S10
C37	.0022		GPD X5F222K	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C38	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCD-100	CN0410	10TCC-Q10
C39	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C40	.01		TTP-01	CK-103	HOV101ZV103P	CCD-103	TA110	TG-S10
C41	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C42	.01		TTP-01	CK-103	HOV101ZV103P	CCD-103	TA110	TG-S10
C43	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C44	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C45	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C46		#7283618						
C47	.15		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C48	91			TCN-91				
C49	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C50		#7295193						
C51	200 N750		N750-DI 200	DTN-200		CCD-201	CN7320	10TCU-T20
C52	.0068 75V		DBE6D68	CPR-6800J	WMF1D68	1DP-1-682	PVC4268	6PS-D68
C53	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C54	165 N330					*	*	
C55	165 N330					*	*	
C56		#7295192						
C57	.0047 75V		DBE6D5	CPR-5000J	WMF1D5	1DP-1-502	PVC625	6PS-D50
C58	.001		GPD X5F102K	DM-102	JBX601YP102K	CCD-102	SM210	2SS-D10
C59	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C60	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C61	180 N080					*	*	10TCN-T18
C62	.1		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C63	.001		GPD X5F102K	DM-102	JBX601YP102K	CCD-102	SM210	2SS-D10
C64	.012 75V		V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391WD3
C65	.012 75V		V1612S1	CPR-10000J	WMF1S1	1DP-1-103	PVC211	225P10391WD3
C66	.033		TTP-03	CK-303		CCD-303	GP130	TG-S30
C67	.047 75V		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391WD3
C68	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C69	470		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C70	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C71	.47 75V		DBE2P47		DPMS2P47	1DP-4-504	PVC105	2PS-P50
C72	.022		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C73		#7271564						
C74		#7271564						

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
Delco Part Number.

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS—IRC PART No.	MALLORY PART No.
R1A 8	Tone Volume/Switch	100K 20K Tap @ 11K	7302416	F2-100K, R14-25K, FFS101, RFS111, 8B014, S8004, KR-4		* QJ-2521A	P15A, 4078, SH4375, RU24T14, OX1125, IS1750, US41 MR850T
R2	Bias	600 2W	7294878	V-600	U39-600	110-600	

* "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements & Shafts: 813-128, P17-105 (Panel), 819-119X, R26-121 (Rear)
S6 (Bushing), N4 (Spacer Nut), 76-1 (Switch)

"SNAPTROL" Equivalent: 8U8 (1), CF52, CR50T, SF8, SR9, N4, GC.
(1) Alter Bushing and adjust Spacer Nut to meet requirements.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R67	.47 (Fusible)			7281890

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	(1)			
L2	FM RF	(1)			
L3	FM IF Trap (1uh)	7296856	19-1000	4602	T855
L4	FM Oscillator	(1)			
L5	FM Input IF	7296100			
L6	FM Interstage IF	7296101			
L7	FM Interstage IF	7296102			
L8	Ratio Detector	7299944			
L9	RF Choke (8uh)	7255738	19-1009	4611	T822
L10	AM Antenna	(1)			
L11	AM RF	(1)			
L12	AM Oscillator	(1)			
L13	AM IF Input	7295169			
L14	AM IF Output	7295170		8006	

(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.	TRIAD PART No.	
L15	1.1 Amp	.6	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA					NOTES
		PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L16	30mh	1222297					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 10" PM 10 ohms	7311413			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3AG 10 Amp		In Fuse Block	AGC 10		311010		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1 M2 S1	Dial Lamp Tuner Coil Assy. Switch, Selector	1222504 7284009	#216

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	7302430	Knob, Volume or Tuning	402071
Dial Glass	7302368	Knob, Tone	402072
Dial Pointer	7302428	Knob, Dummy	402074
Push Button	7310421		

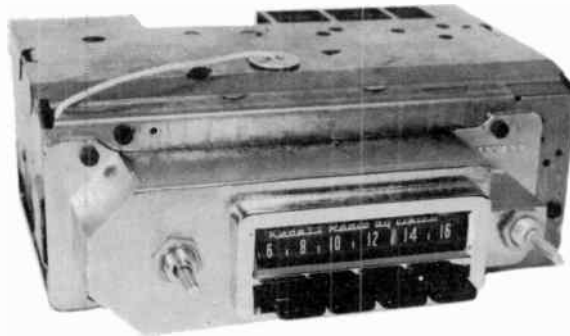


PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are UNITED DELCO



OPEL MODEL 94PPB1
(7312234)
(69-Opel G/T)

OPEL MODEL 94PPB1

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 #5009,8728A,8987
WALSCO #2531X, 2536
A5,A6,A7,A8.....GENERAL CEMENT #8290,8868,9087
WALSCO #2525,2528,2587

PUSH-BUTTON ADJUSTMENT

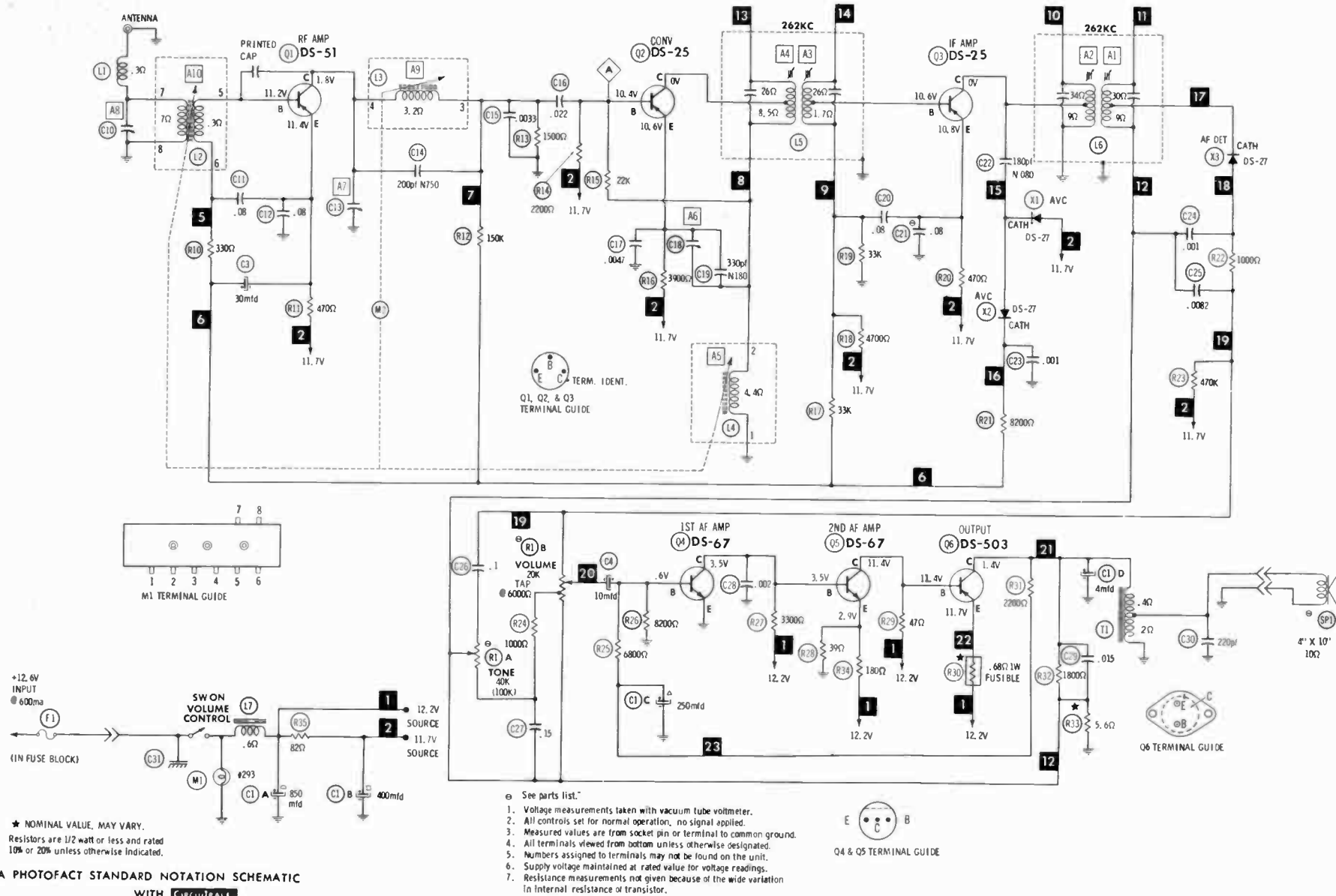
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

