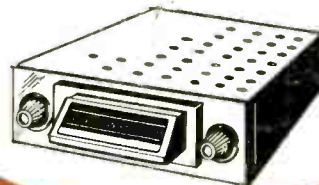


# SAMS PHOTOFACT<sup>®</sup>

## AUTO RADIO SERIES



AR-53  
**53**  
AUGUST 1968



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MG-Midget, MGB, Sprite,  
(1966/67) British Motors  
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#### CHEVROLET

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7303211

#### CHRYSLER

Chrysler (1968) 393

#### FORD

Falcon, Fairlane (1968)  
D8MF

Thunderbird (1968) T8MS

#### JOHN DEERE

Tractor 5SMJD (AR42431)

#### MERCURY

Comet (1968) D8MF

#### TRIUMPH

Triumph (1967) 7FBTRX

#### UNIVERSAL

Audio/Stereo A-12

Auto-Sonic ST-308,  
603M/48

Muntz/Stereo M-12

Truetone ITC4852A-86

#### VOLKSWAGEN

Sears (1958/67)

833.62421, 833.62420

Indianapolis, Indiana

\$2.95  
\$3.75 IN CANADA  
Cat. No. AR-53



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

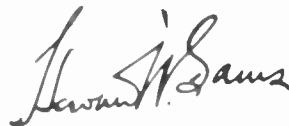


VOLUME

**53**



by the



ENGINEERING STAFF



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

**FIRST EDITION  
FIRST PRINTING—AUGUST, 1968**

**PHOTOFACT®  
AUTO RADIO SERIES  
VOLUME 53**

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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.

### AUSTIN HEALEY 3000 MARK III (1966-67)

See General Removal Information

### MGB - 1966-67

See General Removal Information

### CHEVROLET CORVETTE - 1968

- 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.

### CHRYSLER - 1968

- Step 1. Remove Phillips screw from Face Plate and remove.
- Step 2. Remove nut from rear brace.
- Step 3. Disconnect "A" lead, speaker leads, and antenna.
- Step 4. Remove screws from front mounting.
- Step 5. Remove radio from under dash.

#### SPEAKER REMOVAL

- Step 1. Remove radio.
- Step 2. Remove screws from speaker mounting.
- Step 3. Remove speaker.

### MG-1100 - 1966-67

See General Removal Information

### MG MIDGET - 1966-67

See General Removal Information

### SPRITE - 1966-67

See General Removal Information

### TRIUMPH - 1967

See General Removal Information

### THUNDERBIRD - 1968

- Step 1. Remove screws from instrument panel escutcheon moulding.
- Step 2. Remove moulding.
- Step 3. Remove radio and instrument panel knobs. Remove screws from instrument panel escutcheon. Remove escutcheon.
- Step 4. Disconnect antenna lead, "A" lead and speaker leads.
- Step 5. Remove nuts from control bushings and screw from rear brace.
- Step 6. Remove radio thru opening in dash.

### VOLKSWAGEN-1958 THRU 1968

- 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<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

TRADE NAME : Audio/Stereo Model A-12  
 Muntz/Stereo Model M-12  
 SUPPLIER : For Current Address, See Annual Index  
 TYPE SET : 12-Transistor Tape Player  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : .3 Amp @ 12.6 Volts DC



## OPERATING INSTRUCTIONS

1. Insert a cartridge along the guide on the right side of unit until it locks and unit is turned on.
2. Move the cartridge selector to "4" to play 4-track cartridges and to "8" to play 8-track cartridges.
3. Program switching is automatic with 8-track cartridges. 4-Track cartridges may be switched from program to program by pushing Tracks knob. Pushing the Tracks knob will also manually switch an 8-track cartridge.
4. Adjust operating controls as desired.
5. Push Reject knob to release cartridge and shut off unit.

## 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 nonhardening grease on camming surfaces.

## HEAD DEMAGNETIZING

Demagnetize head at regular intervals and at any time unit is serviced. Avoid using ferrous materials near head while servicing unit.

## ADJUSTMENTS

ADJUST	REMARKS
Head Height	Play an 8-track test cartridge, follow instructions with cartridge, and adjust B1 for proper response. Play a 4-track cartridge and adjust B2 for maximum output with MINIMUM crosstalk.
Head Azimuth	Play an 8-track test cartridge, connect an AC VTVM across right output, and adjust B3 for maximum.
Pinch Roller Pressure	Nominal value 4 pounds to separate roller (1) from capstan. Turn B4 counterclockwise to increase. Press reject knob to release mechanism between adjustments.
Pinch Roller Shaft Position	Position bracket (10) until the pinch-roller shaft is parallel to the capstan.

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World Radio History

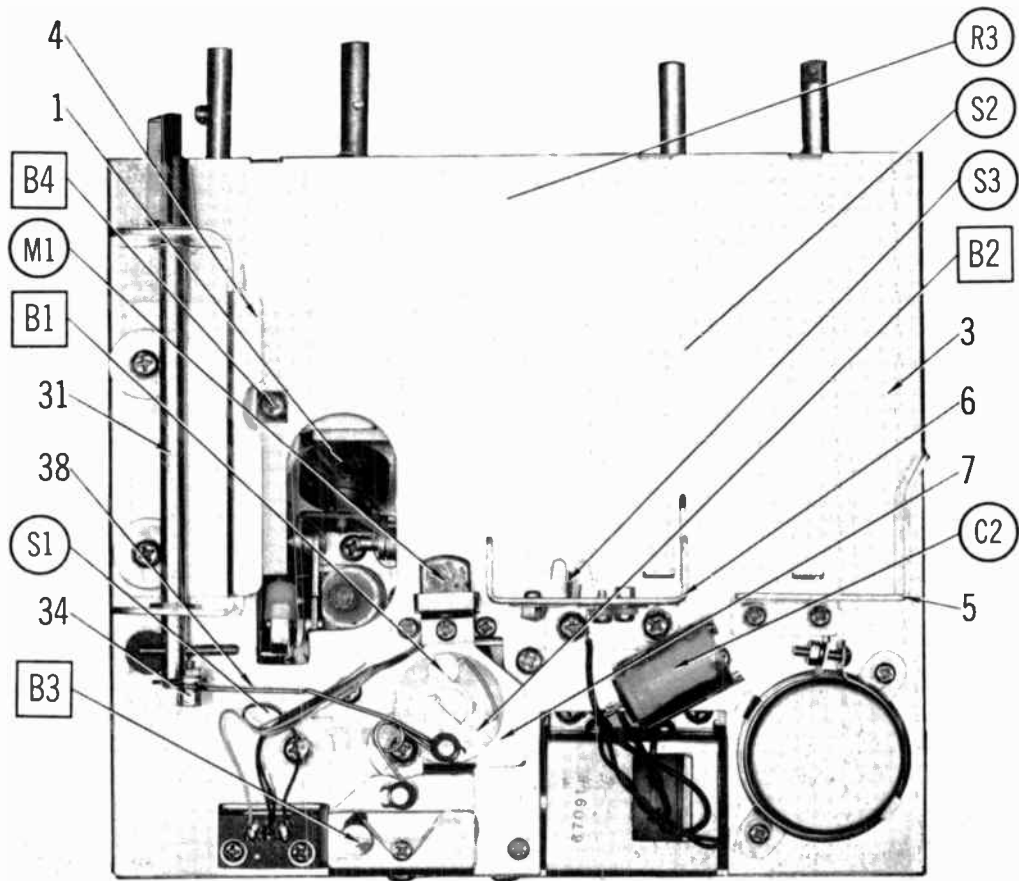
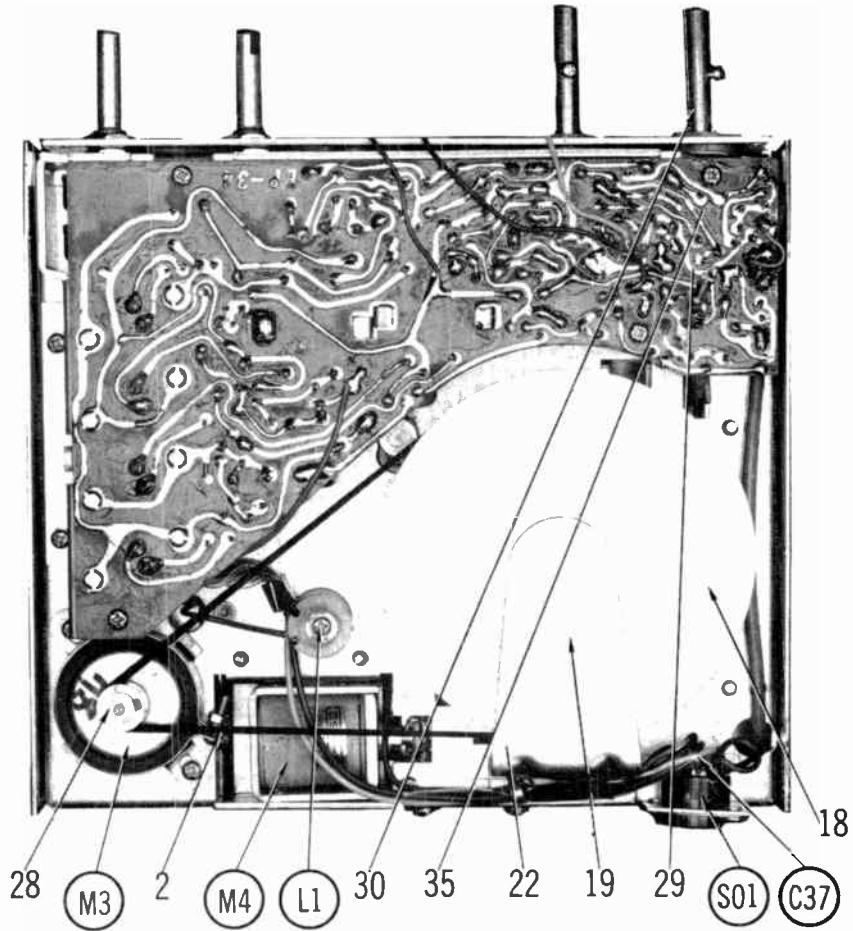
AUDIO/STEREO MODEL A-12, MUNTZ/STEREO MODEL M-12

## TROUBLE CHART

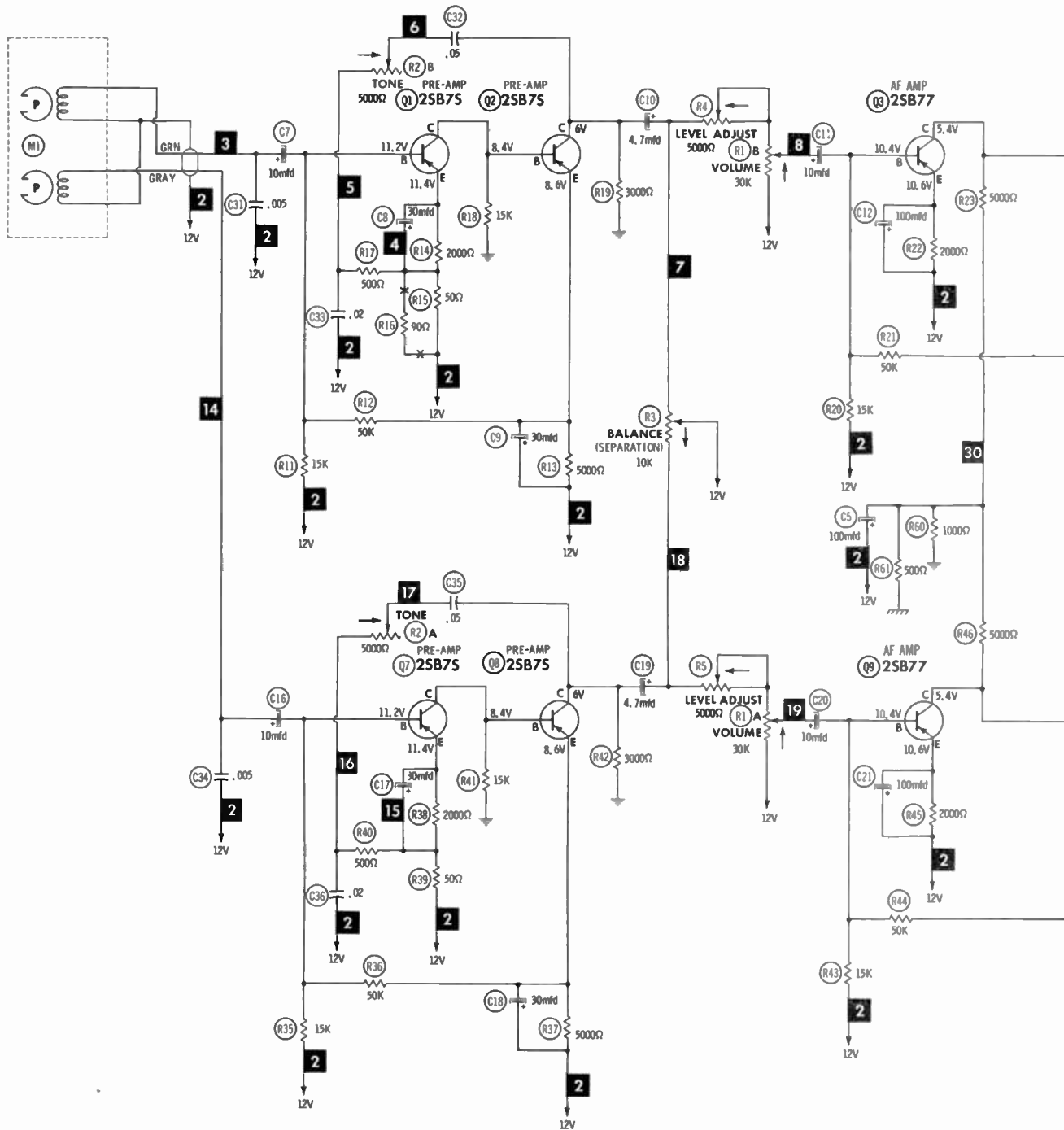
SYMPTOM	REMARKS
Capstan does not rotate	Belts (2) dirty, worn, or broken. Flywheel (18) binding. Motor defective or not supplied with power.
Track-shift mechanism in-operative	Switch (S3) dirty. Cam (26) binding. Assembly (23) worn or binding. Assembly (7) binding or worn. Solenoid defective or not supplied with power. Spring (36) missing. Cartridge defective.
Wow or Flutter	Roller (1) dirty or worn. Belts (2) dirty or worn. Capstan dirty or binding. Motor defective. Cartridge defective.
Cartridge Reject malfunctioning	Assembly (9) binding or worn. Assembly (8) binding or worn.
Sound weak or distorted	Head dirty, misaligned, or defective. Cartridge defective. Amplifiers defective.
Tape is pulled from cartridge	Capstan dirty or scored. Cartridge defective.

## MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	22-1005-00	Pinch Roller	22	16-1098-00	Capstan Shaft Housing Bracket
2	28-1003-00	Drive Belt (2 used)	23	50-1000-00	Pawl Bracket Assembly
3	12-1034-00	Deck Plate	24	14-1020-00	Pawl Bracket Assembly Cover
4	16-1087-00	R. H. Cartridge Guide Bracket	25	16-1093-00	Ratchet and Cam Assembly
5	16-1092-00	L. H. Cartridge Guide Bracket			Front "L" Bracket
6	16-1096-00	Tape Guide Bracket Assembly (With Switch)	26	19-1006-00	Ratchet and Cam Assembly
7	46-1006-00	Tape Head Assembly	27	16-1094-00	Ratchet and Cam Assembly
8	17-1017-00	Slide Lever Assembly	28	20-1010-00	Motor Pulley
9	17-1018-00	Actuating Trigger Assembly	29	12-1050-00	Reject Shaft Mounting Bracket
10	16-1090-00	L. H. Pinch Roller "L" Bracket	30	19-1007-00	Reject Shaft
11	16-1113-00	R. H. Pinch Roller Bracket	31	19-1011-00	Tracks Selector Shaft
12	16-1091-00	Pinch Roller "U" Bracket	32	24-1022-00	On/Off Slide Lever Coil Spring
13	24-1020-00	Pinch Roller Tension Spring	33	24-1023-00	Pinch Roller Compression Spring
14	16-1088-00	Tension Spring Adjustment Bracket	34	24-1024-00	Tracks Select Coil Spring
15	12-1037-00	Upper Tension Stop Plate	35	24-1025-00	Reject Compression Spring
16	12-1048-00	Lower Tension Stop Plate	36	24-1026-00	Pawl Bracket Coil Spring
17	24-1021-00	Spring Leaf Tension	37	24-1027-00	Actuating Assembly Spring
18	20-1009-00	Flywheel Assembly	38	17-1016-00	Tracks Selector Lever
19	16-1089-00	Flywheel Mounting Bracket	39	91-1003-00	Tracks Selector Screw
20	17-1021-00	On/Off Switch Lever Arm	40	24-1028-00	Trigger Positioning Spring
21	16-1097-00	Capstan Shaft Housing			







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

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

A PHOTOFACT STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**

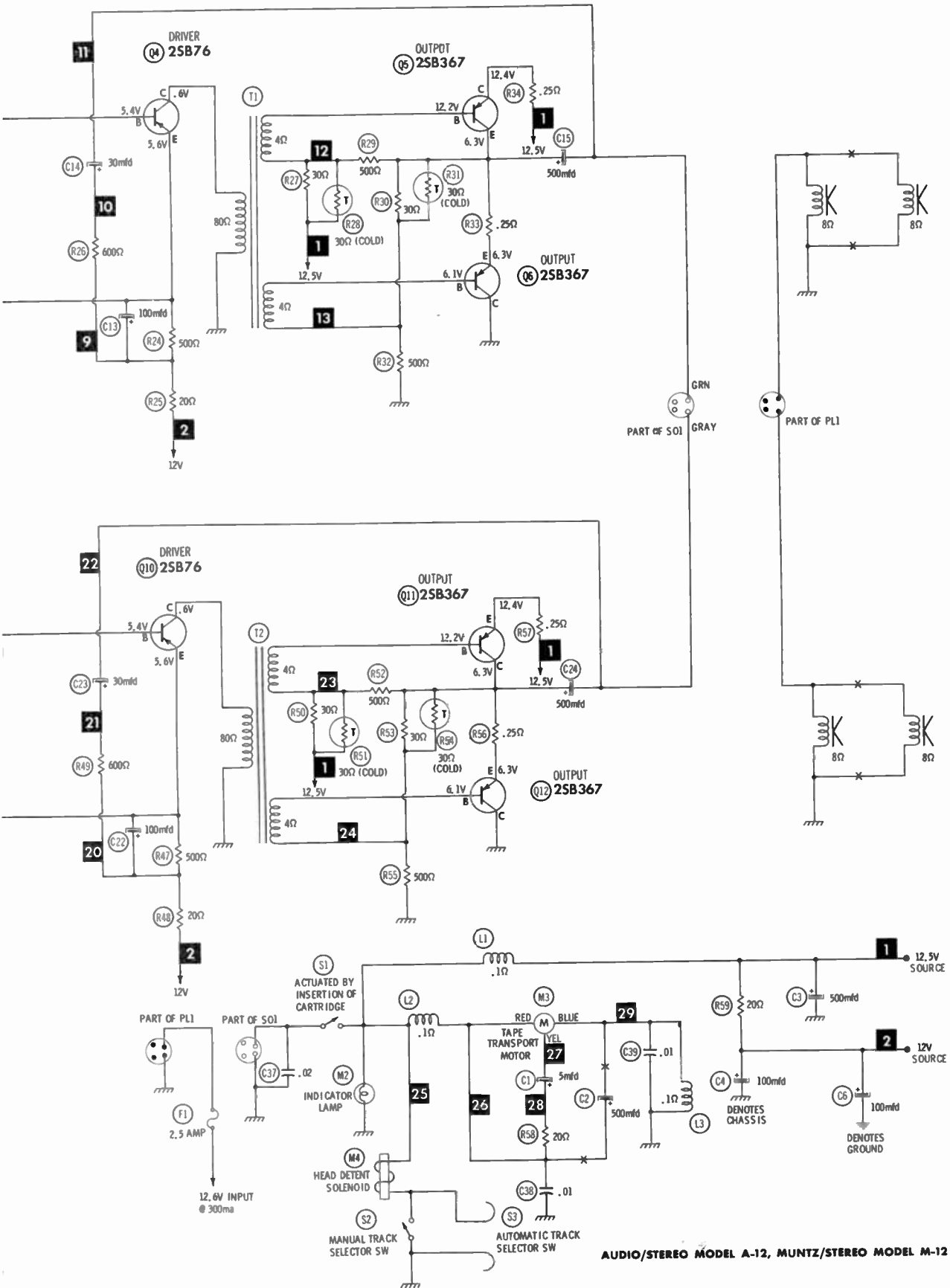
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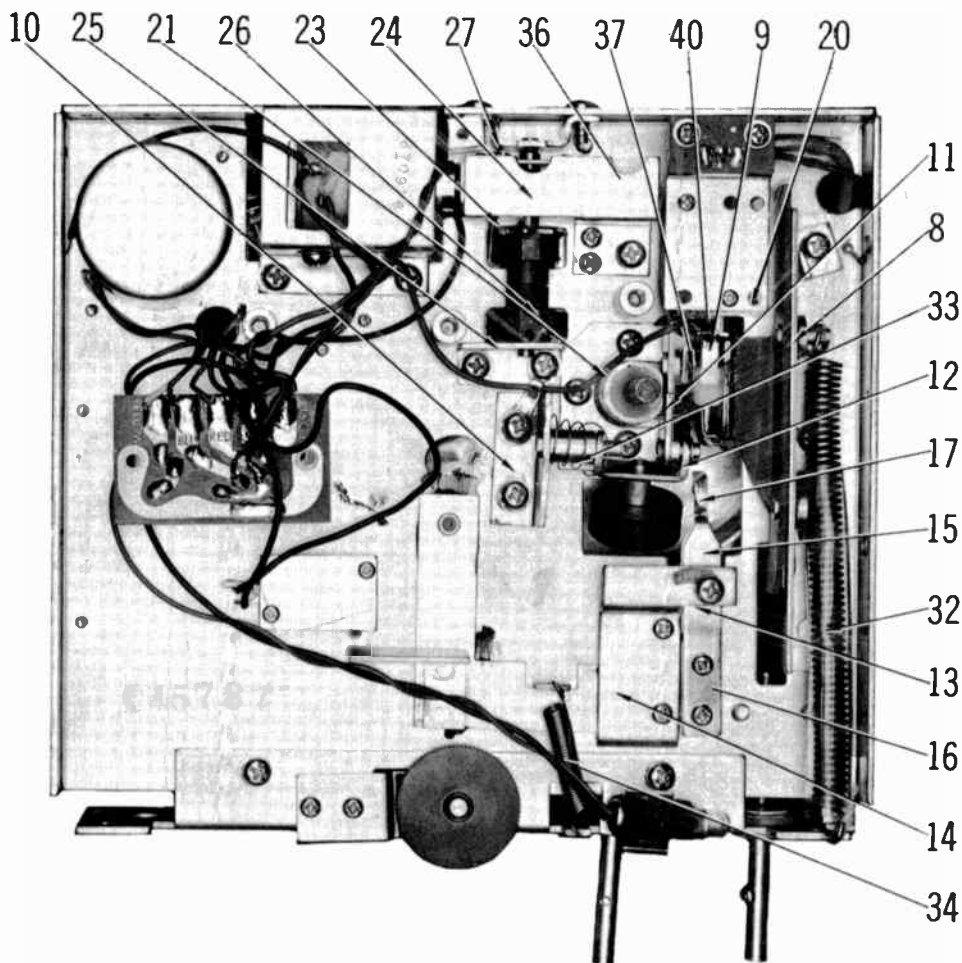
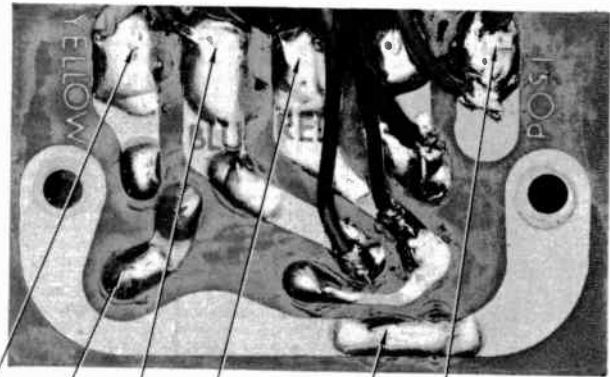
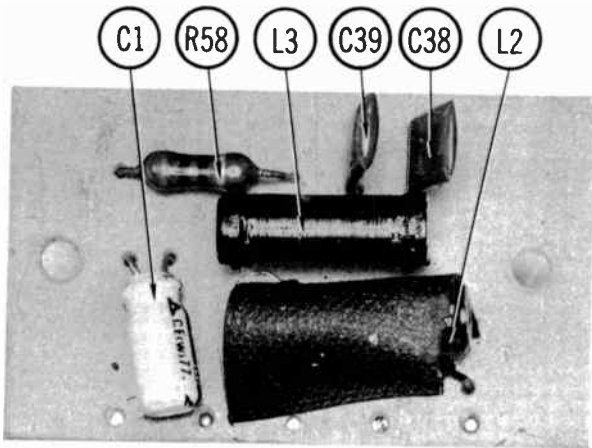


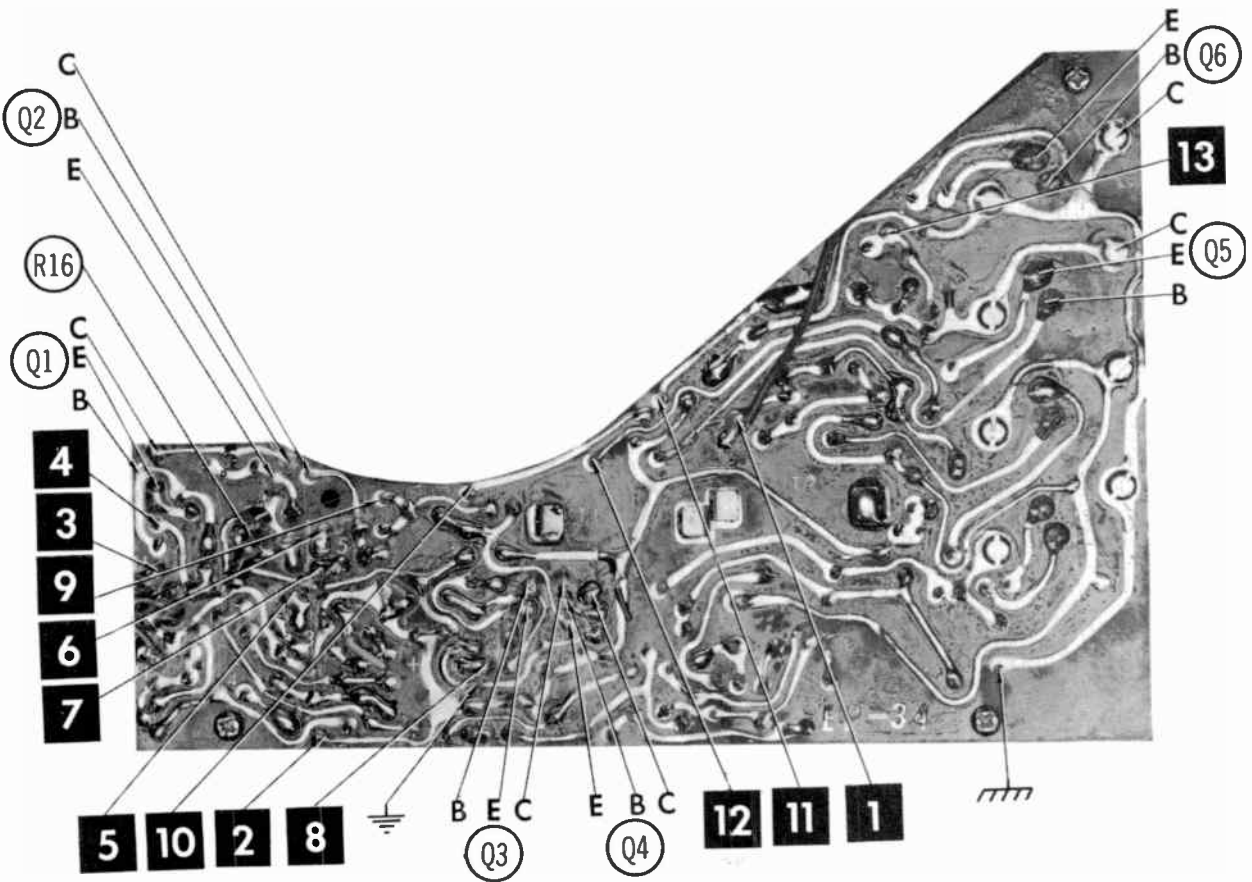
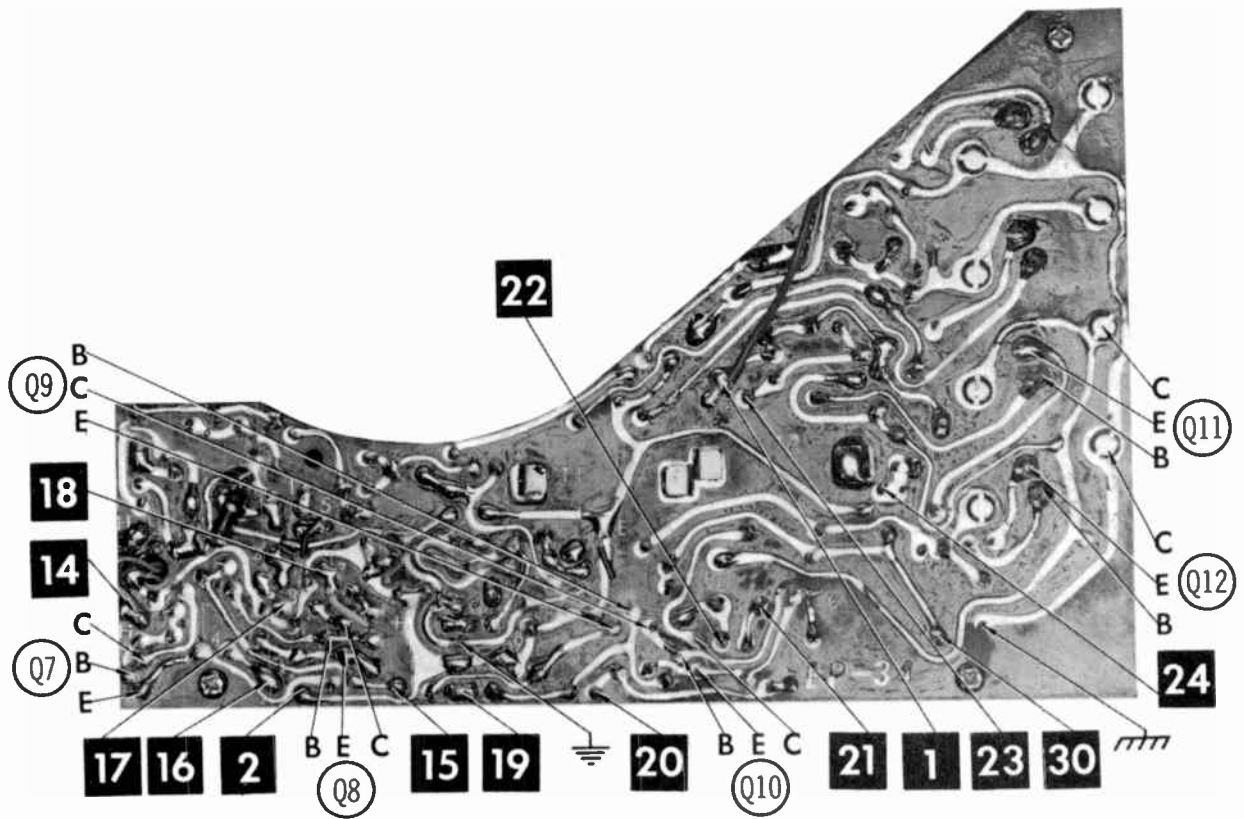
Q1, Q2, Q3, Q4, Q7, Q8, Q9, & Q10  
TERMINAL GUIDE



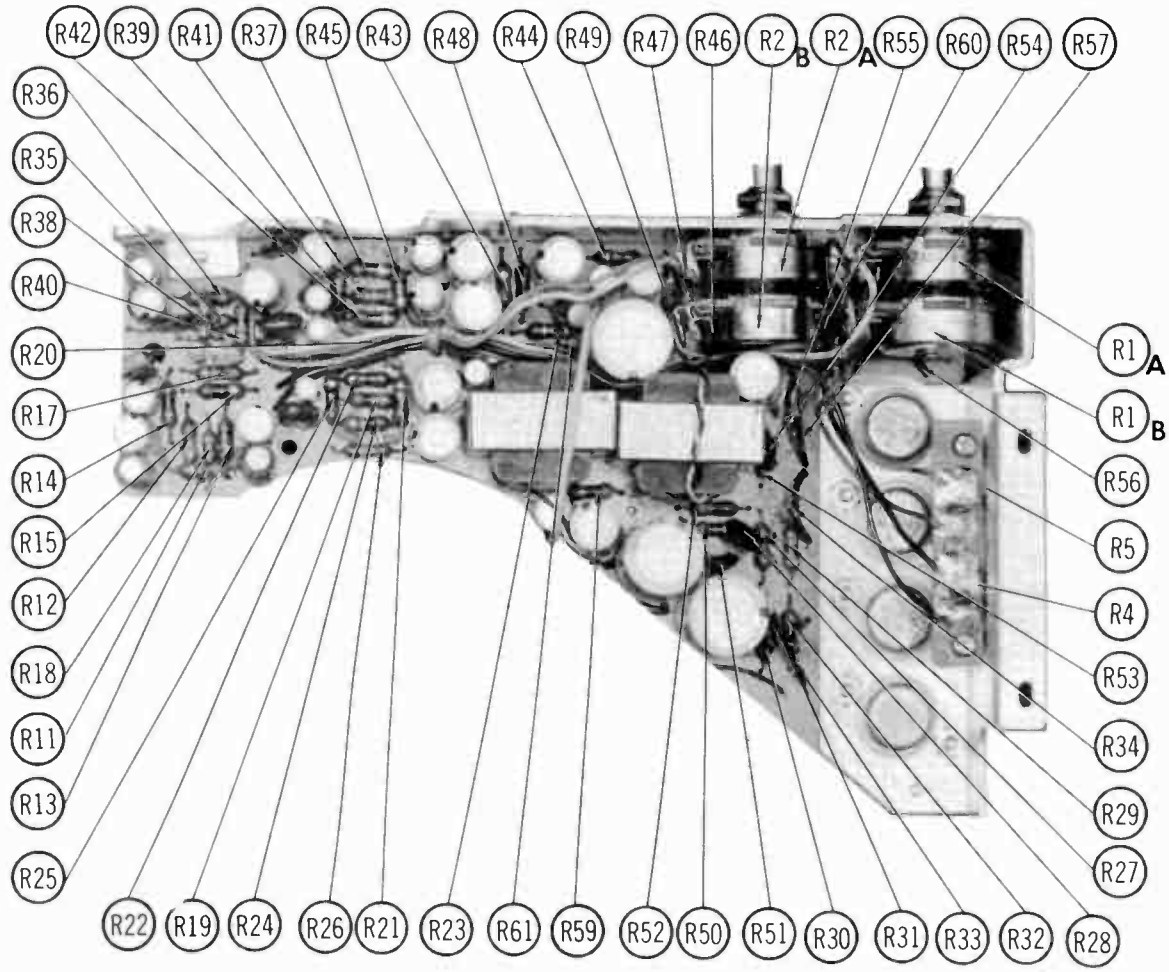
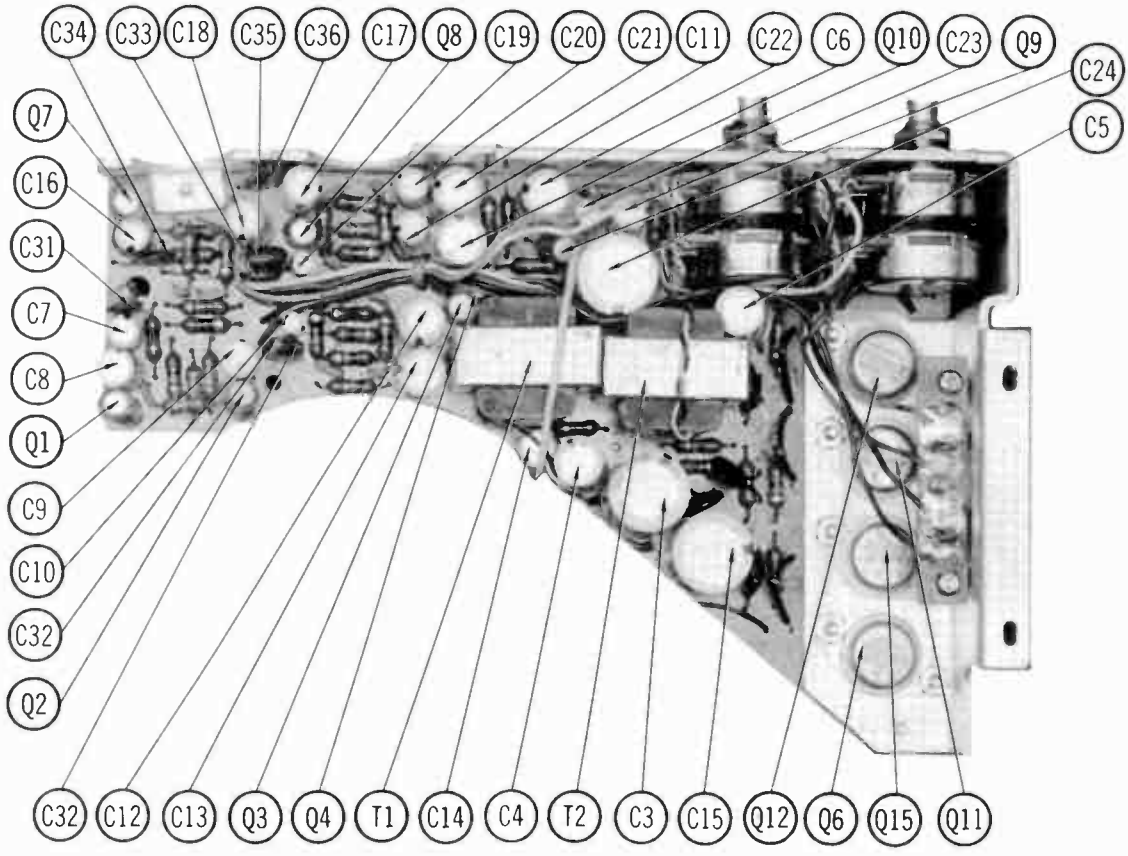
Q5, Q6, Q11, & Q12  
TERMINAL GUIDE







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.

## TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SB75	Preamp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q2	2SB75	Preamp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q3	2SB77	AF Amp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q4	2SB76	Driver		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q5	2SB367	Output *						
Q6	2SB367	Output *						
Q7	2SB75	Preamp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q8	2SB75	Preamp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q9	2SB77	AF Amp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q10	2SB76	Driver		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q11	2SB367	Output *						
Q12	2SB367	Output *						

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

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MUNTZ PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	5 15V	53-0105-06	BCD15005	EP30-5	NLW5-15	MT1-3	MTV500B50	TE-1152
C2	500 15V	52-1050-06	BCD15500	EA15-500			MTV500DN15	TL-1166
C3	500 15V	52-1050-06	BCD15500	EA15-500			MTV500DN15	TL-1166
C4	100 15V	52-1010-06	BCD15100	EP15-100	NLW100-15	MT1-19	MTV100CK15	TE-1162
C5	100 15V	52-1010-06	BCD15100	EP15-100	NLW100-15	MT1-19	MTV100CK15	TE-1162
C6	100 15V	52-1010-06	BCD15100	EP15-100	NLW100-15	MT1-19	MTV100CK15	TE-1162
C7	10 15V	52-0010-06	BCD15010	EP15-10	NLW10-15	MT1-5	MTV100B50	TE-1155
C8	30 10V	52-1003-04	BCD12025	EP15-50	NLW30-15	MT1-16	MTV30CB25	TE-1132.1
C9	30 10V	52-1003-04	BCD12025	EP15-50	NLW30-15	MT1-16	MTV30CB25	TE-1132.1
C10	4.7 16V	52-2047-18	BCD15005	EP30-5	NLW5-15	MT1-3	MTV500B50	TE-1152
C11	10 15V	52-0010-06	BCD15010	EP15-10	NLW10-15	MT1-5	MTV100B50	TE-1155
C12	100 10V	52-1010-04	BCD10100	EP15-100	NLW100-12	MT1-19	MTV100CD10	TE-1135
C13	100 10V	52-1010-04	BCD10100	EP15-100	NLW100-12	MT1-19	MTV100CD10	TE-1135
C14	30 10V	52-1003-04	BCD12025	EP15-50	NLW30-15	MT1-16	MTV30CB50	TE-1132.1
C15	500 10V	52-1050-04	BCD12500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1141
C16	10 15V	52-0010-06	BCD15010	EP15-10	NLW10-15	MT1-5	MTV100B50	TE-1155
C17	30 10V	52-0010-04	BCD12025	EP15-50	NLW30-15	MT1-16	MTV30CB50	TE-1132.1
C18	30 10V	52-0010-04	BCD12025	EP15-50	NLW30-15	MT1-16	MTV30CB50	TE-1132.1
C19	4.7 16V	52-2047-18	BCD15005	EP30-5	NLW5-15	MT1-3	MTV500B50	TE-1152
C20	10 15V	52-0010-06	BCD15010	EP15-10	NLW10-15	MT1-5	MTV100B50	TE-1155
C21	100 10V	52-1010-04	BCD10100	EP15-100	NLW100-12	MT1-19	MTV100CD10	TE-1135
C22	100 10V	52-1010-04	BCD10100	EP15-100	NLW100-12	MT1-19	MTV100CD10	TE-1135
C23	30 10V	52-0010-06	BCD12025	EP15-50	NLW30-15	MT1-16	MTV30CB50	TE-1132.1
C24	500 10V	52-1050-04	BCD12500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1141

## 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.
C31	.005		GPD XSR502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C32	.05		DBE6547	DD-503	DMF4547	4DP-3-473	PVC4147	4PS-547
C33	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C34	.005		GPD XSR502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C35	.05		DBE6547	DD-503	DMF4547	4DP-3-473	PVC4147	4PS-547
C36	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C37	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C38	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C39	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10

## 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.	CYS-IRC PART No.	MALLORY PART No.
R1A B	Volume Volume	30K 30K	34-1013-00	F1-50K,R1-50K, TU-304	NP-50K-S, NR-50K-S, UP-C-400, DC-2	QCBI (1), B11-121,B11-121 SK1,QCM or (BU2,CF12,CR7, SS1,SS7A,DC1)*	FA34L,RU34L, CS3500
R2A B	Tone Tone	5000 ohms 5000 ohms	34-1008-00	F2-5000,R2-5000, TU-304		QCBI (1), B13-114, B13-114,SK1, QCM, or (BU2, CF60,CR51,SS1, SS7A,DC1)*	FA53A,RU53A, CS3500
R3 R4 R5	Separation Level Level	10k 5000 ohms 5000 ohms	34-1006-00 34-1004-00 34-1004-00	T-5000 T-5000		X201RS02B X201RS02B	MTC53L1 MTC53L1

(1) Use QCBI instead of Bushing in SK1 Kit.

\* "SNAPTROL"

AUDIO/STEREO MODEL A-12, MUNTZ/STEREO MODEL M-12

# 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			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFG. PART No.			IRC PART No.	WORKMAN PART No.	MFG. PART No.
R28	30 (Cold)			38-1001-00	R51	30 (Cold)			38-1001-00
R31	30 (Cold)			38-1001-00	R54	30 (Cold)			38-1001-00

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (470uh)	70-1000-00			
L2	RF Choke (4uh)	37-1010-00			
L3	RF Choke (4uh)	37-1010-00			

## TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFG. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	1	35-1000-00					
T2	8	1	1	35-1000-00					

## 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	2.5 Amp	31202.5	42-1003-00	AGC 21/2	HDJ	31202.5	155020	

## TAPE HEADS

ITEM NO.	MEASURED			MUNTZ PART No.	NORTRONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	70uh			46-1007-00		8-Track Stereo Play

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Indicator Lamp	36-1001-00	
M3	Motor	43-1005-00	
M4	Solenoid	71-1000-00	
S1	On-Off Switch	41-1005-00	
S2	Manual Track Selector Switch	41-1002-00	
S3	Auto Track Selector Switch	16-1096-00	

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

ITEM	PART No.	ITEM	PART No.
Escutcheon	15-1014-00	Knob, Track or Reject	21-1014-00
Knob, Separation	21-1018-00	Knob, Track Selector	21-1019-00
Knob, Volume or Tone	21-1015-00		

## WIRING DATA

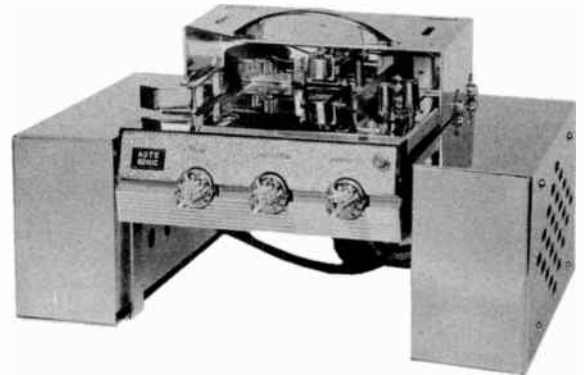
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN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



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

TRADE NAME : Auto-Sonic Models ST-308, 603M/48  
SUPPLIER : For Current Address, See Annual Index  
TYPE SET : 12-Transistor Tape Player  
POWER SUPPLY : 12 Volt Storage Battery  
RATING : .2 Amp @ 12.6 Volts DC



AUTO-SONIC MODELS ST-308, 603M/48

## OPERATING INSTRUCTIONS

Push "4" Lever and "8" Lever toward rear of unit, and insert an eight-track cartridge.

Pull "8" Lever forward and adjust operating controls as desired.

Push Program Selector switch to play desired tracks, or allow unit to select tracks automatically.

Push "8" Lever toward rear of unit to turn unit off.

To play a four-track cartridge, insert the cartridge and pull "4" Lever forward.

Push Program Selector switch and select the position on each program that gives the best reproduction.

Push "4" Lever toward rear of unit to turn unit off and release cartridge.

## 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 nonhardening grease on cam surfaces.

## HEAD DEMAGNETIZING

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

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

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World Radio History



## ADJUSTMENTS

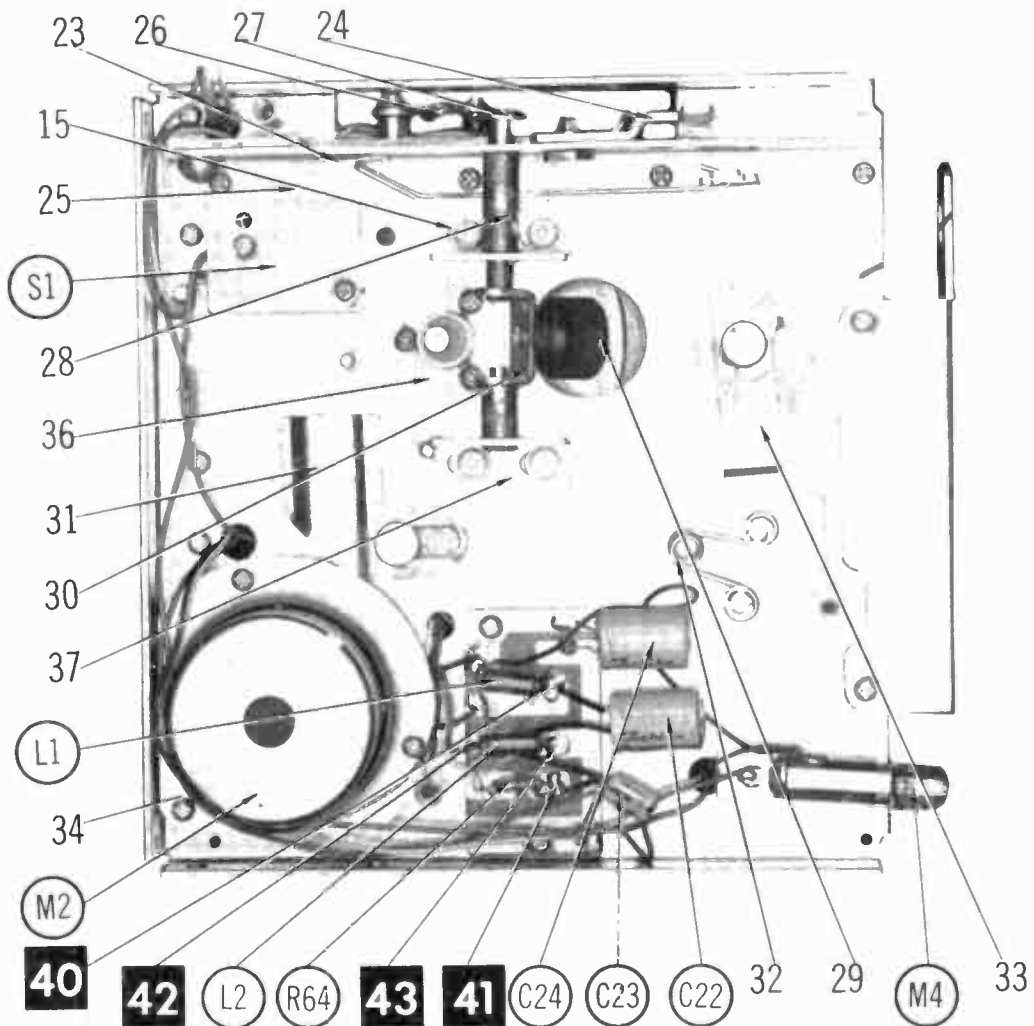
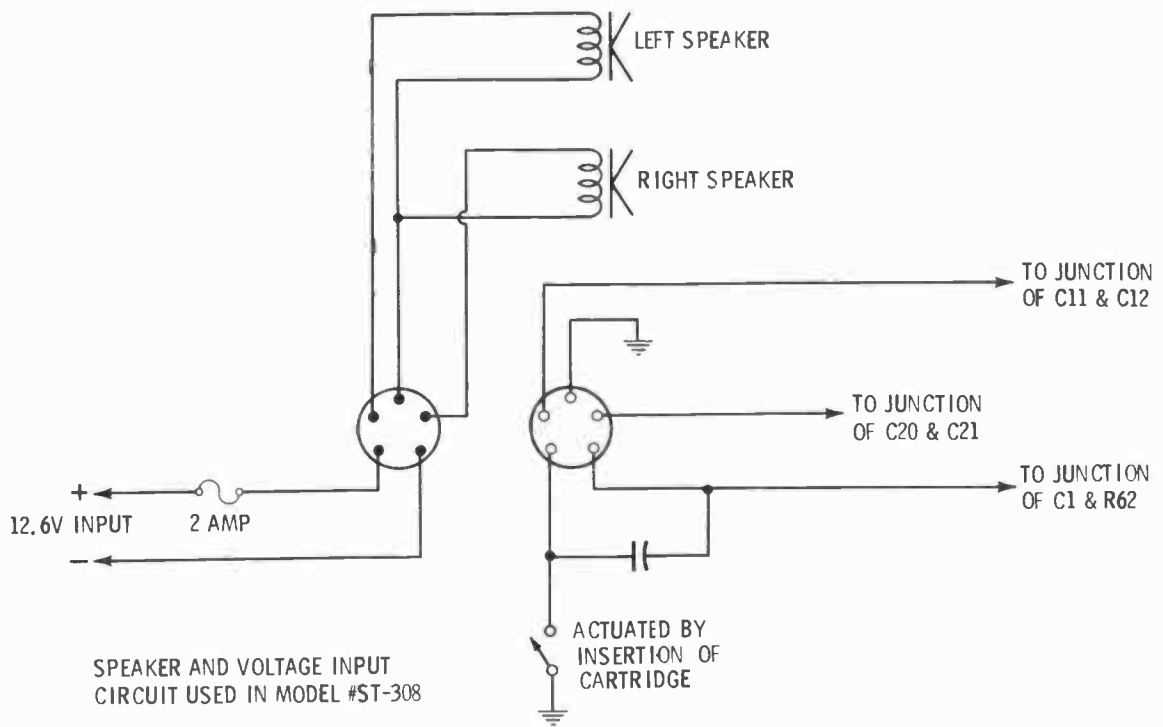
ADJUST	REMARKS
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B1 for proper response.
Head Azimuth	Connect an AC VTVM across right output. Play an 8-Track, test cartridge and adjust B2 and B3 equally in opposite directions for maximum.
Ratchet Stopper Adjust	Loosen mounting screw and position Stopper (11) 1/32 inch behind and in from a tooth on Ratchet (3).
Pressure Roller Alignment	Engage Roller (1) and position Bearing (37) until the pinch-roller shaft on Base (30) is parallel to the capstan.

