

# SAMS PHOTOFACT<sup>®</sup>

## AUTO RADIO SERIES



AR-233  
**233**  
JANUARY, 1977



### CONTENTS

**CARTAPE**  
CT-4310

**CLARION**  
PE-702A

**CRAIG**  
1902

**PANASONIC**  
CR-B1717EU

**RANGER**  
RR-203MPX  
(Ch. 100007-210)

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

World Radio History



**\$3.50**  
**\$4.40 IN CANADA**  
Cat. No. AR-233



# **SAMS PHOTOFACT<sup>®</sup>**

## **AUTO RADIO SERIES**



VOLUME

**233**



by the



ENGINEERING STAFF



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

**FIRST EDITION  
FIRST PRINTING—JANUARY, 1977**

**PHOTOFACT®  
AUTO RADIO SERIES  
VOLUME 233**

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Library of Congress Catalog Card Number: 49-11493



**AUTO RADIO SERIES**

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## **GENERAL SERVICING INFORMATION**

The following information applies to all tape units in this volume, and should be followed before any adjustments are made or trouble diagnosis is attempted. Any exceptions or additions will be found in the detailed servicing procedures for each tape unit.

### **POWER SOURCES**

Many tape units require full supply voltage for proper operation. Be sure the supply voltage is maintained at the rated value under load while making adjustments.

### **CLEANING**

All head faces should be cleaned with head cleaner or methyl alcohol to remove dust and accumulated oxide. (An applicator may be fashioned from absorbent cotton.) Do not use a screwdriver or any metallic object near the head faces.

*CAUTION: Avoid getting head cleaner on any plastic surface.*

Clean capstans, pressure rollers, and tape guides with alcohol using a soft lint-free cloth. Also use alcohol to remove oil and grease from drive belts and other driving surfaces.

### **LUBRICATING**

Clean all surfaces before lubricating. Apply a few drops of #20 machine oil to all bearings and rotating bushings. Apply a thin film of light, nonhardening grease to all cam surfaces and pawls, if they have been factory lubricated. Always wipe excess oil or grease from parts that have been lubricated.

*CAUTION: Oil and grease must be kept off all driving surfaces as well as any parts which may transfer oil or grease to them.*

### **DEMAGNETIZING**

Heads require demagnetizing at regular intervals to maintain high-frequency response, dynamic range, and low distortion. (Follow instructions included with the demagnetizing unit.) After demagnetizing the heads, keep all screwdrivers and other metallic objects away from the head faces. Tape guides may also require occasional demagnetizing.

*IMPORTANT: Be sure to demagnetize the heads after making resistance measurements in the head circuits.*

### **CARTRIDGES**

Many problems associated with tape units result from defective cartridges. Always try a cartridge known to be good before attempting repairs.



# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

For Supplier Address See PHOTOFACT Index



MODEL CT-4310

CASSETTE MODEL CT-4310

## ADJUSTMENTS

ADJUST	REMARKS
Head Azimuth	Play a test cartridge and adjust B1 for maximum on an AC VTVM across output.
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B2 for proper response.

## TROUBLE CHART

SYMPTOM	REMARKS
Capstan does not rotate.	Belt (63) dirty, worn, or broken. Assembly (58) binding. Motor defective or not supplied with power.
Track-shift mechanism inoperative	Switch (SW6) dirty. Cam (4) binding or worn. Pawl (47) worn. Assembly (50) binding. Solenoid (M4) defective or not supplied with power. Cartridge defective.
Wow or flutter	Belt (63) 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.

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

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## MECHANICAL PARTS LIST

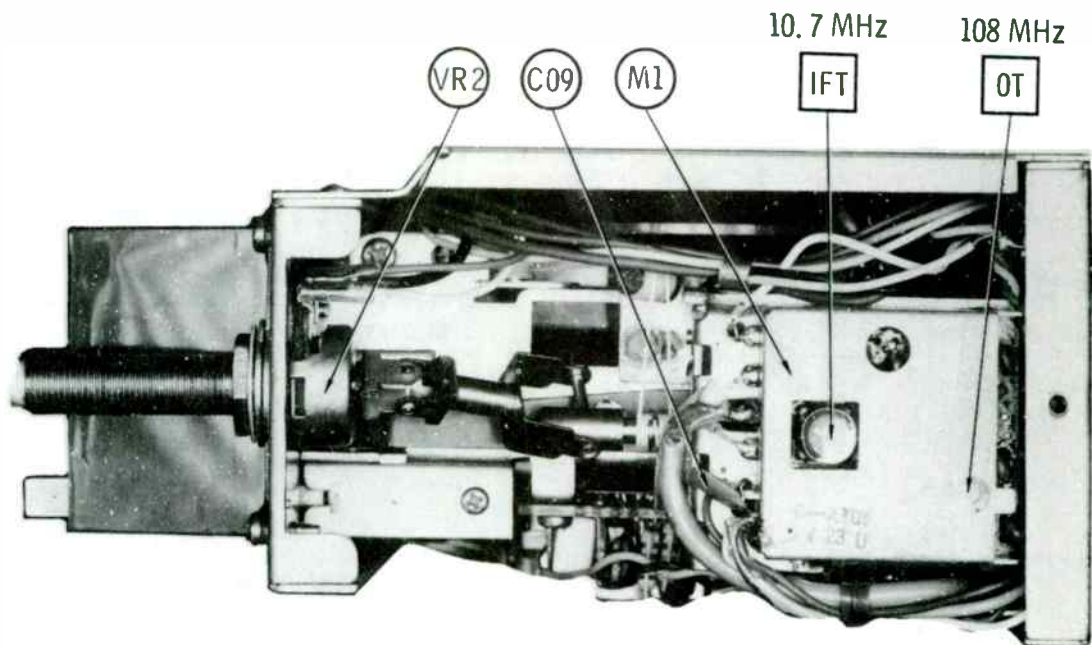
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
4	4310004	Ratchet Cam	51	4310051	Head Holder (Clamp)
22A		Cam Height Pulley	52	4310052	Shifter Spring
40	4310040	Cramper (Detent Arm)	58	4310058	Oilless Metal (Assembly)
46	4310046	Plunger Spring	59	4310059	Flywheel
47	4310047	Pawl	63*	4310063*	Flywheel Drive Belt*
50	4310050	Head Shifter (Assembly)	101		Height Adjust Pulley
50A	(1)	Azimuth Spring			

\* Flywheel Drive Belt: WALSCO Replacement Number 1424-14.

(1) Part of Assembly (50).

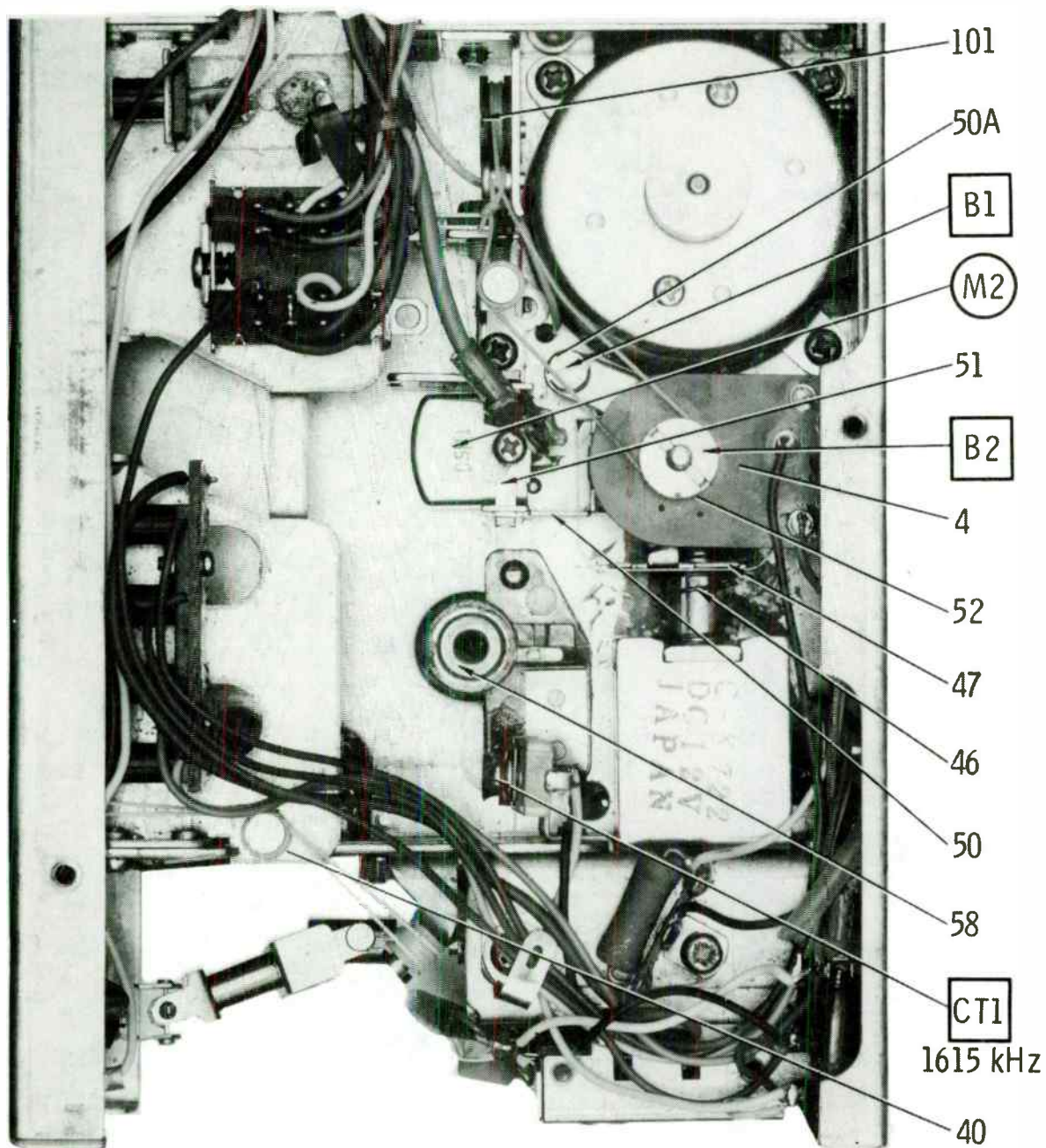
## CLEANING LUBRICATING HEAD DEMAGNETIZING

Refer to  
"General Servicing Information"  
on page 4.

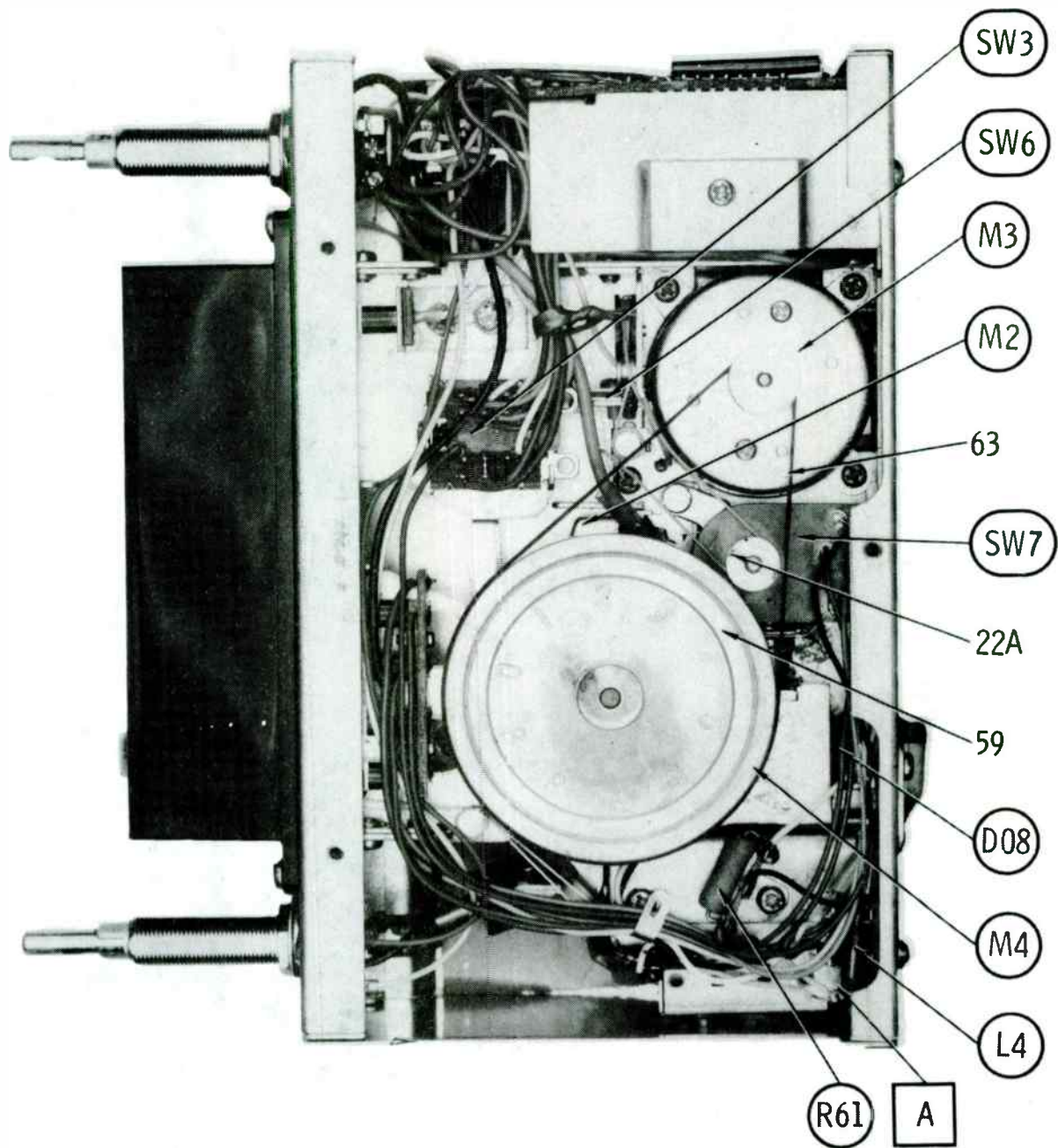


CHASSIS-SIDE VIEW

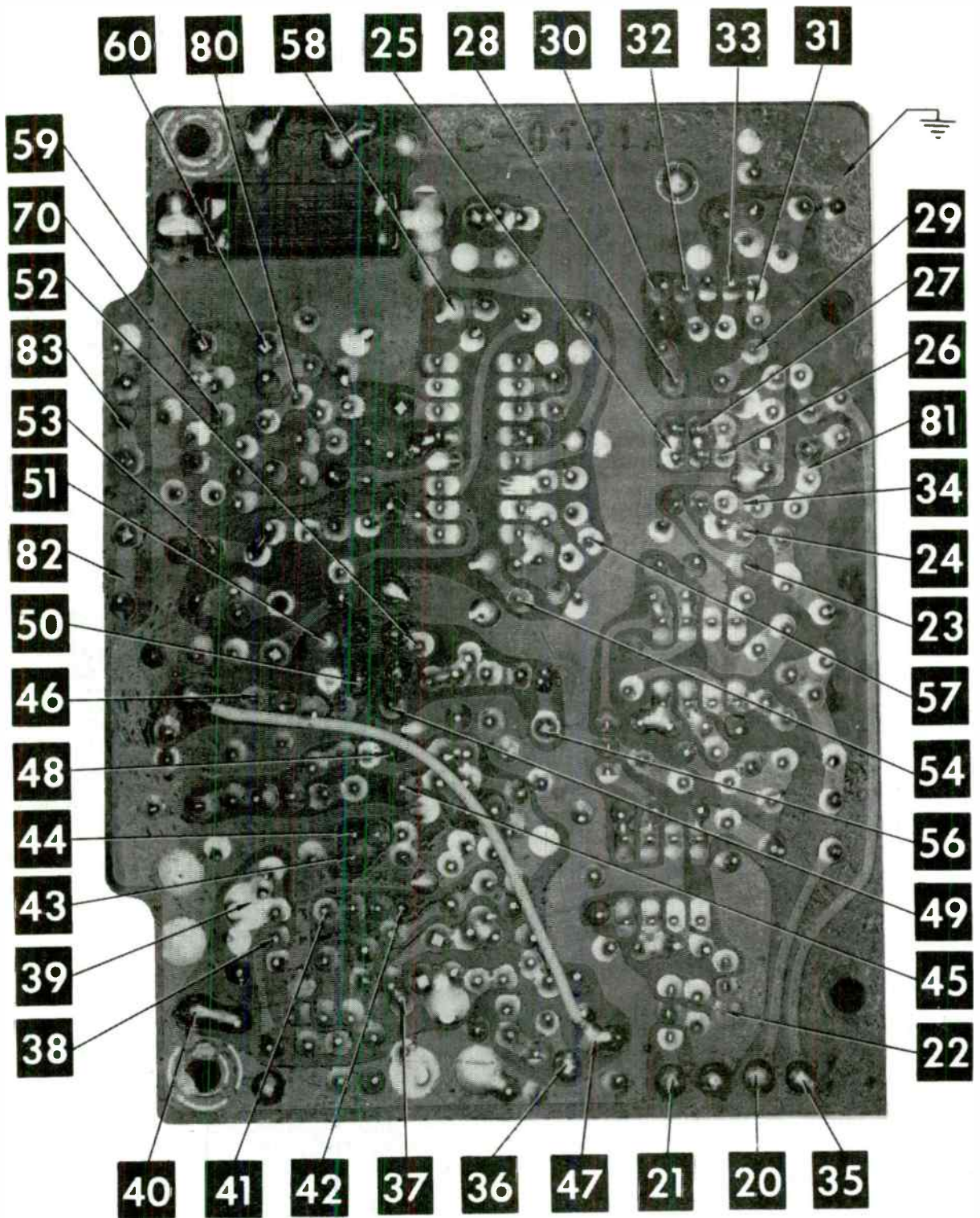




TAPE DECK-BOTTOM VIEW



CHASSIS-TOP VIEW



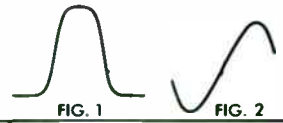
CARTAPE MODEL CT-4310

AM-FM BOARD

## ALIGNMENT INSTRUCTIONS

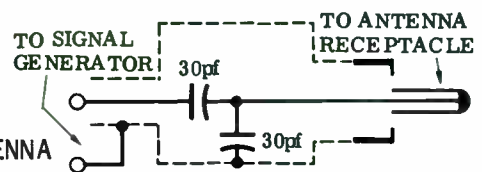
Check for specified source voltage.  
Use only enough generator output  
to provide a usable indication.  
Suggested Alignment Tools:

GC ELECTRONICS  
ALL ..... 8290, 8868, 9087



GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1uF to point A low side to ground.	455kHz 400-Hz mod.	High freq. end stop.	Output meter across voice coil.	T7, T6, T5	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	CT3, CT2 CT1	"
Thru dummy antenna to antenna input.	600kHz	Tune to signal	Output meter across voice coil.	T4	Adjust for maximum. Repeat alignment until no further improvement is noted.

With radio installed in car and antenna extended 36", tune in a weak station near 1400kHz and adjust CT1 for maximum output. Antenna adjustment CT1 is located inside tape right rear corner.



DUMMY ANTENNA

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

High side of generator thru .001uF to point A low side to ground.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to point B common to ground.	(1) T2, IFT	Adjust for maximum.
"	"	DC probe of VTVM to point C common to ground.	T3	Adjust for zero reading. A positive or negative reading will be obtained on either side of correct setting.

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

High side of generator thru .001uF to point A low side to ground.  
Use 60-hertz, frequency-modulated signal, 450kHz sweep.  
Use 60-hertz sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to point B, low side to ground.	(1) T2, IFT	Disconnect stabilizing capacitor C36. Adjust for maximum gain and symmetry of response similar to Fig. 1. Reconnect C36.
"	"	Vert input of scope to C, low side to ground.	T3	Adjust T3 for maximum amplitude and straightness of line similar to Fig. 2

(1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact filter frequency.

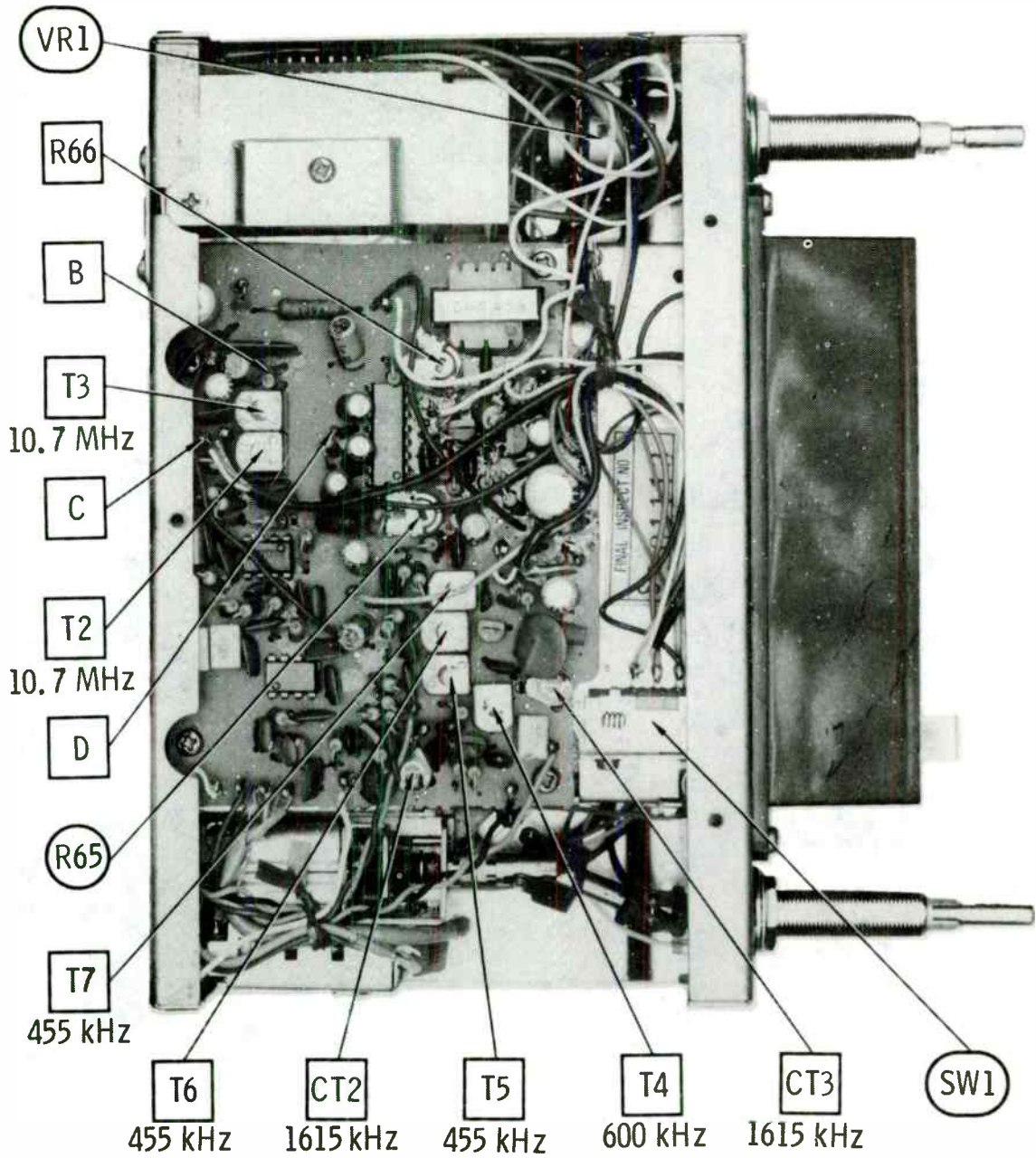
### FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.

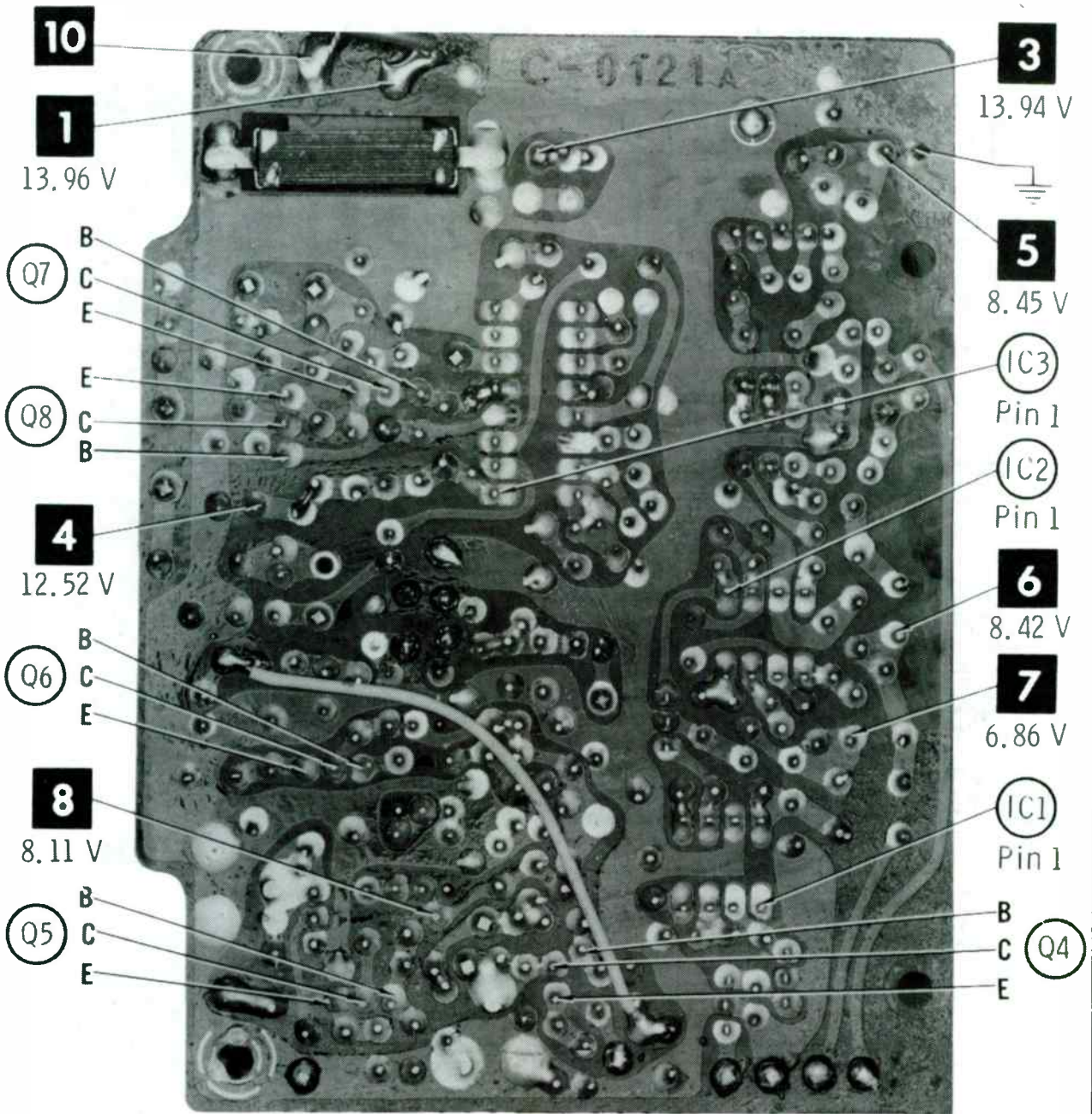
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MHz Unmodulated	Tune to signal	DC probe of VTVM to point B, common to ground.	OT	Adjust for maximum. Repeat FM RF Steps until no further improvement is noted.

### FM STEREO MULTIPLEX ALIGNMENT

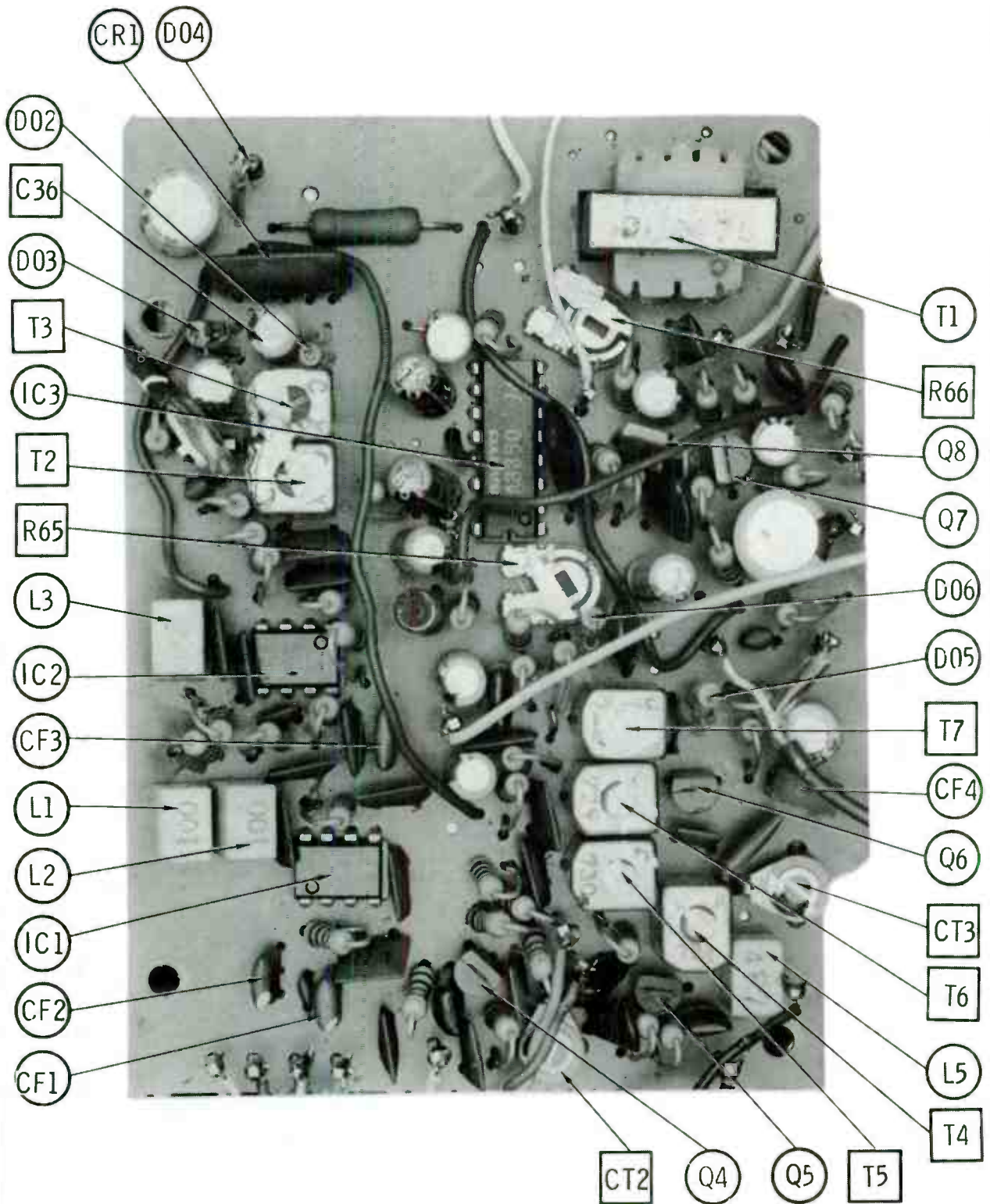
Connect Freq Counter to Point D. Adjust R66 for 19kHz  $\pm$ 20Hz.



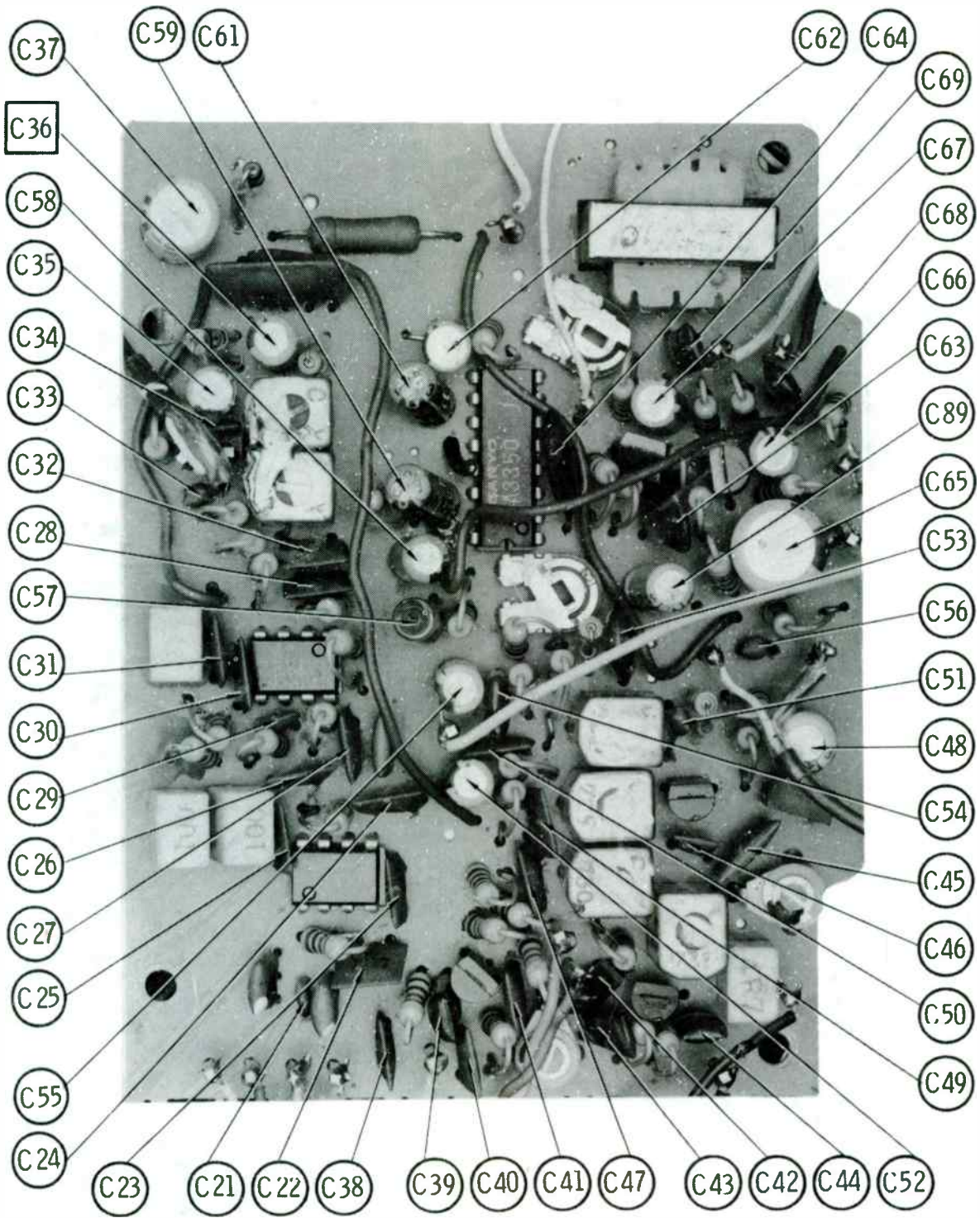
CHASSIS-BOTTOM VIEW



AM-FM BOARD

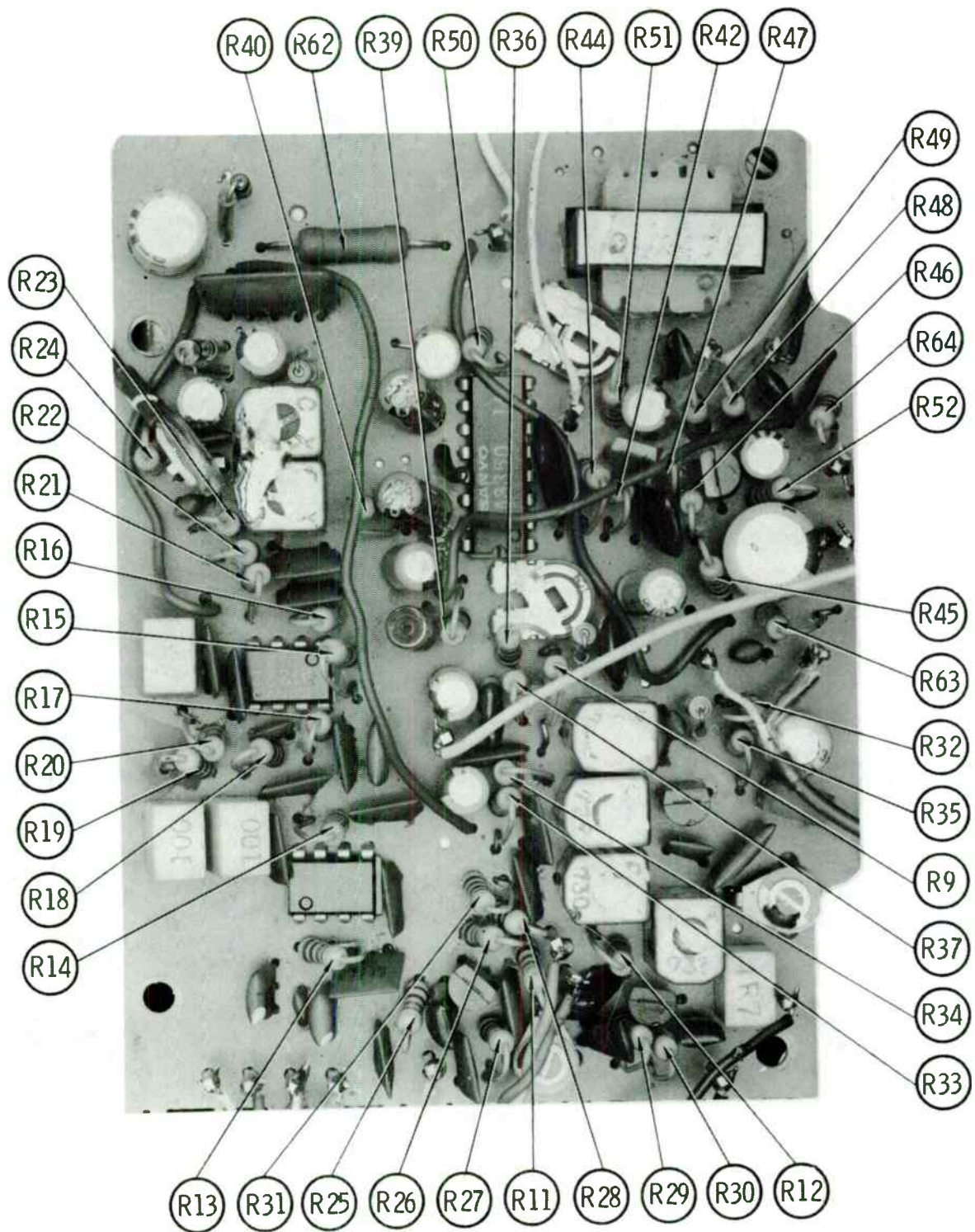


AM-FM BOARD

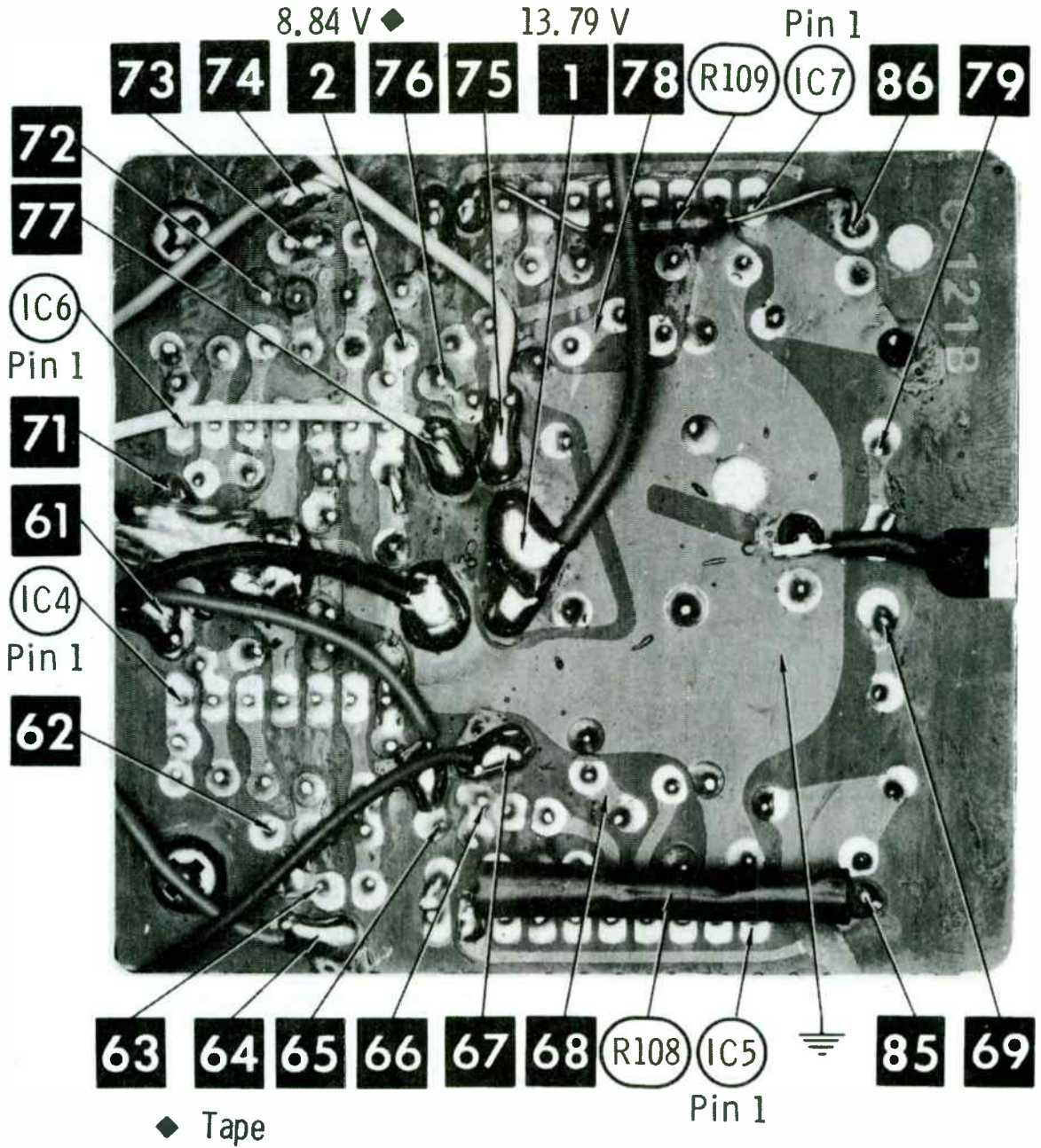


AM-FM BOARD

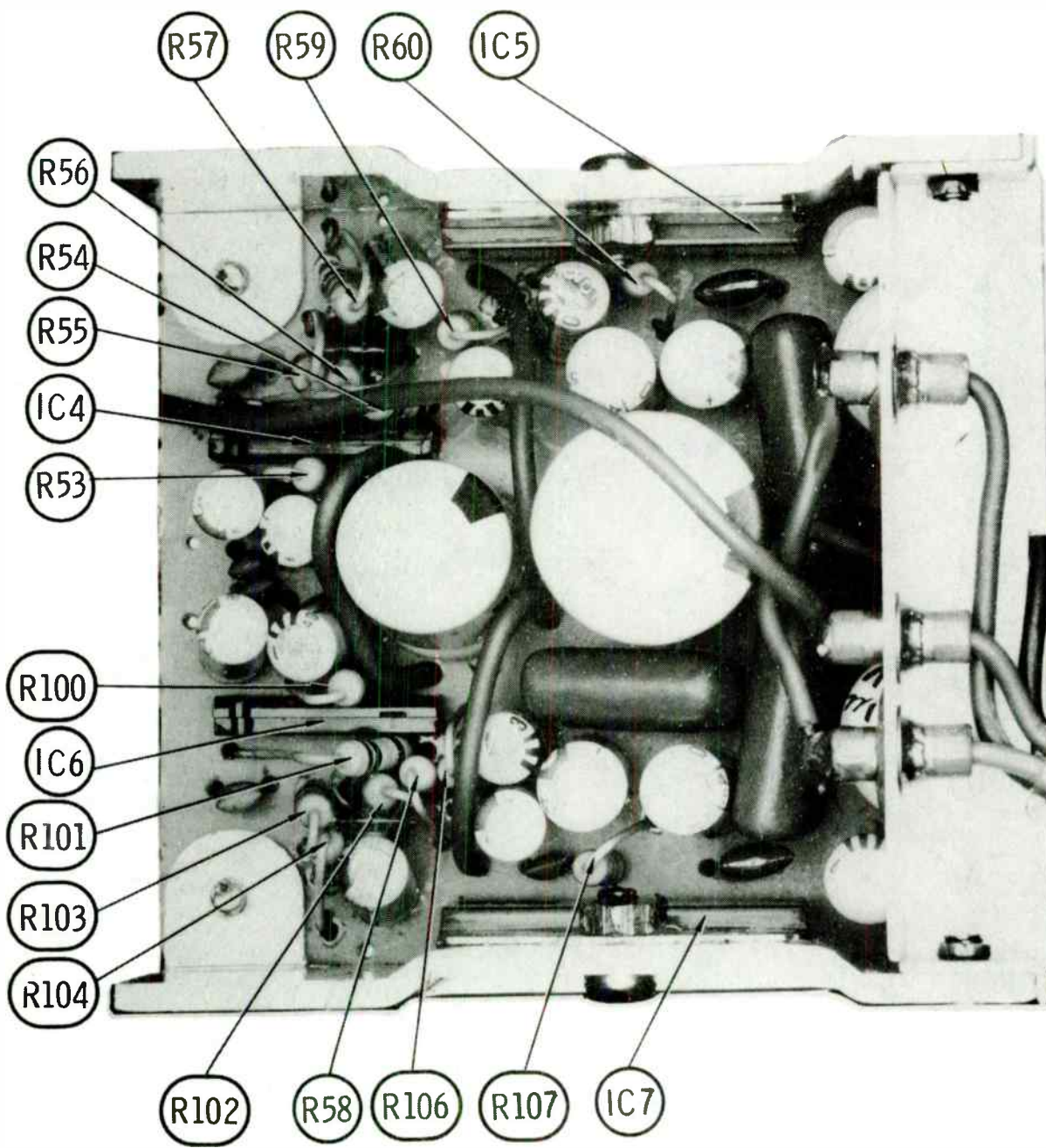




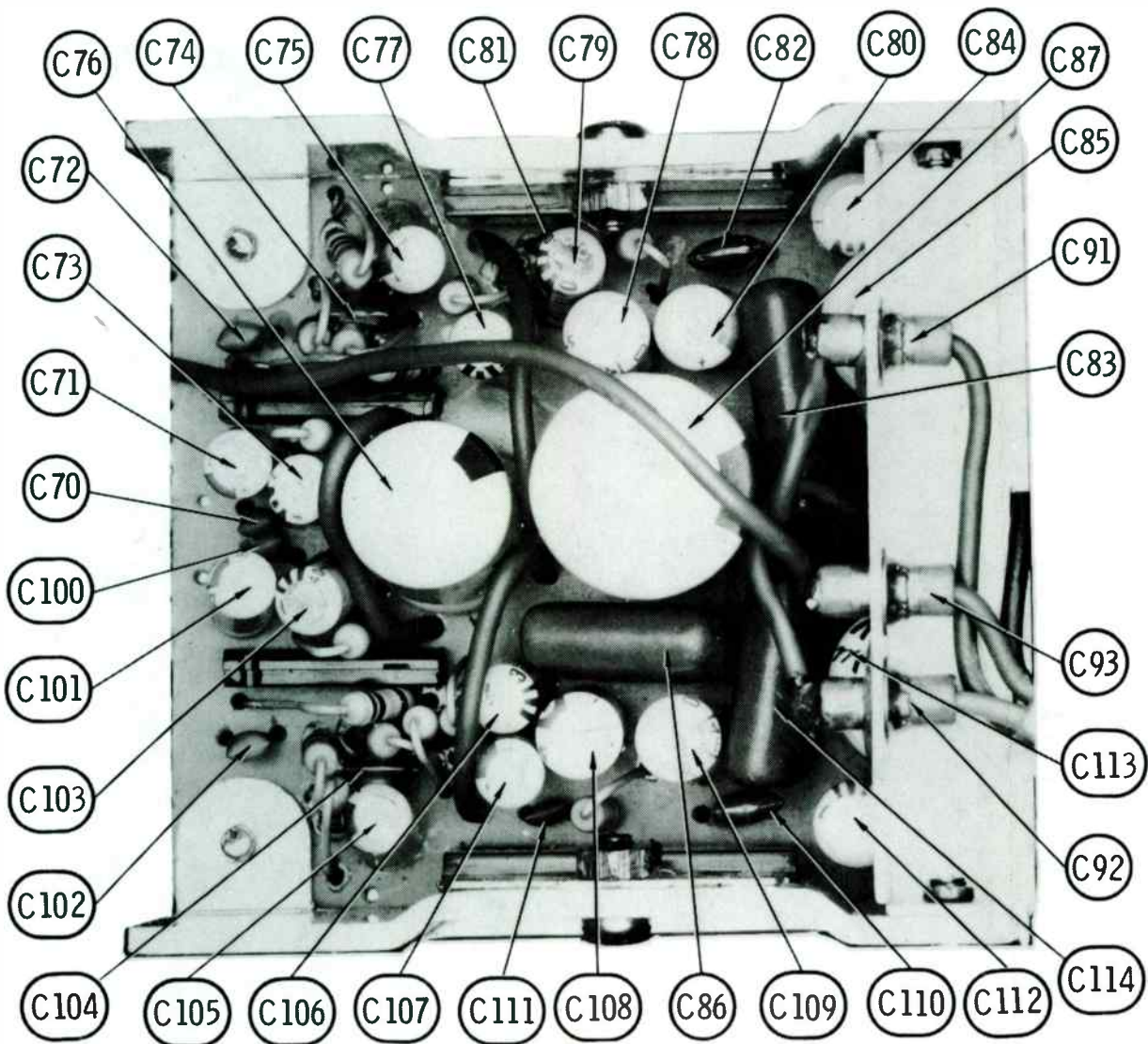
AM-FM BOARD



AUDIO BOARD



AUDIO BOARD



AUDIO BOARD

# 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.

## SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D02	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D03	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D04	05Z8.2		GEZD-8.2		ZB8.2B		RE 112		RT-257	ECG5072
D05	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D06	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D08	DS-130YE		GE-504A	5A4D	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116
	SRK1(1)		GE-504A	5A4D	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116
IC1	LA1111P									ECG1002
IC2	LA1222									
IC3	LA3350									
IC4	BA301									ECG1135
IC5	BA511									
IC6	BA301									ECG1135
IC7	BA511									
Q4	2SC1739		GE-210	TR-24	PTC136	HEPS0015	RE 13	SK3124	RT-107A	ECG123A
Q5	2SC1639		GE-210	TR-24	PTC136	HEPS0015	RE 13	SK3124	RT-107A	ECG123A
Q6	2SC1639		GE-210	TR-24	PTC136	HEPS0015	RE 13	SK3124	RT-107A	ECG123A
Q7	2SA825		GE-65	TR-52	PTC127	HEPS0031	RE 193	SK3114	RT-126A	ECG234
Q8	2SA825		GE-65	TR-52	PTC127	HEPS0031	RE 193	SK3114	RT-126A	ECG234

(1) Used in some versions.