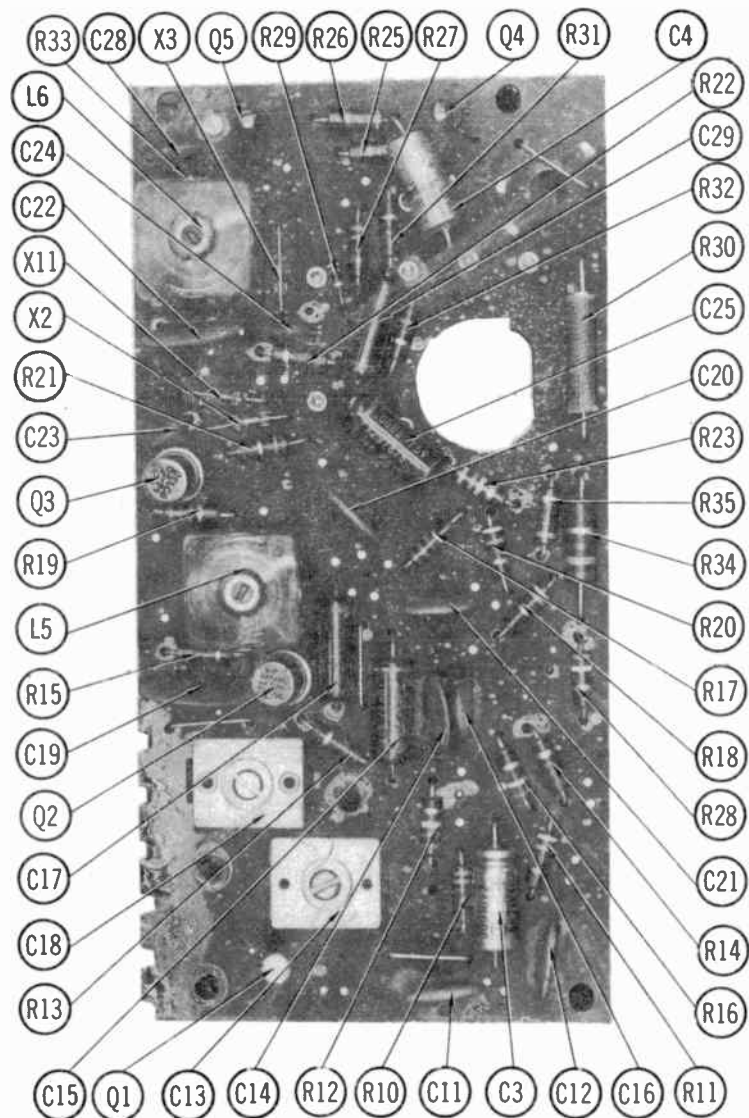
	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262KC 400 cycle modulation	High freq. end stop.	Output meter across voice coil.	A1,A2, A3,A4	Adjust for maximum.
Check setting of oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82pf to antenna input, 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 extended to desired height, tune in a weak station near 1400KC and adjust A8 for maximum output. Antenna adjustment (A8) is located behind Dummy and Tuning Knob.						

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TD449R





PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Port Number, 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.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFR. PART No.		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-51	RF Amplifier			GE-9A	TR-06	HEP2	SK-3008	ECG 126
Q2	DS-25	Converter			GE-9A	TR-06	HEP2	SK-3008	ECG 126
Q3	DS-25	IF Amplifier			GE-9A	TR-06	HEP2	SK-3008	ECG 126
Q4	DS-67	AF Amplifier			GE-10	TR-21	HEP54	SK-3020	ECG 123
Q5	DS-67	AF Amplifier			GE-10	TR-21	HEP54	SK-3020	ECG 123
Q6	DS-503	Output *			GE-3	TR-01	HEP232	SK-3009	ECG 104

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	DS-27	1N34AS	1N34A	ECG 109		
X2	DS-27	1N34AS	1N34A	ECG 109		
X3	DS-27	1N34AS	1N34A	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	850 16V	7310185			DD0009A			
B	400 16V							
C	250 2V							
D	4 11.5							
C2	30 6V	7296313	PTT27	EA6-50	NLW3D-6	MT1-13	MTA30015	TE-1092
C3	10 12V	7292738	PTT23	EA15-10	NLW10-15	MT1-5	MTA10035	TL-1128

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C10		#7294355						
C11	.08							
C12	.08	#7287935						
C13								
C14	200 N750		N750-DI 200	DTN-200	CV601UJ201K	CCTN-201	CN7301	10TCU-T20
C15	.0033 75V		DBE6D33	CPR-3300J	WMF1D33	6DP-1-332	PVC6233	6PS-D33
C16	.022		TTP-02	CK-203	HOR101ZY203P	CCD-203	TA120	TG-S20
C17	.0047 75V		DBE6D47	CPR-4700J	WMF1S47	6DP-1-472	PVC6247	6PS-D47
C18		#7282165						
C19	330 N180					*	*	
C20	.08							
C21	.08					*	*	
C22	180 H080							10TCN-T18
C23	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C24	.001		GPD X5F102K	DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C25	.0082 75V		DBE6D82	CPR-8200J	WMF1S82	6DP-2-822	PVC6282	6PS-D82
C26	.1		TTP-1	CK-104	HOV101ZY104Z		TA010	TG-P10
C27	.15 75V		DBE6P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C28	.002		GPD X5F202K	DM-202	JBX601YP202K	CCD-202	GP220	2SS-D20
C29	.015 75V		V1612S15	DD-153	DMF1S15	1DP-1-153	PVC2115	225P15391
C31		#7271564						
C30	220		GPD X5F221K	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22

Delco Part Number

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

CONTROLS (All wattages 1/2 watt, or less, unless listed)