## TROUBLE CHART

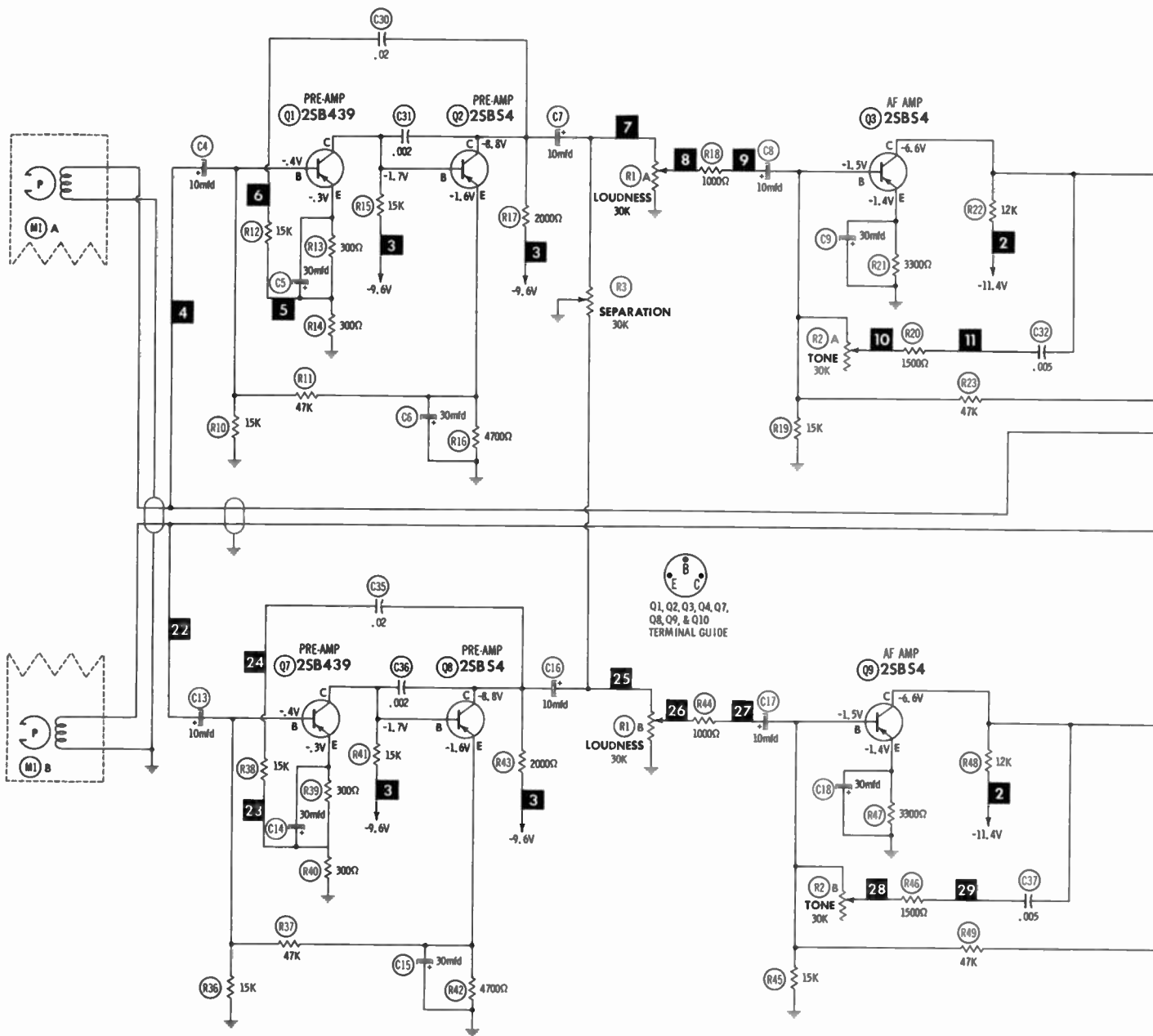
SYMPTOM	REMARKS
Capstan does not rotate	Belt (1) dirty, worn, or broken. Assembly (10) binding. Motor defective or not supplied with power.
Track-shift mechanism inoperative	Switch (S2) dirty. Cam (3) binding or worn. Pawl (4) worn. Arm (6) binding. Solenoid (M3) defective or not supplied with power. Cartridge defective.
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	ACF-0051	Rubber Drive Belt	19	AC1-0023A	Lock Roller Mounting Arm
2	C1-0028A	Head Adjustment Spring	20	AC1-0023	Lock Roller
3	AC1-0002	Ratchet (Cam)	21	AC1-0025	Cartridge Guide
4	AC1-0013	Ratchet Pusher (Pawl)	22	AC1-0026	Guide Roller
5	AC1-0005	Head Bracket	23	ACF-0028	Lock Lever Base
6	AC1-0004	Head Rest Arm	24	ACF-0027	Locking Lever
7	AC1-0006	Pivot Base	25	ACF-0039	Micro Switch Lever
8	AC1-0003A	Ratchet Spindle	26	ACF-0038	Pinch Roller Spring
9	C1-0001	Head Mounting Chassis	27	ACF-0030	Pinch Roller Lever
10	ACF-0045	Flywheel and Capstan	28	ACF-0032	Rotation Shaft
11	AC1-0014	Ratchet Stopper	29	ACF-0035	Pinch Roller
12	AC1-0012	Plunger Arm	30	ACF-0036	Pinch Roller Base
13	AC1-0304A	Plunger Shaft	31	ACF-0023	Channel Change Arm
14	AC1-0029	Arm Spring	32	ACF-0038	Channel Change Lever Spring
15	ACF-0034R	Right Shaft Panel Bearing	33	ACF-0022	Channel Change Lever
16	C1-0015	Arm Guide	34	ACF-0053	Motor Cushion Rubber
17	AC1-0016	Tape Guide	35	ACF-0052	Motor Pulley
18	C1-0020	Cartridge Guide	36	ACF-0046	Capstan Shaft Bearing
			37	ACF-0034	Left Shaft Panel Bearing



AUTO-SONIC MODELS ST-308, 603M/48



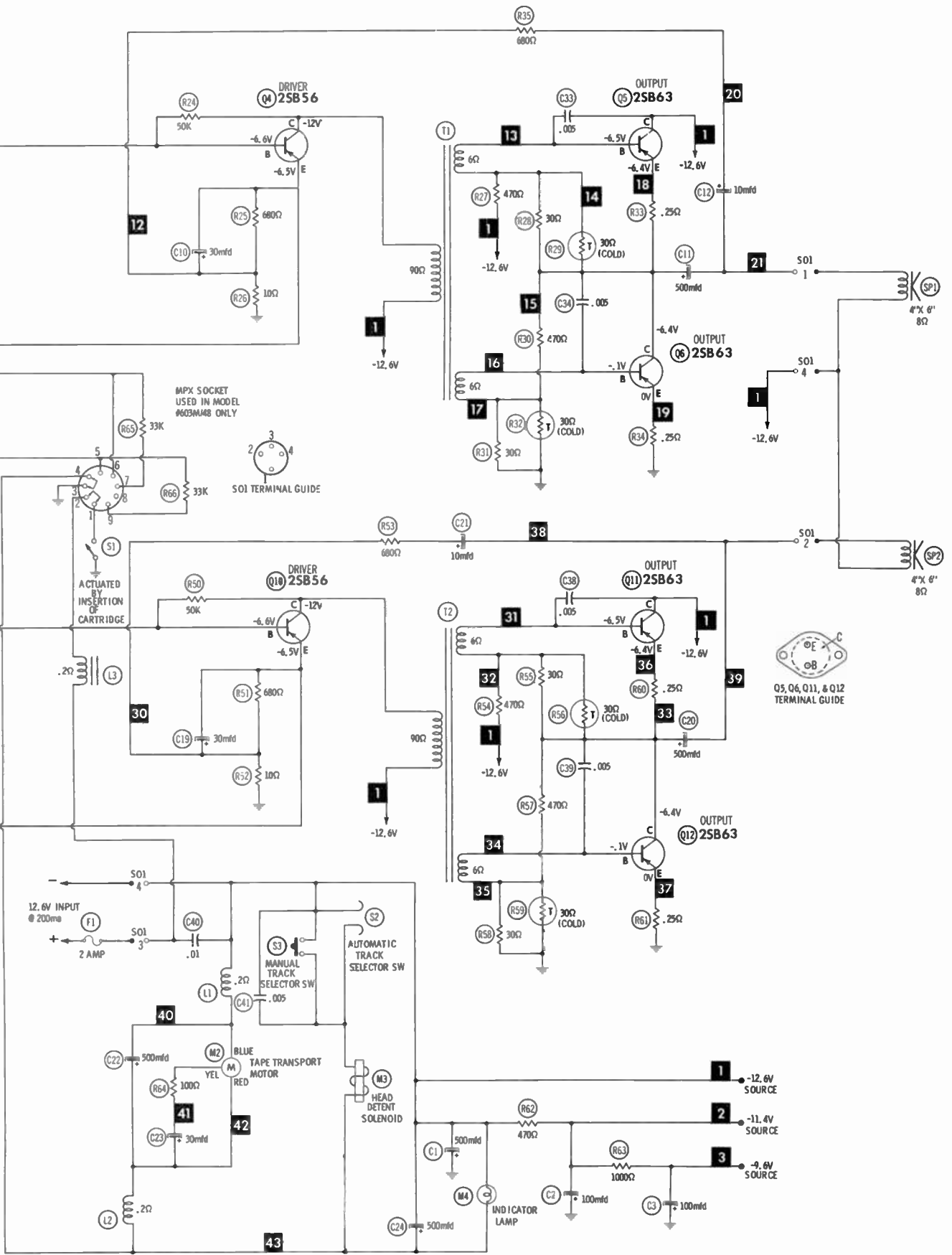
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

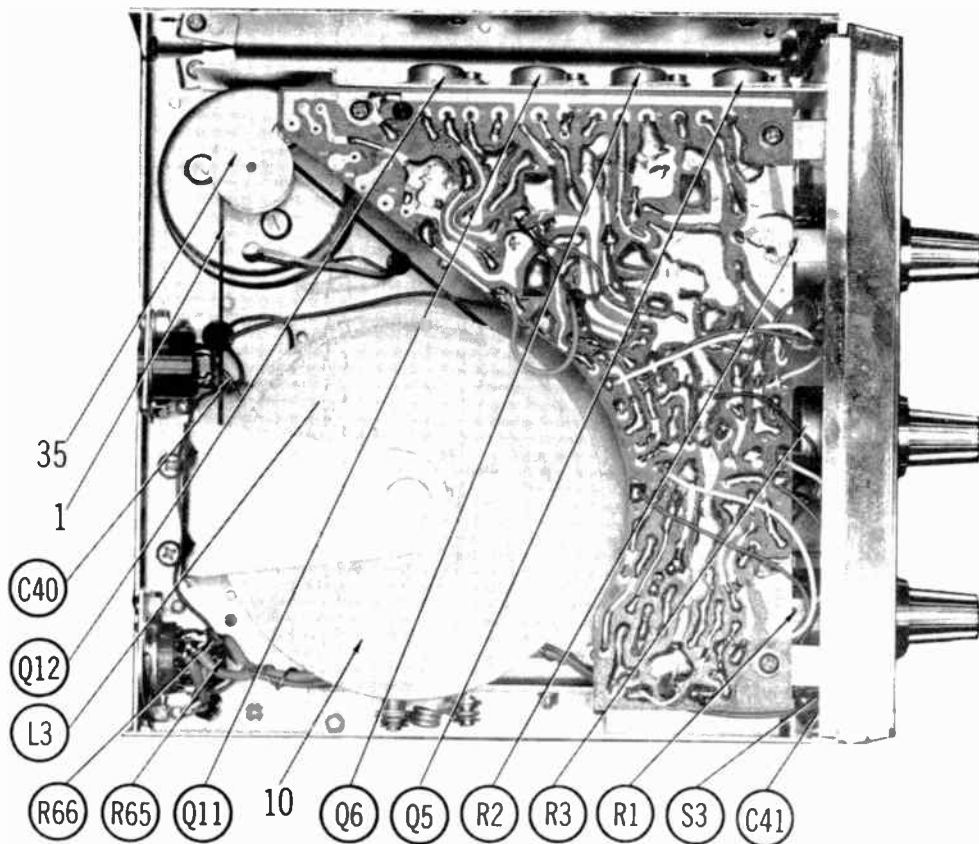
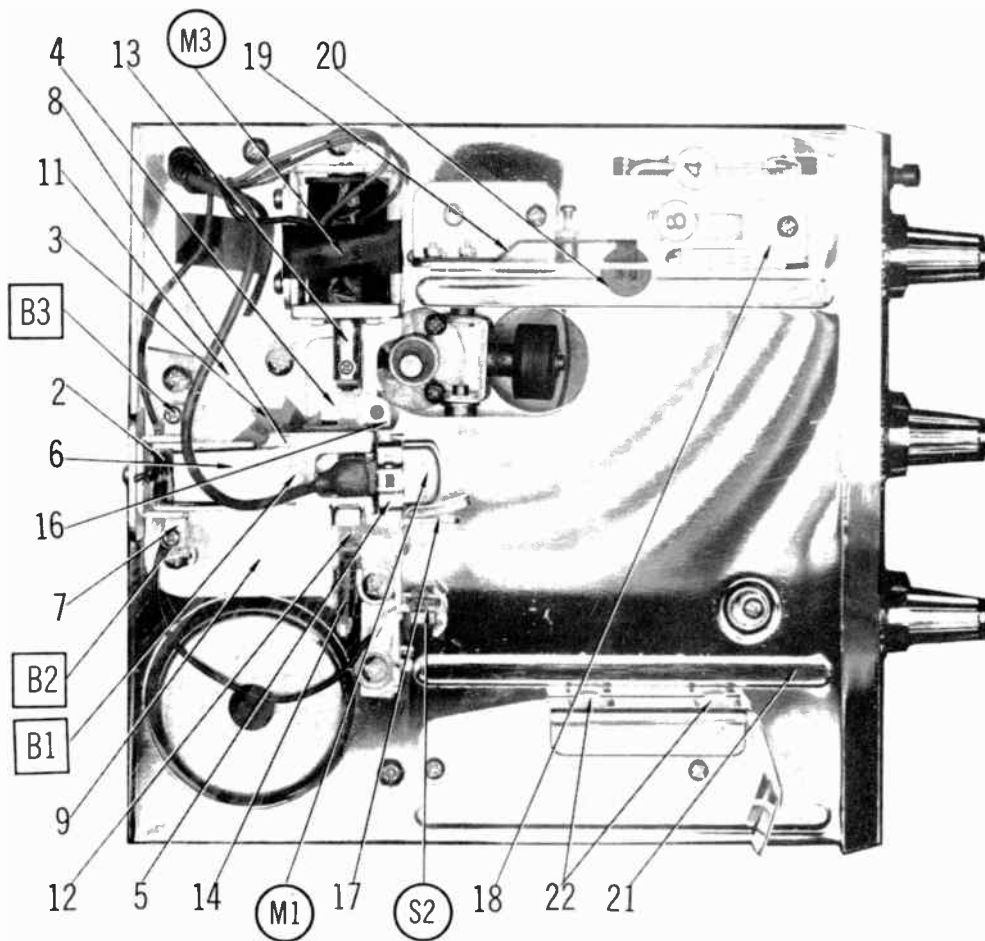
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found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

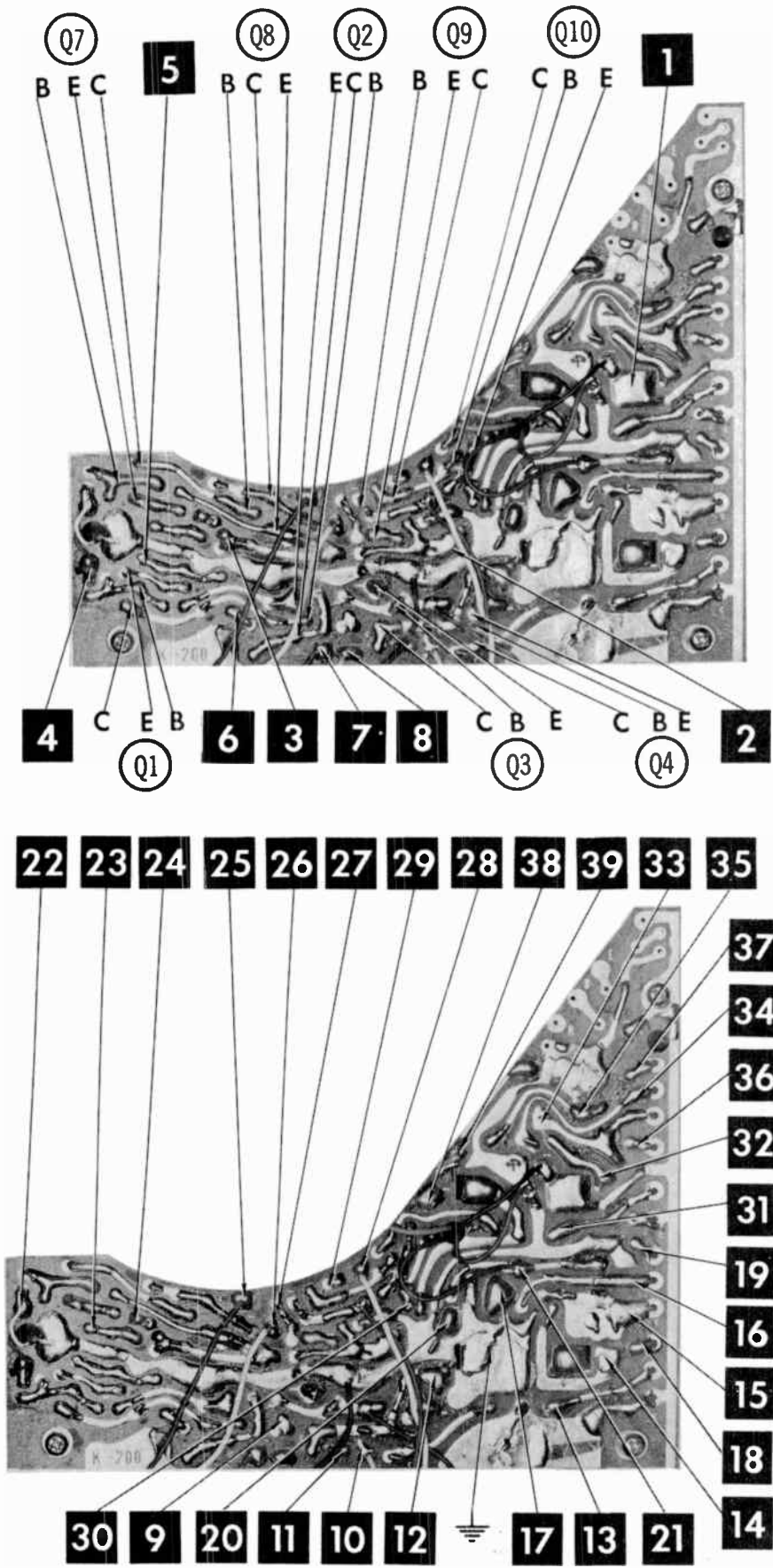
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**

**AUTO-SONIC MODELS ST-308, 603M/48**

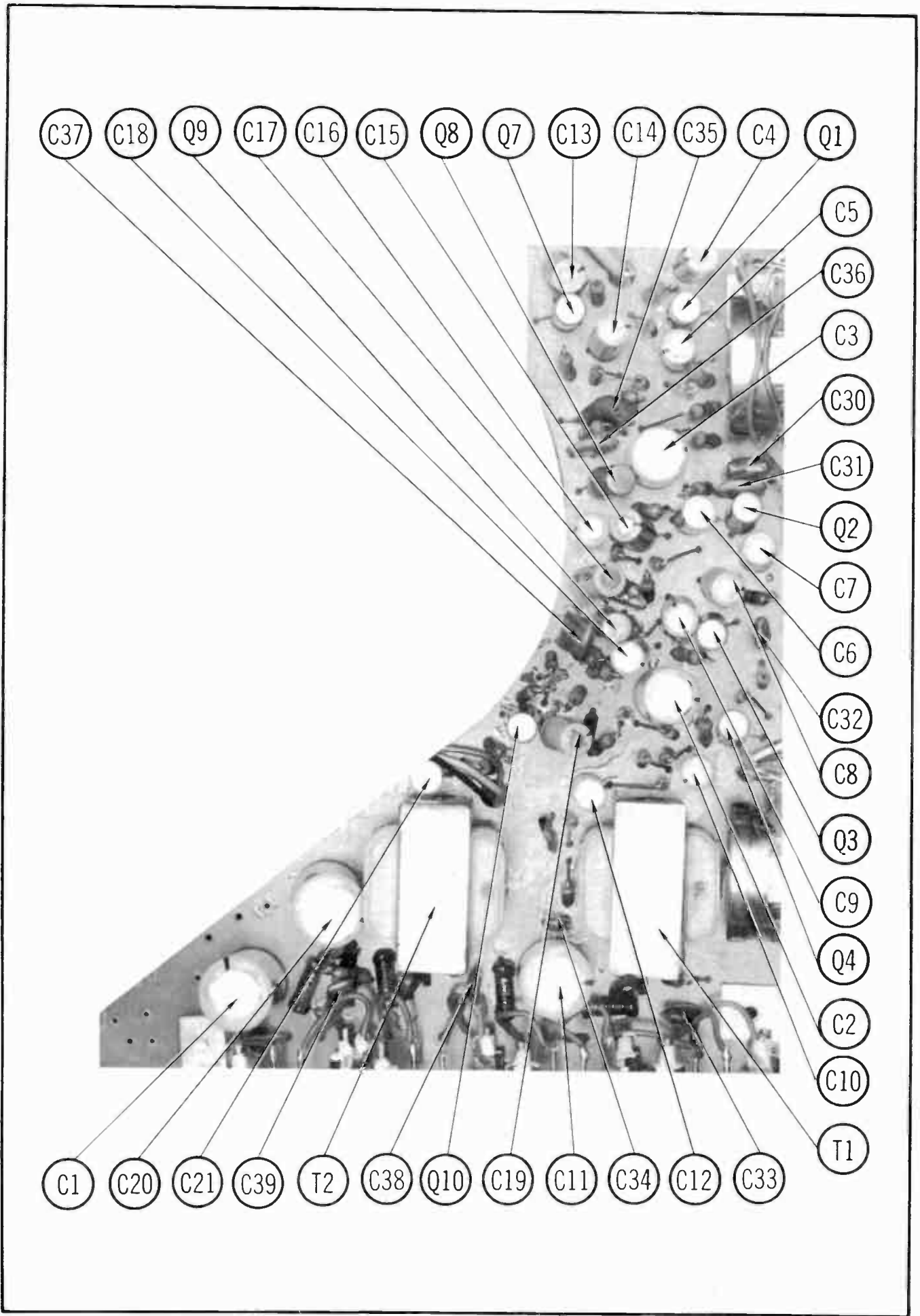
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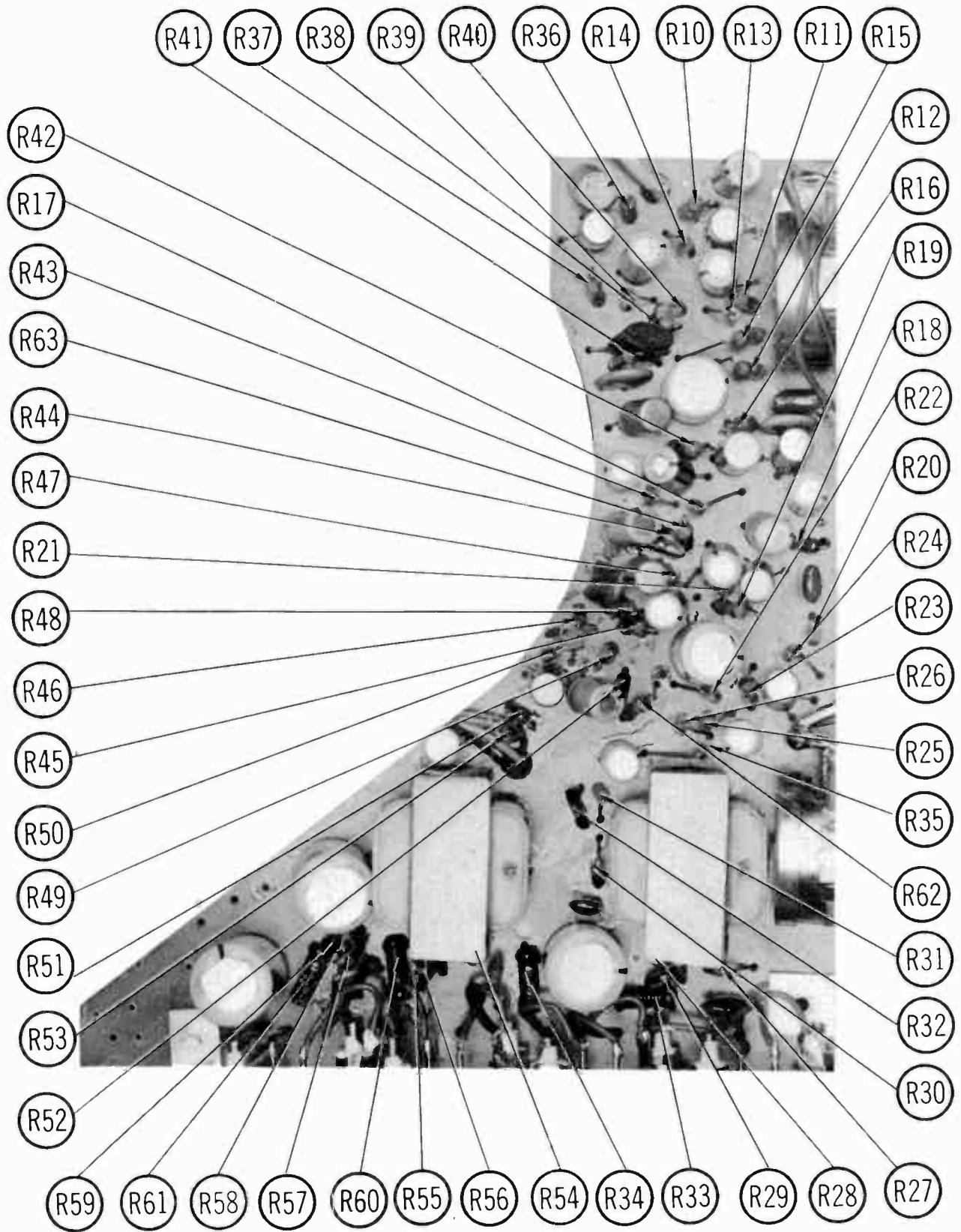






A Howard W. Sams CIRCUITRACE® Photo







# 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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SB439	Preamp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q2	2SB54	Preamp		OS-26	GE-2	TR-05	SK-3004	ECG 102
Q3	2SB54	AF Amp		OS-26	GE-2	TR-05	SK-3004	ECG 102
Q4	2SB56	Driver		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q5	2SB63	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q6	2SB63	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q7	2SB439	Preamp		OS-26	GE-2	TR-05	SK-3005	ECG 102
Q8	2SB54	Preamp		OS-26	GE-2	TR-05	SK-3004	ECG 102
Q9	2SB54	AF Amp		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q10	2SB56	Driver		DS-26	GE-2	TR-05	SK-3004	ECG 102
Q11	2SB63	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q12	2SB63	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104

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

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		AUTO-SONIC 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	EP15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C2	100 15V		BCD15100	EP15-100	NLW100-15	MT1-19	MTV100CF15	TE-1162
C3	100 15V		BCD15100	EP15-100	NLW100-15	MT1-19	MTV100CF15	TE-1162
C4	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C5	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C6	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C7	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C8	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C9	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C10	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C11	500 15V		BCD15500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C12	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C13	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C14	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C15	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C16	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C17	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C18	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C19	30 6V		BCD6035	EP6-50	NLW30-6	MT1-13	MTV30CB25	TE-1158
C20	500 15V		BCD15500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C21	10 15V		BCD15010	EP15-10	NLW10-15	MT1-5	MTV10CB15	TE-1155
C22	500 15V		BCD15500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C23	30 15V		BCD15035	EP15-50	NLW30-15	MT1-16	MTV30CB25	TE-1158
C24	500 15V		BCD15500	EA15-500	BR500-15	QT1-30	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.
C30	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-520
C31	.002		GPD X5F202K	DD-202	JBX601YP202K	CCD-202	GP220	10TS-D20
C32	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C33	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C34	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C35	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-520
C36	.002		GPD X5F202K	DD-202	JBX601YP202K	CCD-202	GP220	10TS-D20
C37	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C38	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C39	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C40	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C41	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50

## 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.
RIA	Loudness	30K					
B	Loudness	30K					
R2A	Tone	30K					
B	Tone	30K					
R3	Separation	30K					

# 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			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.			IRC PART No.	WORKMAN PART No.	MFR. PART No.
R29	30 (Cold)				R56	30 (Cold)			
R32	30 (Cold)				R59	30 (Cold)			

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (1.5uh)		19-1001	4604	T856
L2	RF Choke (1.5uh)		19-1001	4604	T856

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L3	200ma	.2	1.3mh	ACF-0217					

## TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	AUTO-SONIC PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	1						
T2	8	1	1						

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		AUTO-SONIC PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" X 6" PM 8 ohms			46A15Z8	
SP2	4" X 6" PM 8 ohms			46A15Z8	

## 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	HOLDER
F1	2 Amp			AGC2	HDJ	312002	155020		

## TAPE HEADS

ITEM NO.	MEASURED			AUTO-SONIC PART No.	NORTRONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	365mh			AC1-0301	5800 [1]	8-Track Stereo Play (1) Use original mounting.

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Motor	ACF-0205	
M3	Solenoid		
M4	Indicator	ACF-02D4	
S1	On-Off Switch	ACF-02D2	
S2	Automatic Track Selector Switch		
S3	Manual Track Selector Switch	C1-0303	

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

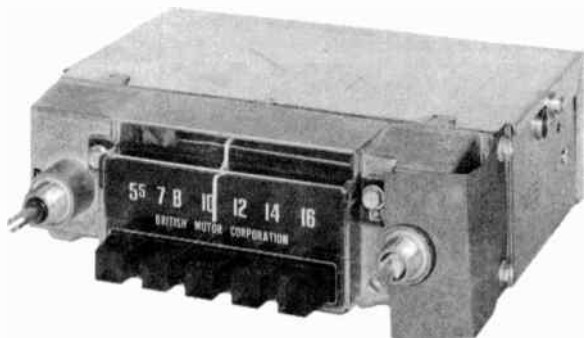
ITEM	PART No.	ITEM	PART No.
Knob, Control	ACF-0006	Knob, Tape Change (8 Track)	ACF-0063
Knob, Tape Change (4 Track)	ACF-0062		

AUTO-SONIC MODELS ST-308, 603M/48



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>



**TRADE NAME :** British Motors Corp. Models 6SMB, 7SMB 1966/67 Austin Healey 3000 Mark III, Sprite, MGD, MG Midget and MG-1100

**SUPPLIER :** For Current Address, See Annual Index

**TYPE SET :** 6-Transistor AM Receiver

**POWER SUPPLY :** 12 Volt Storage Battery

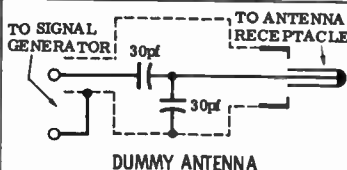
**RATING :** .7 Amp @ 12.6 Volts DC

BRITISH MOTORS CORPORATION MODELS 6SMB, 7SMB

## 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: 9626, 9297, 9300  
                          WALSCO: 2510, 2546, 2547  
A5, A6, A7.      GENERAL CEMENT: 8290, 8868, 9087  
                          WALSCO: 2525, 2528, 2587



**PUSH-BUTTON ADJUSTMENT**

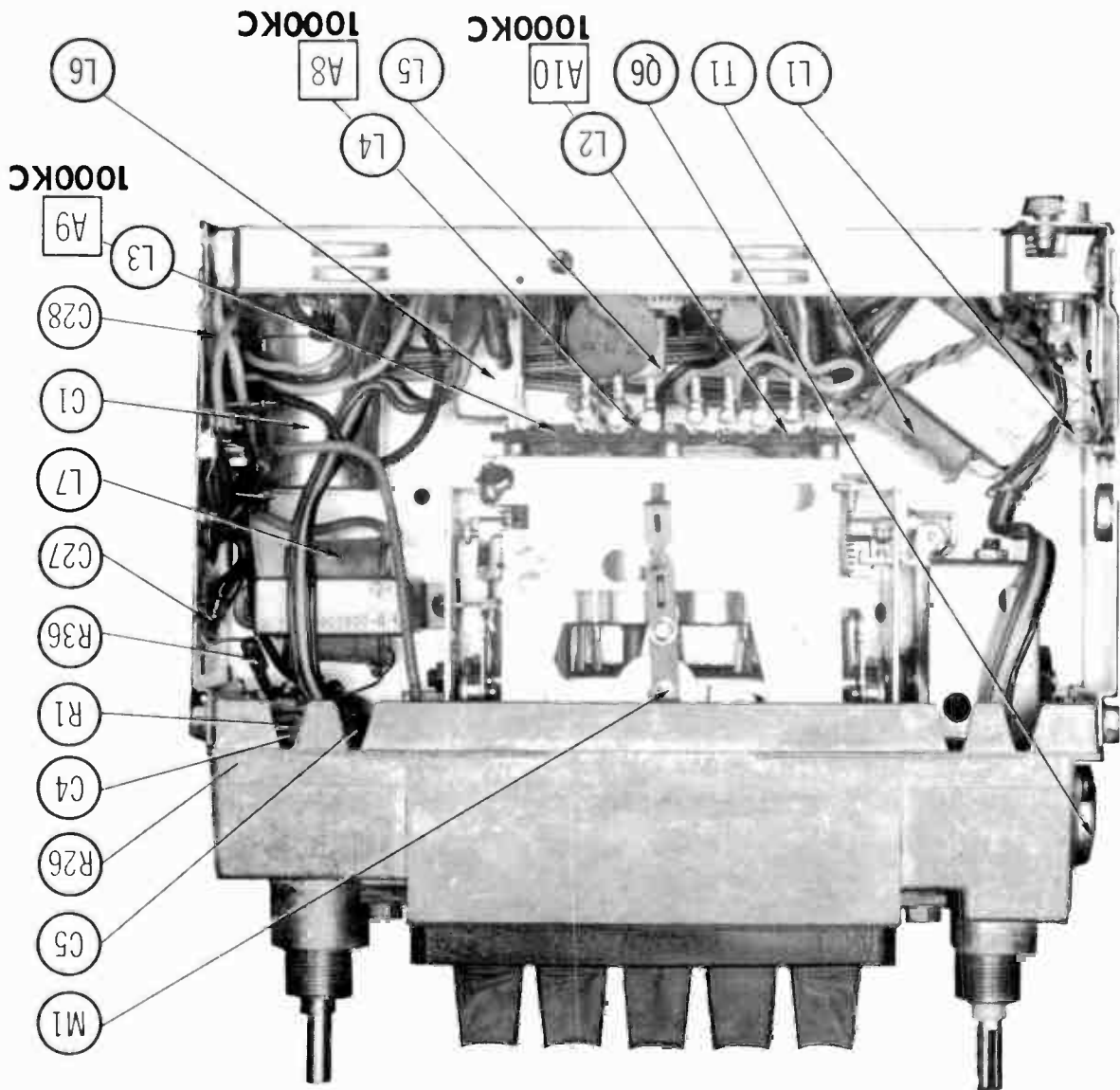
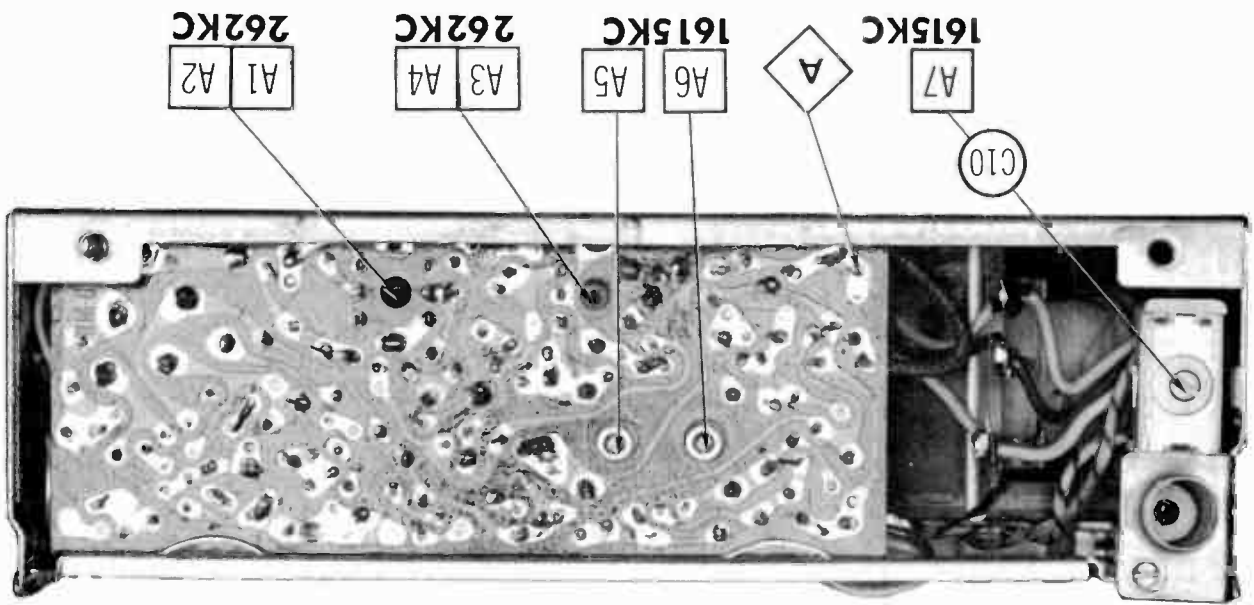
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.

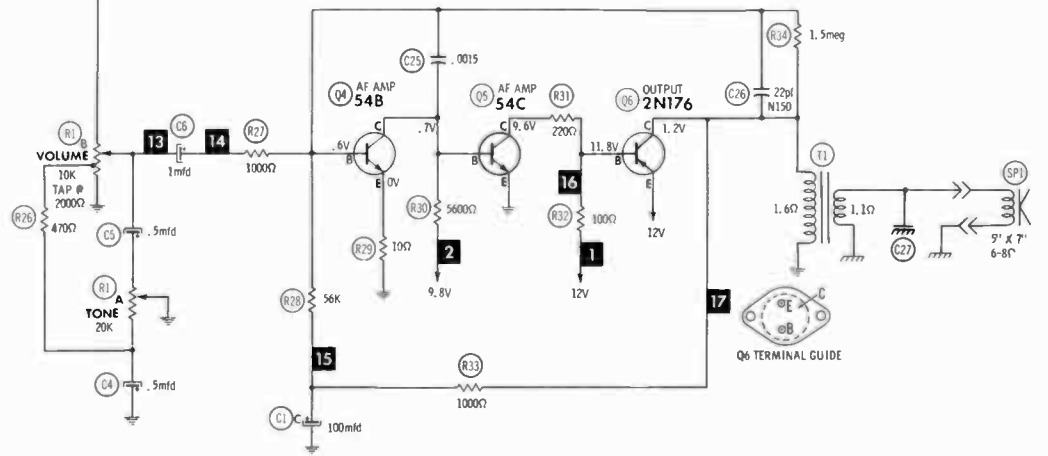
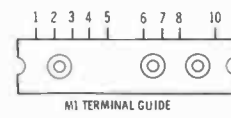
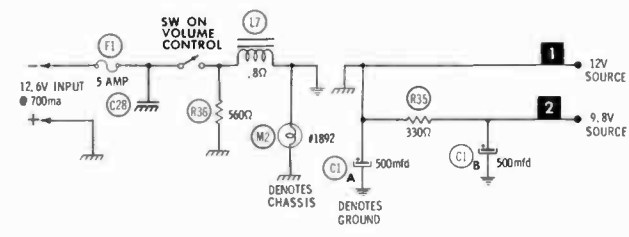
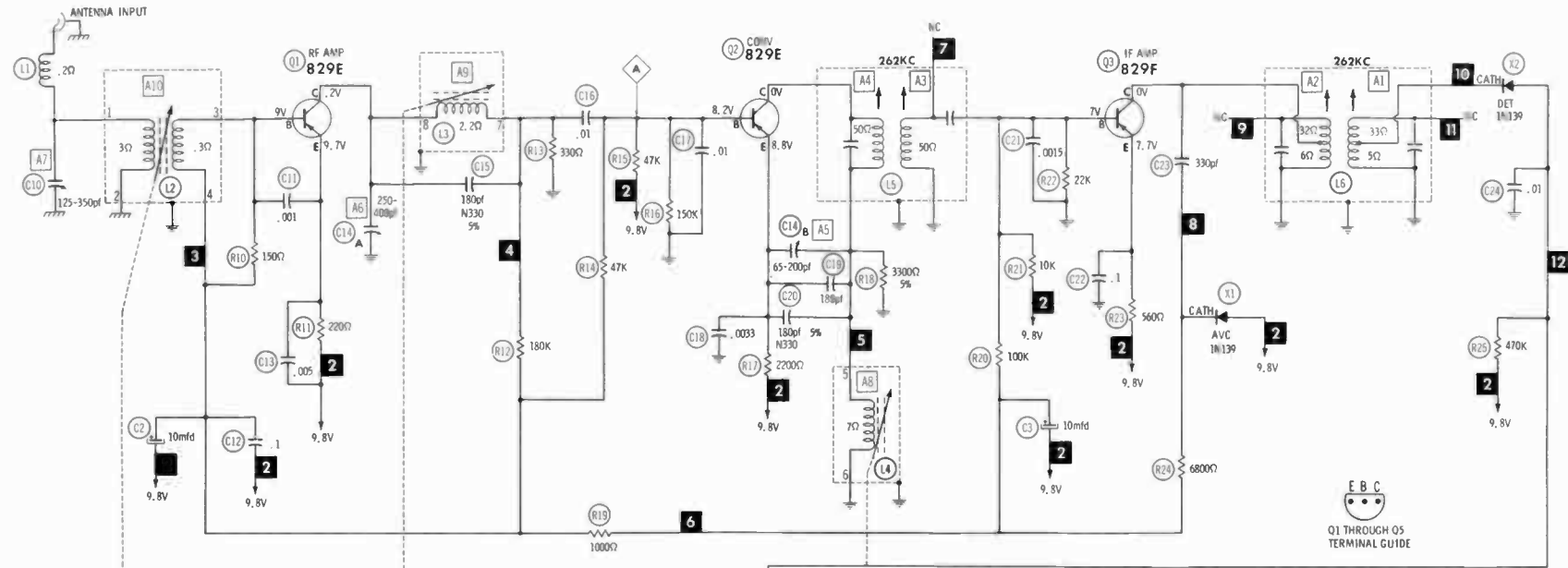
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400 $\nu$ Mod.)	High freq. end stop.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy antenna to antenna receptacle.	1615KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat Step 2.					
3. Thru dummy antenna to antenna receptacle.	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 rear, below antenna receptacle.					

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

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World Radio History





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

NC No Connection

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

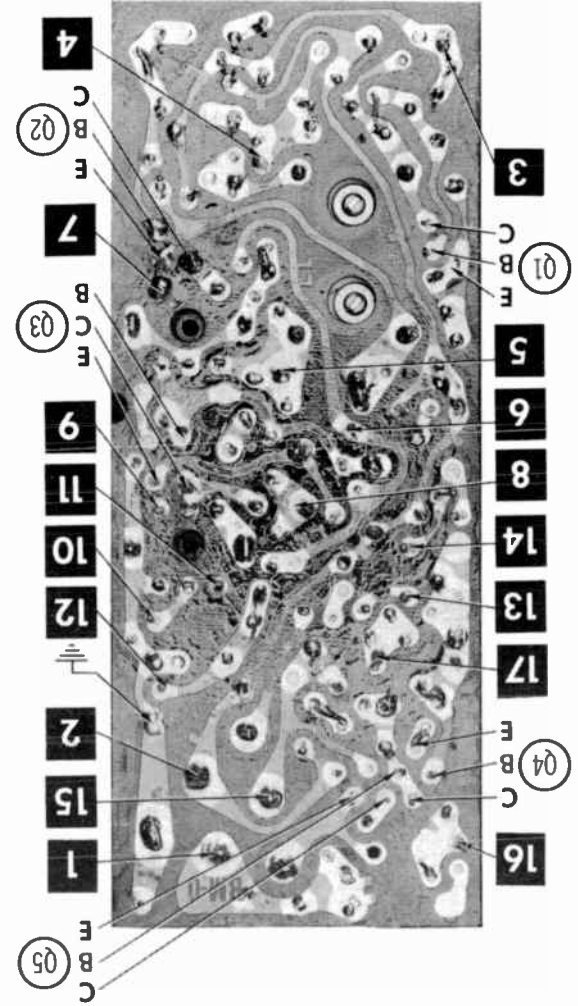
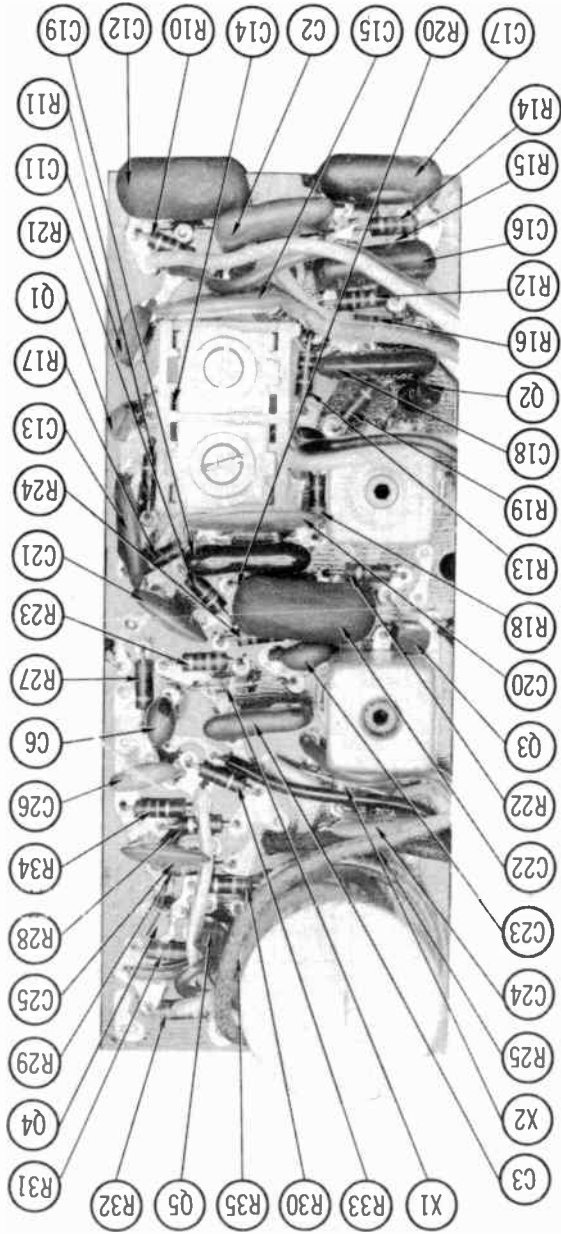
A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

BRITISH MOTORS CORPORATION MODELS 65MB, 75MB

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BRITISH MOTORS CORPORATION MODELS 6SMB, 7SMB

Howard W. Sams CIRCUITRACE® Photo



# PARTS LIST AND DESCRIPTION

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

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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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	829E	RF Amp	48S134914		GE-21	TR-19		ECG 106
Q2	829D	Converter	48S134913 (48S134914)		GE-21	TR-19		ECG 106
Q3	829F	IF Amp	48S134915 (48S134914)		GE-2	TR-19		ECG 106
Q4	54B	AF Amp	48S134809 (48S134810)	DS-66	GE-10	TR-21	SK-3020	ECG 123
Q5	54C	AF Amp	48S134810	DS-66	GE-21	TR-21	SK-3020	ECG 123
Q6	2N176	Output	48S134747	GE-3	GE-3	TR-01	SK-3020	ECG 104

• 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.	SARKES TARZIAN PART No.	
X1	48C134587 (1N139)	1N295	1N295	ECG 109			
X2	48C134587 (1N139)	1N295	1N295	ECG 109			

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500 16V	23C40302A04	PWH3-00-95				PFP300.18	PCL-3026.18
B	500 16V							
C	100 16V							
C2	10 6V	23C43280A03	CRE307A	EA6-10	NLW10-6	MT1-5	TT6X10	TE-1087
C3	10 6V	23C43280A03	CRE307A	EA6-10	NLW10-6	MT1-5	TT6X10	TE-1087
C4	.5 15V	23C43280A25			TYR13BD474M		TAS474M015P0A	
C5	.5 15V	23C43280A25			TYR13BD474M		TAS474M015P0A	
C6	1 15V	23C43280A17	BCD15001		NLW1-50	MT1-1	TT15X1	TE-1148

## 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	125-350pf	#20B43088A02						
C11	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	EM210	5GAB-D10
C12	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PM-P10
C13	.005 10%		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C14A	250-400pf	#20C40254A17						
B	65-200pf							
C15	180 N330 5%	#21D40536A48						10TCS-T18
C16	.01 100V		DBE4S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C17	.01 100V		DBE4S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C18	.0033 100V 10%		DBE6D33		DMF6D33	1MDF-1-332		6PS-D33
C19	180		ADM-15-181	CPR-180J	CD10E181J500	DM-10-181J	SK318	MS-318
C20	180 N330 5%	#21D40536A48						10TCS-T18
C21	.0015 10%		DI-1500	DD-152		CCD-152	GP215	10TS-D15
C22	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PB-P10
C23	330 10%		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C24	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C25	.0015 10%		DI-1500	DD-152		CCD-152	GP215	10TS-D15
C26	22 N150 10%						*	10TCP-Q22
C27		#64A41668A07						
C28		#64K563410						

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R1A	Tone	20K	18D42832A05	F1-25K①, R16-10K, FFS104, RFS113, KR-4			†QJ-1832A	FA24L①, RUI4T53, OK1250A, IS1812, US41
B	Volume/Switch	10K Tap @ 2200Ω						

① Use original spring mounting clips.

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

† "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-119, P22-109 (Panel), B19-116X, R26-124 (Rear), R5② (Tab Mount), 76-1 (Switch)

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		MOTOROLA PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke	24C40788A04	19-1001	BC-562	4604	T856
L2	Antenna	①				
L3	RF	①				
L4	Oscillator	①				
L5	Input IF	24D40310B09			8010	
L6	Output IF	24D40310B10				

① Part of M1 (Coils & Mounting Plate Assembly Part Number 1V43200A09).

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	.7A	.8Ω	22mh	25D40907B03					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	18Ω	8Ω	25D41307B03					

## SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA			NOTES
	MFGR. PART No.	JENSEN PART No.	QUAM PART No.				
SP1	5" X 7" PM 5" PM	8Ω 8Ω	50C42868A01 50C42867A01	P5X7V8	57A21Z8 5A1Z8		Used in MGB Used in MG-1100, Austin Healey, Sprite, MG Midget, Austin Healey 3000 Mark III

## FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	
F1	AGC 5	658122345		AGA5		301005		

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Tuner Coil Assembly	77D43175A07 1V43200A09	AT-640
M2	Dial Lamp #1892	658538410	CHICAGO MINIATURE Replacement #CM-1892

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

ITEM	PART No.	ITEM	PART No.
Dial Scale Knob, Tuning or Volume Knob, Tone or Dummy	34C42880A01 36B543876 36B543877	Push Button Dial Pointer	38B562848 52B42600A06

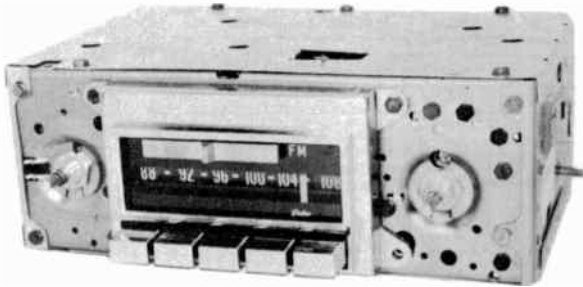
BRITISH MOTORS CORPORATION MODELS 65MB, 75MB





PHOTOFACT<sup>®</sup> with

CIRCUITRACE<sup>®</sup>



TRADE NAME: Chevrolet Models 7303201, 7303211  
(1968 Corvette)  
SUPPLIER: For Current Address, See Annual Index  
TYPE SET: 14-Transistor AM-FM Receiver  
10-Transistor Multiplex Chassis  
POWER SUPPLY: 12 Volt Storage Battery  
RATING: 2.5 Amp @ 12.6 Volts DC

CHEVROLET MODELS 7303201, 7303211

## 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: 5009, 8782A, 8987  
WALSCO: 2531-X, 2538  
A5 thru A10, A19 thru A29. GENERAL CEMENT: 8290, 8868, 9087  
WALSCO: 2525, 2528, 2587

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mf to point $\Delta$ , low side to ground.	262KC (400v Mod.)	High Freq. End Stop.	Output Meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.
Check setting of AM Oscillator coil core (A5). Rear of core should be 1 3/8" from mounting end of coil form.						
2.	High side thru 82mmf to antenna receptacle, low side to ground.	1615KC	High Freq. End Stop.	Output Meter across voice coll.	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.						

To adjust (A8), remove Tuning and Dummy knobs.

### PUSH-BUTTON ADJUSTMENT

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

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

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World Radio History

# ALIGNMENT INSTRUCTIONS (cont)

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

High side thru .1mfd to point  $\text{Ⓟ}$ , low side to ground.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\text{Ⓟ}$ ; common to ground.	A11, A12, A13, A14, A15, A16, A17.	Adjust for maximum.
5. "	"	DC probe to point $\text{Ⓟ}$ ; 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 thru .1mfd to point  $\text{Ⓟ}$ , low side to ground. Use only enough marker signal to obtain indication. Use 60v frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4. 10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point $\text{Ⓟ}$ ; low side to ground.	A11, A12, A13, A14, A15, A16, A17.	Disconnect stabilizing capacitor C 4. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C 4.
5. "	"	Vert. amp. to point $\text{Ⓟ}$ ; low side to ground.	A18.	Adjust A 18(Secondary) to place marker at center of crossover lines similar to Fig. 2. Adjust A 11(Primary) for maximum amplitude and straightness of crossover lines.

## FM RF ALIGNMENT Check setting of FM Oscillator coil core (A22). Rear of core should be 1 3/8" from mounting end of coil form.

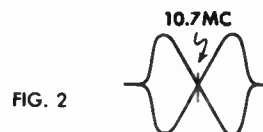
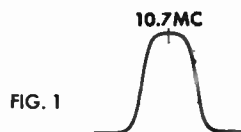
Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead.

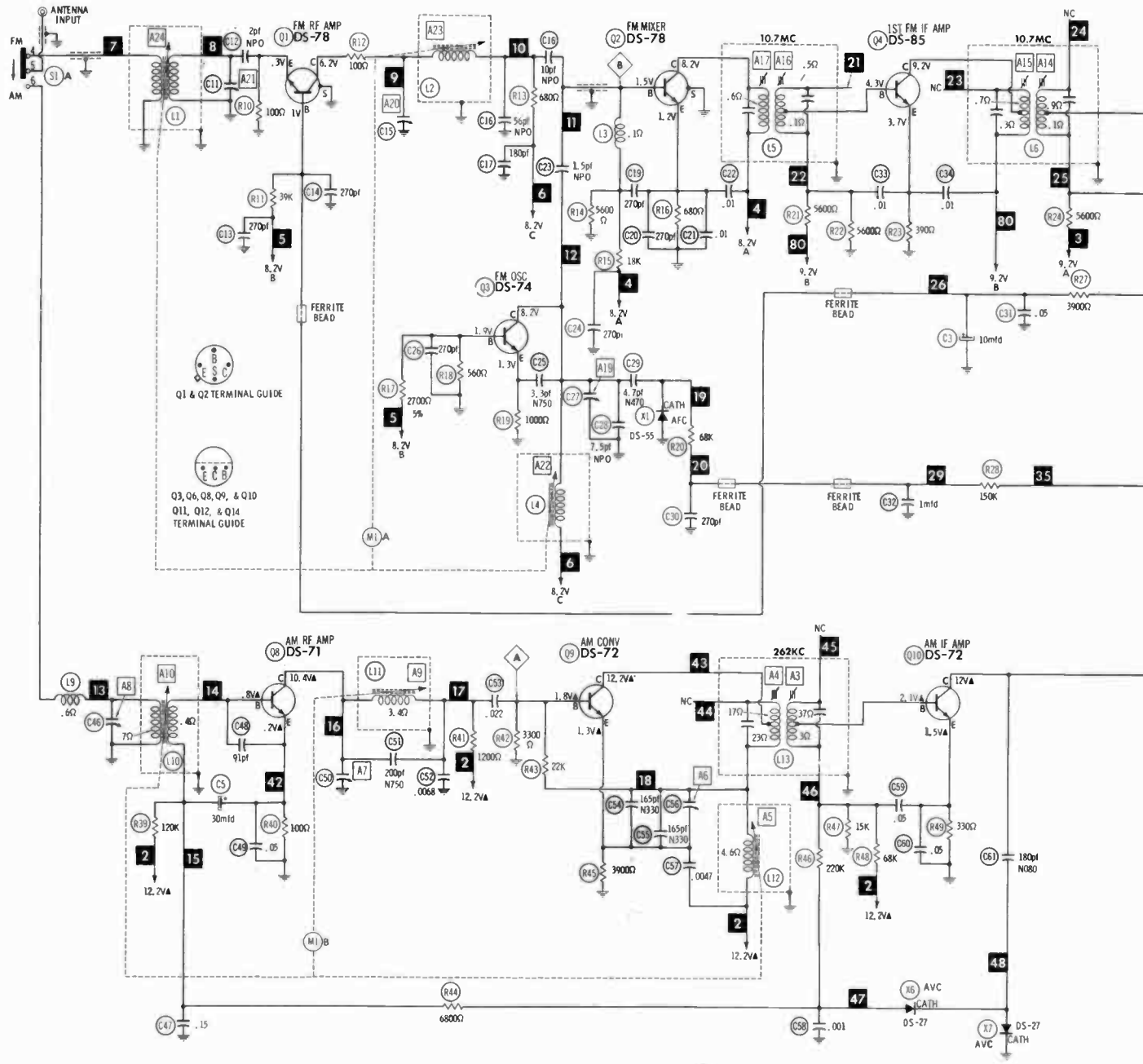
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
6. 108MC	Set at high end.	DC probe of VTVM to point $\text{Ⓟ}$ ; common to ground.	A19, A20, A21	Ground Circuittrace Point 29. Adjust for maximum.
7. 99MC	Tune to signal.	"	A23, A24.	Rock tuning and adjust for maximum. Repeat steps 6 and 7 until no further improvement can be made.

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

Connect high side of generator to point  $\text{Ⓟ}$ , low side to Chassis.

GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
8. 67KC	Vert. amp. of Scope thru a 1 meg to point $\text{Ⓟ}$ ; low side to ground.	A25.	Adjust for MINIMUM.
9. 19KC	Vert. amp. thru 47K to point $\text{Ⓟ}$ ; low side to ground.	A26, A27, A28.	Adjust for maximum.
10. "	Vert. amp. thru 47K to point $\text{Ⓟ}$ ; low side to ground.	A29.	Adjust maximum for 38KC response.
11. Modulated Left Channel	Vert. amp. to point $\text{Ⓟ}$ ; low side to ground.	A26, A27, A28, A29 & R80.	Adjust for MINIMUM. Should require only a slight adjustment.
12. Modulated Right Channel	Vert. amp. to point $\text{Ⓟ}$ ; low side to ground.		Check for MINIMUM: Make compromise adjustments, if necessary, by adjusting A26, A27, A28, A29 & R80.





All measurements taken in "FM" position unless otherwise designated.

▲ Measured in "AM" position.

\* Not used in some versions.