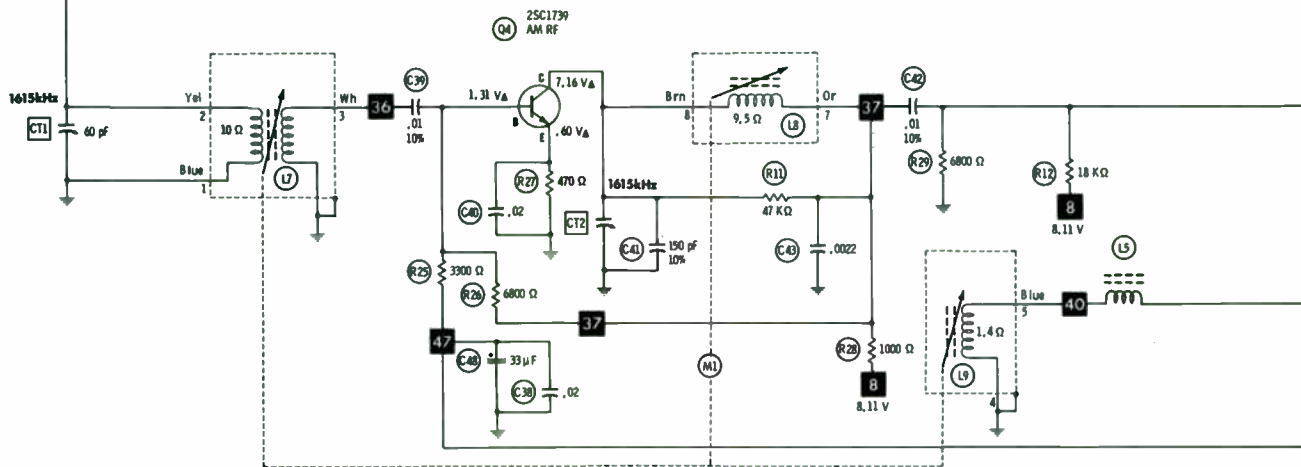
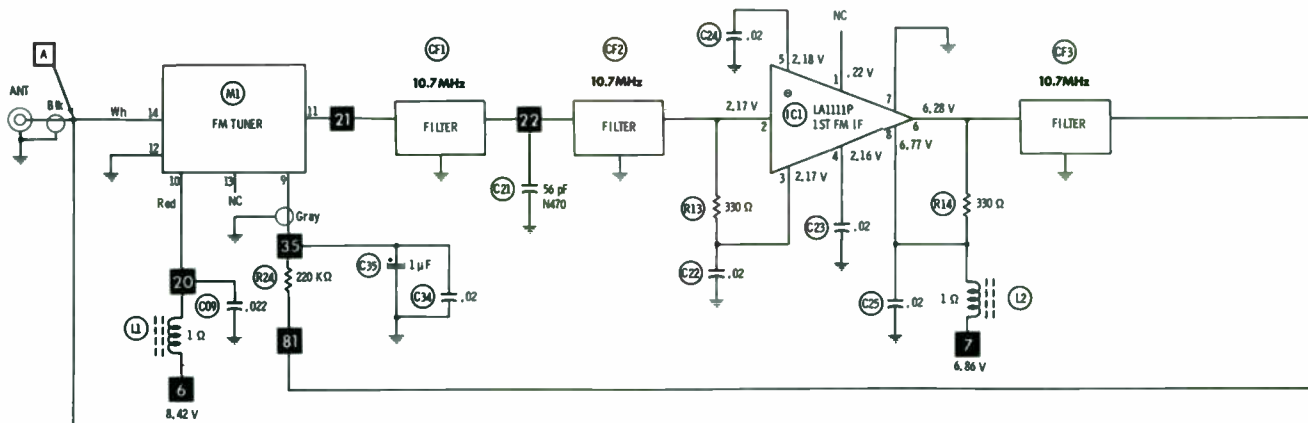
CARTAPE MODEL CT-4355

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA			
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C35	1 50V		PC1-50	VTT1863	EV-1615
C36	10 16V		PC10-25	VTT10A25	EV-1222
C37	100 10V		PC100-10	VTT100E10	EV-1130
C48	33 6.3V		PC30-25	VTT33A10	EV-1125
C52	10 16V		PC10-25	VTT10A25	EV-1222
C55	10 16V		PC10-25	VTT10A25	EV-1222
C58	.47 10V			TDC474M050EL	SD35-R479
C59	.22 10V			TDC224M050EL	SD35-R229
C61	.33 10V			TDC334M050EL	SD35-R339
C62	1 50V		PC1-50	VTT1863	EV-1615
C65	100 16V		PC100-16	VTT100F16	EV-1230
C66	10 16V		PC10-25	VTT10A25	EV-1222
C67	10 16V		PC10-25	VTT10A25	EV-1222
C71	4.7 25V		PC5-50	VTT4R7A50	EV-1319
C73	1 50V		PC1-50	VTT1863	EV-1615
C75	10 16V		PC10-25	VTT10A25	EV-1222
C76	470 10V	(1)	PC500-16	VTT470J16	EV-1150
	220 16V		PC250-25	VTT220G16	EV-1240
				TDC334M050EL	SD35-R339
C77	.33 10V			VTT47D16	EV-1226
C78	47 10V		PC50-16	VTT10A25	EV-1222
C79	10 16V		PC10-25	VTT10A25	EV-1222
C80	47 10V		PC50-16	VTT47D16	EV-1226
C83	.22 10V	(1)		TDC224M050EL	SD35-R229
C84	47 10V		PC50-16	VTT47D16	EV-1226
C85	470 10V				
C87	1000 16V		PC1000-16	VTT1000L16	EV-1260
C88	470 16V	(1)		WBR500-16	TC1505C
C89	10 16V		PC10-25	VTT10A25	EV-1222
C101	4.7 25V		PC5-50	VTT4R7A50	EV-1319
C103	1 50V		PC1-50	VTT1863	EV-1615
C105	10 16V		PC10-25	VTT10A25	EV-1222
C106	.33 10V			TDC334M050EL	SD35-R339
C107	10 16V		PC10-25	VTT10A25	EV-1222
C108	47 10V		PC50-16	VTT47D16	EV-1226
C109	47 10V		PC50-16	VTT47D16	EV-1226
C112	47 10V		PC50-16	VTT47D16	EV-1226
C113	470 10V				

(1) Used in some versions.

**NOTE: DEMAGNETIZE HEADS AFTER SERVICING**



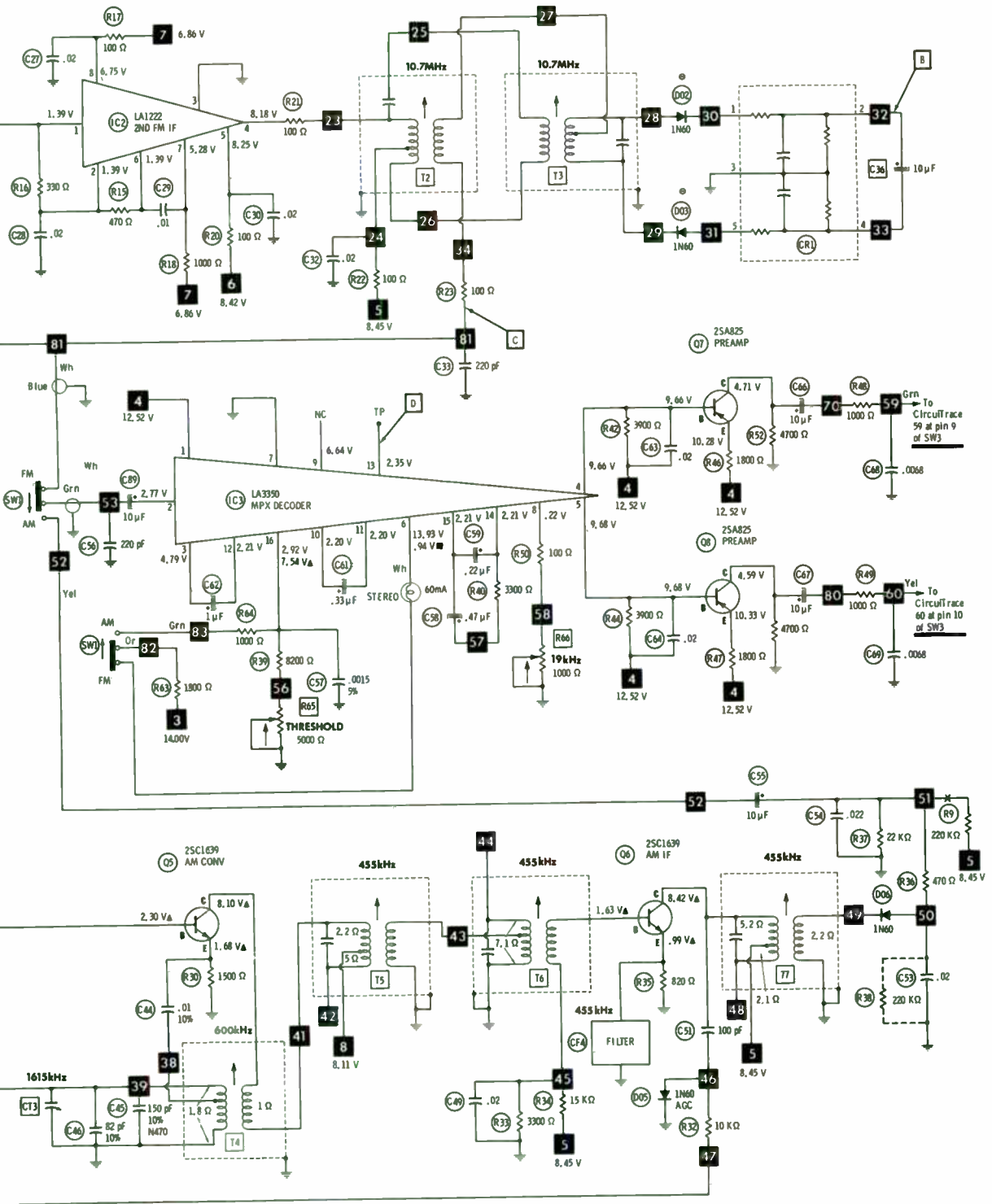
- ✖ Circuitry not used in some versions
- Circuitry used in some versions
- ⊙ See ports list
- ⊛ Nominal value
- ⊕ Ground
- ⊞ Chassis
- ▽ Common tie point

Measurements with switching as shown unless noted:

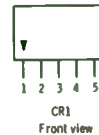
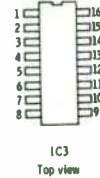
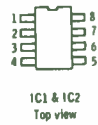
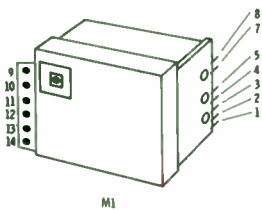
- FM Stereo signal    ▲ AM
- ◆ Tape play

Supply voltage maintained as shown if input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow of control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

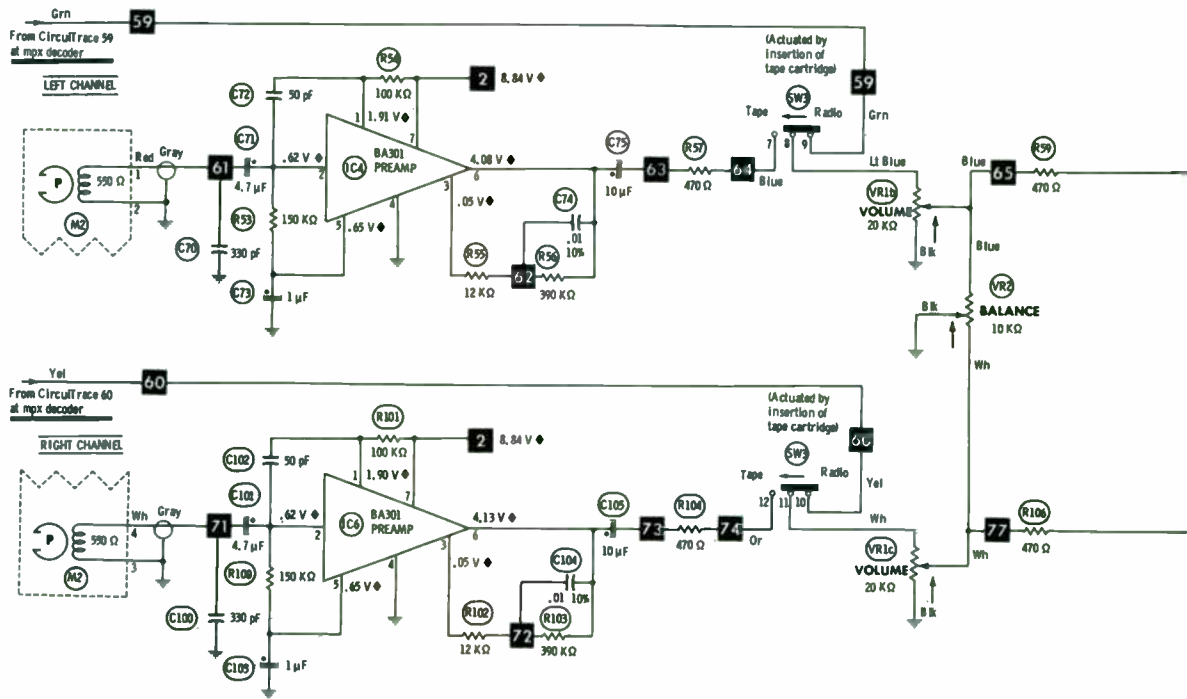
A PHOTOFACT STANDARD NOTATION SCHEMATIC  
 WITH **CIRCUITRACE**  
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Terminal Guides



**NOTE: DEMAGNETIZE HEADS AFTER SERVICING**



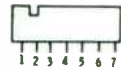
**Terminal Guides**



SW3 Wiring view



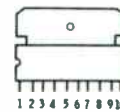
M2 Wiring view



IC4 & IC6 Side view



PL1-501 Wiring view



IC5 & IC7 Front view

- Circuitry not used in some versions
- - - Circuitry used in some versions
- ⊙ See parts list
- \* Nominal value
- ⊕ Ground
- ⏏ Chassis
- ∇ Common tie point

Measurements with switching as shown unless noted:

- FM Stereo signal    ▲ AM
- ◆ Tape play

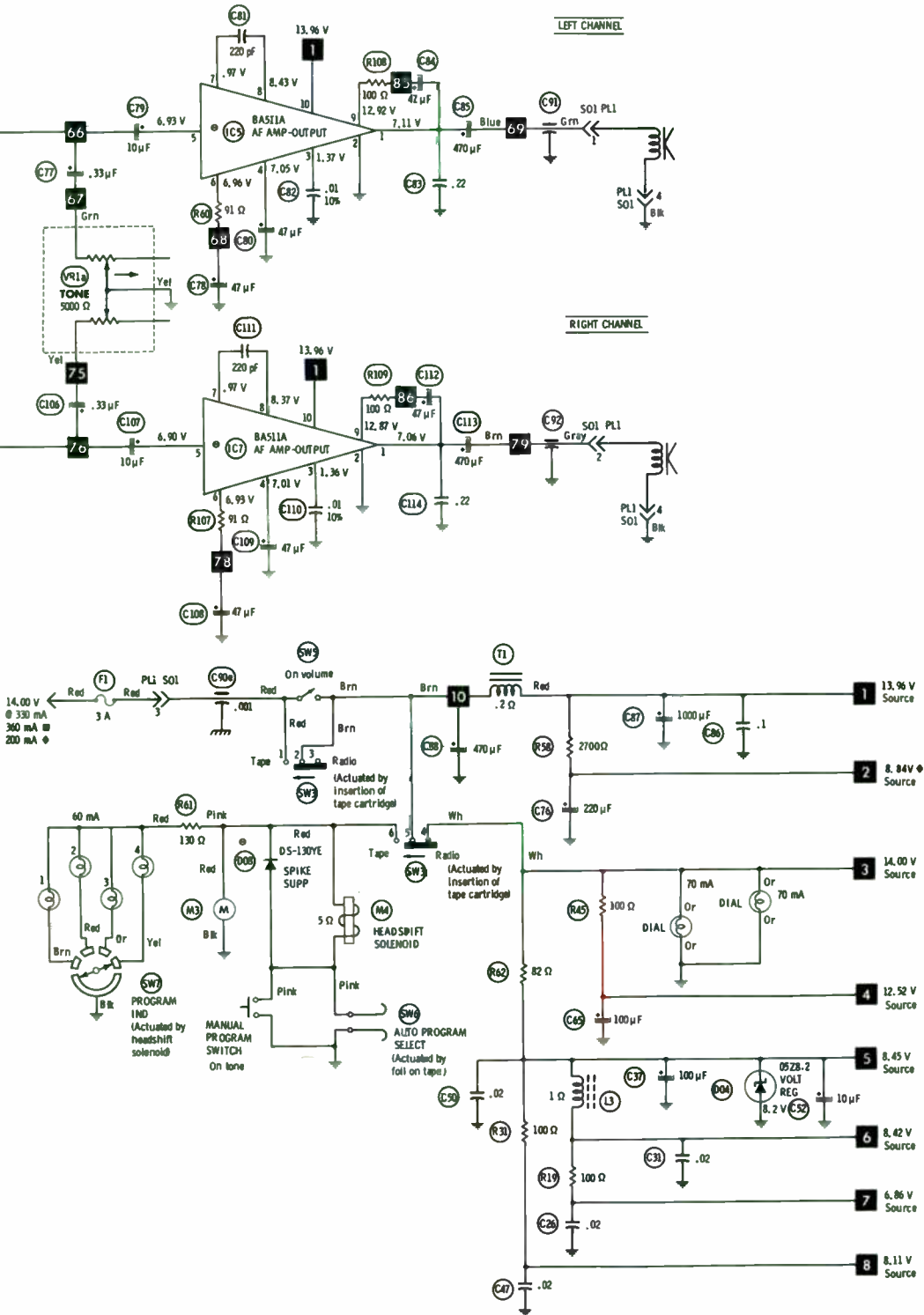
Supply voltage maintained as shown at input.  
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 Value in ( ) used in some versions.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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## PARTS LIST AND DESCRIPTION (CONTINUED)

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

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### CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C09	.022		UK50-223		MAG5012	
C13	.0022				M192P2229R8	192P2229R8
C21	56 N470				*	10TCT-Q56
C22	.02		UK50-223		MAG5012	
C23	.02		UK50-223		MAG5012	
C24	.02		UK50-223		MAG5012	
C25	.02		UK50-223		MAG5012	
C26	.02		UK50-223		MAG5012	
C27	.02		UK50-223		MAG5012	
C28	.02		UK50-223		MAG5012	
C29	.01		UK50-103	MGP01	MAG5011	TG-S10
C30	.02		UK50-223		MAG5012	
C31	.02		UK50-223		MAG5012	
C32	.02		UK50-223		MAG5012	
C33	220					
C34	.02		UK50-223		MAG5012	
C38	.02		UK50-223		MAG5012	
C39	.01 10%			WMF1S1	EWF1A110	192P1039R8
C40	.02		UK50-223		MAG5012	
C41	150 10%		DD-151		GP315	10TS-T15
C42	.01 10%			WMF1S1	EWF1A110	192P1039R8
C43	.002				M192P2229R8	192P2229R8
C44	.01 10%			WMF1S1	EWF1A110	192P1039R8
C45	150 N470 10%				*	10TCT-T15
C46	82 10%		DD-820		GP482	10TS-Q82
C47	.02		UK50-223		MAG5012	
C49	.02		UK50-223		MAG5012	
C50	.02		UK50-223		MAG5012	
C51	100					
C53	.02		UK50-223		MAG5012	
C54	.022				M192P2239R8	192P2239R8
C56	220					
C57	.0015 5%				SXM215	
C62	.047					
C63	.02		UK50-223		MAG5012	
C64	.02		UK50-223		MAG5012	
C68	.0068			WMF1068	EWF1A268	192P6829R8
C69	.0068			WMF1068	EWF1A268	192P6829R8
C70	330		DD-331		GP330	10TS-T33
C72	50		DTZ-50		NP050	10TCC-Q50
C74	.01 10%			WMF1S1	EWF1A110	1PB-S10
C81	220					
C82	.01 10%			WMF1S1	EWF1A110	
C83	.22	(1)		WMF05P22	EWF05022	192P2249R8
C86	.1	(2)		WMF05P1	EWF05010	192P1049R8
C91		(2)				
C92		(2)				
C93		(2)				
C100	330		DD-331		GP330	10TS-T33
C102	50		DTZ-50		NP050	10TCC-Q50
C104	.01 10%			WMF1S1	EWF1A110	1PB-S10
C110	.01 10%			WMF1S1	EWF1A110	
C111	220					
C114	.22			WMF05P22	EWF05022	192P2249R8
CT1	60	4310053				
CT2						
CT3						

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

(1) Used in some versions.

(2) Part of Feed-Thru Capacitor Assembly Part No. 4310066

### 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.	MALLORY PART No.
R65	Threshold	5000				
R66	19kHz	1000				
VR1a	Tone/On-Off Switch	5000	4310032(18)			
VR1b	Volume-Left	20K				
VR1c	Volume-Right/Program Select Switch	20K				
VR2	Balance	10K	4310034			

(18) Includes VR1a, VR1b, VR1c, SW4, SW5.

## 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<sup>®</sup> for the most up-to-date replacement.

### COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke (100uH)	(1)		74F566AP 70F476AI	(1) Part of M1 (Tuner)
L2	RF Choke (100uH)				
L3	RF Choke (100uH)				
L4	AM Ant Choke (5.6uH)				
L5	Image Trap (4.7uH)				
L7	AM Ant				
L8	AM RF				
L9	AM Osc Tuning				
T2	Ratio Det (Pri)				
T3	Ratio Det (Sec)				
T4	AM Osc	(1)			
T5	IF (455kHz)				
T6	(IF (455kHz)				
T7	IF (455kHz)				

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (O CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	65mA	.2	2mH				

### 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	3 A			AGC3	HDJ	312003	150145	FG3-2

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	SFA 10.7MC (1) (2)	Ceramic, 10.7MHz WH Dot
CF2	Filter	SFA 10.7MC (1) (2)	Ceramic, 10.7MHz WH Dot
CF3	Filter	SFE 10.7MA (1) (2)	Ceramic, 10.7MHz OR Dot
CF4	Filter	BFB455 (2)	Ceramic 455kHz Red
CR1	Network	B5RD0115	Ratio Detector
M1	Tuner Assembly	4310043	AM/FM
M2	Tape Head	4310049	8-Track Stereo Play
M3	Motor	4310061	Tape Transport (2500 rpm @ 13.71V)
M4	Solenoid	4310045	Headshift
S01	Socket	4310064	Power/Speaker
SW1	Switch	4310038	AM/FM
SW3	Switch	4310031	Tape/Radio
SW4	Switch		Manual Program Selector (3)
SW5	Switch		Power (3)
SW6	Switch		Auto Program Selector (4)
SW7	Switch	4310013	Program Indicator (Contact)
	Switch	4310019	Program Indicator (Printed Board)
	Printed Circuit Board	4310037	AM/FM/MPX
	Printed Circuit Board	4310067	Audio (Includes Heat sink)

(1) When replacing (CF1, CF2, CF3) should also be replaced.

(2) Number on unit.

(3) Part of Volume/Tone/Balance Assembly

(4) Part of tape guide assembly, part No. 4310062

CARTAPE MODEL CT-4355

## PARTS LIST AND DESCRIPTION (CONTINUED)

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

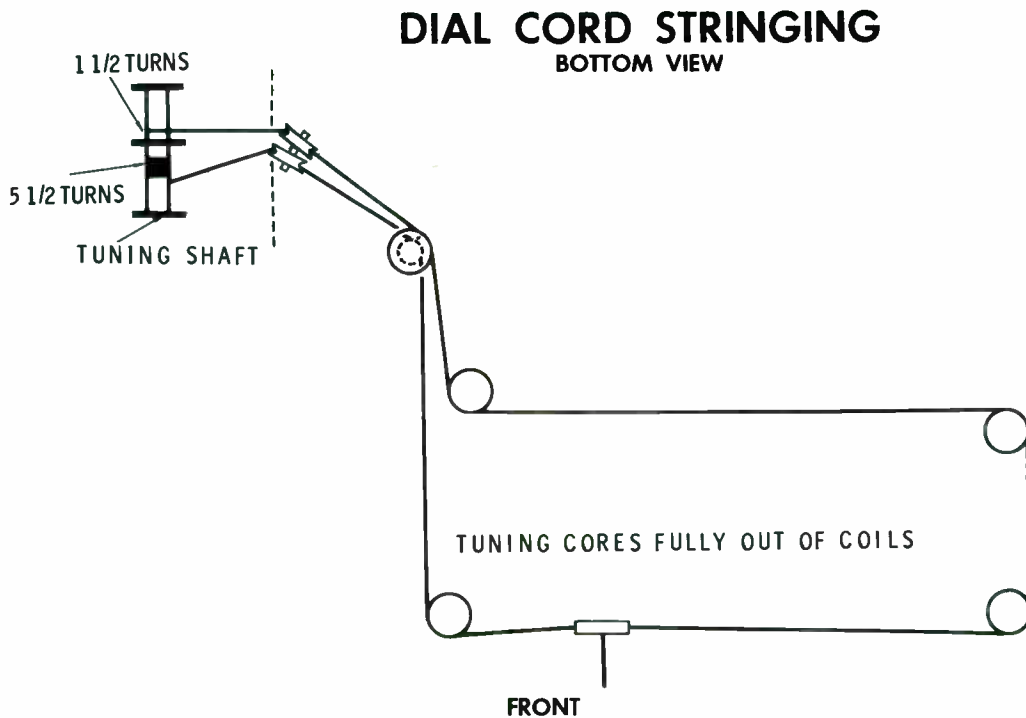
Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS® for the most up-to-date replacement.

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

ITEM	PART No.	ITEM	PART No.
Front Panel	4310012	Tape Door Spring	4310017
Rear Panel	4310055	Dial Pointer	4310015
Escutcheon	4310007	Button, AF/FM	4310009
Tape Door	4310014	Knob, Volume/Manual Program	4310001
Tape Door Shaft	4310033	Select/Tuning Knob, Tone/Balance	4310002

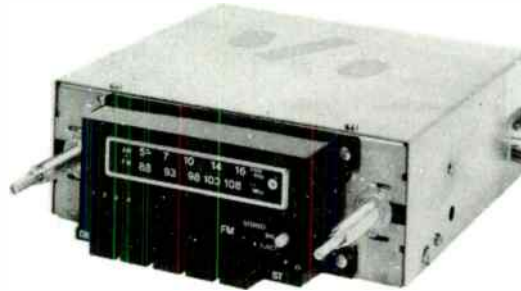
### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 13 Colors 8524 (Stranded) Available in 13 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8401 or 8421
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.)





For Supplier Address See PHOTOFACT Index



MODEL PE-702A

CLARION MODEL PE-702A

## ADJUSTMENTS

ADJUST	REMARKS
Head Azimuth	Play a test cartridge and adjust B1 for maximum on an AC VTVM across output.
Head Height	Play a test cartridge, follow instructions with cartridge, and adjust B2 for proper response.

## TROUBLE CHART

SYMPTOM	REMARKS
Capstan does not rotate.	Belt (26) dirty, worn, or broken. Assembly (20) binding. Motor defective or not supplied with power.
Track-shift mechanism inoperative	Switch (S3) dirty. Cam (13) binding or worn. Pawl (16B) worn. Assembly (5) binding. Solenoid (CH3) defective or not supplied with power. Cartridge defective. Spring (10, 16A, 16C) weak or out of place. Pawl (16B) binding or worn.
Wow or flutter	Belt (26) 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.
Cartridge Detent/Eject erratic or inoperative	Assembly (32,53) binding or worn. Lock (35, 37) binding or worn. Spring (36, 38, 42, 52) weak or out of place.

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

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## MECHANICAL PARTS LIST

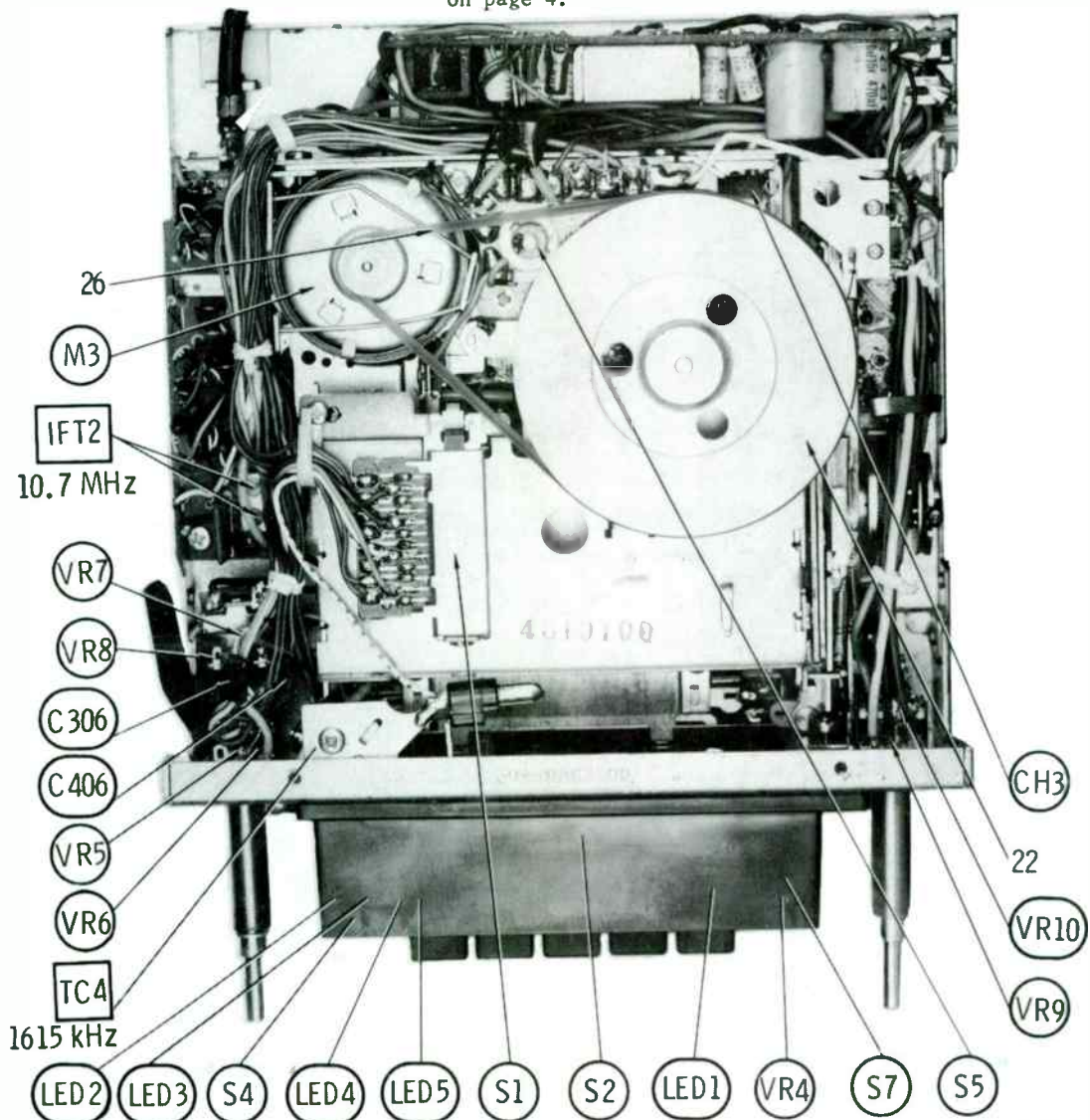
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
5	960-2905-00	Head Shifting Stay Assembly	36	750-1657-00	Lock Spring (A)
10	750-1651-00	Head Shifting Spring	37	630-0834-00	Lock (B)
11	750-1652-00	Azimuth Spring	38	750-1658-00	Lock Spring (B)
13	608-0041-00	Ratchet Cam	39	960-2900-00	Roller Assembly (A)
14	631-0162-00	Height Adjust Collar	41	750-1659-00	Roller Assembly A Spring
16A	(1)	Solenoid Spring	42	750-1660-00	Slide Assembly B Spring
16B	(1)	Pawl	43	750-1661-00	Slide Assembly A Spring
16C	(1)	Pawl Spring	44	630-0911-00	Eject Lever
20	960-2907-00	Capstan Housing Assembly	45	750-1662-00	Eject Lever Spring
22	611-0040-00	Flywheel	46	630-0900-00	Eject Detent Holder (Arm)
24	603-0042-00	Motor Pulley	48	750-1698-00	Detent Pawl Spring
26*	602-0032-00*	Flywheel Drive Belt*	49	631-0182-00	Detent Pawl
31	960-2908-00	Slides Bracket Assembly	50	750-1699-00	Eject Detent Arm Spring
32	960-2902-00	Slide Assembly (A)	52	750-1664-00	Toggle Spring
33	960-2903-00	Slide Assembly (B)	53	960-2910-00	Slide Assembly
35	630-0833-00	Lock (A)			

\* Flywheel Drive Belt: E-V/GAME Replacement Number 1407-204.  
WALSCO Replacement Number 1425-12.

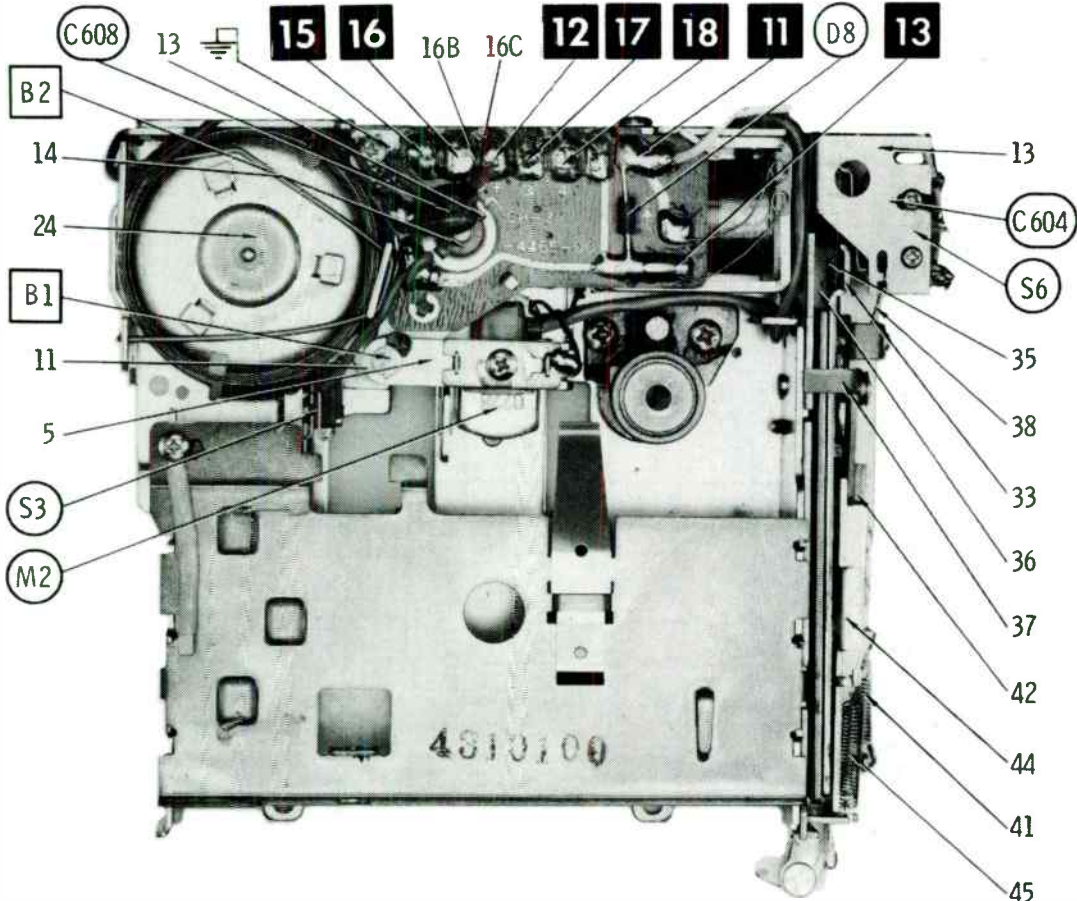
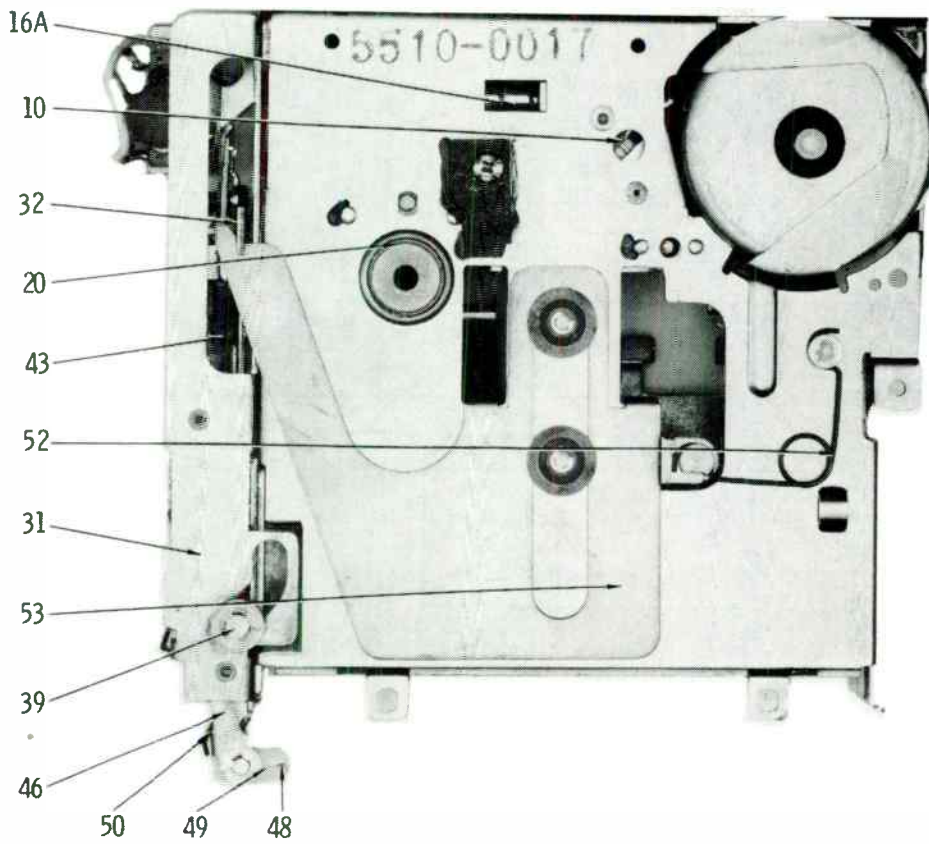
(1) Part of Solenoid (CH3), Part Number 015-0204-00.

### CLEANING LUBRICATING HEAD DEMAGNETIZING

Refer to  
"General Servicing Information"  
on page 4.



CHASSIS-TOP VIEW



TAPE DECK-TOP & BOTTOM

CLARION MODEL PE-702A

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output to provide a usable indication.  
 Suggested Alignment Tools: GC ELECTRONICS:  
 ALL ..... 8290, 8868, 9087

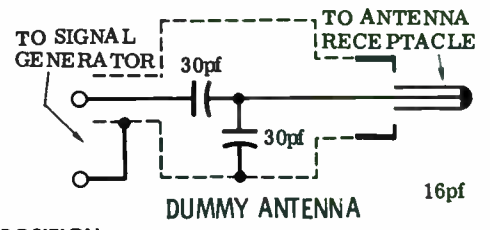
**PUSH-BUTTON ADJUSTMENT**

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

Connect low sides of generator and indicator to ground unless specified otherwise.

GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1uF to antenna input, side to ground.	262kHz 400-Hz mod.	High freq. end stop.	Output meter across voice coil.	IFT4 IFT3	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	TC6, TC5, TC4	"

With radio installed in car and antenna extended 36", tune in a weak station near 1400kHz and adjust TC4 for maximum output. Antenna adjustment TC4 is located inside tape door upper left front.



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

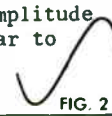
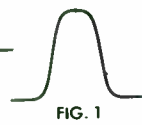
High side of generator thru .001uF to

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to anode of D2.	(1) IFT2 Prim. IFT1	Adjust for maximum.
"	"	DC probe of VTVM to TP3	IFT2 Sec.	Adjust for zero reading. A positive or negative reading will be obtained on either side of correct setting.

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

High side of generator thru .001uF to antenna input.  
 Use 60-hertz, frequency-modulated signal, 450kHz sweep.  
 Use 60-hertz sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to anode of D2.	(1) IFT2 Prim. IFT1	Adjust for maximum gain and symmetry of response similar to Fig. 1
"	"	Vert input of scope to TP3.	IFT2 Sec.	Adjust IFT2 Sec. for maximum amplitude and straightness of line similar to Fig. 2. Readjust IFT2 Prim.



(1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact IF.

### FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MHz Unmodulated	High Freq. end stop.	DC probe of VTVM to Anode of D2.	TC3, TC2, TC1	Adjust for maximum.
Unmodulated		"		Adjust for maximum. Repeat FM RF steps until no further improvement is noted.

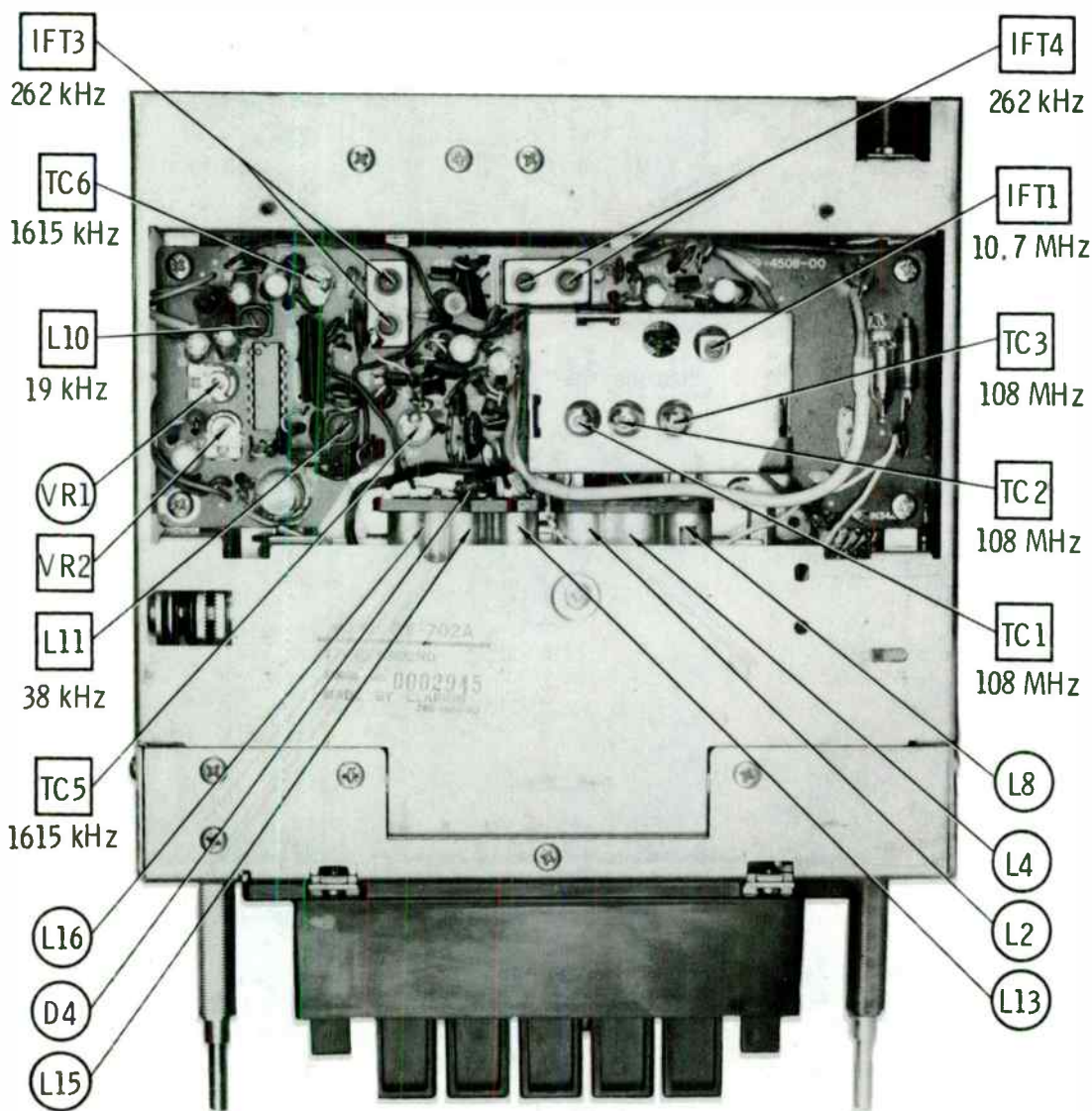


# ALIGNMENT INSTRUCTIONS (Continued)

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

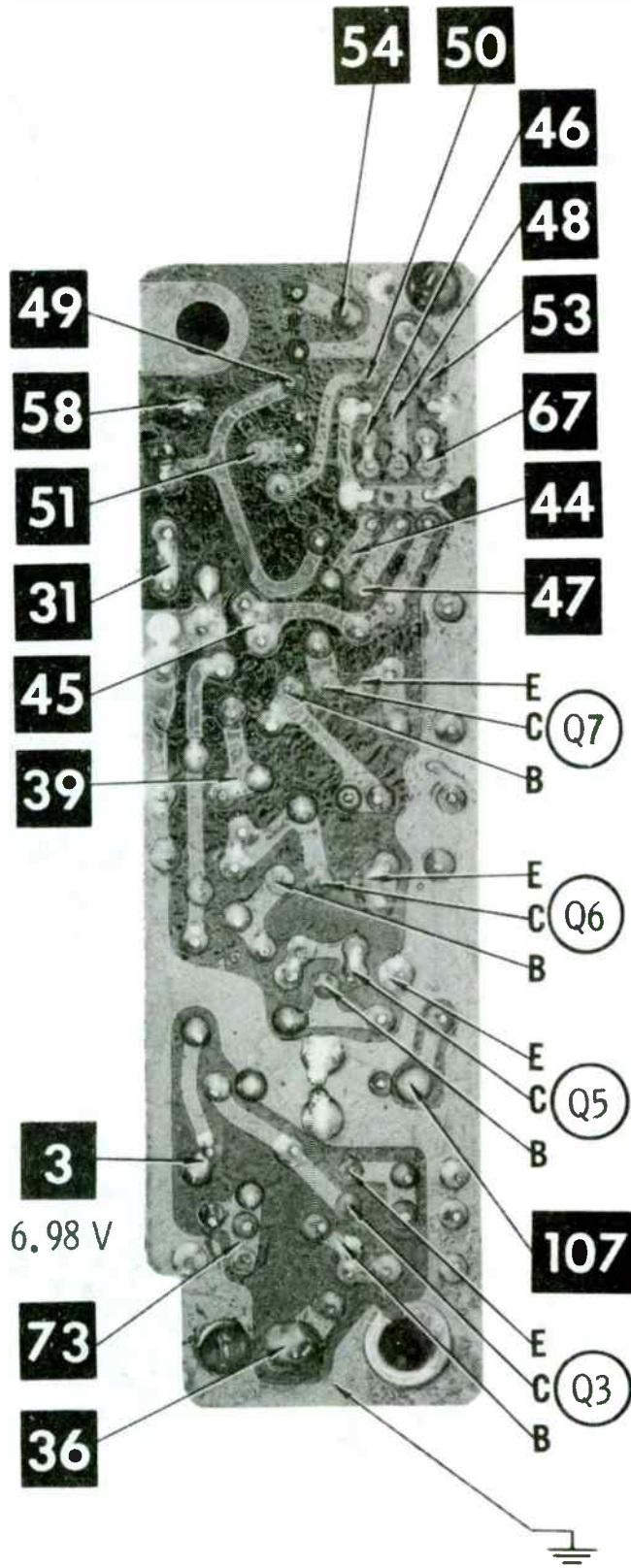
High side of generator thru 47K to antenna input.

GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
Modulated Left Channel	Vert input of scope to + side of C138.	L10, L11, VR2.	Adjust for MINIMUM. This step should require only slight adjustment.
Modulated Right Channel	Vert input of scope to + side of C137.		Check for MINIMUM. If necessary, make compromise adjustment of L10, L11, VR2.