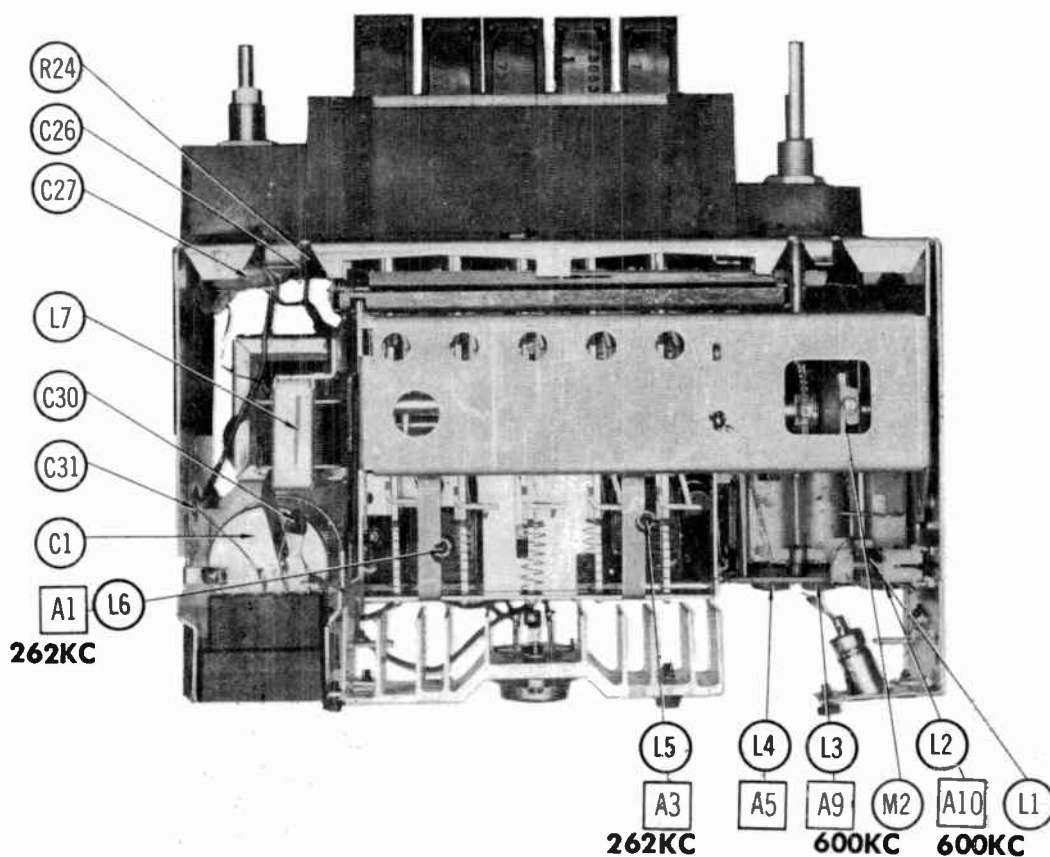
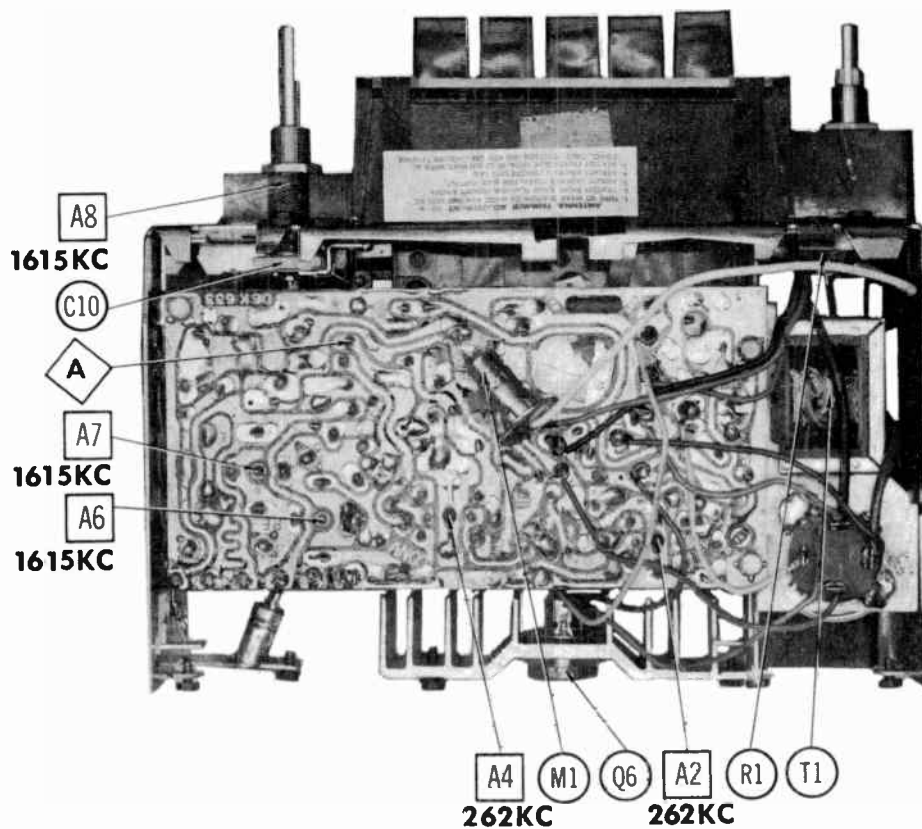
ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.
R1A	Tone	100K	7307446	F2-100K,R2-25K,		* QJ-2545A
B	Volume/Switch	25K		FFS010,RFS1D4, BB008, KR-4		P15A, 4012, RU24A, 0X625, IS1375, US41

* "CONCENTRIKIT" Equivalent: K-8 Kit with Base Elements & Shafts: B13-128,P14-019 (Panel), B13-120,R16-106 (Rear), S47 (Bushing), 76-1 (Switch)

"SNAPTROL" Equivalent: BU8 (1), CF52, CR501 (2), SF68, SR39, GC

(1) Alter Bushing to meet Requirements.

(2) Do not use Tap.



PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R30	.68 ohms (Fusible)			7287480

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (6.2uh)	7281946	19-1004	4610	T859
L2	Antenna	(1)			
L3	RF	(1)			
L4	Oscillator	(1)			
L5	Input IF	1221856	16-6704	6542	TA653
L6	Output IF	1221857	16-6705	6543	TA653

(1) Part of M2. Coil and Housing Assembly Part Number 7287957.

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.	
L1	600ma	.6	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12 Tap	0 10	7282057					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5" x 7" PM 10 ohms	7312194			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3AG 10 Amp		In Fuse Block	AGC 10		311010		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Dial Lamp		
M2	Tuner Coil Assembly	7287957	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	7312587	Knob, Tuning or Volume	9786797
Dial Glass	7307378	Knob, Tone	7302635
Dial Pointer	7307409	Knob, Dummy	7274892
Push Button	7298250		

WIRING DATA

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

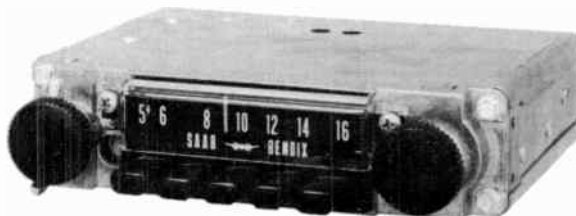


PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE: Manufacturer Part Numbers Shown Are BENDIX



SAAB MODEL 8BSA
(1968)

SAAB MODEL 8BSA

ALIGNMENT INSTRUCTIONS

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

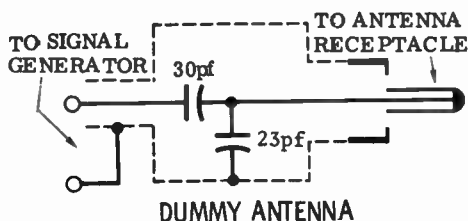
A1 thru A4....GENERAL CEMENT 9296,9297,9300
WALSCO #2510,2546,2547
A5,A6,A7.....GENERAL CEMENT 8271,8868,9087
WALSCO #2521,2528,2587

PUSH-BUTTON ADJUSTMENT

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

	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point Δ , low side to ground.	262.5KC 400 cycle modulation	High freq. end stop.	Output meter across voice coil.	A1,A2, A3,A4	Adjust for maximum.
2.	Thru dummy antenna to antenna input.	1605KC	"	"	A5,A6, A7	"
Step 3 is not necessary unless tuner or associated components have been disturbed. If necessary, back tuning cores (A8,A9,A10) out of coils but not out of forms. Repeat Step 2.						
3.	Thru dummy antenna to antenna input.	1000KC	Tune to signal	Output meter across voice coil	A8,A9, A10	Adjust for maximum. Repeat Steps 2 and 3 until no further improvement is noted

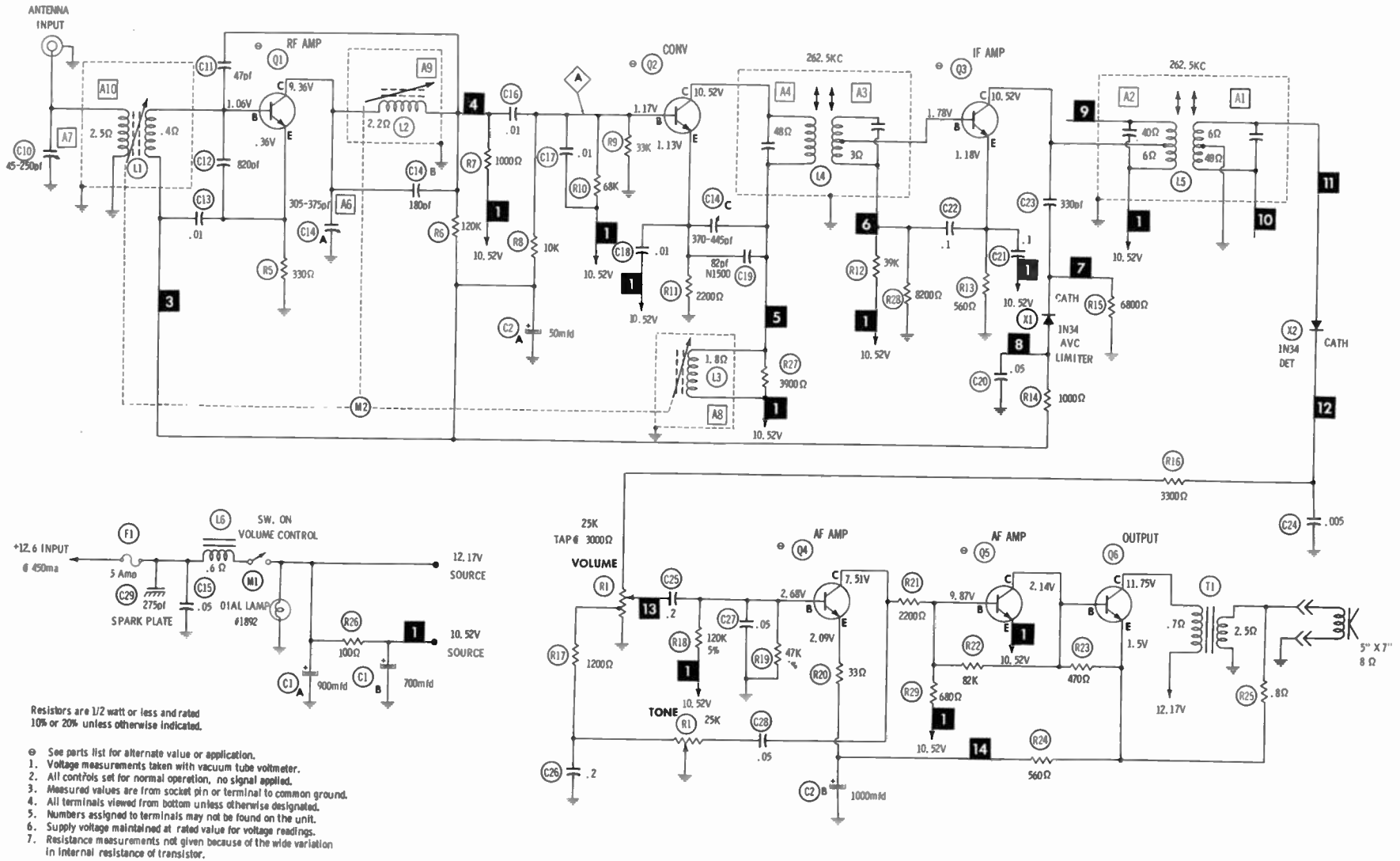
With radio installed in car and antenna extended to desired height, tune in a weak station near 1400KC and adjust A7 for maximum output. Antenna adjustment (A7) is located on left rear center.