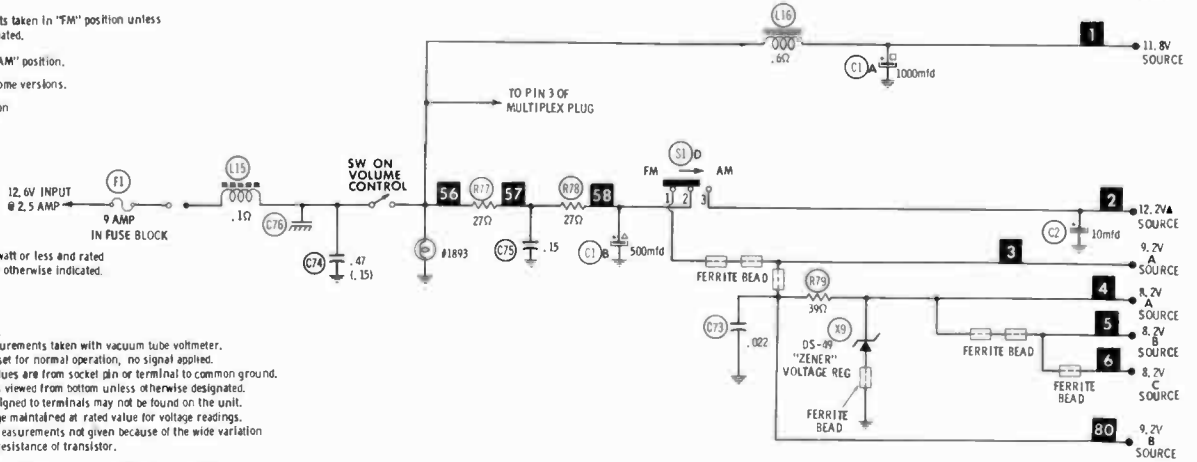
NC No Connection

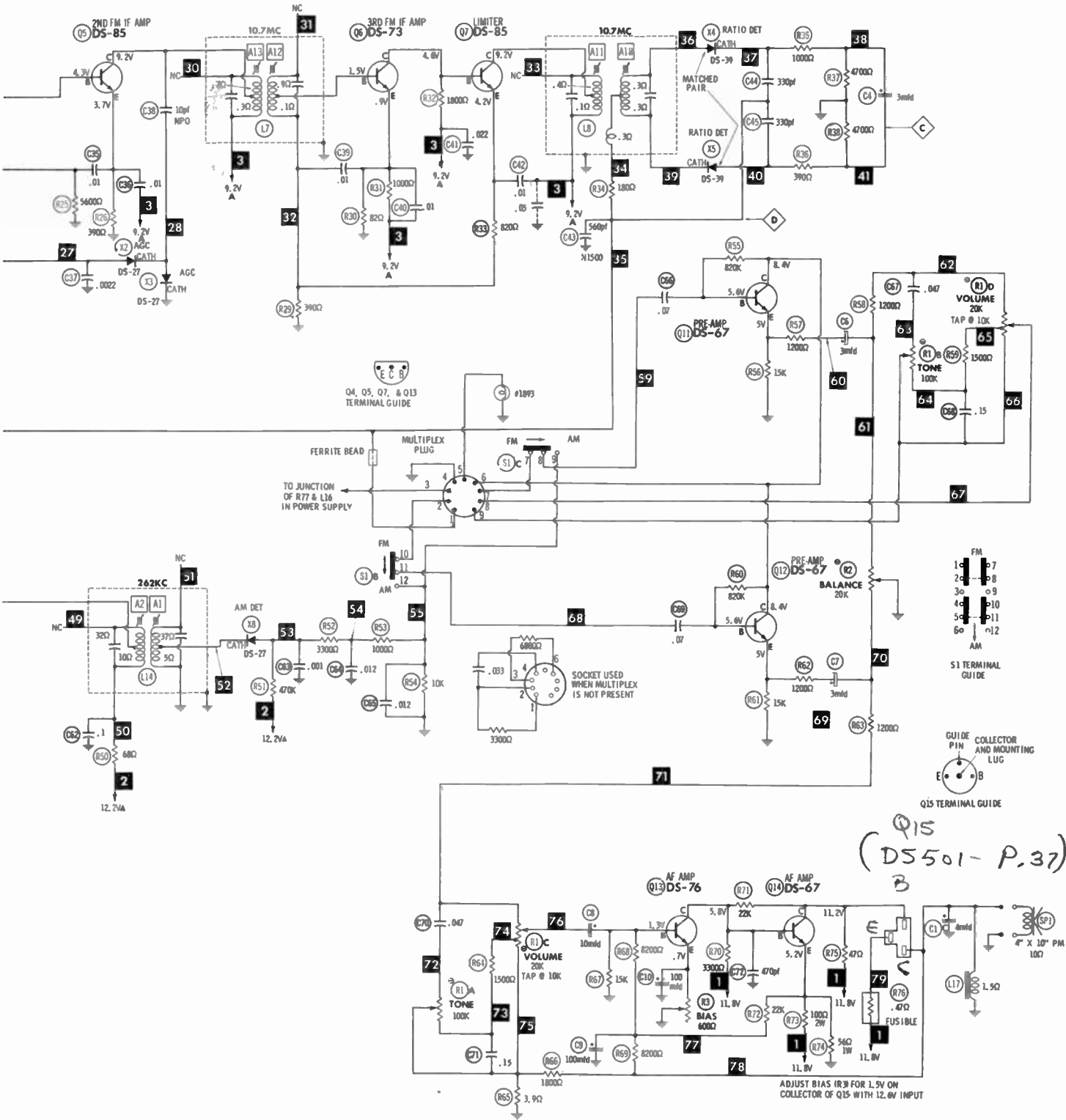
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

- ⊙ 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.

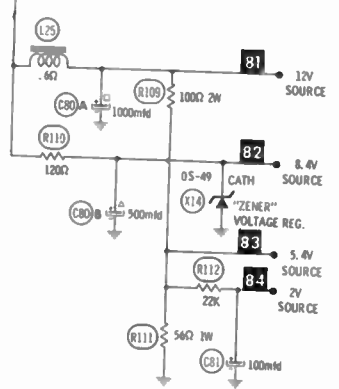
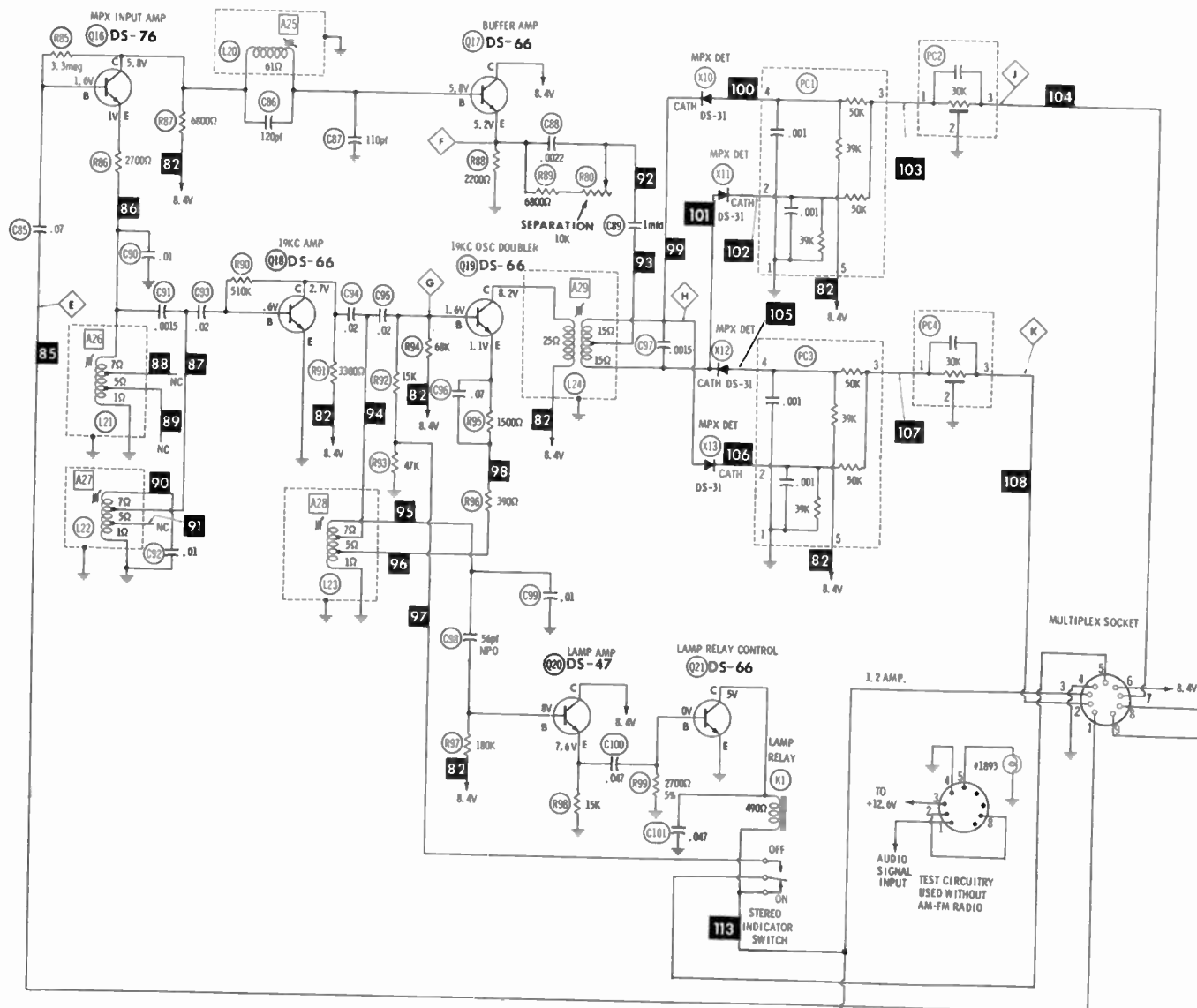
A PHOTOFACT STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

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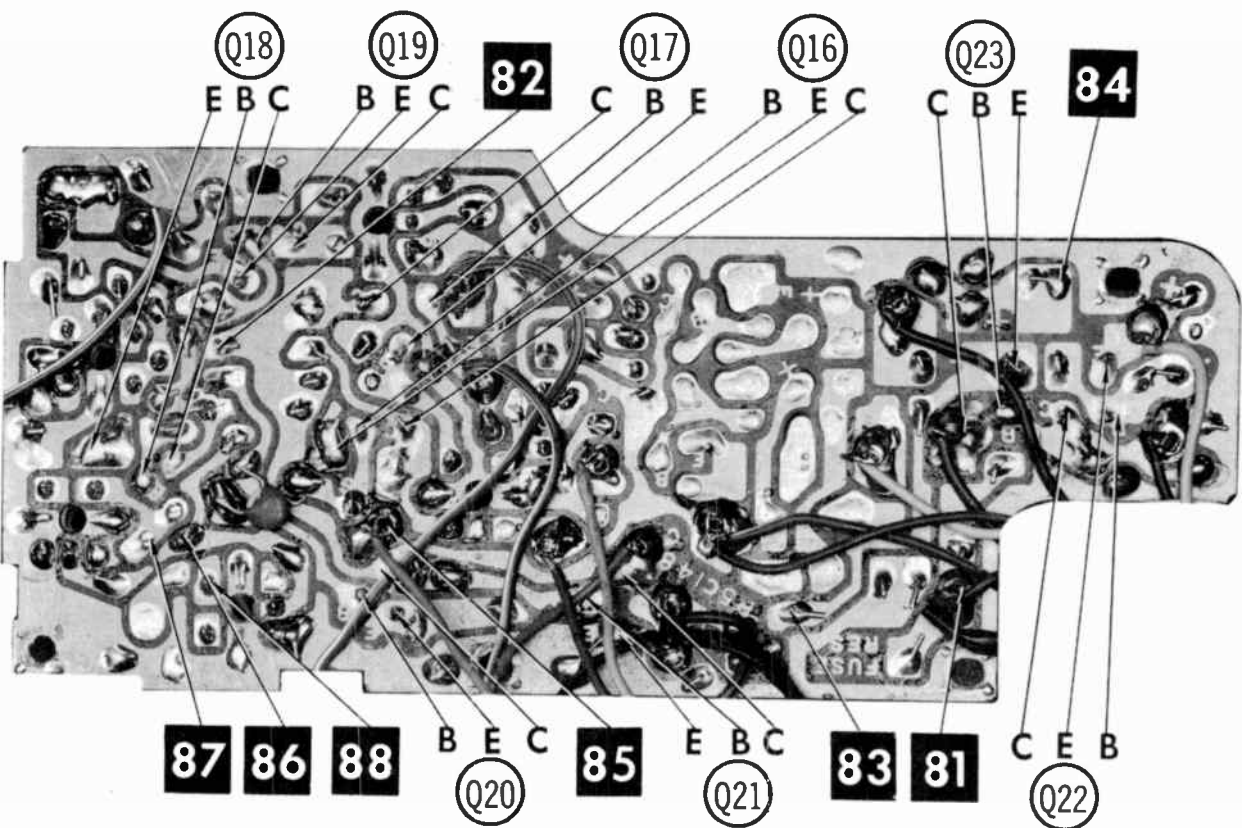
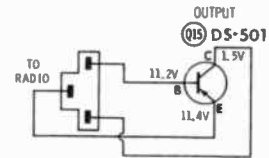
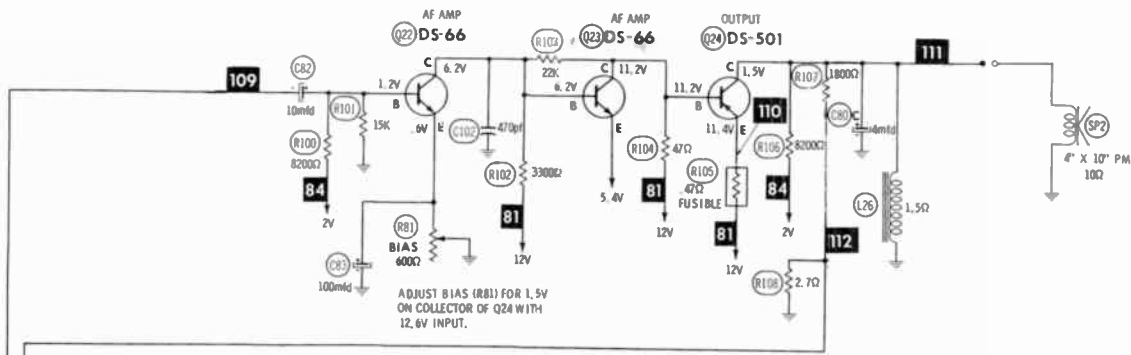
CHEVROLET MODELS 7303201, 7303211

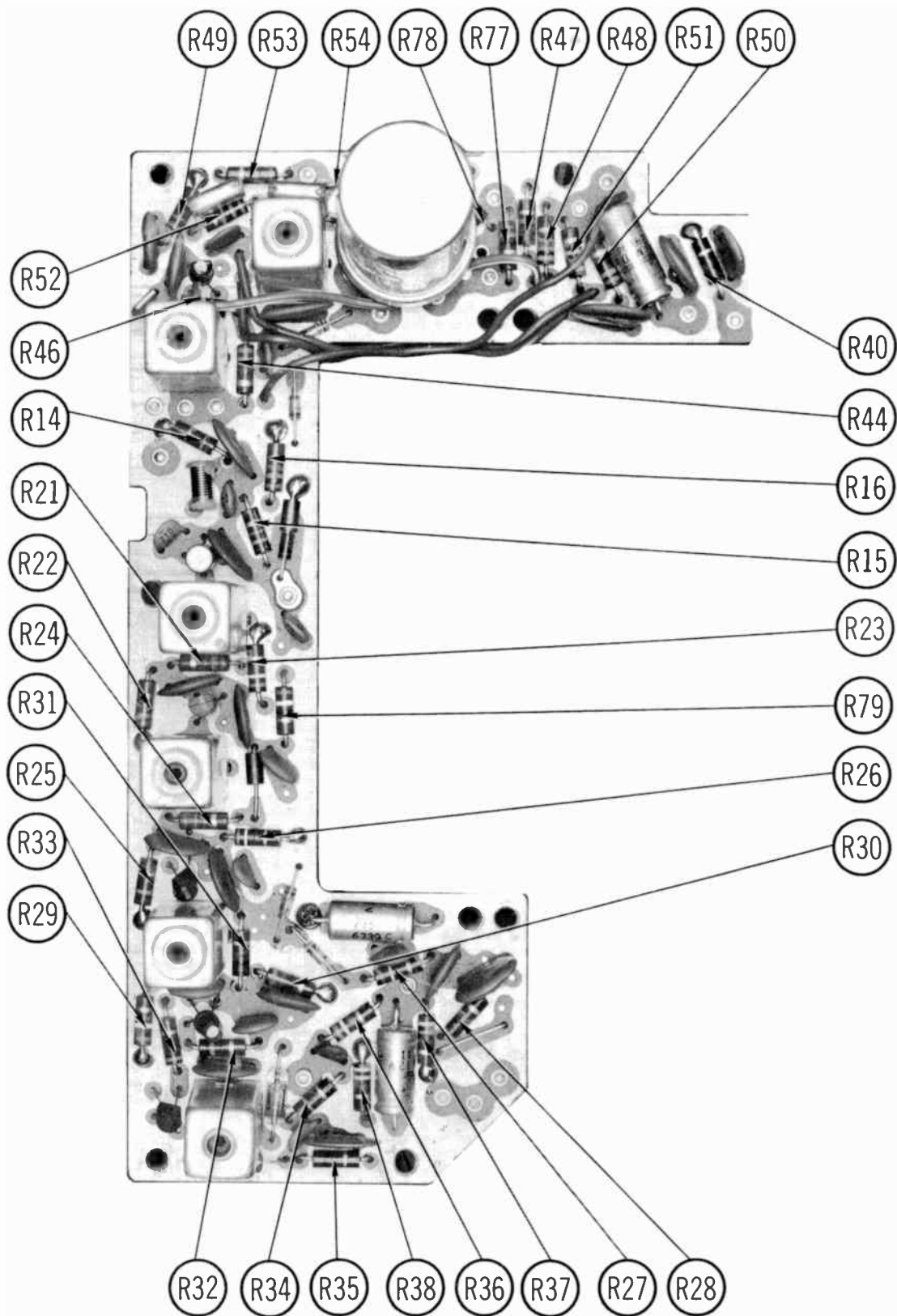


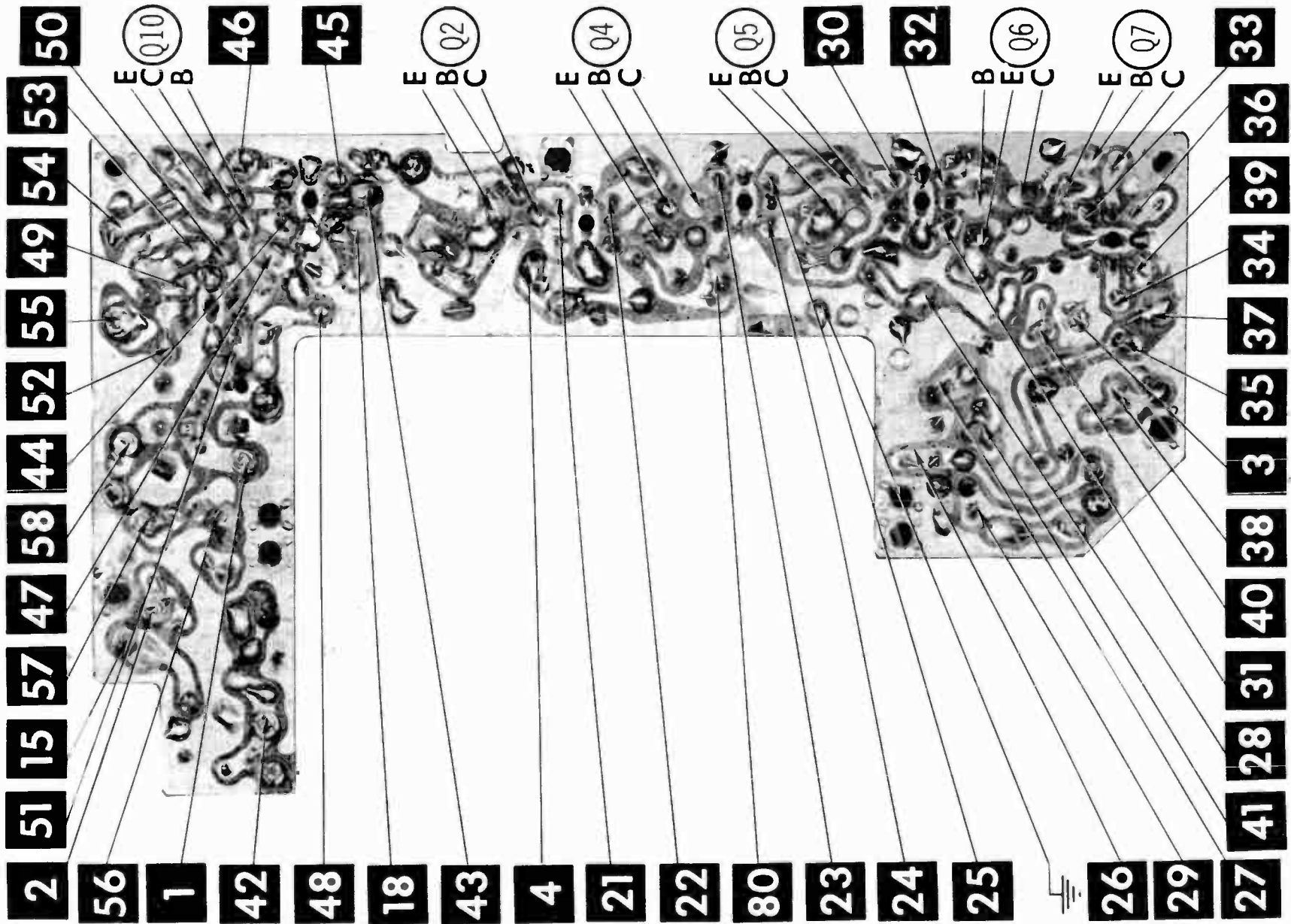
NC NO CONNECTION  
 \* NOT USED IN SOME VERSIONS.  
 Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

Ⓢ 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 PHOTOFACIT STANDARD NOTATION SCHEMATIC  
 with **CIRCUITRACE**  
 © Howard W Sams & Co., Inc. 1968

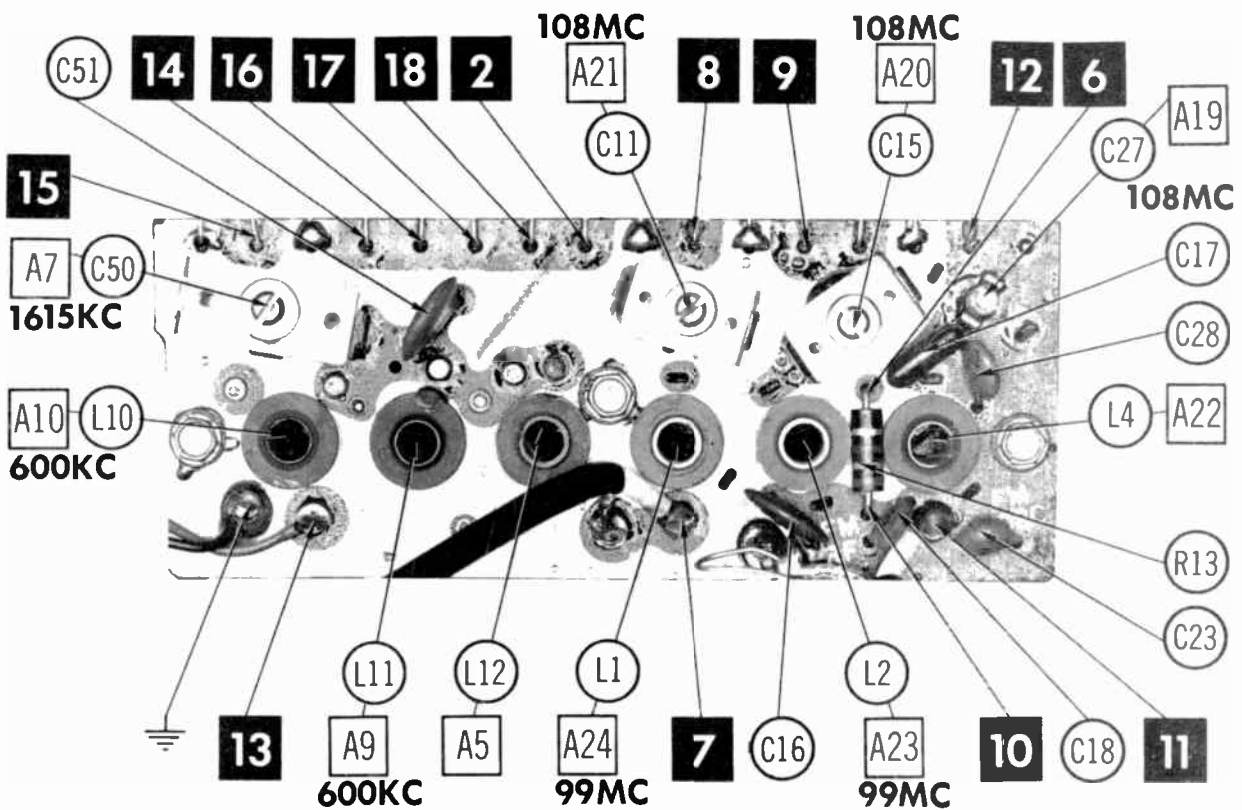
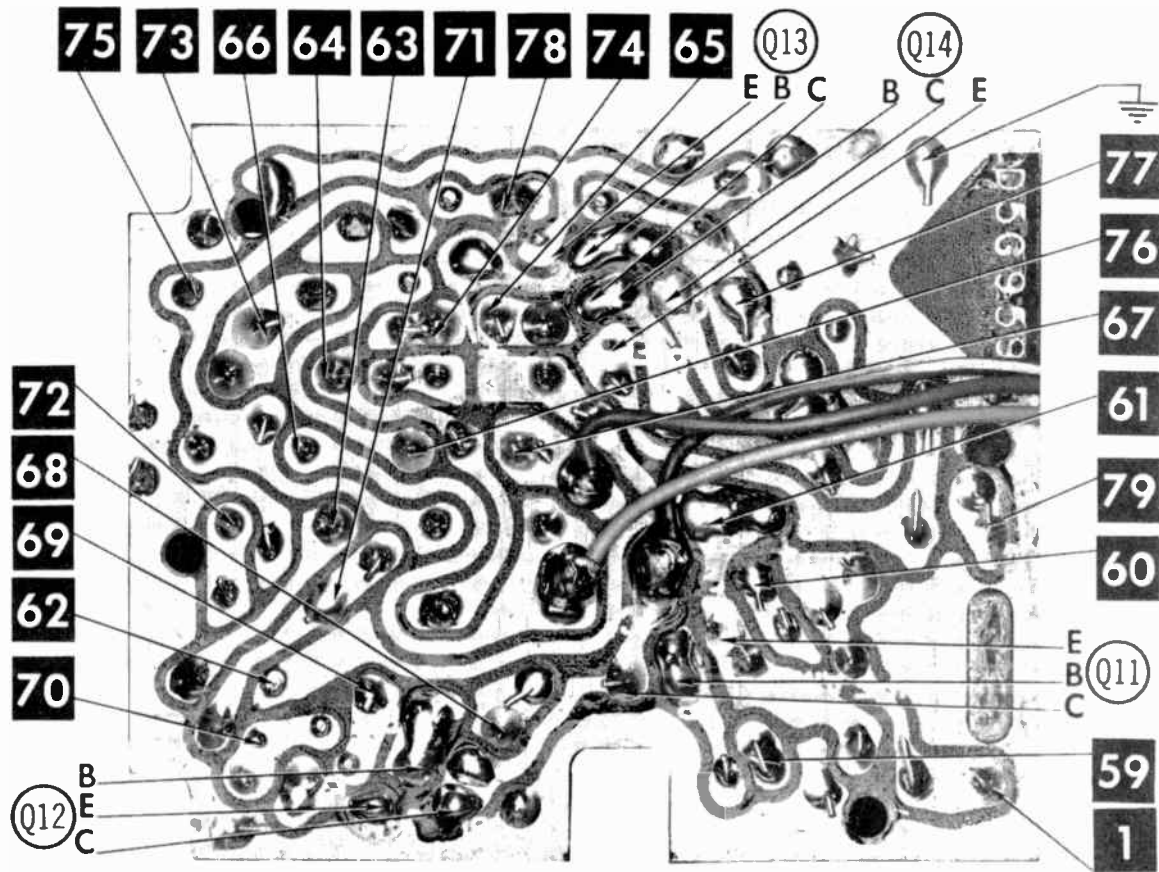


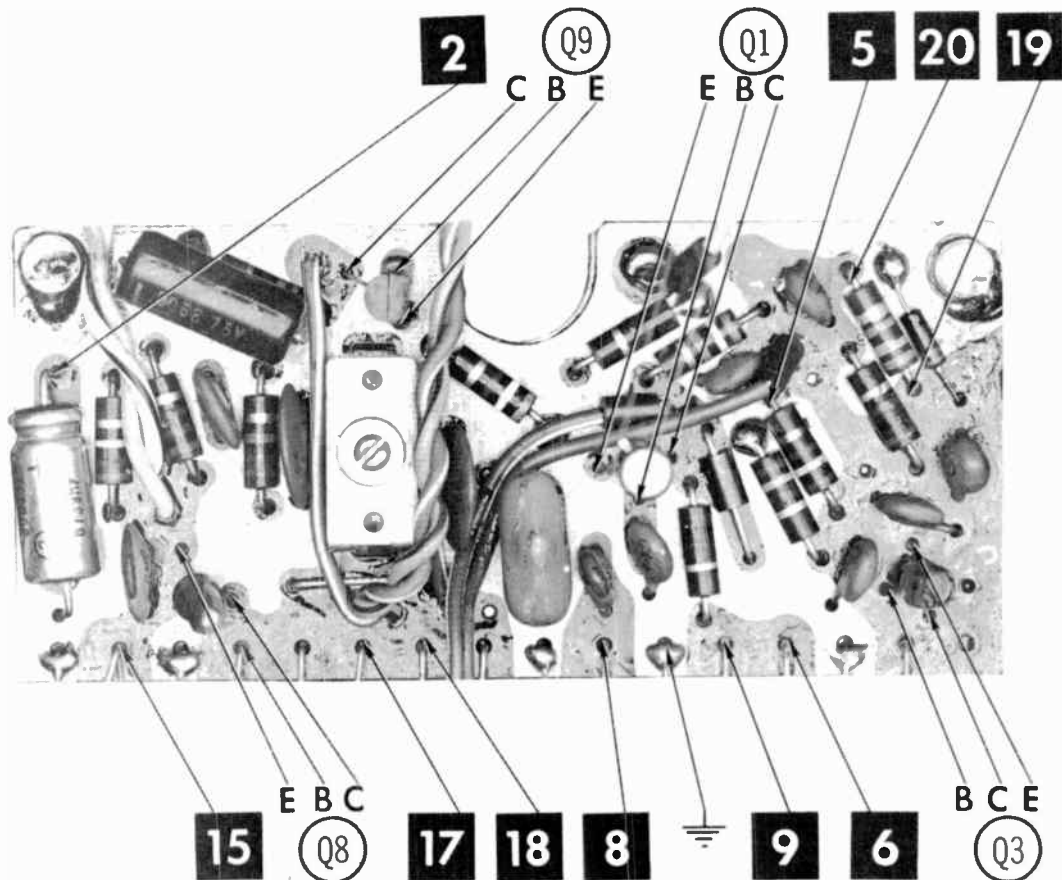
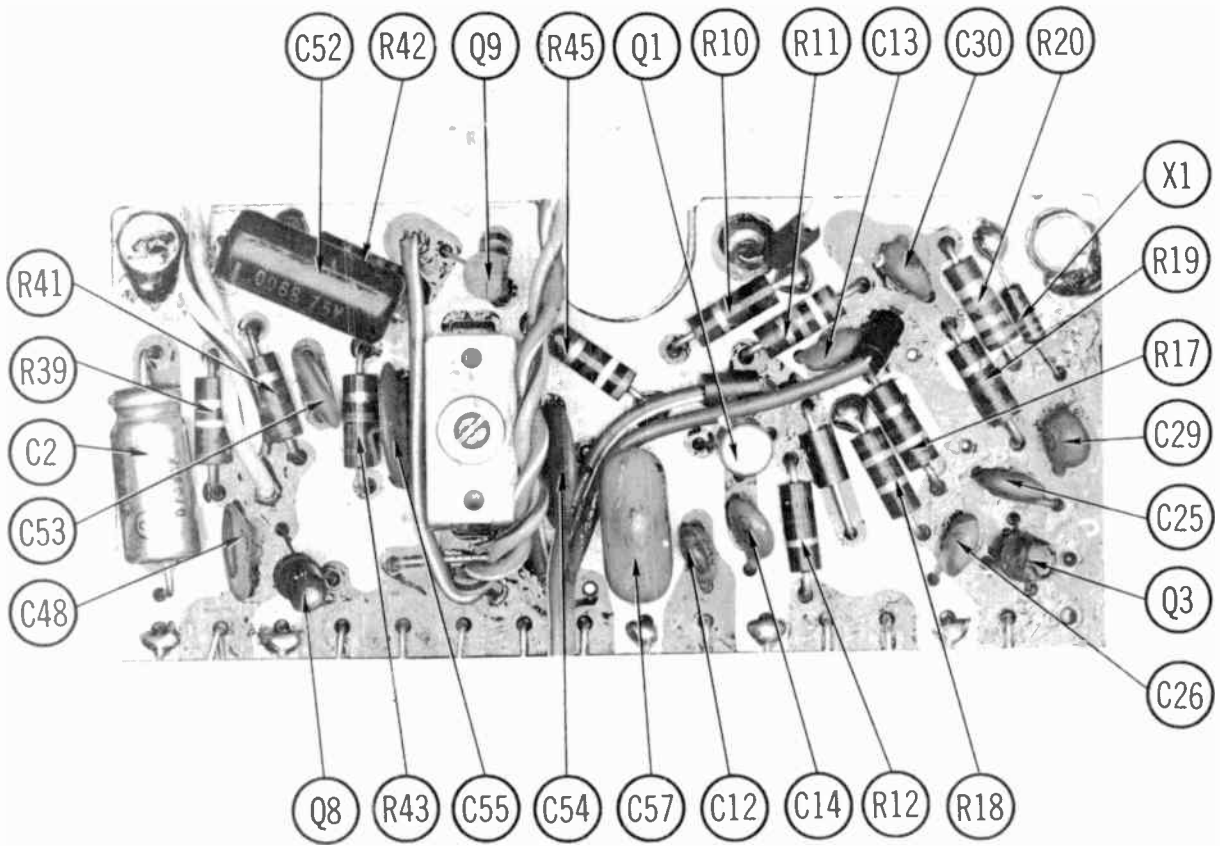


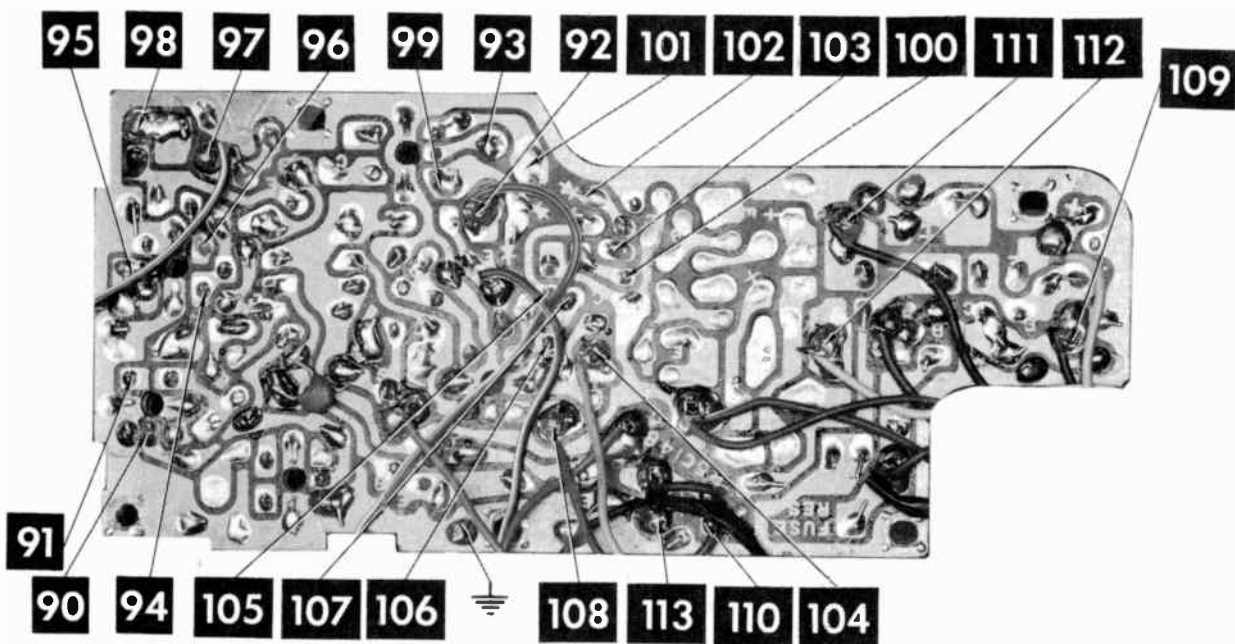
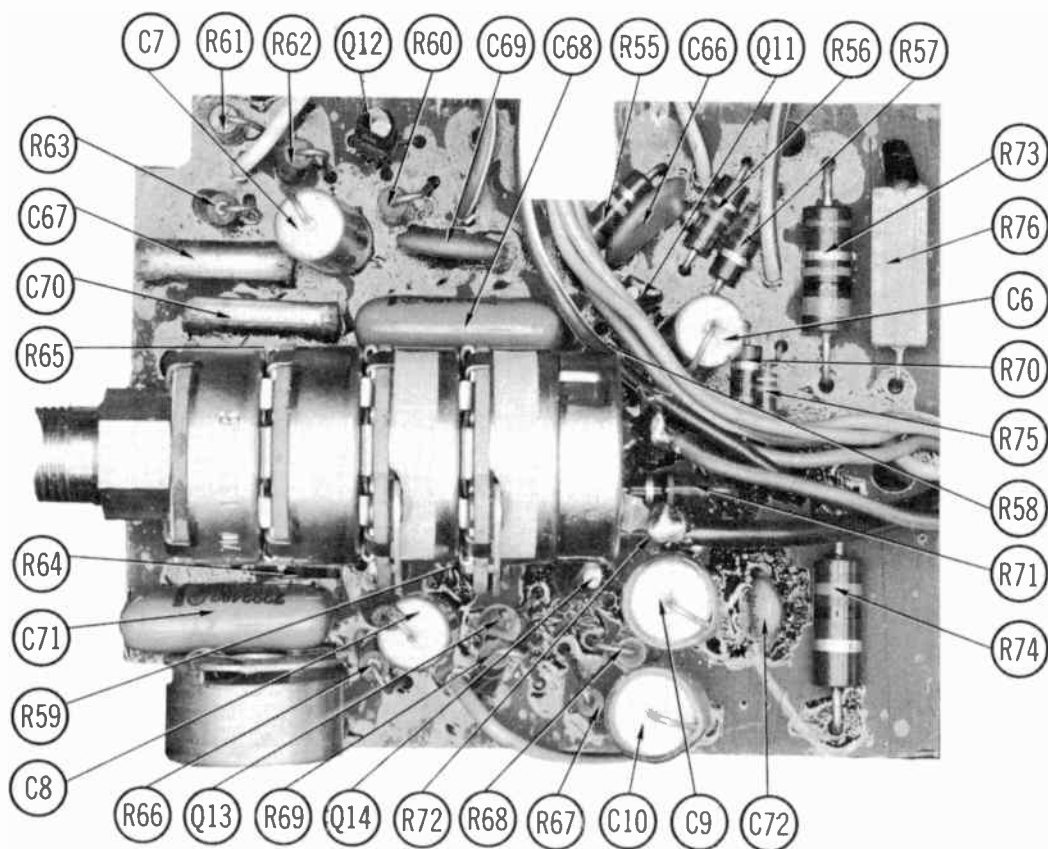


A Howard W. Sams CIRCUITRACE Photo

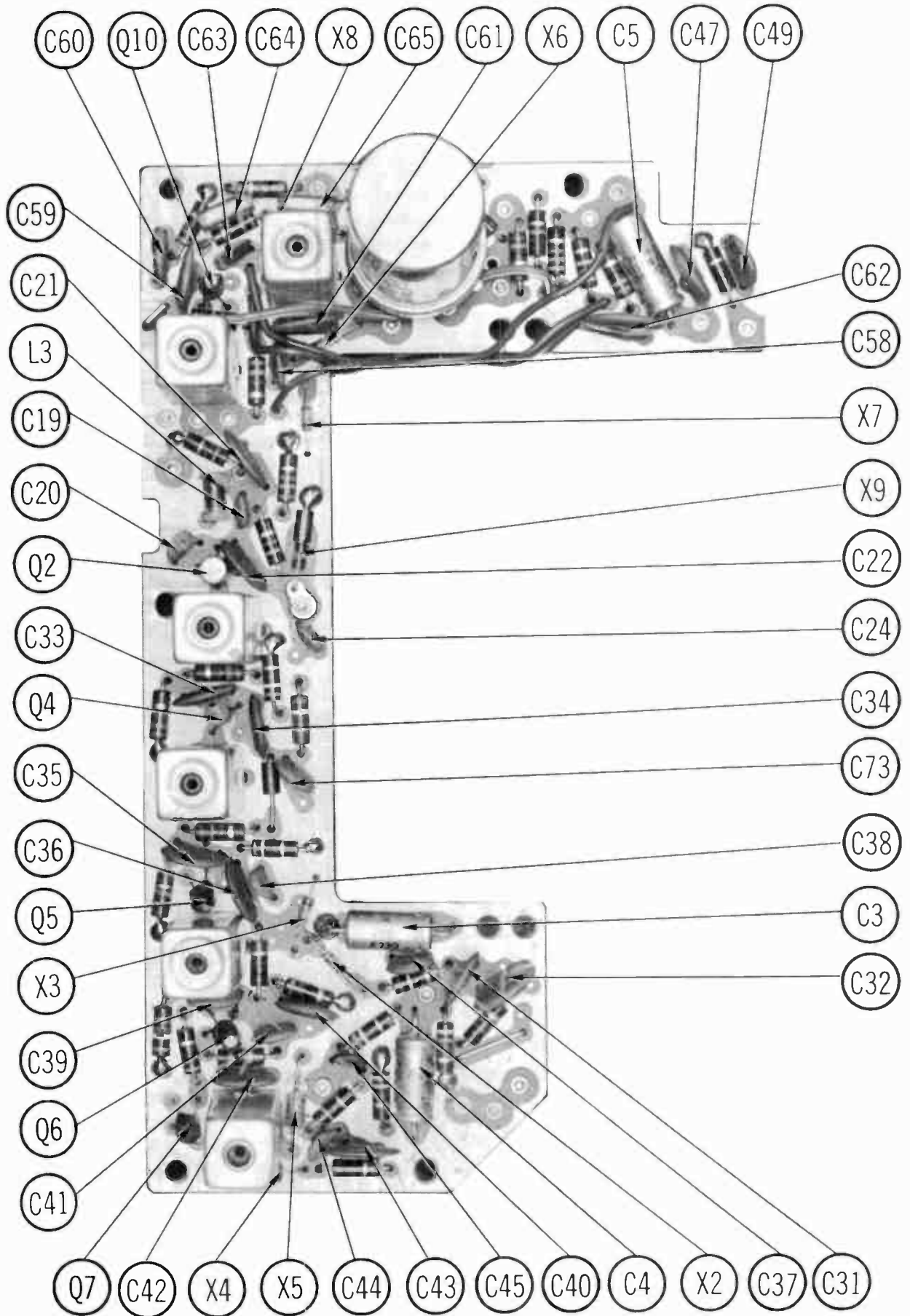


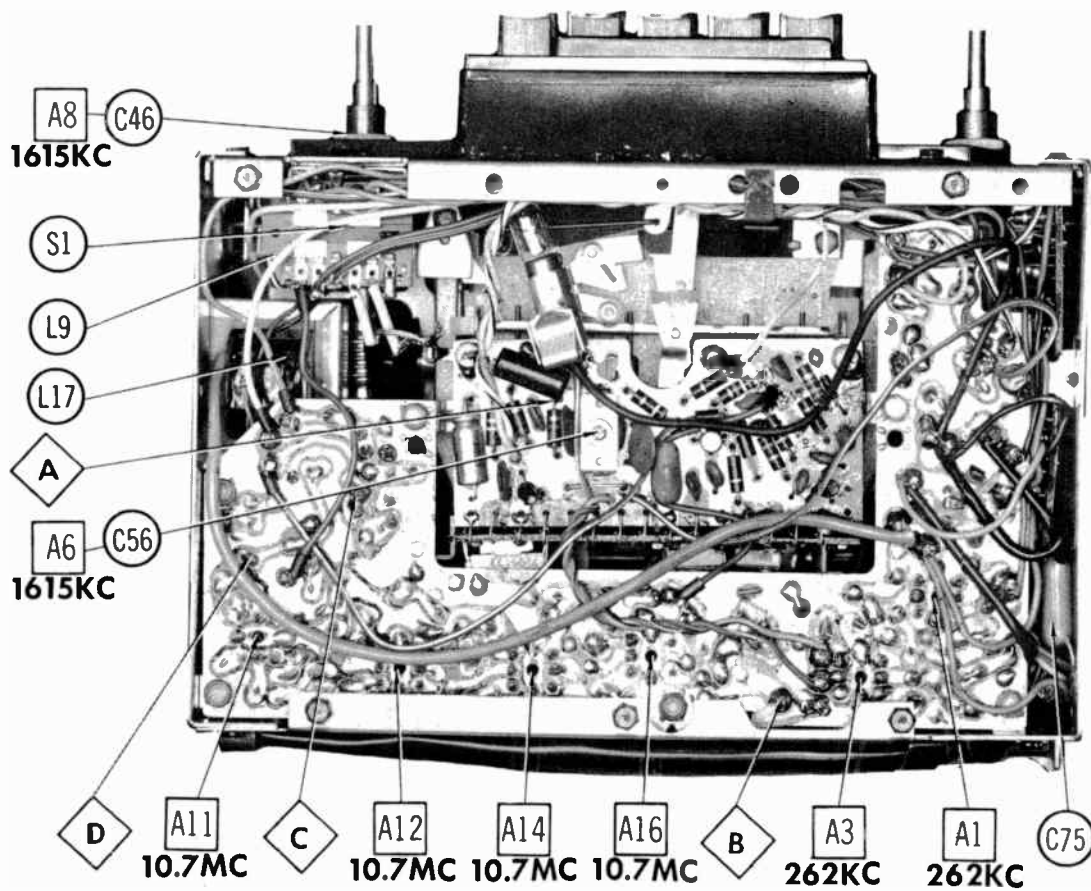
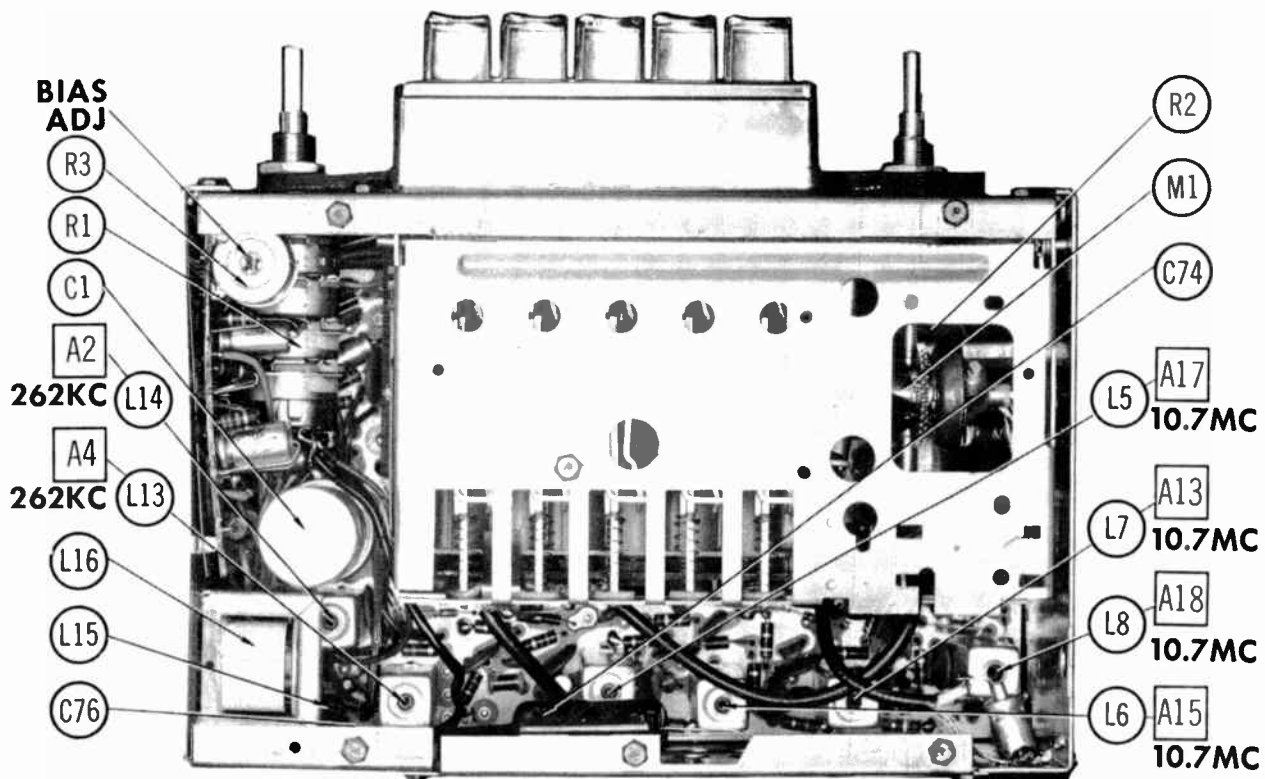


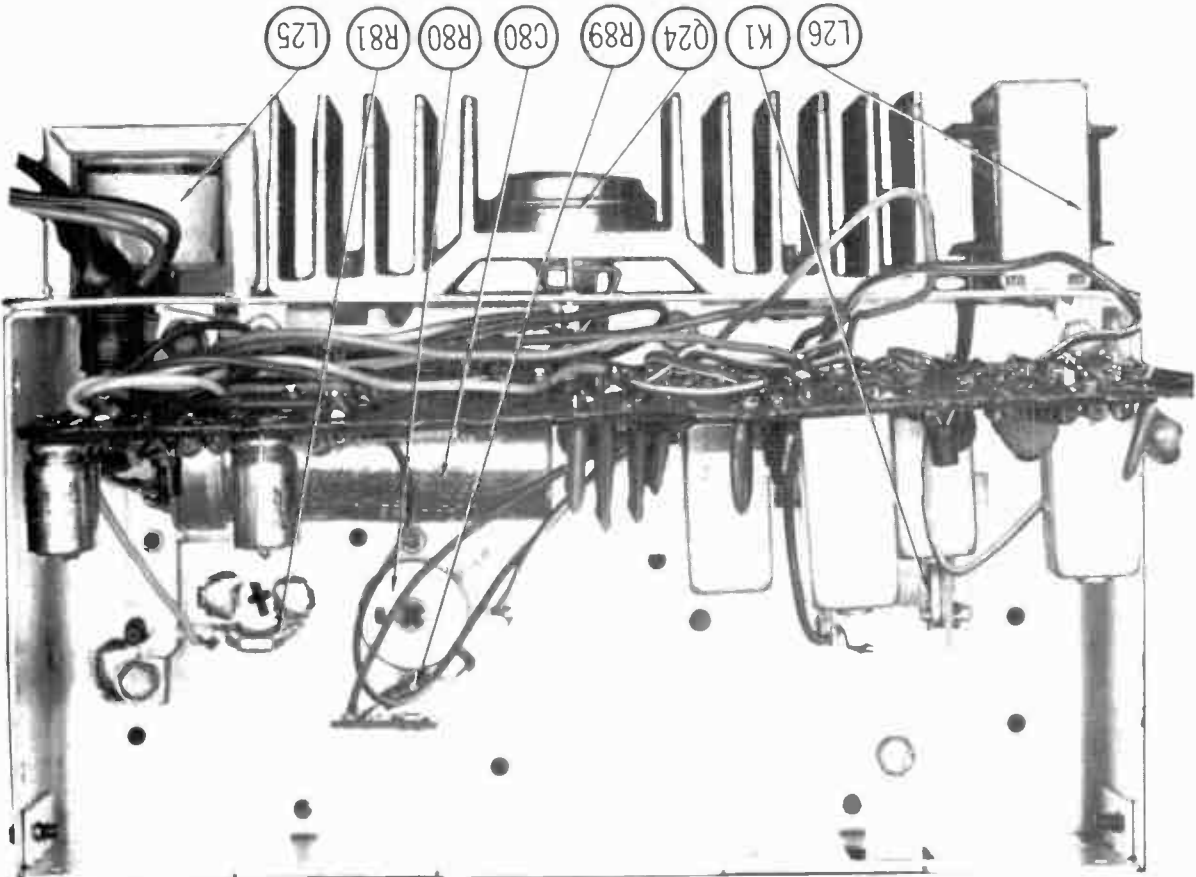
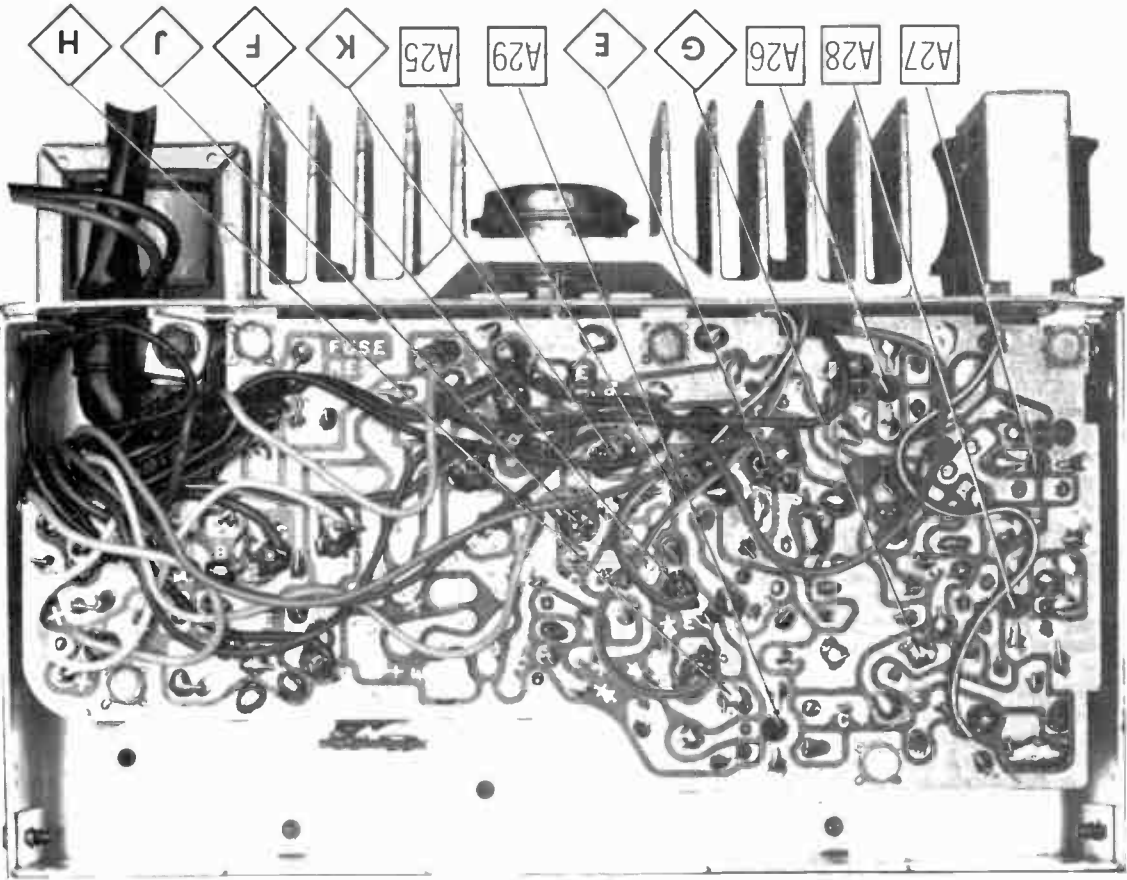