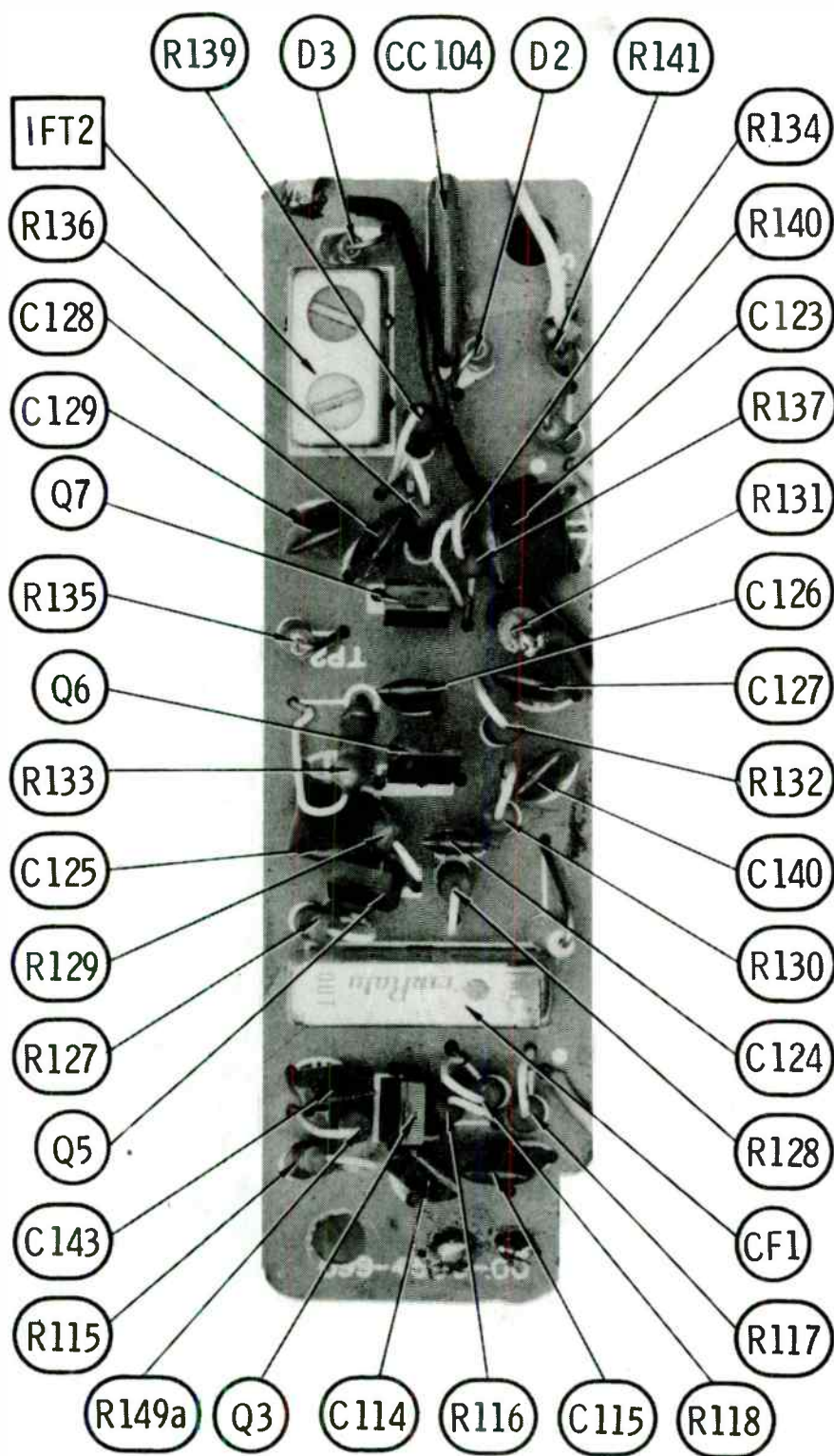


CLARION MODEL PE-702A

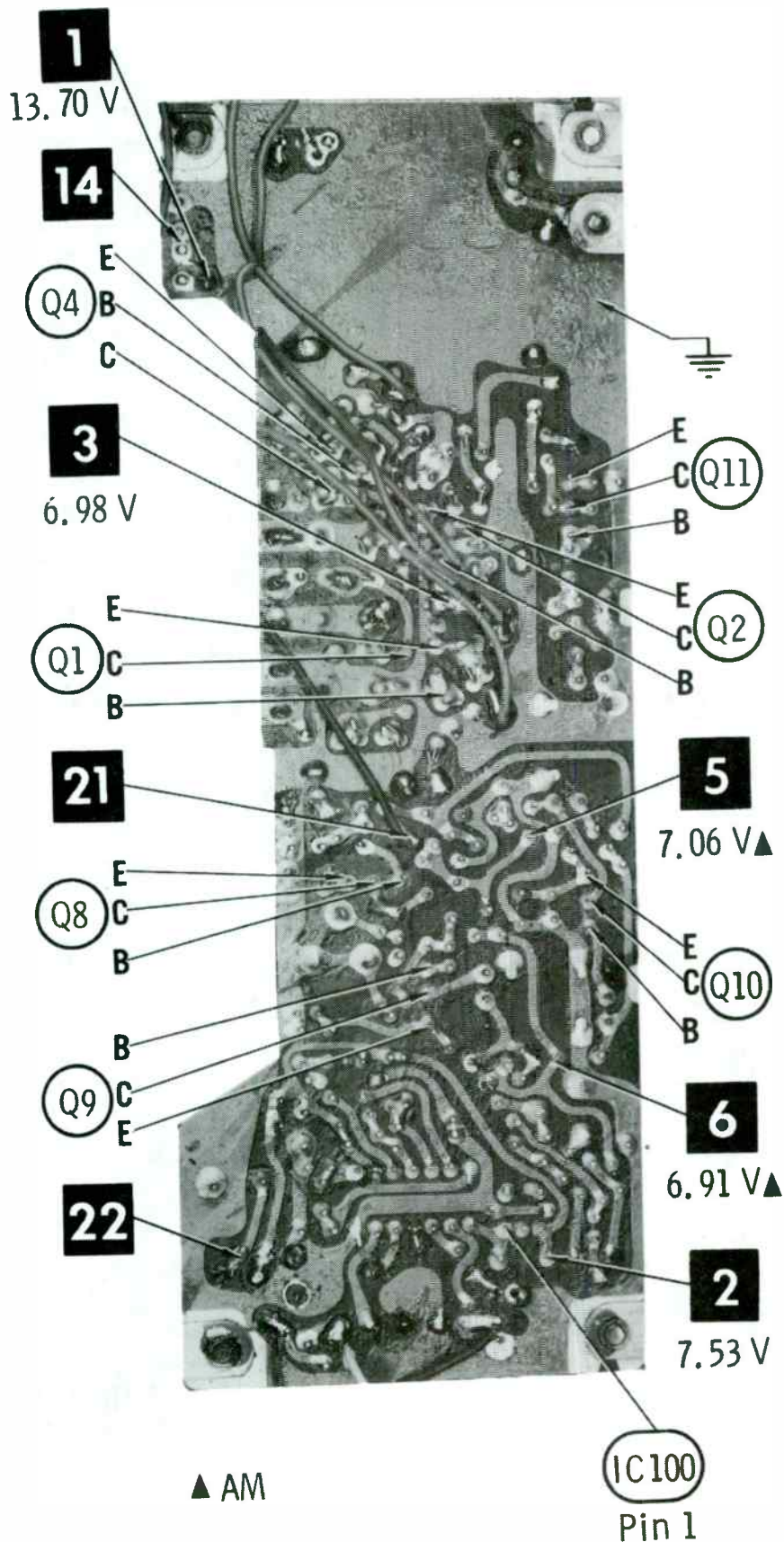
CHASSIS-BOTTOM VIEW



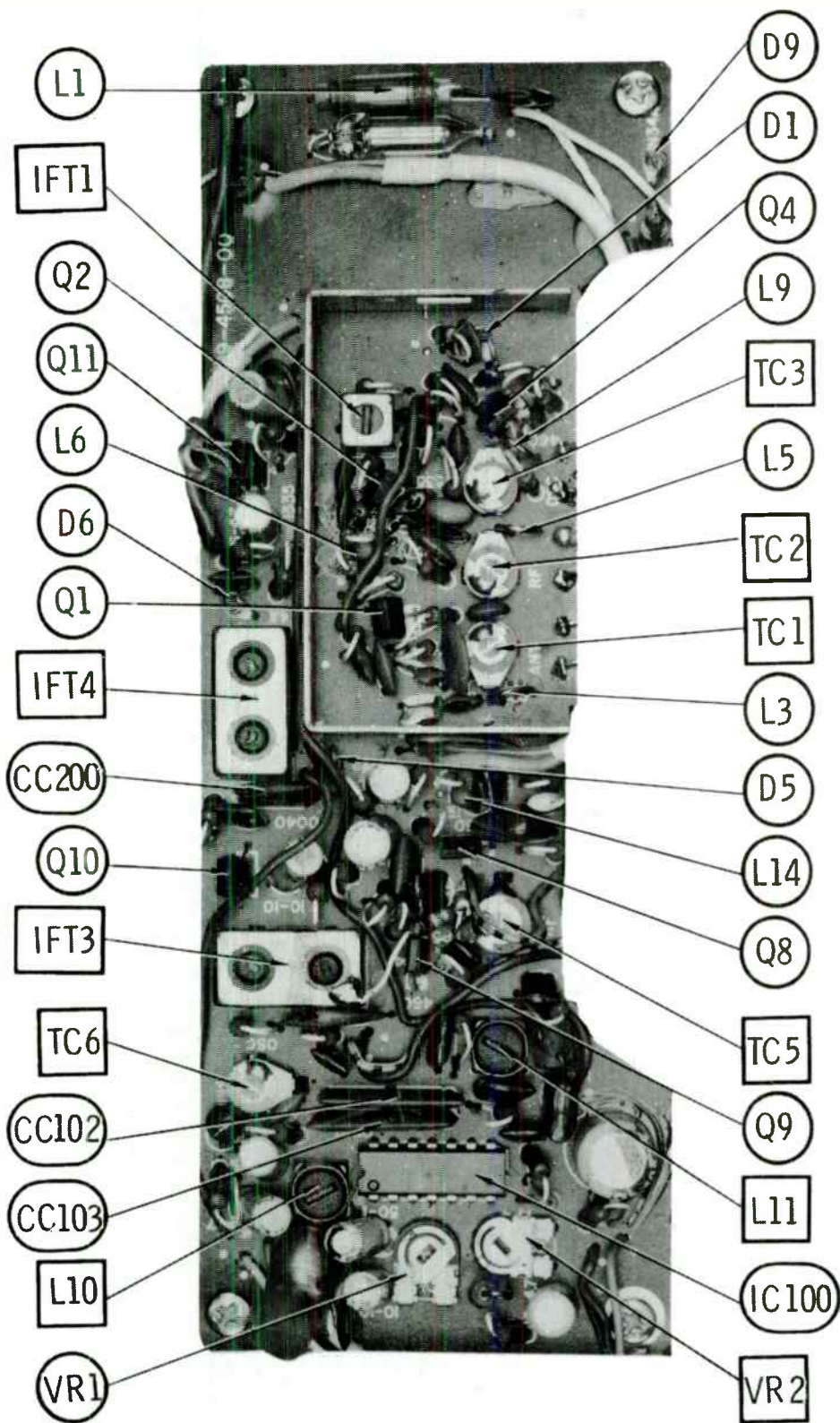
FM IF BOARD



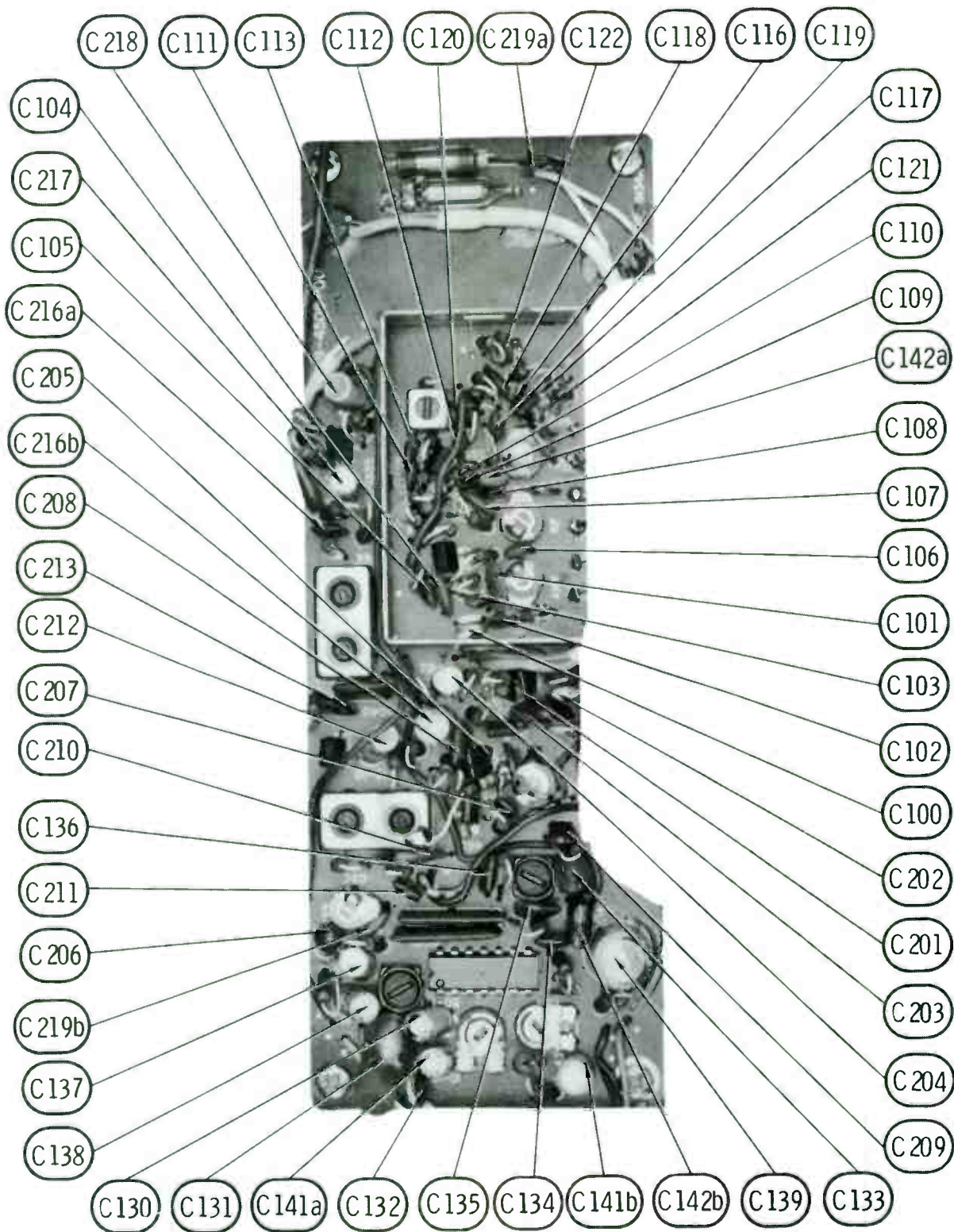
FM IF BOARD



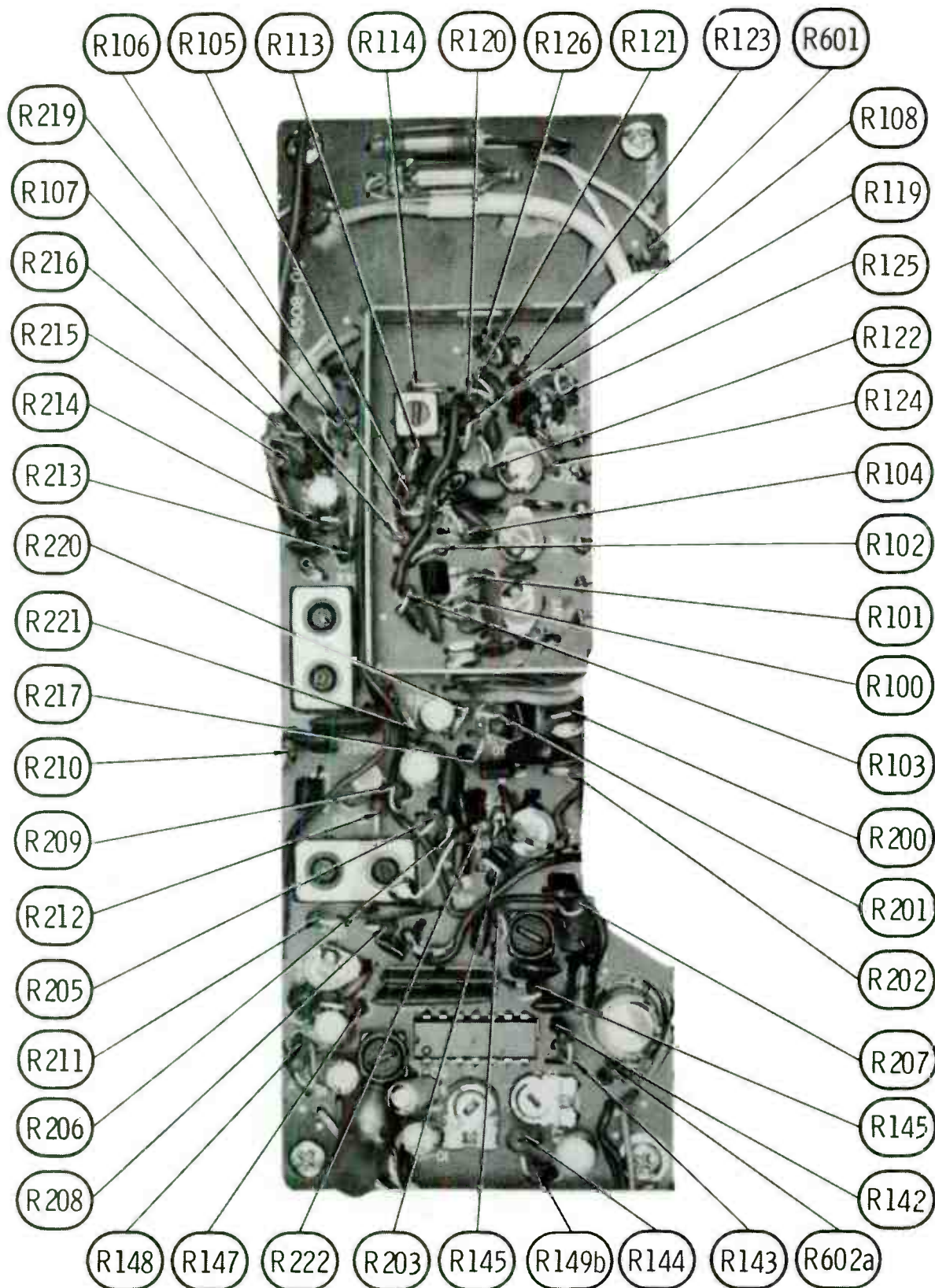
MAIN BOARD



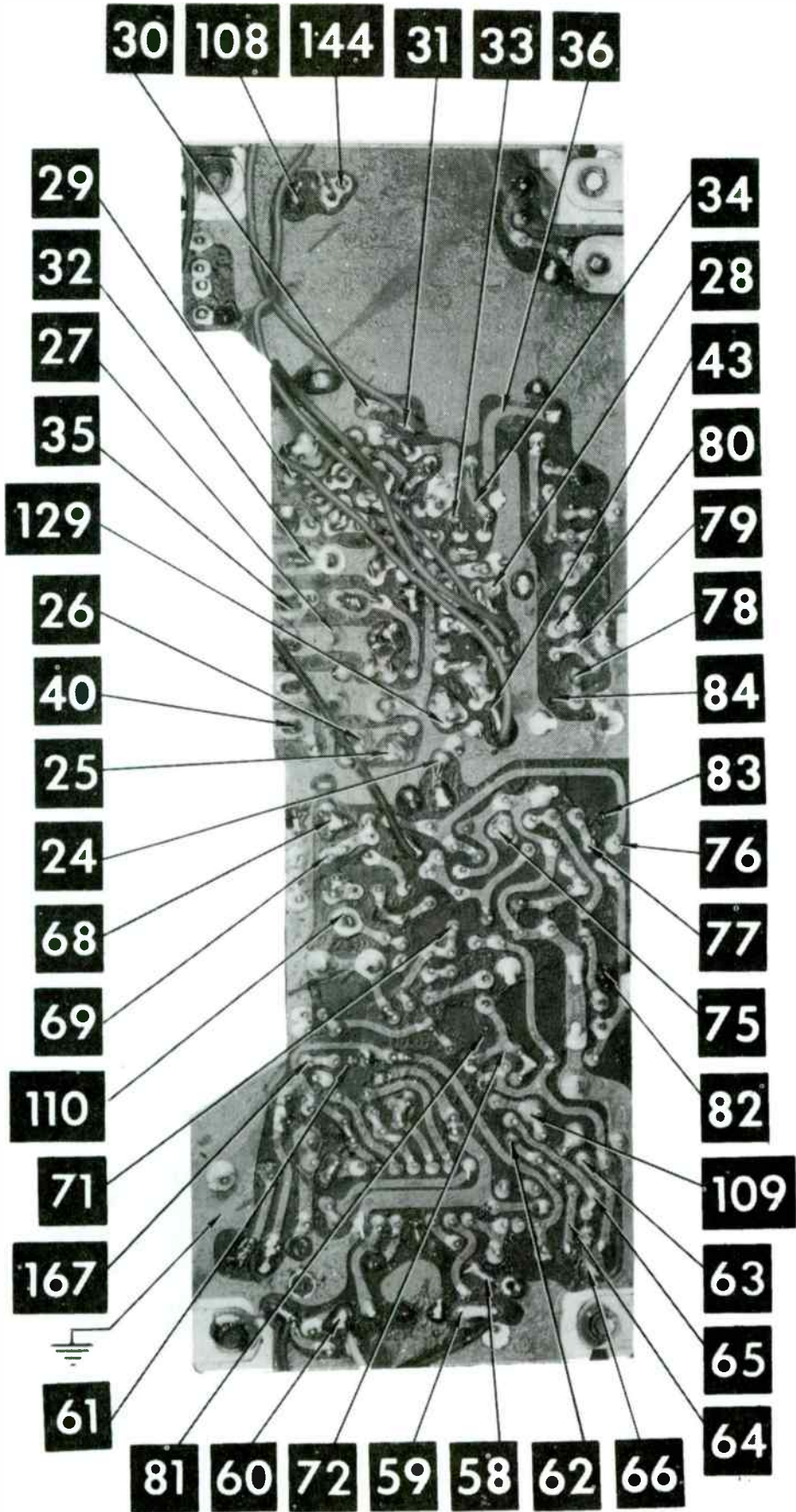
MAIN BOARD



MAIN BOARD

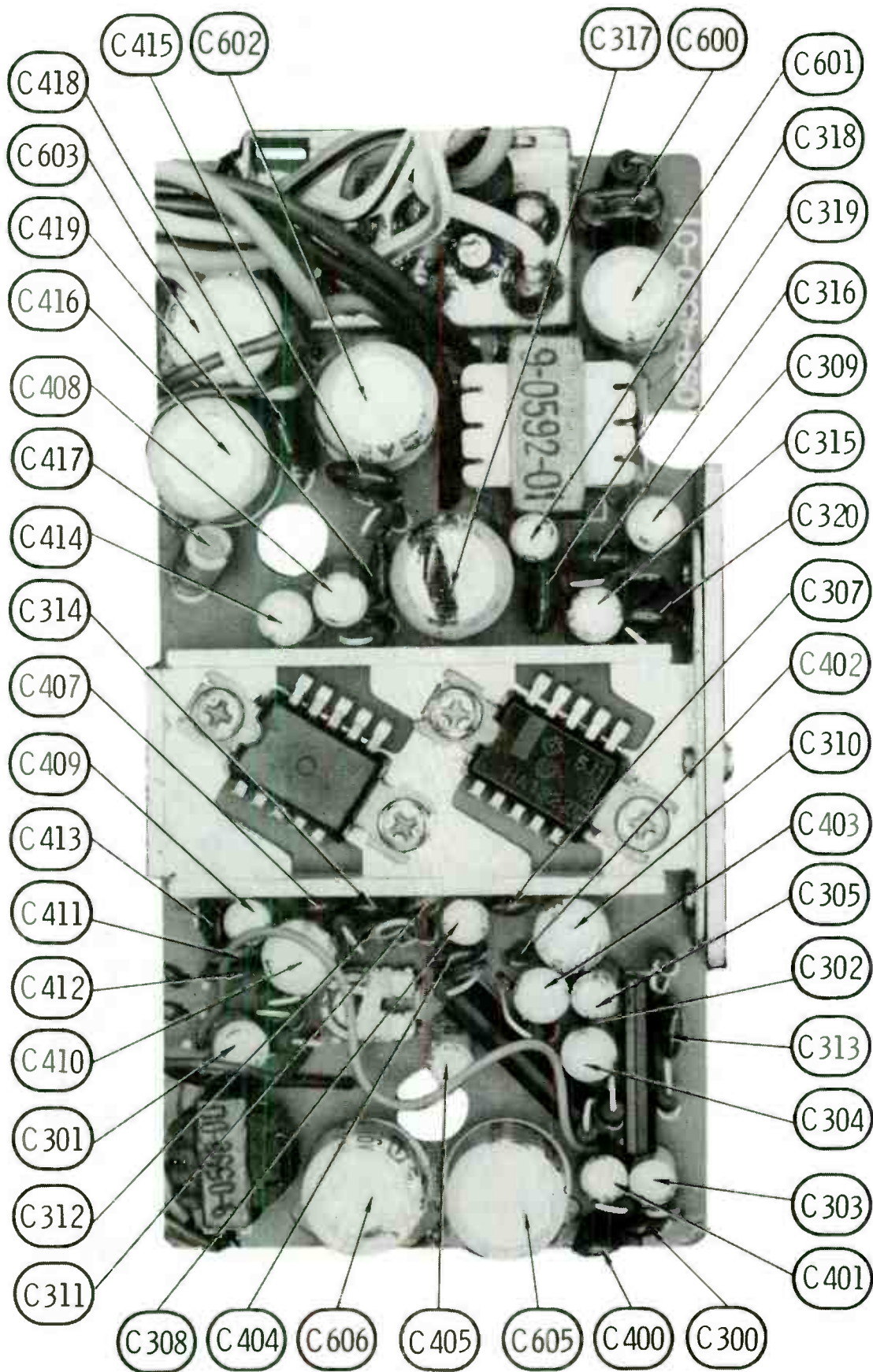


MAIN BOARD

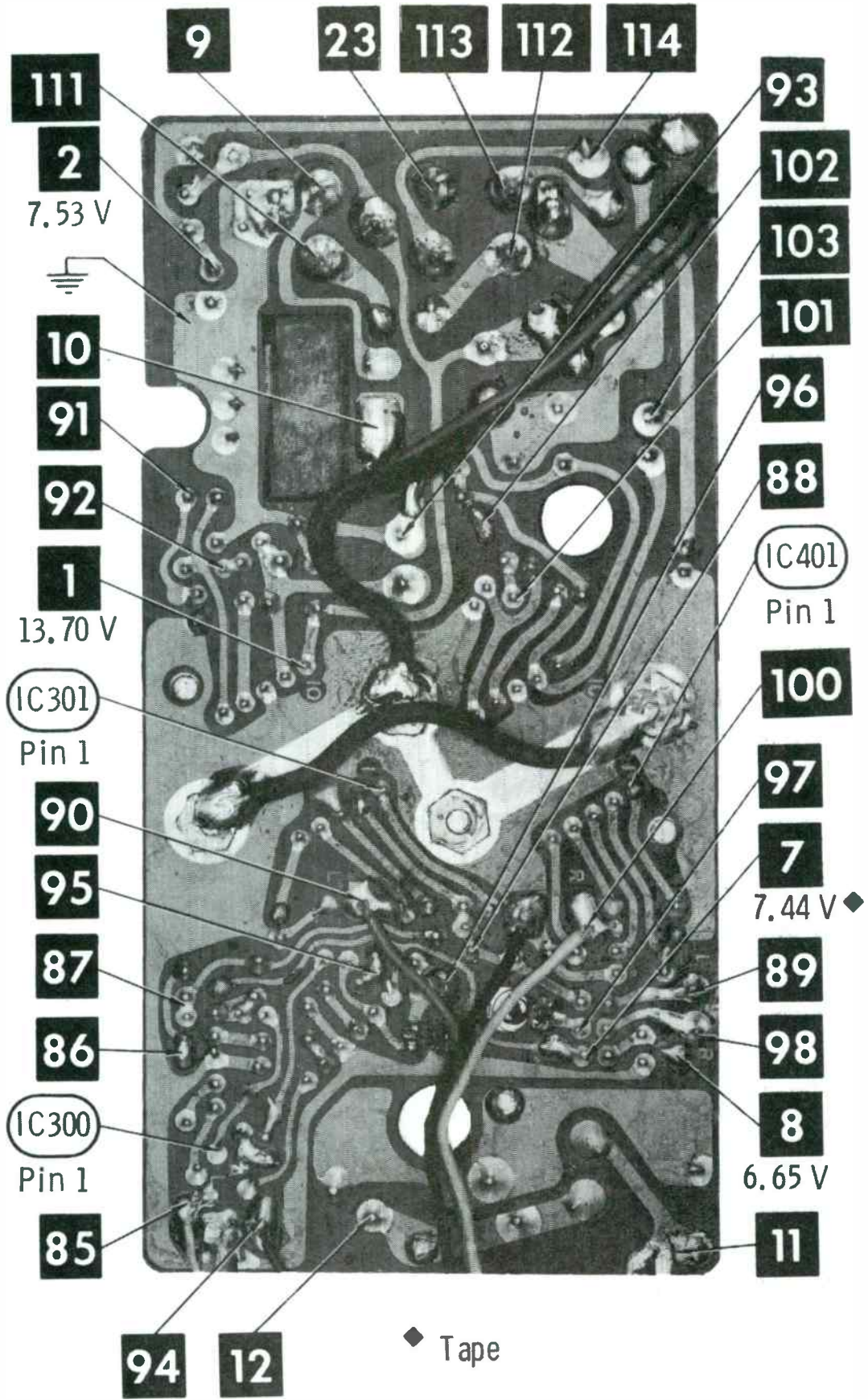


MAIN BOARD

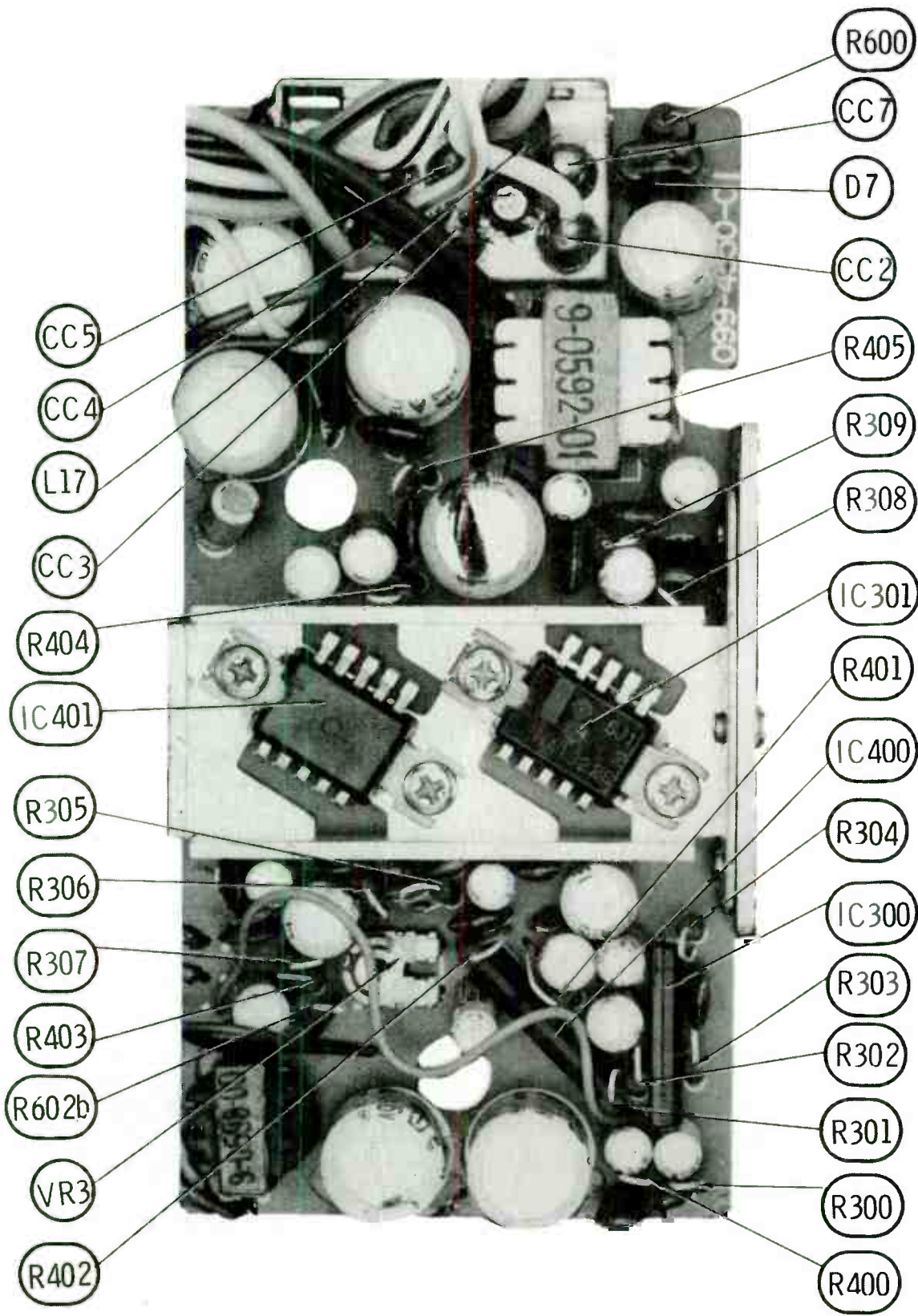




AUDIO BOARD

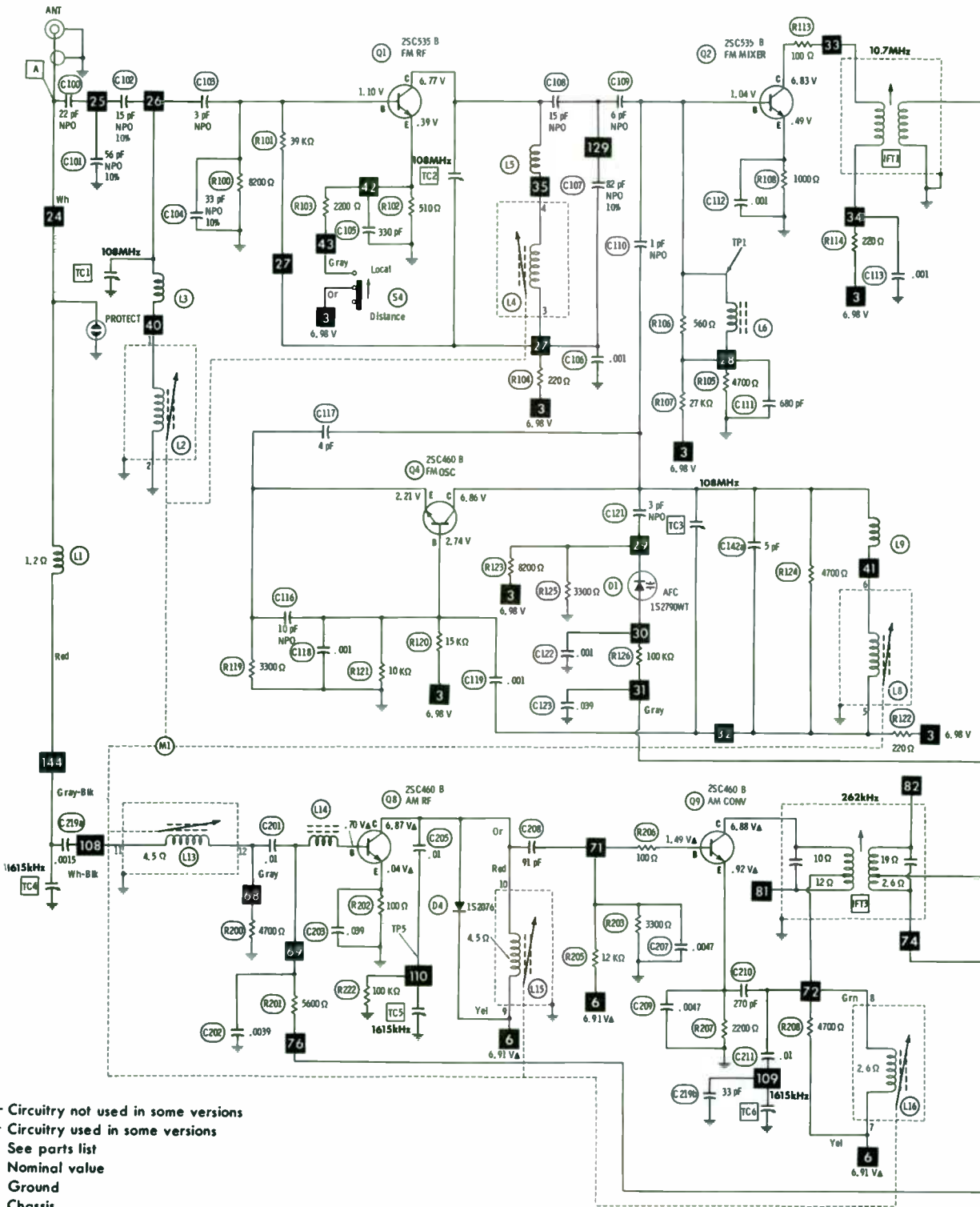


AUDIO BOARD



AUDIO BOARD

**NOTE: DEMAGNETIZE HEADS AFTER SERVICING**



- ✖ Circuitry not used in some versions
- Circuitry used in some versions
- ⊙ See parts list
- ⊛ Nominal value
- ⊥ Ground
- ⌚ Chassis
- ∇ Common tie point

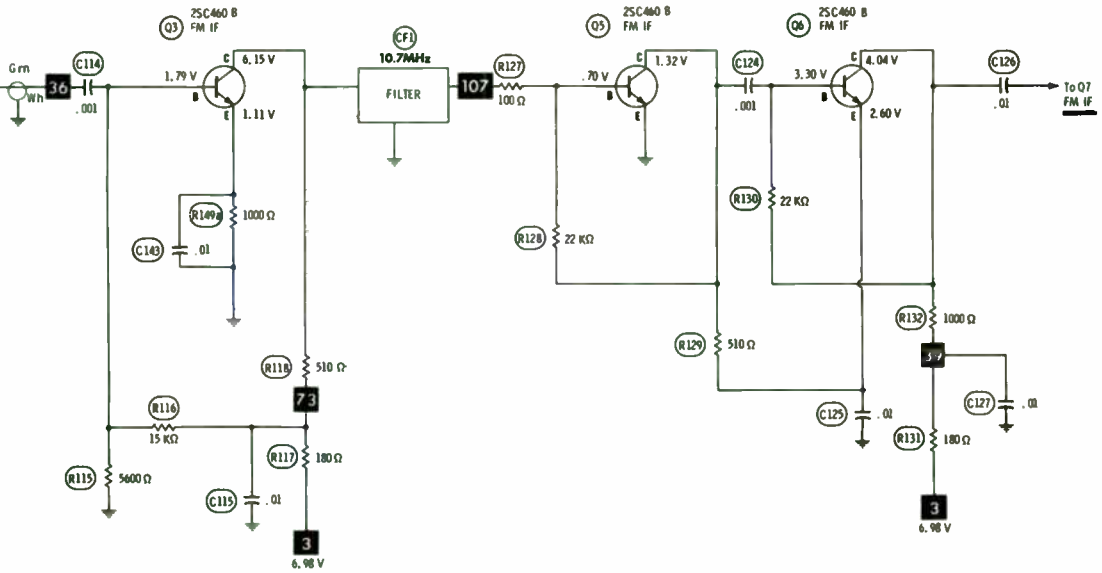
Measurements with switching as shown unless noted:

- FM Stereo signal    ▲ AM
- ◆ Tape play

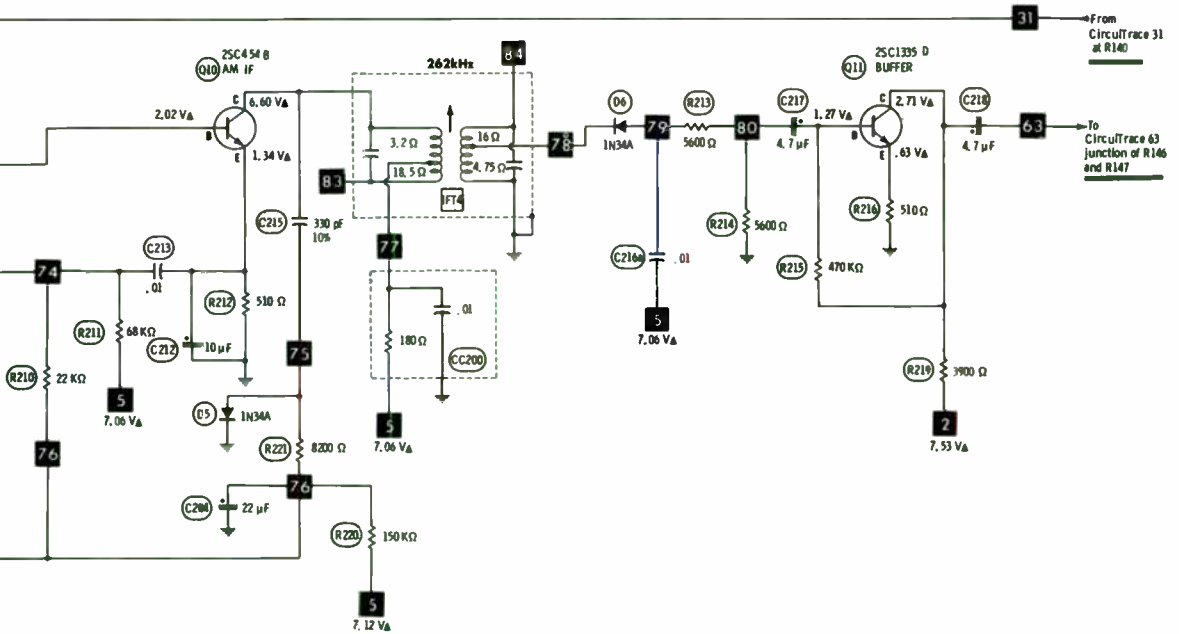
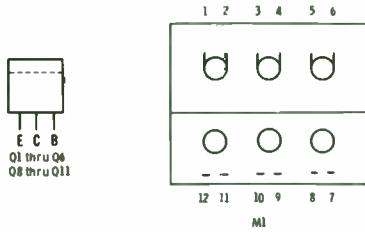
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE**

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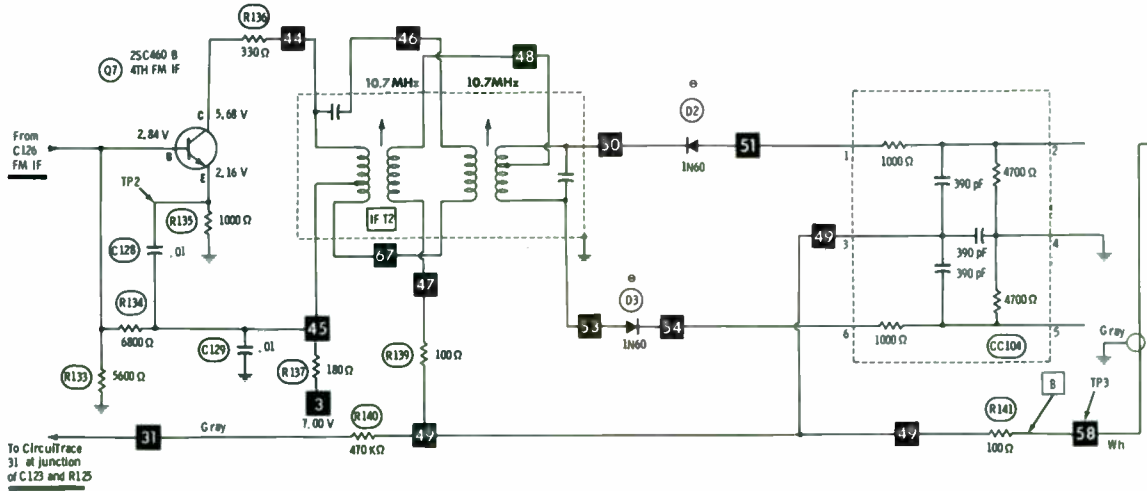
Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.



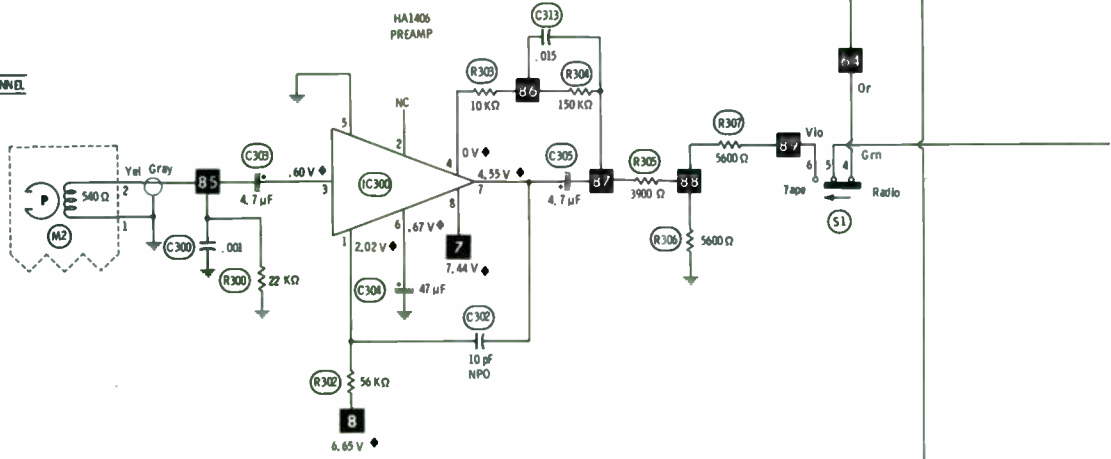
Terminal Guides



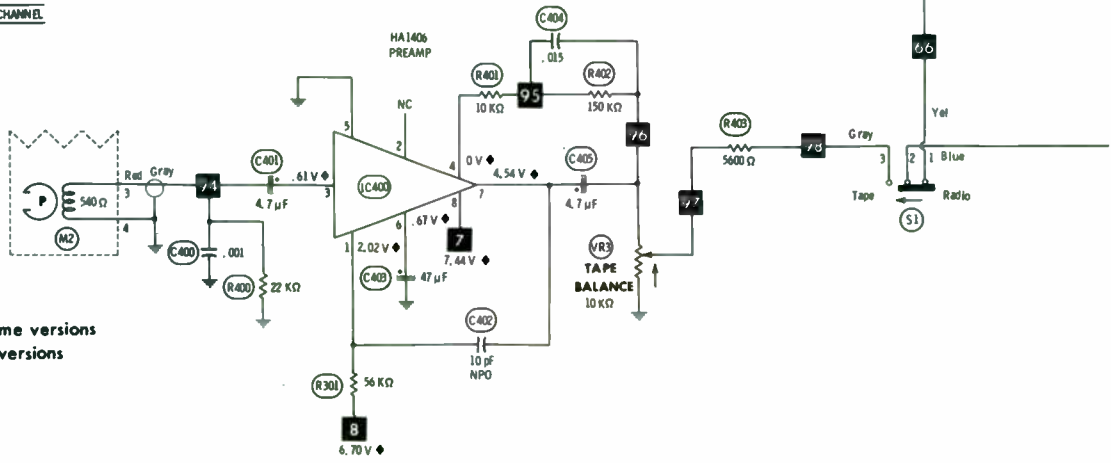
**NOTE: DEMAGNETIZE HEADS AFTER SERVICING**



**LEFT CHANNEL**



**RIGHT CHANNEL**



- Circuitry not used in some versions
- - - Circuitry used in some versions
- ⊙ See parts list
- ⊛ Nominal value
- ⊕ Ground
- ⊞ Chassis
- ∇ Common tie point

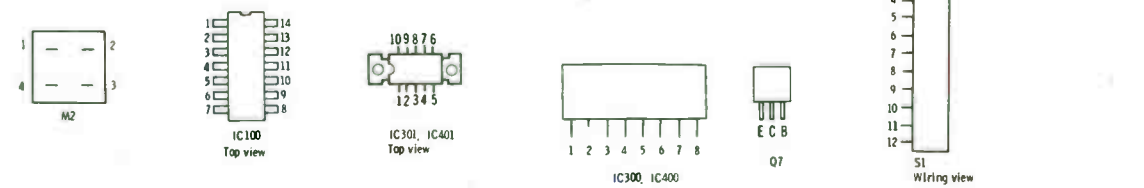
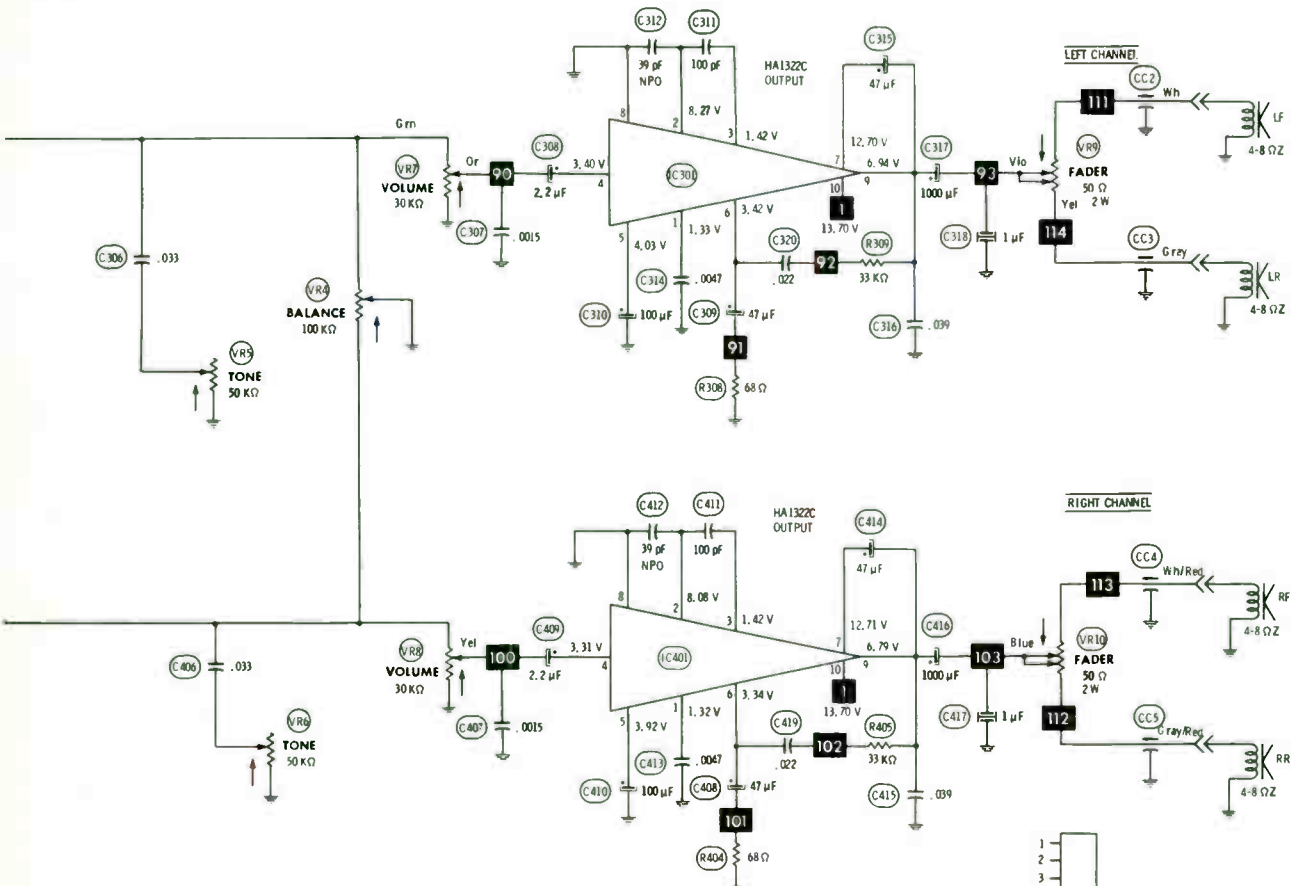
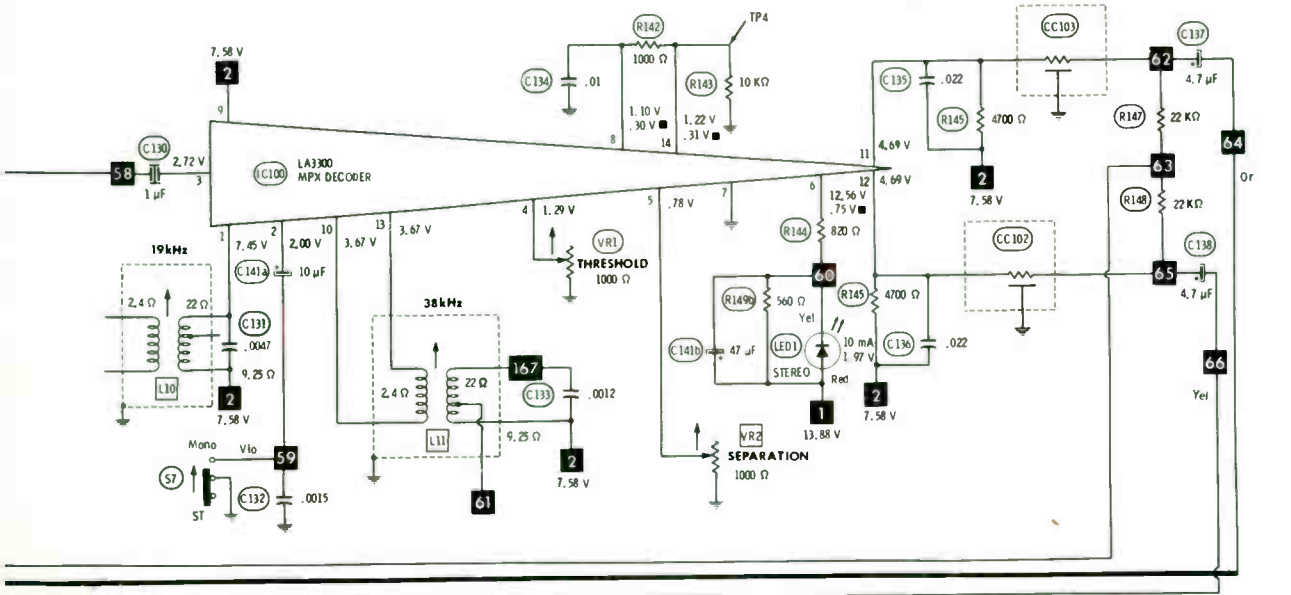
Measurements with switching as shown unless noted:

- FM Stereo signal    ▲ AM
- ◆ Tape play

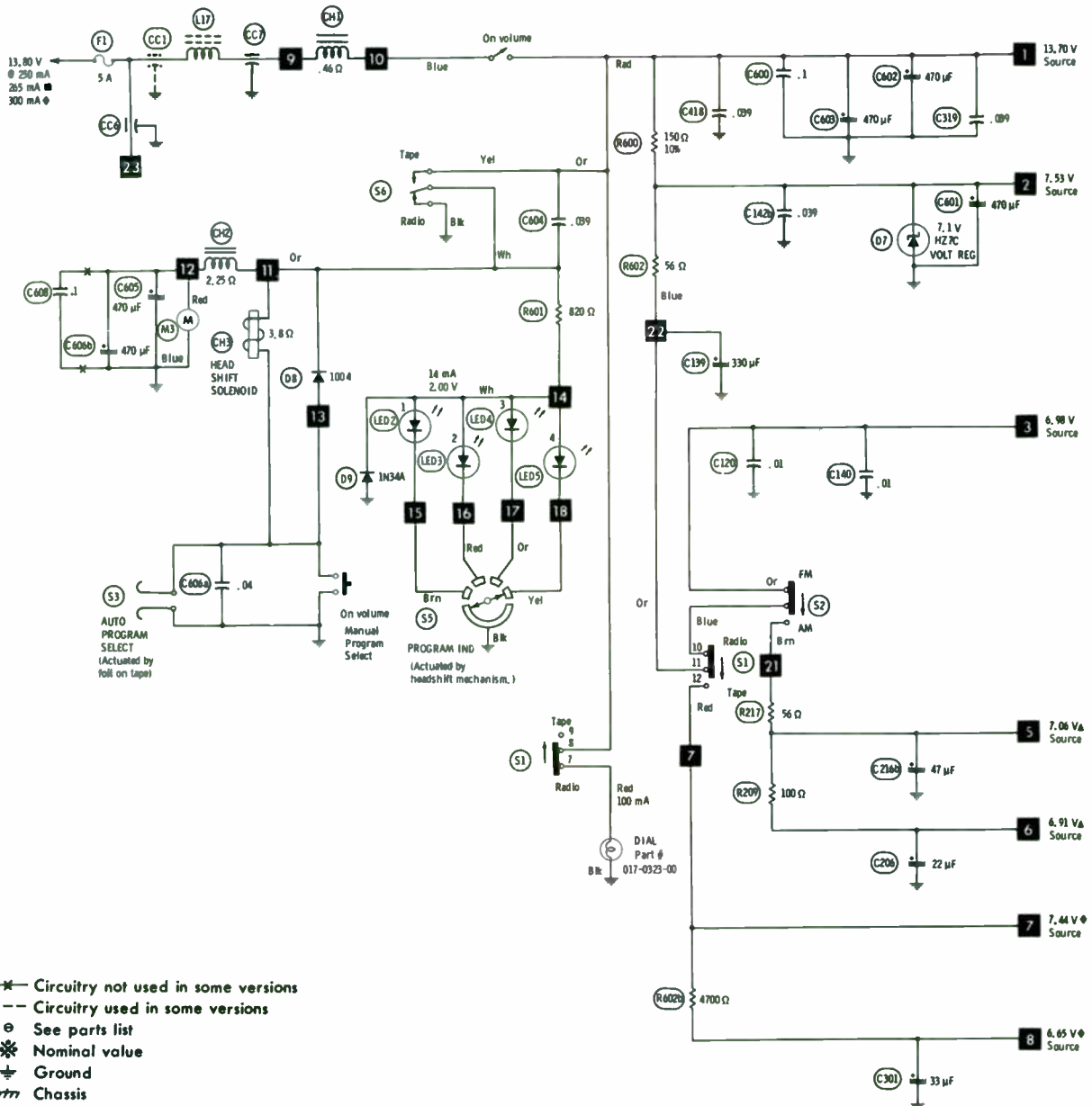
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE**

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Supply voltage maintained as shown at input.  
Voltages measured with digital meter, no signal.  
Controls adjusted for normal operation.  
Arrow at control indicates direction of advance.  
Terminal identification may not be found on unit.  
Resistors are 1/2W or less, 5% unless noted.  
Value in ( ) used in some versions.