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TD552R

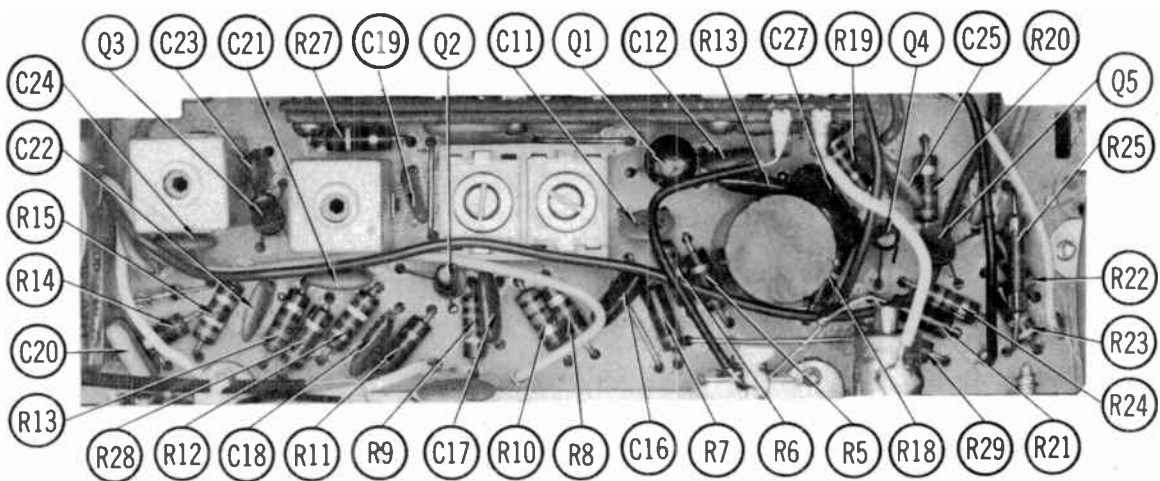
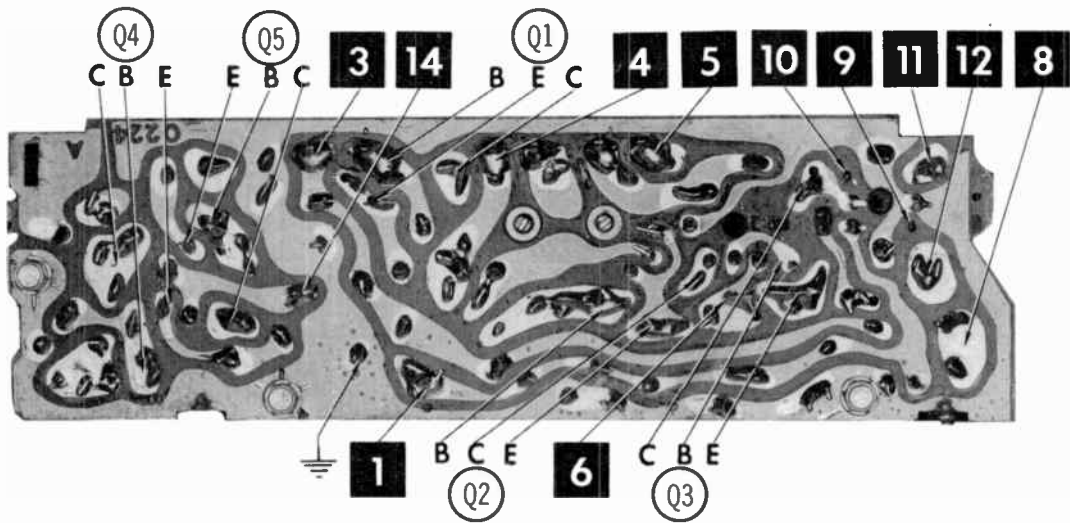


A PHOTOFAC STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**

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SAAB MODEL 885A



PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, 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.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1		RF Amp	2093308-0704		GE-20	TR-21	HEP54	SK3018	ECG 107
Q2		Converter	2093308-0705		GE-20	TR-21	HEP54	SK3018	ECG 107
Q3		IF Amp	2093308-0706		GE-20	TR-21	HEP54	SK3018	ECG 107
Q4		AF Amp	2092609-0718		GE-10	TR-21	HEP54	SK3020	ECG 123
Q5		AF Amp	2057013-0702		GE-21	TR-19	HEP51	SK3025	ECG 125
Q6		Output	4080187-0507				HEP245 (1)		ECG 152(1)

(1) Use original mounting base.

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	2092055-0001	1N34AS	1N34A	ECG 109		
X2	2092055-0001	1N34AS	1N34A	ECG 109		

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	900 16V	2092983-0711	PWH2-02-065	BPC0012				PCL-2182
B	700 16V							
C2A	50 4V	2092246-0710	BC03X100050					
B	1000 4V							

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	45-250	#219083-0010	NPO-01 50	DTZ-50	CX601CG470K	S464		
C11	47		GPD X5F821K	DD-821	JBY601YP821K	CCD-510	CN0450	10TCC-Q50
C12	820		TTP-01	CK-103	HOY101ZV103P	CCD-821	GP382	10TS-T82
C13	.01					CCD-103	TA110	TG-S10
C14A	305-375	#2092422-0718						
B	180							
C	370-445							
C15	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C16	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C17	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C18	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C19	82 N1500					*	*	10TCW-Q82
C20	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C21	.1		TTP-1	CK-104	HOV101ZV104Z	CCD-103	TA010	TG-P10
C22	.1		TTP-1	CK-104	HOV101ZV104Z	CCD-103	TA010	TG-P10
C23	330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C24	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C25	.2			UK-204	HCZ3ROXR224P		MAG3022	HY-125
C26	.2			UK-204	HCZ3ROXR224P		MAG3022	HY-125
C27	.05		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C28	.05 100V		DBE655		DPMS655	6DP-3-503	PVC615	6PS-S50
C29	275	#2093050-0705						

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 listed)