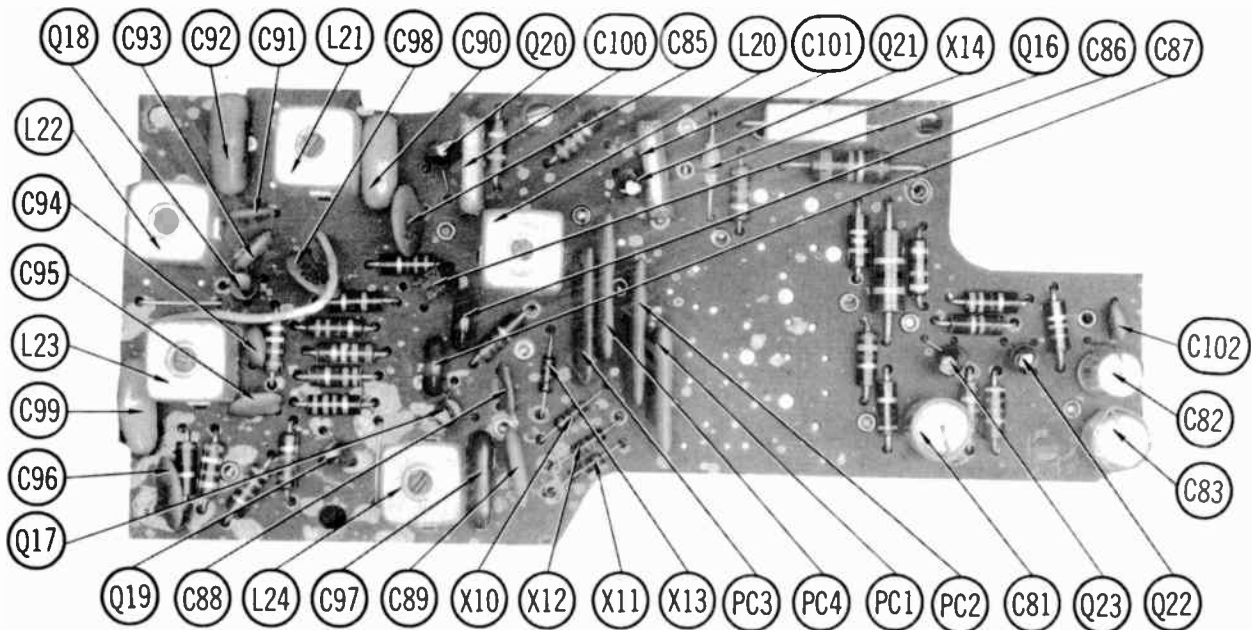
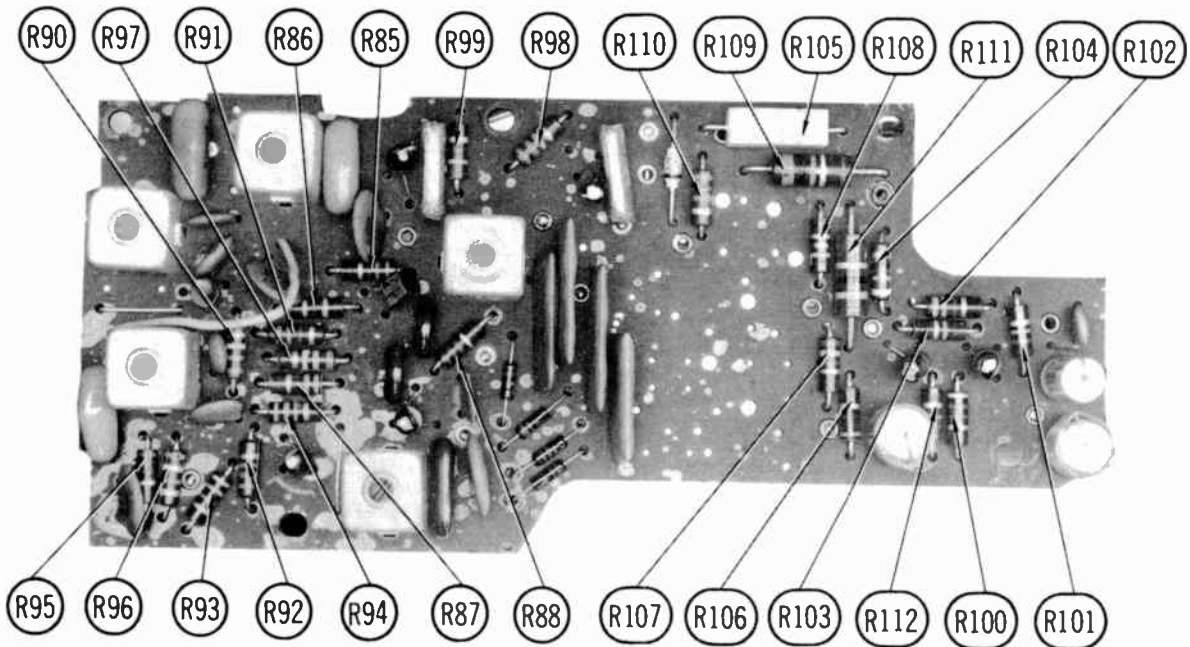


A Howard W. Sams **CIRCUITRACE**® Photo









# AM-FM 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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	DS-78	FM RF Amp		DS-81	GE-11	TR-22	SK-3018	ECG 107
Q2	DS-78	FM Converter		DS-81	GE-11	TR-22	SK-3018	ECG 107
Q3	DS-74	FM Oscillator		DS-74	GE-11	TR-22	SK-3018	ECG 107
Q4	DS-85	1st FM IF		DS-74	GE-11	TR-21	SK-3018	ECG 107
Q5	DS-85	2nd FM IF		DS-74	GE-11	TR-21	SK-3018	ECG 107
Q6	DS-73	3rd FM IF		DS-74	GE-11	TR-21	SK-3018	ECG 107
Q7	DS-85	Limiter		DS-74	GE-11	TR-21	SK-3018	ECG 107
Q8	DS-71	AM RF Amp		DS-71	GE-11	TR-21	SK-3018	ECG 107
Q9	DS-72	AM RF Amp		DS-72	GE-11	TR-21	SK-3018	ECG 107
Q10	DS-72	AM IF		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q11	DS-67	Preamp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q12	DS-67	Preamp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q13	DS-76	AF Amp		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q14	DS-67	AF Amp		DS-66	GE-10	TR-21	SK-3020	ECG 123

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1		DS-55	1N34AS	1N34A			
X2		DS-27	1N34AS	1N34A			
X3		DS-27	1N34AS	1N34A			
X4		DS-39	1N34AS	1N34A			
X5		DS-39	1N34AS	1N34A			
X6		DS-27	1N34AS	1N34A			
X7		DS-27	1N34AS	1N34A			
X8		DS-27	1N34AS	1N34A			
X9		DS-49 (Zener)					

## 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	1000 16V	7283875	AFH3-54-41		CC0008		FPS300.91	PCL-3021.8
B	500 16V							
C	4 11.5rms							
C2	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	TT12X10	TL-1128
C3	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	TT12X10	TL-1128
C4	3 12V	7291860	PTT50	EA15-2	NLW3-15	MT1-3	TT12X3	TE-1122
C5	30 6V	7291942	PTT27	EA6-25	NLW30-6	MT1-13	TT6X30	TE-1092
C6	3 12V	7291860	PTT50	EA15-2	NLW3-15	MT1-3	TT12X3	TE-1122
C7	3 12V	7291860	PTT50	EA15-2	NLW3-15	MT1-3	TT12X3	TE-1122
C8	10 12V	7292738	PTT53	EA15-10	NLW10-15	MT1-5	TT12X10	TL-1128
C9	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	TT6X100	TE-1102
C10	100 4V	7291810	PTT30	EA6-100	NLW125-6	MT1-21	TT6X100	TE-1102

CHEVROLET MODELS 7303201, 7303211



# 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	2 NPO	#7293221	NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C13	270		DI-270	DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C14	270		DI-270	DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C15		#7291003						
C16	56 NPO			TCZ-56	CD10E560J500	CCTO-560	CNO456	10TCC-Q56
C17	180			CPR-180J	CD10E181J500	DM-15-181	SX318	MS-318
C18	10 NPO		ADM-15-181	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C19	270		NPO-DI 10	DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C20	270		DI-270	DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C21	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C22	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C23	1.5 NPO	10%	NPO-DI 1.5	DTZ-1R5	CD15F281J500	CCD-271	CNO515	10TCC-V15
C24	270		DI-270	DD-271	CD15F281J500	CCD-271	GP327	5GA-T27
C25	3.3 N750			TCN-3R3			CN7533	10TCU-V33
C26	270		DI-270	DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C27		#7292611						
C28	7.5 NPO		NPO-DI 8.2					10TCC-V82
C29	4.7 N470					*	*	
C30	270		DI-270	DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C31	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C32	1mfd			UK-105	HXC3R0XR105P		MAG31	HY-135
C33	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C34	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C35	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C36	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C37	.0022		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TCC-D22
C38	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C39	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C40	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C41	.022		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C42	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C43	560 N1500							
C44	330		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C45	330		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C46		#7304769						
C47	.15		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C48	91			DD-910	HOV101ZV503Z	CCD-910	GP491	5GA-Q91
C49	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C50		#7295193						
C51	200 N750		N750-DI 200	DTN-200		CCTN-201	CN7320	10TCU-T20
C52	.0068 75V		DBE6D68	CPR-6800J	DMF6D68	6DP-1-682	PVC6268	6PS-D68
C53	.022		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C54	185 N330					*	*	
C55	185 N330					*	*	
C56		#7295192						
C57	.0047 75V		DBE6D47	CPR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C58	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C59	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C60	.05		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C61	180 N060					*		10TCN-T18
C62	.1		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C63	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C64	.012 75V		DBE4S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C65	.012 75V		DBE4S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C66	.07	#7288631						
C67	.047 75V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47
C68	.15 75V		DBE4P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C69	.07	#7288631						
C70	.047 75V		DBE2S47		DMF2S47	4DP-3-473	PVC2147	2PS-S47
C71	.15 75V		DBE4P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C72	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C73	.022		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C74	.47 75V		DBE2P47		DMF2P47	2DP-5-474	PVC2047	2PS-P47
C75	.15 75V		DBE4P15		DMF4P15	4DP-4-154	PVC6015	4PS-P15
C76		#7271564						

# 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.	MALLORY PART No.
R1A	Tone Tone Volume  Volume/Switch	100K 100K 20K Tap @ 10K 20K Tap @ 10K	7304275				
R2	Balance	20K	7304274				
R3	Bias	600Ω 2W	7296937	V-600	U39-600	110-600	

## 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			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	PART No.
R76	.47Ω Fusible			7281890					

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		DELCO PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna					
L2	FM RF					
L3	FM IF Trap (1uh)	7296856	19-1000	BC-565	4602	T855
L4	FM Oscillator					
L5	1st FM IF	7296100				
L6	2nd FM IF	7296101				
L7	3rd FM IF	7296102				
L8	Ratio Detector	7299964				
L9	RF Choke (8uh)	7255736	19-1009	BC-566	4611	T822
L10	AM Antenna					
L11	AM RF					
L12	AM Oscillator					
L13	Input IF	7295189				
L14	Output IF	7295170			6006	

① Part of M1

### FILTER CHOKE

ITEM No.	RATINGS		INDUCTANCE (0 CURRENT 1000~)	REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.		DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L15	2.5 Amp	.1Ω	300uh	7302543					
L16	1 Amp	.6Ω	8 mh	1221823	C-4095	TC-2	TR-154	TY17XT	

### CHOKE (AUDIO OUTPUT)

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

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		MFGR. PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" X 10" PM 10Ω	7307161	P4X10T9	410A2210	

CHEVROLET MODELS 7303201, 7303211

## PARTS LIST AND DESCRIPTION (CONTINUED)

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

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### 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	SFE 9 Amp		In Fuse Block	SFE-9		307009		

### MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1 S1	Tuner Coil Assy. AM-FM Selector Switch	1222504 7285141	

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

ITEM	PART No.	ITEM	PART No.
Escutcheon	7304774	Dial Pointer	7303625
Dial Glass	7303279	Push Button	7303280
Dial Drum	7303623	Knobs, Available from Chevrolet Dealer	

## MULTIPLEX 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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q15	DS-501	Output *		DS-501	GE-4	TR-03	SK-3012	ECG 105
Q16	DS-76	MPX Input Amp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q17	DS-66	Buffer		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q18	DS-66	19KC Amp		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q19	DS-66	19KC Osc		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q20	DS-47	Lamp Amp		DS-47	GE-10	TR-21	SK-3020	ECG 123
Q21	DS-66	Lamp Relay Control		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q22	DS-66	AF Amp		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q23	DS-66	AF Amp		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q24	DS-501	Output *		DS-501	GE-4	TR-03	SK-3012	ECG 105

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

# 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.

## MULTIPLEX

### 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.	SARKES TARZIAN PART No.	
X10	DS-31	1N34AS	1N34A	ECG 100			
X11	DS-31	1N34AS	1N34A	ECG 100			
X12	DS-31	1N34AS	1N34A	ECG 100			
X13	DS-31	1N34AS	1N34A	ECG 100			
X14	DS-48 (Zener Diode)						

### 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.
C80	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						
C86	120		DI-120	DD-121	JBZ601YP121K	CCD-121	GP312	5GA-T12
C87	110		NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C88	.0022		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C89	1mfd			UK-105	HXC3ROX105R		MAG31	HY-135
C90	.01 75V		DBE481	CPR-10000J	DMF281	4DP-1-103	PVC211	2TM-S10
C91	.0015		DI-1500	DD-152		CCD-152	GP215	10TS-D15
C92	.01 75V		DBE481	CPR-10000J	DMF281	4DP-1-103	PVC211	2TM-S10
C93	.02		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C94	.02		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C95	.02		TTD-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C96	.07	#7288631						
C97	.0015		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10
C98	56 NPO			TCZ-56		CCTO-560	CNO456	10TCC-Q56
C99	.01 75V		DBE681	CPR-10000J	DMF281	4DP-1-103	PVC211	2TM-S10
C100	.047 75V	(.022) †	DBE6847	DD-503	DMF4S47	4DP-3-473	PVC4147	4PS-S47
C101	.047 75V		DBE6847	DD-503	DMF4S47	4DP-3-473	PVC4147	4PS-S47
C102	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47

# Delco Part Number

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA					
			PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	
R80	Separation	10K 2W	7297389				P115R103A or (BU11, WFY, SS6)	MR10KT
R81	Separation	10K 2W	7298087 ①				117R103A	MR10KF
	Bias	600Ω 2W	7288601	V-600	U39-600		110-600	MR600P
	Bias	600Ω 2W	7288664 ①	V-600	U39-600		110-600	MR850T

① Alternate Part Number

\* "SNAPTROL"

CHEVROLET MODELS 7303201, 7303211

# PARTS LIST AND DESCRIPTION (CONTINUED)

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

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Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

## MULTIPLEX

### RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	DELCO PART No.			IRC PART No.	WORKMAN PART No.	PART No.
105	.47Ω (Fusible)			7281890					

### COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		DELCO PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L20	87KC 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~)	DELCO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L25	1.2 Amp	.6Ω	8mh	1221623	C-4095	TC-2	TR-154	TY17XT	

### CHOKE (AUDIO OUTPUT)

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

### SPEAKER

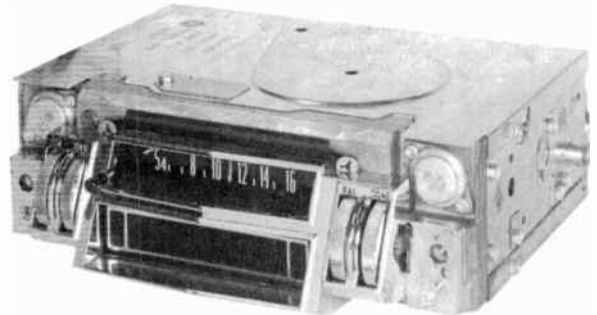
ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		MFGR. PART No.	JENSEN PART No.	QUAM PART No.	
8P2	4" X 10' PM 10Ω	7307181	P4X10T9	410A2210	

### COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DELCO PART No.	REPLACEMENT DATA
PC1	Stereo Det	39K, 39K, 50K, 50K, .001mfd, .001mfd	7291090	
PC2	38KC Notch Filter	30K	7291089	CRL-PC-410
PC3	Stereo Det	39K, 39K, 50K, 50K, .001mfd, .001mfd	7291090	
PC4	38KC Notch Filter	30K	7291089	CRL-PC-410



TRADE NAME : Chrysler Model 393 (1968 Chrysler)  
 SUPPLIER : For Current Address, See Annual Index  
 TYPE SET : 14-Transistor AM Receiver W/Tape Player  
 POWER SUPPLY : 12 Volt Storage Battery  
 RATING : 1. 25 Amp @ 12.6 Volts DC (Receiver)  
 1. 4 Amp @ 12.6 Volts DC (Tape 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.

## HEAD DEMAGNETIZING

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

## 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 nonhardening grease on cam surfaces.

## 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.
Indexing Solenoid	Press program selector to continuously cycle indexing mechanism, turn Screw B4 clockwise until cycling stops, and then turn screw counterclockwise 1/4 turn past restart of cycling.

## ALIGNMENT INSTRUCTIONS

<p>Check for specified source voltage. Use only enough generator output to provide a usable indication. Suggested Alignment Tools:</p> <p>A1 thru A4. GENERAL CEMENT: 9296, 9297, 9300          WALSCO. 2510, 2546, 2547          A5, A6, A7. GENERAL CEMENT. 9290, 8868, 9087          WALSCO: 2525, 2528, 2587</p>			<p>TO SIGNAL GENERATOR 30pf TO ANTENNA RECEPTACLE 30pf          DUMMY ANTENNA</p>		<p><b>PUSH-BUTTON ADJUSTMENT</b></p> <ol style="list-style-type: none"> <li>1. Pull button out.</li> <li>2. Tune manually to desired station.</li> <li>3. Press button in firmly.</li> <li>4. Repeat for remaining buttons.</li> </ol>
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\diamond$ , low side to ground.	262KC (400% Mod.)	High freq. end stop.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy antenna to antenna receptacle.	1615KC	"	"	A5, A6, A7	"
<p>Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat Step 2.</p>					
3. Thru dummy antenna to antenna receptacle.	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.
<p>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 bottom right rear corner.</p>					

## MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	42-40426 B01	Flywheel Belt	21	46-40059 A46	Head Retainer
2	7-43576A01	Motor Support (2 used)	22	41-40540 B01	Head Tension Spring
3	45-40428 B07	Ratchet Cam	23	43-43867 A03	Capstan Pivot Bearing
	47-40414 B01 ②	Ratchet Cam	24	47-40059 A56 ④	Capstan Shaft
4	55-40605 B01	Push Ratchet Pawl (Stamped "A")	25	4-40409 B01	Thrust Washer (2 used)
5	55-40606 B01	Pull Ratchet Pawl (Stamped "B")	26	43-40411 B02	Thrust Bearing
6	46-40299 B01	Solenoid Stop	27	49-41928 B01	Semi Roller
7	45-41230 B01	Right Radius Arms (2 used)	28	47-42174 B01	Cam Shaft .186" Dia.
8	45-41231 B01	Left Radius Arms (2 used)		47-40414 B01	Cam Shaft .124" Dia.
9	26-40399 B01	Motor Mounting Shield	29	41-41251 B02 ①	Cam Tension Spring
10	15-40059 A61 ③	Capstan Housing Assembly		41-41251 B01 ②	Cam Tension Spring
11	41-40445 B02	Plunger Return Spring	30	4-40409 B05 ①	Thrust Washer .190" X .50"
12	47-40298 B01	Solenoid Plunger		4-40409 B03 ②	Thrust Washer .126" X .50"
13	41-40681 B01	Pawl Tension Spring	31	43-40411 B03 ①	Thrust Bearing .190" I. D.
14	45-40495 B01	Actuating Cam		43-40411 B01 ②	Thrust Bearing .126" I. D.
15	41-40444 B01	Azimuth Tension Spring	32	4-40409 B04 ①	Thrust Washer .190" X .446"
16	45-40480 B01	Micro Switch Actuating Arm		4-40409 B02 ②	Thrust Washer .126" X .312"
17	49-40416 B02	Flywheel	33	1-42000B15	Cartridge Spring Assembly
18	1-42000B16	Tape Guide Assembly	34	49-41580 B01	Cartridge Ret. Roller
19	46-42104 B01	Tape Stop	35	41-42587 B01	Pointer Tension Spring
20	42-41229 B01	Retaining Clip (4 used)			

① Use with .186 Dia. Shaft, Ref. No. 28

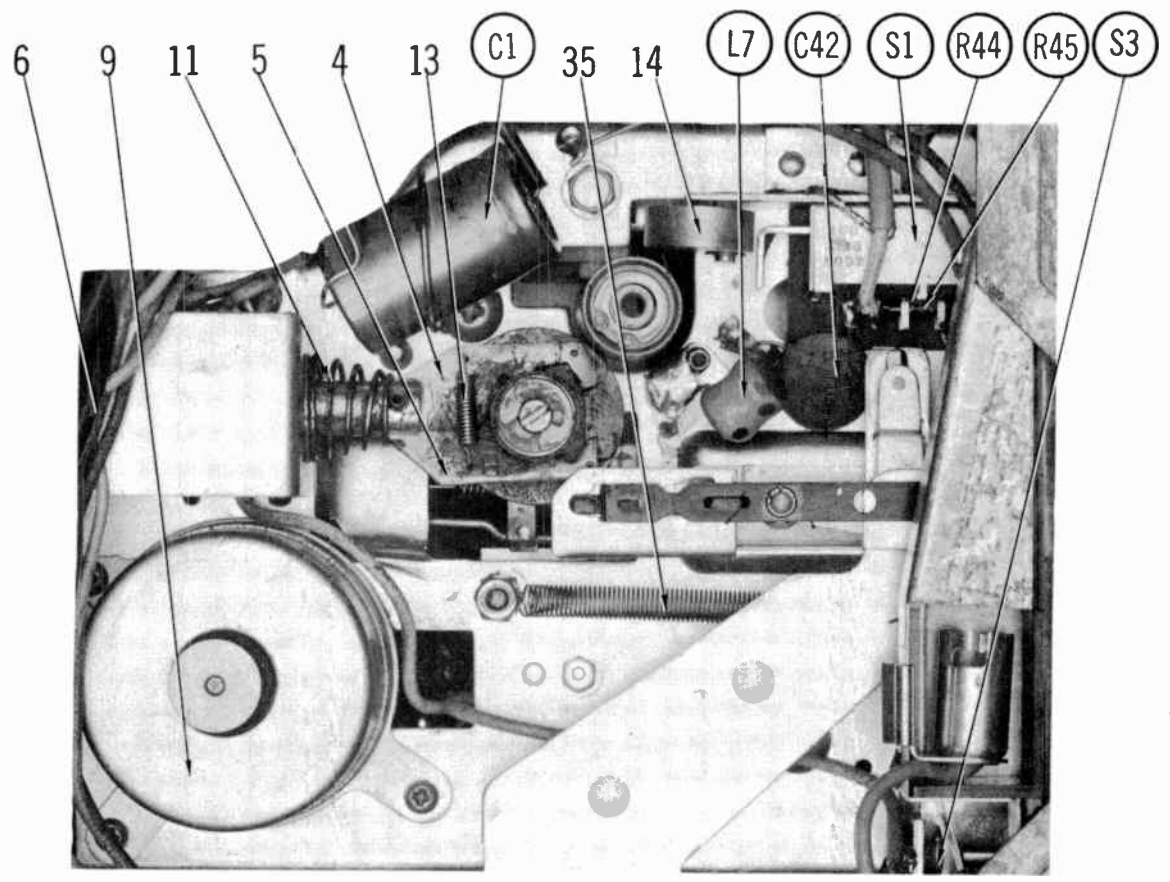
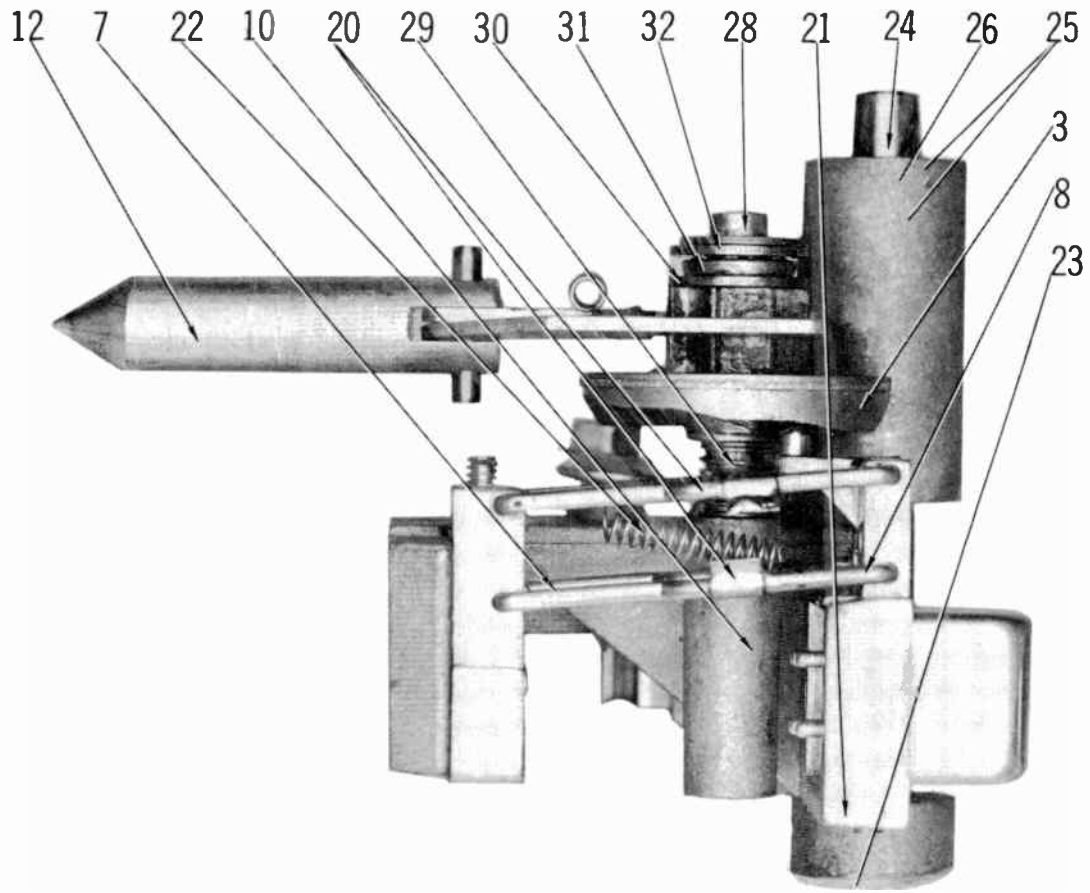
② Use with .124 Dia. Shaft, Ref. No. 28

③ Includes Ref. Nos. 7, 8, 15, 16, 20, 21, 22, 23, 24, 25 and 26

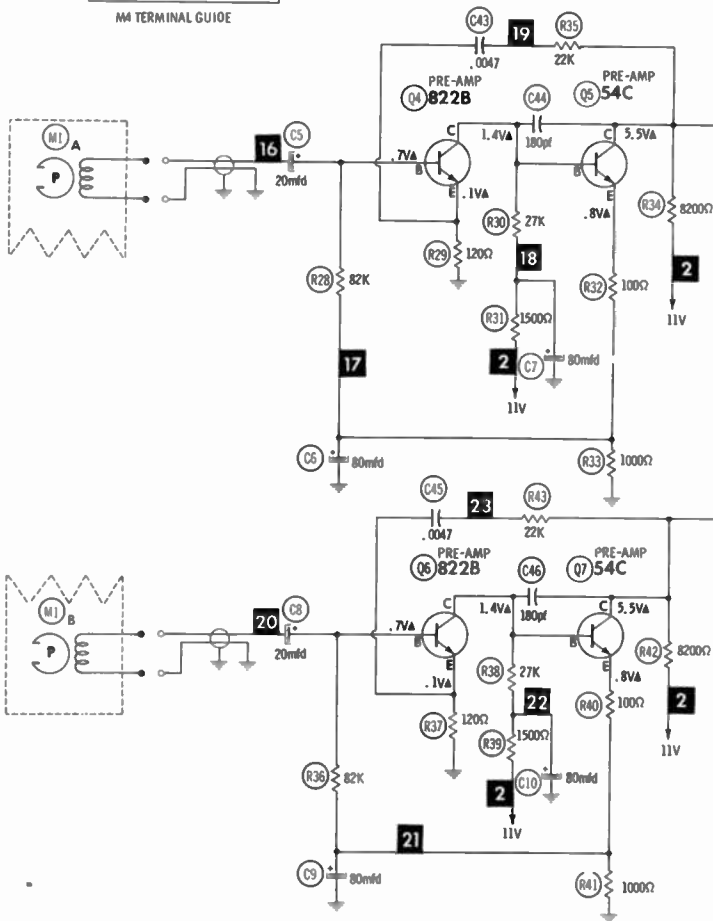
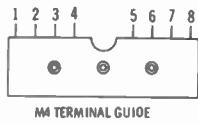
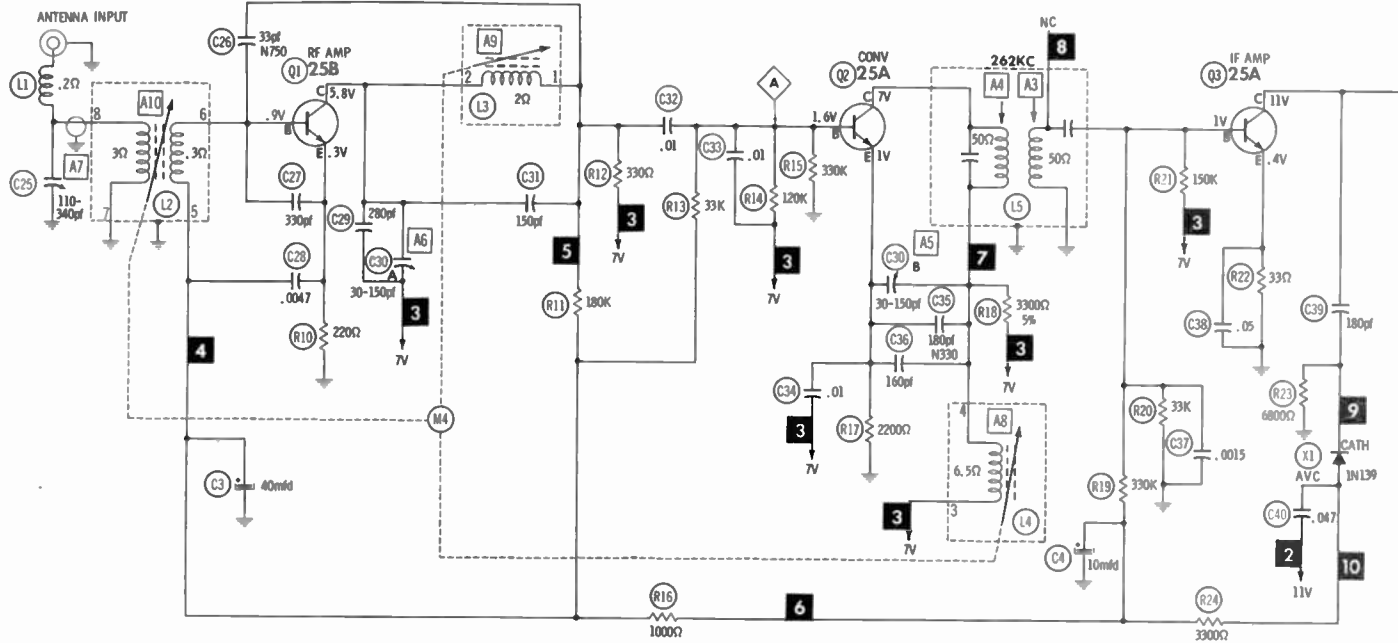
④ Includes Ref. No. 23

### 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. Pawls (4) and (5) worn. Arms (7) and (8) binding Solenoid (M3) defective or not supplied with power. Cartridge defective.
Wow or Flutter	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective. Speed regulator circuit 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.







All measurements taken in "RADIO" position unless otherwise designated.

▲ Measured in "TAPE" position

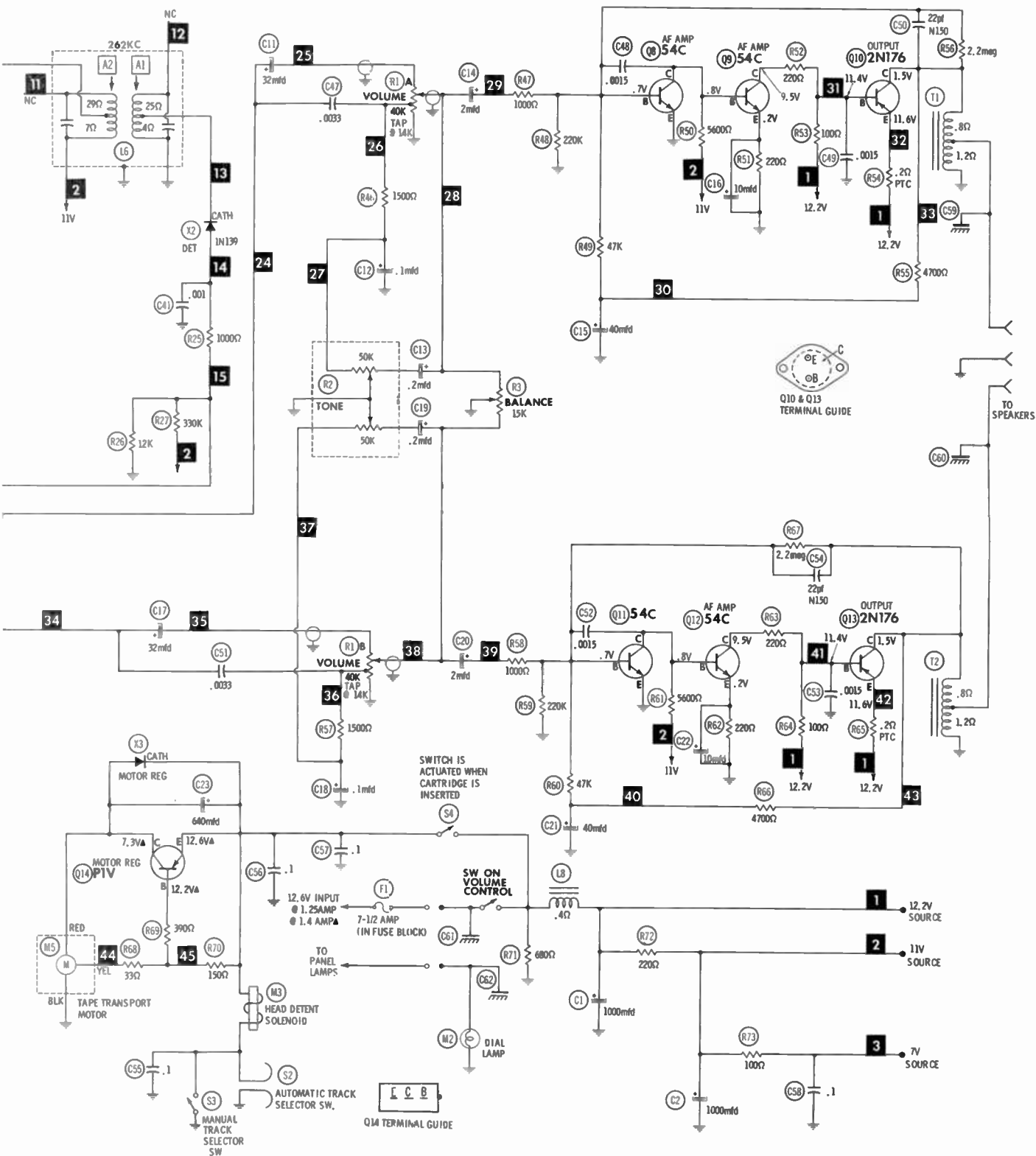
NC No Connection

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.

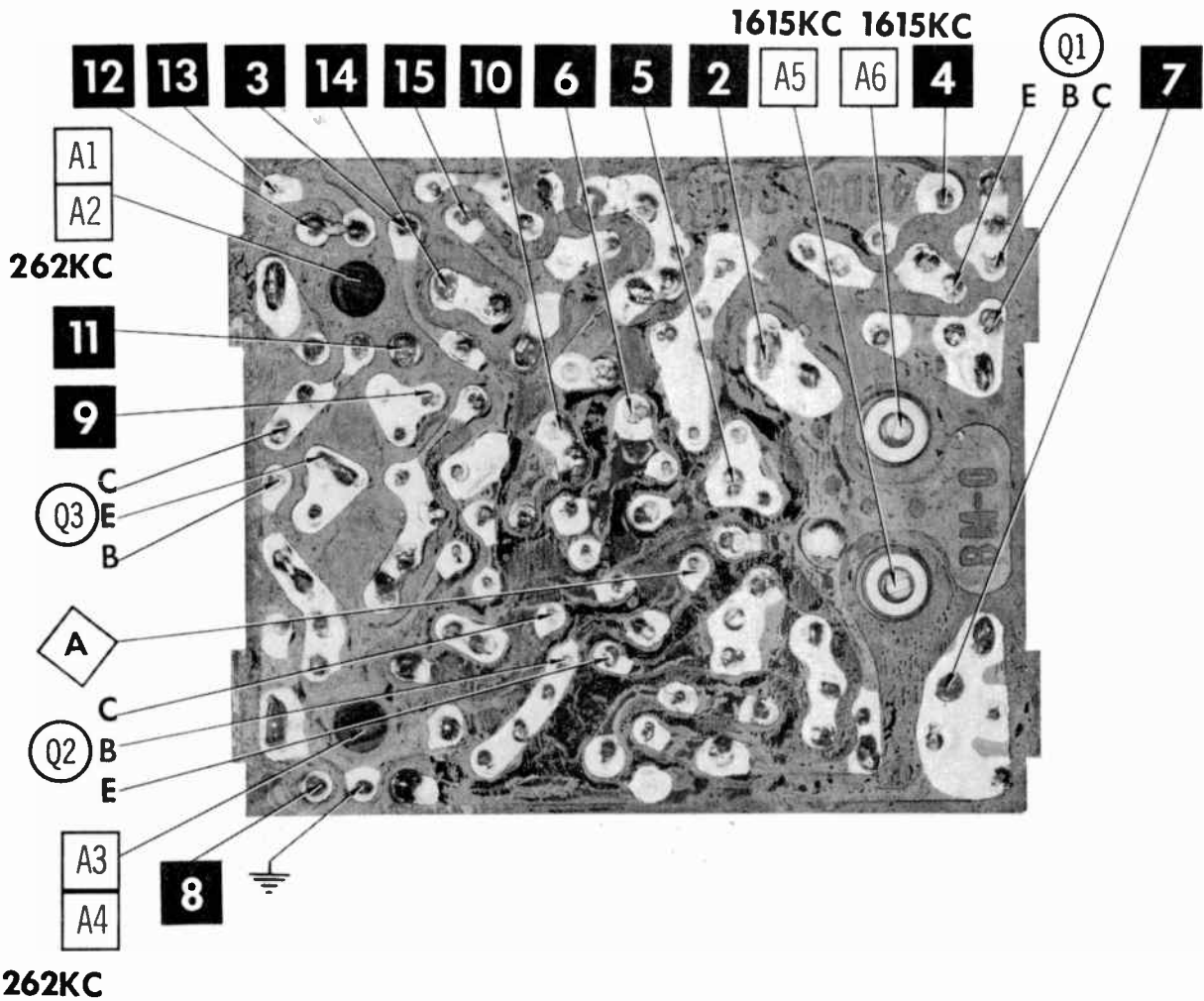
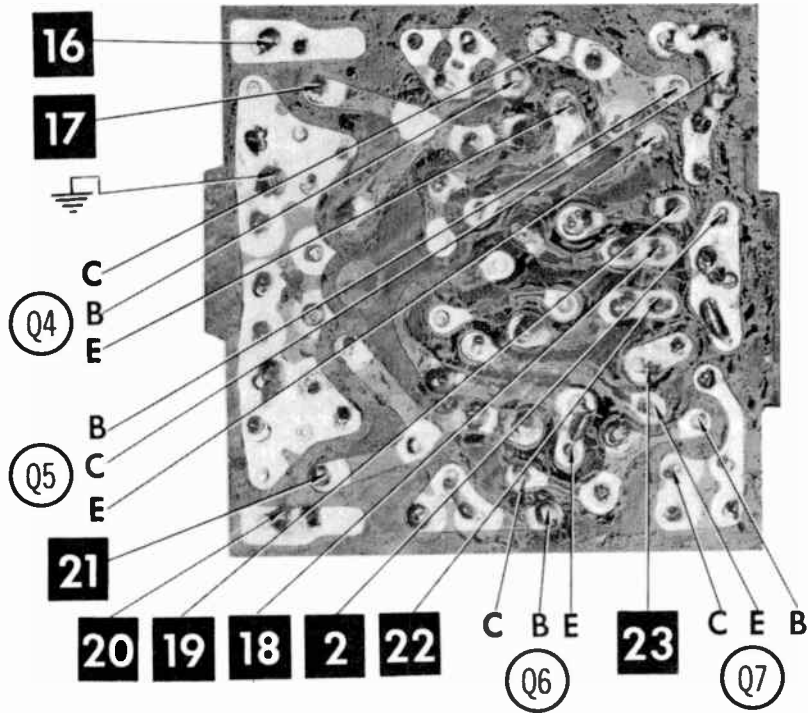
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

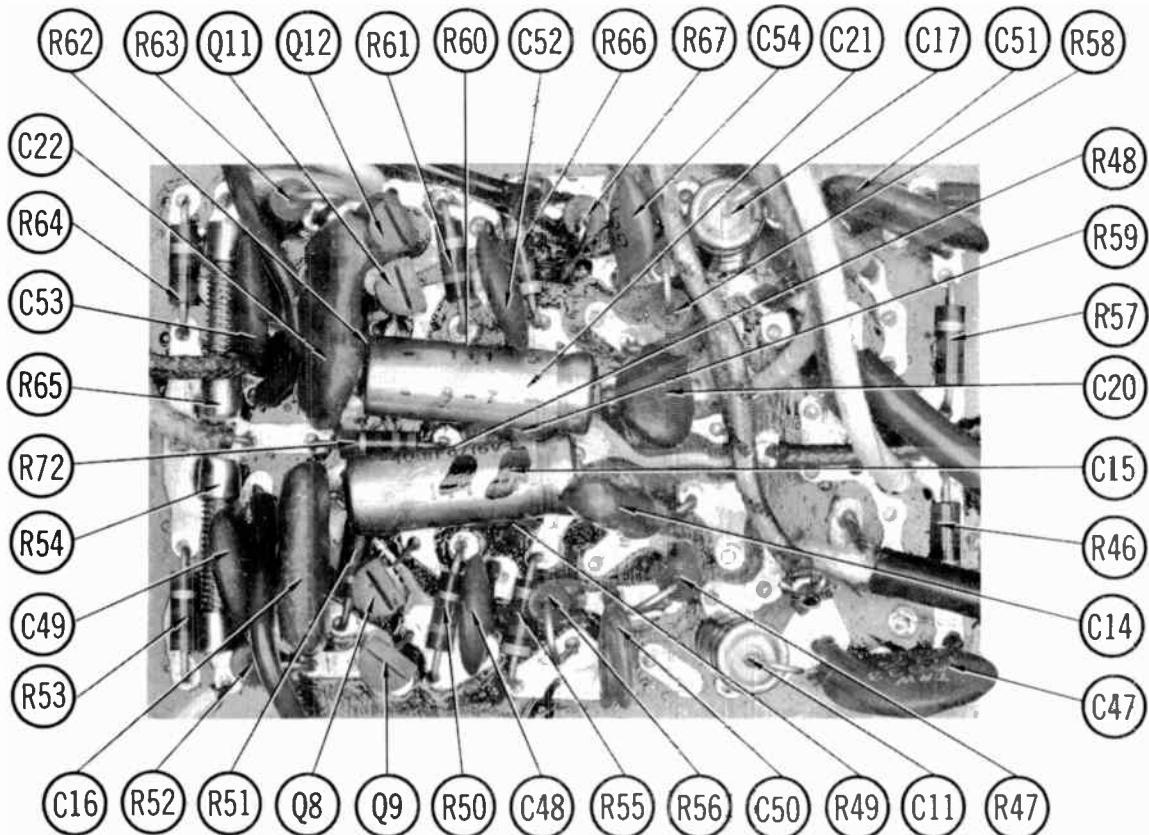
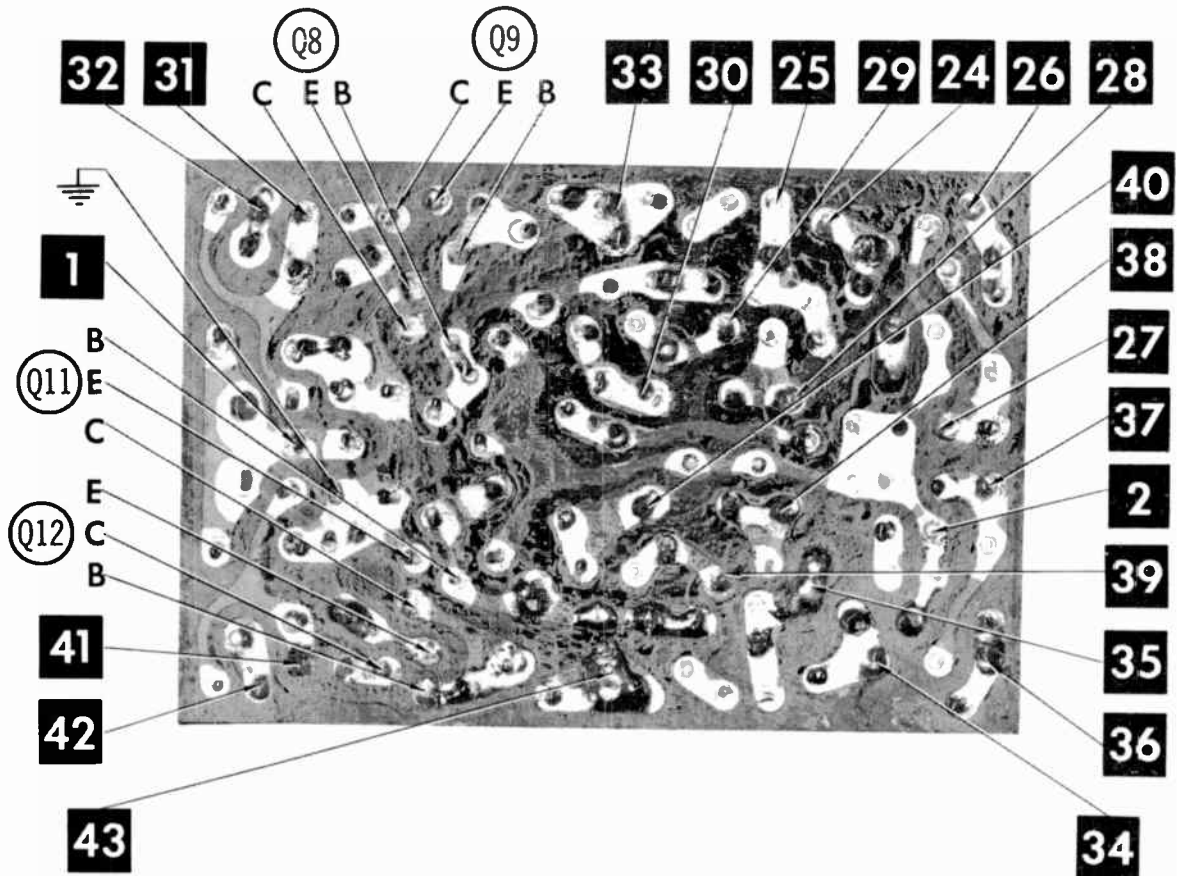
A PHOTOFAC STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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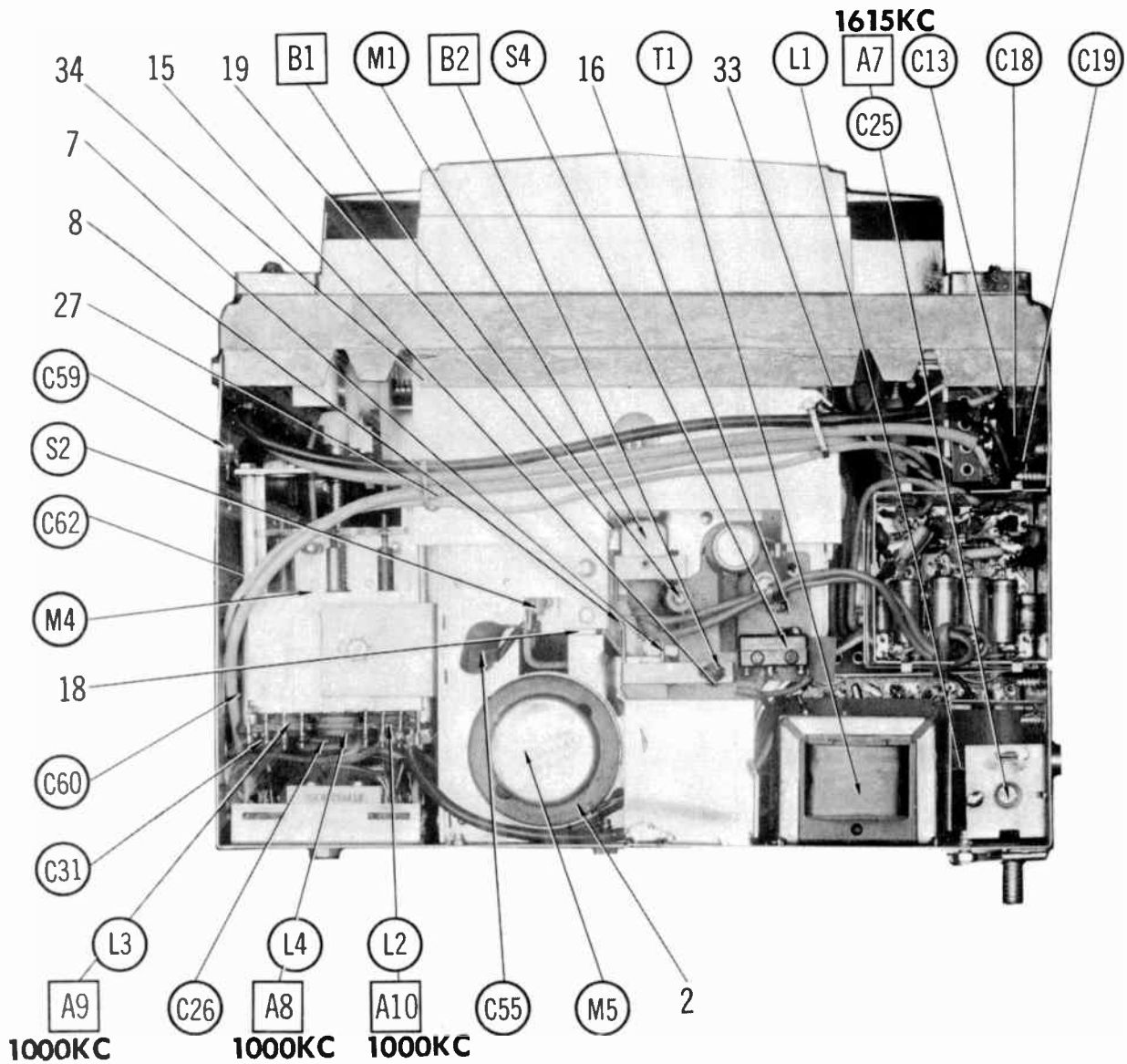
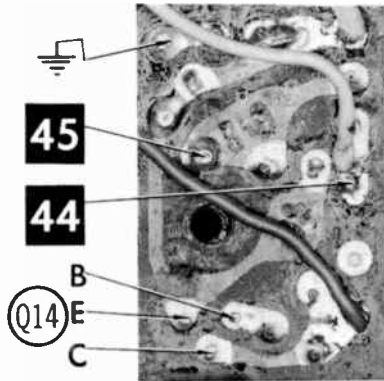


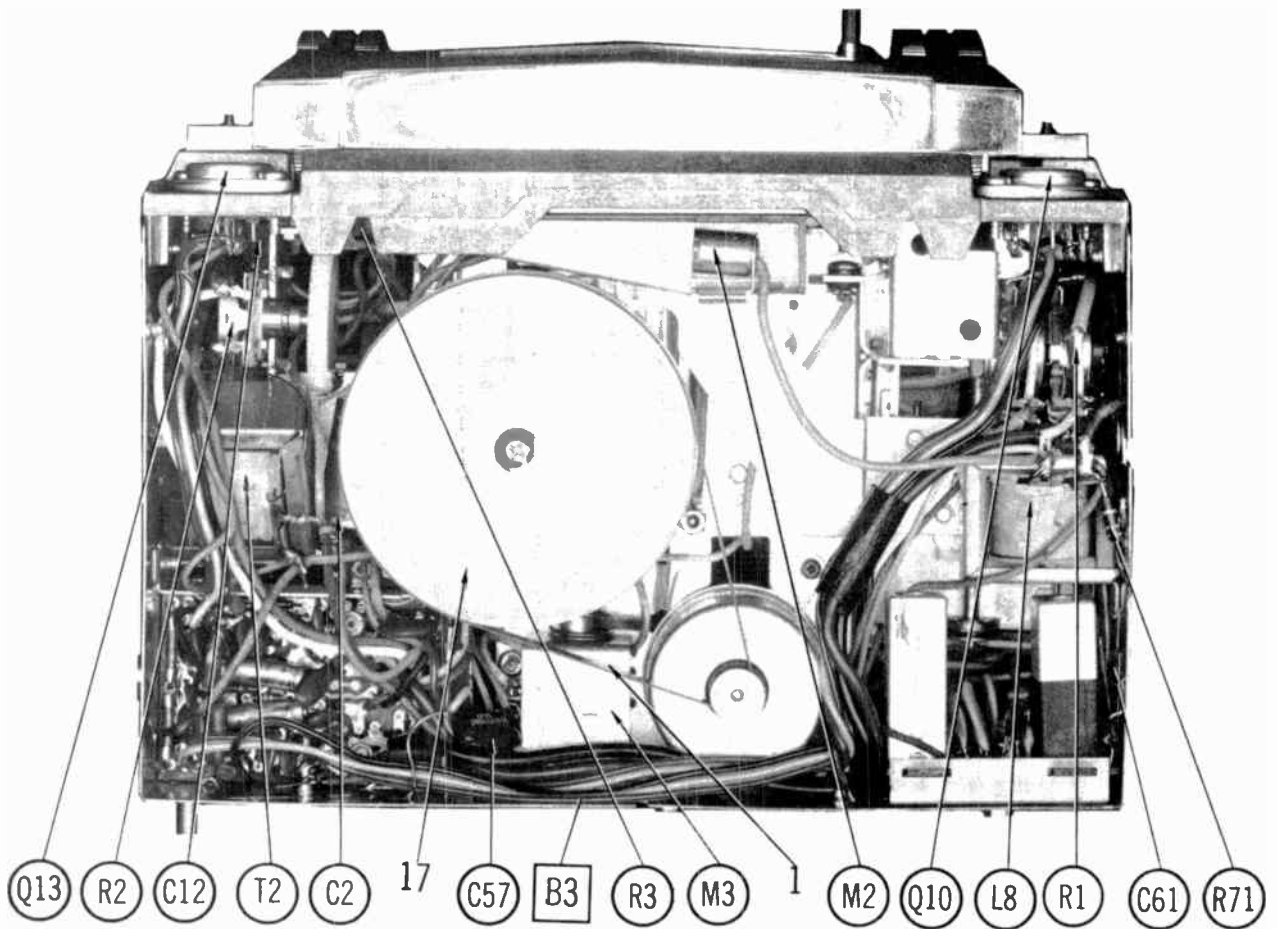
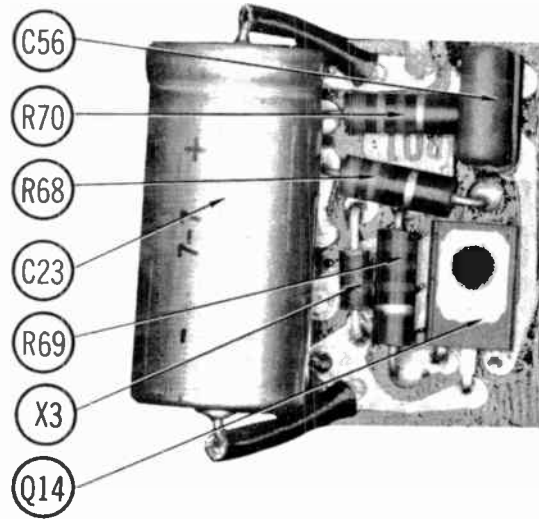
CHRYSLER MODEL 393