**NOTE: DEMAGNETIZE HEADS AFTER SERVICING**



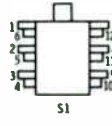
- ✖ Circuitry not used in some versions
  - Circuitry used in some versions
  - ⊙ See parts list
  - ⊛ Nominal value
  - ⊥ Ground
  - ⊕ Chassis
  - ∇ Common tie point
- Measurements with switching as shown unless noted:  
 ■ FM Stereo signal    ▲ AM  
 ◆ Tape play

Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
 WITH **CIRCUITRACE**

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Terminal Guide





# 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.

## WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 13 Colors 8524 (Stranded) Available in 13 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8401 or 8421
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.)

## SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1S2790MT		GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	
D2	1N60	001-0020-00	1N60(7)	1N60 (7)	PTC206M(6)	HEPR9135(7)	RE 86(6)	SK3088(7)	RT-263(7)	ECG110(6)
D3	1N60	001-0020-00								
D4	1S2076	001-0095-00	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D5	1N34A	001-0010-00	1N34AS	1N34A	PTC207	HEPR9134	RE 47	SK3087	RT-200	ECG109
D6	1N34A	001-0010-00	1N34AS	1N34A	PTC207	HEPR9134	RE 47	SK3087	RT-200	ECG109
D7	HZ7C	001-0099-02	GEZD-7.5		ZB7.5B		RE 111		RT-239	ECG138
D8	10D4		GE-504A	5A4D	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D9	1N34A	001-0010-00	1N34AS	1N34A	PTC207	HEPR9134	RE 47	SK3087	RT-200	ECG109
IC100	LA3300	051-0038-00	GEIC-42							ECG1005
IC300	HA1406	051-0035-01								
IC301	HA1322C	051-0036-01								ECG1037
IC400	HA1406	051-0035-01								
IC401	HA1322C	051-0036-01								ECG1037
LED1		001-0140-00								
LED2		001-0140-00								
LED3		001-0140-00								
LED4		001-0140-00								
LED5		001-0140-00								
Q1	2SC535B	102-0535-02	GE-86	(IR)2SC535B	PTC132	HEPS0016	RE 9	SK3018	RT-113	ECG229
Q2	2SC535B	102-0535-02	GE-86	(IR)2SC535B	PTC132	HEPS0016	RE 9	SK3018	RT-113	ECG229
Q3	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q4	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q5	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q6	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q7	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q8	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q9	2SC460B	102-0460-02	GE-61	(IR)2SC460B	PTC136	HEPS0014	RE 9	SK3018	RT-134	ECG107
Q10	2SC454B	102-0454-02	GE-210	(IR)2SC454B	PTC115	HEPS0015	RE 10	SK3018	RT-187	ECG108
Q11	2SC1335D	102-1335-04	GE-210	TR-24	PTC121	HEPS0025	RE 192	SK3020	RT-107A	ECG199

(6) Matched pair.  
(7) Two required - select matched pair.

CLARION MODEL PE-702A

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA			
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C130	1 NP 50V	180-1054-62		TCN501A	
C137	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C138	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C139	330 10V			VTT330G10	EV-1145
C141A	10 16V		PC10-25	VTT10A25	EV-1222
C141B	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C204	22 10V	042-0199-00	PC25-25	VTT22A16	EV-1224
C206	22 10V	180-2264-22		TDC226M015FL	SD10-229
C212	10 16V		PC10-25	VTT10A25	EV-1222
C216B	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C217	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C218	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C301	33 10V	180-3364-22	PC30-25	VTT33A10	EV-1125
C303	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C304	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C305	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C308	2.2 50V	180-2254-62	PC2-100	VTT2R2A50	EV-1517
C309	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C310	100 10V	180-1074-22	PC100-10	VTT100E10	EV-1130
C315	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C317	1000 10V	042-0153-00	PC1000-16	TC12100	EV-1160
C318	1 NP 50V	180-1054-62		TCN501A	
C401	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C403	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226

# 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 (cont)

ITEM No.	RATING	REPLACEMENT DATA			
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C405	4.7 16V	180-4754-32	PC5-50	VTT4R7A50	EV-1319
C408	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C409	2.2 50V	180-2254-62	PC2-100	VTT2R2A50	EV-1517
C410	100 10V	180-1074-22	PC100-10	VTT100E10	EV-1130
C414	47 10V	180-4764-22	PC50-16	VTT47D16	EV-1226
C416	1000 10V	042-0153-00	PC1000-16	TC12100	EV-1160
C417	1 NP 50V	180-1054-62		TCN501A	
C601	470 10V	180-4774-22	PC500-16	VTT47QJ16	EV-1150
C602	470 16V	180-4774-32	PC500-16	VTT47QJ16	EV-1250
C603	470 16V	180-4774-32	PC500-16	VTT47QJ16	EV-1250
C605	470 16V	042-0173-00	PC500-16	VTT47QJ16	EV-1250
C606b	470 16V	042-0173-00	PC500-16	VTT47QJ16	EV-1250

## CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C100	22 NPO 10%	154-5601-13	DTZ-22	NP022	CN0422	10TCC-Q22
C101	56 NPO 10%		DTZ-15	NP015	CN0456	10TCC-Q56
C102	15 NPO 10%		DTZ-3R3	NP03P3	CN0415	10TCC-Q15
C103	3 NPO	160-3312-05	DTZ-33	NP033	CN0533	10TCC-V33
C104	33 NPO 10%		DO-102G	GP1000	CN0433	10TCC-Q33
C105	330 NPO		DTZ-82	NP082	GP210	10TCC-T33
C106	.001	151-1097-13	DTZ-15	NP015	CN0482	5GA-D10
C107	82 NPO 10%		DTZ-6R8	NP06P8	CN0415	10TCC-Q82
C108	15 NPO 10%		DO-681	GP680	CN0568	10TCC-Q15
C109	6 NPO	141-3933-13	DO-102G	GP1000	CN0510	10TCC-V68
C110	1 NPO		DO-102G	GP1000	CN0568	10TCC-V10
C111	680		DTZ-10	NP010	GP368	10TS-T68
C112	.001	141-3933-13	DTZ-4R7	NP04P7	GP210	5GA-D10
C113	.001		DO-102G	GP1000	GP210	5GA-D10
C114	.001		DO-102G	GP1000	GP210	5GA-D10
C115	.01	141-3933-13	DTZ-3R3	NP03P3	EWFA1210	1PB-D10
C116	10 NPO		DD-102G	GP1000	EWFA1110	1PB-S10
C117	4 NPO			DPMS6D1	CN0410	10TCC-Q10
C118	.001	141-3933-13		NP04P7	CN0547	10TCC-V47
C119	.001			WMF1S1	GP210	5GA-D10
C120	.01			WMF1S1	GP210	5GA-D10
C121	3 NPO	141-3933-13	DTZ-3R3	NP03P3	EWFA1110	1PB-S10
C122	.001			NP03P3	CN0533	10TCC-V33
C123	.039			GP1000	GP210	5GA-D10
C124	.001	141-3933-13		DPMS6D1	M192P3939R8	192P3939R8
C125	.01			WMF1S1	EWFA1210	1PB-D10
C126	.001			WMF1S1	EWFA1110	1PB-S10
C127	.01	141-3923-11		DPMS6D1	EWFA1210	1PB-D10
C128	.01			WMF1S1	EWFA1110	1PB-S10
C129	.01			WMF1S1	EWFA1110	1PB-S10
C130	.0047	141-4723-11		WMF1S1	EWFA1110	1PB-S10
C131	.0015			CD19FD472J03	EWFA1110	1PB-S10
C132	.0012			DPMS6D15	SX247	MWC-472
C133	.0012	141-4723-11		CD19FD122J03	EMF6215	6PS-D15
C134	.01			WMF1S1	SX212	MWC-122
C135	.022				EWFA1110	1PB-S10
C136	.022	141-3933-13		M192P2239R8	M192P2239R8	192P2239R8
C140	.01			WMF1S1	M192P2239R8	192P2239R8
C142a	5				EWFA1110	1PB-S10
C142b	.039	141-3933-13		WMF1S1	M192P3939R8	192P3939R8
C143	.01			WMF1S1	EWFA1110	1PB-S10
C201	.01			WMF1S1	EWFA1110	1PB-S10
C202	.0039	141-3923-11		WMF1S1	EWFA1110	1PB-S10
C203	.039	141-3933-13			M192P3929R8	192P3929R8
C205	.01	141-4723-11		WMF1S1	M192P3939R8	192P3939R8
C207	.0047				EWFA1110	1PB-S10
C208	91 10%				M192P4729R8	192P4729R8
C209	.0047	141-4723-11		CD15FD910J03	SX491	MWA-910
C210	270 5%	141-4723-11			M192P4729R8	192P4729R8
C211	.01				SX327	MWB-271
C213	.01			CD15FD271J03	WMF1S1	1PB-S10
C215	330	141-4723-11		WMF1S1	EWFA1110	1PB-S10
C216a	.01			DD-331	GP330	10TS-T33
C300	.001				WMF1S1	EWFA1110
C302	10 NPO	141-4723-11		DPMS6D1	EWFA1210	1PB-D10
C306	.033			DTZ-10	NP010	CN0410
C307	.0015				DPMS6D15	M192P3339R8
C311	100	141-4723-11		GP100	EMF6215	6PS-D15
C312	39 NPO 10%			DD-101		GP310
C313	.015					CN0439
C314	.0047				M192P1539R8	192P1539R8
					M192P4729R8	192P4729R8

# 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	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C316	.039 10%	141-3933-13	DTZ-10	DPMS6D1 NP010	M192P3939R8	192P3939R8
C319	.039 10%	141-3933-13			M192P3939R8	192P3939R8
C320	.022				M192P2239R8	192P2239R8
C400	.001				EMF1A210	1PB-D10
C402	10 NPO				CN0410	10TCC-Q10
C404	.015	141-1533-11			M192P1539R8	192P1539R8
C406	.033				M192P3339R8	192P3339R8
C407	.0015				EMF6215	6PS-D15
C411	100				GP310	10TS-T10
C412	39 NPO 10%	151-3901-13			DD-101	CN0439
C413	.0047	141-4723-11		M192P4729R8	192P4729R8	
C415	.039 10%	141-3933-13		M192P3939R8	192P3939R8	
C418	.039 10%	141-3933-13		M192P3939R8	192P3939R8	
C419	.022			M192P2239R8	192P2239R8	
C600	.1			EMF05010	431P1049R5	
C604	.039	141-3933-13		GP140	5GA-S40	
C606a	.04			GP140	5GA-S40	
CC2		(1)				
CC3		(1)				
CC4		(1)				
CC5		(1)				
CC6		(1)				
CC7		(1)				
TC1		004-1496-00				
TC2						
TC3		004-1502-00				
TC5		004-1494-00				
TC6		004-1498-00				

(1) Part of Filter Assembly (944-0461-00).

## 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.	MALLORY PART No.	TRW PART No.
VR1	Threshold	1000	012-3286-00				
VR2	Separation	1000	012-3286-00				
VR3	Tape Balance	10K	012-2740-00				
VR4	Balance	100K	012-3445-00				
VR5	Tone - Right	50K	012-3444-00				
			(18)				
VR6	Tone - Left	50K	3444-00 (5)				
VR7	Volume - Left	30K					
VR8	Volume - Right/ Prog.Sel.Switch/ Power Switch	30K					
VR9	Fader - Right	50 2W	012-3492-00				
			(19)				
VR10	Fader - Left	50 2W	3492-00 (5)				

(5) Number on unit.

(18) Includes VR5, VR6, VR7, VR8.

(19) Includes VR9, VR10.

## COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
I FT1	IF 10.7MHz	005-0698-00			(1) Part of M1 (Tuner Assy.)
I FT2	IF 10.7MHz	005-0684-00			
I FT3	IF 262kHz	005-0550-01			
I FT4	IF 262kHz	005-0560-01			
L1	AM Antenna Choke	010-0490-01			
L2	FM Antenna	(1)			
L3	Image Trap	010-1647-00			
L4	FM RF	(1)			
L5	Image Trap	010-1647-00			
L6	10.7MHz Trap	010-1709-00			
L8	FM Osc	(1)			
L9	Image Trap	010-1647-00			
L10	10kHz	010-1698-00			
L11	38kHz	010-1698-00			
L13	AM Antenna	(1)			
L14	Image Trap	010-1570-00			
L15	AM RF	(1)			
L16	AM Osc	(1)			
L17	RF Choke	010-1686-00			

CLARION MODEL PE-702A

## 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.	THORDARSON PART No.	TRIAD PART No.	
CH1	300	.46	1.6mH	009-0592-01			
CH2	125	2	11.4mH	009-0598-00			

### FUSE DEVICES

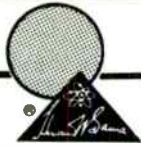
ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	5 A	120-0050-00	850-1844-01 (female) 850-1822-00 (male)	AGC-5	HDJ	311005	150145	F65-2

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CC102	Network	050-0051-00	De-Emphasis
CC103	Network	050-0051-00	De-Emphasis
CC104	Network	050-0010-00	Ratio Detector
CC200	Network	050-0040-00	AM IF
CF1	Ceramic Filter	005-0706-00	SFW-10.7mA
CH3	Solenoid		Head Shift
M1	Tuning Coil Assembly	937-0148-26	AM/FM
M2	Tape Head	011-0228-00	8 Track Stereo Play
M3	Motor	020-0326-01	Tape Transport (3,000 rpm @ 13.80 V)
S1	Switch	013-3232-01	Radio/Tape
S2	Switch	013-3248-00	AM/FM
S3	Switch	630-0843-00	Auto Program Selector
S4	Switch	013-1120-01	Local/Distant
S5	Switch	960-2909-00	Program Indicator (Printed Board)
		608-0041-00	Program Indicator (Ratchet Assembly)
S6	Switch	013-2690-03	Radio/Tape Power
S7	Switch	013-1120-01	Stereo/Mono
	Printed Circuit Board	099-4506-01	AM/FM Switch - Program Indicators
	Printed Circuit Board	099-4550-01	Audio Amp
	Printed Circuit Board	099-4509-00	FM IF
	Printed Circuit Board	099-4508-00	FM/MPX
	Printed Circuit Board	099-4463-00	Radio/Tape Switch

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

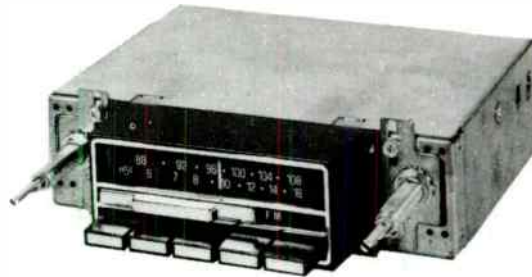
ITEM	PART No.	ITEM	PART No.
Escutcheon Assembly	940-0028-A	Button, Local/DX	382-0103-01
Dial Pointer	376-0792-00	Button, Stereo/Mono	382-0103-00
Knob, Volume/Tuning	380-3531-00	Button, AM/FM (5 used)	680-0051-00
Knob, Tone/Balance	380-3532-00		



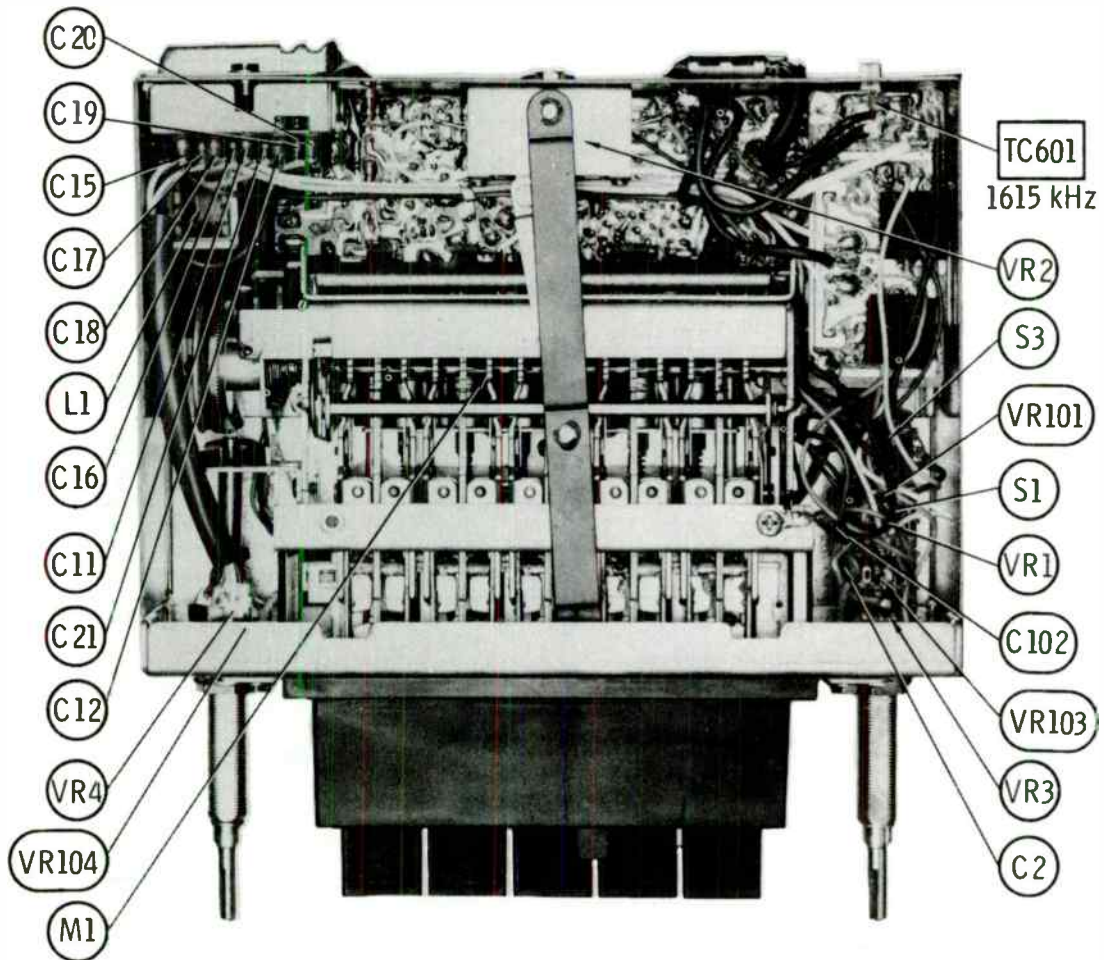
# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

For Supplier Address See PHOTOFACT Index



MODEL 1902



CRAIG MODEL 1902

CHASSIS-BOTTOM VIEW

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

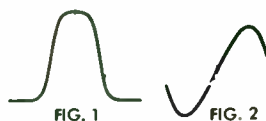
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6AN962

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
Use only enough generator output to provide a usable indication. Connect low sides of generator and indicator to ground unless specified otherwise.



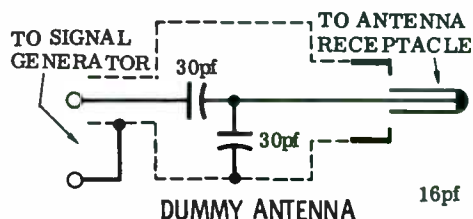
### PUSH-BUTTON ADJUSTMENT

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

Suggested Alignment Tools: GC ELECTRONICS  
ALL ..... 8290, 8868, 9087

GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1uF to ant. input, low side to ground.	455kHz 400-Hz mod.	High freq. end stop.	Output meter across voice coil.	T605, T604, T603, T602, T601	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	TC613, TC606, TC601	"
Thru dummy antenna to antenna input.	600kHz	Tune to signal	Output meter across voice coil.	L603	Adjust for maximum. Repeat alignment until no further improvement is noted.

With radio installed in car and antenna extended 36", tune in a weak station near 1400kHz and adjust TC601 for maximum output. Antenna adjustment TC601 is located on left rear corner.



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

High side of generator thru .001uF to antenna input.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to junction of D504 & R513.	(1) T501 T401	Adjust for maximum.
"	"	DC probe of VTVM to Q505 Base.	T502	Adjust for zero reading. A positive or negative reading will be obtained on either side of correct setting.
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to junction of D504 & R513.	L401	Adjust for MINIMUM.

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

High side of generator thru .001uF to antenna input.  
Use 60-hertz, frequency-modulated signal, 450kHz sweep.  
Use 60-hertz sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to junction of D504 & R513.	(1) T501 T401	Disconnect stabilizing capacitor C522. Adjust for maximum gain and symmetry of response similar to Fig.1. Reconnect C522.
"	"	Vert input of scope to Q505 Base.	T502	Adjust T502 for maximum amplitude and straightness of line similar to Fig. 2. Readjust T501.

## ALIGNMENT INSTRUCTIONS (Continued)

### FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.

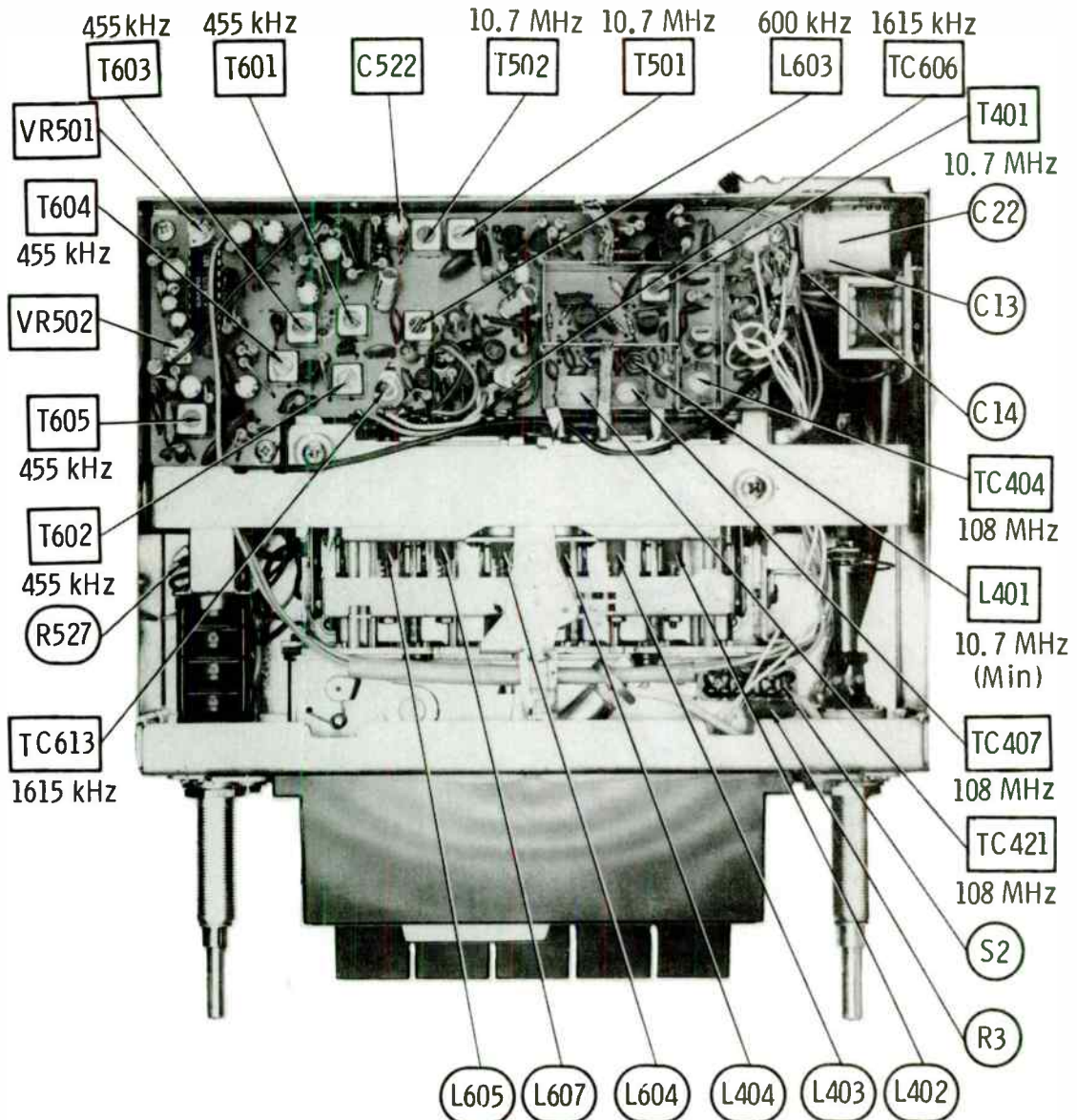
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MHz Unmodulated	High freq. end stop	DC probe of VTVM to junction of D504 & R513.	TC404 TC407 TC421	Adjust for maximum.

(1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact IF.

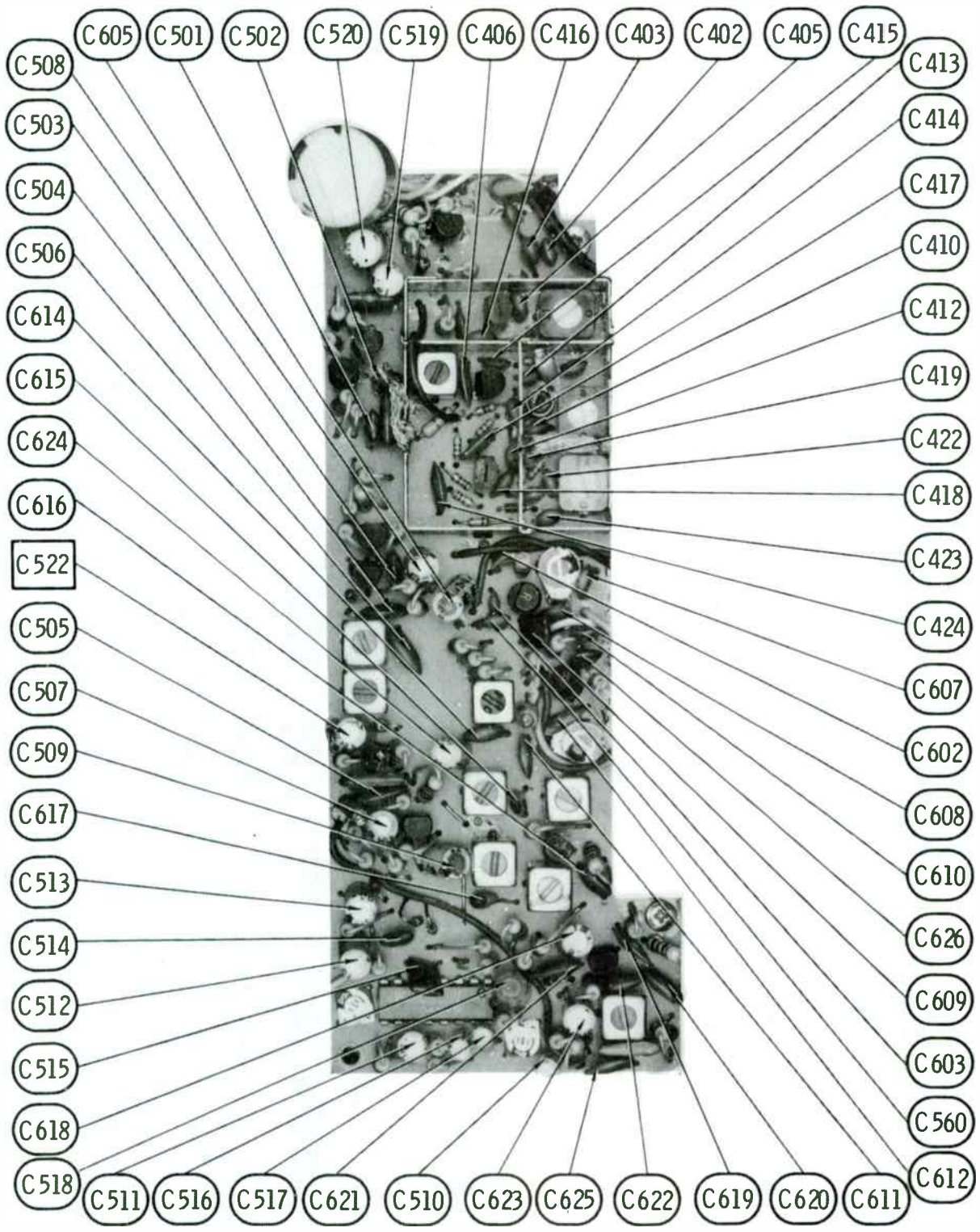
### FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR (± .0001% ACCURACY)

High side of generator thru 47K to antenna input.

GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
Modulated Left Channel	Vert input of scope to junction of C512 & D505.	VR501 VR502	Adjust for MINIMUM. This step should require only slight adjustment.
Modulated Right Channel	Vert input of scope to junction of C513 & D506.		Check for MINIMUM. If necessary, make compromise adjustment of VR501, VR502.

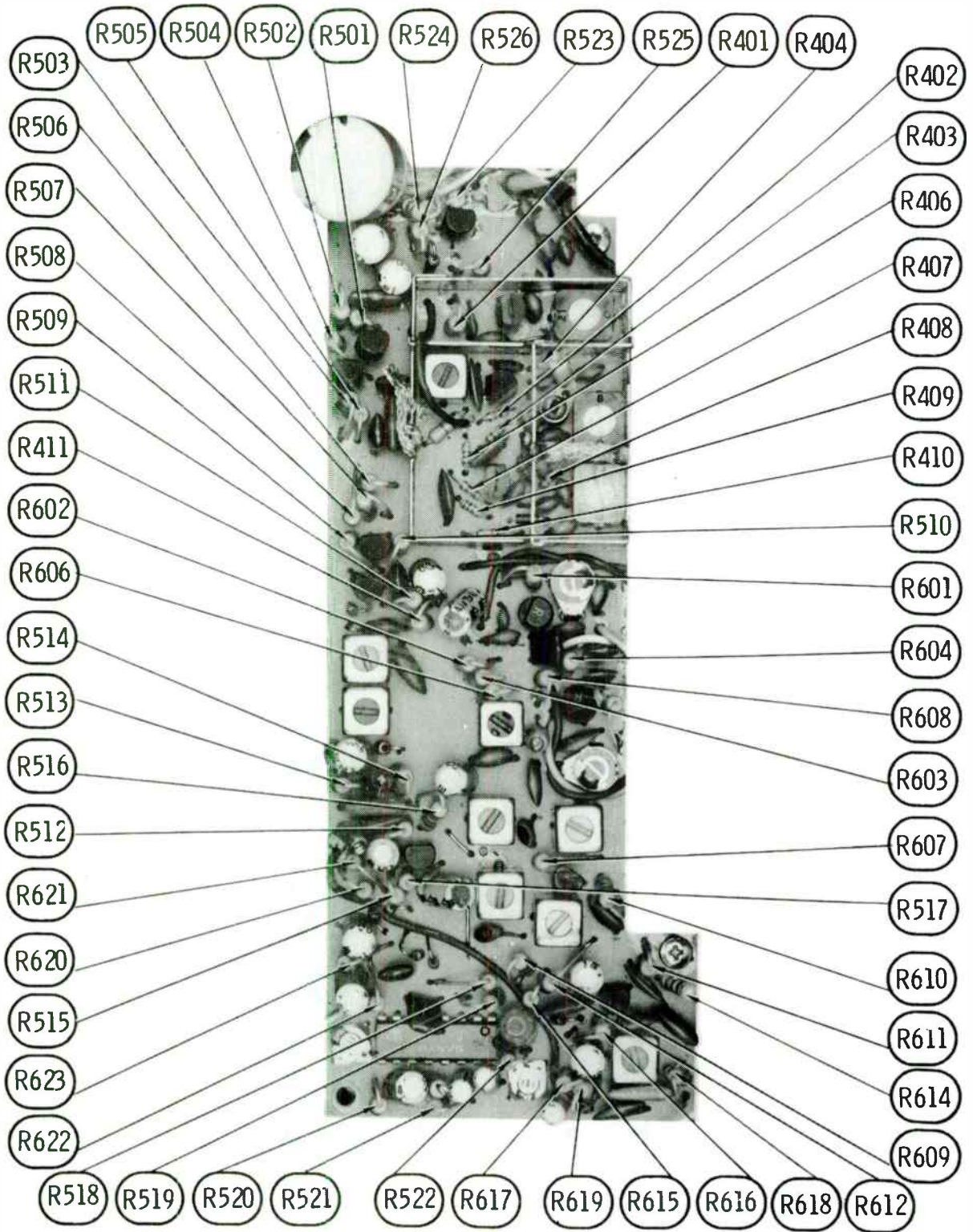


CRAIG MODEL 1902

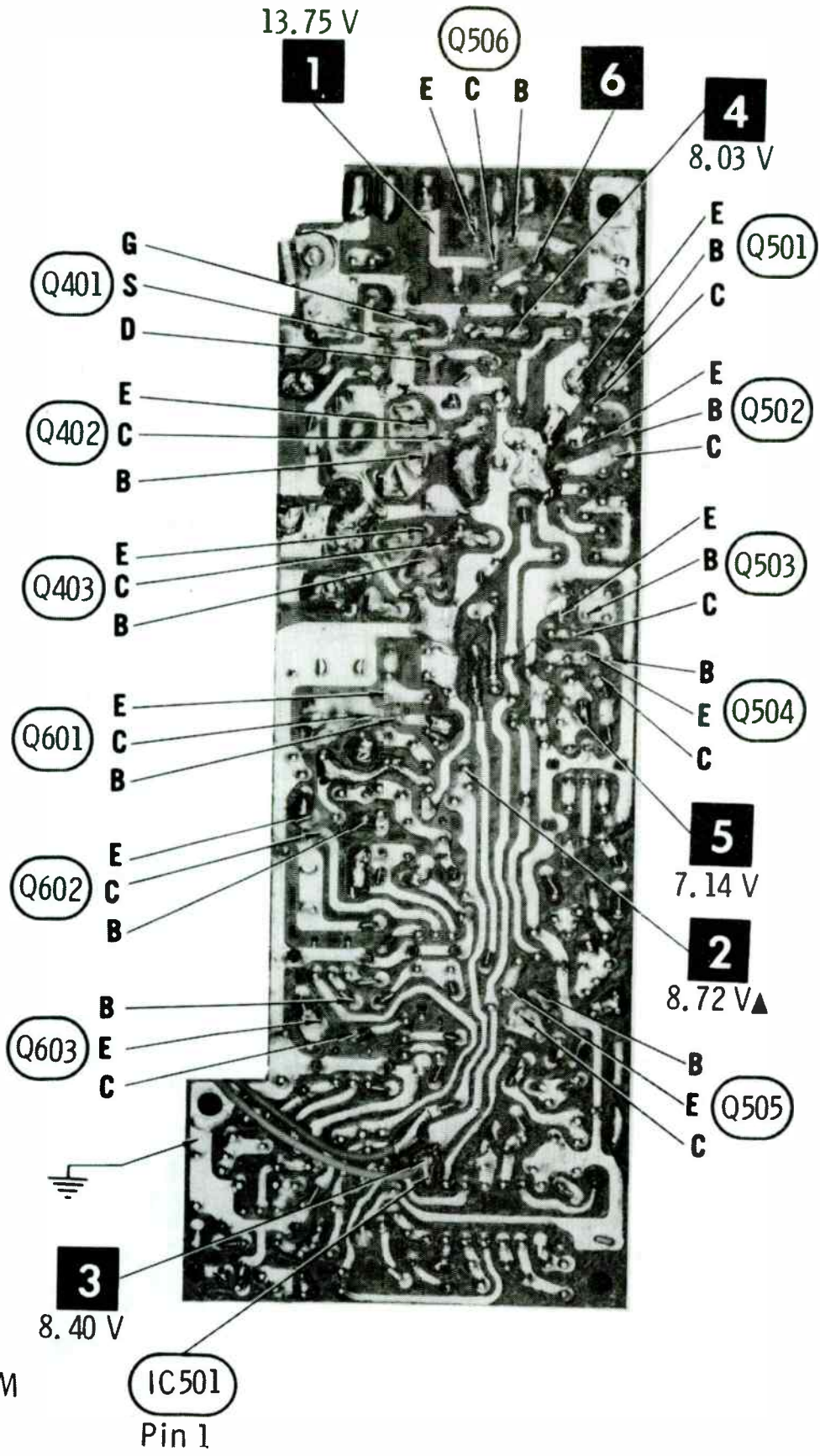


MAIN BOARD

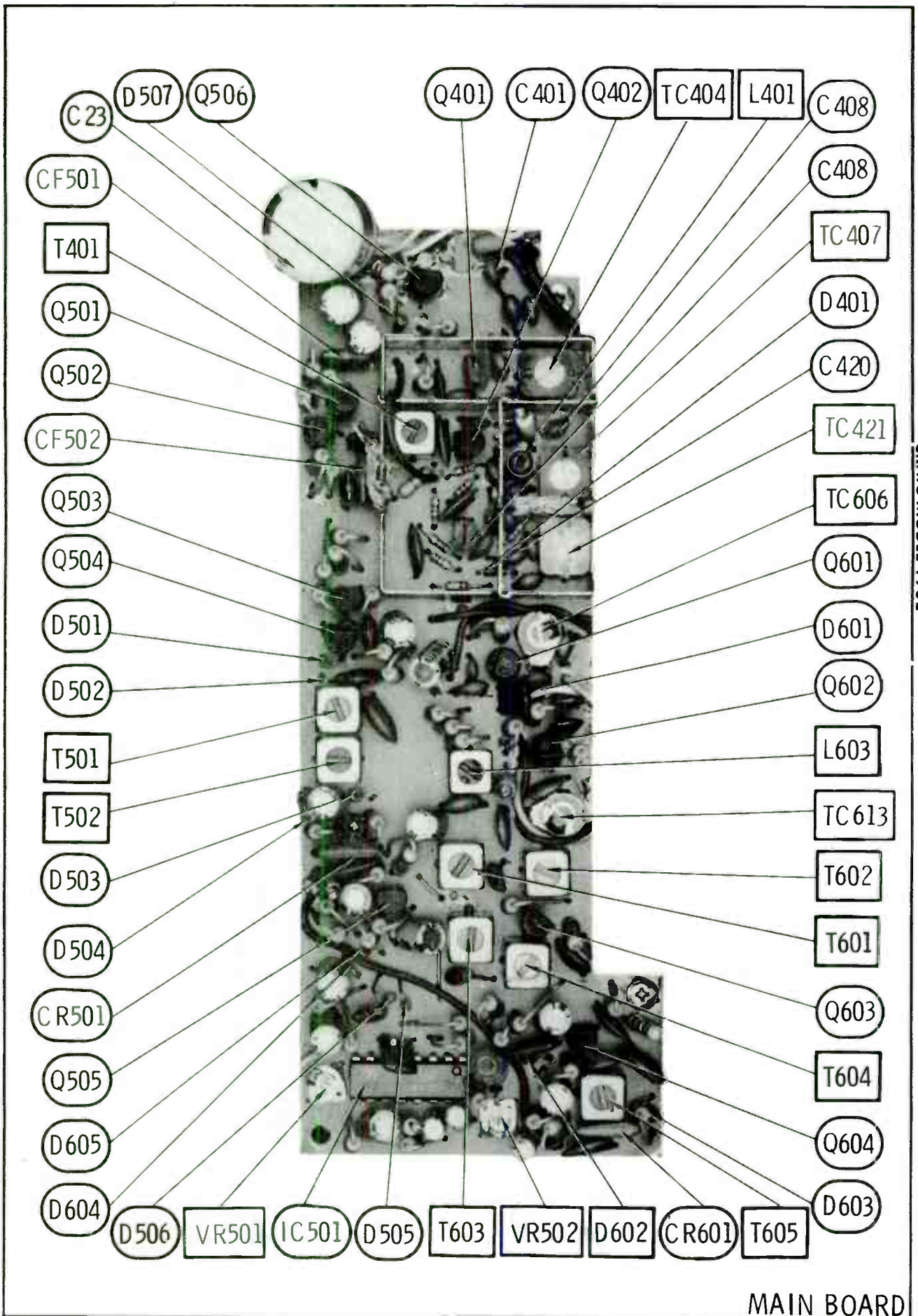




MAIN BOARD

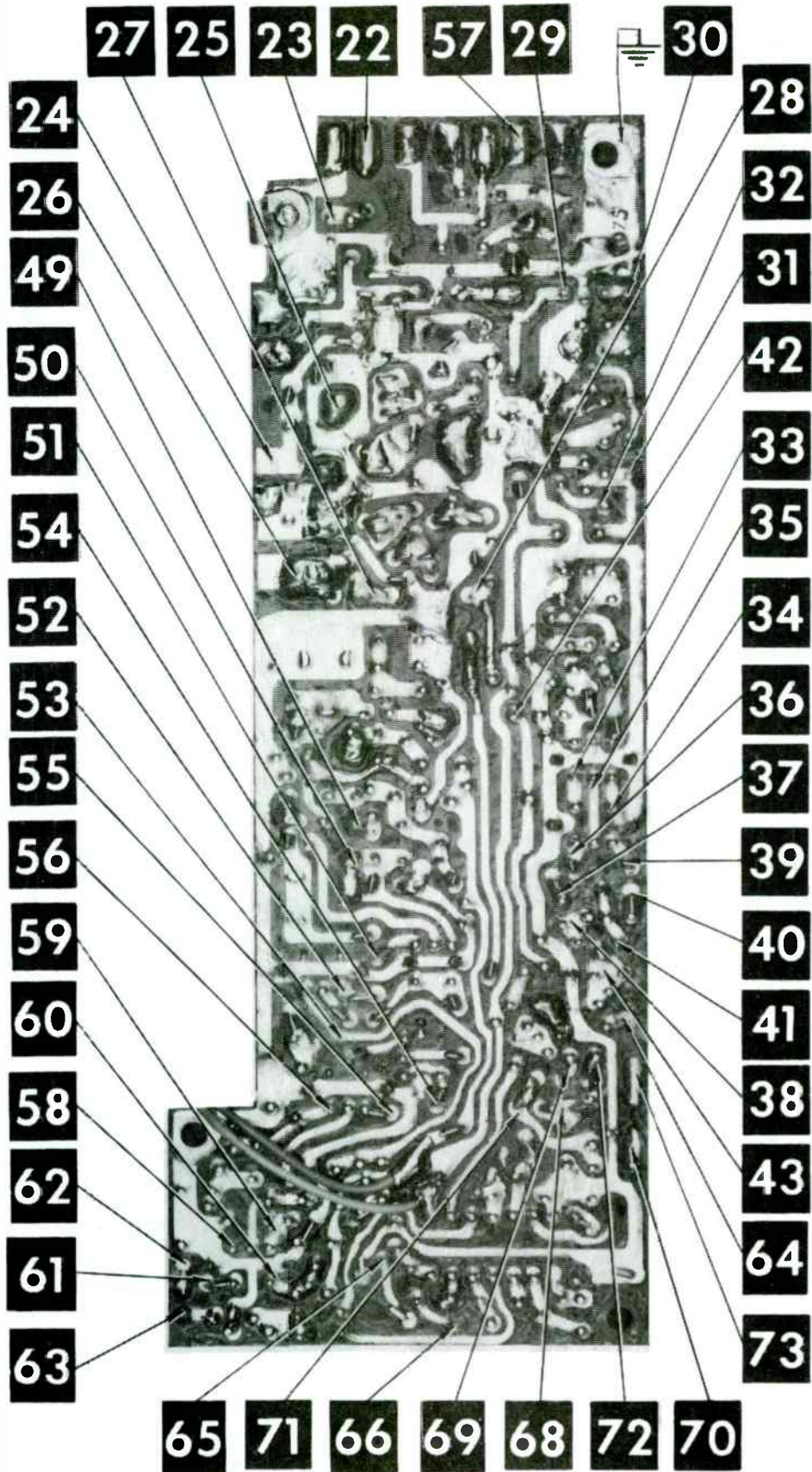


MAIN BOARD

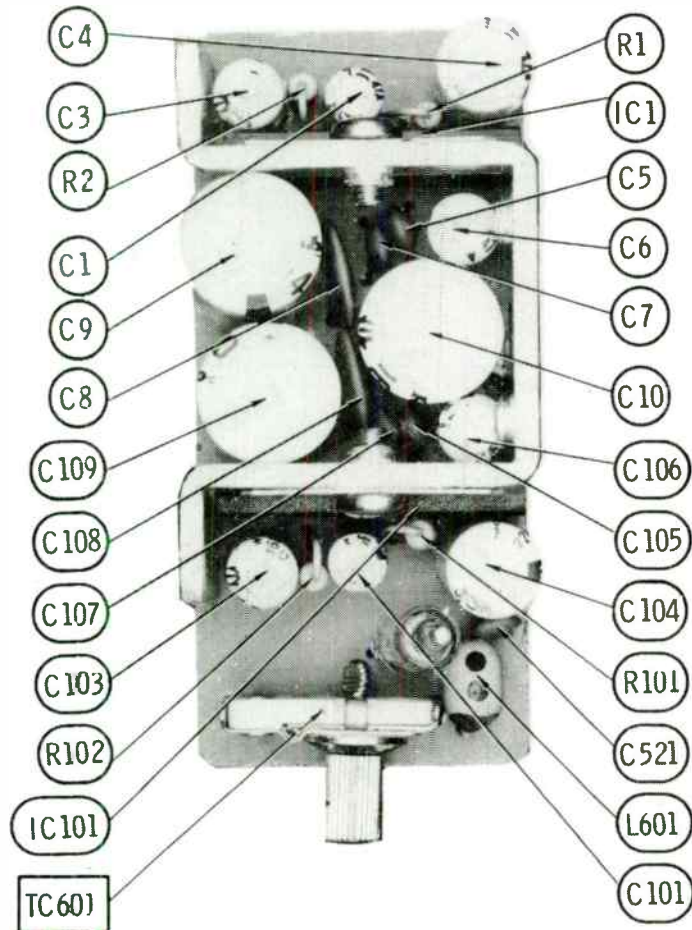
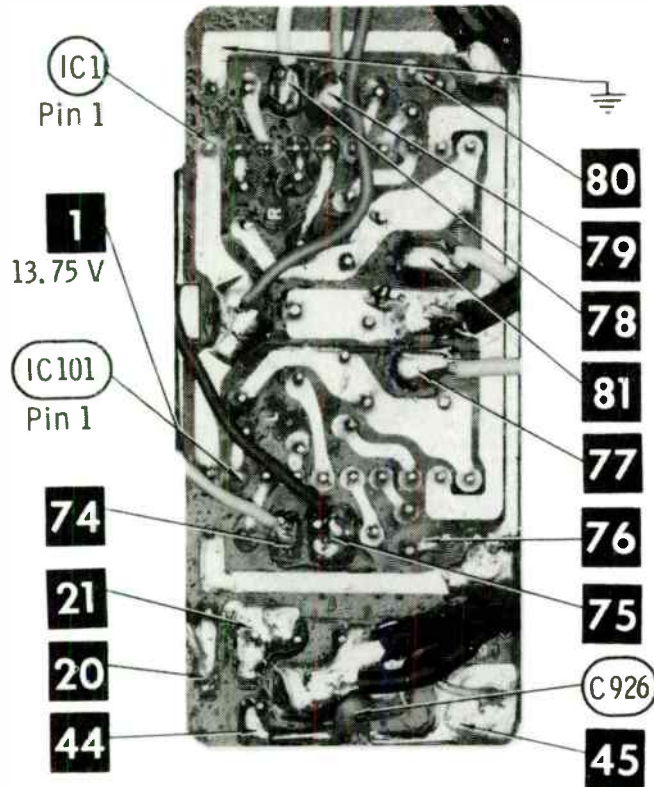