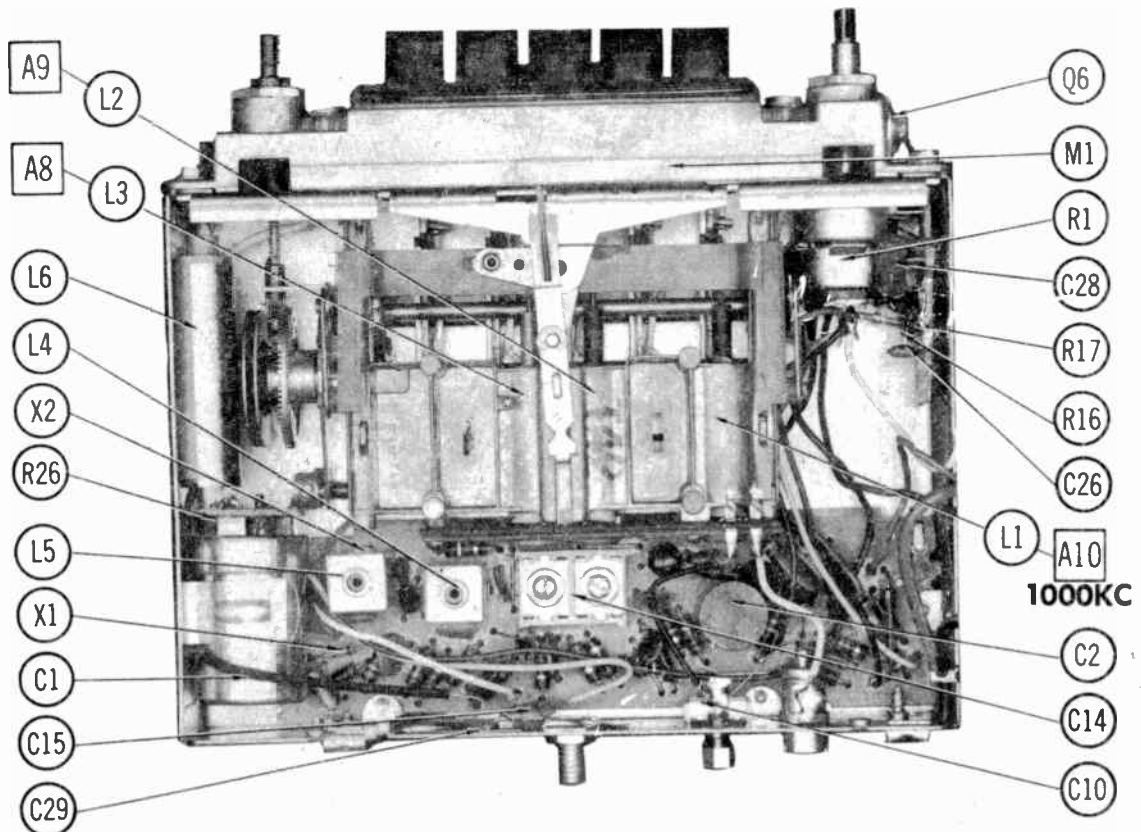
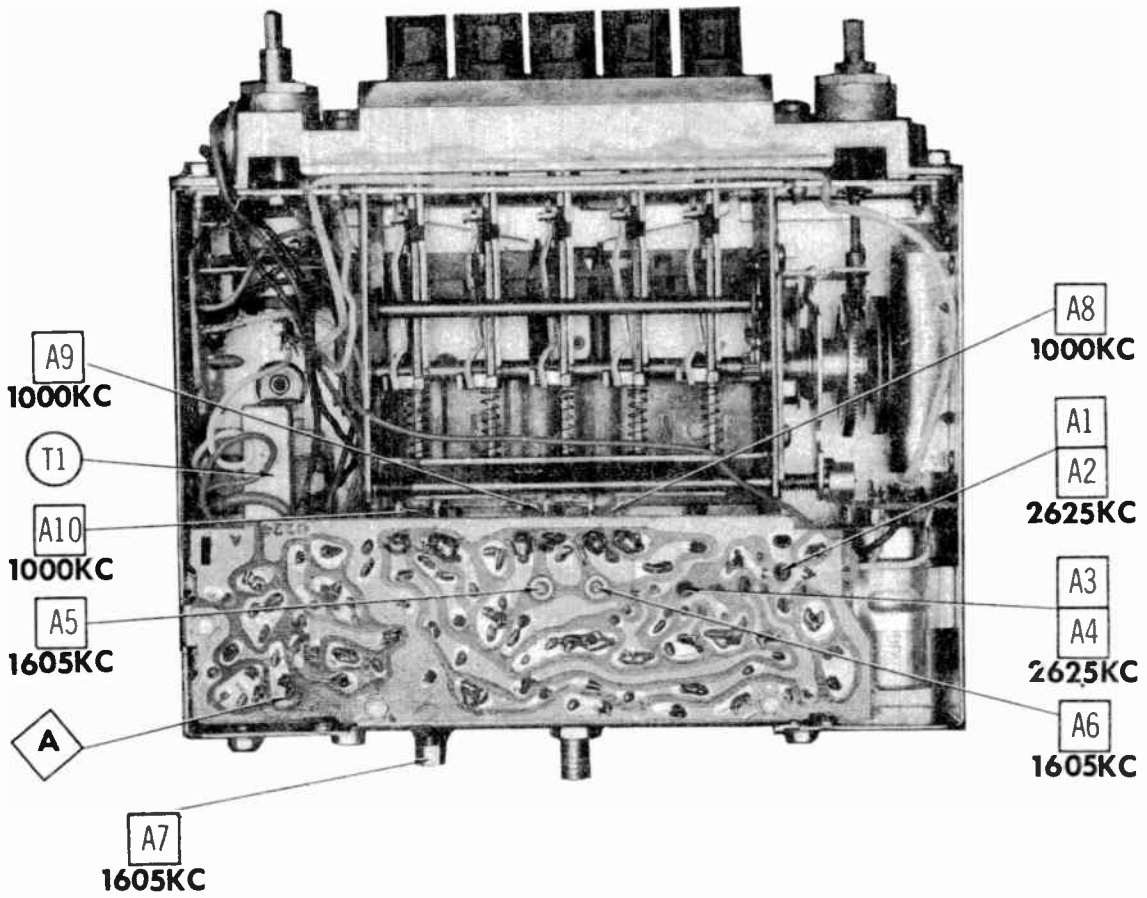
ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.
R1A	Tone	25K	4080288-0703	F1-25K (1),		* QJ-2609A
B	Volume/Switch	25K Tap @ 3000		R14-25K, FFS107, RFS112, KR-7		P253L (1), RU253T53, OX1437A, IS1750, US42

* "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements & Shafts: B11-120, P22-115 (Panel), B19-119X, R26-121 (Rear), R5 (2) (Retainer), 76-2 (Switch)

(1) Use original spring mounting clips.

(2) Cut off the tab ears (R5) and use original spring mounting clips.

(CONTINUED ON PAGE 120)



PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, 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.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R25	.8 (PTC)			2090948-0026

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Antenna	(1)			
L2	RF	(1)			
L3	Oscillator	(1)			
L4	Input IF	2057715-0701			
L5	Output IF	2057715-0703			

(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.	
L6	450ma	.6	1.5mh	2092050-0737				

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	17	8	2057317-0705					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5" x 7" PM 8 ohms	2093191-0503			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	AGA 5 Amp	2091811-0007	2094348-0540	AGA 5	HAF	301005	150145	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Lamp, Dial	2091877-0004	#1892
M2	Tuner	2094851-0513	
	Coil Assembly	2057171-0008	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
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Dial Glass	4080569-0005	Knob, Tuning or Volume	2091420-0503
Dial Pointer	2090129-0107	Knob, Tone	2094480-0002

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Hook-up Wire	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.)