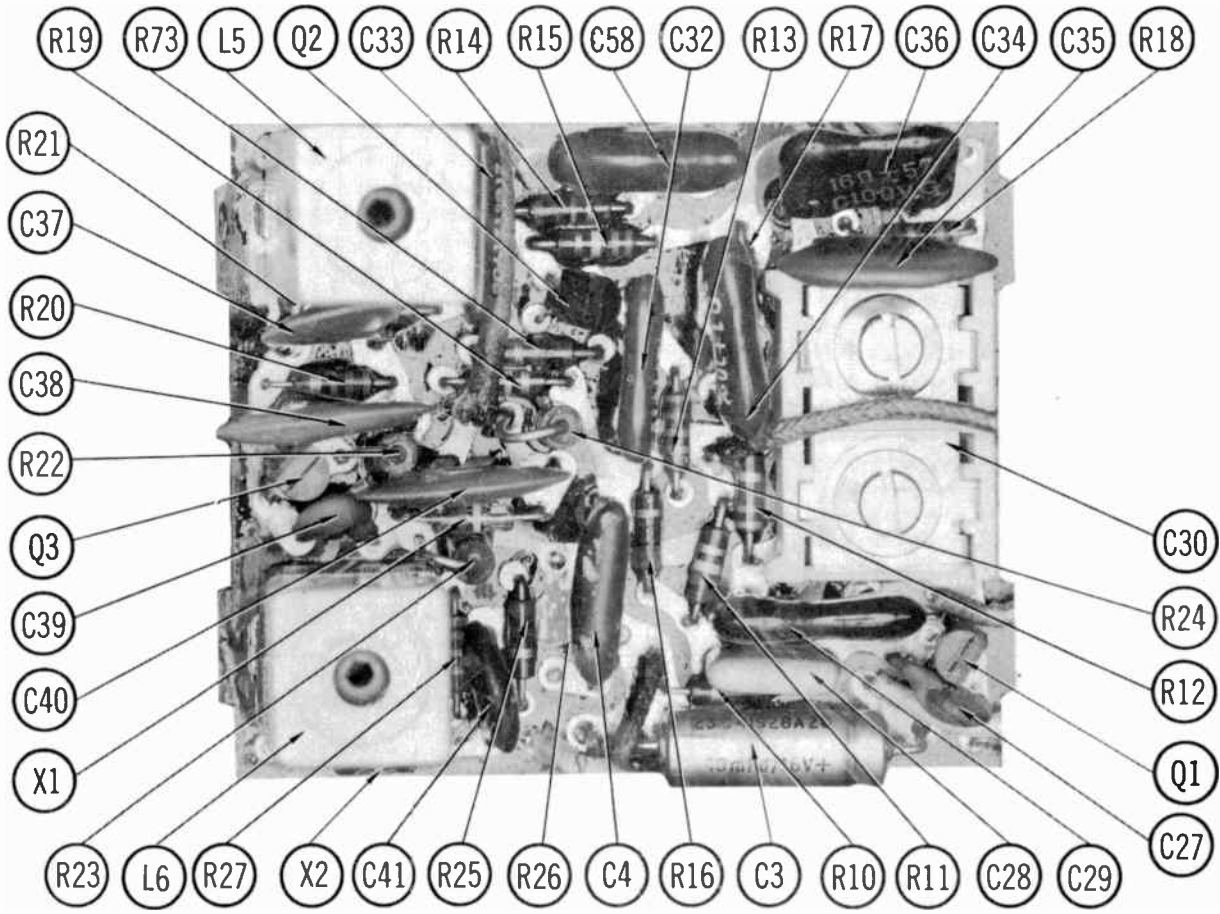
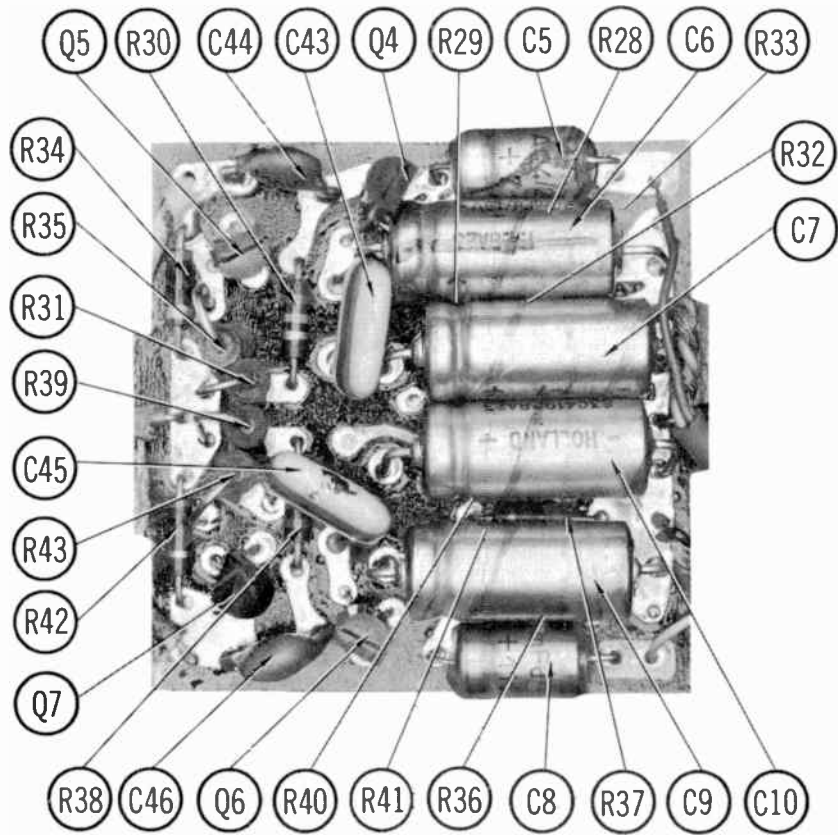




CHRYSLER MODEL 393







# 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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	25B	RF Amp	48-134805	DS-71	GE-11	TR-21	SK-3018	ECG 107
Q3	25A	Converter	48-134804	DS-72	GE-11	TR-21	SK-3018	ECG 107
Q3	25A	IF Amp	48-134804	DS-72	GE-11	TR-21	SK-3018	ECG 107
Q4	822B	Preamp	48-134823	DS-76	GE-10	TR-21	SK-3020	ECG 123
Q5	54C	Preamp	48-134810	DS-76	GE-10	TR-21	SK-3020	ECG 123
Q6	822B	Preamp	48-134823	DS-76	GE-10	TR-21	SK-3020	ECG 123
Q7	54C	Preamp	48-134810	DS-76	GE-10	TR-21	SK-3020	ECG 123
Q8	54C	AF Amp	48-134810	DS-66	GE-10	TR-21	SK-3020	ECG 123
Q9	54C	AF Amp	48-134810	DS-66	GE-10	TR-21	SK-3020	ECG 123
Q10	2N176	Output *	48-134747	DS-520	GE-3	TR-01	SK-3009	ECG 104
Q11	54C	AF Amp	48-134810	DS-66	GE-10	TR-21	SK-3020	ECG 123
Q12	54C	AF Amp	48-134810	DS-66	GE-10	TR-21	SK-3020	ECG 123
Q13	2N176	Output *	48-134747	DS-520	GE-3	TR-01	SK-3009	ECG 104
Q14	P1V	Motor Regulator	48-134987					

## 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.	SARKES TARZIAN PART No.	
X1	1N139	1N295	1N295	ECG 109			
X2	1N139	1N295	1N295	ECG 109			
X3	48A41508A01						

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000 16V	23C41928A29	PRS1230	EA30-1000	BR1000-15	QT1-32	TC1501A	TL-1166.5
C2	1000 16V	23C41928A29	PRS1230	EA30-1000	BR1000-15	QT1-32	TC1501A	TL-1166.5
C3	40 16V	23C41928A20	CRE615A	EA30-50	NLM40-25	MT1-17	MTA40E30	TE-1209
C4	10 6V	23C43280A03	CRE307A	EA6-10	NLM10-6	MT1-5	TT6X10	TE-1087
C5	20 16V	23C41928A24	CRE611A	EA15-25	NLM20-25	MT1-10	TT25X20	TL-1157
C6	80 16V	23C41928A23	CRE620A	EA30-100	NLM75-15	MT1-19	MTA80E15	TE-1161
C7	80 16V	23C41928A23	CRE620A	EA30-100	NLM75-15	MT1-19	MTA80E15	TE-1161
C8	20 16V	23C41928A24	CRE611A	EA15-25	NLM20-25	MT1-10	TT25X20	TL-1157
C9	80 16V	23C41928A23	CRE620A	EA30-100	NLM75-15	MT1-19	MTA80E15	TE-1161
C10	80 16V	23C41928A23	CRE620A	EA30-100	NLM75-15	MT1-19	MTA80E15	TE-1161
C11	32 16V	23C41928A33	CRE614A	EA15-25	NLM35-25	MT1-16	MTA35D15	TL-1159
C12	.1 15V	23C43280A14	CRE450A	UK20-104	NLM1-50	MT1-1	TAS104K015POA	TE-1148
C13	.2 15V	23C43280A19	CRE450A	UK20-204	TYR138DR22K	MT1-1	TAS224M015POA	TE-1148
C14	2 10V	23C43280A02	BCD12002	EA15-2	NLM2-50	MT1-1	MTV2CB50	TL-1121
C15	40 16V	23C41928A20	CRE615A	EA30-50	NLM40-25	MT1-17	MTA40E30	TE-1209
C16	10 6V	23C43280A03	CRE307A	EA6-10	NLM10-6	MT1-5	TT6X10	TE-1087
C17	32 16V	23C41928A33	CRE614A	EA15-25	NLM35-25	MT1-16	MTA35D15	TL-1159
C18	.1 15V	23C43280A14	CRE450A	UK20-104	NLM1-50	MT1-1	TAS104K015POA	TE-1148
C19	.2 15V	23C43280A19	CRE450A	UK20-204	TYR138DR22K	MT1-1	TAS224M015POA	TE-1148
C20	2 10V	23C43280A02	BCD12002	EA15-2	NLM2-50	MT1-1	MTV2CB50	TL-1121
C21	40 16V	23C41928A20	CRE615A	EA30-50	NLM40-25	MT1-17	MTA40E30	TE-1209
C22	10 6V	23C43280A03	CRE307A	EA6-10	NLM10-6	MT1-5	TT6X10	TE-1087
C23	640 16V	23C41928A27	PRS1220	EA15-500	BR500-15	OT1-30	TC1505A	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.
C32	.01 100V		DBE6S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C33	.01 100V		DBE6S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C34	.01 100V		DBE6S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C35	180 N330					*	*	10TFS-T18

CHRYSLER MODEL 393



# 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 (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C36	160		ADM-15-161	CPR-160J	CD10E161J500	DM-15-161	SX316	MS-316
C37	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C38	.05		GPD 25V503P	CK-503	HOV1012V503Z	CCD-503	TA150	TG-S50
C39	180		GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	5GA-T18
C40	.047	100V	DBE6S47	DD-503	DMF4S47	4DP-3-473	PVC4147	4PS-D17
C41	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C42	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C43	.0047	100V	DBE6D47	CPR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C44	180		GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	5GA-T18
C45	.0047	100V	DBE6D47	CPR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C46	180		GPD X5F181K	DD-181	JBZ601YP181K	CCD-181	GP318	5GA-T18
C47	.0033	100V	DBE6D33	CPR-3300J	DMF6D33	6DP-1-332	PVC6233	6PS-D33
C48	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C49	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C50	22	N150				*		10TCP-Q22
C51	.0033	100V	DBE6D33	CPR-3300J	DMF6D33	6DP-1-332	PVC6233	6PS-D33
C52	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C53	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C54	22	N150				*		10TCP-Q22
C55	.1	100V	DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C56	.1	100V	DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C57	.1	100V	DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C58	.1	100V	DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C59			#64-41668A07					
C60			#64-41668A07					
C61			#64-41668A07					
C62			#64-41668A07					

# Motorola Part Number.

## 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	Volume	40K Tap @ 14K	18C41452B01 (1)				
B	Volume/Switch	40K Tap @ 14K					
R2A	Tone	50K	18C41188B01				
B	Tone	50K					
R3	Balance	15K	18C41198B01				

(1) Part Number 18-42044B01 includes Pully.

## 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.
R54	.2 (PTC)			17-40756A06	R65	.2 (PTC)			17-40756A06

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (1.5uh)	24C40788A04	19-1001	4604	T856
L2	Antenna	(1)			
L3	RF	(1)			
L4	Oscillator	(1)			
L5	Input IF	24D42517A09			
L6	Output IF	24D42517A10		8010	
L7	Tone Choke (5mh)	24C41605B01	19-1051	6304	T881

(1) Part of M4.

# 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~)	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L8	1.4Amp	.4	11mh	ZSD41894801	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	18 Tap	@ 8	25D41307B09					
T2	18 Tap	@ 8	25D41307B09					

## 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	SFE 7 1/2		In Fuse Block	SFE 7 1/2		30707.5		

## TAPE HEADS

ITEM NO.	MEASURED			PART NO.	NORTRONICS PART NO.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	400mh			S9-43641A02	S800*	8-Track Stereo Play * Use original mounting

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Dial Lamp	65-135449	CHICAGO MINIATURE Replacement: CM-1893 MFT-636
M3	Solenoid	24-42064B01	
M4	Tuner	1-43500A40	
	Tuner Coil Assembly	1-42000B87	
M5	Motor	S9-43543A02	
S1	Tape-Radio Sel. Sw.	40-41363B02	
S2	Auto-Track Sel. Sw.	40-40296B01	
S3	Manual Track Sel. Sw.	40-41808B01	
S4	Micro Switch	40-40406B01	

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

ITEM	PART No.	ITEM	PART No.
Knob, Volume	36-40562B01	Knob, Track Select	38-41505B01
Knob, Tuning	36-41985B01	Dial Glass	34-41757B01
Knob, Tone	1-42000B30	Dial Pointer	52-40244B23
Knob, Balance	36-40562B05		

## WIRING DATA

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



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>



**TRADE NAME :** Ford or Mercury Model D8MF (C8AZ-19A0 35-A) (1968 Comet, Fairlane, Falcon)  
**SUPPLIER :** For Current Address, See Annual Index  
**TYPE SET :** 11-Transistor Tape Player  
**POWER SUPPLY :** 12 Volt Storage Battery  
**RATING :** .475 Amp @ 12.6 Volts DC

FORD-MERCURY MODEL D8MF (C8AZ-19A035-A)

## OPERATING INSTRUCTIONS

Insert cartridge until it locks and turns unit on.

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

Set operating controls as desired.

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 nonhardening grease on cam surfaces.

## HEAD DEMAGNETIZING

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

## 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. Pawls (4) and (5) worn. Arms (7) and (8) binding. Solenoid (M3) defective or not supplied with power. Cartridge defective.
Wow or Flutter	Belt (1) dirty or worn. Capstan dirty or binding. Cartridge defective. Motor defective. Speed regulator circuit 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.

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

## 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.
Indexing Solenoid	Press program selector to continuously cycle indexing mechanism, turn Screw B4 clockwise until cycling stops, and then turn screw counterclockwise 1/4 turn past restart of cycling.

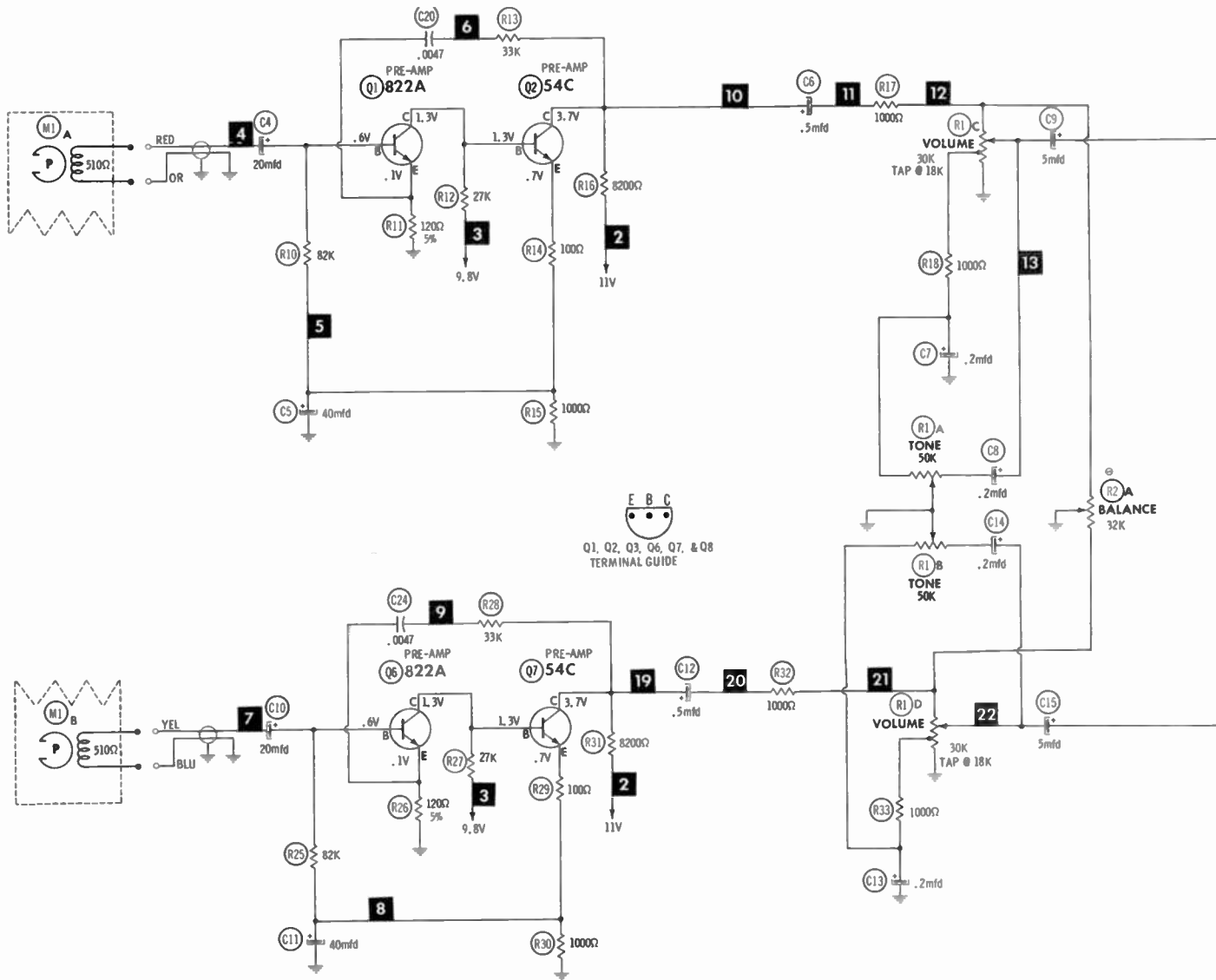
## MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	42-40426 B01	Drive Belt	20	41-40445 B01	Solenoid Spring
2	7-43576A01	Motor Support (3 used)	21	46-40057 A46	Stereo Head Retainer
3	45-40428 B07	Cam ②	22	41-40540 B01	Head Tension Spring
	45-40428 B01	Cam ③	23	15-40059 A61	Capstan Housing (1)
4	55-40605 B01	Push Ratchet Pawl (Stamped "A")	24	4-40409 B01	Thrust Washer
5	55-40606 B01	Pull Ratchet Pawl (Stamped "B")	25	43-40411 B02	Thrust Bearing
6	41-40681 B01	Pawl Tension Spring	26	49-41580 B01	Roller
7	45-41230 B01	Radius Arm (2 used)	27	47-42174 B02	Cam Shaft .188 inch Dia.
8	45-41231 B01	Radius Arm (2 used)		47-40414 B01	Cam Shaft .124 inch Dia.
9	45-40495 B01	Switch Cam	28	41-41251 B02	Cam Tension Spring ②
10	46-40059 A56	Capstan Shaft (Includes Nylon Bearing and "C" clip)		41-41251 B01	Cam Tension Spring ③
11	3-129610	Azimuth Adjust Screw	29	46-40299 B01	Solenoid Stop
12	45-40480 B01	Microswitch Actuating Arm	30	4-40409 B05	Thrust Washer (.190 inch X .50 inch) ②
13	41-42279 B01	Ejector Lever Spring		4-40409 B03	Thrust Washer (.126 inch X .50 inch) ③
14	49-40416 B02	Flywheel	31	43-40411 B03	Thrust Bearing ②
15	41-40805 B01	Tape Drive Assist Spring		43-40411 B01	Thrust Bearing ③
16	1-42200 B88	Manual Ejector and Bracket Assembly	32	4-40409 B04	Thrust Washer (.190 inch X .446 inch) ②
17	46-42104 B01	Tape Stop		4-40409 B02	Thrust Washer (.126 inch X .312 inch) ③
18	47-40298 B01	Solenoid Plunger	33	26-40399 B01	Motor Mounting Shield
19	42-41229 B01	Radius Arm Spring Clip (4 used)	34	41-40444 B01	Azimuth Tension Spring

① Includes Ref. Nos. 15, 7, 21, 22, 8, 19, 10, 24, 25.  
 ③ Use with Shaft (.124 inch Dia.) Ref. No. 27

② Use with Shaft (.188 inch Dia.) Ref. No. 27

FORD-MERCURY MODEL D8MF (C8AZ-19A035-A)

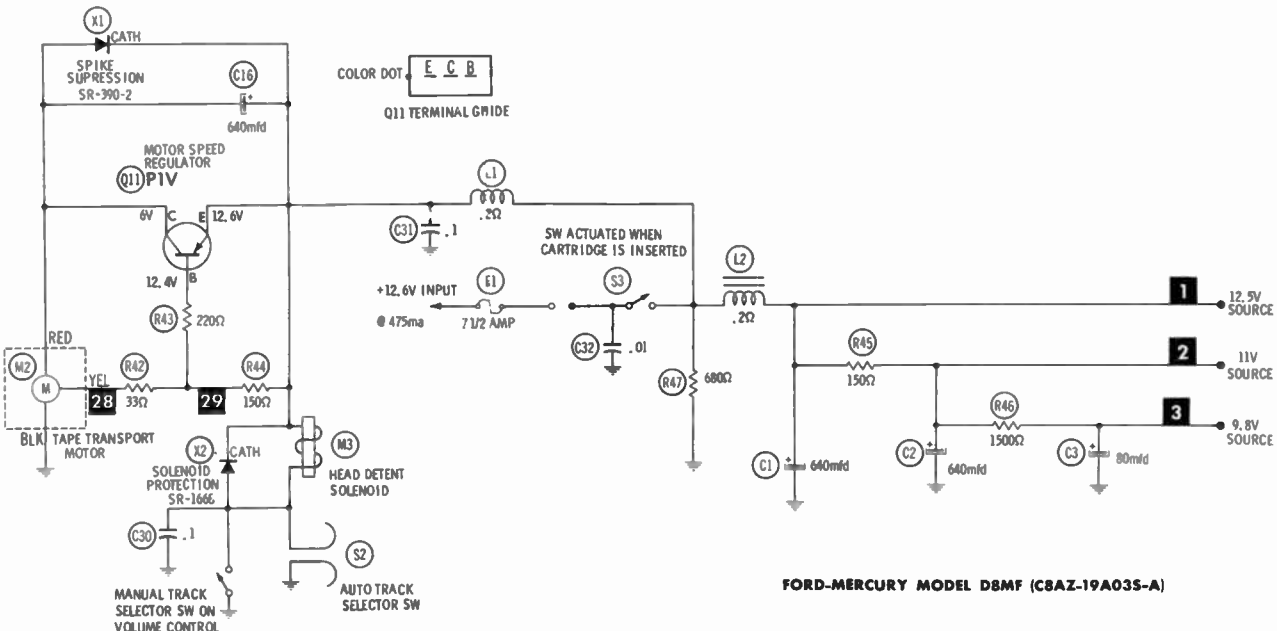
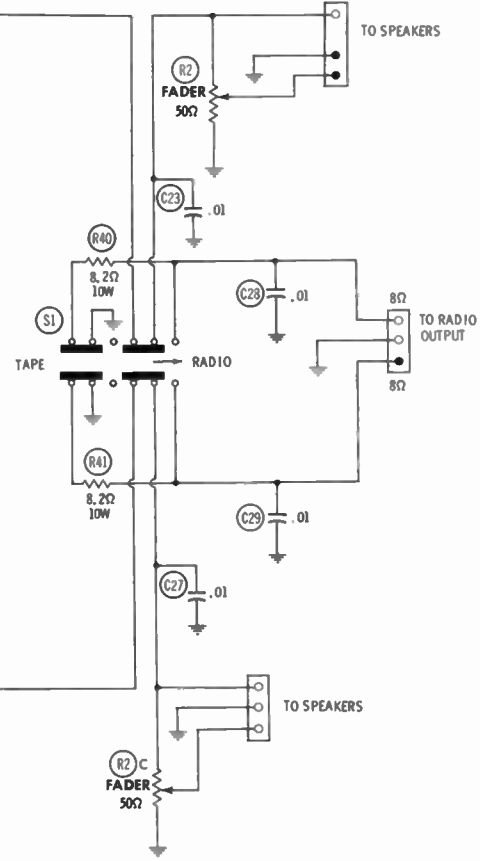
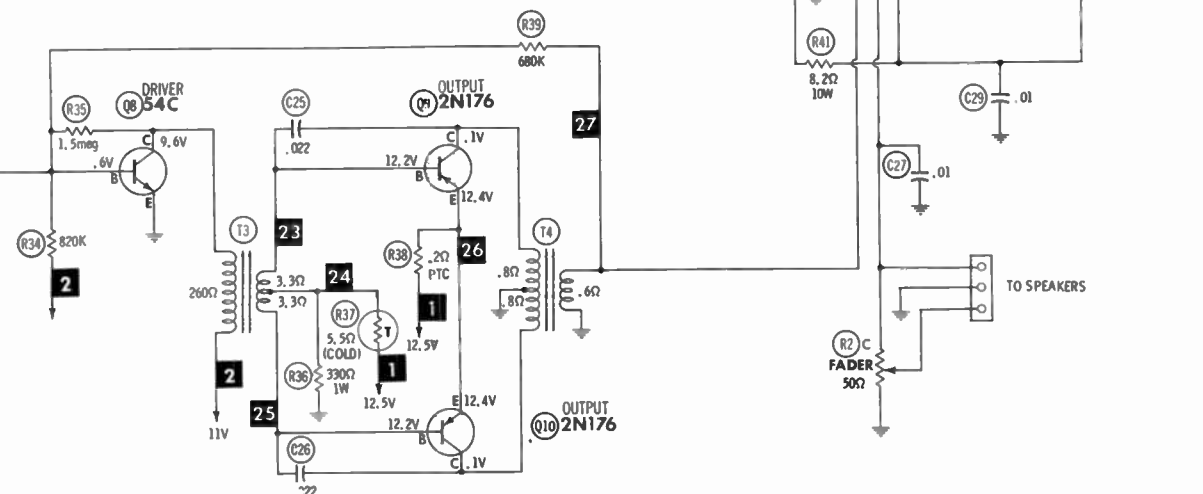
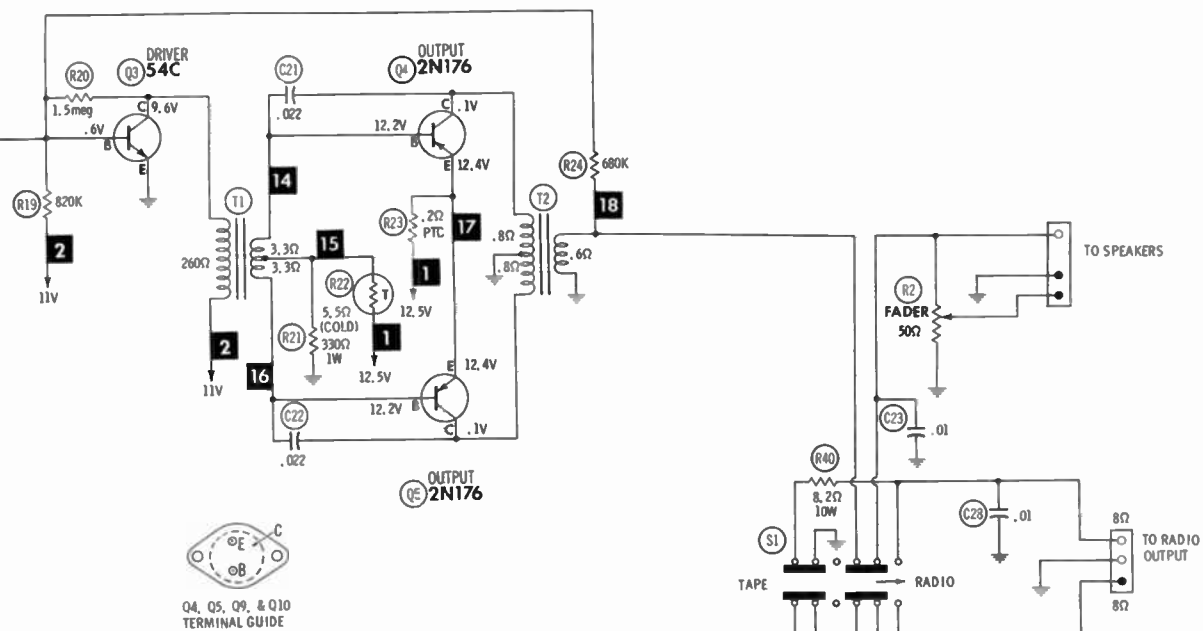


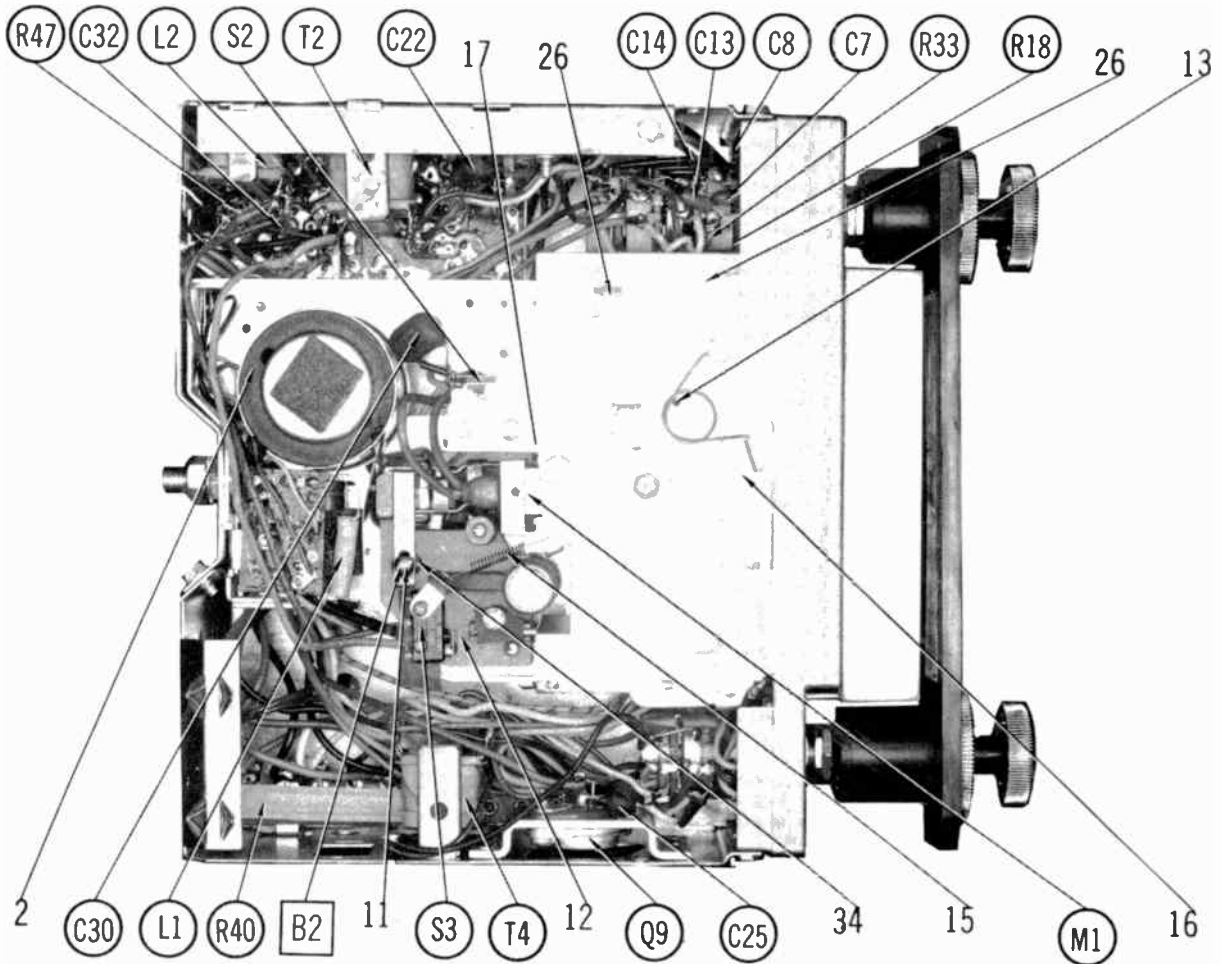
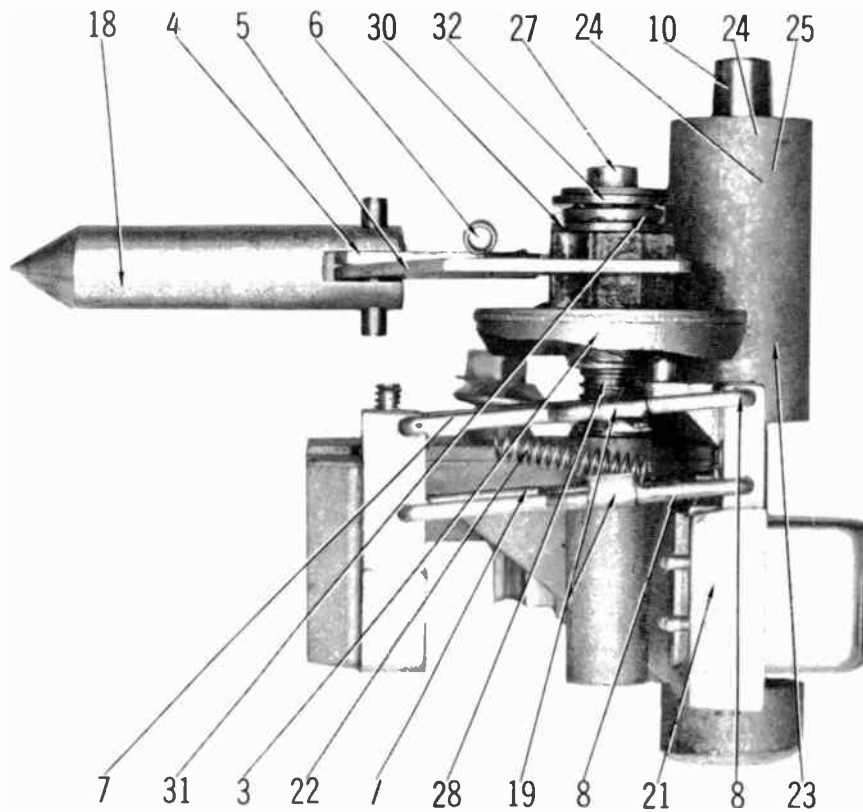
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

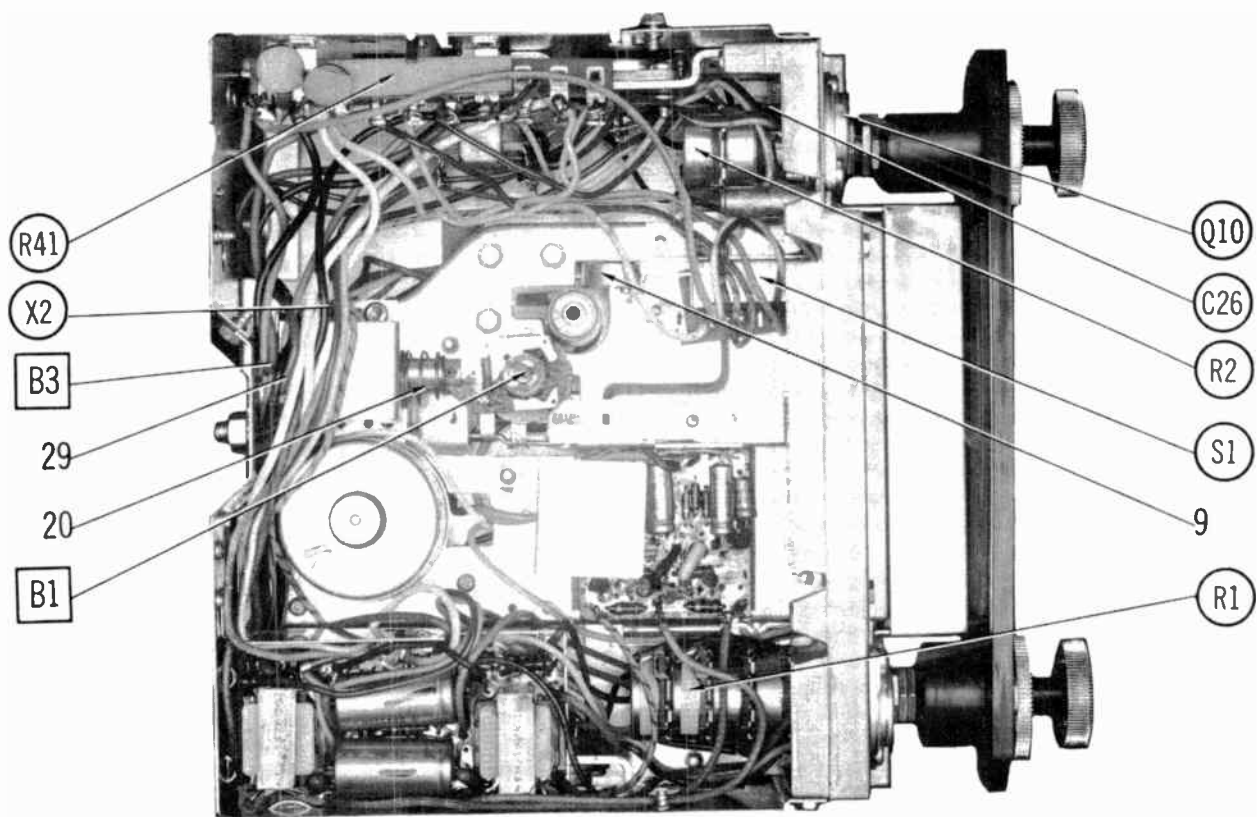
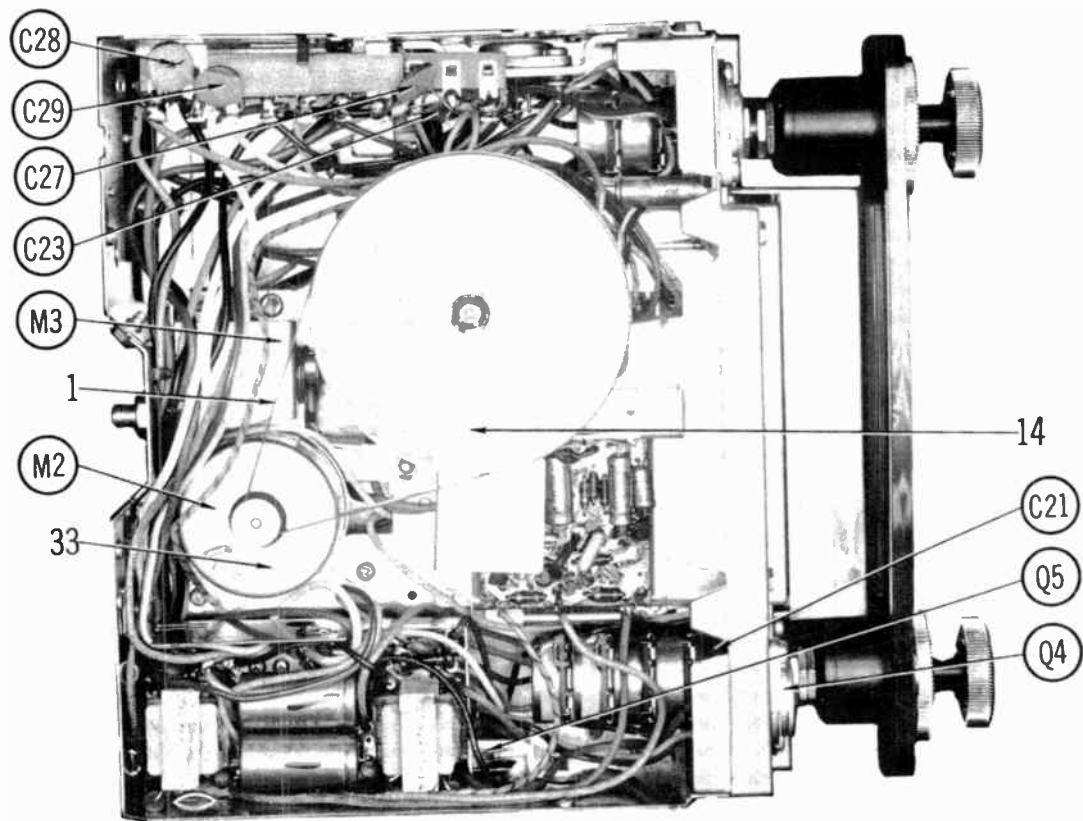
A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**

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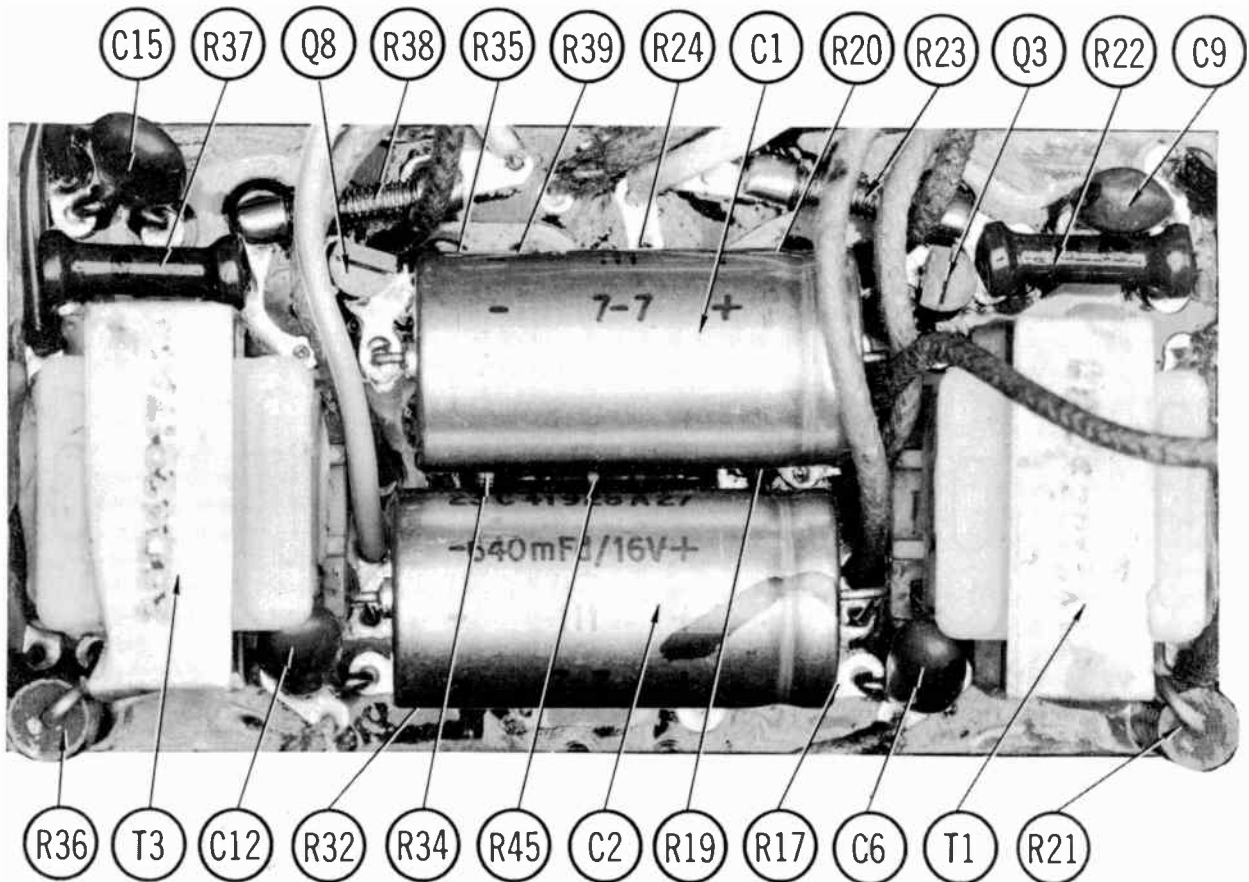
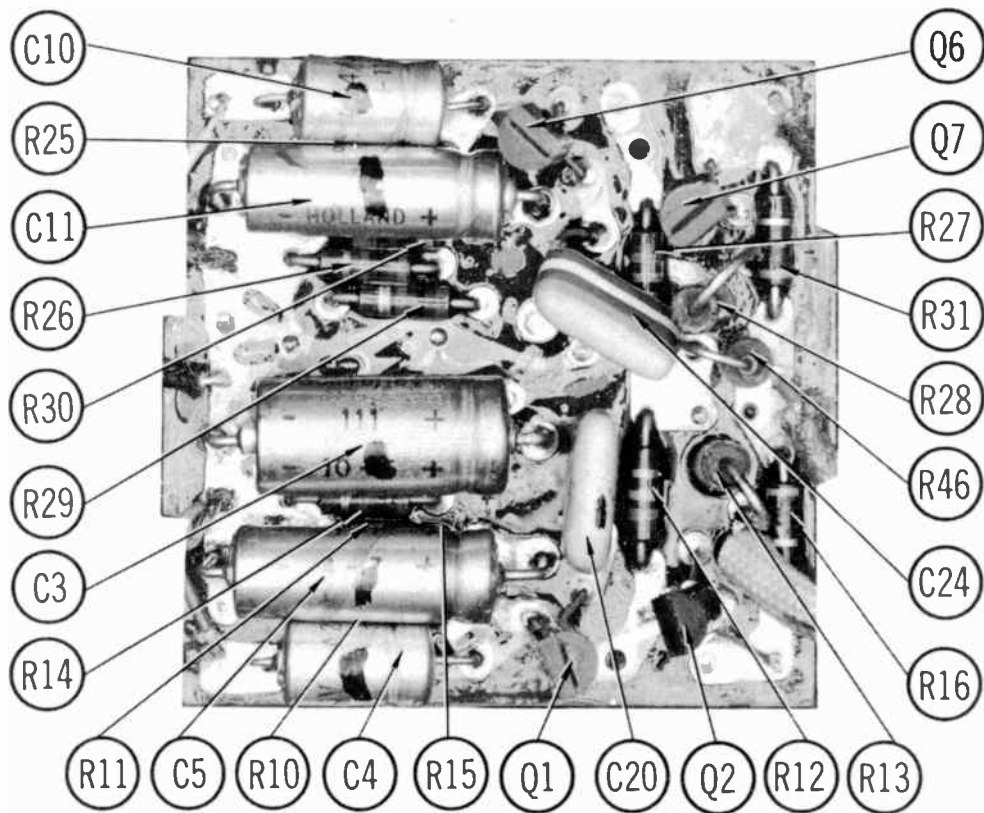
- ⊖ See parts list
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned 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.

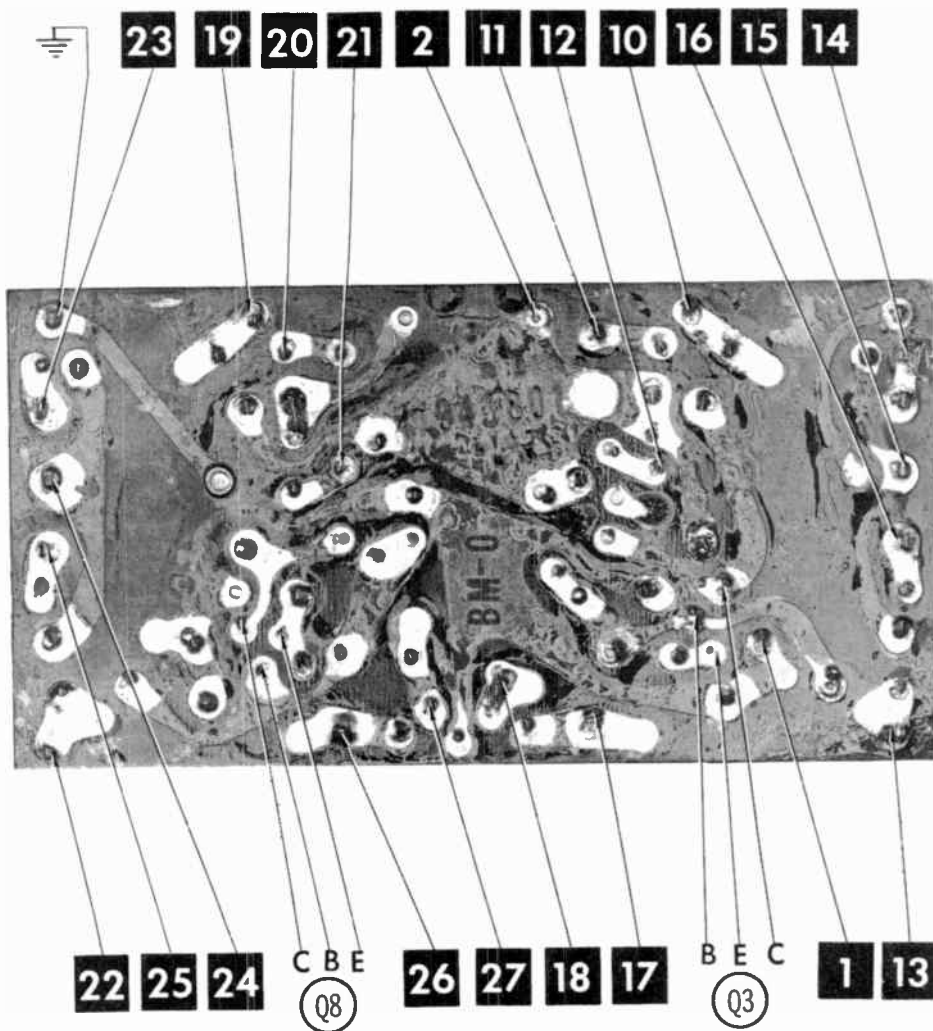
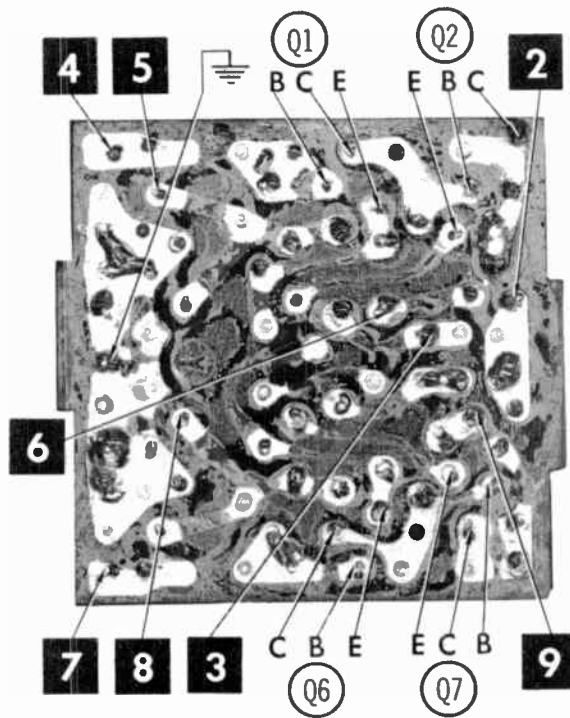




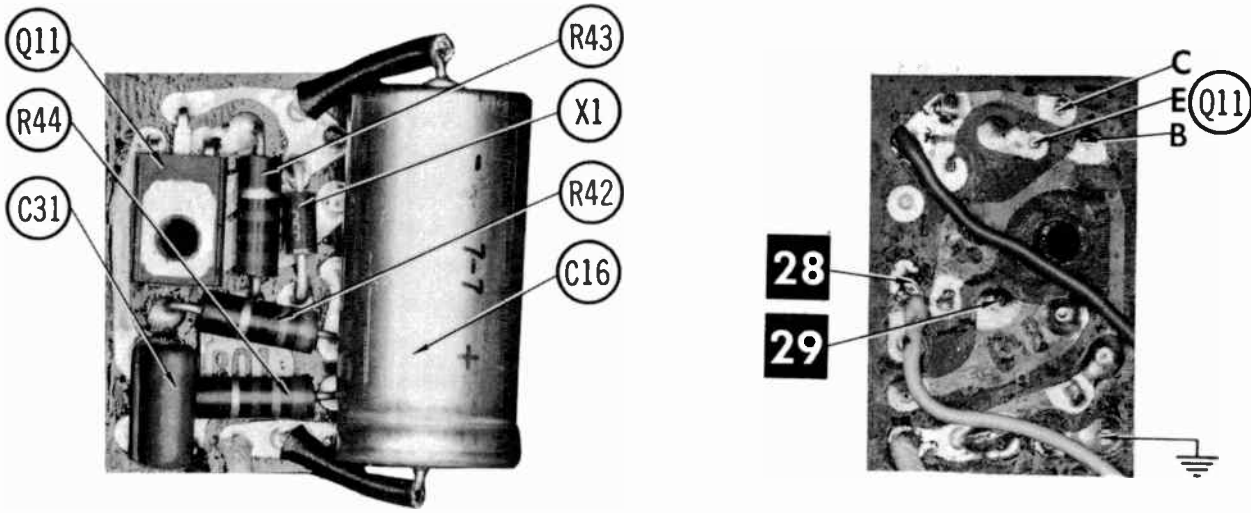








FORD-MERCURY MODEL DBMF (88AZ-19A035-A)



## 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. 8861 (3/8 In.) or 8870 (3/4 In.)

### TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	822A	Preamp.		DS-76	GE-20	TR-21	SK-3020	ECG 123
Q2	54C	Preamp.		DS-76	GE-20	TR-21	SK-3020	ECG 123
Q3	54C	Driver		DS-66	GE-20	TR-21	SK-3020	ECG 123
Q4	2N176	Output *		DS-520	GE-3	TR-21	SK-3009	ECG 104
Q5	2N176	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q6	822A	Preamp.		DS-76	GE-20	TR-01	SK-3020	ECG 123
Q7	54C	Preamp.		DS-76	GE-20	TR-21	SK-3020	ECG 123
Q8	54C	Driver		DS-66	GE-20	TR-21	SK-3020	ECG 123
Q9	2N176	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q10	2N176	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q11	P1V	Motor Regulator						

\* 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.	SARKES TARZIAN PART No.	
X1	48-41508A01						
X2	48-41508A02						

# 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.

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	640 16V	23C41928A27	PRS1220	EA15-500	BR500-15	QT1-30	TC1505A	TL-1166
C2	640 16V	23C41928A27	PRS4220	EA15-500	BR500-15	QT1-30	TC1505A	TL-1166
C3	80 16V	23C41928A23	CRE620A	EA30-100	NLW75-15	MT1-19	MTA80E15	TE-1161
C4	20 16V	23C41928A24	CRE611A	EA15-25	NLW20-25	MT1-10	TT25X20	TE-1157
C5	40 16V	23C41928A20	CRE615A	EA30-50	NLW40-25	MT1-17	MTA40E30	TE-1209
C6	.5 15V	23C43280A21	CRE450A	UK10-474	NLW1-50	MT1-1	TT15X1	TE-1148
C7	.2 15V	23C43280A19		UK20-204	TYR13BDR22K		TAS22M015POA	
C8	.2 15V	23C43280A19		UK20-204	TYR13BDR22K		TAS22M015POA	
C9	5 6V	23C43280A27	BCD6005	EP30-5	NLW5-15	MT1-3	MTV5CB50	TL-1084
C10	20 16V	23C41928A24	CRE611A	EA15-25	NLW20-25	MT1-10	TT25X20	TL-1157
C11	40 16V	23C41928A20	CRE615A	EA30-50	NLW40-25	MT1-17	MTA40E30	TE-1209
C12	.5 15V	23C43280A21	CRE450A	UK10-474	NLW1-50	MT1-1	TT15X1	TE-1148
C13	.2 15V	23C43280A19		UK20-204	TYR13BDR22K		TAS22M015POA	
C14	.2 15V	23C43280A19		UK20-204	TYR13BDR22K		TAS22M015POA	
C15	5 6V	23C43280A27	BCD6005	EP30-5	NLW5-15	MT1-3	MTV5CB50	TL-1084
C16	640 16V	23C41928A27	PRS4220	EA15-500	BR500-15	QT1-30	TC1505A	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.
C20	.0047 100V		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C21	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C22	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C23	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C24	.0047 100V		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C25	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C26	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C27	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C28	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C29	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C30	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C31	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C32	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10

## 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.	CYS-IRC PART No.	MALLORY PART No.
R1A	Tone	50K	18C41701301				
B	Tone	50K					
C	Manual Track Selector Switch						
D	Volume	30K Tap @ 18K					
E	Volume	30K Tap @ 18K					
R2A	Balance	32K	18C41702B01				
B	Fader	50 ohms					
C	Fader	2W 50 ohms 2 W					

## 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.
R22	5.5 ohms (Cold)			6-565324	R37	5.5 ohms (Cold)			6-565324
R23	.22 ohms (PTC)			17-40756A06	R38	.22 ohms (PTC)			17-40756A06

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (1.5uh)	Z4C40788A04	19-1001	4602	T856

FORD-MERCURY MODEL D8MF (G8AZ-19A035-A)

# 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~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L2	475ma	.2 ohm	5mh	25D40907B13	C-4095	TC-2	TR-154	TY17XT	

## TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	1	25D42917A14					
T3	8	1	1	25D42917A14					

## 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.	
T2	16 ohms CT	8 ohms	25D41586B01					
T4	16 ohms CT	8 ohms	25D41586B01					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		MOTOROLA PART No.	JENSEN PART No.	QUAM PART No.	
	Order From Ford Motor Company.				