CRAIG MODEL 1902

MAIN BOARD

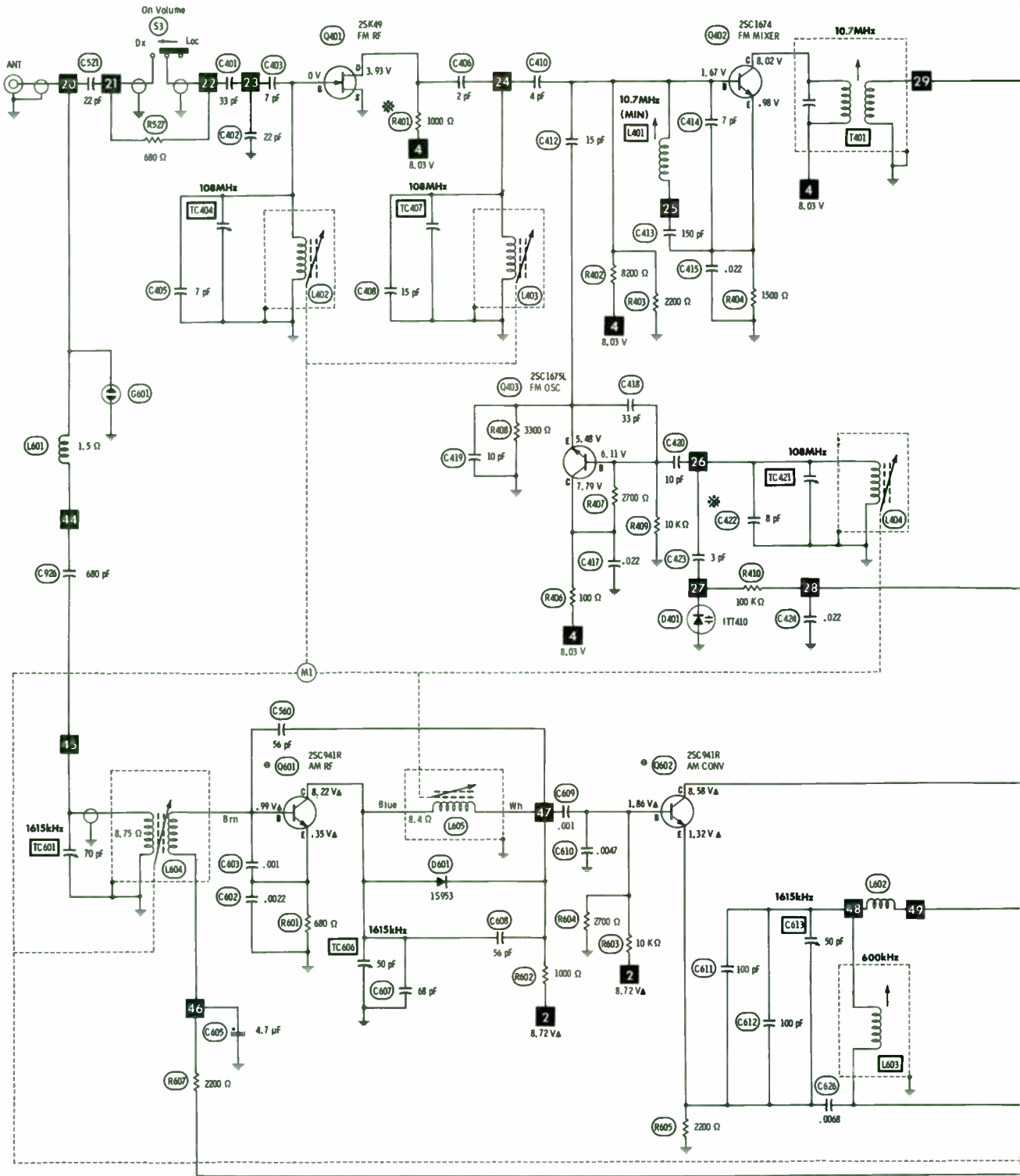


MAIN BOARD



# AUDIO BOARD

CRAIG MODEL 1902

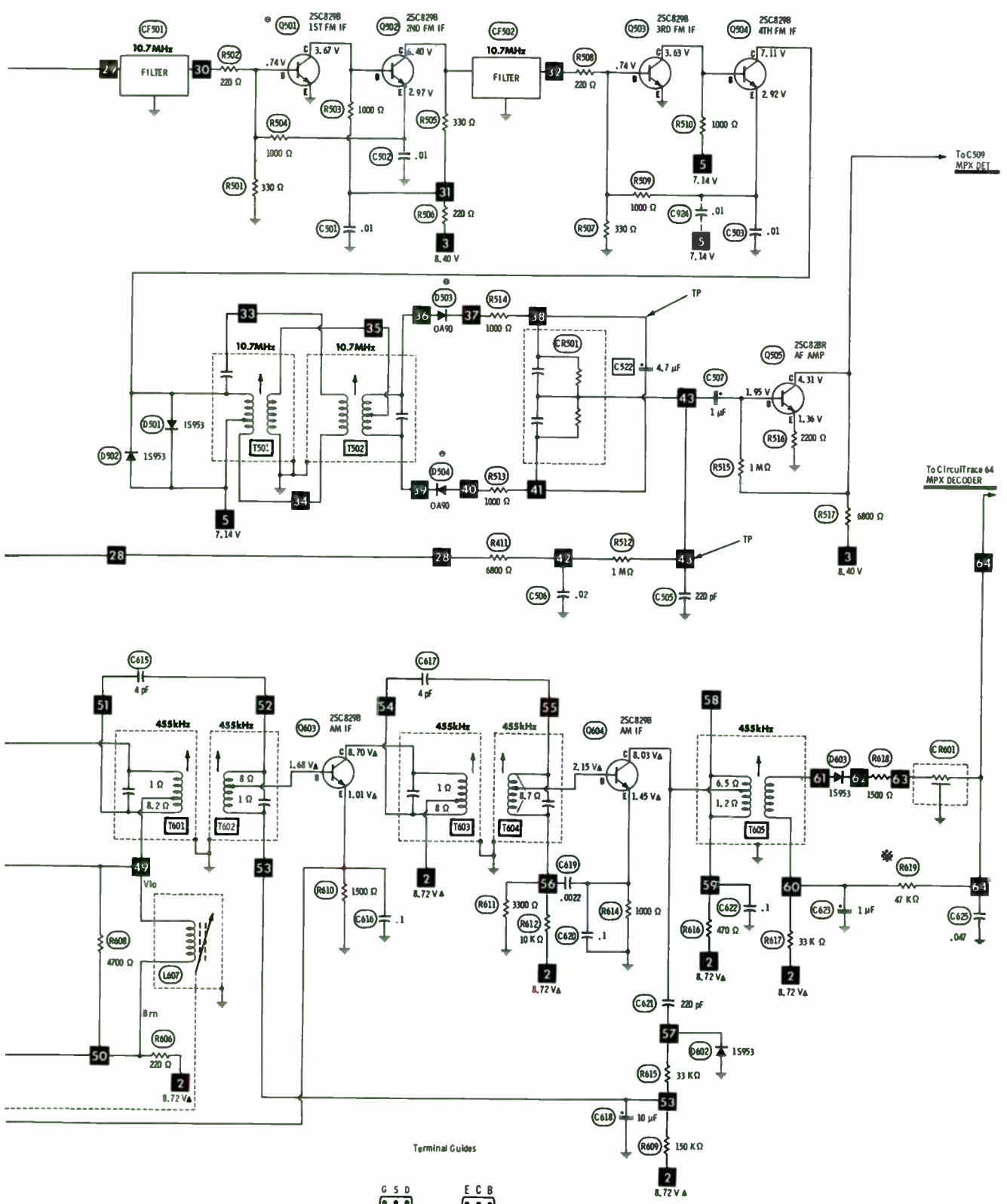


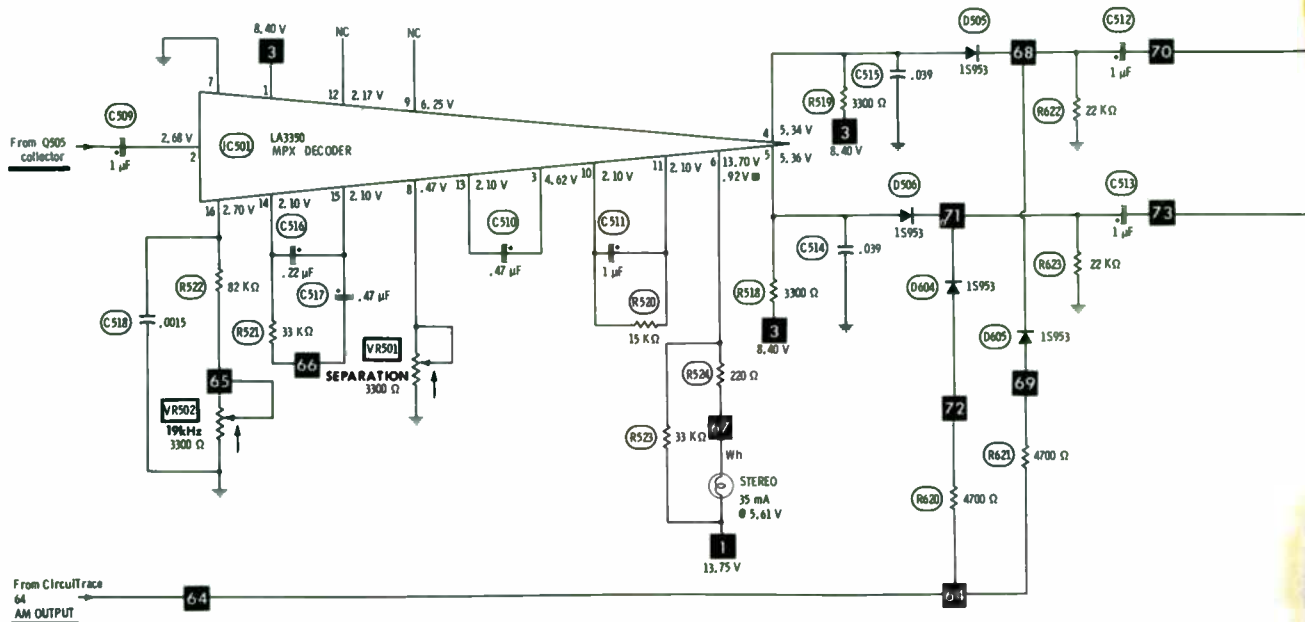
- \*— Circuitry not used in some versions
- - - Circuitry used in some versions
- ⊙ See parts list
- ⊗ Nominal value
- ⊕ Ground
- /// Chassis
- ▽ Common tie point

Measurements with switching as shown unless noted:  
 ■ FM Stereo signal    ▲ AM

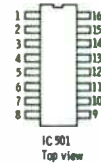
Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
 WITH **CIRCUITRACE**  
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Terminal Guides



—X— Circuitry not used in some versions

--- Circuitry used in some versions

⊙ See parts list

⊛ Nominal value

⊕ Ground

/// Chassis

▽ Common tie point

Measurements with switching as shown unless noted:

■ FM Stereo signal ▲ AM

Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
 WITH **CIRCUITRACE**

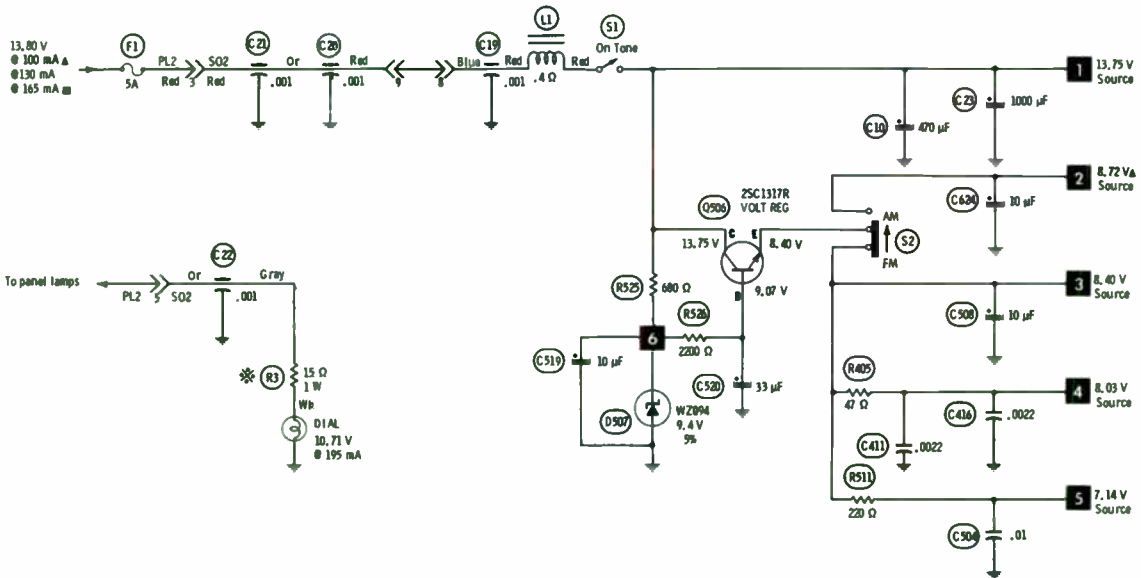
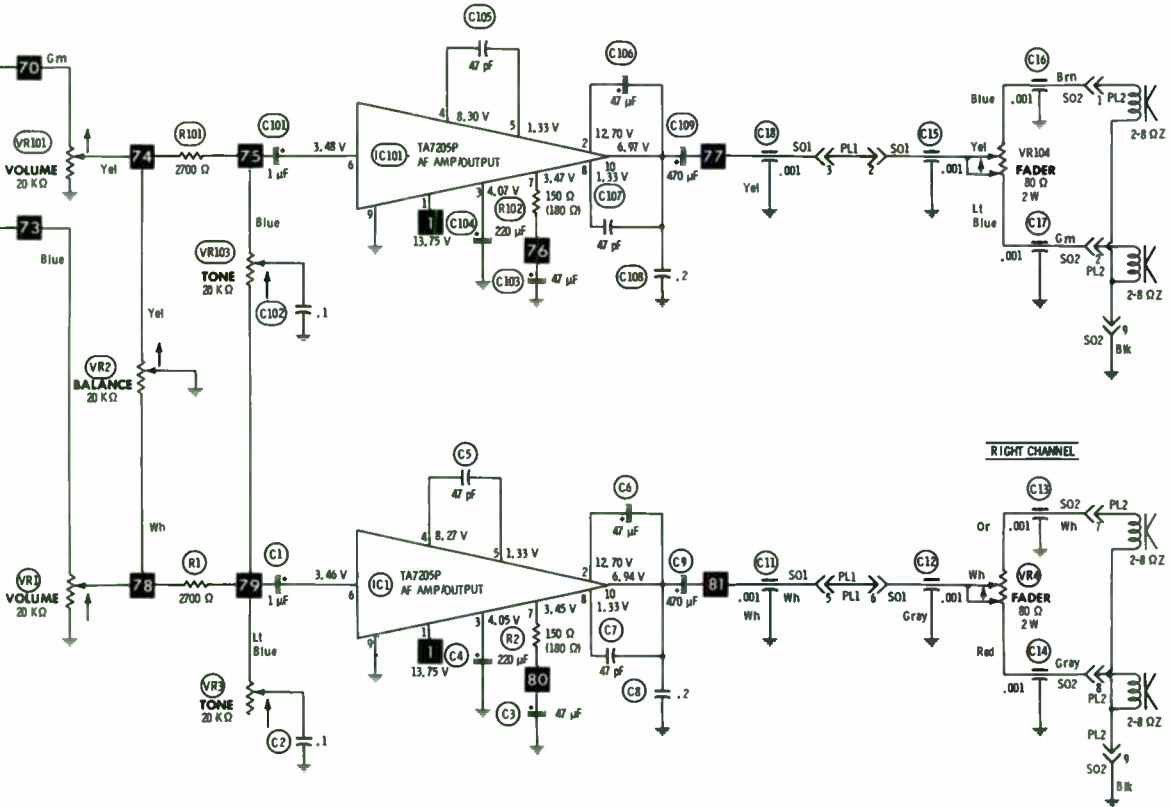
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LEFT CHANNEL

LEFT CHANNEL

RIGHT CHANNEL



## 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.

### SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA								
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	
D401	1TT410		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D501	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D502	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D503	0A90	}	1N60(7)	1N60 (7)	PTC206M(6)	HEPR9135(7)	RE 86(6)	SK3088(7)	RT-263(7)	ECG110(6)	
D504	0A90										
D505	1S953			GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D506	1S953			GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D507	WZ094										
D601	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D602	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D603	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D604	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
D605	1S953		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	
IC1	TA7205P				PTC780					ECG1155	
IC101	TA7205P				PTC780					ECG1155	
IC501	LA3350										
Q401	2SK49		GE-FET-1	FE-100	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133	
Q402	2SC1674		GE-61	TR-95	PTC132	HEPS0010	RE 9	SK3018	RT-308	ECG229	
Q403	2SC1675L		GE-213	TR-33	PTC139	HEPS0025	RE 9	SK3124	RT-308	ECG229	
Q501	2SC829B		GE-20	(IR)2SC829B	PTC121	HEPS0015	RE 9	SK3122	RT-308	ECG229	
	2SC1674		GE-61	TR-95	PTC132	HEPS0010	RE 9	SK3018	RT-308	ECG229	
	(1)										
Q502	2SC829B		GE-20	(IR)2SC829B	PTC121	HEPS0015	RE 9	SK3122	RT-308	ECG229	
Q503	2SC829B		GE-20	(IR)2SC829B	PTC121	HEPS0015	RE 9	SK3122	RT-308	ECG229	
	2SC1674		GE-61	TR-95	PTC132	HEPS0010	RE 9	SK3018	RT-308	ECG229	
	(1)										
Q504	2SC829B		GE-20	(IR)2SC829B	PTC121	HEPS0015	RE 9	SK3122	RT-308	ECG229	
Q505	2SC28R		GE-61	(IR)2SC28R	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199	
Q506	2SC1317R		GE-210	(IR)2SC838	PTC178	HEPS0015	RE 13	SK3024	RT-107A	ECG289	
Q601	2SC941R,0		GE-210	(IR)2SC380AO	PTC132	HEPS0016	RE 192	SK3122	RT-107A	ECG199	
Q602	2SC941R,0		GE-210	(IR)2SC380AO	PTC132	HEPS0016	RE 192	SK3122	RT-107A	ECG199	
Q603	2SC829B		GE-20	(IR)2SC829B	PTC121	HEPS0015	RE 9	SK3122	RT-308	ECG229	
Q604	2SC829B		GE-20	(IR)2SC829B	PTC121	HEPS0015	RE 9	SK3122	RT-308	ECG229	

(1) Used in some versions.

(6) Matched pair.

(7) Two required - select matched pair.

### ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1	.1 50V		PC1-50	VTT1B63	EV-1615	
C3	47 10V		PC50-16	VTT47D16	EV-1226	
C4	220 10V		PC250-10	VTT220F10	EV-1140	
C6	47 10V		PC50-16	VTT47D16	EV-1226	
C9	470 16V		PC500-16	VTT470J16	EV-1250	
C10	470 16V		PC500-16	VTT470J16	EV-1250	
C23	1000 16V		PC1000-16	VTT1000L16	EV-1260	
C101	1 50V		PC1-50	VTT1B63	EV-1615	
C103	47 10V		PC50-16	VTT47D16	EV-1226	
C104	220 10V		PC250-10	VTT220F10	EV-1140	
C106	47 10V		PC50-16	VTT47D16	EV-1226	
C109	470 16V		PC500-16	VTT470J16	EV-1250	
C507	1 50V		PC1-50	VTT1B63	EV-1615	
C508	10 16V		PC10-25	VTT10A25	EV-1222	
C509	1 50V		PC1-50	VTT1B63	EV-1615	
C510	.1 10V	(1)		TDC104M050EL	SD50-R109	
	.47 16V			TDC474M050EL	SD50-R479	
C511	1 50V		PC1-50	VTT1B63	EV-1615	
C512	1 50V		PC1-50	VTT1B63	EV-1615	
C513	1 50V		PC1-50	VTT1B63	EV-1615	
C516	.22 10V			TDC224M050EL	SD50-R229	
C517	.47 16V			TDC474M050EL	SD50-R479	
C519	10 16V			VTT10A25	EV-1222	
C520	33 10V			VTT33A10	EV-1125	
C522	4.7 25V			VTT4R7A50	EV-1319	
C605	4.7 25V			PC5-50	VTT4R7A50	EV-1319
C61B	10 16V			PC5-50	VTT4R7A50	EV-1319
C623	1 10V			PC10-25	VTT10A25	EV-1222
C624	10 16V			PC10-25	TDC105M035EL	SD35-19
				VTT10A25	EV-1222	

(1) Used in some versions.

### CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA		
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C2	.1 12V		UK12-104		HY-360
C5	47				
C7	47				
C8	.2 12V				
C11	.001	(1)			
C12	.001				

# 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	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C13	.001	(1)				
C14	.001	(1)				
C15	.001	(1)				
C16	.001	(1)				
C17	.001	(1)				
C18	.001	(1)				
C19	.001	(1)				
C20	.001	(1)				
C21	.001	(1)				
C22	.001	(1)				
C102	.1 12V		UK12-104		MAG1201	HY-360
C105	47					
C107	47					
C108	.2 12V					
C401	33		DTZ-33	NP033	CN0433	10TCC-Q33
C402	22		DTZ-22	NP022	CN0422	10TCC-Q22
C403	7		DTZ-6R8	NP06P8	CN0568	10TCC-V68
C405	7 N330				*	10TCS-V68
C406	2		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C408	15		DTZ-15	NP015	CN0415	10TCC-Q15
C410	4		DTZ-4R7	NP04P7	CN0547	10TCC-V47
C411	.0022					
C412	1.5 NPO		DTZ-1R5	NP01P5	CN0515	10TCC-V15
C413	150		DD-151		GP315	10TS-T15
C414	7		DTZ-6R8	NP06P8	CN0568	10TCC-V68
C415	.0022		DD-222		GP222	5GA-D22
C416	.022					
C417	.022					
C418	33 N470				*	10TCS-Q33
C419	10 N330				*	10TCS-Q10
C420	10 N330				*	10TCS-Q10
C422	8 N330				*	10TCS-V82
C423	3 N330				*	10TCS-V33
C424	.022					
C501	.01 10%			WMF1S1	EWF1A110	1PB-S10
C502	.01 10%			WMF1S1	EWF1A110	1PB-S10
C503	.01 10%			WMF1S1	EWF1A110	1PB-S10
C504	.01 10%			WMF1S1	EWF1A110	1PB-S10
C505	220 10%		DD-221		GP322	10TS-T22
C506	.2 12V		UK12-204		MAG12022	HY-370
C514	.015 10%			WMF1S15	EWF1A115	1PB-S15
C515	.015 10%			WMF1S15	EWF1A115	1PB-S15
C518	.0015 5%			CD19FD152J03	SX215	MWC-152
C521	22		DTZ-22	NP022	CN0422	10TCC-Q22
C602	.0022					
C603	.001					
C604	56 N750				*	10TCU-Q56
C607	68 N750		DTN-68	N68	CN7468	10TCU-Q68
C608	56 N750				*	10TCU-Q56
C609	.01 10%			WMF1S1	EWF1A110	1PB-S10
C610	.0047 10%			WMF1D47	M192P4729R8	192P472R8
C611	100 N470 5%				*	10TCT-T10
C612	100 N470 5%				*	10TCT-T10
C614	.1 12V					
C615	4 NPO		DTZ-4R7	NP04P7	CN0547	10TCC-V47
C616	.1 12V		DTZ-4R7	NP04P7	CN0547	10TCC-V47
C617	4					
C619	.022		DTZ-4R7	NP04P7	CN0547	10TCC-V47
C620	.2 12V		UK12-204		MAG12022	HY-370
C621	220 10%		DD-221		GP322	10TS-T22
C622	.1 12V					
C625	.047 25V		UK25-503		MAG2515	HY-735
C926	680		DD-681	GP680	GP368	10TS-T68
TC404	8	3149100				
TC407	8	3149100				
TC421	5	3149099				
TC601	70	1902049				
TC606	50	1902050				
TC613	50	1902050				

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

(1) Part of Filter Assembly Part Number 1902033.

## 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.	MALLORY PART No.	TRW PART No.
VR1	Volume - Right	20K	1902034 (18)				
VR2	Balance	20K	1902035				
VR3	Tone - Right	20K					
VR4	Fader - Left	80 2W	1902036 (19)				
VR101	Volume - Left/ Loc/DX Switch	20K					
VR103	Tone-Left/Power Switch	20K					
VR104	Fader-Right	80 2W					
VR501	Separation	3300	1902039				
VR502	19kHz	3300	1902039				

(18) Includes VR1, VR101, VR3, VR103, S1, S3.

(19) Includes VR4, VR104.

CRAIG MODEL 1902

## 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.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L401	10.7MHz Trap (1.5uH)	1902045	ELR020		
L402	FM Antenna	(1)			
L403	FM RF	(1)			
L404	FM Osc	(1)			
L601	AM Ant. Choke(10uH)	1902046	ELR015		(1.5 ohm)
L602	Image Trap (3.9uH)	1902047	ELR019		(.4 ohm)
L603	AM Osc	1902048	ELR011 (2)		(Grn)
L604	AM Antenna	(1)			
L605	AM RF	(1)			
L606	AM Osc Tuning	(1)			
T401	IF (10.7MHz)	3516096	4302 50PV (2)		
T501	Ratio Detector (Pri)	1902040	ELI017 (2)		(Pur)
T502	Ratio Detector (Sec)	1902040	ELI01B (2)		(Blu)
T601	IF (455kHz)	1902043	ELI021		(Or)
T602	IF (455kHz)	1902042	ELI019 (2)		(Gray)
T603	IF (455kHz)	1902043	ELI021 (2)		(Or)
T604	IF (455kHz)		ELI020 (2)		(Yel)
T605	IF (455kHz)	1902044	ELI022 (2)		(Blk)

(1) Part of M1 (Tuner).

(2) Number on unit.

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (O CURRENT 1000~)	MFRG. PART No.	THORDARSON PART No.	TRIAD PART No.	
L1	165 mA	.4	4.4mH	3148032			

### FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	5 A			AGC5	HDJ	311005	150145	FG5-2

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF501	Filter	1902051 (1)	10.7MHz (Blue Dot)
CF502	Filter	1902051 (1)	10.7MHz (Blue Dot)
CR501	Network	1902052	Ratio Detector
CR601	Network	1902053	AM Detector
M1	Tuning Coil Assembly	1902024	AM/FM
S1	Switch		Power (On Tone)
S2	Switch	1902037	AM/FM
S3	Switch		Local/Distant (On Volume)
	Connector Assembly	3149052	Power/Speaker (Male)
	Connector Assembly	3149005	Power/Speaker (Female)
	Connector Assembly	3516043	Power Play Adapter (Female)
	Connector	3516044	Power Play Dummy (Male)
	Printed Circuit Board Assembly	1902030	AM/FM
	Printed Circuit Board Assembly	1902029	Audio Amp
	Connector Assembly	3149014	Antenna (Female)

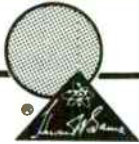
(1) When replacing, CF501 and CF502 should also be replaced.

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

ITEM	PART No.	ITEM	PART No.
Escutcheon Assembly	1902010	Pushbutton, Tuning	1902023
Dial Scale	1902015	Knob, Volume/Tuning	3148021
Dial Pointer	1902017	Knob, Tone/Fader	3148020

### WIRING DATA

General-use Unshielded Hook-up Wire .....	Use BELDEN No. 8530 (Solid) Available in 13 Colors 8524 (Stranded) Available in 13 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8401 or 8421
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>

For Supplier Address See PHOTOFACT Index

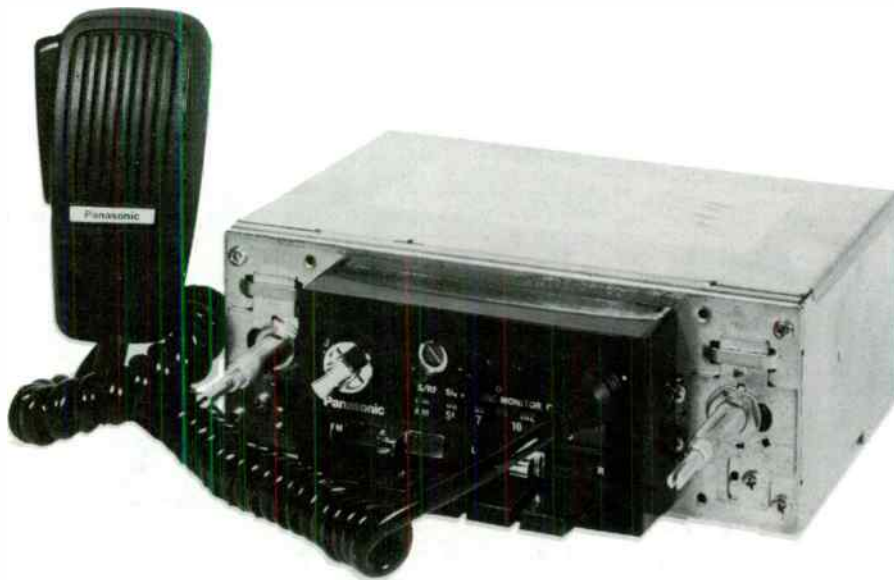
## NOTE

Repair or adjustment of transmitter circuits must be under supervision of a person with first-or second-class radiotelephone license. (Refer to FCC Rules and Regulations Part 95, Subpart C & D.)

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50-ohm dummy load or the normally used antenna system.



PANASONIC MODEL CR-B1717EU

MODEL CR-B1717EU

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

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6CN410

## CB ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment. Maintain line voltage at 120V AC. Allow a 15-minute warm-up period. Adjustments made with 14-volt DC input. Connect low sides of test equipment to ground unless specified otherwise. Connect 50-ohm dummy load or antenna before keying transmitter.

Suggested Alignment Tools: GC Electronics:  
 L903, L905.....9440  
 C55, C63, C73, C102, C108, C114.....5000, 8290  
 IFT51, IFT101, IFT102, IFT151, IFT152, IFT801 thru IFT804,  
 T151, T152, T801, T802, T803, T902, T903, T904, L104.....8728

### SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Inputs of frequency counter and RF VTVM to T803 secondary.	Ch. 13	T803	Adjust for 37.750MHz at 60% of maximum output.
Input of frequency counter to T803 secondary.	Ch. 17 Ch. 21 Ch. 1 Ch. 5 Ch. 9		Check for 37.800MHz. Check for 37.850MHz. Check for 37.600MHz. Check for 37.650MHz. Check for 37.700MHz.
Input of frequency counter to TR809 emitter.	Delta Tune-mid-position Ch. 1 Ch. 2 Ch. 3 Ch. 4		Check for 10.180MHz. Check for 10.170MHz. Check for 10.160MHz. Check for 10.140MHz.
Input of frequency counter to TR904 emitter.	Ch. 1, Xmit Ch. 2, Xmit Ch. 3, Xmit Ch. 4, Xmit		Check for 10.635MHz. Check for 10.625MHz. Check for 10.615MHz. Check for 10.595MHz.

### RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil. Adjust volume control to obtain a suitable indication. Set generator output low enough to prevent AGC limiting.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TR803 base. 455kHz, 1000Hz @ 30% modulation.	Ch. 13	IFT804, IFT803	Adjust for maximum.
Output of signal generator thru .01uF to TR802 base. 10.6MHz, 1000Hz @ 30% modulation.	Ch. 13	IFT802, IFT801	Adjust for maximum.
Output of signal generator thru .01uF to antenna jack. 27.115MHz, 1000Hz @ 30% modulation.	Ch. 13	T802, T801	Adjust for maximum. Repeat above steps, if necessary.

### TRANSMITTER ALIGNMENT

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

NOTE: Be sure to check transmit frequency and power on all active channels after alignment or adjustments of transmitter.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
	Ch. 13	T904, T903, T902, L905, L903	Adjust for maximum.
	Ch. 13	L903, L905	Adjust for 4 watts maximum.

### TRANSMITTER ADJUSTMENTS

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

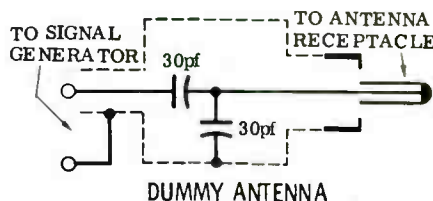
NOTE: Be sure to check transmit frequency and power on all active channels after alignment or adjustments of transmitter.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope or modulation indicator to antenna jack. Inject a 1000Hz audio signal at MIC input. Output at 2mV.	Ch. 13	VR902	MIC GAIN Adjust for 100% modulation.

## AM-FM ALIGNMENT INSTRUCTIONS

GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1uF to ant. input, low side to ground.	450kHz 400-Hz mod.	High freq. end stop.	Output meter across voice coil.	IFT102, IFT101	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	C114, C108, C102	"
Thru dummy antenna to antenna input.	600kHz	Tune to signal	Output meter across voice coil.	L104	Adjust for maximum. Repeat alignment until no further improvement is noted.

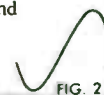
With radio installed in car and antenna extended 36", tune in a weak station near 1400kHz and adjust C102 for maximum output. Antenna adjustment C102 is located on front to right of pushbutton.



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

High side of generator thru .1uF to antenna jack. Use only enough marker signal for indication. Use 60-hertz, frequency-modulated signal, 450kHz sweep. Use 60-hertz sawtooth voltage in scope for horizontal deflection.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to TPA.	(1) IFT51, IFT151, IFT152	Adjust for maximum amplitude and straightness of line. See Fig. 2.



(1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact IF.

PANASONIC MODEL CR-B717EU

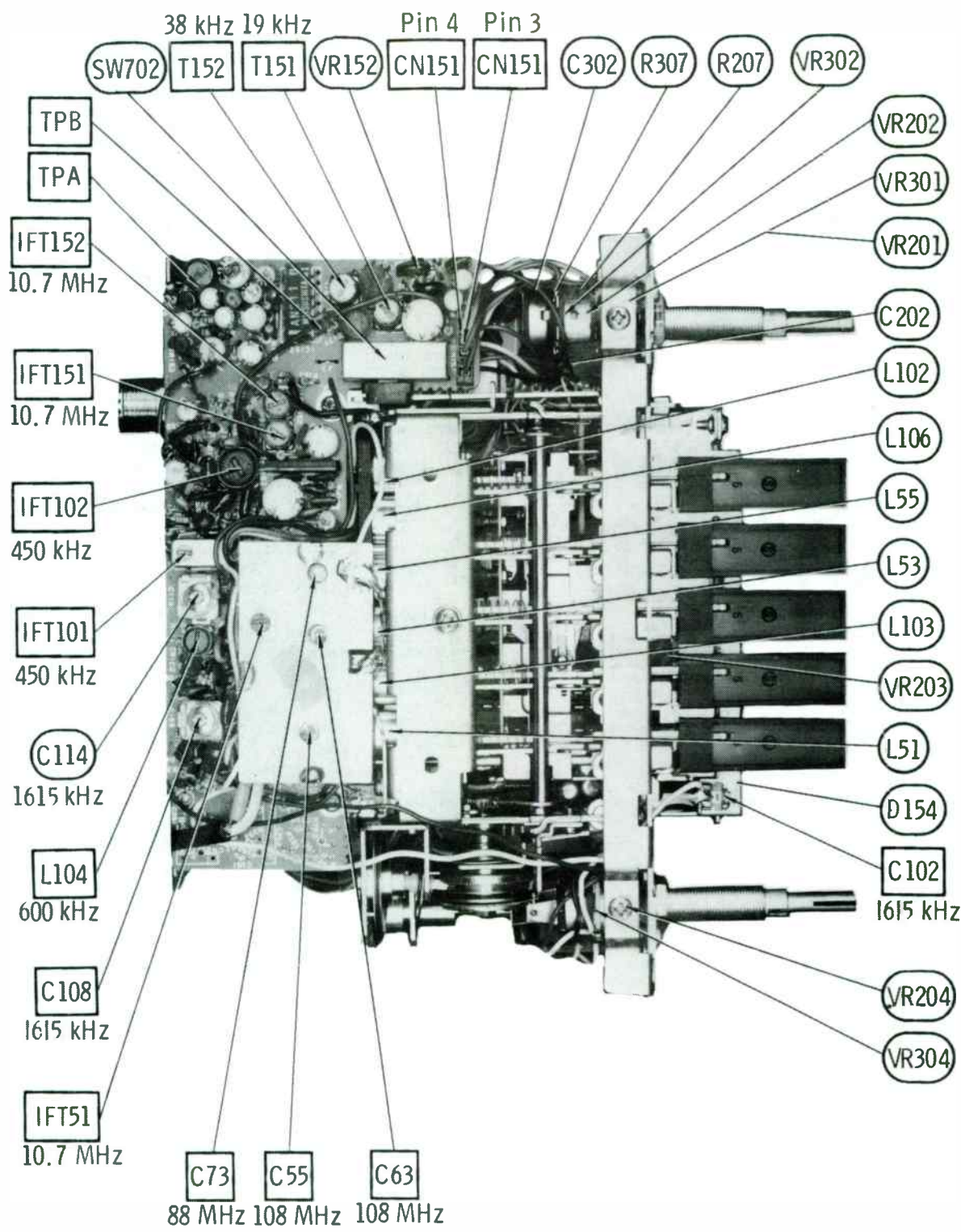
### FM RF ALIGNMENT—SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
88MHz Unmodulated	88MHz	Output meter across voice coil.	C73	Adjust for maximum.
108MHz Unmodulated	108MHz	"	C63, C55	Adjust for maximum. Repeat FM RF steps until no further improvement is noted.

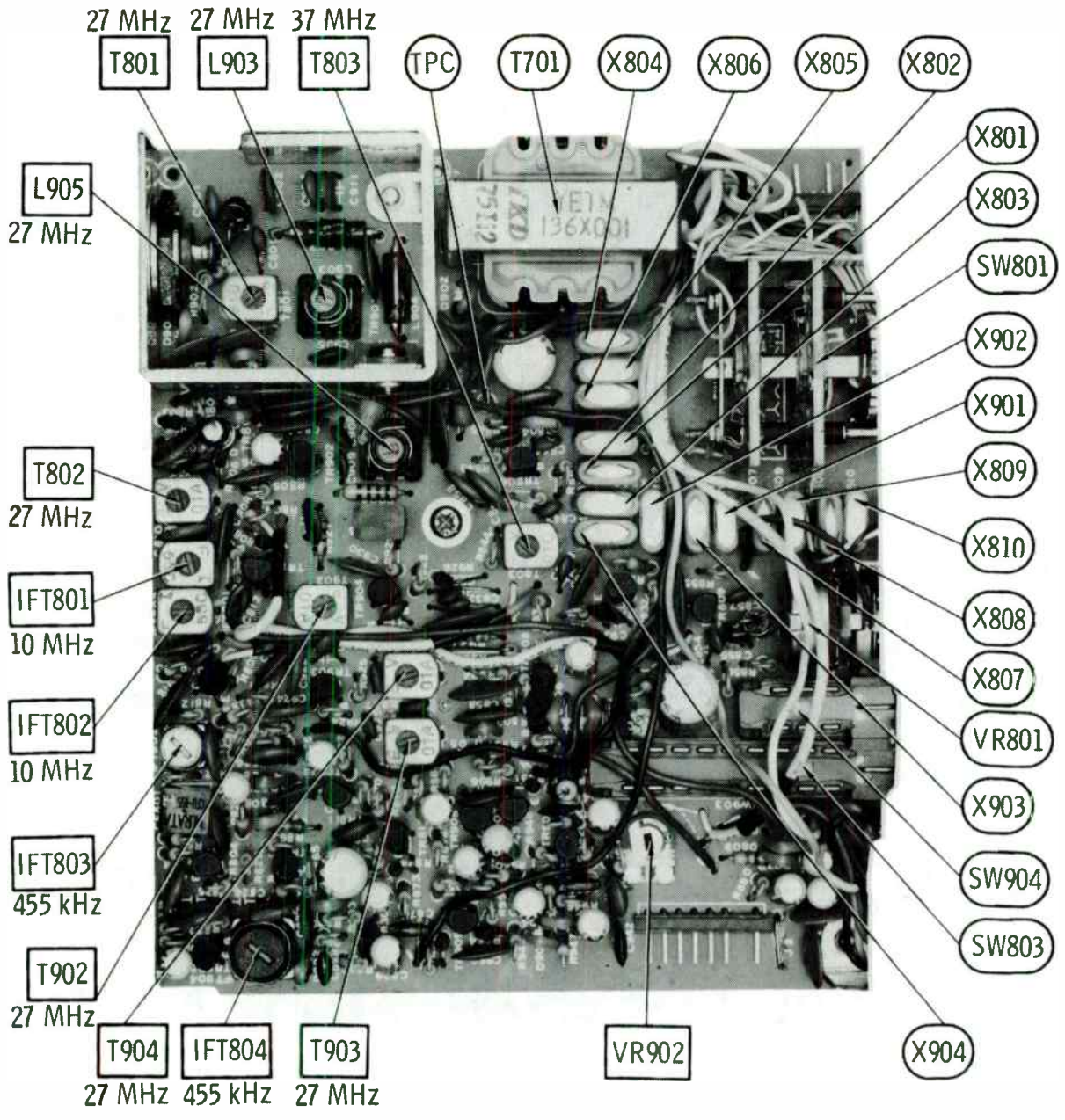
### FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR (± .0001% ACCURACY)

GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
19kHz	Vert input of scope thru 47K to TPB.	T151	Adjust for maximum.
Modulated Left Channel	Vert input of scope to CN151 Pin 3.	T152, VR152	Adjust for MINIMUM. This step should require only slight adjustment.
Modulated Right Channel	Vert input of scope to CN151 Pin 4.		Check for MINIMUM. If necessary, make compromise adjustment of T152, VR152.