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Lark	11	PFX-5109N 65 Fury	35	TCX-8274 67-68 Chev. .. 60				3598	13
LAP-29 59 Studebaker ..		PFX-7105 67 Plymouth ..		TDM-1257 64-69				9280	13
Lark	11	Fury	62	Dodge Truck	64				
LAP-40 59-60 Studebaker		PFX-8206 68 Plymouth ..		TMA-1550	69				
Lark	14	Fury	62	TPC-31 61 Buick Spl. ,					
LP-929 59 Studebaker ..		PM-236 53 Plym. 5		Olds, F-85, Pontiac ..					
Lark	11	PP-330 60 Plym. 15		Tempest	16				
MAP-99 E.P. 59 Merc. 11		PP-341AT 61 Plym. 16		TPC-31AT 63 F-85,					
MAP-99 L.P. 60 Merc. 14		PP-819 59 Plym. 15		Tempest	23				
MAP-3063 63 Merc. 23		PP-3026 63 Plym. 22		TPC-42AT 63 F-85,					
MAP-4561 64 Merc. 27		PP-5105 65 Belvedere.. 30		Tempest	23				
MB-72	30	PP-5105N 65		TPC-3036 63 F-85,					
MEL-6740	69	Belvedere	35	Tempest	23				
MM-430 53 Merc. 4		PP-7103 66-67		TPC-4026 64 Tempest .. 28					
MNE-6725	68	Belvedere, Satellite .. 60		TPC-7170 66-67 Pontiac					
MP-69	6	PP-8202 68 Belvedere, ..		Tempest	62				
MP-126	6	Satellite	60	TPP-87A 57 Plym. 13					
MT-47C 57 Merc. 12		PPM-7366 67 Plymouth .. 61		TPP-88 57-58 Plym. 13					
MT-419 E.P. 59 Merc. 11		PS-4153	27	TPP-88C 57-58 Plym. 13					
MT-419 L.P. 59-60		PS-4653	27	TR-12 Tractor	4				
Merc.	14	PT-3025 63 Plym. 26		TR-13B	25				
MT-530 59-60 Merc. 14		PUT-3108	23	TR-48AT	25				
MT-3023 63 Merc. 23		PUT-3108A	28	TR-0048	25				
MT-4061 64 Merc. 27		R-54, B	11	TR-7281 Tractor	59				
MT-5073 65 Merc. 29		R-61	20	TR-7390 Tractor	59				
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MU-34	6	RAP-100 60 Rambler .. 13		TU-6217	58				