## 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	SFE 7 1/2			SFE 7 1/2		30707.5		

## TAPE HEADS

ITEM NO.	MEASURED			MOTOROLA PART NO.	NORTRONICS PART NO.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	400mh			S9-43641A02	S800 (1)	8-Track Stereo Play (1) Use Original Mounting

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Motor	S9-43543A02	
M3	Solenoid	24-42064B01	
S1	Radio-Tape Switch	40-41363B01	
S2	Automatic Track Switch	40-40296B01	
S3	On-Off Switch	40-40406B01	

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

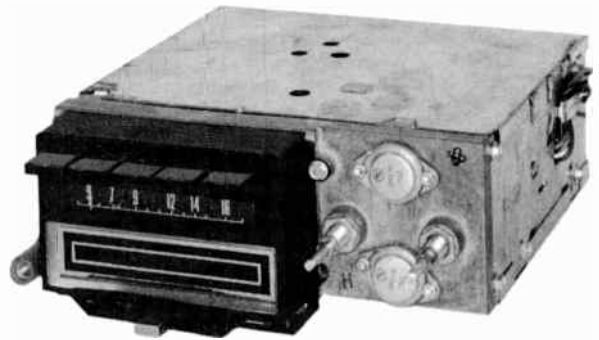
ITEM	PART No.	ITEM	PART No.
Knob, Volume or Fader Knob, Tone or Balance	36-40840B02 36-41698B01	Door	15-40278B02



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

TRADE NAME: Ford T8MS (C8SA-18806-A)  
 1968 Thunderbird  
 SUPPLIER: For Current Address, See Annual Index  
 TYPE SET: 16-Transistor AM Receiver and Tape Player  
 POWER SUPPLY: 12 Volt Storage Battery  
 RATING: . 25 Amp @ 12.6 Volts DC (Radio)  
 . 475 Amp @ 12.6 Volts DC (Tape)



## OPERATING INSTRUCTIONS

1. Firmly insert cartridge until it locks and unit is turned on.
2. Set operating controls to desired levels.
3. Push the program selector to play desired tracks or allow unit to select tracks automatically.
4. Remove cartridge to turn off unit.
5. Removing power from unit will automatically cause ejection of cartridge.

## 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 nonhardening grease on camming surfaces.

## HEAD DEMAGNETIZING

Demagnetize head at regular intervals and at any time unit is serviced. Avoid using ferrous materials near head while servicing unit.

## 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, 2546 A5 thru A10. GENERAL CEMENT: 8290, 8868, 9087 WALSCO: 2525, 2528, 2587				<b>PUSH-BUTTON ADJUSTMENT</b> 1. Pull button out. 2. Tune manually to desired station. 3. Press button in firmly. 4. Repeat for remaining buttons.	
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400 $\nu$ Mod.)	High freq. end stop.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy antenna to antenna receptacle.	1615KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat Step 2.					
3. Thru dummy antenna to antenna receptacle.	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 right side upper rear corner.					

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

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World Radio History

FORD MODEL T8MS (C8SA-18806-R)

## ADJUSTMENTS

ADJUST	REMARKS
Head Azimuth	Play a test cartridge, follow instructions with cartridge, and adjust B1 for maximum.
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B2 for proper response.
Solenoid Adjustment	Cycle head-shift mechanism, turn B3 in until cycling stops, and then turn B3 out 1/2 turn past point of restart of cycling.

## TROUBLE CHART

SYMPTOM	REMARKS
Capstan does not rotate.	<ol style="list-style-type: none"> <li>1. Belt (1) dirty, worn, or broken.</li> <li>2. Assembly (14) binding.</li> <li>3. Motor defective or not supplied with power.</li> </ol>
Track shift mechanism inoperative.	<ol style="list-style-type: none"> <li>1. Switch (S3) dirty.</li> <li>2. Cam (29) binding.</li> <li>3. Arms (18) and (20) binding.</li> <li>4. Solenoid (K1) defective, misadjusted, or not supplied with power.</li> <li>5. Cartridge defective.</li> </ol>
Wow or Flutter	<ol style="list-style-type: none"> <li>1. Belt (1) worn or dirty.</li> <li>2. Capstan or Assembly (14) dirty.</li> <li>3. Motor or motor control circuit defective.</li> <li>4. Bearing (25) defective.</li> <li>5. Cartridge defective.</li> <li>6. Assembly (16) binding or defective.</li> </ol>
Sound weak or distorted.	<ol style="list-style-type: none"> <li>1. Head (M1) dirty, misadjusted, or defective.</li> <li>2. Amplifier defective.</li> <li>3. Cartridge defective.</li> </ol>
Cartridge Ejector Malfunctioning	<ol style="list-style-type: none"> <li>1. Ejector Assembly (16) binding.</li> <li>2. Solenoid (M6) defective.</li> <li>3. Ejection circuit defective.</li> </ol>
Tape breaks or is pulled from cartridge.	<ol style="list-style-type: none"> <li>1. Cartridge defective.</li> <li>2. Capstan dirty or scored.</li> <li>3. Arm (12) bent or burred.</li> </ol>

## MECHANICAL PARTS LIST

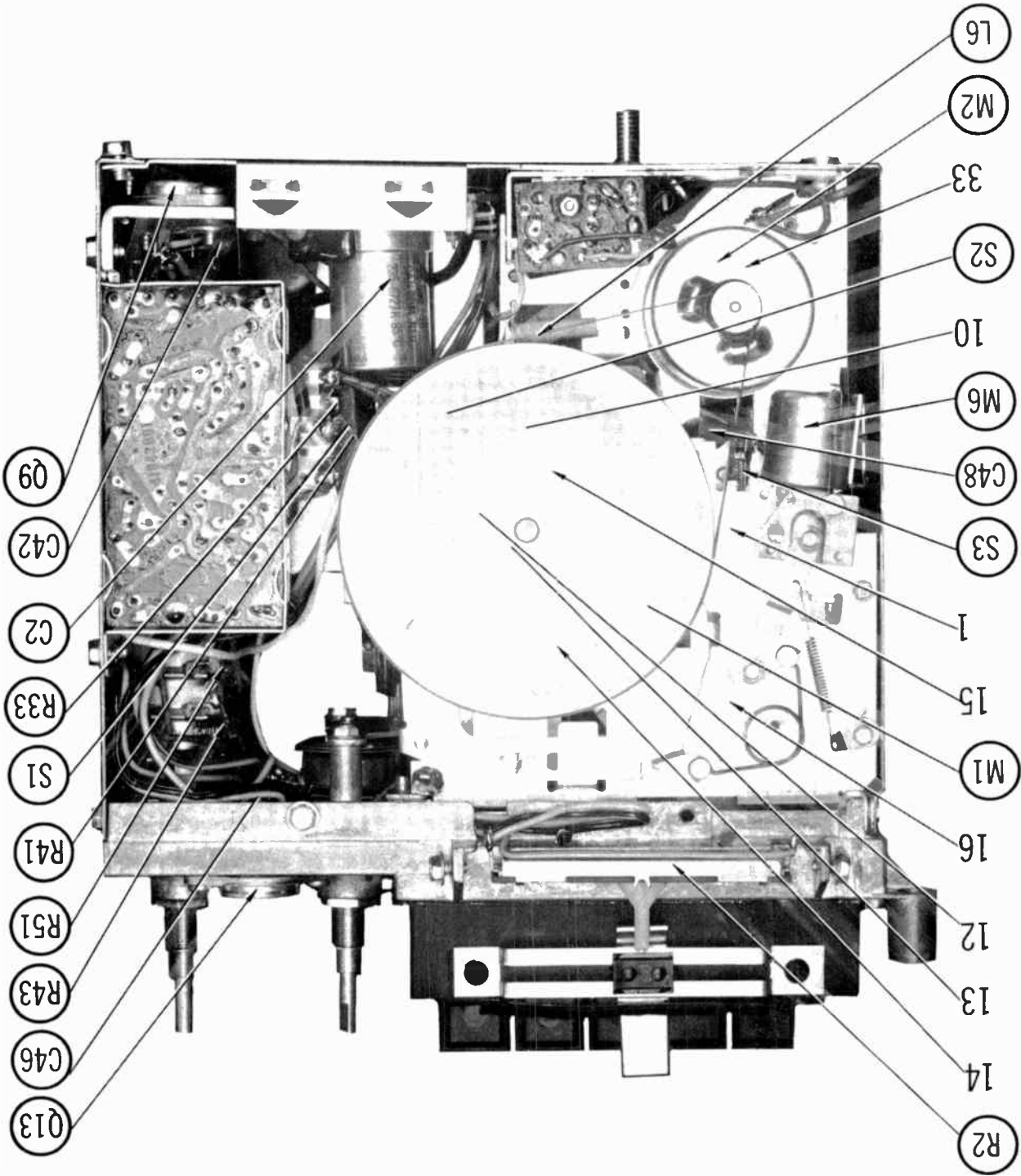
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	42-41225B01	Flywheel Belt	20	45-41230B01	Radius Arm (2 used)
2	7-43576A01	Motor Support (3 used)	21	46-40059A46	Head Retainer
3	46-40299B01	Solenoid Stop	22	41-40540B01	Head Tension Spring
4	41-40445B01	Plunger Return Spring	23	15-40059A60	Capstan Housing Assembly ①
5	47-40298B01	Solenoid Plunger	24	4-40409B01	Thrust Washer
6	41-40681B01	Pawl Tension Spring	25	43-40411B02	Thrust Bearing
7	55-40606B01	Pull Ratchet Pawl (Stamped "B")	26	49-41580B01	Cartridge Retaining Roller (2 used)
8	55-40605B01	Push Ratchet Pawl (Stamped "A")	27	47-42174B01	Cam Height Adj. Shaft (.186 dia.)
9	45-41364B01	Actuator Arm		47-40414B01	Cam Height Adj. Shaft (.124 dia.)
10	41-40444B01	Azimuth Tension Spring	28	41-41251B02	Cam Tension Spring ②
11	3-41697B01	Special Azimuth Adjust Screw		41-41251B01	Cam Tension Spring ③
12	45-40480B01	Microswitch Actuating Arm	29	45-40428B07	Ratchet Cam ②
13	4-10058A55	Non-Metallic Washer		45-40428B01	Ratchet Cam ③
14	49-41794B01	Flywheel and Shaft Assembly	30	4-40409B05	Thrust Washer ②
15	41-40805B01	Ejector Spring		4-40409B03	Thrust Washer ③
16	1-42101B87	Automatic Ejector and Bracket	31	43-40411B03	Thrust Bearing ②
17	46-42104B01	Tape Stop		43-40411B01	Thrust Bearing ③
18	45-41231B01	Radius Arm (2 used)	32	4-40409B04	Thrust Washer ②
19	42-41229B01	Radius Arm Retaining Clip (4 used)		4-40409B02	Thrust Washer ③
			33	26-41380B01	Motor Mounting Shield

① Includes Ref. Nos. 18, 19, 20, 21 and 22.

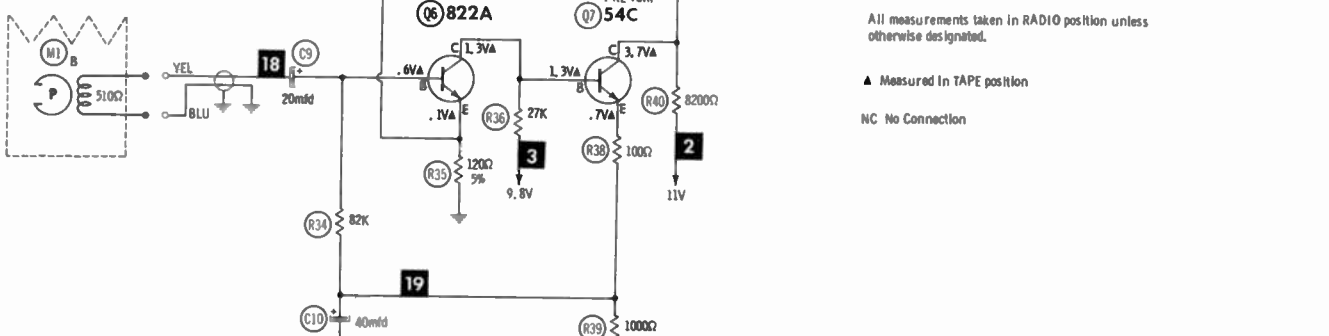
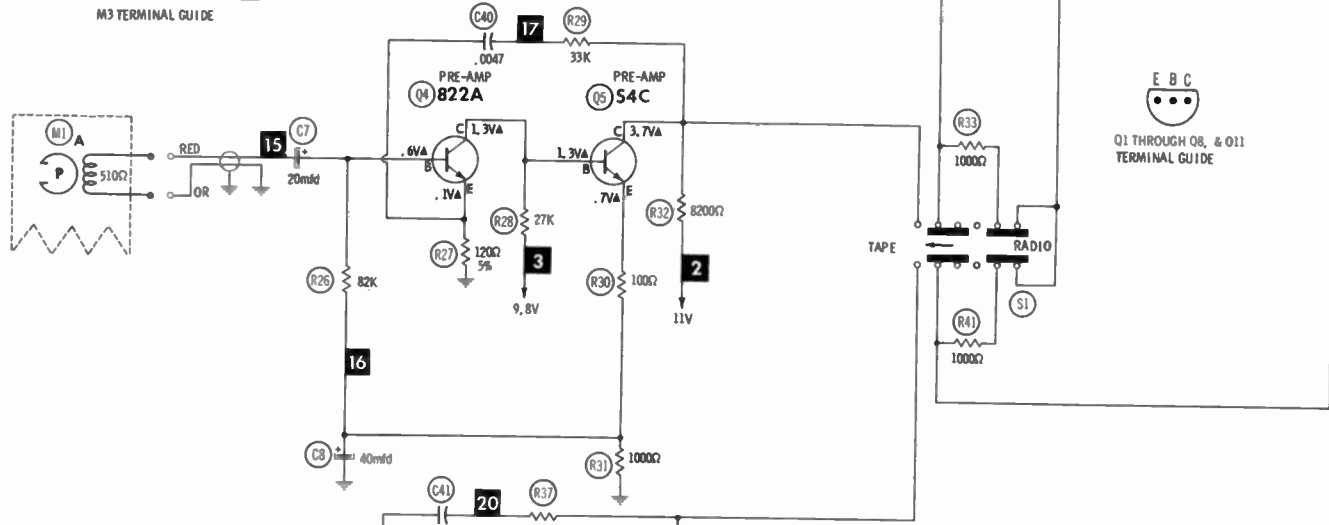
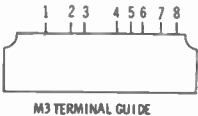
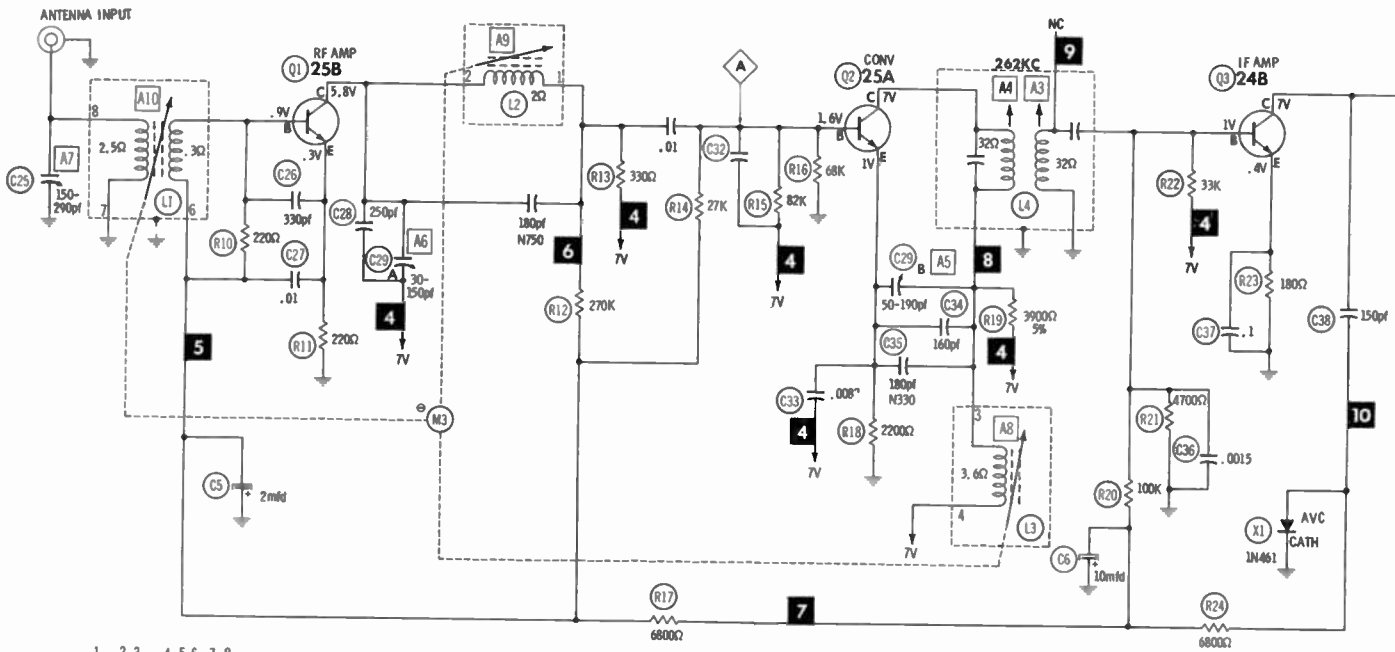
② Use with Shaft (.186 Dia.) Ref. No. 27.

③ Use with Shaft (.124 Dia.) Ref. No. 27.

FORD MODEL T8MS (C85A-18806-R)







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

All measurements taken in RADIO position unless otherwise designated.

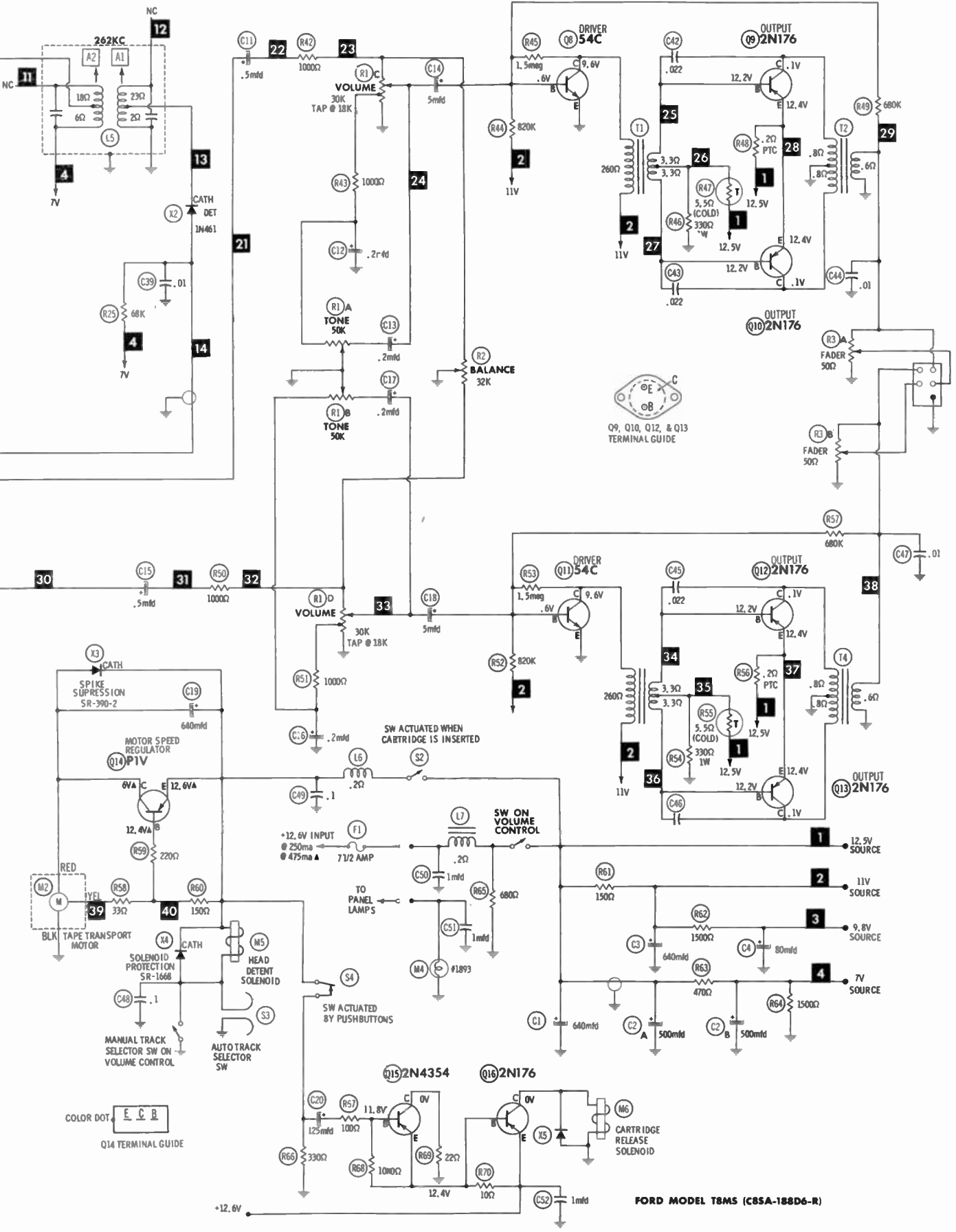
▲ Measured in TAPE position

NC No Connection

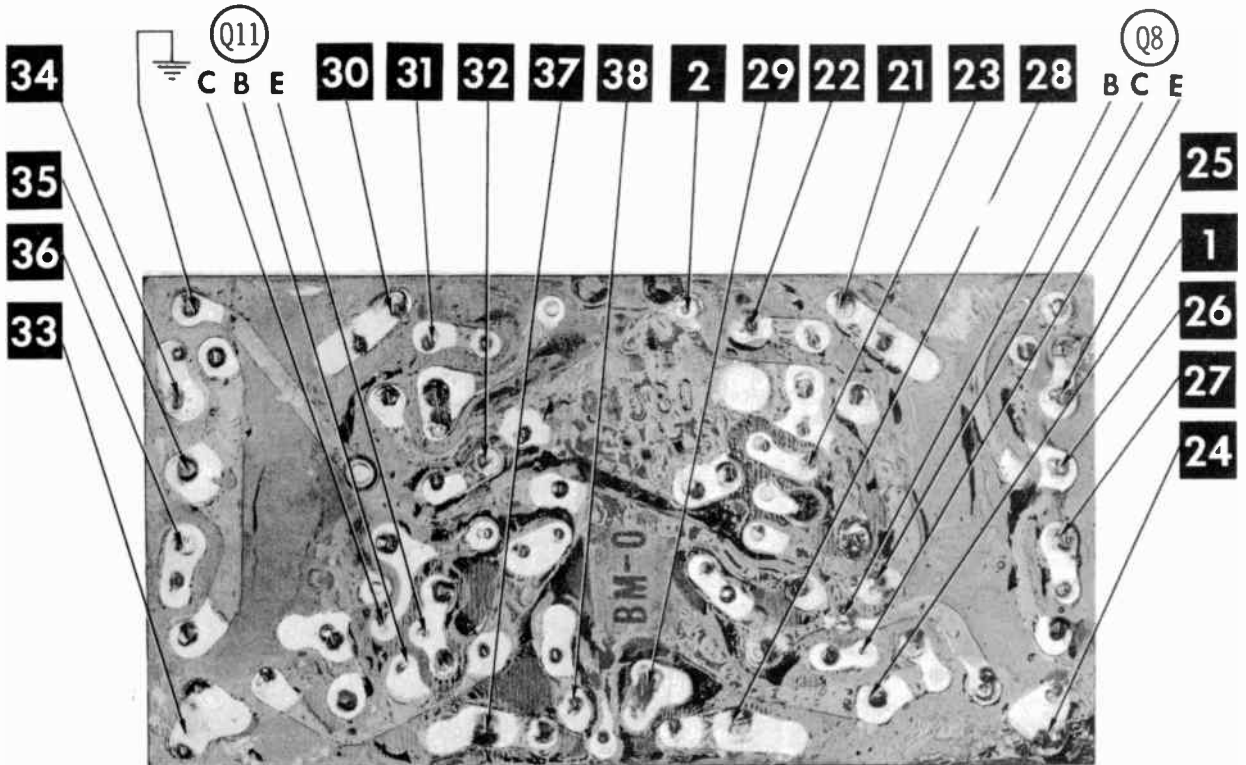
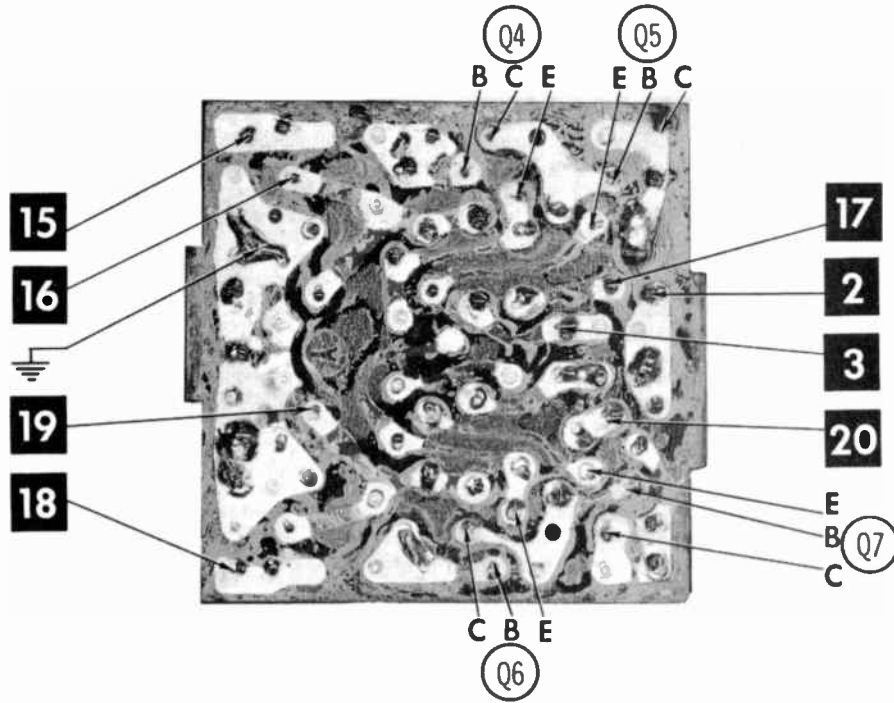
- ① See parts list
- 1. Voltage measurements taken with vacuum tube voltmeter.
- 2. All controls set for normal operation, no signal applied.
- 3. Measured values are from socket pin or terminal to common ground.
- 4. All terminals viewed from bottom unless otherwise designated.
- 5. Numbers assigned 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.

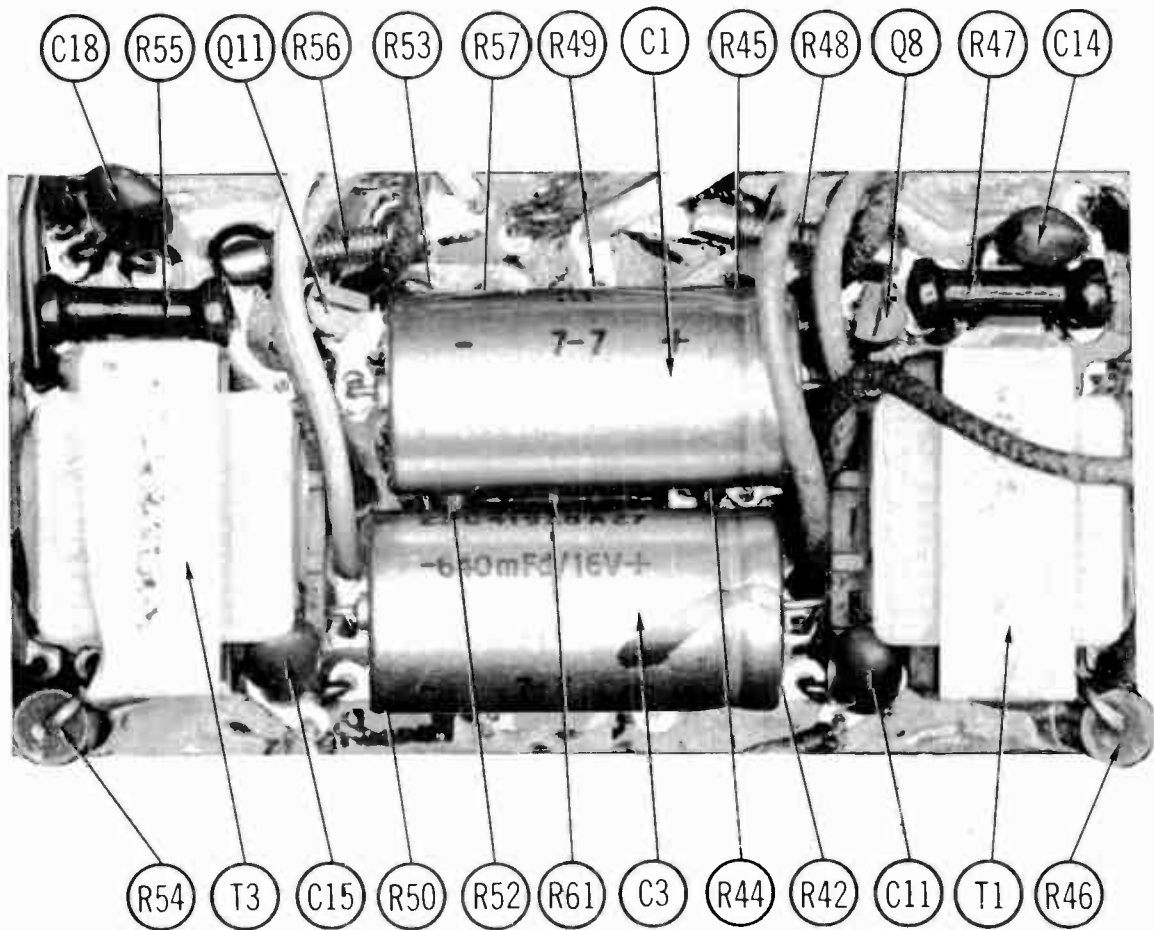
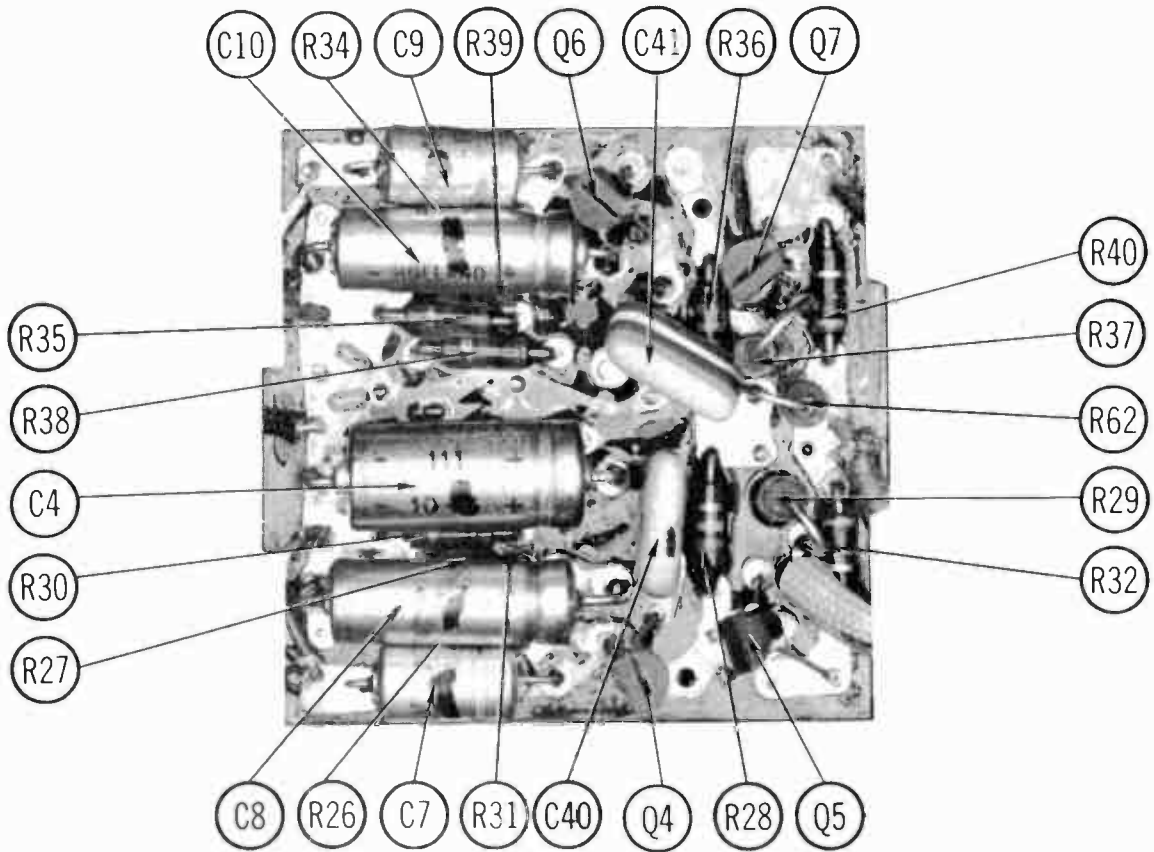
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**

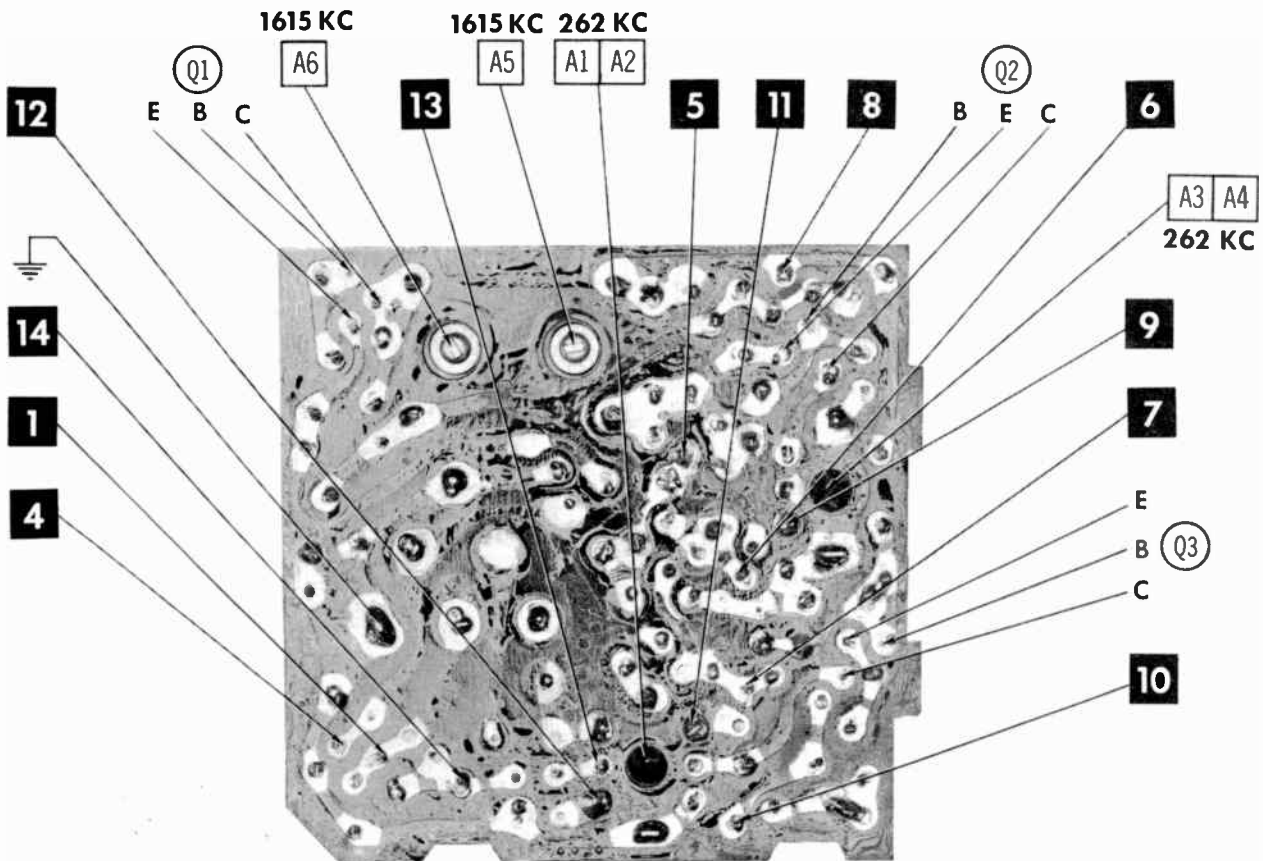
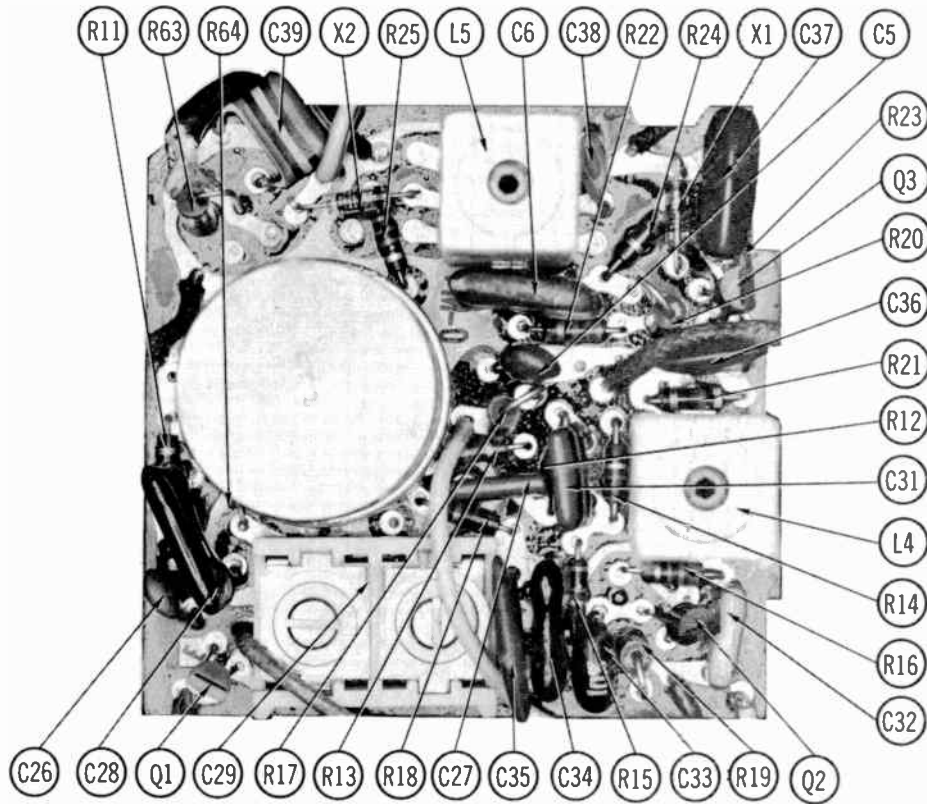
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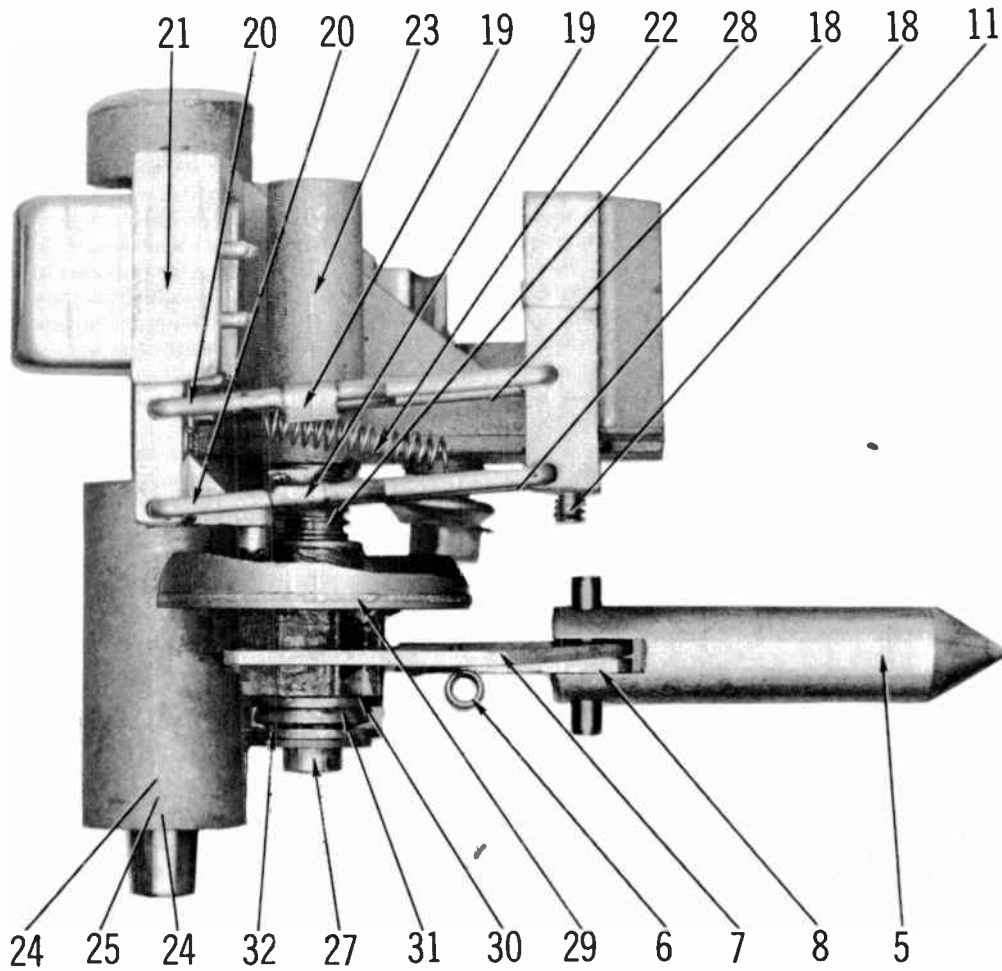
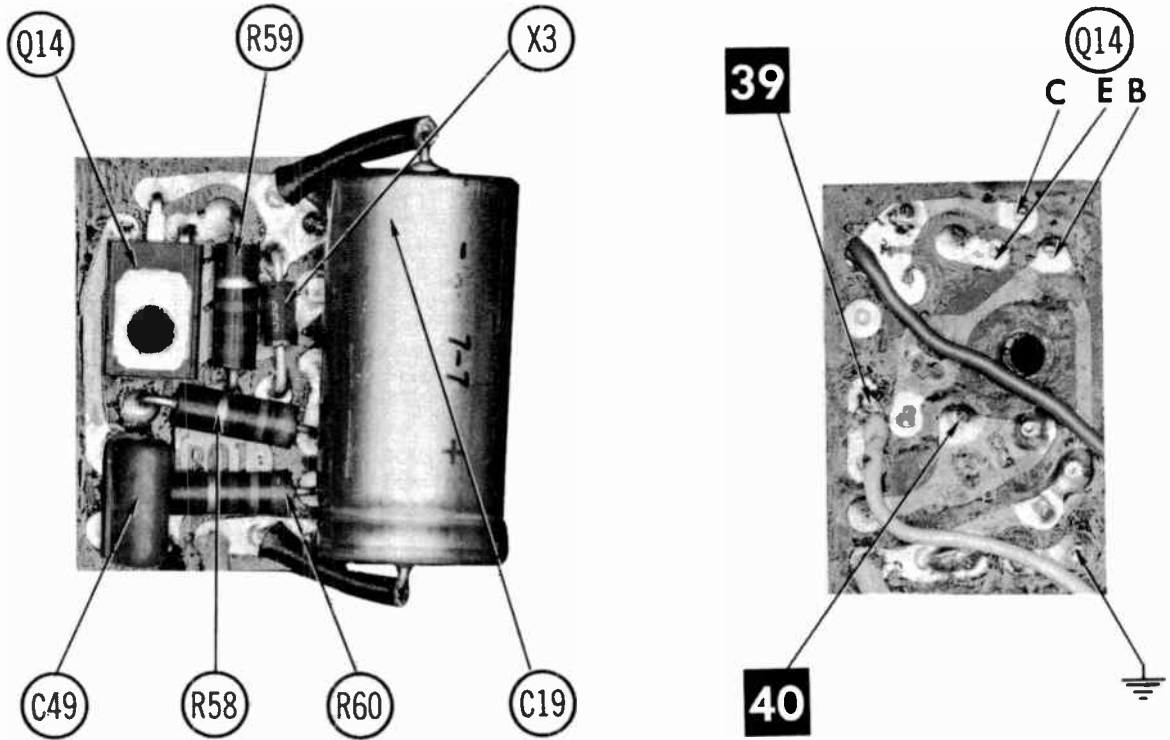
FORD MODEL T8MS (C8SA-18806-R)



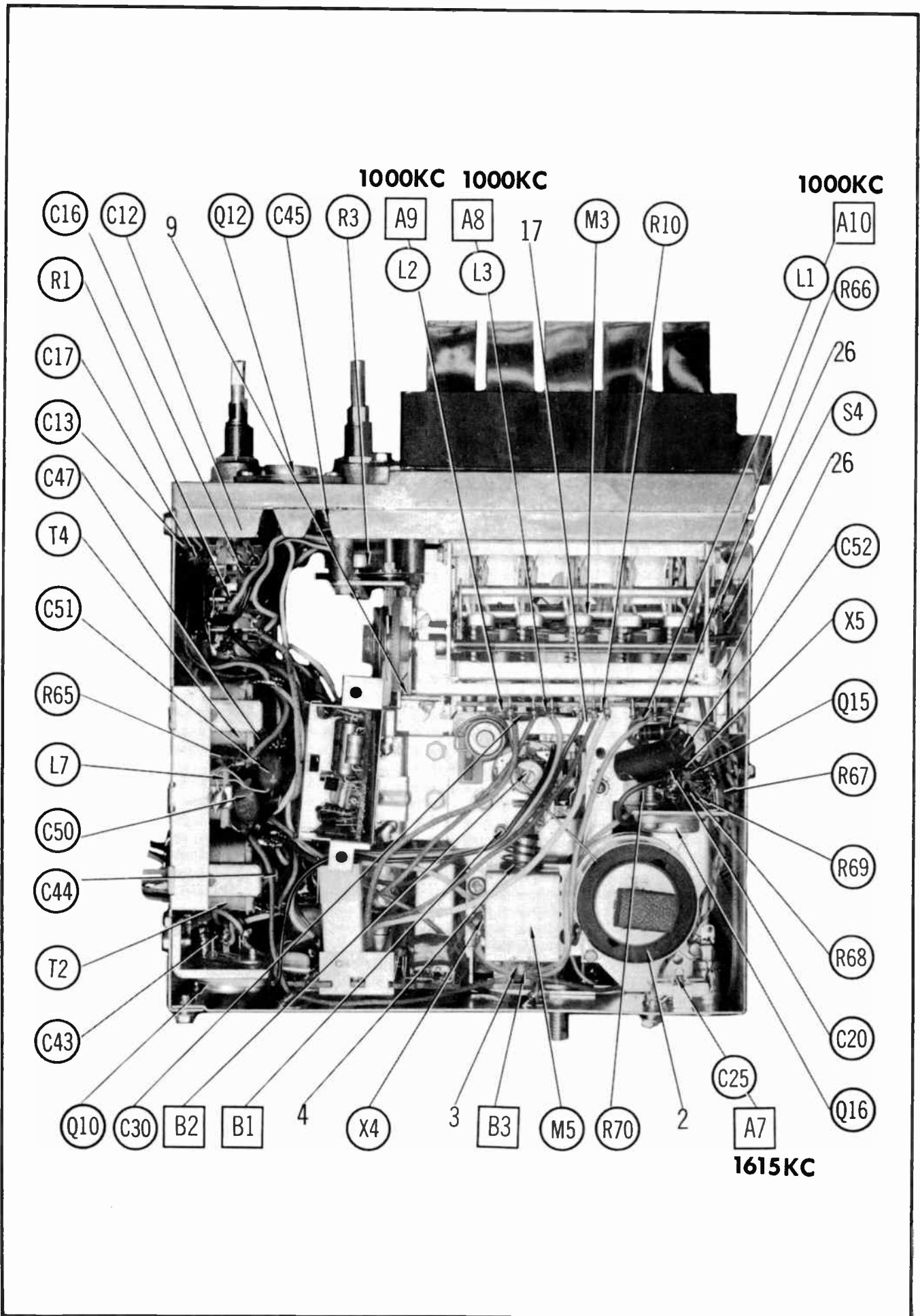




A Howard W. Sams **CIRCUITRACE** Photo



FORD MODEL 18MS (C8SA-18806-R)



# 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 Soms 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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	25B	RF Amp		DS-71	GE-11	TR-21	SK-3018	ECG 107
Q2	25A	Converter		DS-72	GE-11	TR-21	SK-3018	ECG 107
Q3	24B	IF Amp		DS-72	GE-11	TR-21	SK-3018	ECG 107
Q4	822A	Preamp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q5	54C	Preamp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q6	822A	Preamp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q7	54C	Preamp		DS-76	GE-10	TR-21	SK-3020	ECG 123
Q8	54C	Driver		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q9	2N176	Output		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q10	2N176	Output		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q11	54C	Driver		DS-66	GE-10	TR-21	SK-3020	ECG 123
Q12	2N176	Output		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q13	2N176	Output		DS-520	GE-3	TR-01	SK-3009	ECG 104
Q14	PIV	Motor Regulator						
Q15	2N4354	Trigger			GE-22	TR-19	SK-3025	ECG 106
Q16	2N176	Solenoid Pointer		DS-520	GE-3	TR-01	SK-3009	ECG 104

## 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.	SARKES TARZIAN PART No.	
X1	1N461 (48-134816)	1N82A	1N82A	ECG 112			
X2	1N461 (48-134816)	1N82A	1N82A	ECG 112			
X3	SR-390-2 (48-41508A01)						
X4	SR-1668 (48-41508A02)						
X5	SR-390-2						

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
			MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	640	16V	23C41928A27	PRS1220	EA15-500	BR500-15	QT1-30	TC1505A	TL-1166
C2A	500	16V	23C40302A07	PWH2-02-40				PF200.65	PCL-2177
B	500	16V							
C3	640	16V	23C41928A27	PRS1220	EA15-500	BR500-15	QT1-30	TC1505A	TL-1166
C4	80	16V	23C41928A23	CRE620A	EA30-100	NLW75-15	MT1-19	MTA80E15	TE-1161
C5	2	10V	23C43280A02	BCD12002	EA15-2	NLW2-50	MT1-1	PET1930	TL-1121
C6	10	6V	23C43280A03	CRE307A	EA6-10	NLW10-6	MT1-5	TT6X10	TE-1087
C7	20	16V	23C41928A24	CRE611A	EA15-25	NLW20-25	MT1-10	TT25X20	TL-1157
C8	40	16V	23C41928A20	CRE615A	EA30-50	NLW40-25	MT1-17	MTA40E30	TE-1209
C9	20	16V	23C41928A24	CRE611A	EA15-25	NLW20-25	MT1-10	TT25X20	TL-1157
C10	40	16V	23C41928A20	CRE615A	EA30-50	NLW40-25	MT1-17	MTA40E30	TE-1209
C11	.5	15V	23C43280A21	CRE450A	UK10-474	NLW1-50	MT1-1	TT15X1	TE-1148
C12	.2	15V	23C43280A19		UK20-204	TYR138D224K		TAS22M015P0A	
C13	.2	15V	23C43280A19		UK20-204	TYR138D224K		TAS22M015P0A	
C14	5	6V	23C43280A27	BCD6005	EP30-5	NLW5-15	MT1-3	PET1210	TL-1084
C15	.5	15V	23C43280A21	CRE450A	UK10-474	NLW1-50	MT1-1	TT15X1	TE-1148
C16	.2	15V	23C43280A19		UK20-204	TYR138DR22K		TAS22M015P0A	
C17	.2	15V	23C43280A19		UK20-204	TYR138DR22K		TAS22M015P0A	
C18	5	6V	23C43280A27	BCD6005	EP30-5	NLW5-15	MT1-3	PET1210	TL-1084
C19	640	16V	23C41928A27	PRS1220	EA15-500	BR500-15	QT1-30	TC1505A	TL-1166
C20	125	16V	23C41928A38	CRE626A		NLW125-15	MT1-23	MTA125F35	TE-1212



# 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.
C25	150-290	#20-40746A06				467		
C26	330		GPD X5F331K	DD-331	JBZ601Y331K	CCD-331	GP333	5GA-T33
C27	.01 100V	(2)	DBE6S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C28	250	(2)	GPD X5F251K	DD-251		CCD-251	GP325	5GA-T25
C29A	30-150	#20-40254A21						
B	50-190							
C30	180 N750	(2)		TCN-180			CN7318	10TCU-T18
C31	.01 100V		DBE6S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C32	.0047 100V	(2)	DBE6D47	CPR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C33	.0082 50V	(2)	DBE6D82	CPR-8200J	DPMS6D82	6DP-2-822		6PS-D82
C34	160		ADM-10-161	CPR-160J	CD15F161J500	DM-15-161	SX316	MS-316
C35	180 N330					*	*	10TCS-T18
C36	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C37	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C38	150	(2)	GPD X5F151K	DD-151	RR05CW151K	CCD-151	GP315	5GA-T15
C39	.01 100V		DBE6S1	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10
C40	.0047 100V	(2)	DBE6D47	CPR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C41	.0047 100V	(2)	DBE6D47	CPR-4700J	DMF6D47	6DP-1-472	PVC6247	6PS-D47
C42	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C43	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C44	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C45	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C46	.022 100V		DBE6S22	DD-203	DMF4S22	4DP-2-223	PVC6122	4PS-S22
C47	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C48	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C49	.1 100V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C50	1 200V		V16121	DD-103	WMF2W1	1DP-5-105	PVC21	2TM-M1
C51	1 200V		V16121	DD-103	WMF2W1	1DP-5-105	PVC21	2TM-M1
C52	1 200V		V16121	DD-103	WMF2W1	1DP-5-105	PVC21	2TM-M1

# Motorola Part Number.

(2) Nominal Value.

\* Not normally in distributors 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.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	50K	18C41849B01				
B	Tone	50K					
C	Manual Track Selector Switch						
D	Volume/Switch	30K Tap @ 18K					
R2	Balance	32K	18C41661B01				
R3A	Fader	50 2W	18B41339B01				
B	Fader	50 2W					

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MOTOROLA PART No.			IRC PART No.	WORKMAN PART No.	MOTOROLA PART No.
R47	5.5 (cold)			6-565324	R55	5.5 (cold)			6-565324
R48	.2 (PTC)			17-40756A06	R56	.2 (PTC)			17-40756A06

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		MOTOROLA PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Antenna	(1)			
L2	RF	(1)			
L3	Oscillator	(1)			
L4	Input IF	24D42517A27		8002	
L5	Output IF	24D42517A28		8010	
L6	RF Choke (1.5uh)	2440788A04	19-1001	4604	T856

(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~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	250ma (475ma in Tape Player position)	.2	5mh	25D40907B13	C-4095	TC-2	TR-154	TY17XT	

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	1	1	25D42917A14					
T3	8	1	1	25D42917A14					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	16 CT	8	25D41586B03					
T4	16 CT	8	25D41586B03					

## SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA			NOTES
			MOTOROLA PART No.	JENSEN PART No.	QUAM PART No.	
	4" X 10" PM	8 ohms	50-43880A01			
	5 1/4" PM	8 ohms	50-43907A01			

## 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	SFE 7 1/2		In Fuse Block	SFE 7 1/2		30707.5		

## TAPE HEADS

ITEM NO.	MEASURED			PART NO.	NORTRONICS PART NO.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	400mh			59-43641A02	5800*	8-Track Stereo Play * Use original mounting.