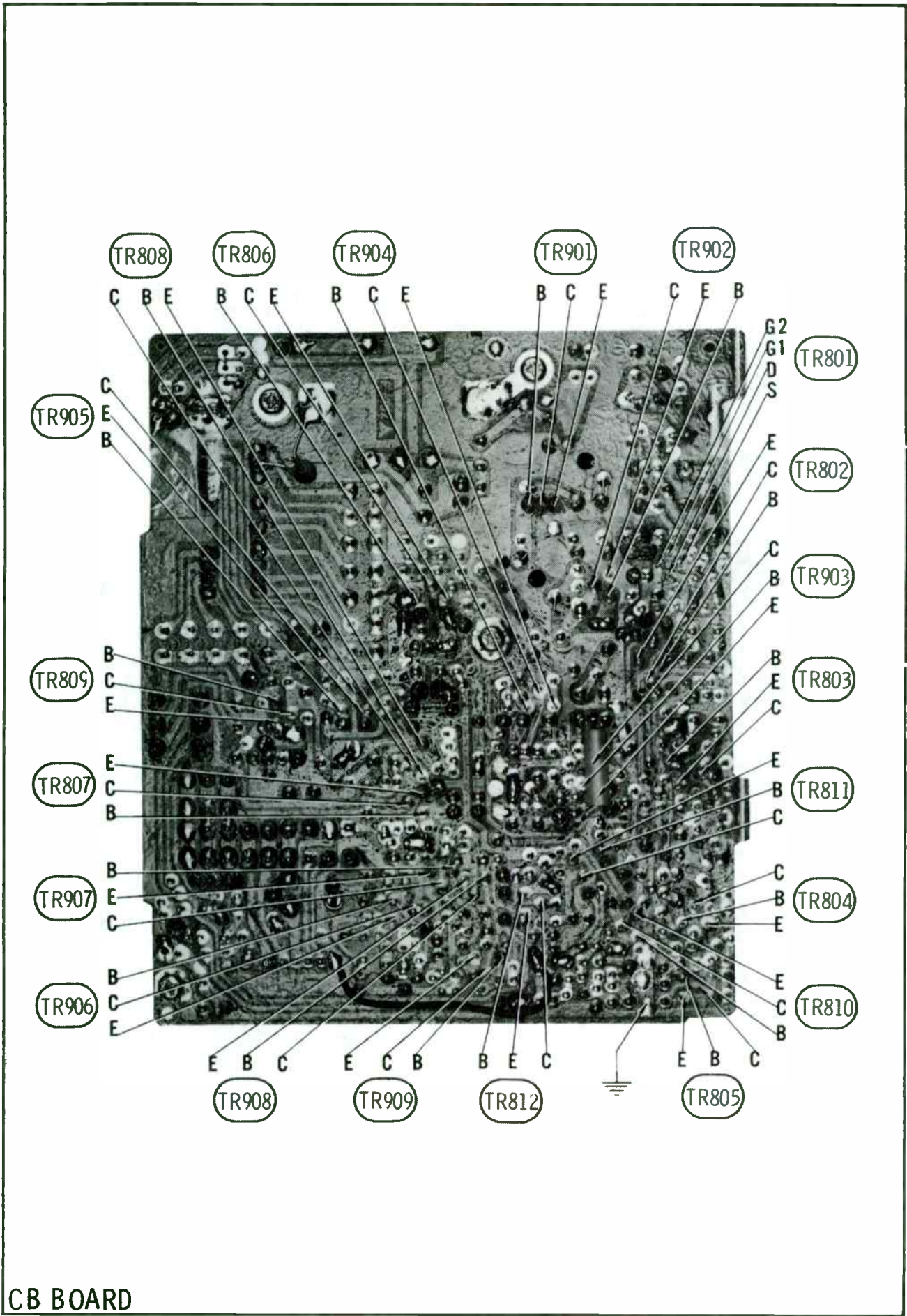


CHASSIS - BOTTOM

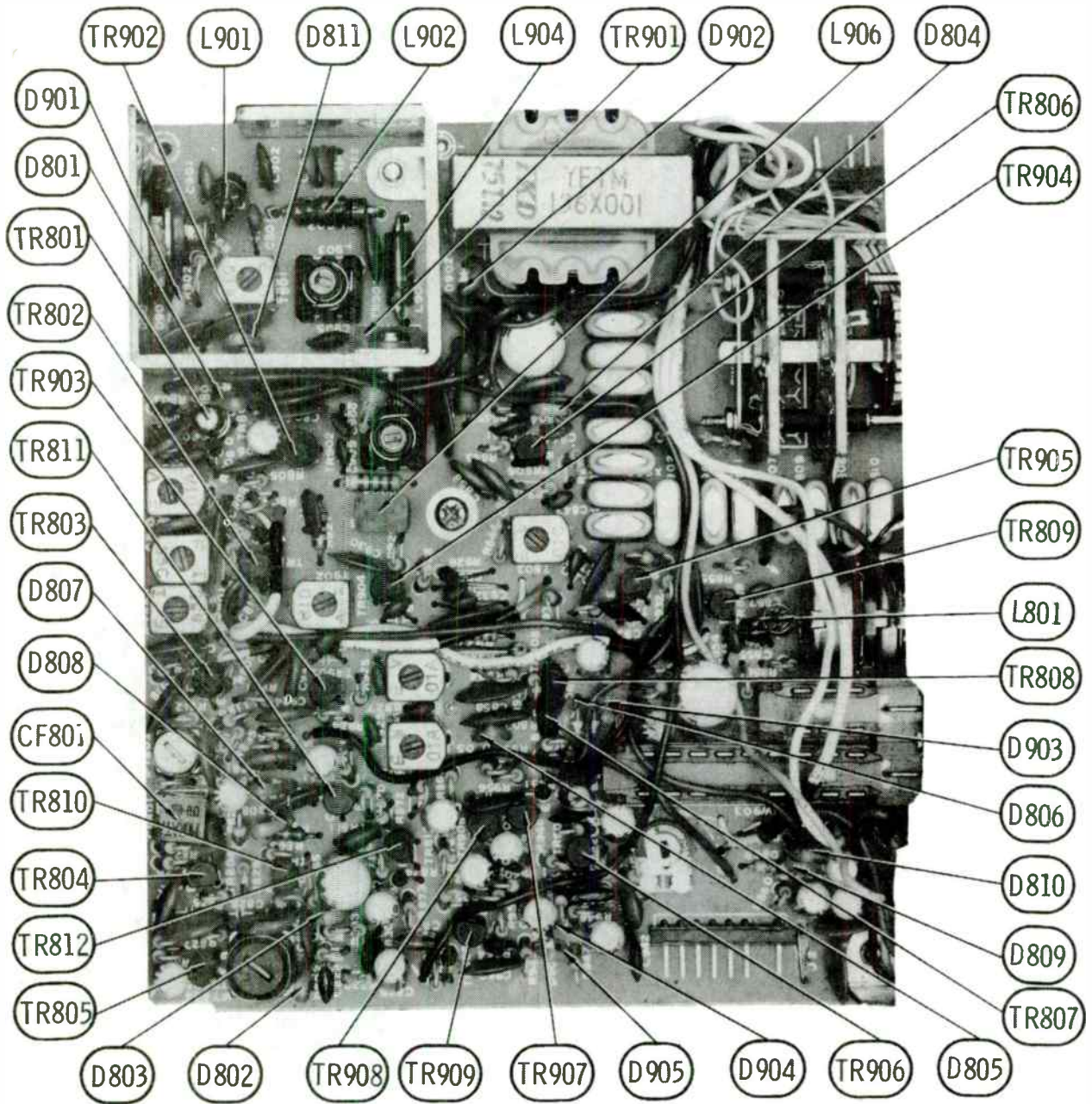




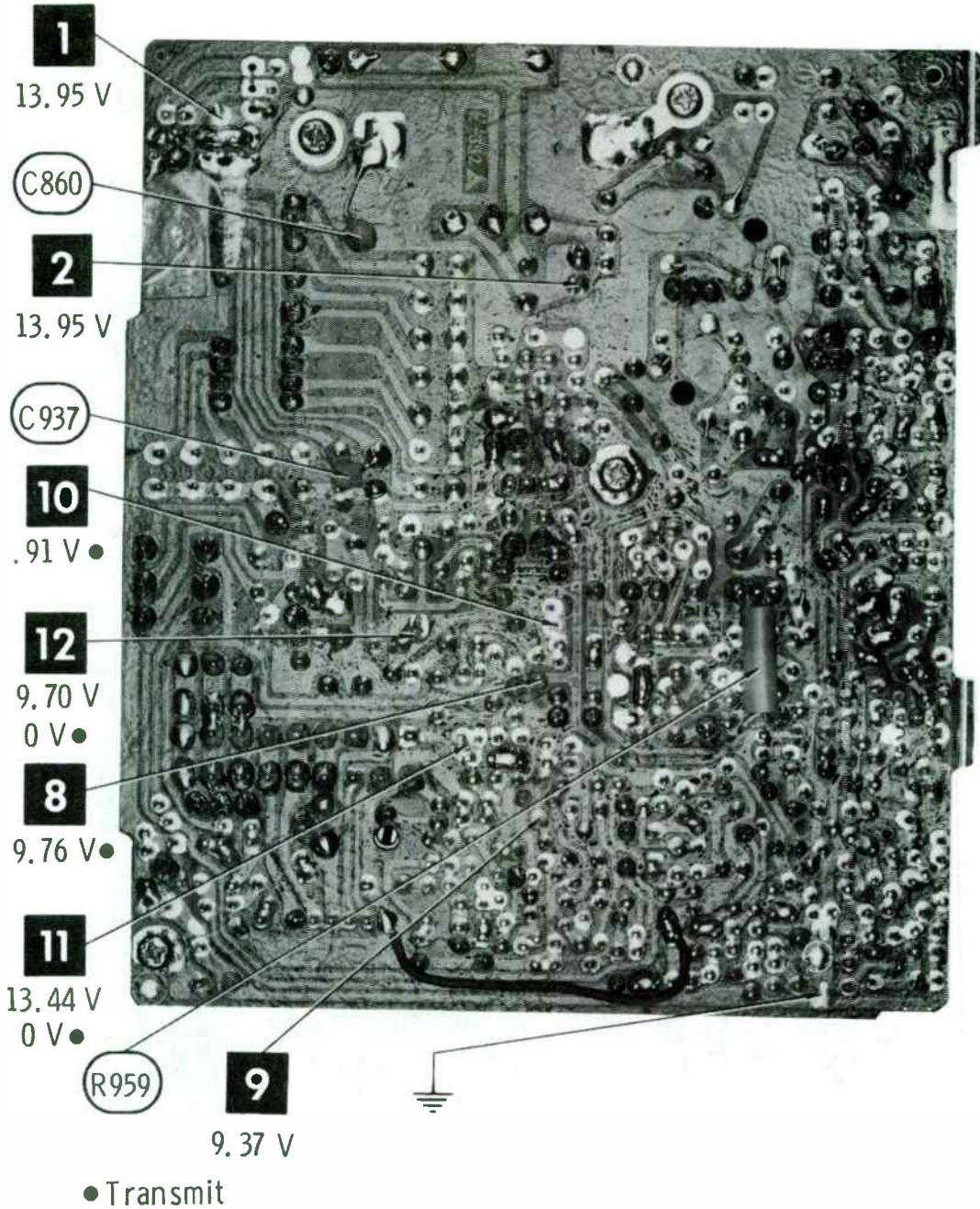
CB BOARD



CB BOARD

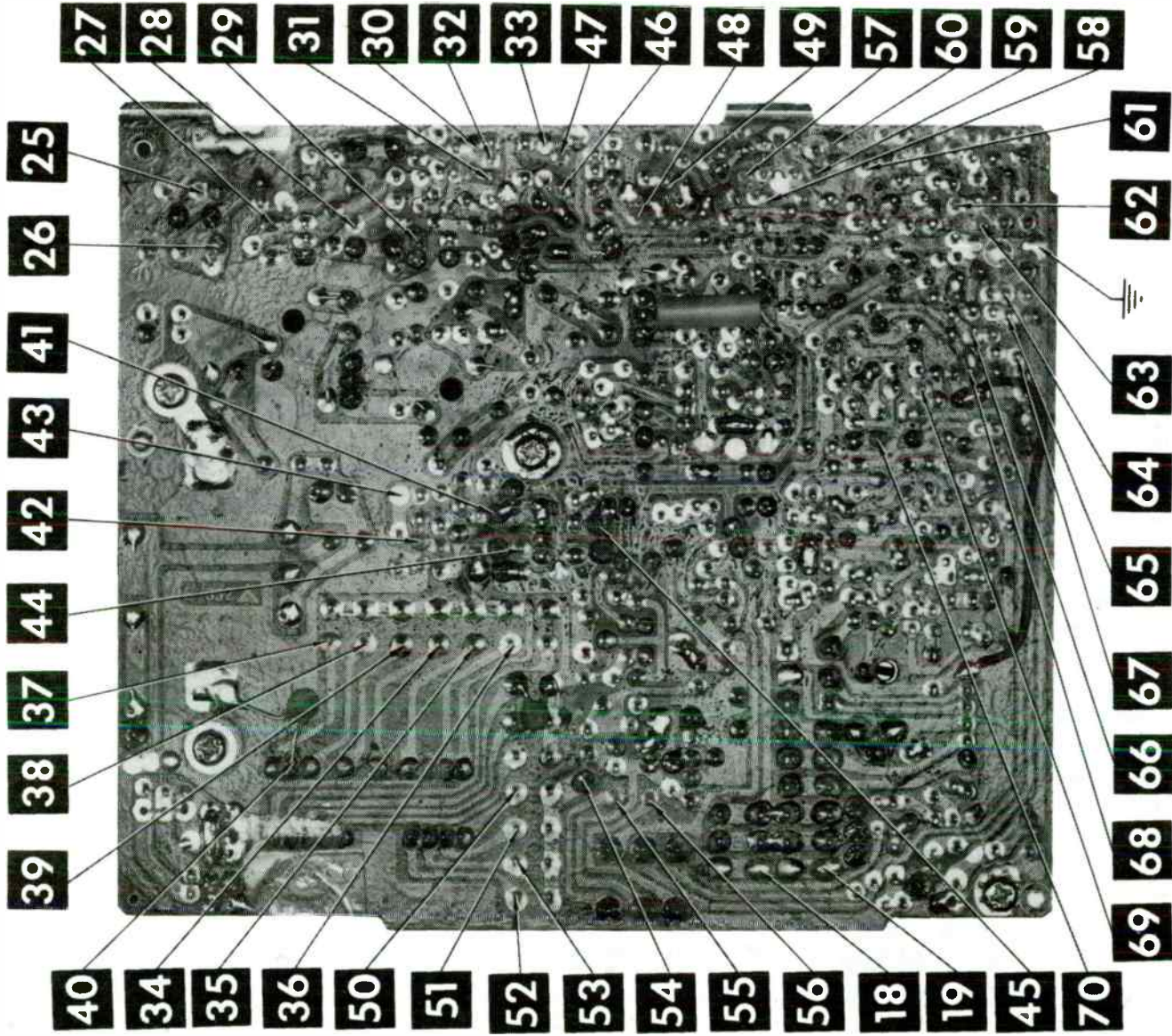


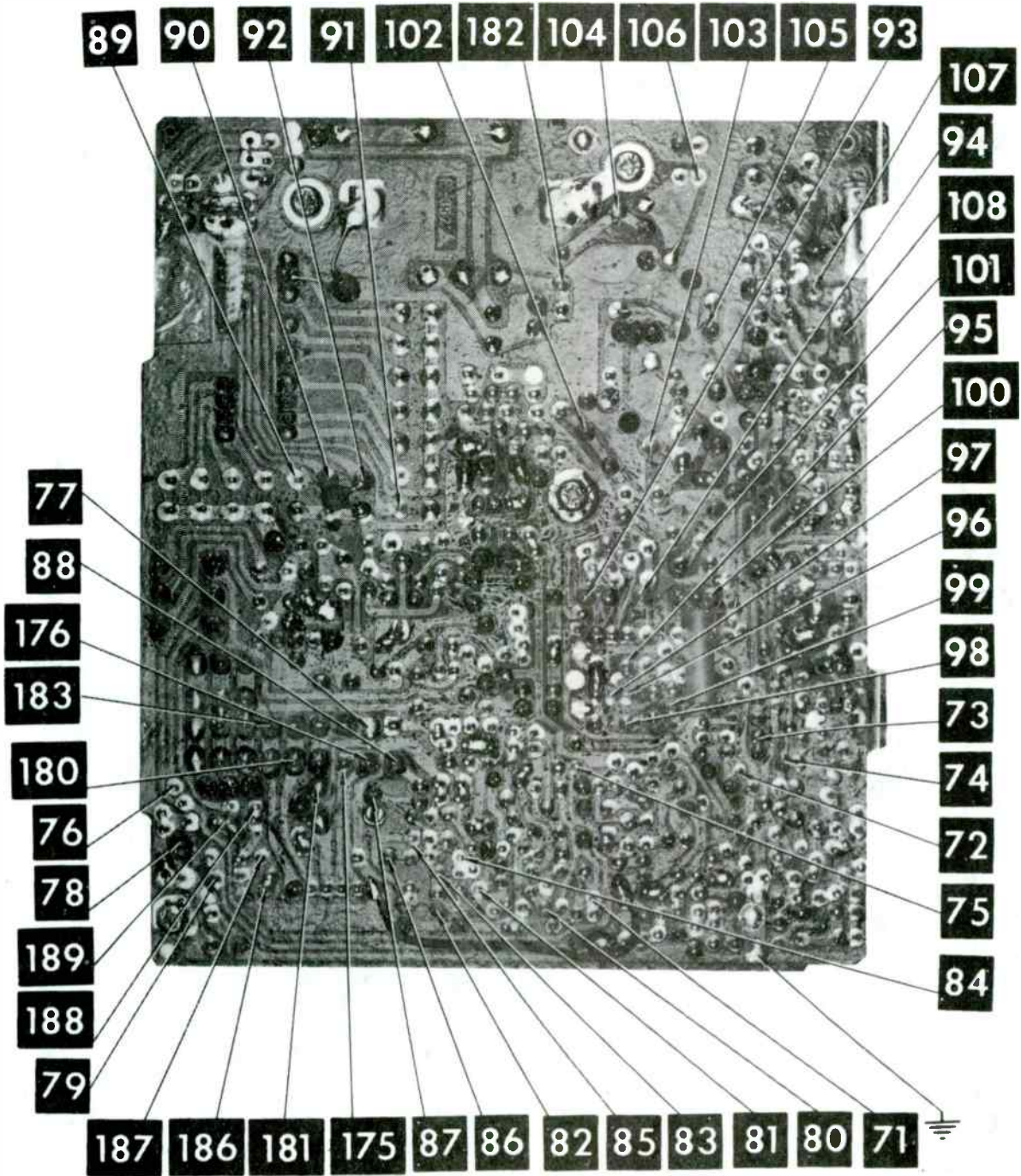
CB BOARD



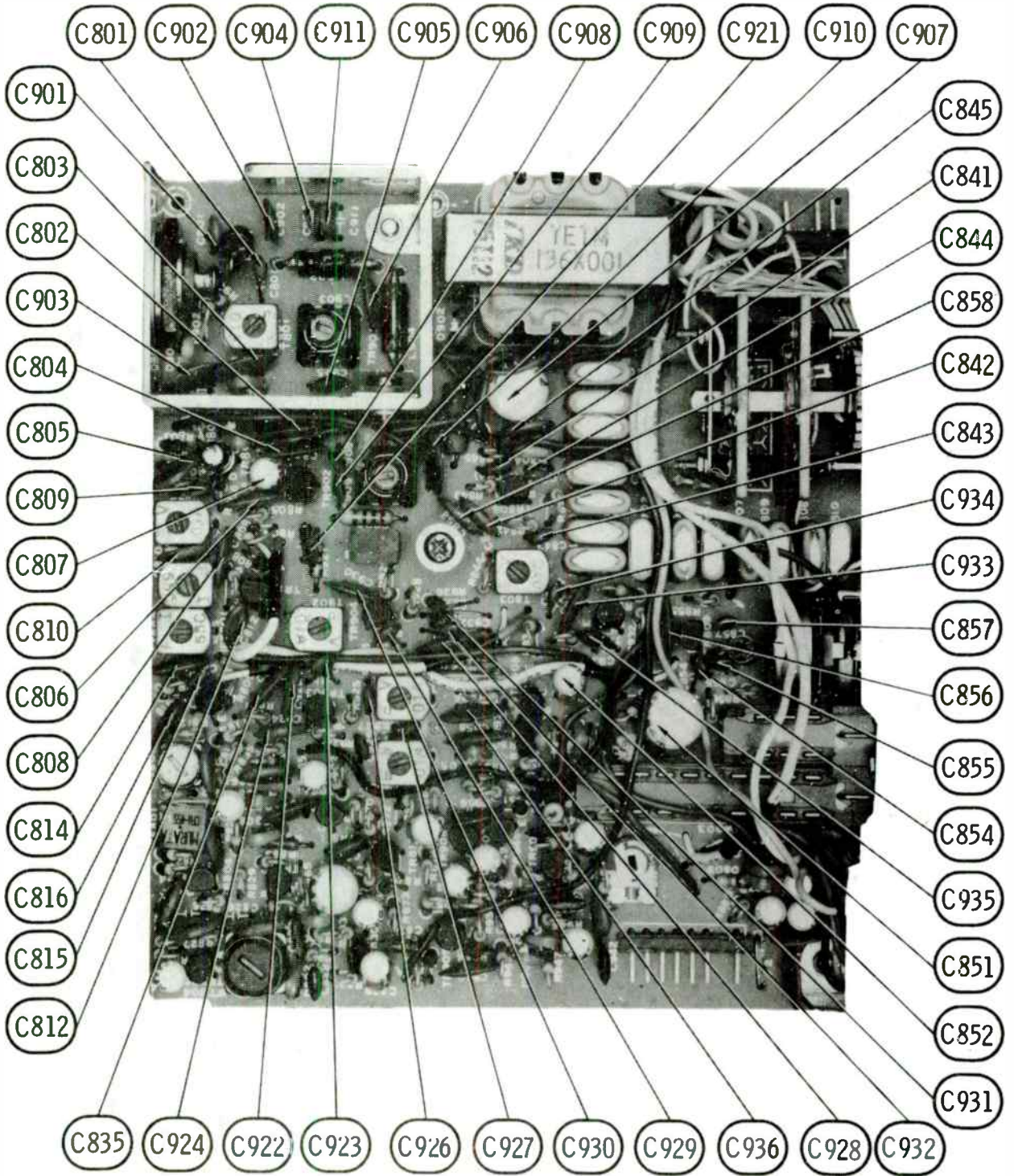
## CB BOARD

PANASONIC MODEL CR-B1717EU

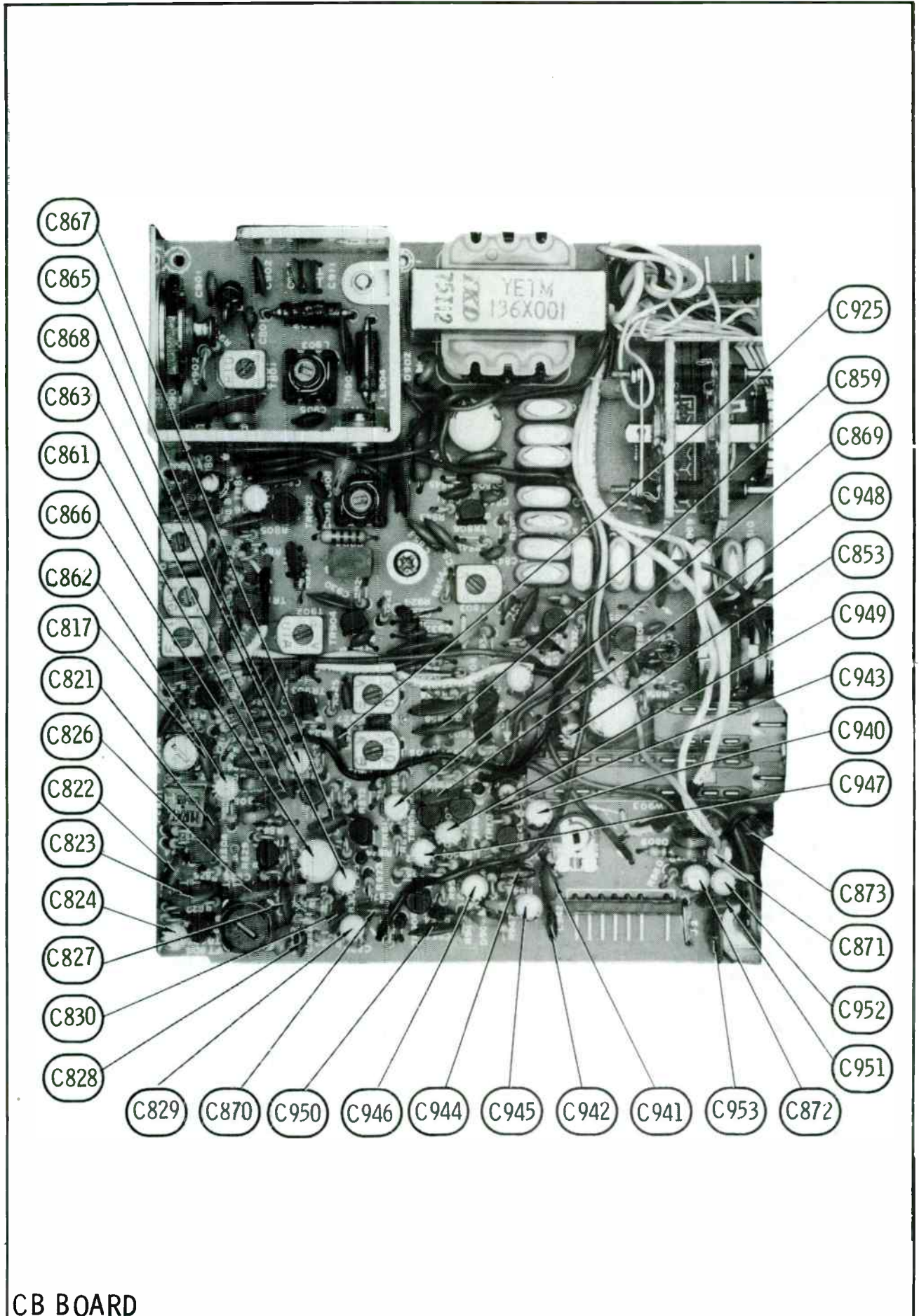




CB BOARD

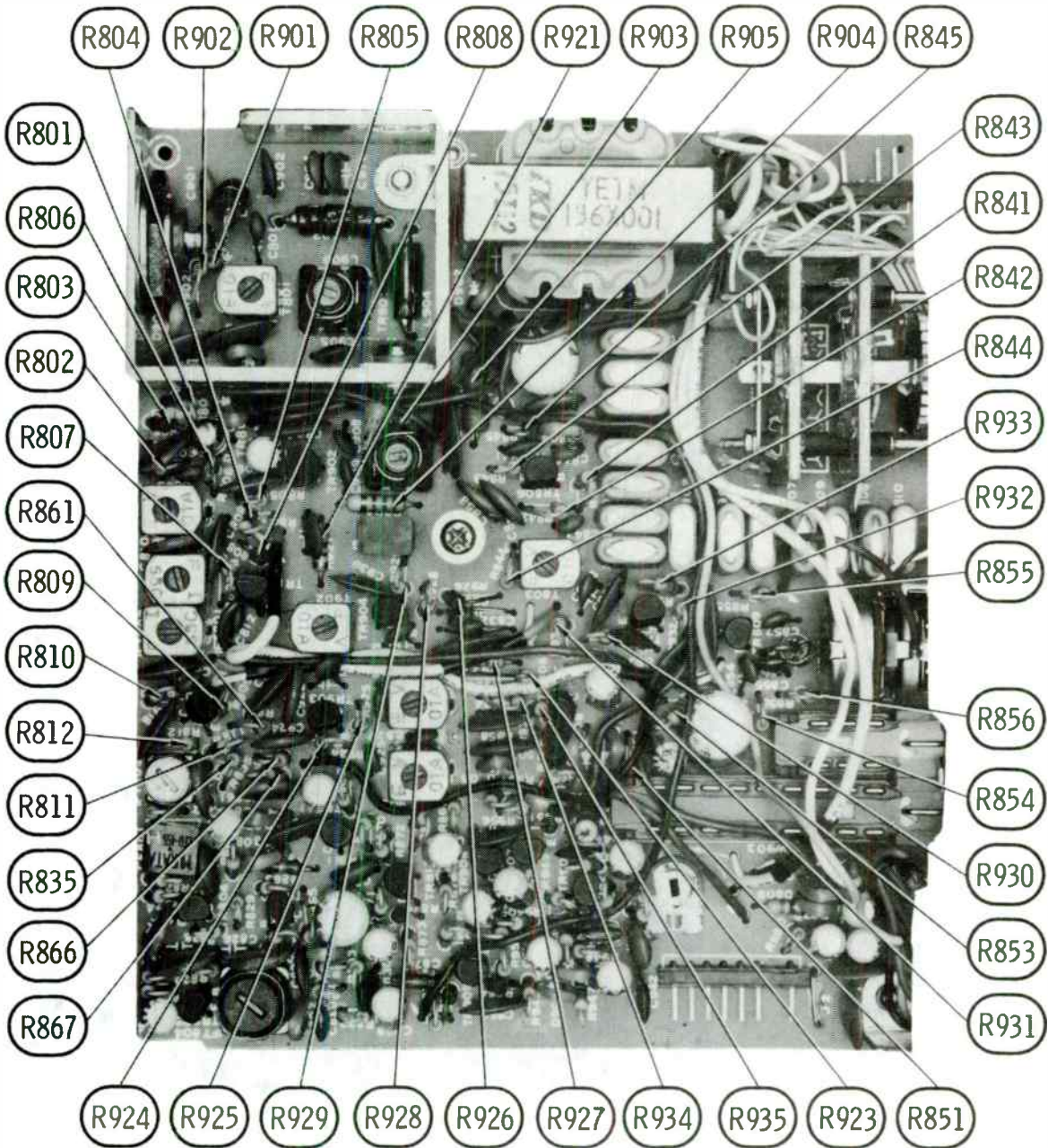


CB BOARD

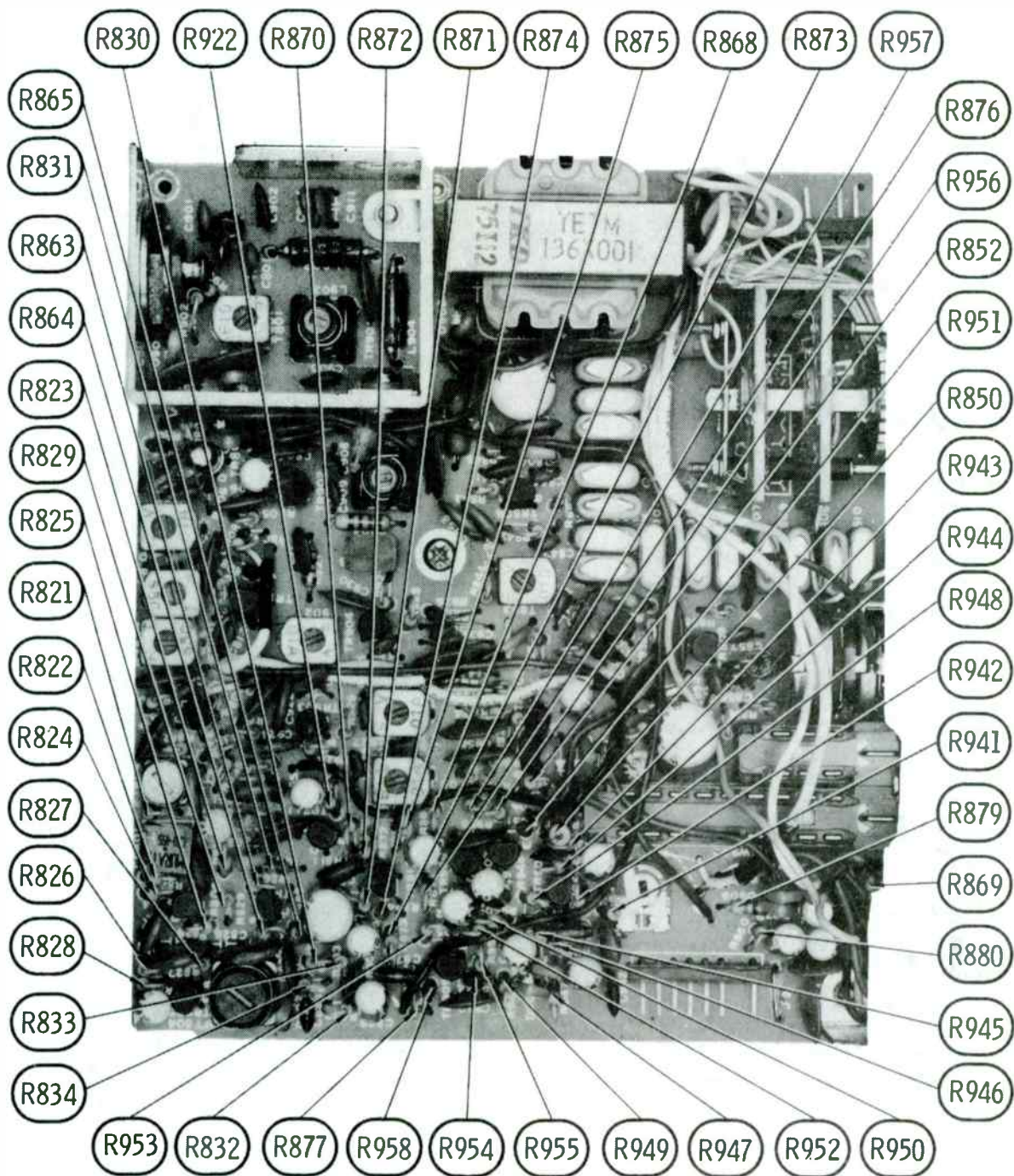


CB BOARD

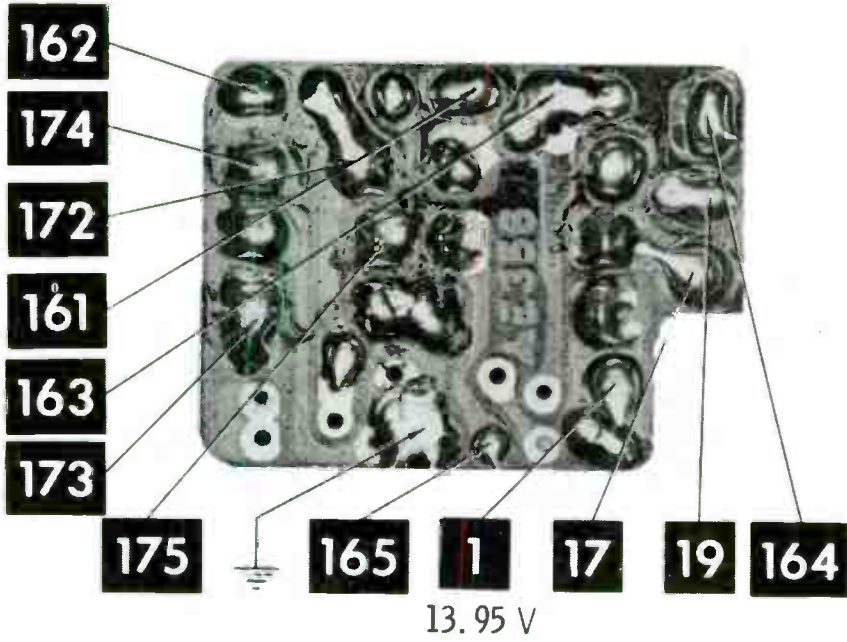




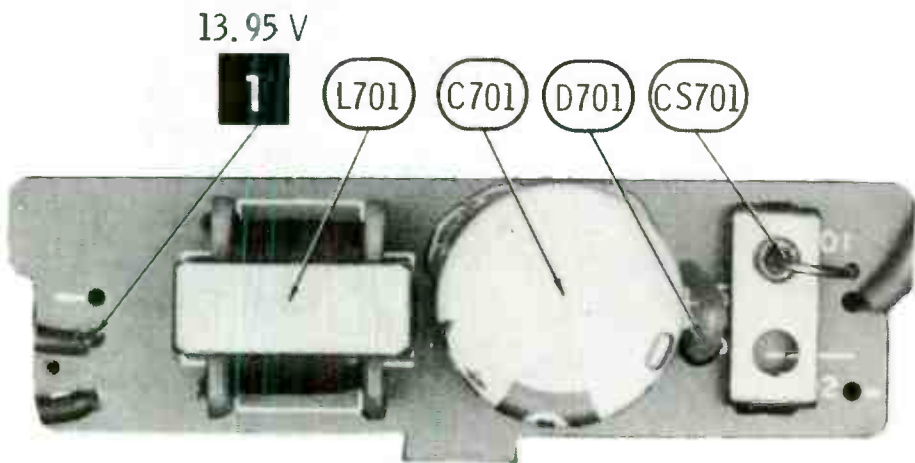
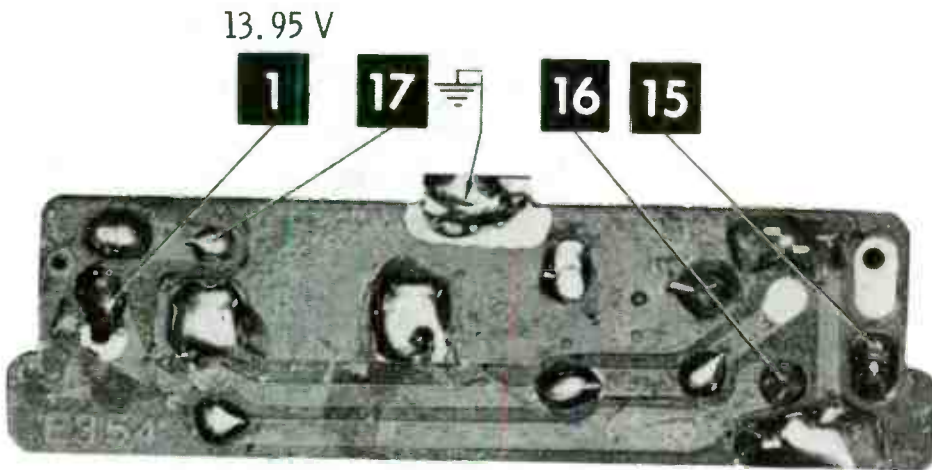
CB BOARD



CB BOARD

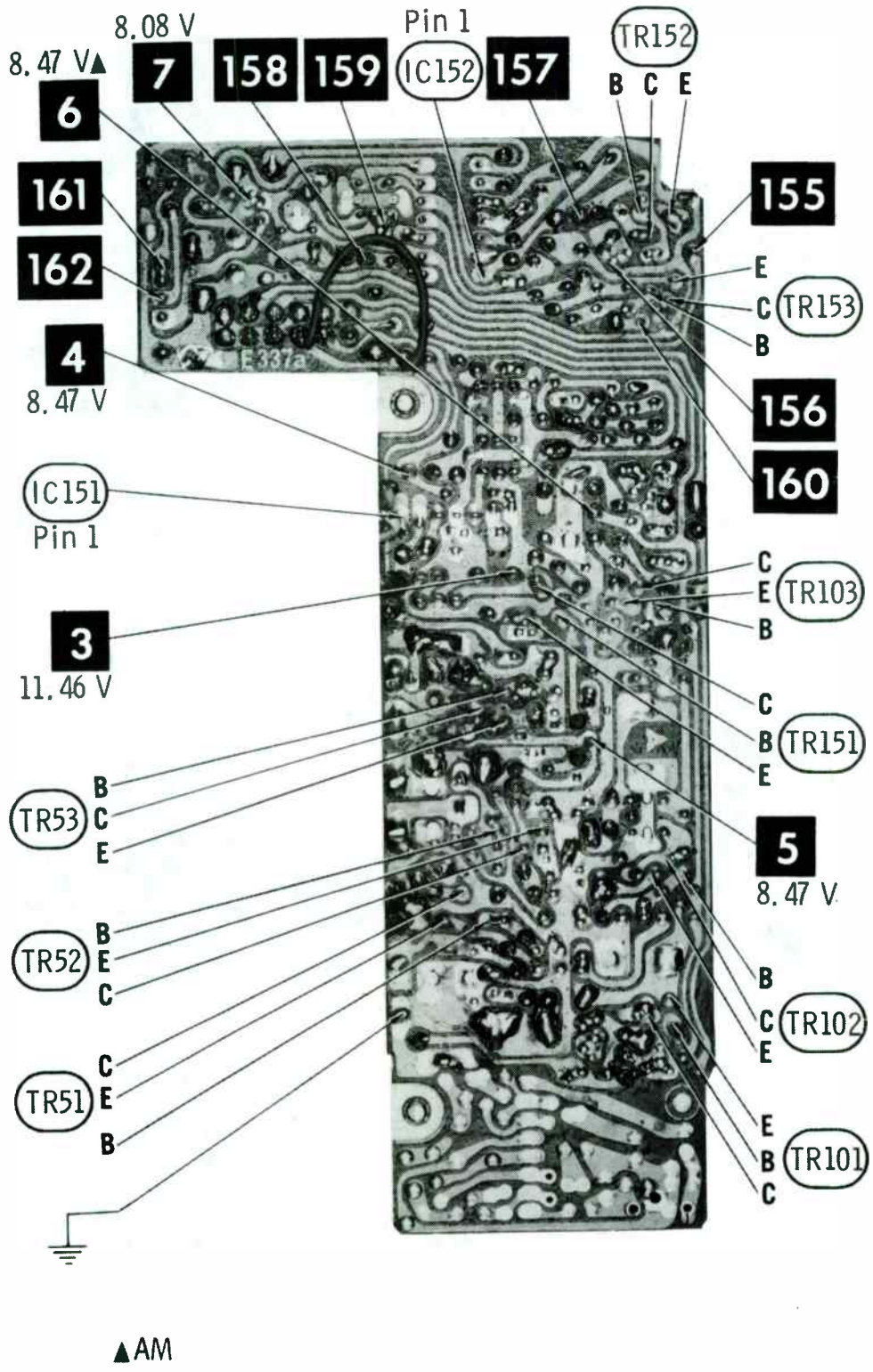


### CONTROL BOARD

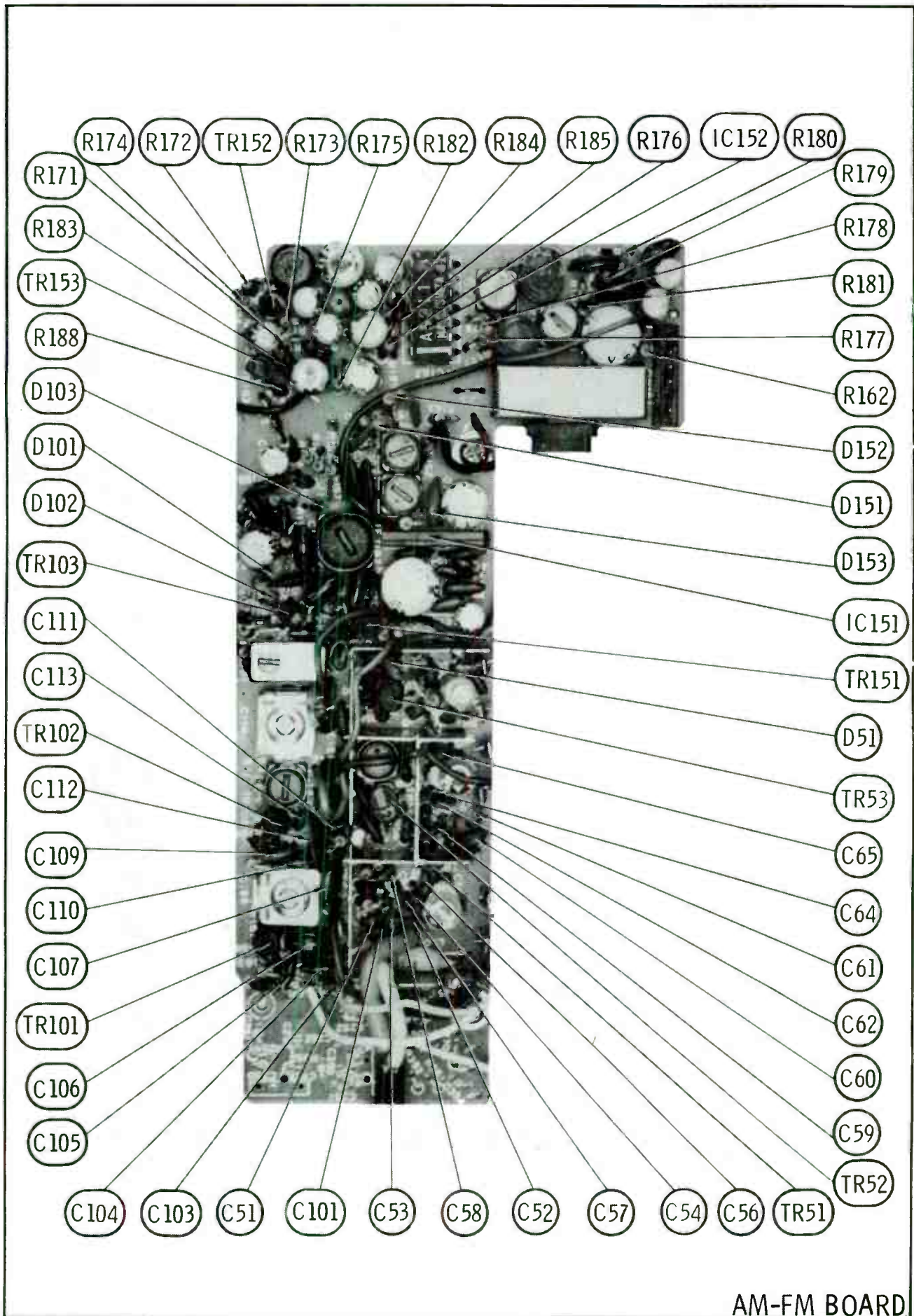


### POWER SUPPLY BOARD

PANASONIC MODEL CR-B1717EU

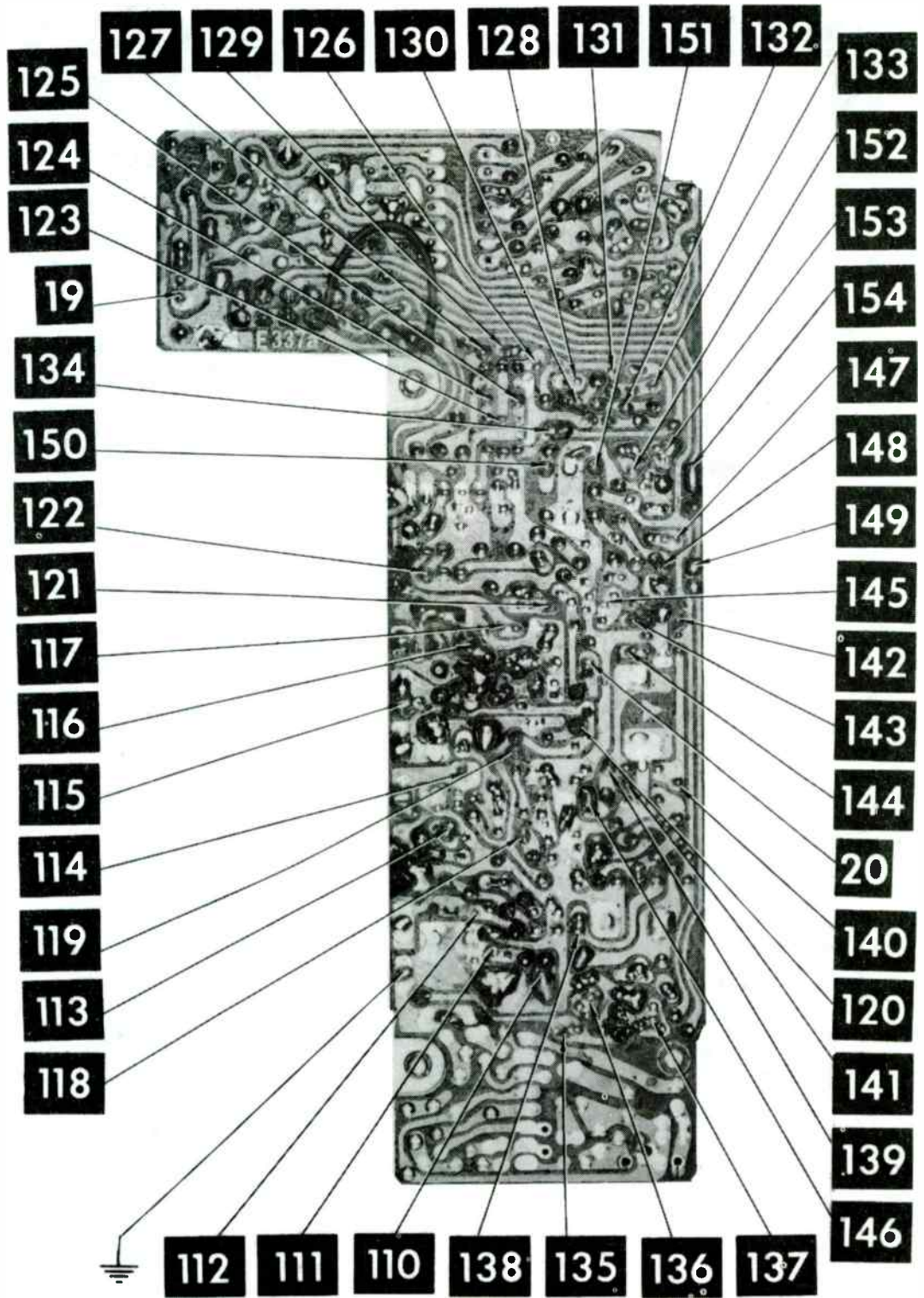


AM-FM BOARD

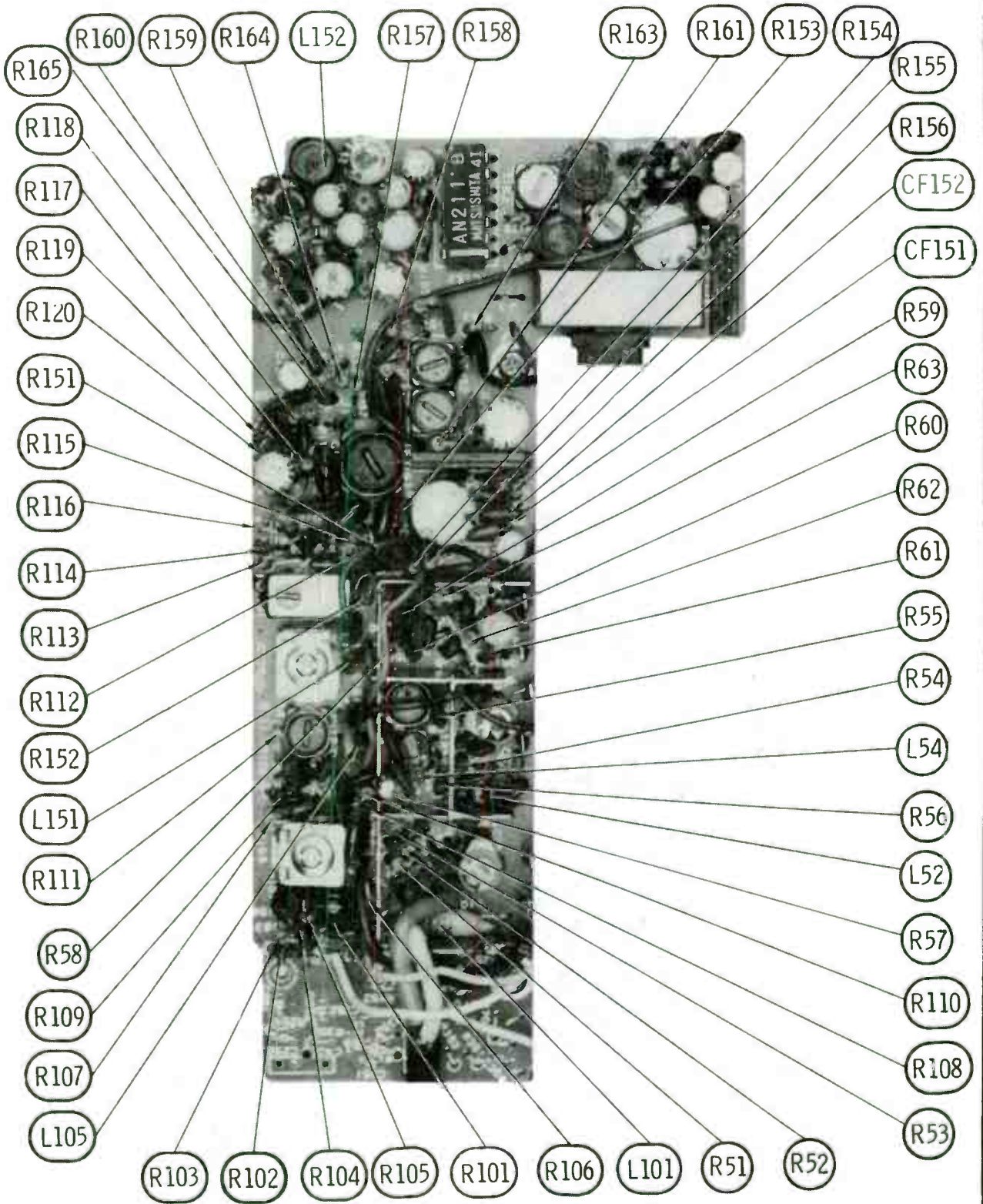


PANASONIC MODEL CR-8171ZEU

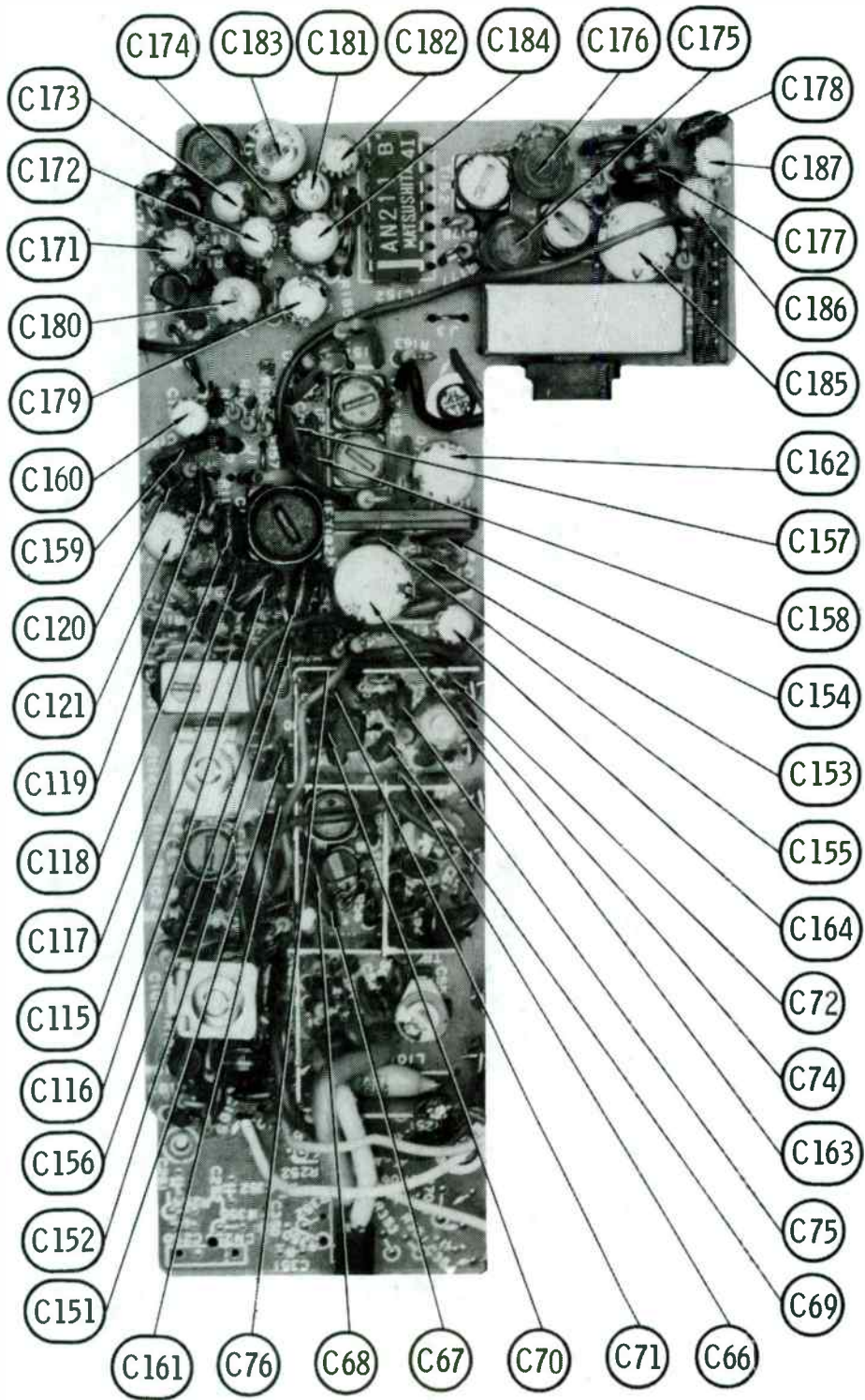
AM-FM BOARD



AM-FM BOARD

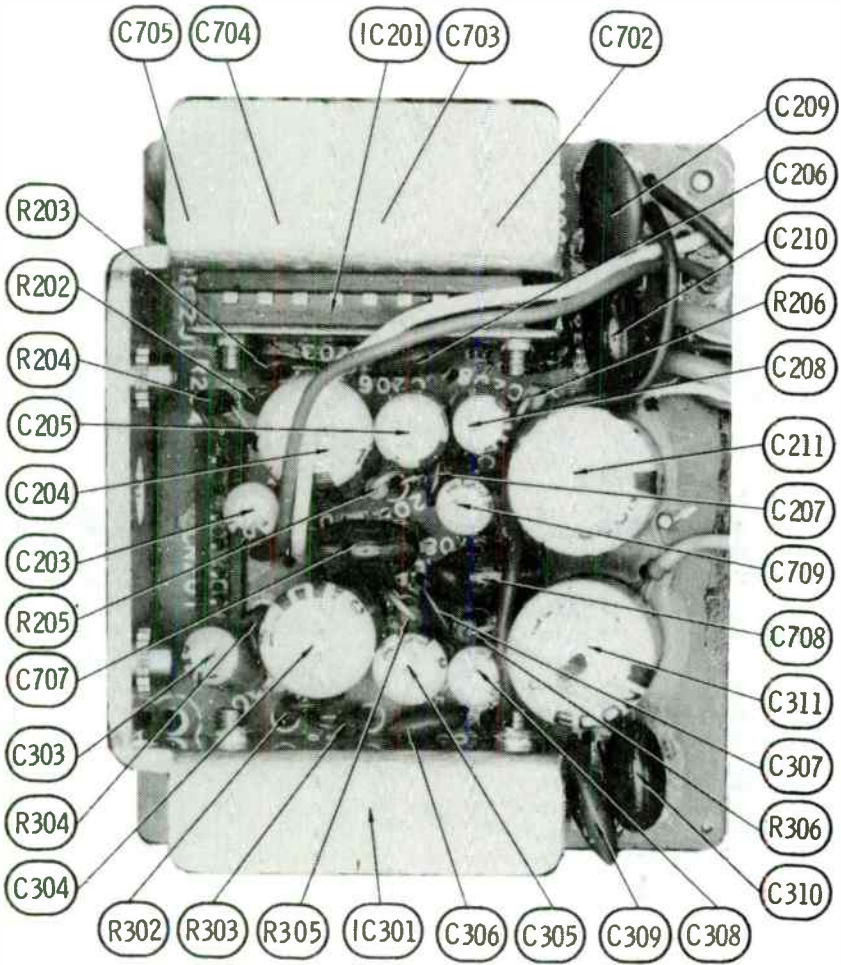
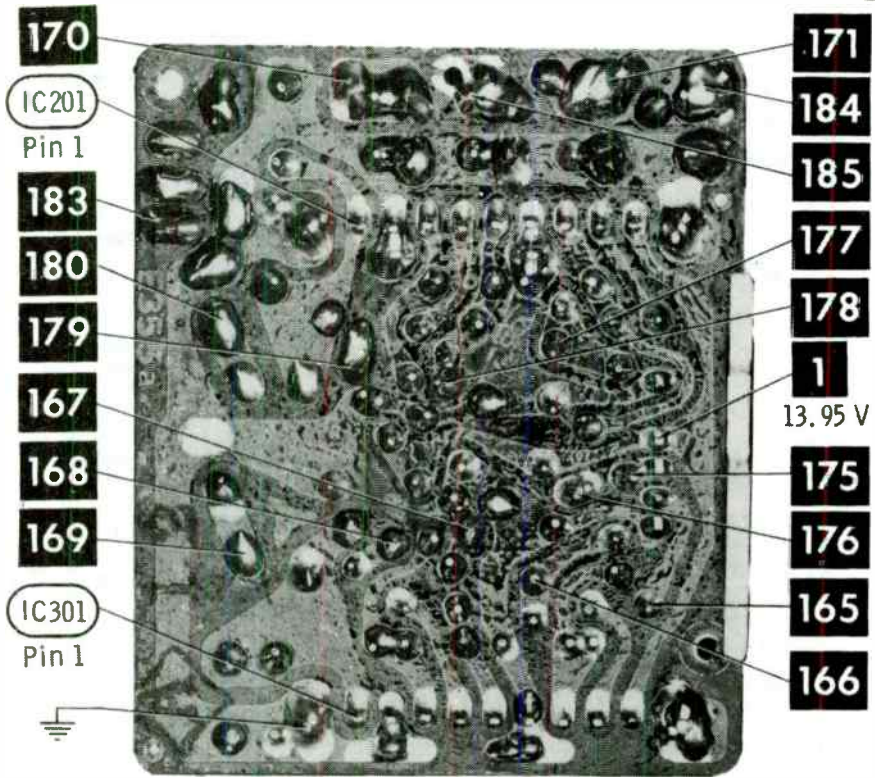