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F6TBF 66 Galaxie	39	6TBW 66 L.P. ,67 "M"		3239	9	6BKJ 66 Jeep	39	USMMT 204SX28	47
F6TBZ 66 Mustang	39	Series	41	GRANCO		5BW 65	44	MERCURY	
F7TBF 67 Galaxie	46	6TBW 67 1/2 & 69		ARC-60	15	7BKJ Similar to P.32..	45	(Also See Philco-Ford)	
F7TBS 67 T-Bird	46	W Series	59	HEATH		7BKJX 67 Wagoneer,		D8MF 68 Comet	53
F7TBZ 67 Mustang	46	6TME 66 Galaxie	36	GR-41	22	Jeepster	56	ESTBM 65 Merc.	28
F8TBF 68 Galaxie	54	6TPD 66 Falcon	36	GRW-41	22	8BKJ 68	69	ESTMM 66 Merc.	35
F8TBO 68 Fairlane,		6TPF 66 Galaxie	36	HITACHI		12BW	16	EFSTBM 65 Merc.	34
Falcon	54	6TPO 66 Fairlane	36	TM-816U	37	815395	9	EF6TBM 66 Merc.	38
F8TBS 68 T-Bird	58	6TPZ 66 Mustang	36	KM1001	38	JOHN DEERE		F3TBM 63	21
F8TBZ 68 Mustang	54	7BTTL 67 Truck	42	HOFFMAN		SSMJD	53	F4TBE 64 Comet	24
F9BZ 69 Mustang	64	7TME 67 Galaxie	43	769	28	7BT Tractor	43	F4TBM 64 Merc.	24
M7TB 67 Galaxie,		7TDP 67 Falcon	41	769 Revised	31	7BTX Tractor	49	F5TBE 65 Comet	34
Mustang	46	7TFF 67 Ford	41	HUDSON		KARADIO		F5TBM 65 Merc.	34
M7TBS 67 T-Bird	46	7TPO 67 Fairlane	41	(Also See American Motors)		M80B	4	F6TBE 66 Comet	38
RV2F	19	7TPS 67 T-Bird	41	236476 SH759 53	4	KARMANN GHIA		F6TBM 66 Merc.	38
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RV4D-NS 65 Ford	30	8BTBL 68 Truck	56	4389027 HNSAC-8 55 ..	6	KENWORTH		F7TBM 67 Merc.	47
RV4F 64 Ford	24	8BTBLM 68 Truck	56	IMPERIAL (Also See Mopar)		55MKW Truck	39	F8TBM 68 Merc.	56
RV6F 75 65/66 Ford	30	8BTBU 68 Econoline	56	724 68 Imperial	55	65MKW Trucks	48	F8TBO 68 Comet	56
TOB5TBS 65 T-Bird	32	8TME 68 Galaxie	52	746 68 Imperial	55	KINEMATIX		F8TBZ 68 Cougar	56
TOB6TBS 66 T-Bird	39	9FBO 69 Fairlane,		786 68 Imperial		Verba-Matix	27	F9BZ 69 Cougar	64
T6SMF 66 Galaxie	35	Falcon	64	Similar to page 75 ...	47	Verba-Mite VX-700	42	M7TB 67 Comet,Cougar,	
T6SMS 66 T-Bird	35	9FBZ 69 Mustang	64	2580 786 68 Imperial		LAFAYETTE		Merc.	47
T6SMZ 66 Mustang	35	12BD 61 Falcon	14	(Similar to page 75) ..	47	SP-172 FM-100	14	M-5841 58	9
T7SMF 67 Galaxie	45	12BF 61	14	2820275 (419) 67	43	99-8519	68	T6SMH 66 Merc.	35
T7SMH/A 67 Fairlane,		12BT 61 Truck	14	2864724 68	55	LANCER (See Mopar)		T7SMH/A 67 Comet	45
Falcon	45	12BU 61 Econoline	14	2864746 (382) 68	55	LARK (See Studebaker)		T7SMH/F 67 Cougar,	
T7SMH/F 67 Mustang	45	14BF 61,Ford	30	2864966 (391) 68	50	LEAR JET		Merc.	45
T7SMH/N 67 Fairlane,		14BM 61 Merc.	30	2884 288 (403)		A-219 (Similar to		T7SMH/N 67 Comet	45
Falcon	45	22BD 62 Falcon	18	69 Imperial	69	page 77)	58	T7SMH 67 Merc.	45
T7SMS 67 T-Bird	45	22BO 62 Fairlane	18	INLAND		A-229 (Similar to		T7SMW 67 Cougar	45
T7SMZ 67 Mustang	45	24MF 62	17	AFM-602	41	page 73)	55	T8MM 68 Merc.	54
T8MF 68 Galaxie	51	66MF 56	6	AFM-603	52	A-239 (Similar to		T8MZ 68 Cougar	54
T8MS 68	53	66MFP 56	6	PA-700	49	page 38)	56	04BM-1 60	13
T8MZ 68 Mustang	51	69MF 56	6	V102	41	A-269B	65	04BM-2 60	13
T9MS (69 Thunderbird)		69MS 56	6	V302	41	AS-830-H	54	2TBM RT2BM 62	20
(C9SA-19A242-B)	62	74BF 57	8	VWX101	41	AS-831	58	2TMY 62 Meteor	18
T9MZ 69 Mustang		74BT 57 Truck	9	VWX102	41	ASFM-830-H	54	3SMY757 53 See Lincoln	
(C9ZA-19A242-B)		74MF 57	8	VWX101	41	ASFM-871	56	Model 3SH756	4
(C9ZZ-18805-B)	66	75BF 57	7	VWX-103	48	ASR-830-H	44	3TBM 63	21
04BF 60 E.V.	12	75MF 57	7	VWX502	42	ASR-851	55	3TME 63 Comet	23
04BF L.P. 60 Ford	30	76MF SR 57	8	X100	27	LINCOLN		3TMY 63 Meteor	23
04BT 60 Truck	12	78MF 57	7	X101	41	D8ML 68 Lincoln	56	4SM767 54 See Lincoln	
04MD 60 Falcon	12	79MS 57 T-Bird	7	X102	41	F3TBC 63	21	Model 4SH764	4
04MF 60	12	84BF 58	8	X-103	48	F4TBC 64	25	4TBM 64 Merc.	23
04MFM 60	12	84BT 58 Truck	9	X302	41	F6TDC 66 Lincoln	40	4TME 64 Comet	23
1TMC 61 Continental	15	84MF 58	8	XFM-400	41	F8TDX 68 Mark X	61	5BM 55 See Lincoln	
1TMS 61 T-Bird	15	84MS 58 T-Bird	9	INTERNATIONAL		F14TBC 64	25	Model 5BH	5
2TBO 62 Fairlane	19	86MF 58	8	ILSTCA/-12 55 "R"		TOB5TBC 65	33	5TBM 65 Merc.	28
2TME 62	18	94BF 59	10	Line Truck	6	T6SMC 66 Continental..	36	5TPE 65 Comet	28
2TMY 62	18	94BT 59 Truck	11	IL7TC/-12 57 "R"		T7SMC 67 Lincoln	45	6BM 56	6
3MF 53	4	94MF 59	10	Line Truck	7	T7SMK/C 67 Lincoln	45	6BMS 56	6
3MFT 53 Truck	4	94MFM 59	10	P6MH 1000A,1500A,CO-		T8ML 68 Lincoln	52	6TMM 66 Merc.	35
3SF755 53	4	94MS 59 T-Bird	11	4000,Fleetstar,Load-		T8MX 68	54	6TPG 66 Merc.	37
3TBD 63 Falcon	19	95MF 59	10	Star,Metro,R&V Line		T9ML 69 Lincoln	64	7TBM	42
3TBO 63 Fairlane	19	GIBBS		Scout	47	T9MX 69 Mark III		7TBM 67 Comet/Cougar	
3TME 63 Galaxie	23	CR-627	70	04MI 61 Scout & "C"		(C9LA-19A242-B)		8TBM 68	55
4BF 54 See Model M4B.	4	CR-630	70	Line Truck	16	(C9LY-18805-B)	66	9BM 69	68
4MF 54	4	440	27	04MI-RV 61 "R" & "V"		05BH 60	12	9FBO 69 Montego	64
4SF765 54	5	441	27	Line Truck	16	3SH756 53	4	9FBZ 69 Cougar	64
4TBD 64 Falcon	23	442	27	STMI	24	4SH764 54	4	22BM 62	18
4TBO 64 Fairlane	23	445	28	SSMI 65 Truck	34	4SH766 54	4	MERCURY RECORDS	
4TBT 64 Truck	26	446	28	SSMI-RV 65 Truck	34	4TMC F 64Continental	23	AP-8300	57
4TBU 64 Econoline	26	550	37	SSMI/T 65 Truck	34	5BH 55	5	METEOR (Also See Mercury)	
4TBZ 64/65 Mustang	32	551	37	7BT Tractor	42	5TMC F 65 Continental	28	24ME 62 Comet See	
4TMF 64 Galaxie	23	551-6	37	7BTX Tractor	51	6BC 56	6	Ford 24ME	17
4TMS	23	552	37	86MI 58 "A" Line		6BH 56	6	24MY 62 Meteor See	
4TMS F 64 T-Bird	23	553	37	Truck	10	6TDC 66 Lincoln	37	Ford 24ME	17
5BF 55	5	GM (See GMC or Chevrolet)		JACOBSSEN		8TBC 68	60	77BM 57	7
5MF 55	5	91TPB1 69 Truck	59	7BT	45	8TPX 68 Mark III	59	78BM 57	7
5MFS,5MFS 55 T-Bird..	5	96TTCP1 (7305516)		7BTX	52	9BL 69	60	84BM 58	8
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5TBF 65 Galaxie	28	2233398 12V Truck	9	U7MK (978238) 68	65	85BHP Above Serial		94PM 59	12
5TBO 65 Fairlane	28	2233850 60 GMC	13	3TBM 63 Jeep	22	#5000 58	9	95PM 59	11
5TBT 65 Truck	33	2233944 61 GMC	16			95BH 59	9	METRAVOX	
5TBU 65 Econoline	33	2233984 62 GMC	18			MACK		Sutton RA144	20
5TME 65 Galaxie	28	2234003 63 Truck	20			U3MMT Truck	32	Sutton RA155	21
5TMZ 65 Mustang	28	2234040 64 Truck	24					MG	
5TMS,5TMSF 65 T-Bird..	28	2234086 64 Truck	24					HAC700 4TMB	30
5TPD 65 Falcon	28	7291556 65 Truck	29					MIDLAND	
5TPO 65 Fairlane	28	7291576 65 Truck	29					65-200	40
5TPZ 65 Mustang	28	7293806 66 GMC Truck..	36					65-210 12 Transistor	
6BF 56	6	7293806 67 Truck	44					Version	40
6BFT 56 Truck	6	7293816 66 Truck	36					65-210	34
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Bronco	41	7298501 67 GM Truck ..	44						
6TBB 67 1/2 & 69		7305516 69 Truck	69						
Bronco	59	7305841 68 GM Truck ..	51						
6TBF 66 Galaxie	34	7306686 68 GMC Truck..	51						
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MOBILPAGE		334 4TBQ 64 Dodge880..	24	706 5TBDT Similar to		F-85, Tempest	22	HN4M6 54 Hudson	5
65MTR/MW	48	335 64 Plym.	25	page 64 65 Dodge Truck	26	CE65A 65 Chevelle ...	32	HN53M6 51-53 Hudson ..	5
MONITORADIO		336 64 Dodge	25	706 7BTD 67 Dodge		CE65M 65 Chevelle ...	32	HT3A6 53 Hudson Jet ..	5
M-40	12	337 63 Valiant	22	Truck	44	CE66A 66 Chevelle ...	38	ILSTCA, -12 55 Intl. ...	6