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M2	Motor	59-41739B01	AT-635
M3	Tuner	1-43500A27	
	Coil Assembly	1-43700B61	
M4	Dial Lamp #1893	65-40304A01	
M5	Solenoid	24-42064B01	
M6	Cartridge Release Solenoid	80-42058B01	
S1	Radio-Tape Switch	40B#1363B01	
S2	Micro Switch	40-40406B01	
S3	Auto-Track Selector Switch	40-4D296B01	
S4	Cartridge Release Switch	40-41853B01	

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

ITEM	PART No.	ITEM	PART No.
Bezel	1-41500B84	Knob, Tone or Fader	49-42288B01
Door	15-41349B01	Knob, Balance	38-41646B01
Knob, Tuning or Volume	36-42287B01	Push Button	38-41351B01

FORD MODEL 18MS (CSA-18806-R)



PHOTOFACT<sup>®</sup> with

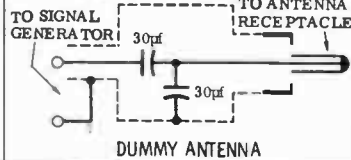
CIRCUITRACE<sup>®</sup>



TRADE NAME : John Deere Model 5SMJD (AR42431)  
Tractor  
SUPPLIER : For Current Address, See Annual Index  
TYPE SET : 6-Transistor AM Receiver  
POWER SUPPLY : 12 Volt Storage Battery  
RATING : .7 Amp @ 12.6 Volts DC

## ALIGNMENT INSTRUCTIONS

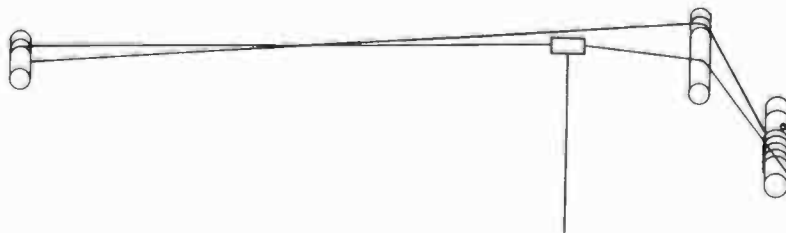
Check for specified source voltage.  
Use only enough generator output to provide a usable indication.  
Suggested Alignment Tools:  
A1 thru A4: GENERAL CEMENT: 9296, 9297, 9300  
WALSCO: 2510, 2546, 2547  
A5, A6, A7: GENERAL CEMENT: 8290, 8868, 9087  
WALSCO: 2525, 2528, 2587

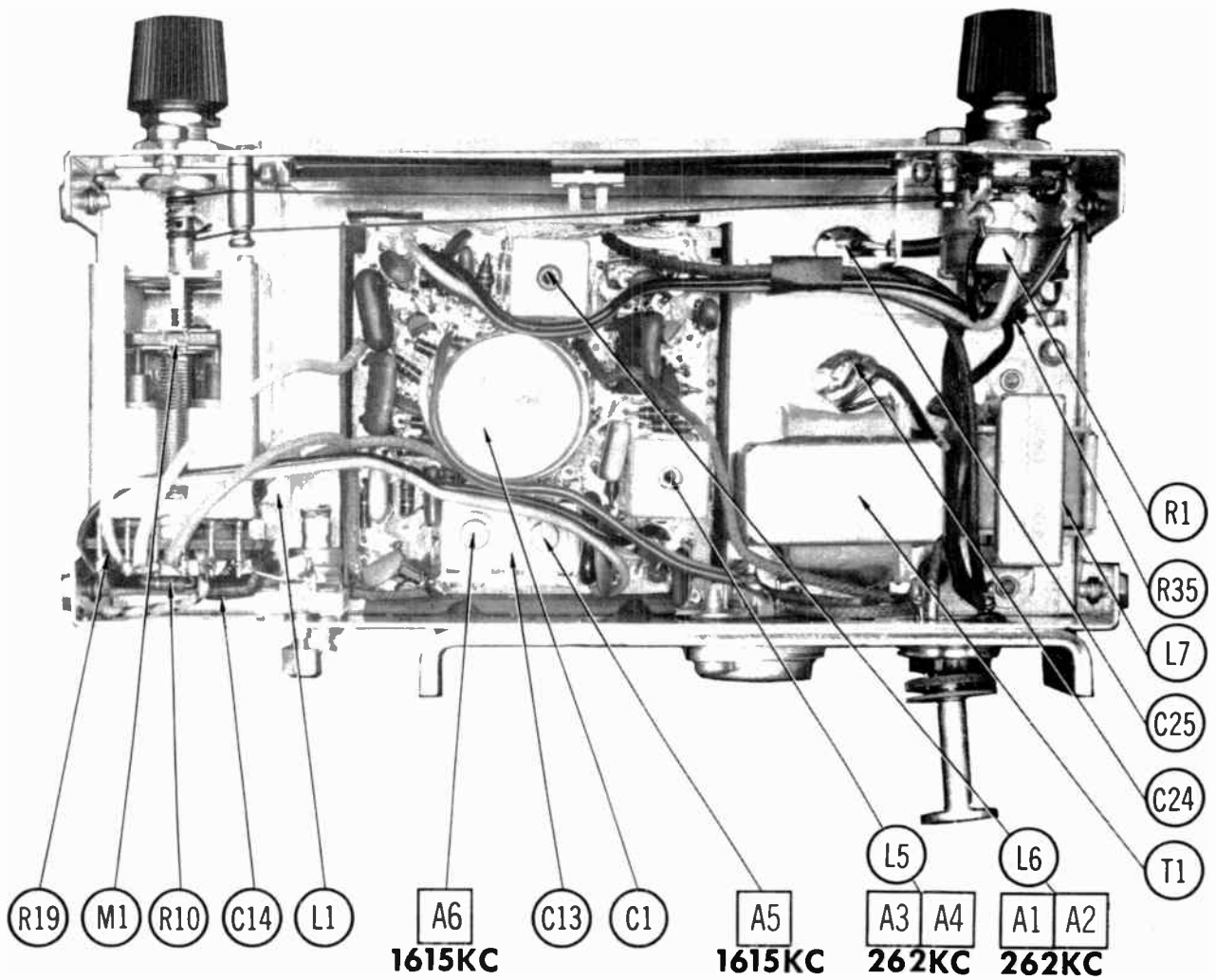
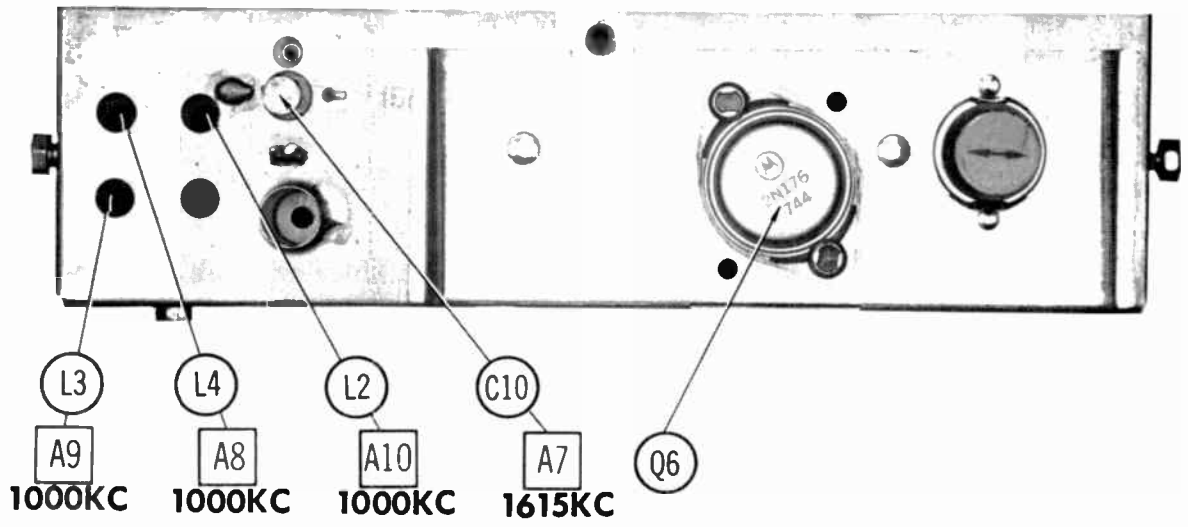


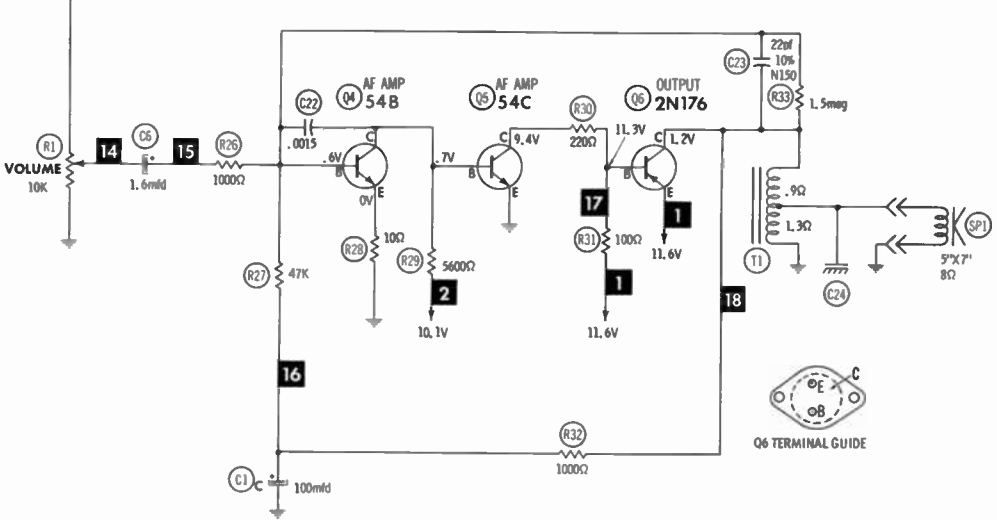
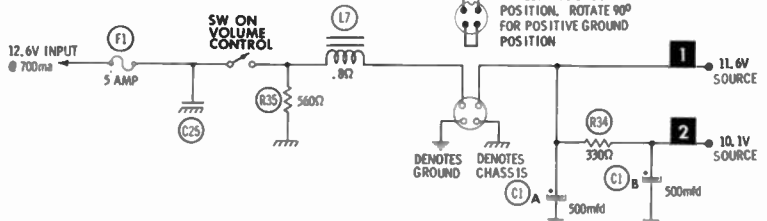
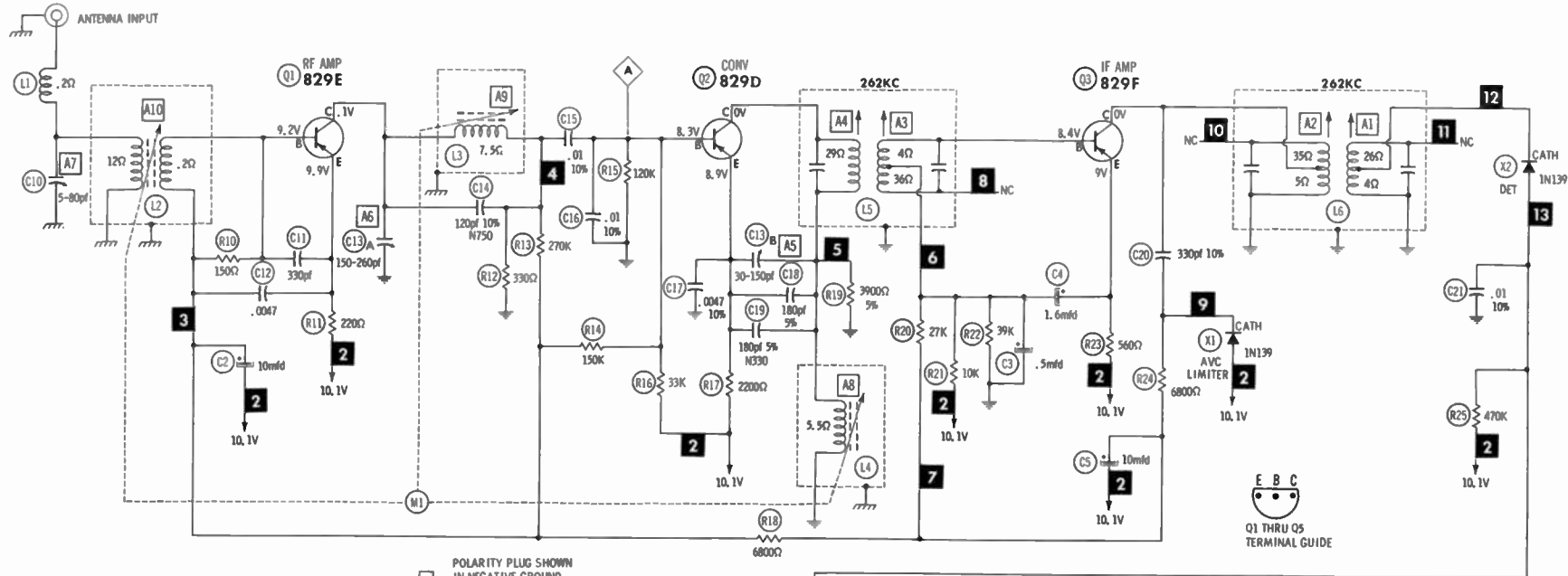
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High freq. end stop.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy antenna to antenna receptacle.	1615KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat Step 2.					
3. Thru dummy antenna to antenna receptacle.	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 in rear, above antenna receptacle.

## DIAL CORD STRINGING





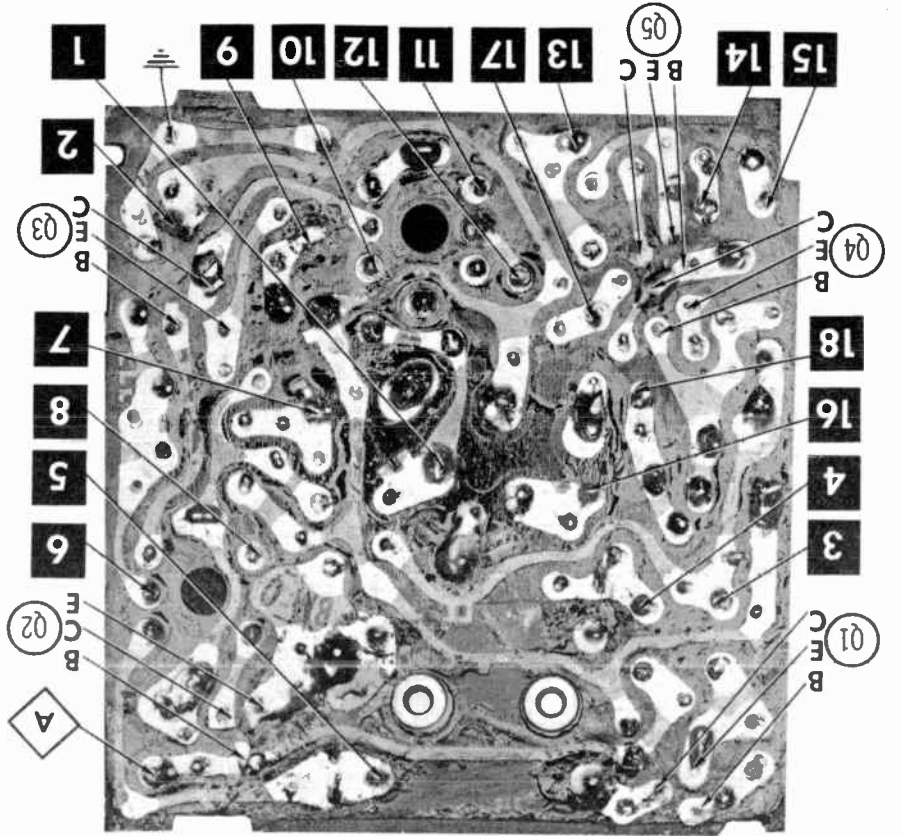
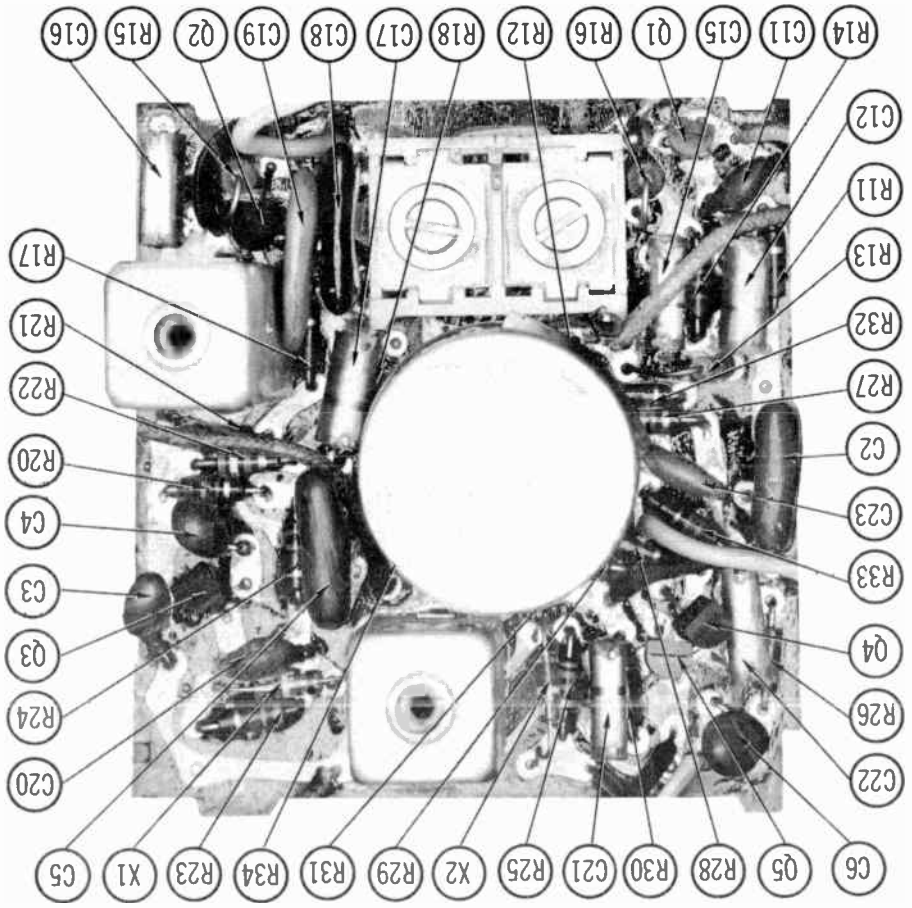


Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

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

A PHOTOFAC STANDARD NOTATION SCHEMATIC with **CIRCUITRACE**  
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JOHN DEERE MODEL 55MJD (AR42431)



# 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					
			MFR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	829E	RF Amp			GE-21	TR-19		ECG 106
Q2	829D	Converter			GE-21	TR-19		ECG 106
Q3	829F	IF Amp			GE-21	TR-19		ECG 106
Q4	54B	AF Amp		D8-66	GE-20	TR-21	SK-3020	ECG 123
Q5	54C	AF Amp		D8-66	GE-20	TR-21	SK-3020	ECG 123
Q6	2N176	Output *		DS-520	GE-3	TR-01	SK-3009	ECG 104

## 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.	SARKES TARZIAN PART No.	
X1	1N139	1N295	1N295	ECG 109			
X2	1N139	1N295	1N295	ECG 109			

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		MOTOROLA PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	500 16V	23C40302A04	PWH3-00-95				FPF300, 18	PCL-3026, 11
B	500 16V							
C	100 16V							
C2	10 25V	23C41928A17①	CRE607A	EA30-10	NLW10-25	MT1-5	TT25X10	TE-1204
C3	.5 15V	23C43280A21	CRE450A		NLW1-50	MT1-1	TT15X1	TE-1146
C4	1.6 25V	23C41928A09②	CRE601A	EA30-2	NLW2-50	MT1-1	TT50X2	TL-1201
C5	10 25V	23C41928A17①	CRE607A	EA30-10	NLW10-25	MT1-5	TT25X10	TE-1204
C6	1.6 25V	23C41928A09②	CRE601A	EA30-2	NLW2-50	MT1-1	TT50X2	TL-1201

① When ordering from Motorola, use Part Number 23D65282A21.  
② When ordering from Motorola, use Part Number 23C41928A05.

## CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	5-80	#20K534810						
C11	330		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C12	.0047 10%			DD-472	JBT601YP472K	CCD-472	GP247	10TS-D47
C13A	150-260	#20C40254A35						
B	30-150							
C14	120 N750 10%					CCTN-121	CN7312	10TCU-T12
C15	.01 10%			DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C16	.01 10%			DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C17	.0047 10%			DD-472	JBT601YP472K	CCD-472	GP247	10TS-D47
C18	180 5%		ADM-15-181	DTZ-180	CD10E181J500	DM-10-181J	*	MS-316
C19	180 N330 5%					*	*	10TCS-T18
C20	330 10%		DI-330	DD-331	JBZ601YP331K	CCD-331	GP331	10TS-T33
C21	.01 10%			DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C22	.0015 10%			DD-152		CCD-152	GP215	10TS-D15
C23	22 N150 10%					*	*	10TCP-Q22
C24		#64A41868A03						
C25		#64A41868A03						

# Motorola Part Number

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

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			MOTOROLA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	10K	18C42352A01	F2-10K, SFS212, KR-4, BA008, CA005		QCB2①, B13-116, TM6, 76-1 or (BU3, CF61, SS4, GC)*	RU14A, SL41②, SD1000, US41

① Use QCB2 instead of TM Plate in TM8.

② Alter Bushing to meet requirements.

\* "SNAPTROL"

# 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				
		MOTOROLA PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke	24C40788A04	19-1001	BC-562	4604	T656
L2	Antenna	①				
L3	RF	①				
L4	Oscillator	①				
L5	1st IF	24D42517A25 ②			8009	
L6	2nd IF	24D42517A26			8010	

① Part of M1 (Coils and Mounting Plate Part Number 1V43800A55)

② Alternate Part Number 24D42517A23

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	.7A	.8Ω	10MH	25C41871A06	C-4095	TC-2	TR-154	TY17XT	

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MOTOROLA PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	18Ω	8Ω	25D43922A03					

## SPEAKER

ITEM No.	TYPE				REPLACEMENT DATA			NOTES
					PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5" X 7"	PM	8Ω		50D43968A01	P5X7V8	57A21Z8	

## FUSE DEVICES

ITEM No.	DESCRIPTION		REPLACEMENT DATA						
			PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
			DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	
F1	1AG	5 Amp	65S136018	9C41095A29	AGA 5	HAF	201005	155004	

## MISCELLANEOUS

ITEM No.	PART NAME	MOTOROLA PART No.	NOTES
M1	Tuner Coll and Mounting Plate Assembly	77D42322A02 1V43800A55	MT581

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

ITEM	PART No.	ITEM	PART No.
Dial Scale Knob, Tuning or Volume	34C42361A01 36B41561B01	Dial Pointer	52B42386A01

## 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.)

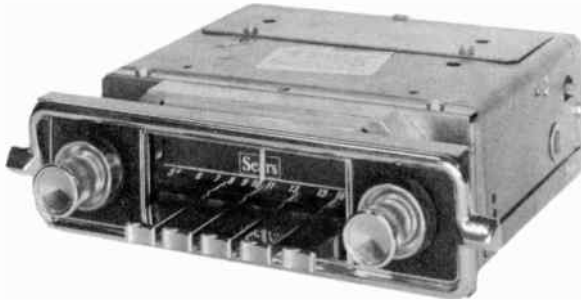
JOHN DEERE MODEL SSMJD (AR42431)





PHOTOFACT<sup>®</sup> with

CIRCUITRACE<sup>®</sup>

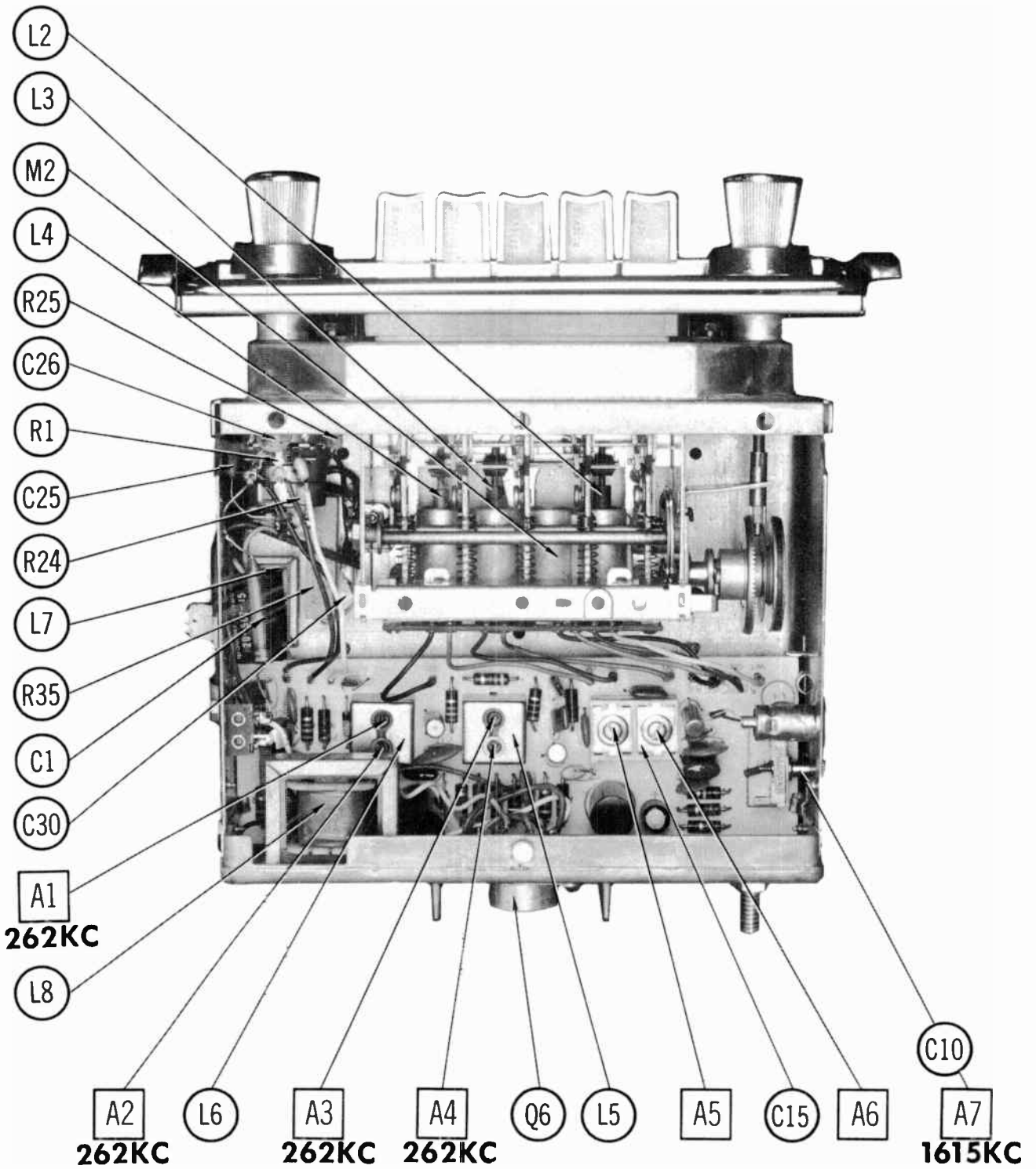


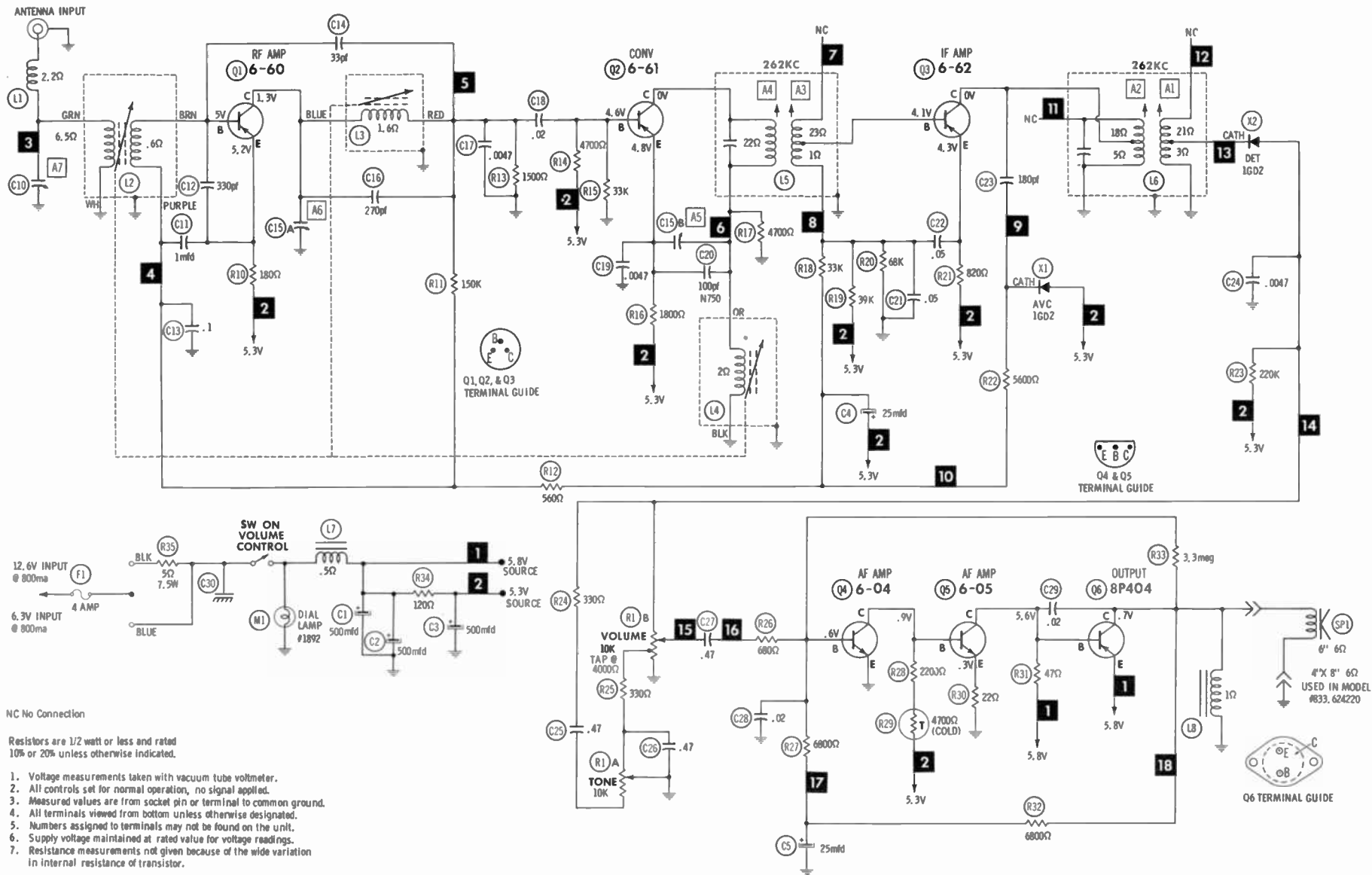
TRADE NAME : Sears Models 833.62421, 833.624220  
 1965/67 Volkswagen  
 SUPPLIER : For Current Address, See Annual Index  
 TYPE SET : 6-Transistor AM Receiver  
 POWER SUPPLY : 6 or 12 Volts Storage Battery  
 RATING : .8 Amp @ 6.3 or 12.6 Volts DC

SEARS MODELS 833.62421, 833.624220

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage. Use only enough generator output to provide a usable indication. Suggested Alignment Tools:  A1 thru A7.                    GENERAL CEMENT: 9440 WALSCO: 2501					<b>PUSH-BUTTON ADJUSTMENT</b>  1. Pull button out. 2. Tune manually to desired station. 3. Press button in firmly. 4. Repeat for remaining buttons.	
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS	
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High freq. end stop.	Output meter across voice coll.	A1, A2, A3, A4	Adjust for maximum.	
2. Thru dummy antenna to antenna receptacle.	1615KC	"	"	A5, A6, A7	"	
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 right side above antenna receptacle.						





NC No Connection

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

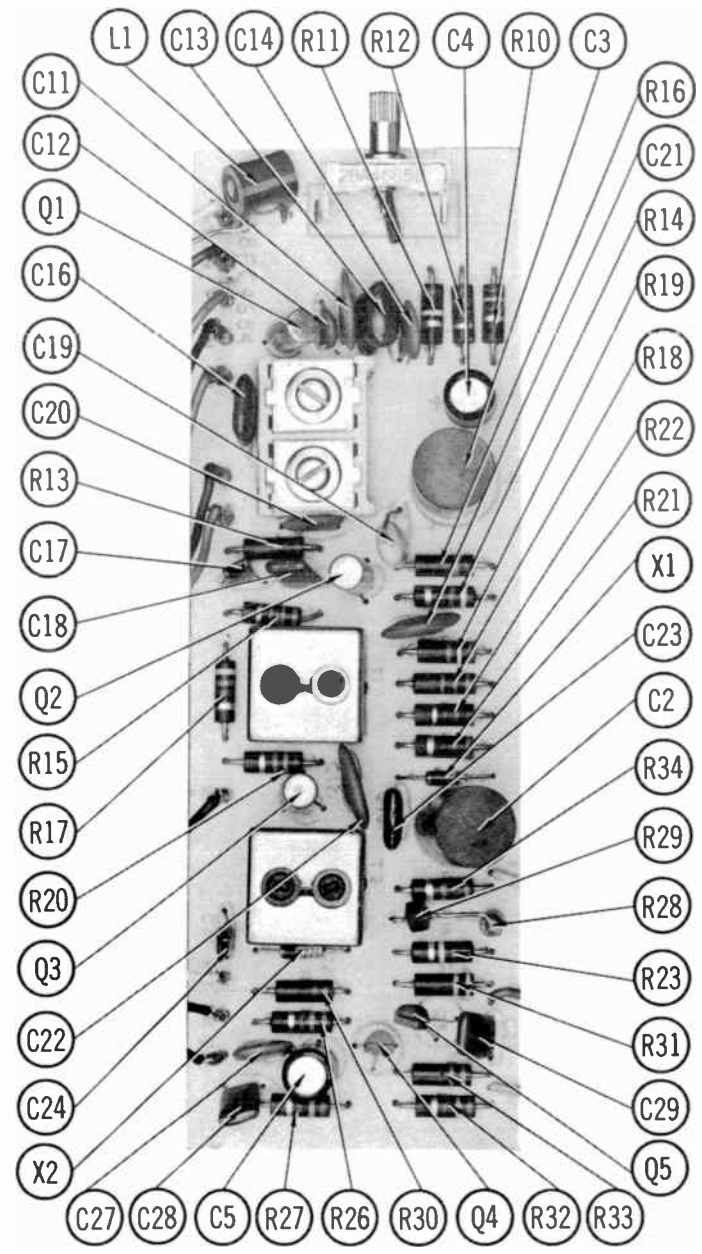
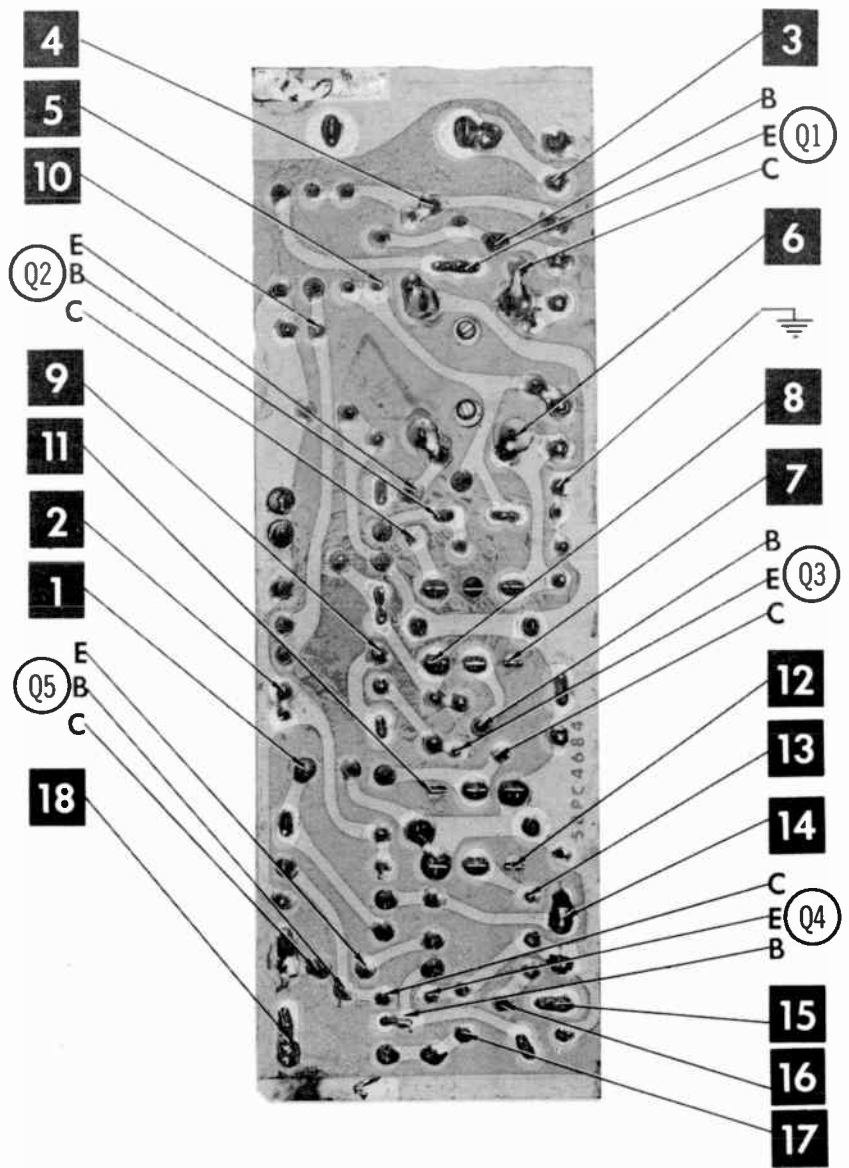
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found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

A PHOTOFAC STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**

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SEARS MODELS 833.62421, 833.62422D



# 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.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2N1637	RF Amp.	6-60	DS-25	GE-9A	TR-11	SK-3008	ECG 126
Q2	2N1639	Converter	6-61	DS-25	GE-9A	TR-11	SK-3008	ECG 126
Q3	2N1638	IF Amp.	6-62	DS-25	GE-9A	TR-11	SK-3008	ECG 126
Q4		AF Amp.	6-05	DS-66	GE-20	TR-21	SK-3020	ECG 123
Q5		AF Amp.	6-04	DS-66	GE-20	TR-21	SK-3020	ECG 123
Q6	8P404 (2N176)	Output *		DS-520	GE-21	TR-01	SK-3009	ECG 104

\* 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.	SARKES TARZIAN PART No.	
X1	1GD2 (1N295)	1N295	1N295	ECG 109			
X2	1GD2 (1N295)	1N295	1N295	ECG 109			

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		SEARS 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	20-507-15PC	BCD15500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C2	500 15V	20-507-15PC	BCD15500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C3	500 15V	20-507-15PC	BCD15500	EA15-500	BR500-15	QT1-30	MTV500DN15	TL-1166
C4	25 15V	20-256-15PC	BCD15025	EP15-25	NLW25-15	MT1-10	MTV25CB35	TL-1157.1
C5	25 15V	20-256-15PC	BCD15025	EP15-25	NLW25-15	MT1-10	MTV25CB35	TL-1157.1

## 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		#28A4685A						
C11	1mf			UK-105	HXC3ROXR105P		MAG31	HY-135
C12	.330		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP330	SGA-T30
C13	.1		TTP-1	CK-203	HOV101ZV104Z		TA010	TG-P10
C14	33 NPO		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C15A		#28A4290						
C16	270			DD-271	CD15F271J500	CCD-271	GP327	5GA-T27
C17	.0047		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C18	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C19	.0047 400V		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C20	100 N750		N750-DI 100	DTN-100	CX601UJ100K	CCTN-101	CN7310	10TCU-T10
C21	.05		GPD Z5V503P	DD-503	HOV101ZV503Z	CCD-503	TA150	SGA-S50
C22	.05		GPD Z5V503P	DD-503	HOV101ZV503Z	CCD-503	TA150	SGA-S50
C23	180		ADM-10-181	CPR-180J	CD10E181J500	DM-15-181	SK318	MS-318
C24	.0047		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C25	.47			UK10-474	HCS3ROXR474P		MAG12047	HY-330
C26	.47			UK10-474	HCS3ROXR474P		MAG12047	HY-330
C27	.47			UK10-474	HCS3ROXR474P		MAG12047	HY-330
C28	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C29	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C30		#43-215						

# Sears Part Number.

## 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	10K 10K Tap @ 4000 ohms	80A454S	F1-10K,R16-10K, FFS114,RFS206, BB108,SB004,KR-1		*QJ-1689A	P14L,4112,SH41, RU752T53,OX1750, IS2250,US41

\* "CONCENTRIKIT" Equivalent: K8 Kit with Base Elements and Shafts: B11-116,P17-123 (Panel),B21-115X,R9-202 (Rear), S8 (1) (Bushing), N4 (Space Nut), 76-1 (Switch)

"SNAPTROL" Equivalent: BU8(1),CF9,CR48T,SF14,SR50,N4,GC.  
(1) Alter Bushing to meet requirement.

# 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	RF Choke (6.2uh)	14-6.2	19-1004	4610	T859
L2	Antenna	(1)			
L3	RF	(1)			
L4	Oscillator	(1)			
L5	Input IF	14A3233B			
L6	Output IF	14A3234B			

(1) Part of M2.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.			IRC PART No.	WORKMAN PART No.	MFR. PART No.
R29	4700 ohms (Cold)			51RS2					

## 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	800ma	.5 ohm	10mh	75A3082	C-4095	TC-2	TR-155	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	8mh	75A2057	C-4095	TC-2	TR-155	TY17XT	

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	6" PM 4" x 8" PM	6 ohms 6 ohms	73B5024 73B3485	C6T8	6A1526

## FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	
F1	AGW 4 Amps.	108-400	12A5300	AGW 4	HDH	303004	155009	

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1 M2	Dial Lamp Tuner	TS-44 78B4848	CHICAGO MINIATURE Replacement CM 1892

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

ITEM	PART No.	ITEM	PART No.
Knob, Tuning or Volume	48A3417	Escutcheon	54D4808
Knob, Tone	48A1063-1	Pushbutton	55A3896
Knob, Dummy	48A1063-1A		

## 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. 8861 (3/8 In.) or 8670 (3/4 In.)

SEARS MODELS 833.62421, 833.624220



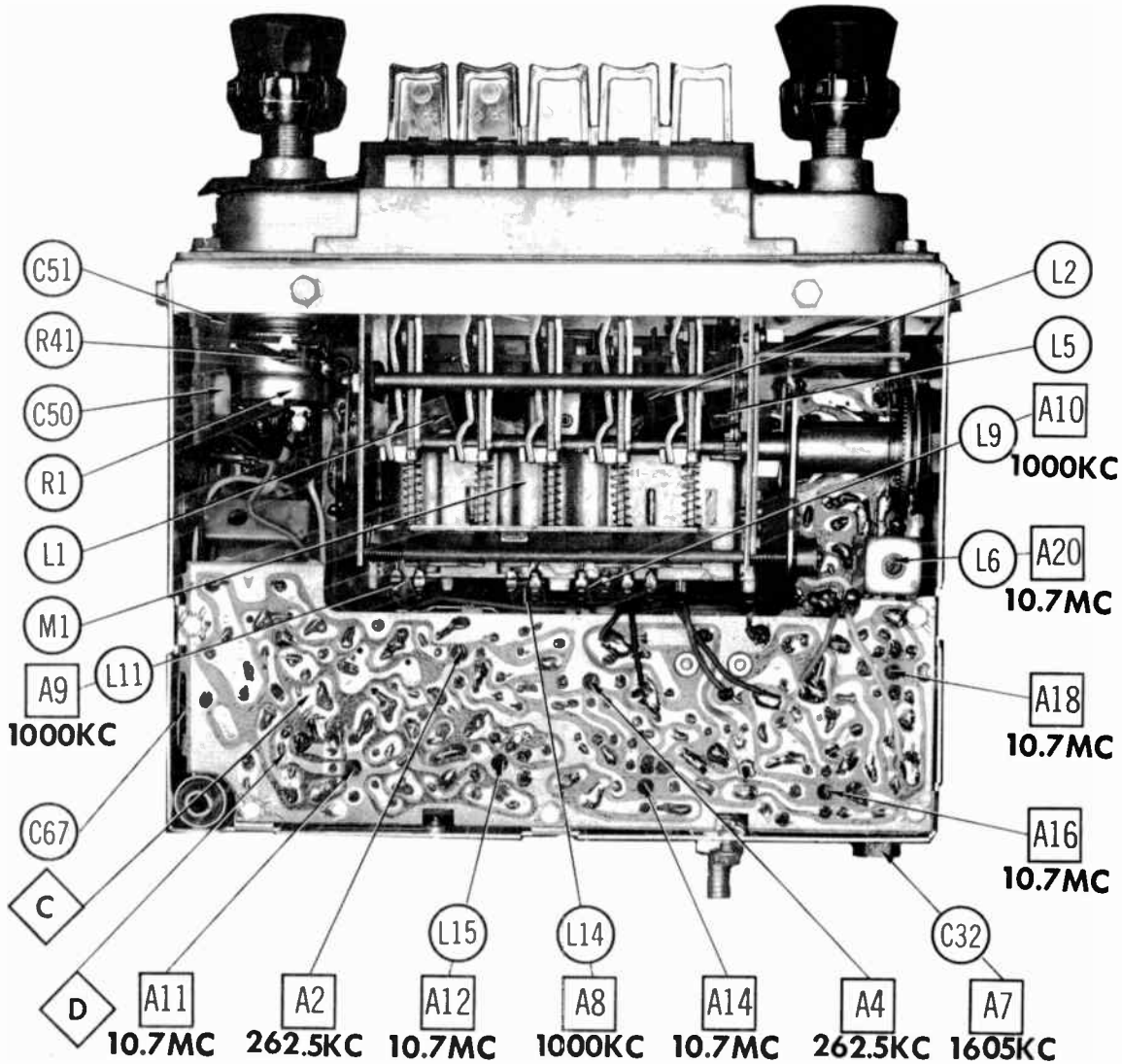
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CIRCUITRACE<sup>®</sup>



TRADE NAME : Triumph Model 7FBTRX (1967 Triumph)  
 SUPPLIER : For Current Address, See Annual Index  
 TYPE SET : 11-Transistor AM-FM Receiver  
 POWER SUPPLY : 12 Volts Storage Battery  
 RATING : .25 Amp. @ 12.6 Volts DC

TRIUMPH MODEL 7FBTRX



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

# ALIGNMENT INSTRUCTIONS

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

A1 thru A23. GENERAL CEMENT: 9440  
WALSCO: 2501

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1.	High side thru .1mfd to point $\text{ⓐ}$ , low side to ground.	262.5KC (400% Mod.)	High Freq. End Stop.	Output Meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1605KC	"	"	A5, A6, A7	"
Step 3 is not necessary unless tuner has been tampered with or associated components have been replaced. IF necessary, back tuning cores (A8, A9, A10) out of coils but not out of forms. Repeat step 2.						
3.	Thru dummy (Fig. 1) to antenna receptacle.	1000KC	Tune to Signal.	Output Meter across voice coil.	A8, A9, A10	Adjust for maximum. Repeat steps 2 & 3 until no further improvement is noted.
With radio installed in car and antenna extended 30', tune in a weak station near 1400KC and adjust A7 for maximum output.						

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

High side thru .01mfd to point  $\text{ⓑ}$ , low side to ground.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point $\text{ⓓ}$ ; common to ground.	A11, A12, A13, A14, A15, A16, A17, A18, A19, A20.	Adjust for maximum.
5.	"	"	DC probe to point $\text{ⓔ}$ ; common to ground.	A21.	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

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

High side thru .01mfd to point  $\text{ⓑ}$ , low side to ground. Use only enough marker signal to obtain indication. Use 60% frequency modulated signal with 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
4.	10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point $\text{ⓓ}$ ; low side to ground.	A11, A12, A13, A14, A15, A16, A17, A18, A19, A20.	Adjust for maximum gain and symmetry of response similar to Fig. 2 with marker as shown.
5.	"	"	Vert. amp. to point $\text{ⓔ}$ ; low side to ground.	A21.	Adjust A21 (Secondary) to place marker at center of crossover lines similar to Fig. 3. Adjust A 11 (Primary) for maximum amplitude and straightness of crossover lines.

## FM RF ALIGNMENT

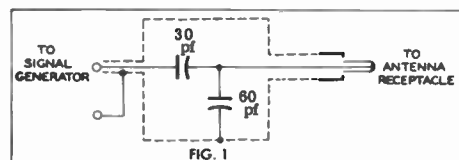
Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead.

	GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
6.	106.5MC	106.5MC	DC probe of VTVM to point $\text{ⓔ}$ ; common to ground.	A22, A23, A24.	Adjust for maximum.

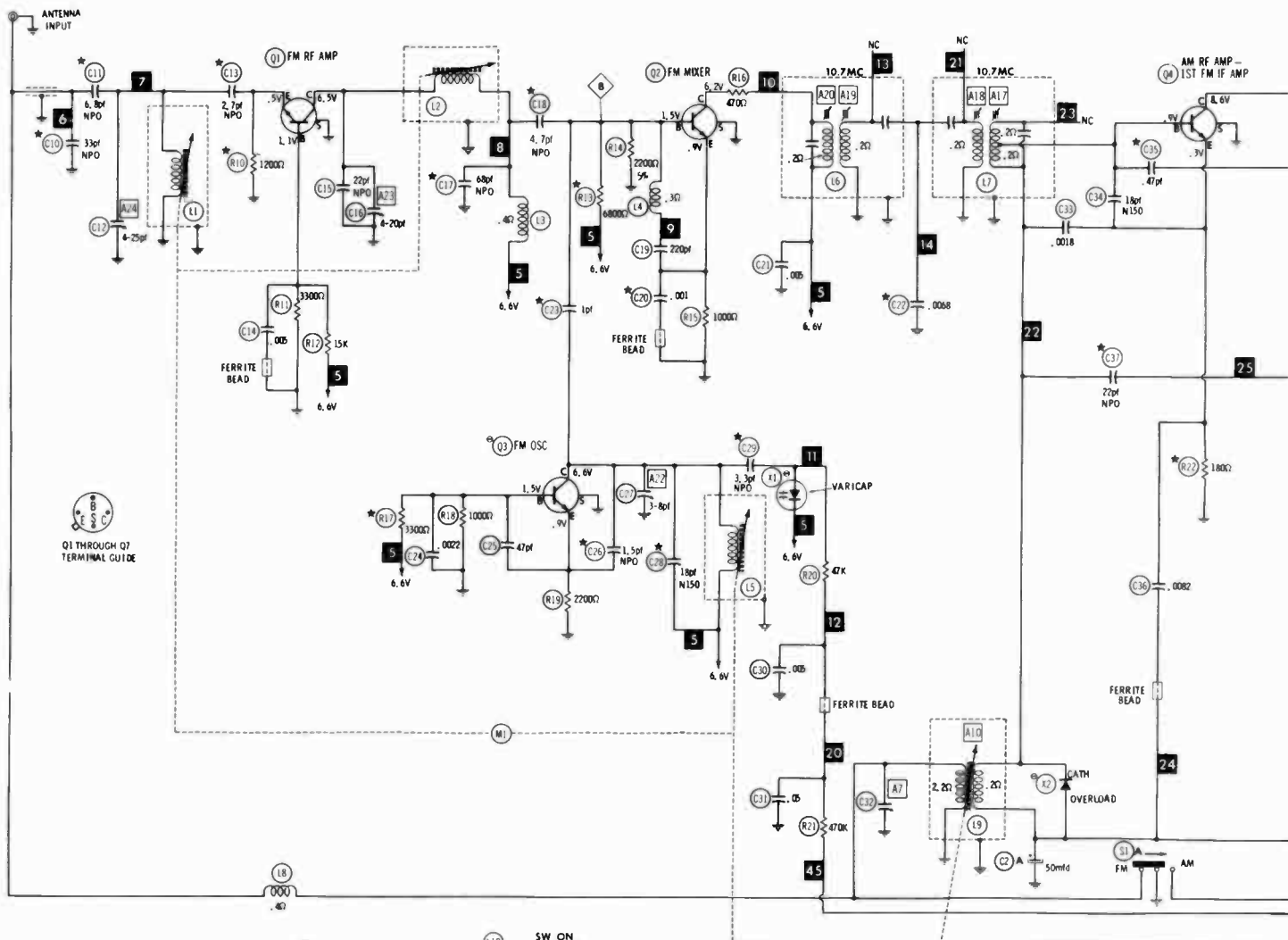
Antenna Adjustment (A7) located right rear.

### PUSH-BUTTON ADJUSTMENT

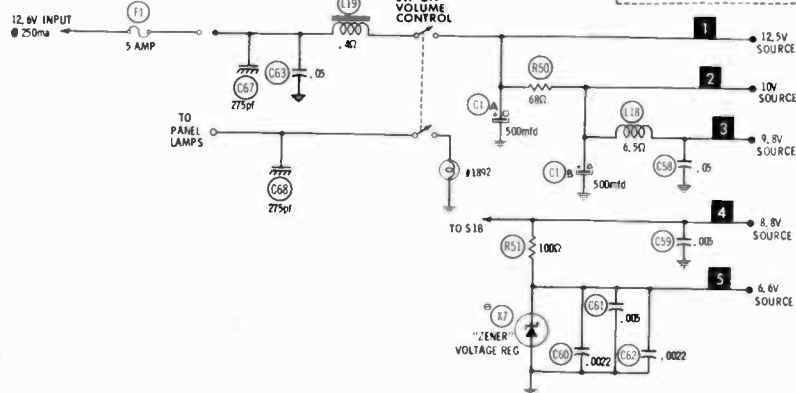
1. Pull button out.
2. Tune manually to desired station.
3. Press button in firmly.
4. Repeat for remaining buttons.







Q1 THROUGH Q7  
TERMINAL GUIDE



All measurements taken in "FM" position unless otherwise designated.

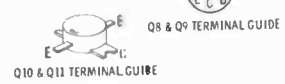
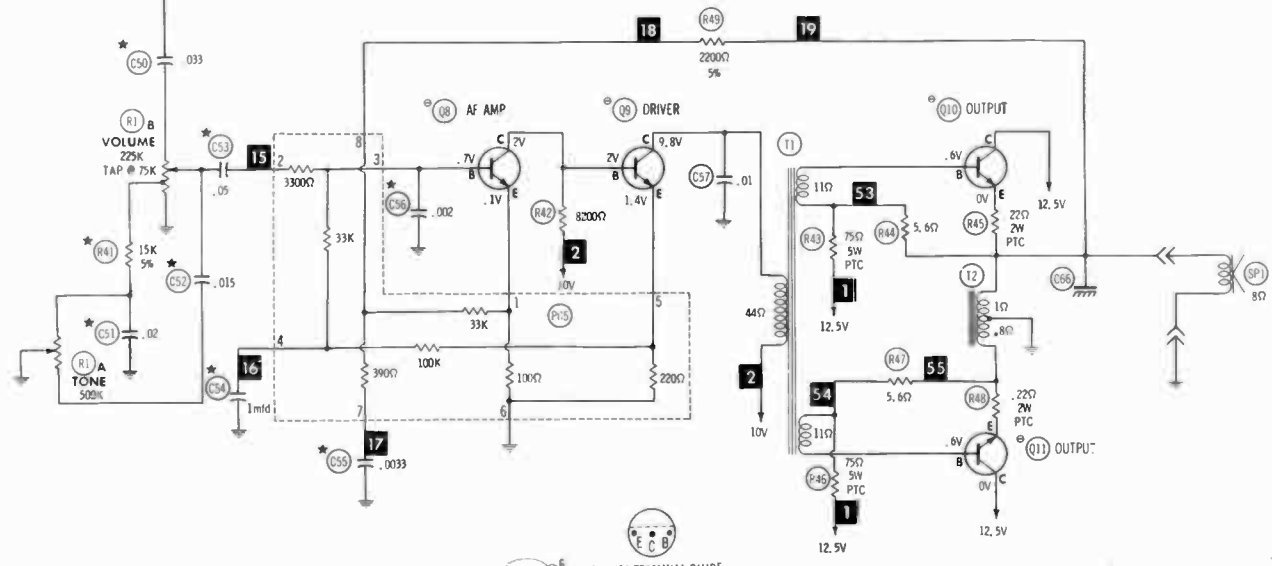
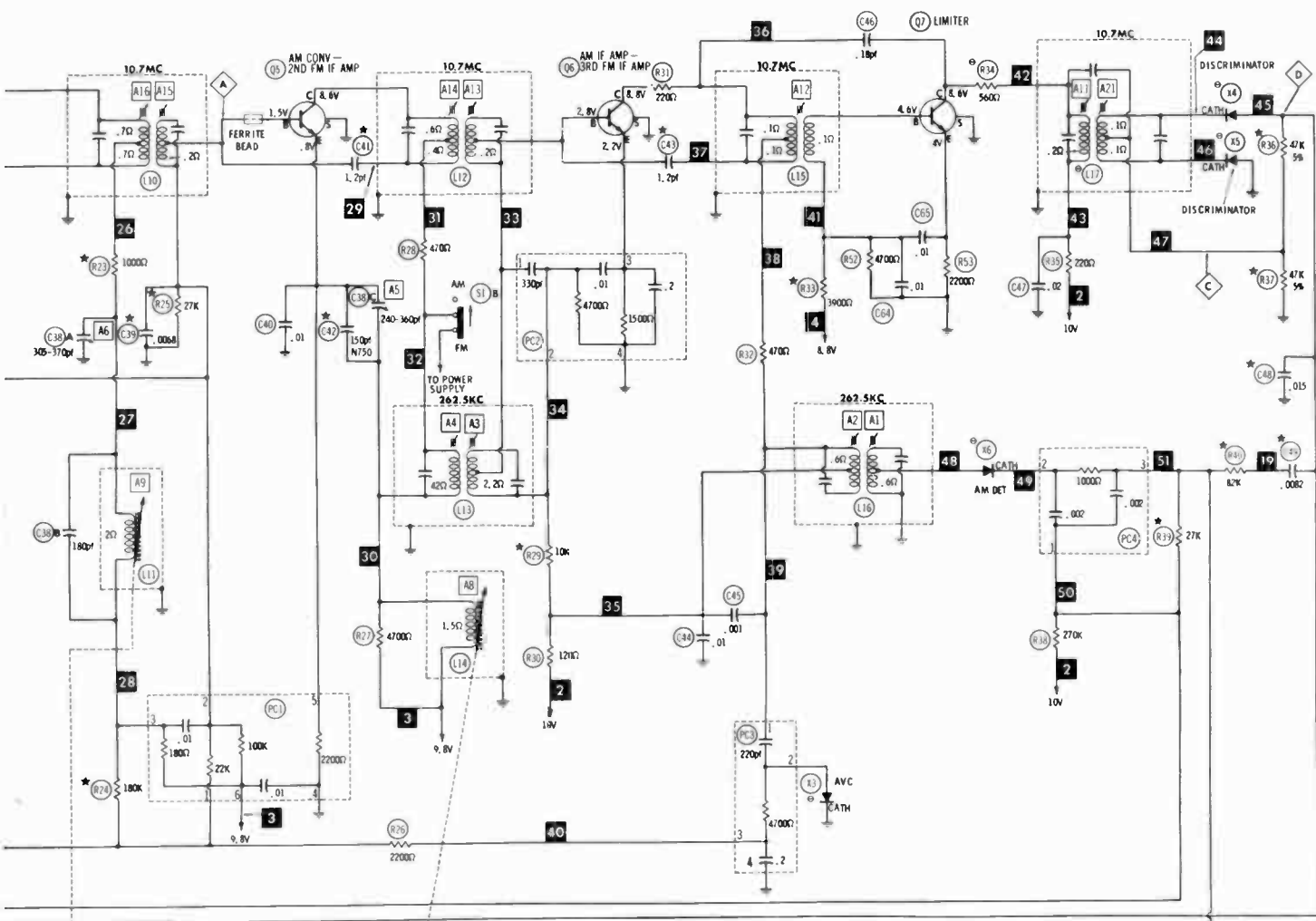
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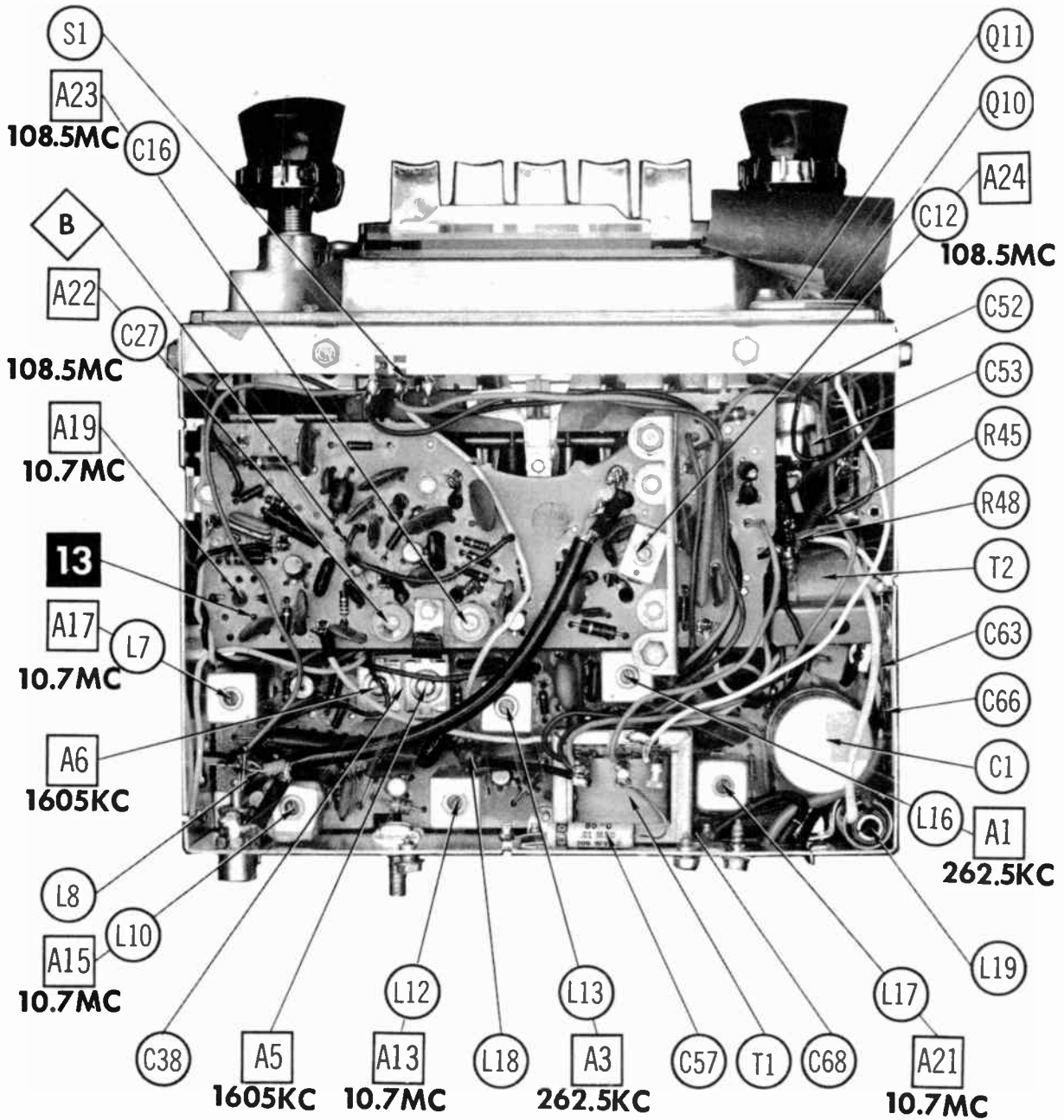
\* Nominal value, may vary.