AM-FM BOARD



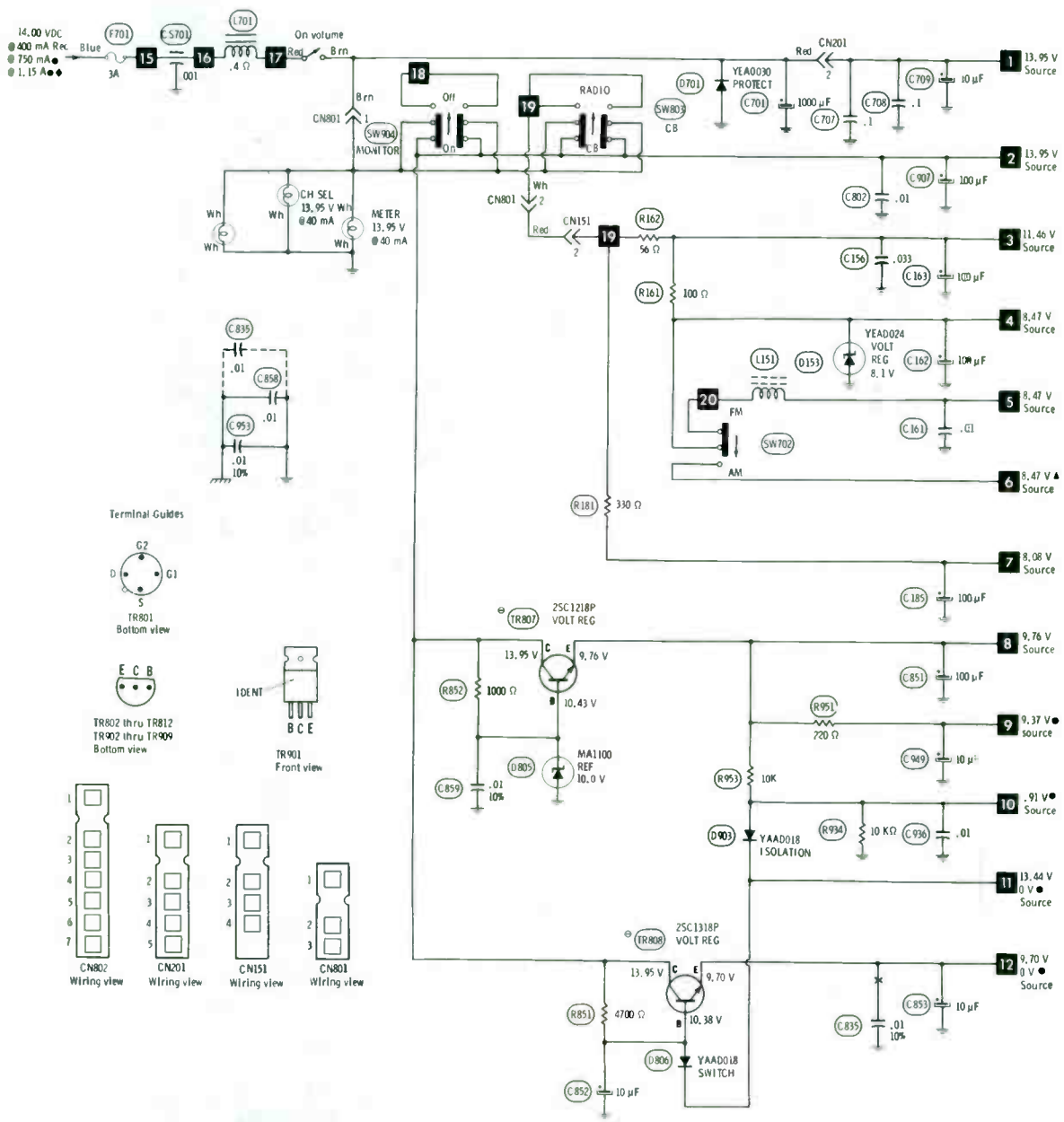
AM-FM BOARD





AUDIO BOARD

PANASONIC MODEL CR-B1717EU



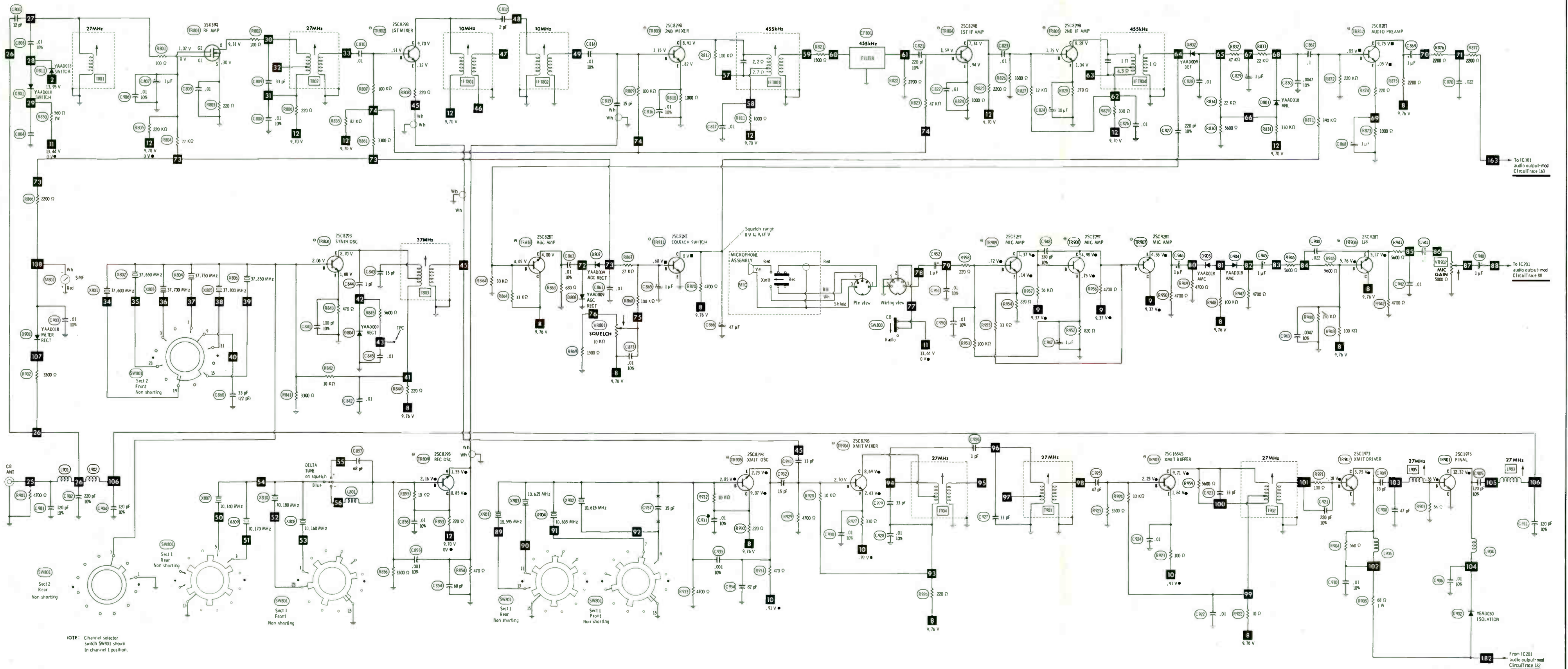
- ✖ Circuitry not used in some versions
- Circuitry used in some versions
- ⊙ See parts list
- ⊛ Nominal value
- ⊕ Ground
- ⌚ Chassis
- ∇ Common tie point

Measurements with switching as shown unless noted:  
 ■ Squelch fully clockwise    ◆ 100% modulation  
 ● Transmit    ▲ AM

Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
 WITH **CIRCUITRACE**  
 © Howard W. Sams & Co., Inc. 1977

Chan	Crystal Complement	Chan	Crystal Complement	Chan	Crystal Complement	Chan	Crystal Complement
1	X801, X810, X904	7	X802, X808, X902	13	X804, X810, X904	19	X805, X808, X902
2	X801, X809, X903	8	X802, X807, X901	14	X804, X809, X903	20	X805, X807, X901
3	X801, X808, X902	9	X803, X810, X904	15	X804, X808, X902	21	X806, X810, X904
4	X801, X807, X901	10	X803, X809, X903	16	X804, X807, X901	22	X806, X809, X903
5	X802, X810, X904	11	X803, X808, X902	17	X805, X810, X904	23	
6	X802, X809, X903	12	X803, X807, X901	18	X805, X809, X903	23	X806, X807, X901

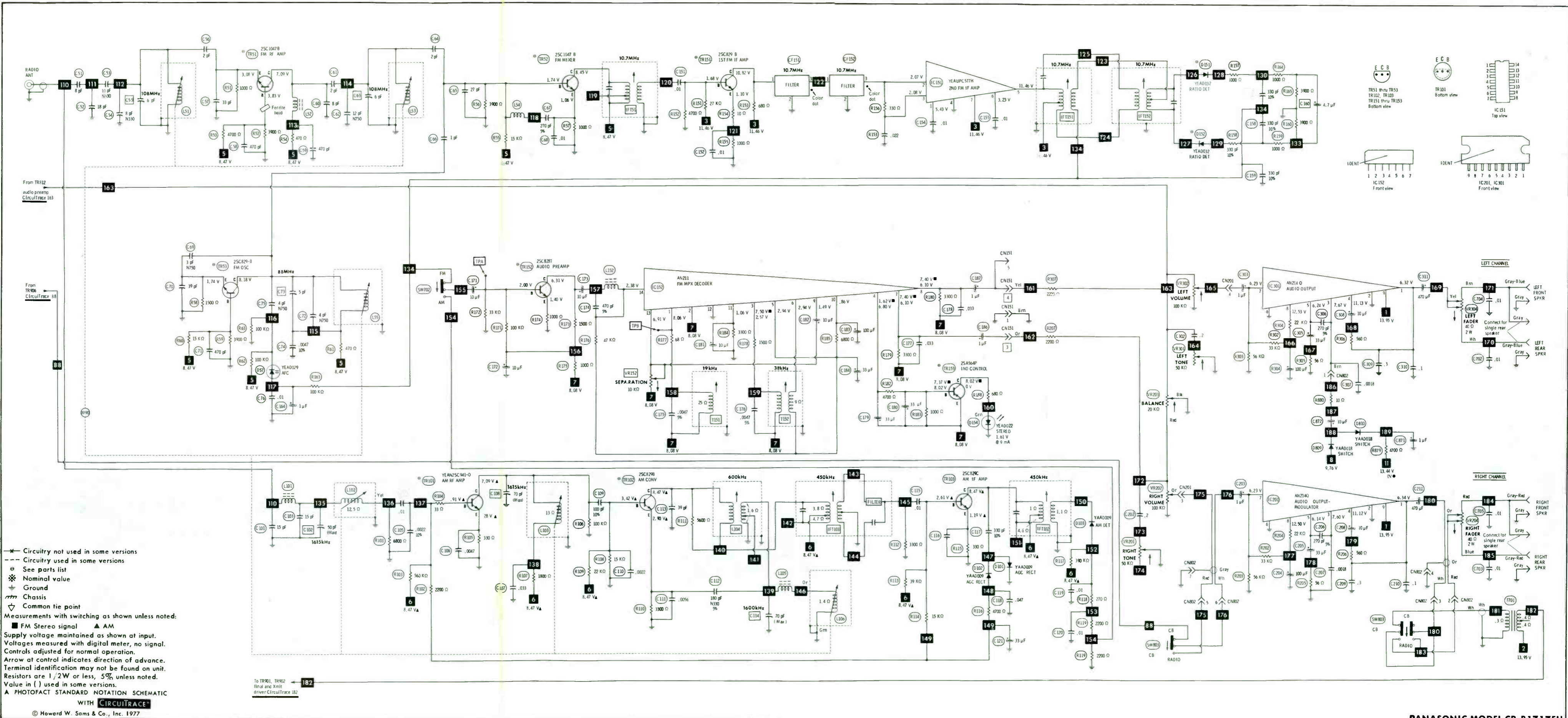


NOTE: Channel selector switch SW801 shown in channel 1 position.

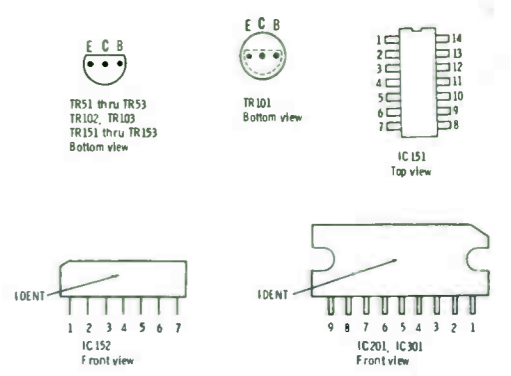
To IC 301 audio output-mod CircuitTrace 163

To IC 201 audio output-mod CircuitTrace 88

From IC 201 audio output-mod CircuitTrace 182



\* Circuitry not used in some versions  
 --- Circuitry used in some versions  
 ⊕ See parts list  
 \* Nominal value  
 ⊕ Ground  
 ~ Chassis  
 ▽ Common tie point  
 Measurements with switching as shown unless noted:  
 ■ FM Stereo signal ▲ AM  
 Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.  
 A PHOTOFACT STANDARD NOTATION SCHEMATIC  
 WITH CIRCUITRACE  
 © Howard W. Sams & Co., Inc. 1977



PANASONIC MODEL CR-B1717EU

# 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.

## SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D51	YEAD029		GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	
D101	YAAD009		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D102	YAAD001		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D103	YAAD009		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D151	YEAD032		1N34AS(7)	1N34A (7)	PTC207M(6)	HEPR9134(7)	RE 86(6)	SK3087(7)	RT-200(7)	ECG110(6)
D152	YEAD032									
D153	YEAD024		GEZD-8.2	Z1208	ZB8.2A	HEPZ0411	RE 112	SK3136	RT-257	ECG5072
D154	YEAD022									
D701	YEAD030		GE-504A	5A4D	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116
D801	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D802	YAAD009		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D803	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D804	YAAD009		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D805	MA1100		GEZD-10		ZB108		RE 115	SK3061	RT-241	ECG140
D806	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D807	YAAD009		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D808	YAAD009		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D809	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D810	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D811	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D901	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D902	YEAD030		GE-504A	5A4D	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116
D903	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D904	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
D905	YAAD018		GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177
IC151	YEAUPC577H						RE 341 IC			ECG1082
IC152	AN211		GEIC-48							ECG1056
IC201	AN214Q		GEIC-49		PTC757		RE 338 IC			ECG1058
IC301	AN214Q		GEIC-49		PTC757		RE 338 IC			ECG1058
TR51	25C1047B, C, D		GE-60	(IR)25C829B	PTC132	HEPS0016	RE 10	SK3018	RT-172	ECG108
TR52	25C1047B, C, D		GE-60	(IR)25C829B	PTC132	HEPS0016	RE 10	SK3018	RT-172	ECG108
TR53	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR101	25C941-0, Y		GE-60	(IR)25C829B	PTC132	HEPS0016	RE 192	SK3122	RT-107A	ECG199
TR102	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR103	25C829C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR151	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR152	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR153	25A564P, Q, R		GE-65	(IR)25A564A	PTC103	HEPS0019	RE 26	SK3114	RT-303	ECG234
TR801	35K390		GE-FET-4		PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
TR802	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR803	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR804	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR805	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR806	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR807	25C1218P, Q, R		GE-210	TR-25	PTC178	HEPS0015	RE 210	SK3122	RT-302	ECG297
TR808	25C1318P, Q, R		GE-210	TR-25	PTC178	HEPS0015	RE 210	SK3122	RT-302	ECG297
TR809	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR810	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR811	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR812	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR901	25C1975	(10)	GE-215		PTC186		RE 203	SK3197	RT-146	ECG235
TR902	25C1973				PTC179					ECG315
TR903	25C1684S, R, T		GE-62	TR-21	PTC115	HEPS0024	RE 192	SK3122	RT-108A	ECG199
TR904	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR905	25C829B,C		GE-20	(IR)25C829B	PTC121	HEPS0011	RE 9	SK3018	RT-308	ECG229
TR906	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR907	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR908	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199
TR909	25C828T, R, S		GE-61	(IR)25C828A	PTC121	HEPS0015	RE 192	SK3122	RT-302	ECG199

(6) Matched pair.

(7) Two required - select matched pair.

(10) Rating, 15 watt @ 2.0 Amp.

PANASONIC MODEL CR-B1717U

## 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			
		MFGR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C121	33 6.3V	ECEA6V33L	PC30-25	VTT33A10	EV-1125
C160	4.7 25V	ECEA25V4R7L	PC5-50	VTT4R7A50	EV-1319
C162	100 10V	ECEA10V100L	PC100-10	VTT100E10	EV-1130
C163	100 16V	ECEA16V100L	PC100-16	VTT100F16	EV-1230
C164	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C171	10 16V	ECEA16V100L	PC10-25	VTT10A25	EV-1222
C172	10 16V	ECEA16V100L	PC10-25	VTT10A25	EV-1222
C173	10 16V	ECEA16V100L	PC10-25	VTT10A25	EV-1222
C179	33 10V	ECEA10V33L	PC30-25	VTT33A10	EV-1125
C180	33 6.3V	ECEA6V33L	PC30-25	VTT33A10	EV-1125
C181	10 16V	ECEA10V10L	PC10-25	VTT10A25	EV-1222
C182	10 16V	ECEA10V10L	PC10-25	VTT10A25	EV-1222
C183	100 6.3V	ECEA6V100L	PC100-10	VTT100E10	EV-1130
C184	33 6.3V	ECEA6V33L	PC30-25	VTT33A10	EV-1125
C185	100 16V	ECEA16V100L	PC100-16	VTT100F16	EV-1230
C186	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C187	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C203	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C204	100 16V	ECEA16V100L	PC100-16	VTT100F16	EV-1230
C205	33 10V	ECEA10V33L	PC30-25	VTT33A10	EV-1125
C208	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C211	470 16V	ECEA16V470Z	PC500-16	VTT470J16	EV-1250
C303	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C304	100 16V	ECEA16V100L	PC100-16	VTT100F16	EV-1230
C305	33 10V	ECEA10V33L	PC30-25	VTT33A10	EV-1125
C308	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C311	470 16V	ECEA16V470Z	PC500-16	VTT470J16	EV-1250
C701	1000 16V	ECEA16V1000L	PC1000-16	VTT1000L16	EV-1260
C709	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C807	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C824	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C829	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C851	100 16V	ECEA16V100L	PC100-16	VTT100F16	EV-1230
C852	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C853	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C862	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C865	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C866	1 50V	ECEA16V47L	PC50-16	VTT47D16	EV-1226
C868	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C869	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C871	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C872	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C907	100 16V	ECEA16V100L	PC100-16	VTT100F16	EV-1230
C940	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C945	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C946	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C947	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C949	10 16V	ECEA16V10L	PC10-25	VTT10A25	EV-1222
C952	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615
C990	1 50V	ECEA50V1L	PC1-50	VTT1B63	EV-1615

### CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C51	8	YECCD1HD80DM				
C52	18	YECCD1H180KM				
C53	10 N330	YECCD1H100JS	*		*	10TCS-010
C54	8 N330	YECCD1HD80DS	*		*	10TCS-V82
C55	6	ECV1ZW06X32				
C56	2		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C57	33	YECCD1H330KM				
C58	470		DD-471	GP470	GP347	10TS-T47
C59	470		DD-471	GP470	GP347	10TS-T47
C60	8	YECCD1H080DM				
C61	2	YECCD1H020CM				
C62	12 N750		*		CN7412	10TCU-Q12
C63	6	ECV1ZW06X32				
C64	2		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C65	27	YECC01H270KM				
C66	1				CN0510	10TCC-V10

# 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	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C67	270 5%		DC-103	MGP01	TA110	TG-S10
C68	.01		*		*	
C69	3 N750	YECCD1H030DU			CN0439	10TCC-Q39
C70	39				GP347	10TS-T47
C71	470		DD-471	GP470	*	10TCU-V47
C72	4 N750	YECCD1H040DU				
C73	5	YECCD1H050DU				
C74	.0047 10%				M192P4729R8	192P4729R8
C75	4 N750	YECCD1H040DU	*		*	
C76	.01		DC-103	MGP01	TA110	10TCU-V47
C101	15	YECCD1H150KM				TG-S10
C102	50 MAX	ECV1ZW50P32				
C103	15	YECCD1H150KM				
C104	.01		DC-103	MGP01	TA110	TG-S10
C105	.0022 10%				M192P2229R8	192P2229R8
C106	.0047				M192P4729R8	192P4729R8
C107	.033				M192P3339R8	192P3339R8
C108	70 MAX	YECTTC10S700				
C109	100 10%		DD-101	GP100	GP310	10TS-T10
C110	.0022				M192P2229R8	192P2229R8
C111	.0056				M192P5629R8	192P5629R8
C112	180 5% N330	YECCD1H181JS	*		*	10TCS-T18
C113	39				CN0439	10TCC-Q39
C114	70 MAX	YECTTC10S700				
C115	.01			WMF1S1	EWF1A110	1PB-S10
C116	.047	YECQNH473M				
C117	330 10%		DD-331	GP330	GP333	10TS-T33
C118	.047	YECQNH473M				
C119	.01			WMF1S1	EWF1A110	1PB-S10
C120	.01			WMF1S1	EWF1A110	1PB-S10
C151	.01		DC-103	MGP01	TA110	TG-S10
C152	.01		DC-103	MGP01	TA110	TG-S10
C153	.022	YECQNH223M			EWF1A22	
C154	.01		DC-103	MGP01	TA110	TG-S10
C155	.01		DC-103	MGP01	TA110	TG-S10
C156	.033				M192P3339R8	192P3339R8
C157	330 10%		DD-331	GP330	GP333	10TS-T33
C158	330 10%		DD-331	GP330	GP333	10TS-T33
C159	330 10%		DD-331	GP330	GP333	10TS-T33
C161	.01		DC-103	MGP01	TA110	TG-S10
C174	470 5%			CD15FD471J03	SX347	MMA-471
C175	.0047 5%			CD19FD472J03	SX247	MWC-472
C176	.0047 5%			CD19FD472J03	SX247	MWC-472
C177	.033				M192P3339R8	192P3339R8
C178	.033				M192P3339R8	192P3339R8
C202	.2	YECCD12204M				
C206	270 5%	YECCD1H271JM				
C207	.0018				M192P1839R8	192P1839R8
C209	.3	YECCD12304M				
C210	.1	YECQNH104M				
C302	.2	YECCD12204M		WMF05P1	EWF05010	431P1049R5
C306	270 5%	YECCD1H271JM				
C307	.0018				M192P1839R8	192P1839R8
C309	.3	YECCD12304M				
C310	.1			WMF05P1	EWF05010	431P1049R5
C702	.01		DC-103	MGP01	TA110	TG-S10
C703	.01		DC-103	MGP01	TA110	TG-S10
C704	.01		DC-103	MGP01	TA110	TG-S10
C705	.01		DC-103	MGP01	TA110	TG-S10
C707	.1			WMF05P1	EWF05010	431P1049R5
C708	.1			WMF05P1	EWF05010	431P1049R5
C801	12				CN0412	10TCC-Q12
C802	.01		DC-103	MGP01	TA110	TG-S10
C803	.01		DC-103	MGP01	TA110	TG-S10
C804	.01 10%	YECKD1H103KB				
C805	.01		DC-103	MGP01	TA110	TG-S10
C806	.01		DC-103	MGP01	TA110	TG-S10
C808	.01		DC-103	MGP01	TA110	TG-S10
C809	33	YECCD1H330KM				
C810	.01		DC-103	NP033		
C812	2		DTZ-2R2	MGP01	TA110	TG-S10
C814	.01 10%	YECKD1H103KB		NP02P2	CN0522	10TCC-V22
C815	15	YECCD1H150KM				
C816	.01 10%	YECKD1H103KB				
C817	.01		DC-103	MGP01	TA110	TG-S10
C821	220 10%		DD-221		GP322	10TS-T22
C822	.01		DC-103	MGP01	TA110	TG-S10
C823	.01		DC-103	MGP01	TA110	TG-S10
C826	.01		DC-103	MGP01	TA110	TG-S10
C827	220		DD-221		GP322	10TS-T22
C828	.01			WMF1S1	EWF1A110	1PB-S10
C830	.0047				M192P4729R8	192P4729R8
C835	.01 10%	YECKD1H103KB				
C841	100 10%		DD-101	GP100	GP310	10TS-T10
C842	.01		DC-103	MGP01	TA110	TG-S10
C843	15		DTZ-15	NP015	CN0415	10TCC-Q15
C844	1	YECCD1H010CM			CN0510	
C845	.01		DC-103	MGP01	TA110	TG-S10
C854	68		DD-680	GP68	GP468	10TS-Q68

PANASONIC MODEL CR-B1717EU

## 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	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C855	.001 10%	YECQ1H102K			ENF1A210	
C856	.01 10%	YECKD1H103KB				
C857	68		DD-680	GP68	GP468	10TS-Q68
C858	.01		DC-103	MGP01	TA110	TG-S10
C859	.01 10%	YECKD1H103KB				
C860	22	YECCD1H220KM				
C861	.01		DC-103	MGP01	TA110	TG-S10
C863	.01 10%	YECKD1H103KB				
C867	.1	YECCD12104M			ENF1A22	
C870	.022	YECQ1H223M				
C873	.01 10%	YECKD14103KB				
C901	120 10%	YECCD1H121KM				
C902	220 10%		DD-221		GP322	10TS-T22
C903	.01 10%					
C904	120 10%	YECCD1H121KM				
C905	120 10%	YECCD1H121KM				
C906	.01 10%	YECKD1H103KB				
C908	47	YECCD1H470KM				
C909	33	YECCD1H330KM		NP033		
C910	.01 10%					
C911	120 10%	YECCD1H121KM				
C921	220 10%		DD-221		GP322	10TS-T22
C922	.01		DC-103	MGP01	TA110	TG-S10
C923	33	YECCD1H330KM		NP033		
C924	.01		DC-103	MGP01	TA110	TG-S10
C925	47	YECCD1H470KM				
C926	1				CN0510	
C927	33	YECCD1H330KM		NP033		
C928	.01 10%	YECKD1H103KB				
C929	33	YECCD1H330KM		NP033		
C930	.01 10%	YECKD1H103KB				
C931	33	YECCD1H330KM		NP033		
C932	15	YECCD1H150KM				
C933	.01		DC-103	MGP01	TA110	TG-S10
C934	82		DD-820		GP482	10TS-Q82
C935	.001	YECQ1H102K			ENF1A210	
C936	.01 10%					
C937	15	YECCD1H150KM				
C941	.1	YECCD12104M				
C942	.01			WMF1S1		
C943	.0047				ENF1A110	1P8-S10
C944	.022	YECQ1H223M			M192P4729R8	192P4729R8
C948	330 10%		DD-331	GP330	ENF1A22	10TS-T33
C950	.01 10%	YECKD1H103KB			GP333	
C951	.01 10%	YECKD1H103KB				
C953	.01 10%	YECKD1H103KB				
CS702	.001	YECC1S10294				

\*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.	MALLORY PART No.	TRW PART No.
VR152	Separation	10K	EVN-J0AA0814				
VR201	Tone-Right	50K	EWK-37FS37744				
VR202	Volume-Right	100K					
VR301	Tone-Left	50K					
VR302	Volume/Switch-Left	100K					
VR203	Balance	20K	EVA-H0PS15G24				
VR204	Fader-Right	40 2W	EVM-T8RS03B41				
VR304	Fader-Left	40 2W					
VR801	Squelch	10K	EWK-07AS20B14				
VR902	MIC Gain	5000	EVN-K4AA00853				

### COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
I FT51	FM Mixer (10.7MHz)	YE1F07S7049			
I FT101	AM IF (450kHz)	YE1C07D2004A			
I FT102	AM IF (450kHz)	YE1A10S7086			
I FT151	FM IF (10.7MHz)	YE1F07S7048			
I FT152	FM IF (10.7MHz)	YE1F07S7047			
I FT801	Rec Mixer (10MHz)	E1F7S755C			
I FT802	Rec Mixer (10MHz)	E1F7S755C			
I FT803	C8 IF (455kHz)	YE1A07S7074C			
I FT804	C8 IF (455kHz)	YE1A10S7086			
L51	Rec Ant				



## PARTS LIST AND DESCRIPTION (CONTINUED)

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

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### COILS (RF-IF) (cont)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L52	RF Choke	YELT06C003			
L53	Rec RF				
L54	RF Choke	YELT03C011			
L55	FM Osc				
L101	RF Choke	YELQ0SC040			
L102	AM Ant				
L103	AM RF				
L104	AM Conv	YELL07S069			
L105	RF Choke	YELT06C003			
L106	AM Osc				
L151	RF Choke	YELT06C007			
L152	RF Choke	YELM14S917			
L801	RF Choke	YELT04N019			
L901	Pi Filter	YELT04N017			
L902	Pi Filter	YELT04N017			
L903	Final Tank (27MHz)	EN10H36			
L904	RF Choke	YELT04N018			
L905	Xmit Driver (27MHz)	E1V10H36			
L906	RF Choke	YELQ04N009			
T151	FM MPX (19kHz)	YELM07S912			
T152	FM MPX (38kHz)	YELM07S911			
T801	Rec Ant (27MHz)	E1V7E701B			
T802	Rec RF (27MHz)	E1V7E701A			
T803	Synth Osc (38MHz)	E1V7E701C			
T902	Xmit Buffer (27MHz)	E1V7E701A			
T903	Harmonic Suppressor (27MHz)	E1V7E701A			
T904	Xmit Mixer (27MHz)	E1V7E701A			

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L701	1.15A	.4	4mH	YETQ020F012 TCH-012 (1)			(1) Number on unit.

### TRANSFORMER

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T701	1	2		YETM136X001			

### 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
F701	3A Fast Acting	YEAFO1001		AGC3	HDJ	312003	150145	FG3-2

### MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC CONNECTOR	GC Red	GC Shield	GC Yellow	GC Blue	GC White	GC Black
MIC	WM2291R	18-032	18-034	18-010	18-105	1	3	2	NC	NC	3

PANASONIC MODEL CR-B1717EU

## 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.

### CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL	ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X801	37.600	YEXLHC18U009	0A32W37.600	1,2,3,4	X808	10.160	YEXLHC18U002	0C65W10.160	3,7,11,15,19
X802	37.650	YEXLHC18U010	0A32W37.650	5,6,7,8	X809	10.170	YEXLHC18U003	0C65W10.170	2,6,10,14,18,22
X803	37.700	YEXLHC18U011	0A32W37.700	9,10,11,12	X810	10.180	YEXLHC18U004	0C65W10.180	1,5,9,13,17,21
X804	37.750	YEXLHC18U012	0A32W37.750	13,14,15,16	X901	10.595	YEXLHC18U005	0B65W10.595	4,8,12,16,20,23
X805	37.800	YEXLHC18U013	0A32W37.800	17,18,19,20	X902	10.615	YEXLHC18U006	0B65W10.615	3,7,11,15,19
X806	37.850	YEXLHC18U014	0A32W37.850	21,22,23	X903	10.625	YEXLHC18U007	0B65W10.625	2,6,10,14,18,22
X807	10.140	YEXLHC18U001	0C65W10.140	4,8,12,16,20,23	X904	10.635	YEXLHC18U008	0B65W10.635	1,5,9,13,17,21

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF151	Filter	YE1N09N5004	10.7MHz (FM)
CF152	Filter	YE1N09N5004	10.7MHz (FM)
CF801	Filter	YE1C07P2005A	455kHz (CB)
M90	Tuner	YEAU05180	AM/FM
M801	Meter	YEAVCFM11	S/R/F
SW702	Switch	YEAS07026	FM/AM
SW801	Switch	ESRN24RF35BE	Channel Selector
SW803	Switch	YEAS09058	Radio/CB
SW904	Switch	YEAS9056	Monitor/Radio
	Power Supply Cord	YEAJ01110	
	Power Supply Cord	YEAJ01109	

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

ITEM	PART No.	ITEM	PART No.
Cover, Bottom	YEFA05097	Side Plate, Right (Radio)	YEFA09029
Cover, Upper	YEFA03199	Rear Plate (Radio)	YEFA08013
Front Plate (CB)	YEFA05109	Knob, Guide Plate	YEFX239127
Rear Plate (CB)	YEFA05110	Knob, Squelch	YEFE08051
Power Case	YEFA13089	Knob, Delta-Tune	YEFE07054
Back Plate (Radio)	YEFJ10555	Knob, Channel Selector	YEFE17036
Front Plate (Radio)	YEFA07012A	Button, Monitor & CB	YEFE10162
Side Plate, Left (Radio)	YEFA09032		

### WIRING DATA

General-use Hook-up Wire .....	Use BELOEN No. 8530 (Solid) Available in 13 Colors 8524 (Stranded) Available in 13 Colors
Shielded Antenna Lead .....	Use BELOEN No. 8214 Lowest-loss (RG-8/U Type) 8237 Low-loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable .....	Use BELOEN No. 8497 3-Conductor (1 shielded for Press-to-Talk) Neoprene
Bonding Strap .....	Use BELOEN No. 8661 (3/8 inch)



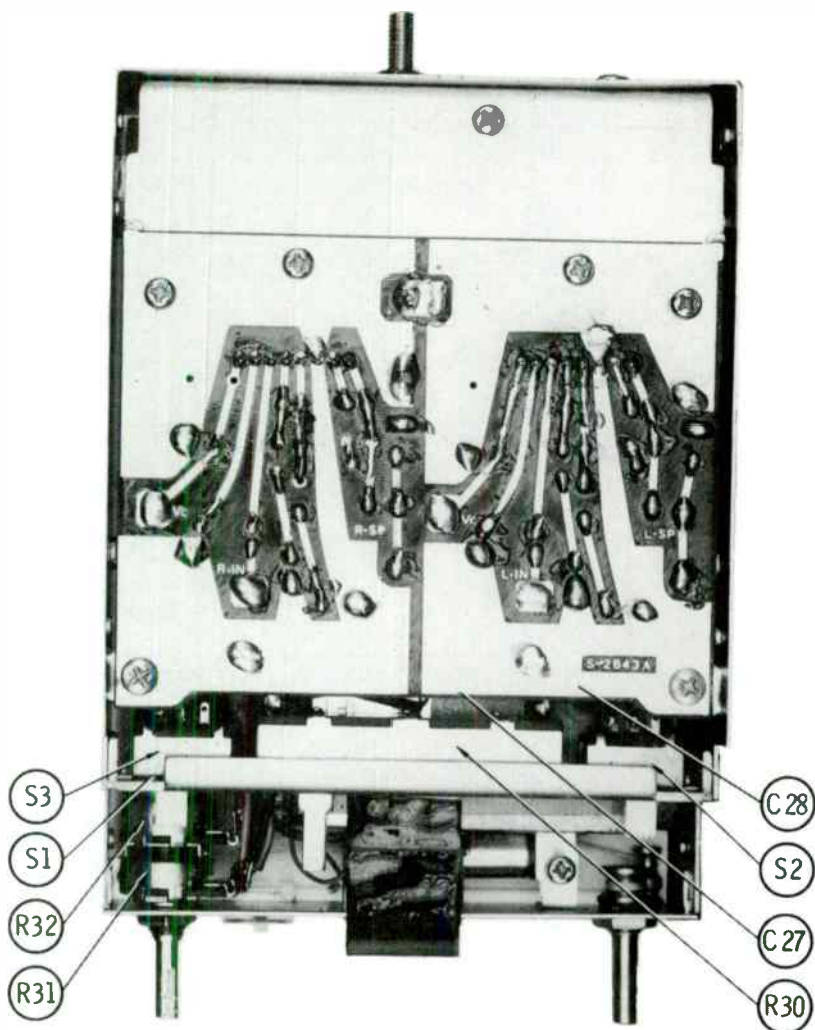
# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

For Supplier Address See PHOTOFACT Index



MODEL RR-203MPX (Ch. 100007-210)



RANGER MODEL RR-203MPX (Late Prod.)

## CHASSIS OVERALL

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

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Printed in U. S. of America

6AH966

## ALIGNMENT INSTRUCTIONS

Check for specified source voltage.  
 Use only enough generator output  
 to provide a usable indication.  
 Connect low sides of generator and  
 indicator to ground unless specified  
 otherwise.

Suggested Alignment Tools: GC ELECTRONICS  
 ALL ..... 8290, 8868, 9087



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

High side of generator thru .001uF to ant input.

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to junction of D2 & R7.	(1) T3,T2,T1, IFT	Adjust for maximum.
"	"	DC probe of VTVM to TP2.	T4	Adjust for zero reading. A positive or negative reading will be obtained on either side of correct setting.

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

High side of generator thru .001uF to ant input.  
 Use 60-hertz, frequency-modulated signal, 450kHz sweep.  
 Use 60-hertz sawtooth voltage in scope for horizontal deflection.

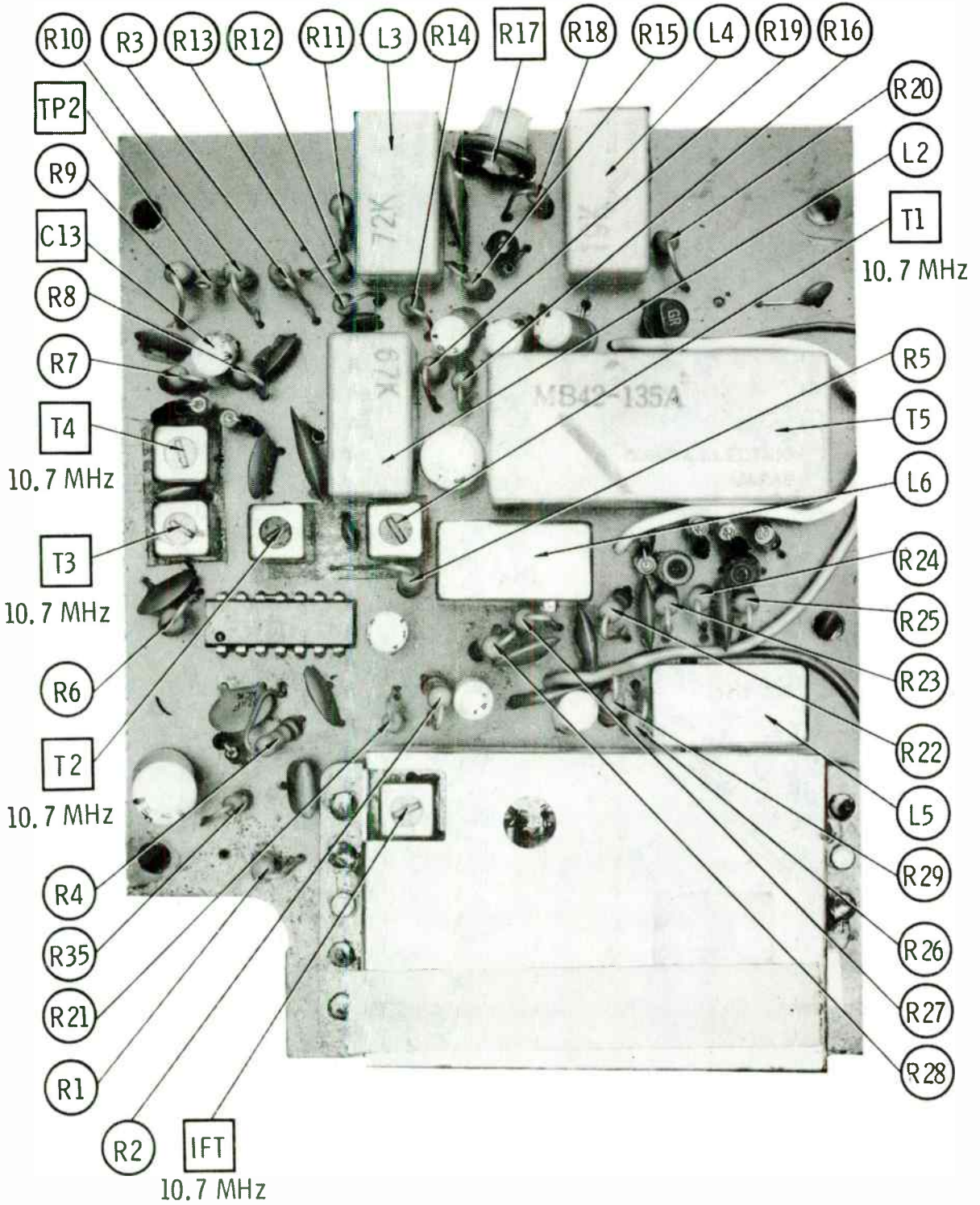
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to junction of D2 & R7.	(1) T3,T2,T1, IFT	Disconnect stabilizing capacitor C13. Adjust for maximum gain and symmetry of response similar to Fig. 1. Reconnect C13.
"	"	Vert input of scope to TP2.	T4	Adjust T4 for maximum amplitude and straightness of line similar to Fig. 2. Readjust T3.

(1) Before adjusting, vary generator frequency slightly. Maximum output indicates exact IF.

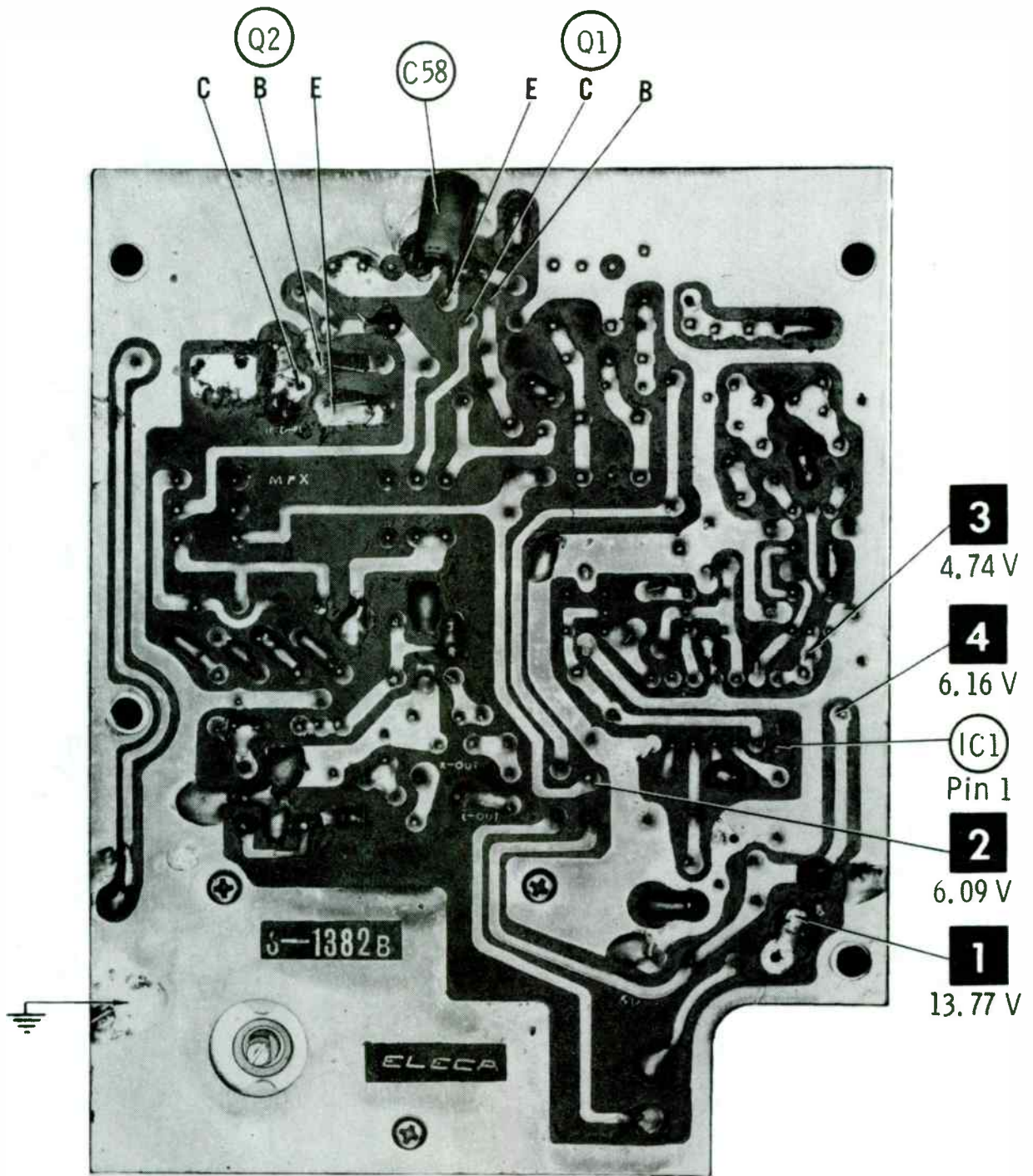
### FM STEREO MULTIPLEX ALIGNMENT USING FM STEREO SIGNAL GENERATOR (± .0001% ACCURACY)

High side of generator thru 47K to TP2.

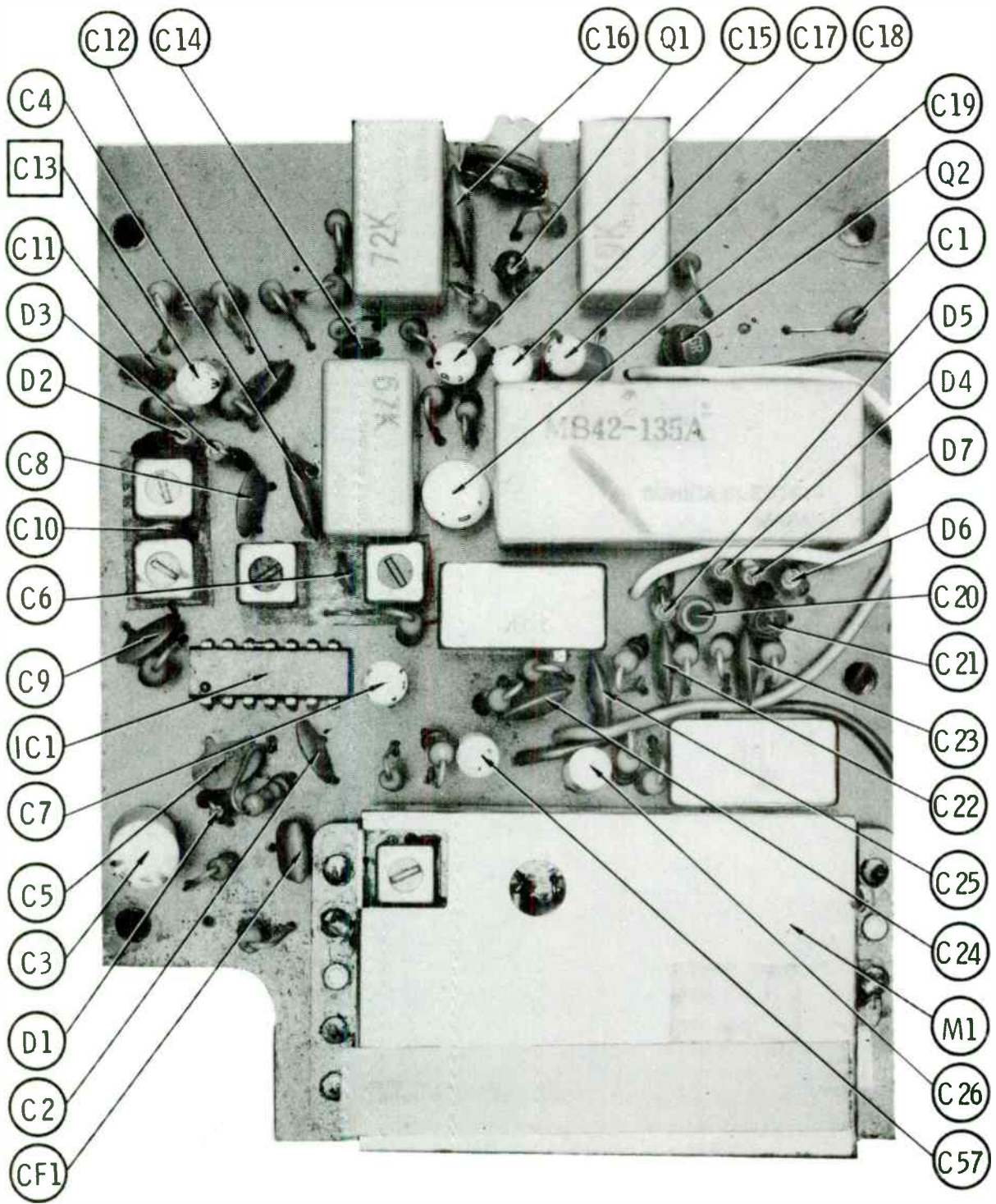
GENERATOR FREQUENCY	INDICATOR	ADJUST	REMARKS
Modulated Left Channel	Vert input of scope to junction of L5 & R29.	R17	Adjust for MINIMUM. This step should require only slight adjustment.
Modulated Right Channel	Vert input of scope to junction of L6 & R28.		Check for MINIMUM. If necessary, make compromise adjustment of R17.