M-160	12	339 63 Dodge Dart	22	819 53 Plymouth	4	CE66M 66 Chevelle ...	39	KM201R	41
MC-40	12	343 R3BC 63 Chrysler		820 53 Dodge	4	CE67A 67 Chevelle ...	44	KM202R	41
MC-160	12	TC1/2/3	19	821 Desoto S-16/-18 ..	4	CE68A 68 Chevelle ...	56	KM203R	66
		344 63 Dodge	22	824 53 Chrysler	4	CE69A 69 Chevelle ...	69	KM204R	64
		345 63 Plym.	22	828 54 Dodge D-50/-51/		CEA64 64 Chevelle ...	24	KR3A6 51-53 Kaiser ...	5
		347 R23BDQ 62 Dodge		-52/-53	4	CEM64 64 Chevelle ...	25	NIH3C 53 Nash Rambler ..	4
		880,SD3	19	829 Desoto S-19/-20 ..	4	CK65M 65 Chev.Truck ..	32	NIH4AC 54 Nash See Nash	
		348 4TBC 64 Chrysler..	24	830 54 Chrysler C-62/-		CK66M 65/66 Chev.Truck	39	Model AC-154	5
		350 R3BD 63 Dodge880..	19	-63/-64	4	CK67A 67 Chev.GMC ..		NH5AC 55 Nash See Nash	
		351 64 Chrysler	25	831 See Model 830	4	Truck	52	Model AC-154	5
		352 64 Imperial	25	832 55 Plymouth	5	CO67A 67 Camaro	44	OEATX 57 Oldsmobile ...	7
		353 64 Dodge 880	25	833 55 Dodge D-55/-56	5	CO68A 68 Camaro	56	OEAX9 59 Oldsmobile ...	12
		354 64 Dodge	24	834 55 Desoto S-21/-		CO69A 69 Camaro	69	OEAOX 60 Oldsmobile ...	14
		360 5FBP 65 Plym.	30	-22	5	CR65A 65 Corvair	32	OEAG1X 61 Oldsmobile ...	17
		361 5FBPD 65 Plym.	30	835 55 Chrysler	5	CR65M 65 Corvair	32	OEAG6 63 Oldsmobile ...	22
		361 6FBPD 66 Plymouth		836 55 Plym. P-25/-27	5	CR66A 66 Corvair	38	OEAG6 64 Oldsmobile ...	24
		Deluxe	36	840 56 Plymouth	6	CR66M 66 Corvair	39	OE2A6 51-52 Oldsmobile	
		362 5FBD 65 Dodge	30	841 56 Plym. P-28/-29	6	CR67A 67 Corvair	44	"Super 88" & "98"	5
		363 65 Dodge 880	28	842,842HR 56 Dodge		CRA60X 60 Corvair	15	OE4FM 64 Oldsmobile ...	26
		363S 66 Polara, Custom		D-62/-63	6	CRA62 60-62 Corvair ...	20	OE4FMC 64 Oldsmobile ...	34
		880, Monaco BD2	35	843 56 Desoto S-23/-24	6	CRA63 61-63 Corvair ...	22	OE65A 65 Oldsmobile ...	32
		364 5FBDD 65 Dodge	30	844/HR 56 Chrysler ...	6	CRA64 60-64 Corvair ...	25	OE66A 65/66 Oldsmobile	40
		364 6FBDD 66 Dodge		845 57 Dodge D-66/-67/		CRM60X 60 Corvair ...	14	OE67A 67 Oldsmobile ...	45
		Deluxe	36	-70/-71/-72	8	CRM62 60-62 Corvair ...	19	PCA7X 57 Pontiac	7
		365 65 Chrysler	28	846 57 Desoto S-25/-26/		CRM63 61-63 Corvair ...	22	PCA9X 59 Pontiac	10
		365S 66 Chrysler BCI/		-27	8	CRM64 60-64 Corvair ...	25	PCA60X 60 Pontiac	15
		2/3	35	847 57 Chrysler	8	CT2A6 51-52 Chev.	5	PCA61X 61 Pontiac	17
		366 5FBC 65 Chrysler..	30	848 57 Plymouth	8	CT4FM 64 Chev.	26	PCA62 62 Pontiac	20
		366 6FBC 66 Chrysler..	36	849 57 Plym. P-30/-31	8	CT4FMC 64 Chev.	34	PCA63 63 Pontiac	22
		367 5FBI 65 Imperial..	30	851 84BC 58 Chrysler ...	8	CT52M6 51-52 Chev. ...	5	PCA64 64 Pontiac	24
		369 6FBP,6FBVE 66		852 58 Dodge LD-1/-2/		CT65A 65 Chevrolet ...	32	PCA2A6 49-52 Pontiac ...	5
		Plymouth Standard	36	-3	8	CT65M 65 Chevrolet ...	32	PC4FM 64 Pontiac	26
		369 7FBP 67 Plym.	48	854 58 Plym. LP-1/-2 ..	9	CT66A 66 Chevrolet ...	38	PC4FMC 64 Pontiac ...	34
		370 7FBD 67 Dodge	48	855 P-5901 59 Plym ...	11	CT66M 66 Chevrolet ...	39	PC65A 65 Pontiac	32
		372 5FBVE See Page 86		856 59 Dodge MD1/2/3 ..	10	CT67A 67 Chevrolet ...	44	PC66A 66 Pontiac	40
		65 Plymouth	30	857 59 Desoto MS1/2/3	10	CT68A 68 Chevrolet ...	56	PC67A 67 Pontiac	45
		373 5FBL See Page 86		858 94BC 59 Chrysler ...	10	CT69A 69 Chevrolet ...	69	PC69A 69 Bonneville ...	
		65 Dart	30	860 59 Plym. MPI/2	12	CTA3 53 Chevrolet ...	4	Catalina,Executive	69
		374 7FBPD 67 Plym.	48	861 59 Chrysler Export	12	CTA4 54 Chevrolet ...	6	PD3A6 51-53 Packard ...	5
		375 7FBC 67 Chrysler..	48	900 55 Dodge D-55/-56	5	CTA5 55 Chevrolet ...	6	PD69A 69 Firebird	69
		376 7BC 67 Chrysler ...	42	901 55 Desoto S-21/-22	5	CTA6T 55-56 Chevrolet	6	PT67A 67 Tempest	44
		377 7BDD 67 Dodge		902 55 Chrysler	5	CTA6X 55-56 Chevrolet	7	PT68A 68 Pontiac	56
		Deluxe	42	903 55 Chrysler	5	CTA7X 57 Chevrolet ...	7	PT69A 69 Tempest	69
		378 7FBDD 67 Dodge	48	910/HR 56 Dodge D-62/-		CTA8X 58 Chevrolet ...	9	R200	19
		379 6FBL 66 Dart	36	-63	6	CTA9X 59 Chevrolet ...	10	SR2A6 50-52 Studebaker	5
		381 67 Charger	43	911 65 Desoto S-23/-24	6	CTA61 61 Chevrolet ...	15	SR3A6 52 Studebaker ...	5
		385 7FBVA 67 Barracuda,		912/HR 56 Chrysler ...	7	CTA62 62 Chevrolet ...	18	SR52A6 50-52	
		Dart, Valiant	48	916/HR 56 Plym. P-28/		CTA63 63 Chevrolet ...	22	Studebaker	5
		402 04BC 60 Chrysler ..	13	-29	7	CTA64 64 Chevrolet ...	24	SR52M6 50-52	
		403 04BI 60 Imperial ..	13	917HR 57 Plymouth	8	CTM3 53 Chevrolet ...	5	Studebaker	5
		404 14BI 61 Imperial ..	15	918 57 Dodge D-66/-67/		CTM4/A 54 Chevrolet ...	6	TM5A	33
		407 14BC 61 Chrysler ..	15	-70/-71/-72	7	CTM6 55-56 Chevrolet ...	6	TM5M	32
		409 24BI 62 Imperial		919/HR 57 Desoto S-25/		CTM7X 57 Chevrolet ...	7	TM6M	39
		SV1	18	-26/-27	7	CTM8X 58 Chevrolet ...	9	TM6A	38
		410 24BC 62 Chrysler		920HR 57 Chrysler	8	CTM9X 59 Chevrolet ...	10	TM7A	44
		SC1/2/3	18	921HR 57 Imperial	8	CTM57X 57 Chevrolet ...	9	TM15A	32
		411 34BCS 63		922 85BC 58 Chrysler ...	9	CTM61X/A 61 Chevrolet	16	TM16A	41
		Chrysler	20	923 58 Desoto L-51/		CTM62 61-62 Chevrolet	19	TM17A	45
		413 34BI 63 Imperial		-52/-53	9	CTM63 63 Chevrolet ...	22	TM295M	33
		TV1	20	924HR	9	CTM64 64 Chevrolet ...	25	TM296M	40
		414 44BI 64 Imperial ..	24	925 58 Plym. LP-1/-2 ..	9	CY65A 62-65 Chevy II ..	32	TM297M	48
		415 44BCS 64		927 59 Desoto MS-1/-2/		CY65M 62-65 Chevy II ..	33	TM315M	33
		Chrysler	24	-3	11	CY66A 66 Chevy II ...	38	TM316M	40
		416 65 Chrysler	31	928 R95BC-S 59		CY67A 67 Chevy II ...	44	TM318M	54
		416B 66 Chrysler	39	Chrysler	10	CY68A 68 Chevy II ...	56	TM326M	40
		417 65 Imperial	31	929 C-5909 59 Imperial		CY69A 69 Chevy II ...	69	TM327M	46
		417B 66 Imperial	39	MY-1	11	CYA62 62 Chevy II ...	20	TM336M	40
		418 67 Imperial	47	MOTOROLA		CYA63 61-63 Chevy II ..	22	TM415M	32
		419 67 Imperial	43	AF4TMR 64 Rambler	26	CYA64 62-64 Chevy II ..	25	TM416M	41
		420 66 Imperial	40	BK3A6 49-53 Buick Spl.		CYM62 62 Chevy II ...	19	TM525A	33
		421 67 Chrysler	43	42/46-52 Buick Super &		CYM63 62-63 Chevy II ..	22	TM526A	41
		608 53 Plym. P24	4	Roadmaster	5	CYM64 62-64 Chevy II ..	25	TM527A	46
		609 53 Dodge Model		BK4FM 64 Buick	26	FM65M	35	TM626A	41
		D-44/-46/-47/-48	4	BK4FMC 64 Buick	34	FM67M	45	TM706S	47
		610T 53 Dodge Truck,		BK53A6 49-53 Buick Spl		FM68M	59	TM707S/-1,708S/-1,	
		Series B-3/-4	4	42/46-52 Buick Super &		FM106M	40	TM709S	65
		611T 54 Dodge Truck,		Roadmaster	5	FM108M	55	TM711S	68
		Series C See Model		610T	4	FM200A	34	U3MM Autocar,Diamond	
		610T	4	612 54 Dodge D-40/-51/		FM-900	14	T, Reo,White Trucks	
		612 54 Dodge D-40/-51/		52/-53 See Model 609 ..	4	FM990X	47	891600	24
		613 55 Plym. P-26/-2 ..	5	614 55 Dodge D-55/-56	5	FM991X	60	VWA7 53-57 VW	7
		614 55 Dodge D-55/-56	5	620 56 Plym. P-28/-29	7	FMA-100	26	VWA8 58 VW	12
		620 56 Plym. P-28/-29	7	621 56 Dodge D-62/-63	7	FMCG2	19	VWA60 VW	13
		624 57 Dodge D-66/-67/		-70/-71/-72	8	GMT3A6 48-53 Chev/GMC		VWA63 63 VW	22
		700 58 Dodge Truck	8	700 58 Dodge Truck	8	Truck	5	VWA64 58-64 VW	25
		700 Rev. 60 Dodge		701 59 Simca	12	GMT53A6 48-53 Chev/GMC		VWM60 60 VW	22
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