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

- ⊙ 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 CIRCUITRACE  
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44 50 43 47 2 45 20 1 19 53 52 54

42

46

Q7  
C  
E  
B

41

38

36

37

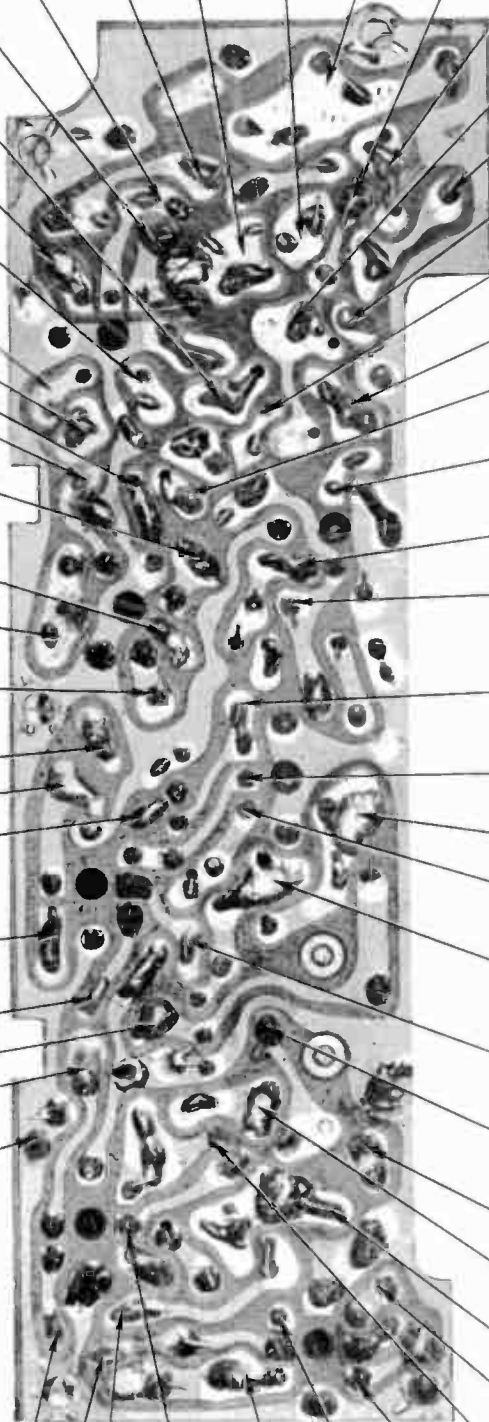
Q6  
C  
B  
E

29

Q5  
C  
E  
B



Q4  
C  
B  
E



55

49

51

4

48

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35

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32

3

31

27

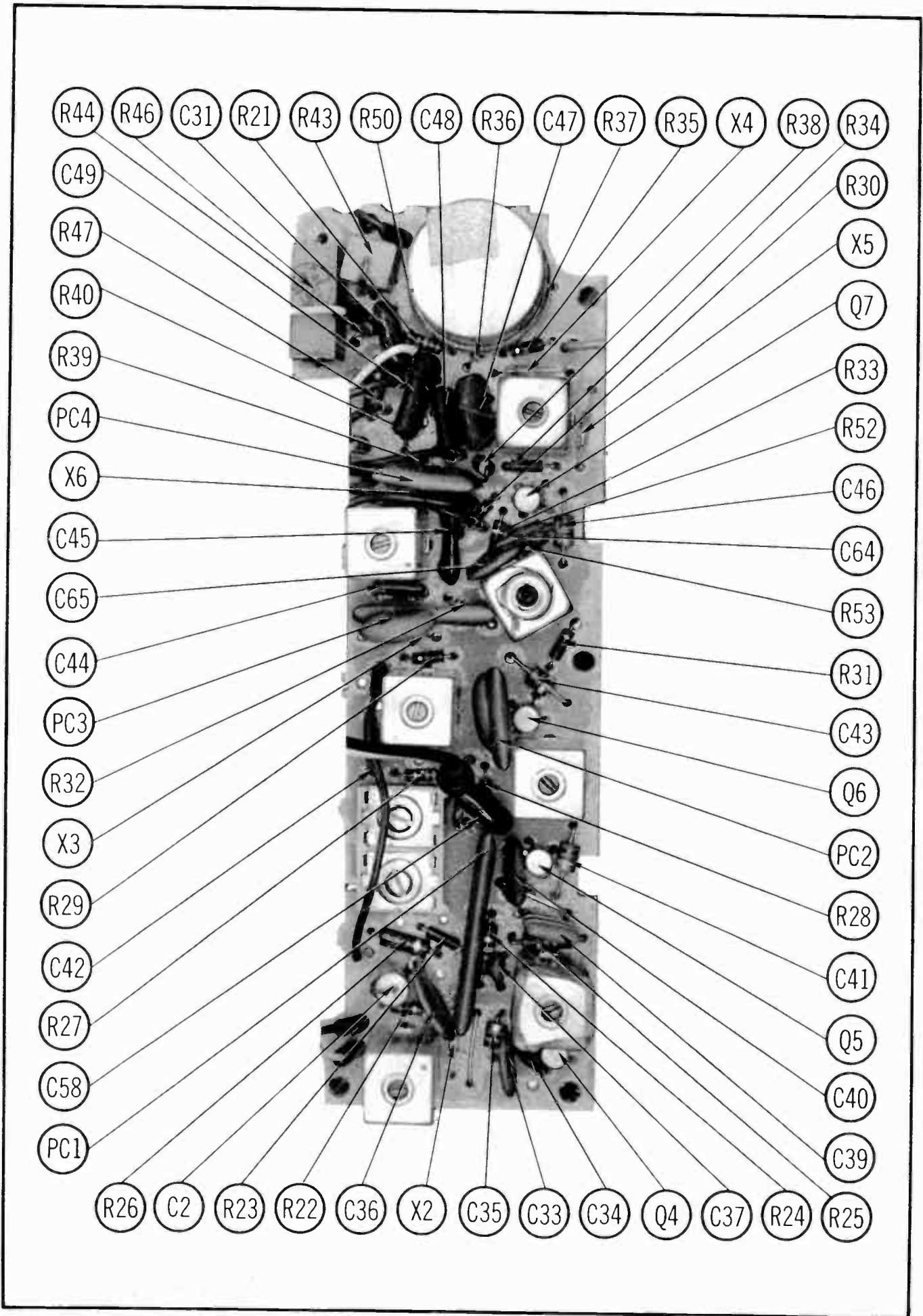
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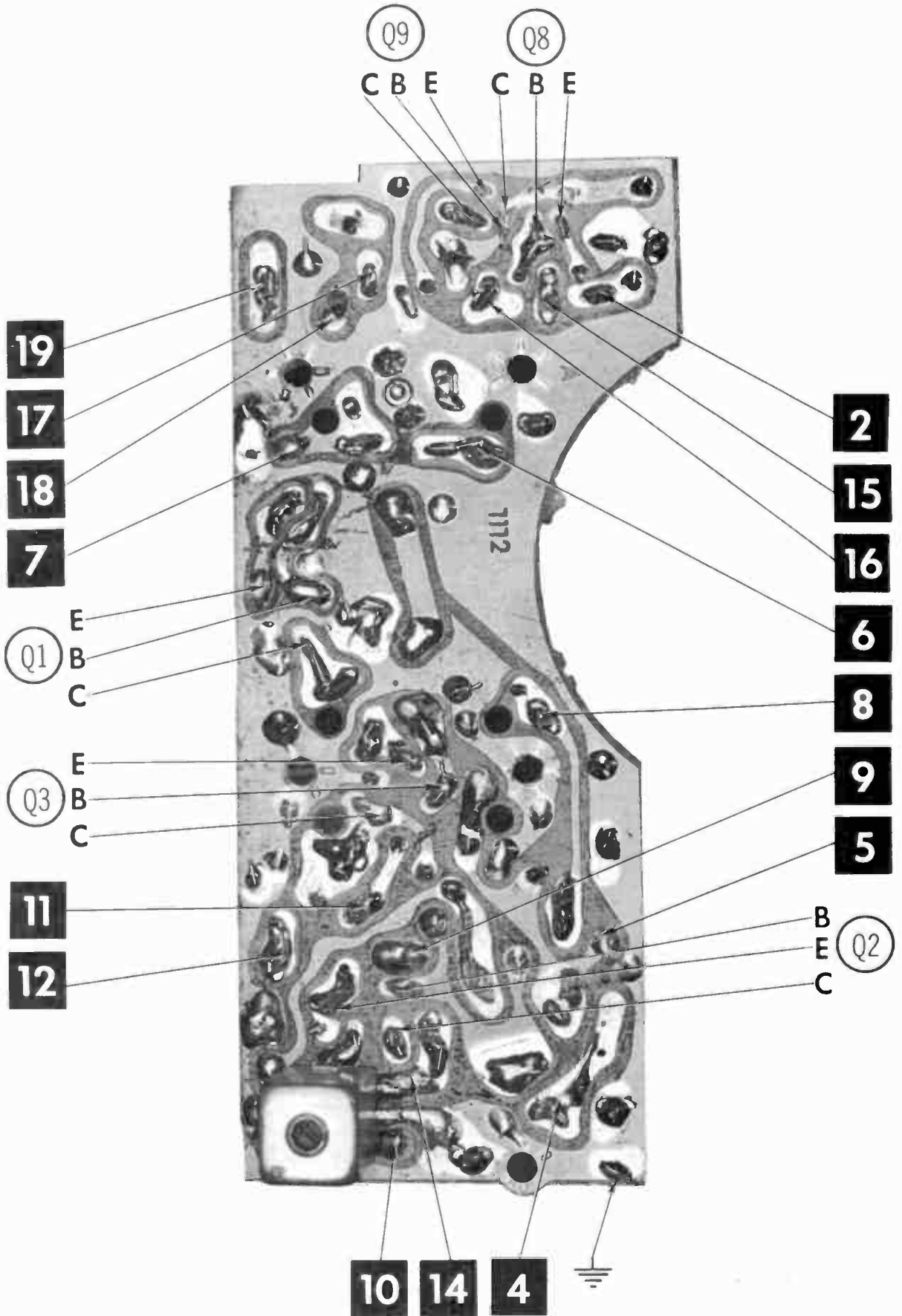
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26 22 23 21 25 14 24

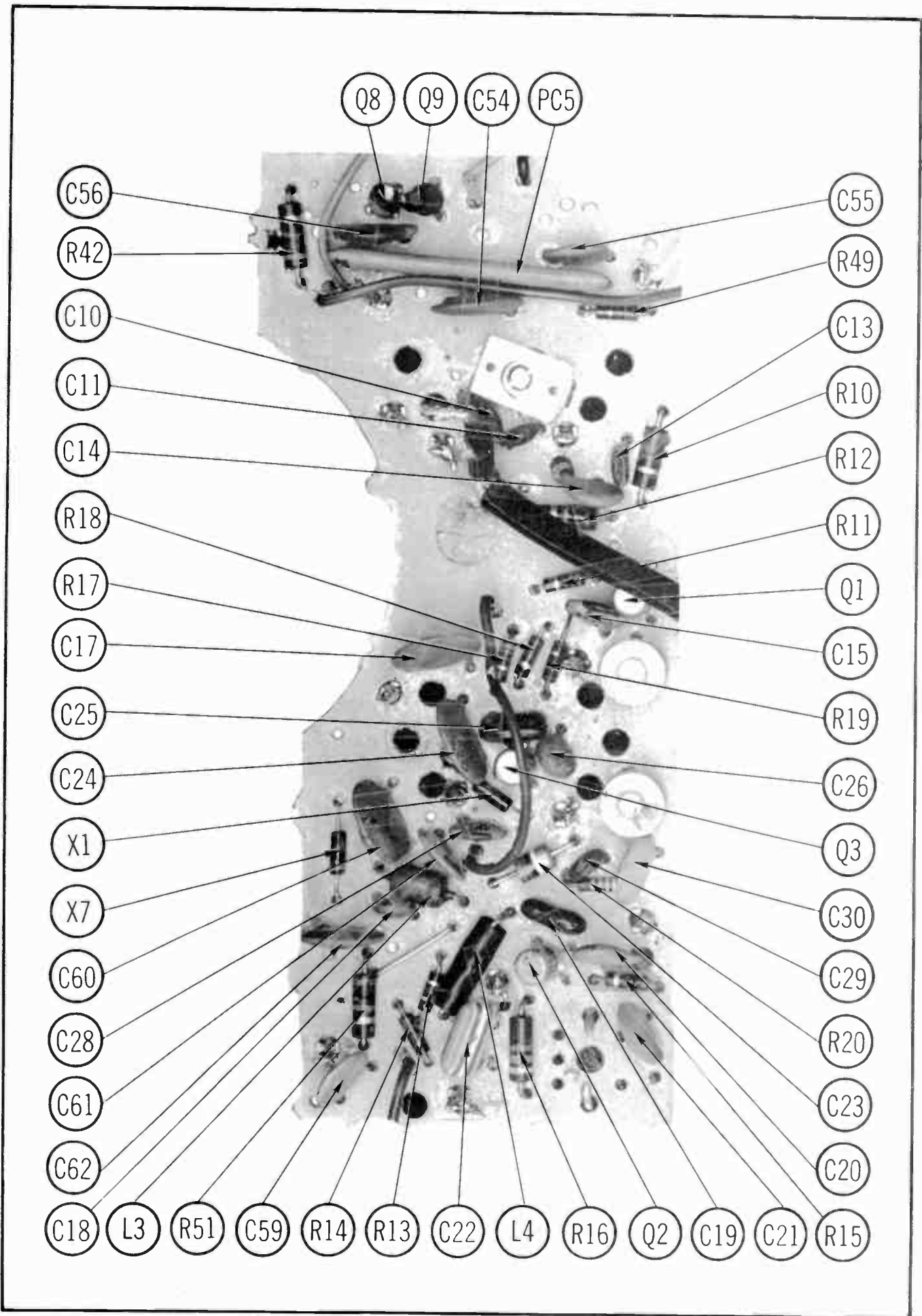
TRIUMPH MODEL 7FB1RX

A Howard W. Sams CIRCUITRACE Photo





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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 (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C54	1mfd 3V								
C55	.0033	10%	DI-3300	UK-105	HGX3R0XR105P		MAG31	HY-135	
C56	.01		DI-2000	DD-332	JBV601YP332K	CCD-332	GP233	10TS-D33	
C57	.01 200V		DBE481	DM-202	JBX601YP202K	CCD-202	GP220	5GAB-D22	
C58	.05 25V		DBE685	CPR-10000J	DMF2S1	4DP-1-103	PVC211	2TM-S10	
C59	.005		TTD-005	CK-502	DPMS885	6DP-3-503	PVC615	6PS-S50	
C60	.0022		DI-2200	DD-222	HOY101ZV502P	CCD-502	TA250	TG-D50	
C61	.005		TTD-005	CK-502	JBX601YP222K	CCD-222	GP222	10TS-D22	
C62	.0022		DI-2200	DD-222	HOY101ZV502P	CCD-502	TA250	TG-D50	
C63	.05 16V		TTD-05	CK-503	JBX601YP222K	CCD-222	GP222	10TS-D22	
C64	.01		TTD-01	CK-103	HOY101ZV503Z		TA150	TG-S50	
C65	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C66	275	*2093050-0002	TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C67	275	*2093050-0002							
C68	275	*2093050-0002							

† Bendix Part Number

‡ Nominal Value

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

## CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			BENDIX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A B	Tone Volume/Switch	500K 225K Tap @ 75K	2094685-0701	F1-500K, R14-250K, FFS113, RFS206, KR7	NP-500KS, NRF1-250K, UPC-B-113, UR-D-206, NWE-23	† QJ-2276A	■ UE4629S

† "CONCENTRIKIT" Equivalent: K15 Kit with Base Elements and Shafts: B11-133, P17-126 (Panel)  
B18-130K, R9-208 (Rear)  
76-2 (Switch)

"SNAPTROL" Equivalent: BU4, CF16, CR29T, SF15, SR51, WF  
■ "STA-LOC" Equivalent: FB55L, RU254T753, OX1812A, IS2375, US42.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	BENDIX PART No.			IRC PART No.	WORKMAN PART No.	BENDIX PART No.
R43	75Ω 5W (PTC)			2090574-0003	R46	75Ω 5W (PTC)			2090574-0705
R45	.22Ω 2W (PTC)			2090948-0020	R48	.22Ω 2W (PTC)			2090948-0020

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Antenna	2056766-0001 ①			
L2	FM RF	2056766-0001 ①			
L3	RF Choke (2uh)	2092210-0007	19-1002	74F226AP	TA812
L4	FM IF Trap (1uh)	2092210-0005	19-1000	4602	T855
L5	FM Oscillator	2056767-0001 ①			
L6	1st FM IF	2093587-0706			
L7	2nd FM IF	2093587-0708			
L8	RF Choke (2uh)	2092210-0007	19-1002	74F226AP	TA812
L9	AM Antenna	①			
L10	3rd FM IF	2092421-0717			
L11	AM RF	①			
L12	4th FM IF	2093587-0703			
L13	1st AM IF	2092419-0720			
L14	AM Oscillator	①			
L15	5th FM IF	2092421-0718			
L16	2nd AM IF	2092419-0719			
L17	Discriminator	2093856-0703			
L18	RF Choke (85uh)	2092210-0711	19-3100	6112	T305

① Part of M1.

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L19	.250 ma	.4Ω	470 uh	2094209-0703					

# 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
			BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	5.5	1.1	2092192-0710					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			BENDIX PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	40Ω	Tap @ 8Ω	2094866-0704					

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		BENDIX PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5" x 7" PM 8Ω	2094859-0701	P5X7V8	57A1Z8	

## 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	AGA5	2091811-0002	2094348-0528	AGA5	HAF	301005	155004	

## COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	PART No.	REPLACEMENT DATA
PC1	RF Biasing Network	180Ω, 2200Ω, 22K, 100K, .01, .01	2094687-0702	
PC2	Bias Network	1500Ω, 4700Ω, 330pf, .01, .2	2094688-0701	
PC3	AVC Network	4700Ω, 220pf, .2	2094690-0701	
PC4	AM Detector	1000Ω, .002, .002	2094692-0702	
PC5	Audio Bias Network	3300Ω, 33K, 100K, 220Ω, 100Ω, 33K, 390Ω	2056721-0701	

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Tuner Assembly	2094066-0511	
S1	Switch, Selector	2056700-0701	

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Escutcheon	2057856-0503	Knob, Tone or Dummy	2094480-0001
Dial Glass	2094184-0507	Dial Pointer	2090129-0085
Knob, Tuning or Volume	2091420-0502	Push Button	2056519-0001

## WIRING DATA

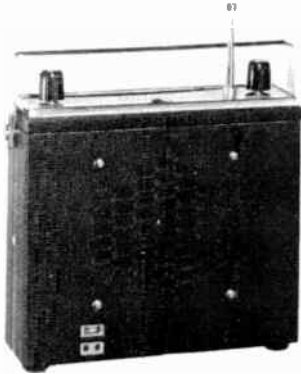
General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8885
Rear Seat Speaker Extension Cable .....	Use BELDEN No. 8782 (Stranded) Coded Parallel Leads
Bonding Strap .....	Use BELDEN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

TRIUMPH MODEL 7FBTRX



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

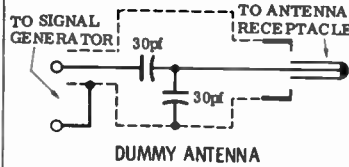


TRADE NAME: Truetone Model ITC4852A-86 (DC-1852)  
 SUPPLIER: For Current Address, See Annual Index  
 TYPE SET: 7-Transistor AM Auto-Portable Receiver  
 POWER SUPPLY: 12 Volt Storage Battery  
 6 Volt (4 "C" cells) portable operation  
 RATING: .12 Amp. @ 12.6 Volts DC  
 .014 Amp. @ 6 Volts DC (No Signal)  
 .03 Amp. @ 6 Volts DC (Normal Signal)

TRUETONE MODEL ITC4852A-86

## ALIGNMENT INSTRUCTIONS

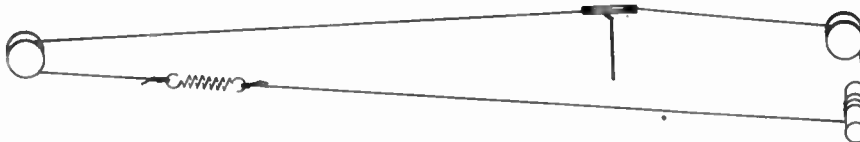
Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools:



SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. High side thru .1mfd to point $\Delta$ , low side to ground.	262KC (400% Mod.)	High freq. end stop.	Output meter across voice coil.	A1, A2, A3, A4	Adjust for maximum.
2. Thru dummy antenna to antenna receptacle.	600KC	600KC	"	A5	"
3. Thru dummy antenna to antenna receptacle.	1650KC	"	"	A6, A7, A8	Radio must be removed from auto bracket before adjusting A8.
Step 4 is not necessary unless tuner has been tampered with or associated components have been replaced. If necessary, back tuning cores (A9, A10, A11) out of coils but not out of forms. Repeat Step 3.					
4. Thru dummy antenna to antenna receptacle.	600KC	600KC	Output meter across voice coil.	A9, A10, A11	Adjust for maximum. Repeat Steps 3 and 4 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 A12 for maximum output. Antenna adjustment (A12) is located bottom rear right corner.

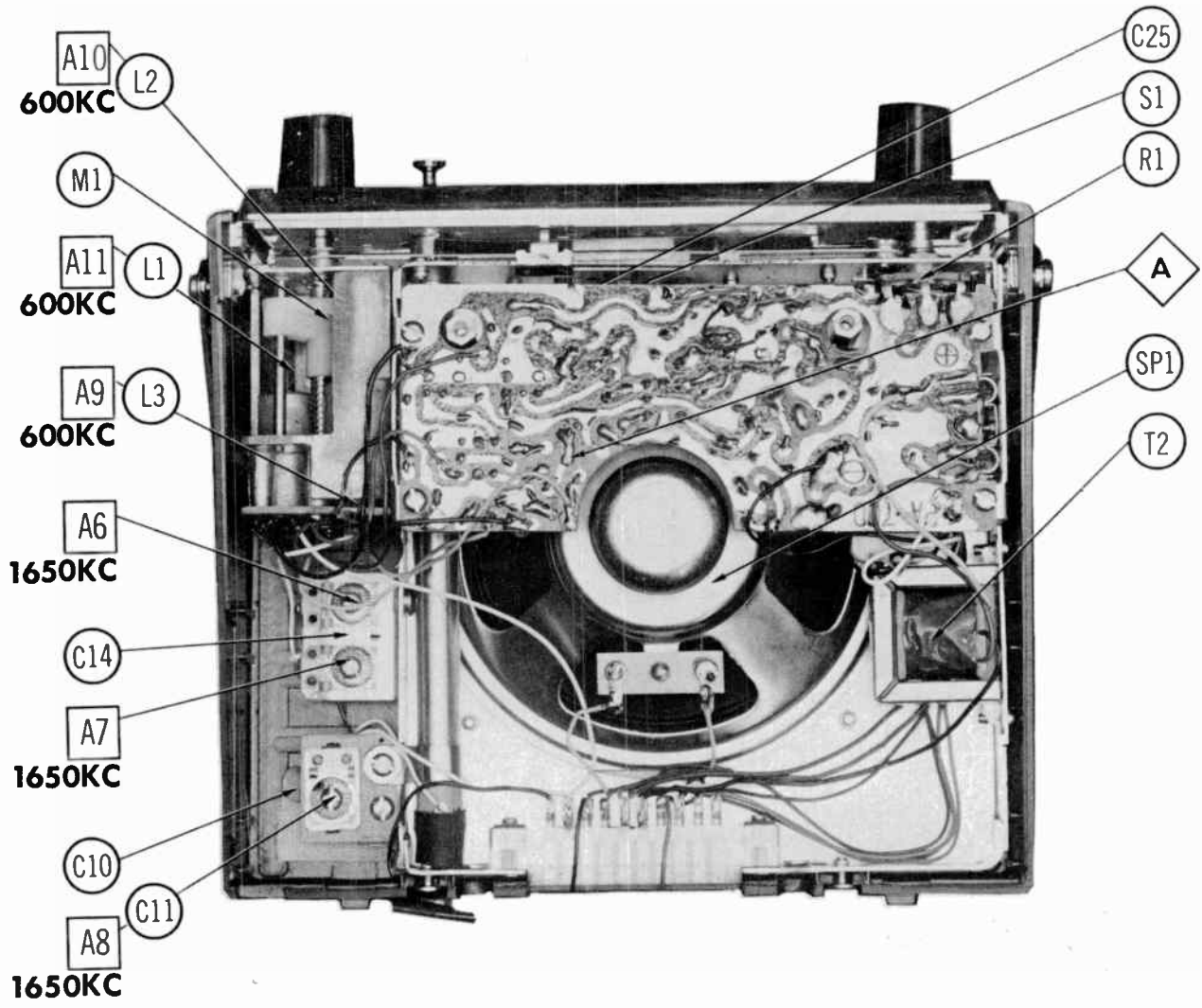
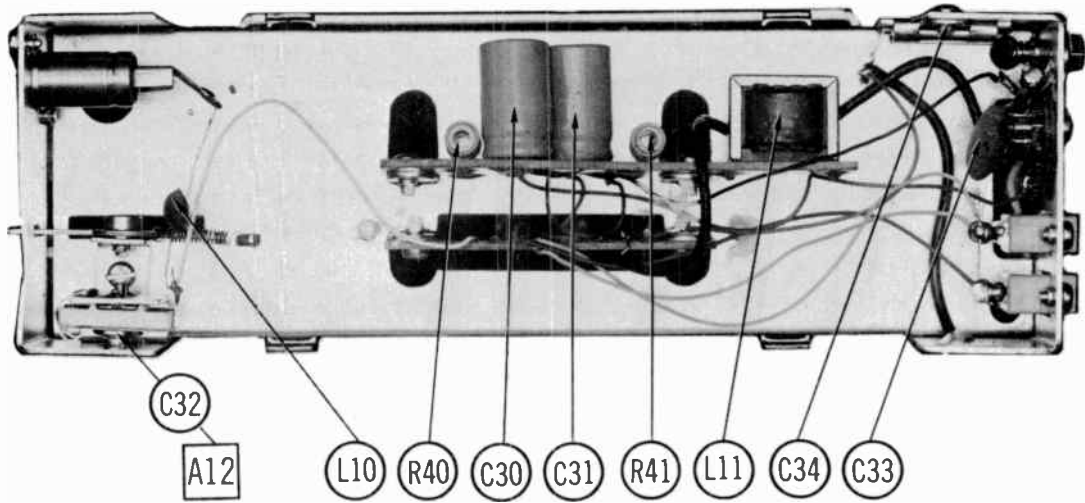
## DIAL CORD STRINGING

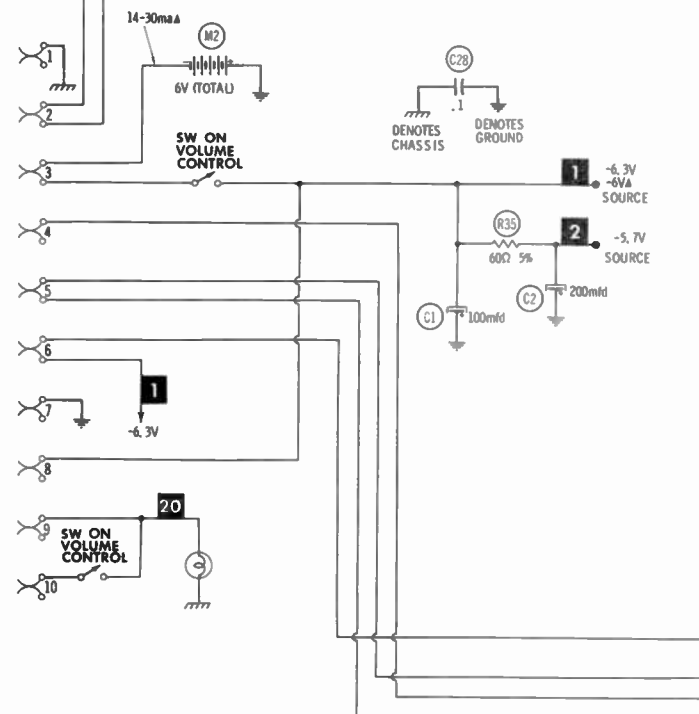
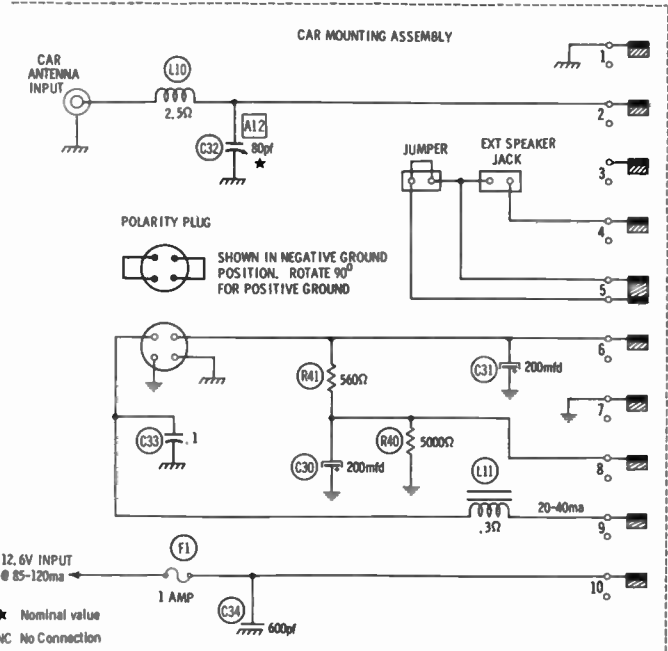
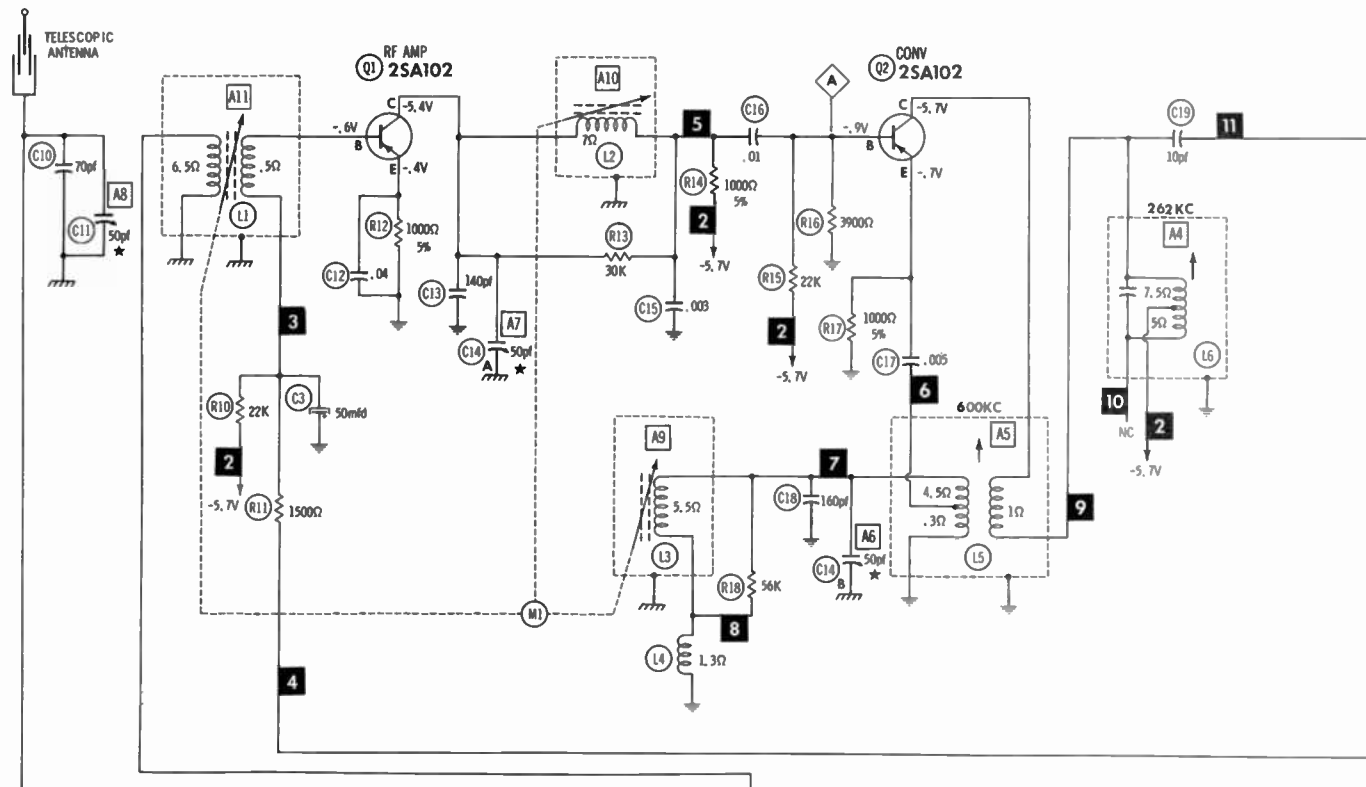


**HOWARD W. SAMS & CO., INC.** Indianapolis, Indiana 46206

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World Radio History





★ Nominal value  
 NC No Connection

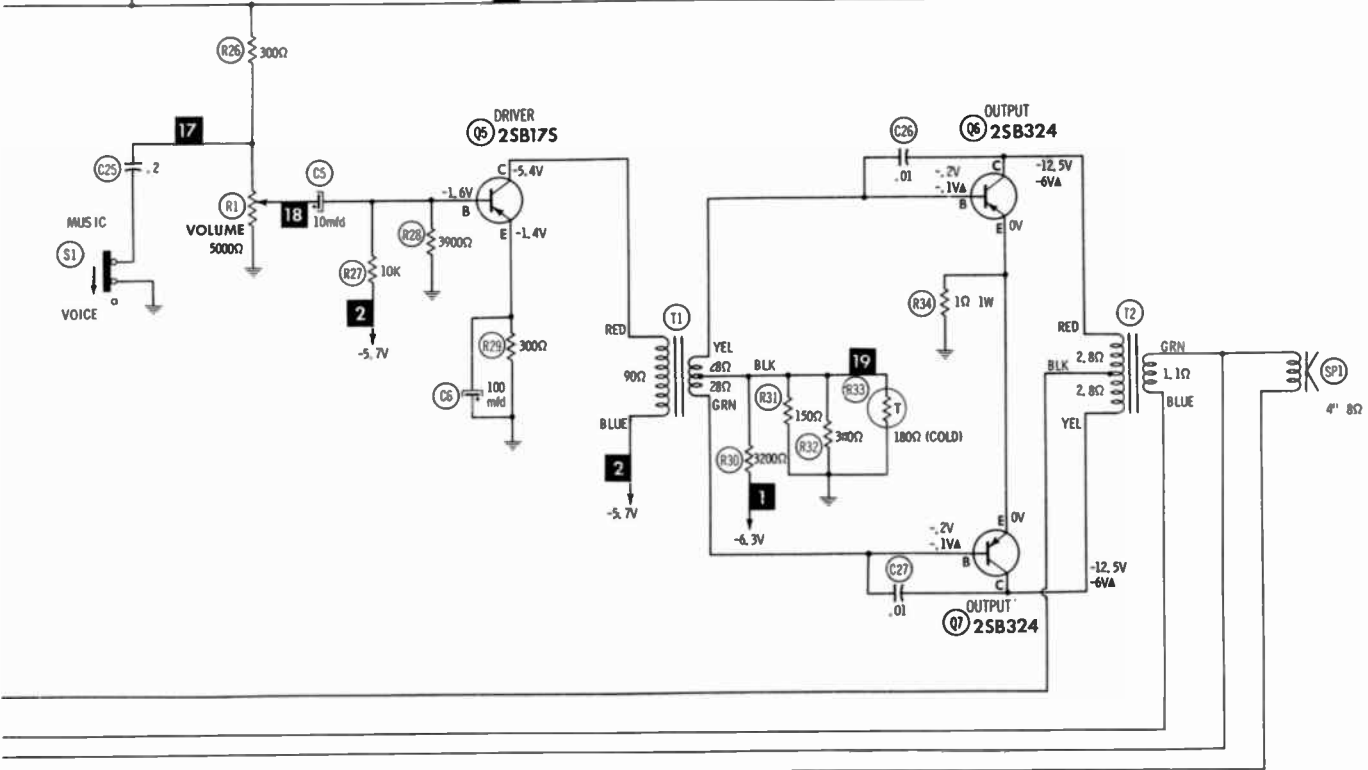
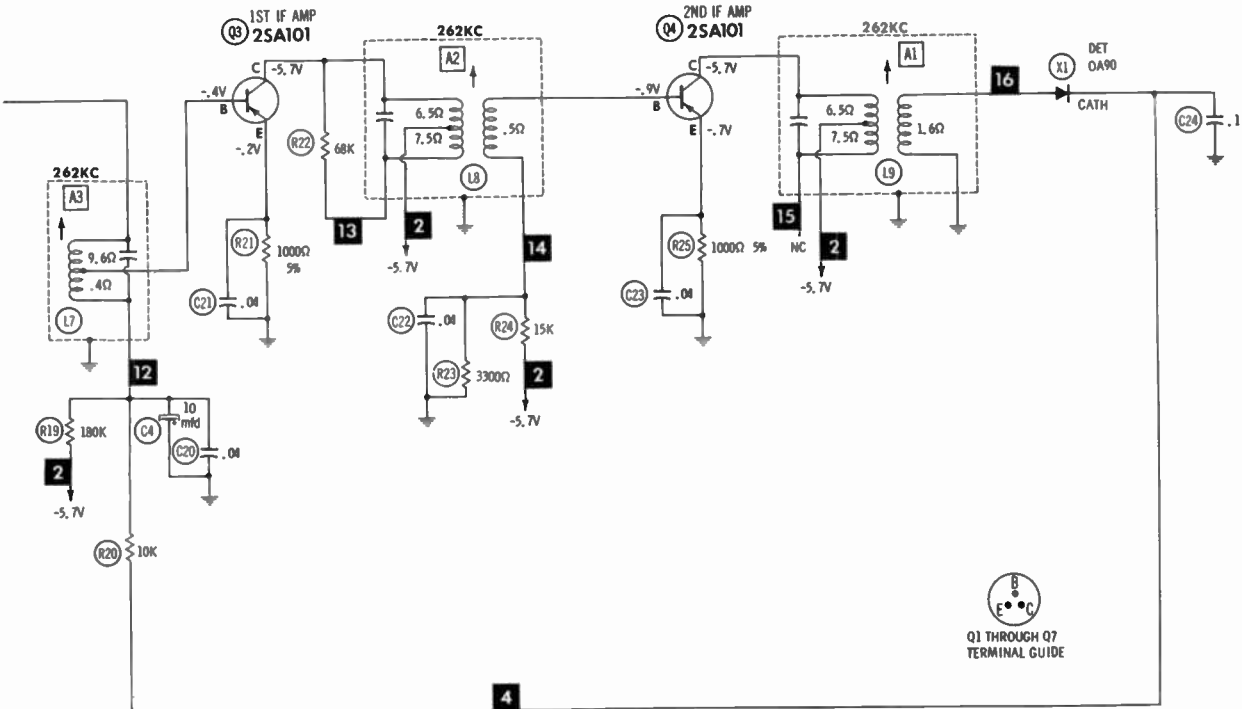
All measurements taken with radio inserted in car mounting assembly unless otherwise designated.

▲ Measured as portable radio

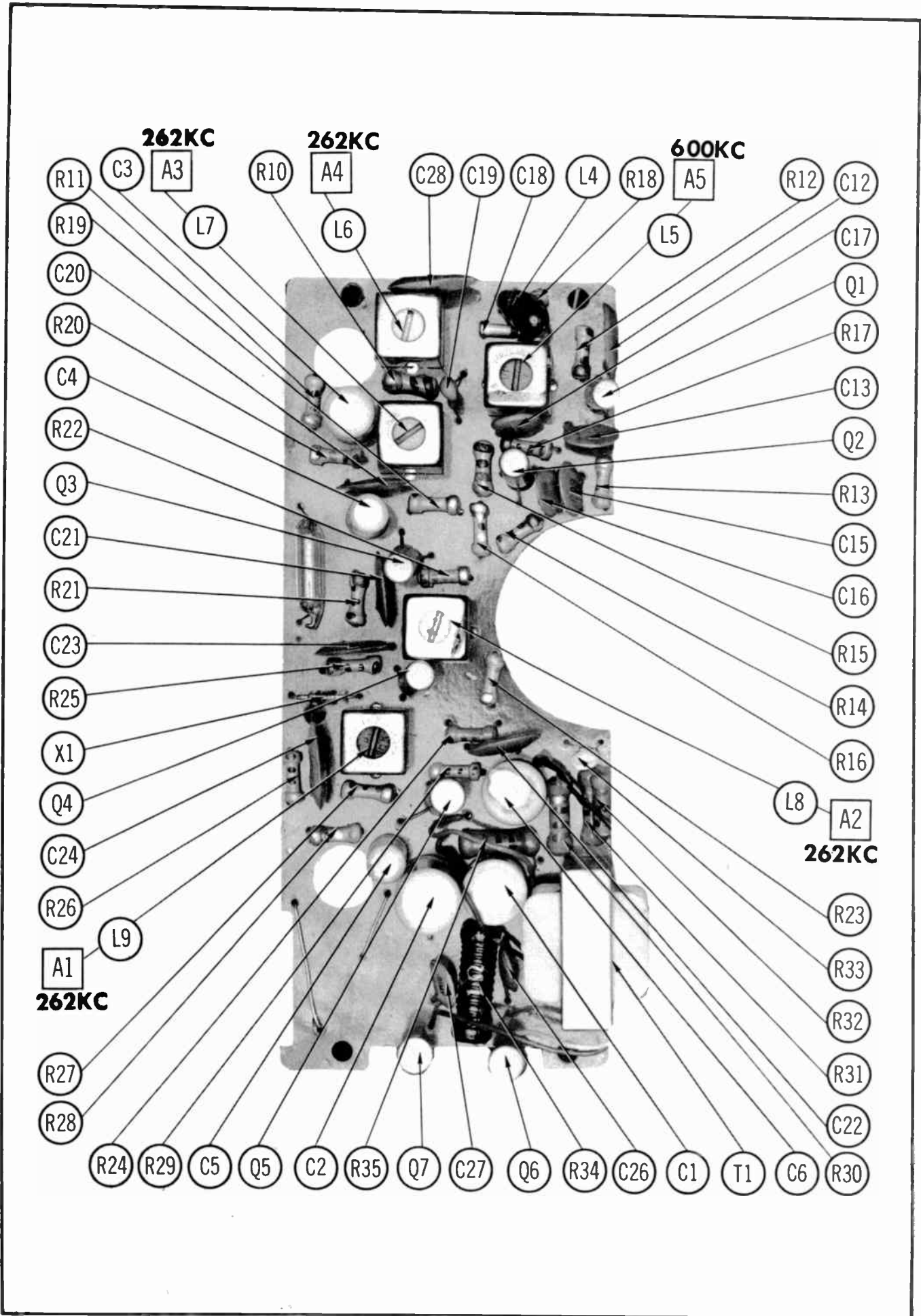
1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found 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.

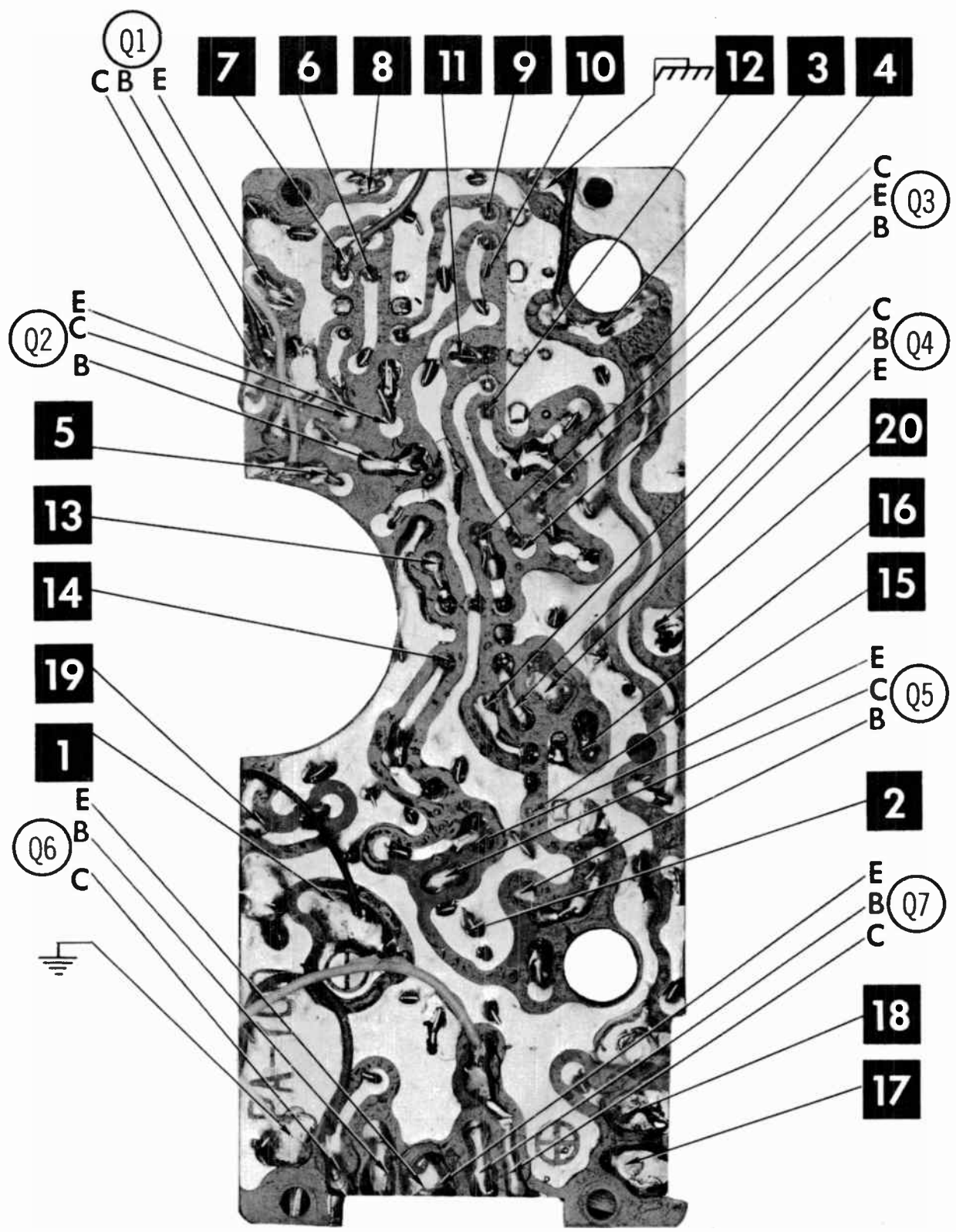
Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
 with CIRCUITRACE  
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TRUETONE MODEL ITC4852A-86





A Howard W. Sams **CIRCUITRACE** Photo



# PARTS LIST AND DESCRIPTION

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

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## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				TRUETONE PART No.	NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.		
Q1	2SA102	RF Amp	D6-25	GE-1	TR-11	SK-3008	0000101	PNP
Q2	2SA102	Converter	D6-25	GE-1	TR-11	SK-3008	0000101	PNP
Q3	2SA101	1st IF Amp	D6-25	GE-1	TR-13	SK-3008	0000102	PNP
Q4	2SA101	2nd IF Amp	D6-25	GE-1	TR-13	SK-3008	0000102	PNP
Q5	2SB175	Driver	D6-26	GE-2	TR-15	SK-3004	0000103	PNP
Q6	2SB324	Output	D6-26	GE-2	TR-15	SK-3004	0000104	PNP
Q7	2SB324	Output	D6-26	GE-2	TR-15	SK-3004	0000104	PNP

## POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS	
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1		OA90	1N34AS	1N34A		

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		TRUETONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100 10V		BCD10100	EP15-100	NLW100-12	MT1-19	PET1400	TE-1135
C2	200 10V	①	BCD10190		NLW200-12	MT1-25	MTV200CK10	TL-1137
C3	50 6V	0000401	BCD6050	EP6-50	NLW50-6	MT1-15	PET1575	TL-1100
C4	10 6V	0000402	BCD6010	EP6-10	NLW10-6	MT1-5	PET1340	TL-1087
C5	10 6V	0000402	BCD6010	EP6-10	NLW10-6	MT1-5	PET1340	TL-1087
C6	100 6V	0000420	BCD6100	EP6-100	NLW100-12	MT1-18	MTV100CB6	TL-1102

① Some versions may use 200mfd @ 15V Electrolytic in this application Part Number 0000403.

## 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	70		NPO-DI 68	DTZ-68	CX601CG680K	CCTO-680	CNO468	10TCC-Q68
C11	50							
C12	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-850
C13	140							
C14A	50	#0000423						
B	50	#0000422						
C15	.003		DI-3000	DM-302	BYS601ZU302P	CCD-302	GP230	10TS-D30
C16	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-810
C17	.005		TTD-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C18	160			TCZ-160				
C19	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C20	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-850
C21	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-850
C22	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-850
C23	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-850
C24	.1		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C25	.2	150V	DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C26	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-810
C27	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-810
C28	.1		TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10

# Inland Part Number

† Alternate Value.

## CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			TRUETONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	5000Ω		F2-5000①, SFS212, KR-2		B13-114①, SK976-2, or BU1①, CF60, SS4, WF	RU53A, 8L38①, IS1062, US42

① Enlarge mounting hole.

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	TRUETONE PART No.			IRC PART No.	WORKMAN PART No.	PART No.
R33	180Ω (cold)			0000901 (MT170)					

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Antenna Tuning	0000501			
L2	RF Tuning	0000503			
L3	Oscillator Tuning	0000502			
L4	Image Trap (5.2uh)	0000505			
L5	Oscillator	0000601			
L6	Input IF	0000602			
L7	Interstage IF	0000603			
L8	Interstage IF	0000604			
L9	Output IF	0000605			

# 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
				TRUE-TONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. 1	SEC. 2						
T1	2.2	1.1							

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			TRUE-TONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	140Ω CT	8Ω						

## SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA			NOTES
				TRUE-TONE PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4"	PM	8Ω	0000806	C4T8	4A1Z8	

## FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	
F1	1 Amp	0000828	0000827	AGC1	HDJ	312001	155020	

## MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Tuner Assembly		

## BATTERIES

ITEM No.	VOLTAGE	PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M2	6V		130 or AL1	1035 or E93	M14R or MN1400	4 required

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Dial Pointer	0000809		

## WIRING DATA

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

# CAR MOUNTING ASSEMBLY

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
			TRUE-TONE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C30	200	15V	0000403	CRE418A		NLW200-15	MT1-25	MTV200CP15	TL-1164
C31	200	15V	0000403	CRE418A		NLW200-15	MT1-25	MTV200CP15	TL-1164

## 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.	
C32	80		#0000426						
C33	.1			TTD-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C34	600								

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L10	RF Choke	0000504	19-1005	4612	T860

## FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	TRUE-TONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L11	.12A	.3Ω	5mh	0000702					

TRUE-TONE MODEL ITC4852A-86









MOTOROLA	VOL.	MOTOROLA	VOL.	OLDSMOBILE	VOL.	PENNEYS	VOL.	PONTIAC	VOL.
(CONT.)		(CONT.)		(CONT.)		(CONT.)		(CONT.)	
PCA2A6 49-52 Pontiac	5	101 See MoPar 101	13	983336 56	6	3168 64 Ford	30	989615 60	13
PC4FM 64 Pontiac	26	102 See MoPar 102	13	989001 57	7	3169 64 Falcon	30	989692 61	14
PC4FMC 64 Pontiac	34	104 See MoPar 104	13	989002 57	7	3170 64 Falcon	30	989693 61	15
PC65A 65 Pontiac	32	110 See MoPar 110	13	989127 58	8	3171 985-8515 64 F-85	29	989792 61 Tempest	15
PC66A 66 Pontiac	40	250X	20	989129 58	8	3172 64 Fairlane	30	989831 61 Tempest	15
PC67A 67 Pontiac	45	290T	22	989131 58	8	3173 64 Mercury	30	7284742	22
PD3A6 51-53 Packard	5	294	25	989170 59	10	3174 64 Oldsmobile	29	7284742A 66 Pontiac	36
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