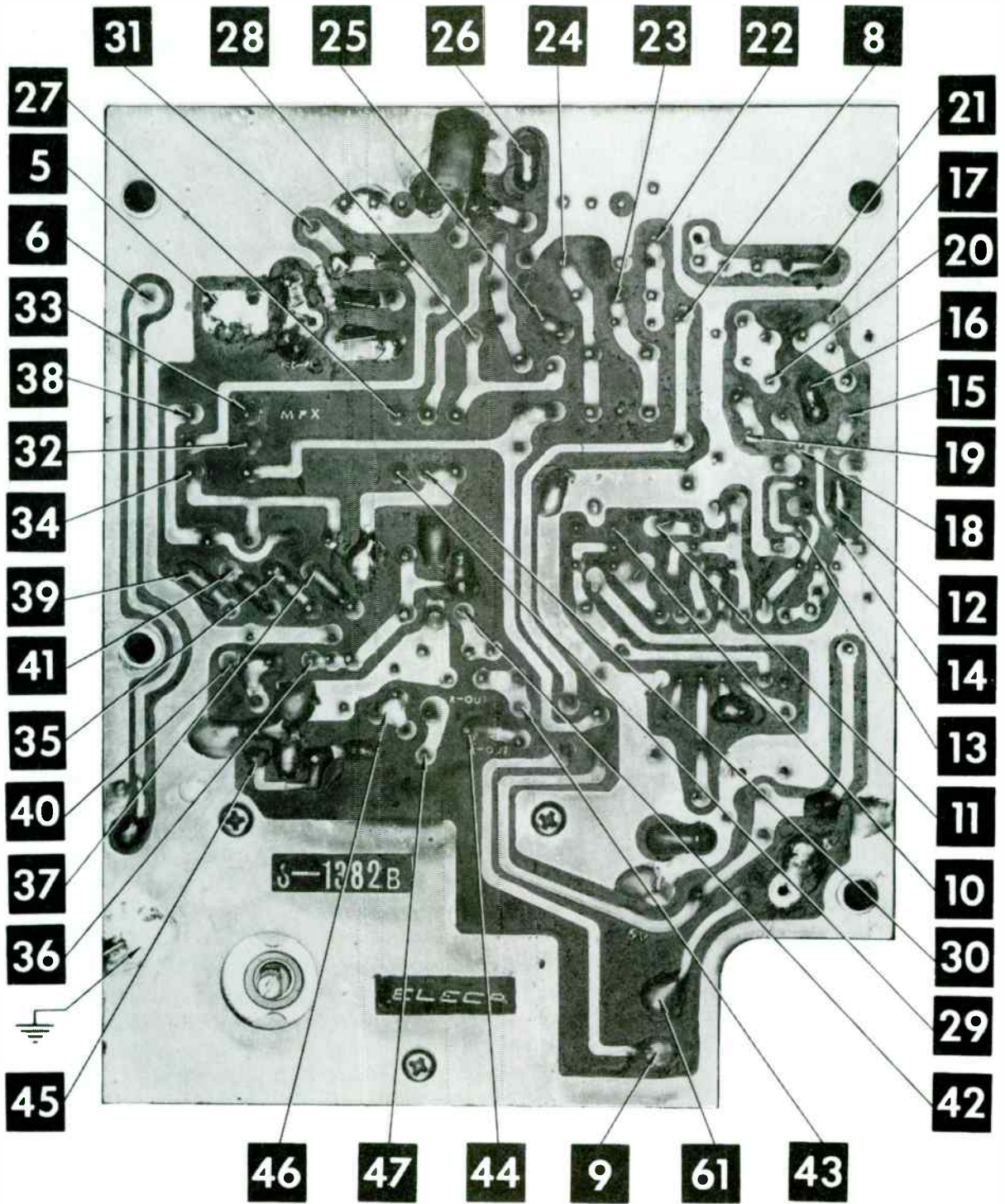
MAIN BOARD



MAIN BOARD

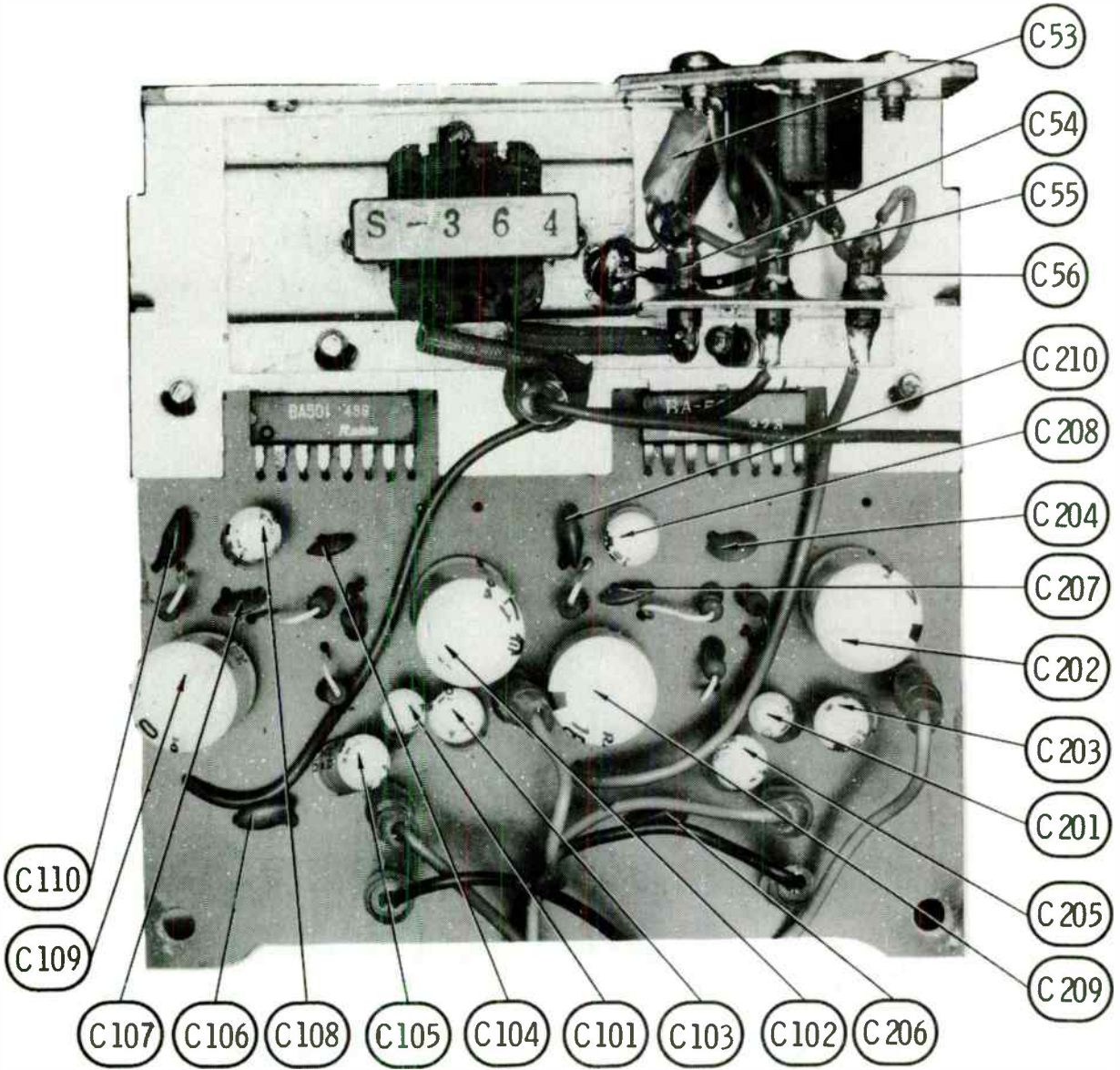


MAIN BOARD

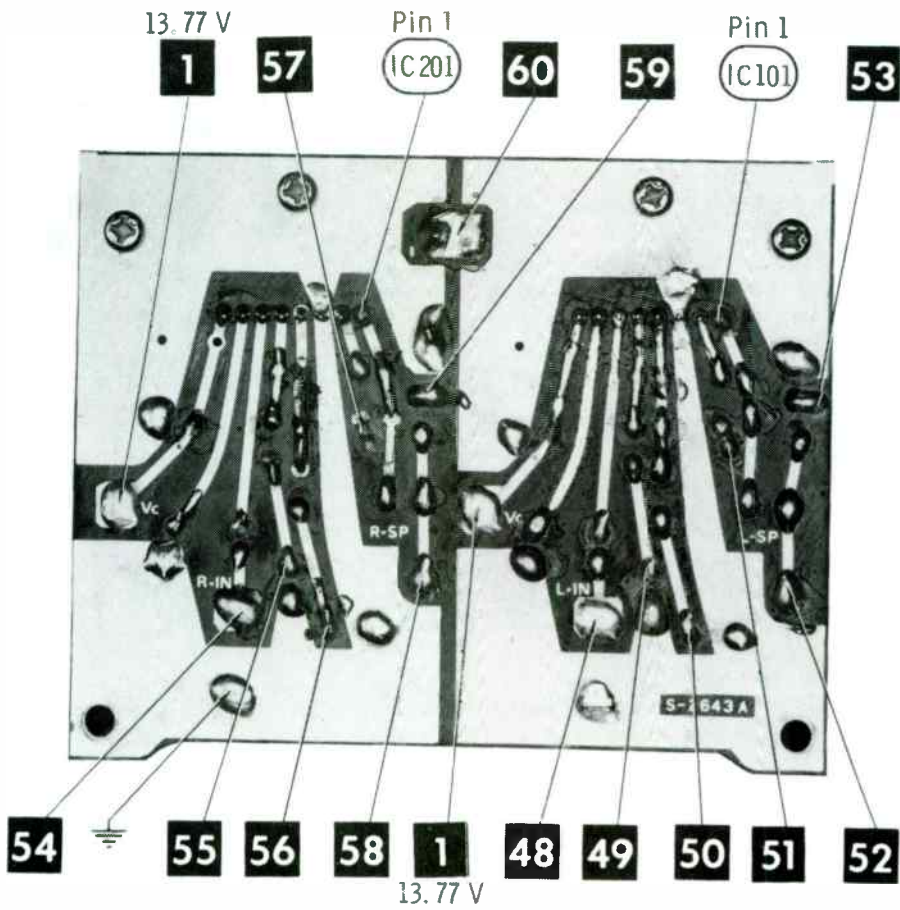
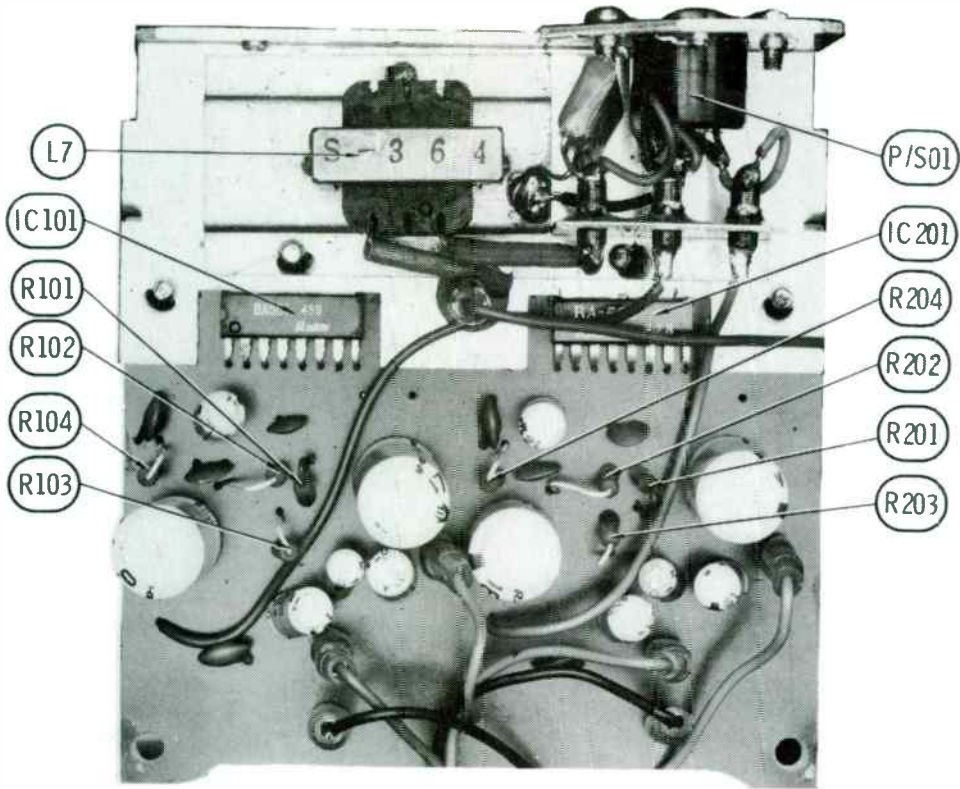


MAIN BOARD





AMP BOARD



AMP BOARD

# 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 13 Colors 8524 (Stranded) Available in 13 Colors
Shielded Hook-up Wire .....	Use BELDEN No. 8401 or 8421
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.)

## SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	OSD-0033	171162-172	GEZD-7.5		Z87.58		RE 111		RT-239	ECG138
D2	1N60	171162-042	1N60(7)	1N60 (7)	PTC206M(6)	HEPR9135(7)	RE 86(6)	SK3088(7)	RT-263(7)	ECG110(6)
D3	1N60									
D4	1N60	171162-042	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D5	1N60	171162-042	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D6	1N60	171162-042	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D7	1N60	171162-042	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
IC1	LA12D1	171179-036	GEIC-43				RE 335-IC			ECG1003
IC1D1	BA501									
IC201	BA501									
Q1	2SC536E,F	171162-113	GE-212	(1R)2SC536	PTC121	HEPS0016	RE 192	SK3124	RT-107A	ECG199
Q2	2SC7336R		GE-62	(1R)2SC372	PTC139	HEPS0025	RE 192	SK3122	RT-302	ECG199
	2SC815	171152-188(1)	GE-210	TR-21	PTC121	HEPS0015	RE 13	SK3038	RT-302	ECG123A

- (1) Used in some versions.
- (6) Matched pair.
- (7) Two required - select matched pair.

## ELECTROLYTIC CAPACITORS

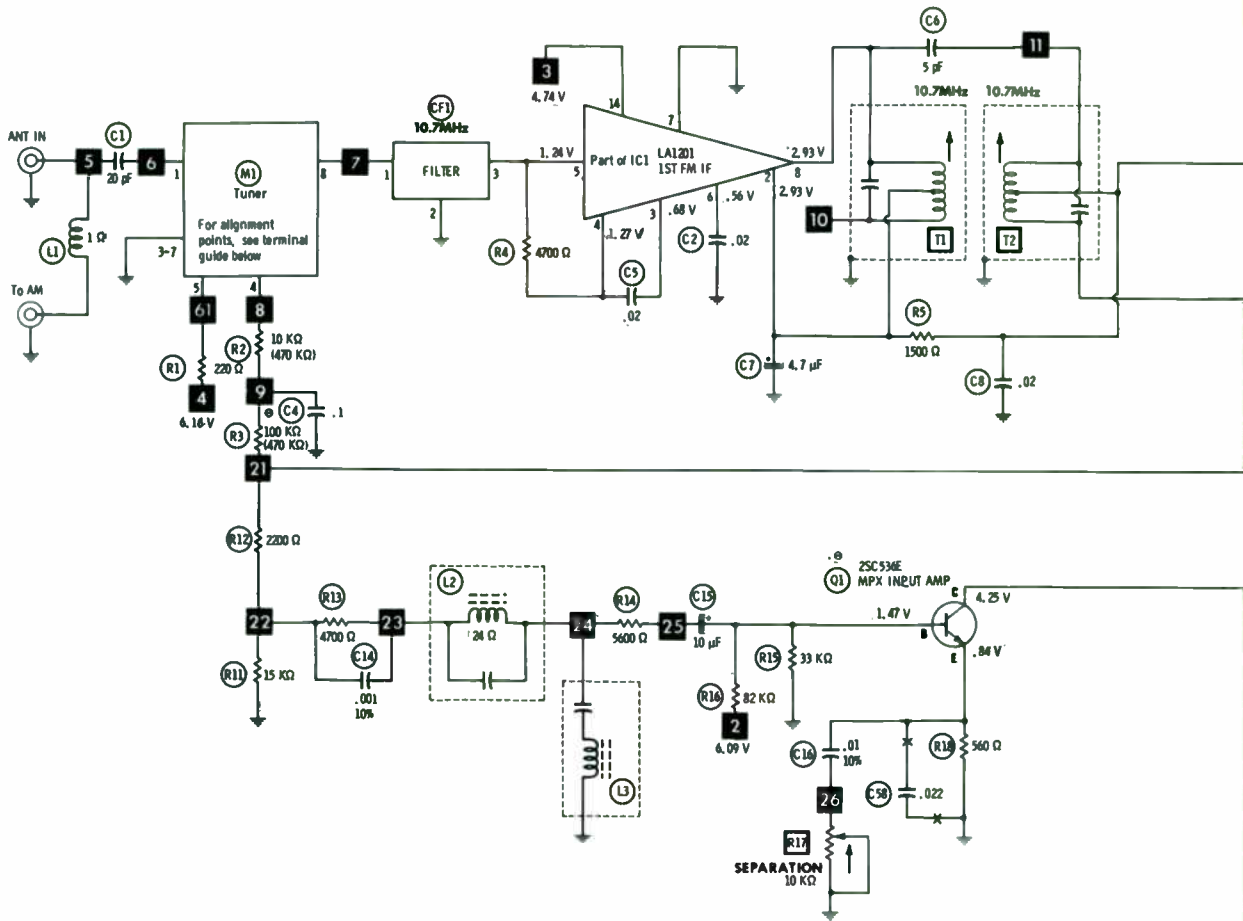
ITEM No.	RATING	REPLACEMENT DATA			
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	100 10V	171111-023	PC100-10	VTT100E10	EV-1130
C7	4.7 10V	171111-054	PC5-50	VTT4R7A50	EV-1319
C13	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C15	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C17	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C18	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C19	47 10V	(1)	PC50-16	VTT47016	EV-1226
	4.7 10V	(1)	PC5-50	VTT4R7A50	EV-1319
C26	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C57	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C101	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C102	470 16V	171111-046	PC500-16	VTT470J16	EV-1250
C103	47 10V		PC50-16	VTT47D16	EV-1226
C105	47 10V		PC50-16	VTT47016	EV-1226
C108	47 10V		PC50-16	VTT47016	EV-1226
C109	470 16V	171111-046	PC500-16	VTT470J16	EV-1250
C201	10 10V	171111-021	PC10-25	VTT10A25	EV-1222
C202	470 16V	171111-046	PC500-16	VTT470J16	EV-1250
C203	47 10V		PC50-16	VTT47D16	EV-1226
C205	47 10V		PC50-16	VTT47D16	EV-1226
C208	47 10V		PC50-16	VTT47D16	EV-1226
C209	470 16V	171111-046	PC500-16	VTT470J16	EV-1250

- (1) Used in some versions.

## CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	20		DTZ-20	NP020	CN0420	10TCC-Q20
C2	.02		DC-203	MGPO2	TA120	TG-S20
C4	.1	(1)				
	.02	(1)	DC-203	MGPO2	TA120	TG-S20
C5	.02		DC-203	MGPO2	TA120	TG-S20
C6	5		DTZ-4R7	NP04P7	CN0547	10TCC-V47
C8	.02		DC-203	MGPO2	TA120	TG-S20
C9	.02		DC-203	MGPO2	TA120	TG-S20
C10	30 M220 10%	171552-021			*	10TCR-Q30
C11	220		DD-221		GP322	10TS-T22
C12	220		DD-221		GP322	10TS-T22
C14	.001		DD-102G	GP1000	GP210	5GA-D10
C16	.01 10%					
C20	470	171112-007		CD15FD471J03	SX347	MMA-471
C21	470	171112-007		CD15FD471J03	SX347	MMA-471
C22	.0047 10%		DC-502	MGPO05	TA250	TG-D50
C23	.0047 10%		DC-502	MGPO05	TA250	TG-D50

RANGER MODEL RR-203MPX (Late Prod.)



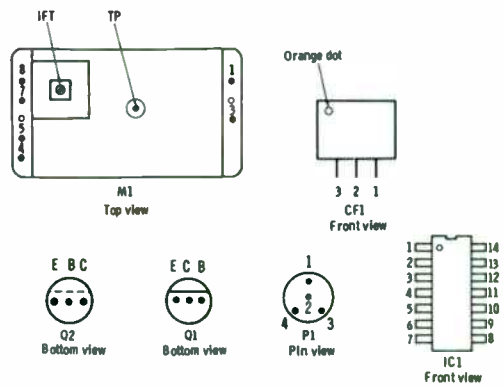
- \* Circuitry not used in some versions
  - - - Circuitry used in some versions
  - ⊙ See parts list
  - \* Nominal value
  - ⊕ Ground
  - ⌚ Chassis
  - ▽ Common tie point
- Measurements with switching as shown unless noted:  
 ■ FM Sterea signal

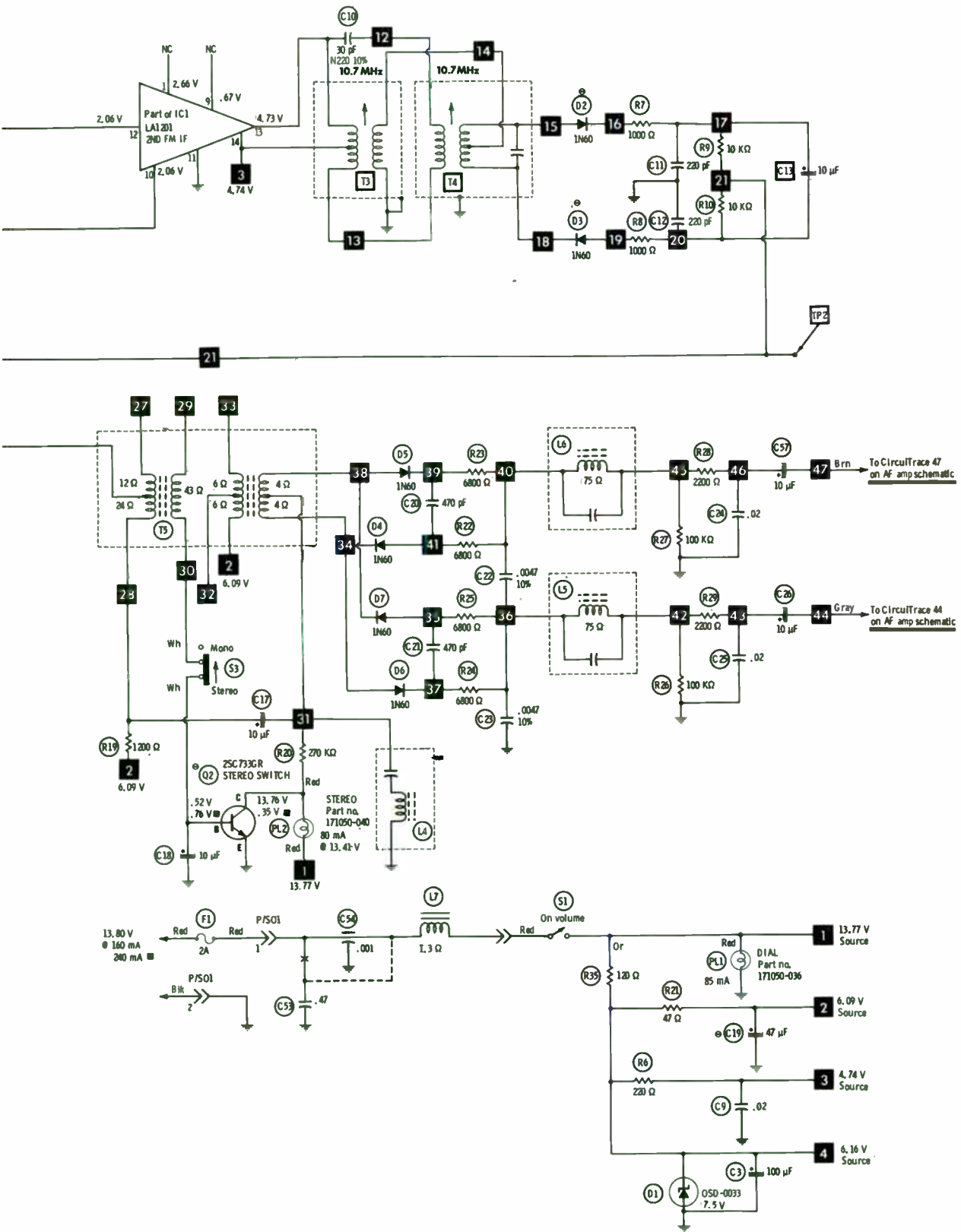
Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

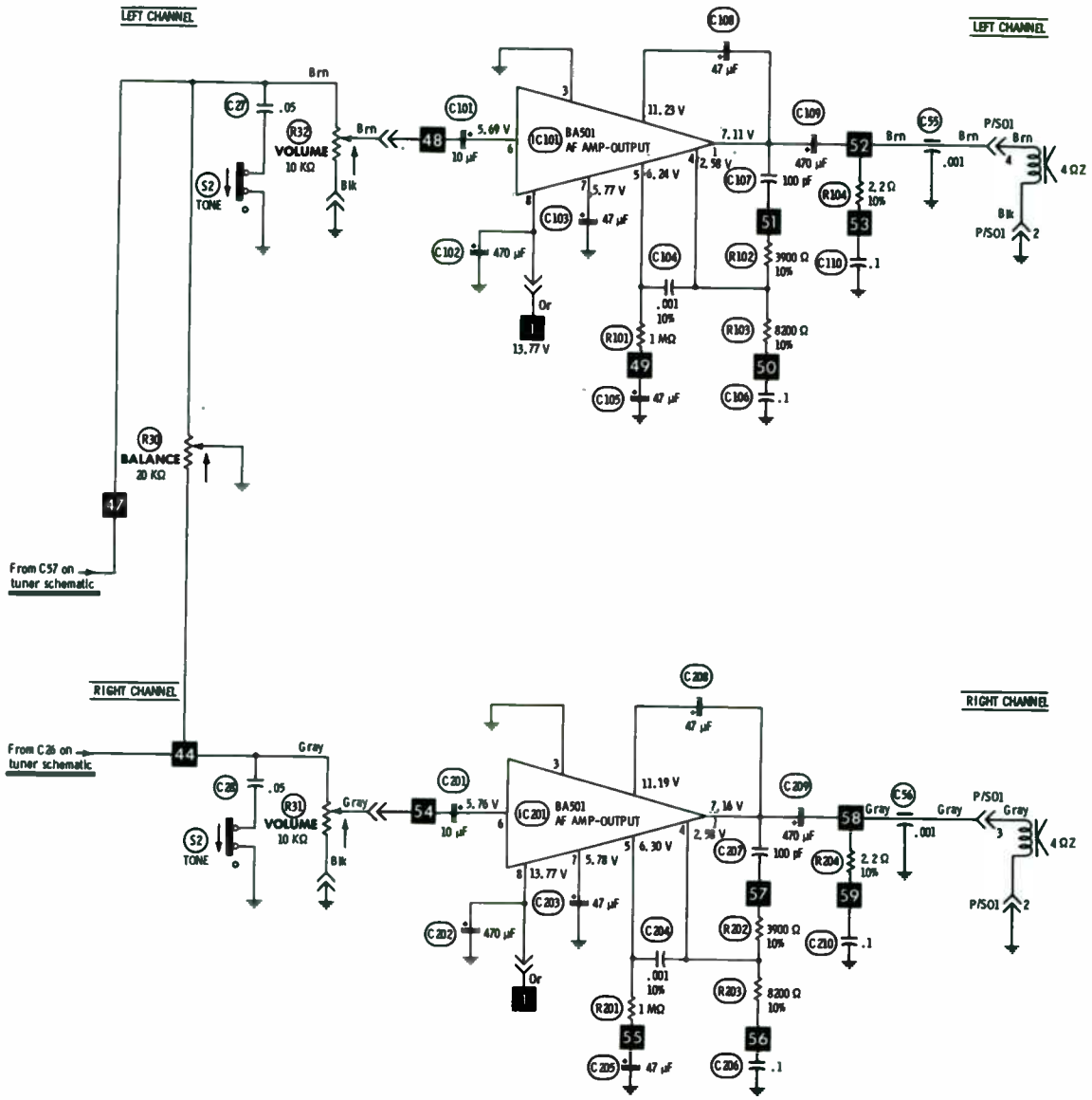
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
 WITH **CIRCUITRACE**

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Terminal Guides



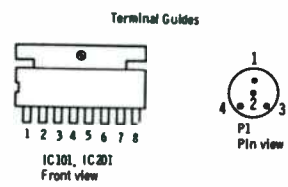




- /— Circuitry not used in some versions
  - - - Circuitry used in some versions
  - ⊙ See parts list
  - \* Nominal value
  - ⊥ Ground
  - ⌘ Chassis
  - ∇ Common tie point
- Measurements with switching as shown unless noted:  
 ■ FM Stereo signal

Supply voltage maintained as shown at input.  
 Voltages measured with digital meter, no signal.  
 Controls adjusted for normal operation.  
 Arrow at control indicates direction of advance.  
 Terminal identification may not be found on unit.  
 Resistors are 1/2W or less, 5% unless noted.  
 Value in ( ) used in some versions.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC  
 WITH CIRCUITRACE  
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## PARTS LIST AND DESCRIPTION (CONTINUED)

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

Replacement parts shown may be superseded by the availability of newly introduced replacements.

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

### CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C24	.02		DC-203	MGP02	TA120	TG-S20
C25	.02		DC-203	MGP02	TA120	TG-S20
C27	.05 12V		UK12-503		MAG1215	HY-350
C28	.05 12V		UK12-503		MAG1215	HY-350
C53	.47 250V					
C54	.001					
C55	.001					
C56	.001					
C58	.022					
C104	.001 10X			CD19FD102J03	M192P2239R8	192P2239R8
C106	.1 12V		UK12-104		SX210	MWC-102
C107	100 10%		DD-101	GP100	MAG1201	HY-360
C110	.1 12V		UK12-104		GP310	10TS-T10
C204	.001 10%			CD19FD102J03	MAG1201	HY-360
C206	.1 12V		UK12-104		SX210	MWC-102
C207	100		DD-101	GP100	MAG1201	HY-360
C210	.1 12V		UK12-104		GP310	10TS-T10
					MAG1201	HY-360

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

(1) Used in some versions.

### 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.	MALLORY PART No.	TRW PART No.
R17	Separation	10K	171145-092	T-10K	C-103	MTC14L1	X201R103B
R30	Balance	20K	171145-091				
R31	Volume-Right	10K	171145-090				
			(18)				
R32	Volume-Left/Power Switch	10K					

(18) Includes R31 and R32.

### COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	AM Ant Choke	171114-173		74F566AP	
L2	67kHz	171114-180			
L3	72kHz	171114-181			
L4	19kHz	171114-182			
L5	38kHz	171114-183			
L6	38kHz	171114-183			
T1	IF (10.7MHz)	171114-149	7SF01		
T2	IF (10.7MHz)	171114-150	7SF02		
T3	Ratio Det (Pri.)	171114-151	7SF03		
T4	Ratio Det (Sec.)	171114-152	7SF04		
T5	MPX Det	171161-086	MB42-135A (1)		

(1) Number on unit.

RANGER MODEL RR-203MPX (Late Prod.)

## 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.	THORDARSON PART No.	TRIAD PART No.	
L7	240mA	1.3	10mH	171114-184			

### 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	2A			AGC2	HDJ	312002	150145	FG2-2

### MISCELLANEOUS

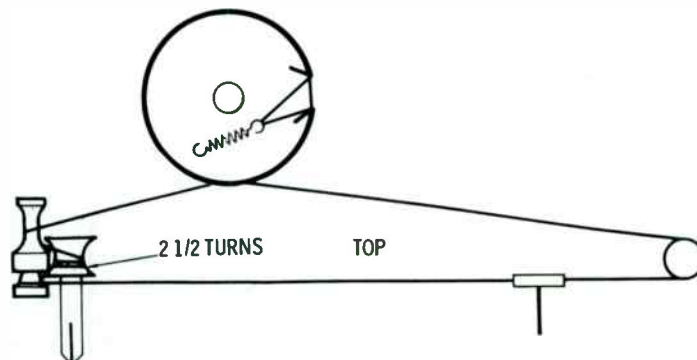
ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	171161-066	Ceramic, 10.7MHz (Orange Dot) FM Power (On Volume) Tone Mono/Stereo
M1	Tuner Assembly	171164-027	
S1	Switch	171145-075	
S2	Switch	171145-075	

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

ITEM	PART No.	ITEM	PART No.
Escutcheon Assembly	171125-081	Knob, Volume/Tuning	171134-069
Dial Pointer	171144-027	Button, Balance	171134-07B

### DIAL CORD STRINGING

DIAL DRUM  
FULLY CLOCKWISE



FRONT









AUDIOVOX (CONT.)	VOL.	AUDIOVOX (CONT.)	VOL.	AUDIOVOX (CONT.)	VOL.	AUTOMATIC (CONT.)	VOL.	AUTOMATIC (CONT.)	VOL.	AUTOMATIC (CONT.)	VOL.
CVA-73-PB	174	HO-75-TPX/A	219	VMF-71-FM (Sim. to Pg. 5)	137	CFV-2202 70-72 Chev.	131	DHP-7133 67 Dodge	62	FPM-1468 71 Olds	131
CVA-74-FM/MPX	181	ID-200	202	VMF-71-PB (Sim. to Pg. 5)	93	CFV-2202AC 70-72 Chev.	131	DKP-3077 73 Dodge	159	FPM-2217 71-72 Olds	131
CVA-74-PB	174	ID-300	209	VMSB-74-FM	193	CFV-3298	169	DMF-7372 67 Dodge	61	FPM-3298 73 Olds	169
CVA-75-CXP	218	ID-400(Pg. 5)	182	136-1001	174	CHL-4299 74 Chev.	169	DP-6 57-59 Renault	12	FPO-3024 73 Olds	159
CVA-75-QDX	226	ID-600(Pg. 5)	187	136-1002	181	CHL-4002 74 Chev.	159	DP-6 57-59 Renault	12	FPO-4028 64 Olds	28
CVA-75-TPX/A	219	LC0-75-CXP	218	136-1003	181	CHL-4299 74 Chev.	169	DP-11 57-59 Renault	12	FPO-5033 65 Olds	29
DA-73-FM (Pg. 21)	133	LC0-75-FDX	222	136-1006A	214	CHL-4002 74 Chev.	159	DP-11 57-59 Renault	12	PPP-3704 73 Ford	171
DA-73-PB (Pg. 21)	136	LC0-75-FFX	223	136-1007A	214	CHX-4463 74 Chev.	170	DP-11 57-59 Renault	12	FTT-227 57 Ford	12
DA-74-FM (Pg. 21)	133	LUV-73-FM (See Pg. 5)	137	136-1012	222	CHX-4635 74 Chev.	177	DP-5127N 65 Dodge	35	FTM-7218 64-67 Ford	64
DA-74-MPX (Pg. 45)	136	LUV-73-FM (Pg. 5)	138	136-1016	225	CHE-4533 74 Chev.	168	DP-8214 67-68 Dodge	60	FTP-37A 57 Ford	9
DA-74-PB (Pg. 21)	136	LUV-74-MPX (Pg. 5)	137	136-1021	218	CKL-4291 74 Chev.	159	DUP-2346	176	PUP-3080 63 Ford	23
DA-75-CXP	218	LUV-74-MPX	177	136-1022	226	CKL-4761 74 Chev.	169	DRK-7117 66-67 Dodge	62	PUP-4057 64 Ford	27
DA-75-TPX/A	219	LUV-74-PB (Pg. 5)	138	136-1024	219	CKL-4989 74 Chev.	171	EM-2 57-58 Dodge	12	PUP-3479 73 Olds	167
DCP-75-CXP	218	MAT-73-FM (Pg. 21)	133	136-1027	219	CKX-4489 74 Chev.	170	DUP-42	20	FXP-3451 73 Ford	167
DCP-75-QDX	226	MAT-73-MPX (Pg. 45)	136	AUSTIN HEALEY		CUJ-2098 73 Chev.	159	DUP-451	177	FXP-3451B 73 Ford	170
DCP-75-TPX/A	219	MAT-74-FM (Pg. 21)	133	HAC700 4TMB	30	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DMO-75-CXP	218	MAT-74-MPX (Pg. 45)	136	AUTOMATIC		CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DMO-75-QDX	226	MAT-75-CXP	218	AC-4558 64 Merc.	27	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DMO-75-TPX/A	219	MAT-75-QDX	226	ACE-3113 73 Chev.	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DST-73-FM (Pg. 21)	133	MAT-75-TPX/A	219	ACP-3049 63 Merc.	23	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DST-73-MPX (Pg. 45)	136	ME-73-FM/MPX	181	ACP-3109 73 Chev.	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DST-73-PB (Pg. 21)	136	ME-73-PB	174	ACS-4559 64 Merc.	27	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DST-74-MPX (Pg. 45)	136	ME-74-FM/MPX	181	ACS-6000	73	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DST-74-PB (Pg. 21)	136	ME-74-PB	174	ACV-3117 (APP-2567)	73	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTN-71-FM (Sim. to Pg. 5)	137	OL-73-FM/MPX	181	AFP-3103 (APP-2567)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTN-610-FM (Pg. 5)	93	OL-74-FM/MPX	181	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTN-620-FM (Pg. 5)	94	OL-74-PB	174	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTN-1200-FM (Pg. 5)	154	OL-75-CXP	218	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTN-1200-PB	155	OL-75-MXD	216	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-73-FM (Pg. 5)	137	OL-75-QDX	226	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-73-MPX (Pg. 5)	137	OLF-73-FM/MPX	181	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-73-PB (Pg. 5)	138	OLF-73-PB	174	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-74-FM (Pg. 5)	137	OLF-74-FM/MPX	181	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-74-MPX (Pg. 5)	137	OLF-74-PB	174	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-75-CXP	218	OLF-75-CXP	218	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DTR-75-TPX/A	219	OLF-75-MXD	216	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DVA-73-FM (Pg. 5)	137	OLF-75-QDX	226	APC-3107 (APP-2563)	161	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DVA-73-MPX (Pg. 5)	137	OLM-73-FM/MPX	181	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DVA-74-FM (Pg. 5)	137	OLM-73-PB (Pg. 21)	133	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DVA-74-MPX (Pg. 5)	137	OMA-73-MPX (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DVA-75-CXP	218	OMA-73-PB (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
DVA-75-TPX/A	219	OMA-74-FM (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-73-FM (Pg. 5)	138	OMA-74-PB (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-73-MPX	177	OP-71-FM (Sim. to Pg. 5)	137	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-73-PB (Pg. 5)	138	OP-71-PB (Sim. to Pg. 5)	93	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-74-FM (Pg. 5)	137	OP-75-TPX/A	219	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-74-MPX	177	OTN-73-FM/MPX	181	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-74-PB (Pg. 5)	138	OTN-73-PB	173	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-75-CXP	218	OTN-74-FM/MPX	181	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
ECO-75-TPX/A	219	OTN-74-PB	174	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FCC-73-FM (Pg. 5)	137	PAC-75-CXP	218	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FCC-73-MPX	177	PAC-75-QDX	226	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FCC-74-FM (Pg. 5)	137	PAF-75-MPX (Pg. 21)	133	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FCC-74-MPX	177	PF-73-FM (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FDT-73-FM/MPX	181	PF-73-MPX (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FDT-74-FM/MPX	181	PF-74-FM (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FDT-74-PB	174	PF-74-MPX (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FDT-75-CXP	218	PF-74-PB (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FDT-75-TPX/A	219	PF-75-TPX/A	219	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FGA-75-CXP	218	PGP-73-FM/MPX	181	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FGA-75-FDX	222	PGP-73-PB	174	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FGA-75-FFX	223	PGP-74-FM/MPX	181	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FGA-75-QDX	226	PGP-74-PB	174	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FGA-75-TPX/A	219	PGP-75-CXP	218	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-73-FM/MPX	181	PGP-75-MXD	216	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-73-PB	174	PGP-75-QDX	226	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-74-FM/MPX	181	PO-73-FM (Pg. 21)	133	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-74-PB	174	PO-73-PB (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-75-CXP	218	PO-73-MPX (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-75-FDX	222	PO-74-FM (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-75-FFX	223	PO-74-PB	174	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-75-QDX	226	PO-75-CXP	218	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-75-TPX/A	219	PO-75-MXD	216	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMU-73-FM/MPX	181	PO-75-QDX	226	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMU-73-PB	174	PO-75-TPX/A	219	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMU-74-FM/MPX	181	PVN-73-FM (Pg. 21)	133	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMU-74-PB	174	PVN-73-MPX (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMU-75-CXP	218	PVN-73-PB (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMU-75-TPX/A	219	PVN-74-FM (Pg. 21)	133	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FMK-20	196	PVN-74-MPX (Pg. 45)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FO-73-FM/MPX	181	PVN-74-PB (Pg. 21)	136	ATC-60 59-60 Chev.	15	CM-333 53 Chev.	4	DUP-451	177	FXP-3644 73 Ford	165
FO-73-PB	174	QO-1000	226	ATC-60 59-60 Chev							

AUTOMATIC (CONT.)	VOL.	AUTOMATIC (CONT.)	VOL.	AUTOMATIC (CONT.)	VOL.	AUTOMATIC (CONT.)	VOL.	BENDIX (CONT.)	VOL.	BOMAN ASTROSONIX (CONT.)	VOL.
MUF-4281 74 Ford	169	PFM-1434 71 Pont.	131	TAC-4541 64 Chev.	28	VEP-4706 74 Chev.	171	5BCH 65 Chev.	31	VW305-PM (Sim. to Pg.5)	142
MUL-4046 74 Ford	159	PFM-2208 71-72 Pont.	131	TAC-5514N 65 Chev.	37	VEX-4457 74 Chev.	170	5BCL 65 Chev.	31	VW-405-FM VW	144
MUM-4832 74 Ford	169	PFM-3092A 63 Pont.	22	TAP-3074 65 Olds.	23	VFA-1847 71 Chev.	131	5BCT 65 Chev.	32	VM-72-FM VW	128
(Pg.5)	163	PFM-3094 63 Ply.	22	TAX-4526 64 Chev.	28	VFA-2204 71-72 Chev.	131	68C2 66 Chev.	38	100-M	118
MJS-4067 64 Ford	27	PFM-3295 73 Pont.	169	TAX-4542 64 Chev.	28	VFA-3297 71-73 Chev.	169	68CC 66 Chev.	38	150-M	118
MJS-5059 65 Ford	29	PFM-6242 66 Pont.	66	TAY-5513N 65 Chev.	37	VFA-3249 73 Volvo	172	68CH 66 Chev.	38	300-PB	187
MJS-5059N 65 Ford	30	PFM-6242 66 Pont.	66	TC-3035 63 Olds.	23	VGA-3004 71-73 Chev.	159	68CL 66 Chev.	38	305-PB	187
MJS-7209 67 Ford	60	PFX-5109N 65 Ply.	30	TCM-3011 63 Chev.	22	VGX-4428 74 Volvo	174	68CT 66 Chev.	38	350-FM	144
MJX-4453 74 Ford	170	PFX-7105 67 Ply.	62	TCM-4041 Chev.	28	VP-12	12	78C2 67 Chev.	45	400-FM	112
MVE-4521 74 Ford,	168	PFX-8206 68 Ply.	62	TCM-5014 65 Chev.	29	VP-6228 58-67 VW	74	78CC 67 Chev.	45	402-FM	222
Merc.	168	PIE-4519 74 Pont.	168	TCM-5014N 65 Chev.	37	VP-6235 68-69 VW	89	78CL 67 Chev.	45	405-FM (Pg.5)	144
MVF-4284 74 Ford	169	PIF-4286 (Pg.21)	169	TCX-3019(TCS-3049A)	73 Chev.	VPA-280 60 Ply.	15	78CT 67 Chev.	45	600-MPX	113
MVL-4058 74 Merc.	159	PIL-4050 74 Ford	159	73 Chev.	159	VPA-3076 63 Ply.	22	78CH 67 Chev.	45	602-MPX	163
MVM-4822 74 Ford(Pg.5)	169	PIM-4820 74 Ford	169	TCX-4042 64 Chev.	28	VPA-3706 73 Chev.	171	78CX 67 Chev.	45	605-MPX	188
MXV-4493 74 Ford	170	(Pg.5)	163	TCX-5013 65 Chev.	29	VSC-6767 67 VW	70	7FBCXX 67 Chev.	47	602-MPX	163
MDX-3453 73 Ford,	167	PIP-4720 74 Ford	173	TCX-5013N 65 Chev.	37	VSF-4233 74 VW	172	78CX 67 Chev.	45	650-MPX	224
Merc.	167	PIX-4495 74 Ford	170	TCX-8274 67-68 Chev.	60	VSX-4420 74 VW	174	82BT 68 Dodge	60	2000-MPX	179
MOR-8404	125	PIW-236 53 Ply.	5	TDC-2211 70-72 Pont.	131	VT-5108 65 Ply.	30	22B See MoPar 805	17		
MKT-3479 73 Merc.	167	PNF-1898 71 Ford	131	TDD-4730 74 Olds.	171	VTP-4400 60 Ply.	15	23BC See MoPar 327	17		
MKT-3479B 73 Merc.	170	PNF-2235 71-72 Ford	131	TDF-4278 (Pg.21)	169	VTP-3038 63 Ply.	22	25B See MoPar 322	17		
MKT-3648 73 Merc.	165	PNF-3358 (AFC-1305)	73 Ford	TDM-1257 64-69 Dodge	64	VTP-5107 65 Ply.	30	24BC See MoPar 410	18		
MKV-3493 73 Ford,	167	73 Ford	175	TDO-2254 71-72 Olds.	131	VNF-4235 74 VW	172	24BT See MoPar 409	18		
Merc.	167	PNO-3050 71-73 Ford	159	TDX-4477	170	VXK-4422 74 VW	174				
MKV-3493B 73 Ford	170	POE-4507 74 Pont.	168	TER-3523 73 Ford,	164	VXA-3457 73 Chev.	167				
N-638 58-59 Amer.	13	POF-4295 74 Pont.	169	Merc.(EP)	164	VXA-3626 73 Chev.	165				
Motors	13	POL-4030 74 Pont.	159	TR-3523 73 Ford,	168	W-76 thru 57 VW	12				
N-639 58-59 Amer.	13	POP-4708 74 Pont.	171	Merc.(LP)	168	W-84 58-59 VW	23				
Motors	13	POX-4455 74 Pont.	170	TFC-1489 70-71 Olds,	131	W-89 58-59 VW	12				
N-3028 63 Amer.	23	POX-4645 74 Pont.	177	Pont.	131	W-3040 58-63 VW	23				
Motors	23	PP-330 60 Ply.	15	TFC-3293 73 Olds,	169	W-3040A 64 VW	28				
N-749 58-59 Amer.	13	PP-341AT 61 Ply.	16	TFK-3285 73 Ford	169	W-5204 65 VW (Pg.41)	28				
Motors	13	PP-819 59 Ply.	15	TFK-4285 74 Ford	169	WFM-5387 58-67 VW	54				
N-3068 63 Amer.	23	PP-3026 63 Ply.	22	TFO-3278	169	WP-4 58-59 VW	12				
Motors	23	PP-5105 65 Ply.	30	TFX-3207	169	WP-7 thru 57 VW	12				
NAP-3069 63 Amer.	23	PP-5105N 65 Ply.	35	TFX-3285	169	WP-19 58-59 VW	12				
Motors	23	PP-7103 66-67 Ply.	60	TFX-3296	169	WP-21 58-63 VW	23				
NAY-3052 63 Chry.	23	PP-8202 68 Ply.	60	TP-3053 73 Ford	159	WP-167	15				
ND-8224 68 Chry.	60	PPC-3708 73 Pont.	171	TLU-1590	74	WP-289A (Sim. to	159				
NOA-4117 74 Chev.	176	PPM-7366 67 Ply.	61	TMA-1550	69	Pg.5)	159				
NOE-4517 74 Chev.	168	PPP-2500	171	TMA-1550-PA	160	WP-3039 58-63 VW	23				
NPF-4270 74 Chev.	169	PPX-2389	127	TMA-1550-T	160	WP-3093A 64 VW	28				
NOL-4015 74 Chev.	159	PS-4153	27	TOR-3044 73 Ford,Merc.	159	WP-3095 65 VW(Pg.41)	28				
(Pg.5)	159	PT-3025 63 Ply.	26	TOR-3044 73 Ford,Merc.	159	WP-3095 65 VW(Pg.41)	28				
MDX-4475 74 Chev.	165	PJT-3108	23	TPC-31 61 Buick,Olds,	16	WPC-8 thru 57 VW	12				
(Pg.15)	165	PJT-3108A	26	Pont.	16	WPC-8 thru 57 VW	12				
NP-3029 63 Amer.	23	PXC-3453 73 Pont.	167	TPC-31AT 63 Olds,	23	XEM-1156(Series M)	149				
Motors	23	PXC-3455B 73 Pont.	170	Pont.	23	XEM-1443	149				
NP-5153 63 Amer.	23	PXN-3638 (XPA-2575A)	73 Ford	TPC-42AT 63 Olds,	23	XPA-2575A (Sim. to	165				
Motors	23	73 Ford	165	Pont.	23	Pg.15)	165				
NPP-2349	176	R-54, B	11	TPC-3036 63 Olds,	23	XTP-3487 73 Pont.	167				
NPX-2390	168	R-61	20	Pont.	23	XTP-3487B 73 Pont.	170				
NPX-2390F	225	Rally 500	229	TPC-4026 64 Pont.	28	YAM-3050 63 Chev.	23				
NT-8222 68 Chry.	60	R-1	20	TPC-7170 66-67 Pont.	62	YAM-4525 64 Chev.	28				
NJ-63-AT	23	RAP-89 59 Amer.Motors.	13	TPC-7370 73 Olds.	171	YP-3049 63 Chev.	23				
NJ-3107	23	RAP-100 60 Amer.	13	TPP-87A 57 Ply.	13	YP-4532 64 Chev.	28				
NJ-3107A	28	Motors	13	TPP-88 57-58 Ply.	13	AUTO-SONIC					
MVM-6238 65-67 VW	54	RAP-3070 w3 Amer.	26	TPP-88C 57-58 Ply.	13	KT-830	59				
NY-400 60 Chry.	10	Motors	26	TPP-3737 73 Pont.	171	ST-48	91				
NY-598A 58 Chry.	10	RAV-5403A/AB	57	TPR-3724 73 Ford,Merc.	171	ST-88 (Mark 8)	91				
NY-3012 63 Chry.	23	RG-59	14	TR-12 Tractor	4	ST-88 (Mark 8)	91				
NY-3100 63 Chry.	26	RG-59C	14	TR-138	25	ST-88 (Mark 8)	91				
NY-5101N 65 Chry.	35	RMR-7280	63	TR-48AT	25	ST-88 (Mark 8)	91				
NY-8220 68 Chry.	60	RP-470 60 Amer.	13	TR-0048	25	ST-88 (LP)	99				
OAE-10 60 Olds.	14	Motors	13	TR-7281 Tractor	59	ST-300	55				
OAE-4531 64 Olds.	28	RP-481AT 60-61 Amer.	13	TR-7292	81	ST-300 (LP)	55				
OE-160 60 Olds.	14	RP-519 59 Ford	16	TR-7390 Tractor	59	ST-308	53				
OE-171AT 61 Olds.	16	Motors	16	TR-7390 Tractor	59	ST-400	60				
OE-302A 63 Olds.	23	RP-519 59 Ford	16	TRF-3534 73 Ford,Merc.	168	ST-808	63				
OE-3026A 71-73 Olds.	159	RP-3030 63 Amer.	26	TRF-4523 74 Ford,Merc.	168	603M/48	53				
OE-4031 64 Olds.	28	Motors	26	TRF-1490 71 Ford,Merc.	131	AUTOVOX					
OE-5031 65 Olds.	29	RP-3097 63 Amer.	23	TRF-2233 72 Ford,Merc.	131	OC-401	27				
OE-7162 67 Olds.	60	Motors	23	TRF-3287 73 Ford,Merc.	169	RA-107	17				
OFA-3390 73 Olds.	175	RP-5151 65 Amer.	29	TRF-3356 73 Ford,Merc.	175	RA-115	17				
OFD-3247 68-73 Kadette,	172	Motors	29	TRF-4287 74 Ford	169	RA-164	27				
71-73 Opel 1900	172	RP-8332M 67 Amer.	55	TRM-4045 74 Ford	159	RA-441	27				
OFM-1869 71 Olds.	131	Motors	55	(Pg.5)	163	RA-443	27				
OFM-2215 71-72 Olds.	131	RRX-4446	170	TRP-4724 74 Ford	171	TR-222 Auto/Portable.	16				
OFM-3290 73 Olds.	169	RT-7B	13	TRX-4491 74 Ford	170	TR-231 Transmobile 3.	19				
OFM-3009 68-73 Opel	159	RT-70	11	TRX-4647 74 Ford,Merc.	177	Europa MUJ	8				
OLE-4501 74 Olds.	169	RTR-7284A	76	TU-6217	58	Europa TG/MU	20				
OLF-4290 74 Olds.	168	RUV-5406	58	TUN-5	15	Mexico TG	17				
OLL-4026 (Sim. to	159	RVB-6782(Echomate II).	71	TXC-3449, TXC-3489	167	Monte Carlo M	17				
Pg.5)	159	S-91 58-59 Simca	11	73 Chev.	167	BOMAN ASTROSONIX					
OLP-4702 74 Olds.	171	S-500 50-51 Stude.	6	TXC-3650 73 Chev.	165	Apollo XV (AP-15)	189				
OLX-4483 74 Olds.	170	S-51 50-51 (Rev.)	6	TXO-3477, TXO-3479	73 Olds.	BM-5665	200				
OMA-3099A 73 Olds.	159	Stude.	6	TKP-3491B 73 Ford,	167	BM-590	225				
OML-4089 74 Olds.	171	SA-529 58-59 Simca	11	TKP-3491B 73 Ford,	170	BM-595	228				
OPF-3702 73 Olds.	171	SB-302 63 Buick	23	TKP-3499	167	Europa 900VW	128				
OPF-4271 74 Opel	172	SB-303 63 Buick	23	TKR-3491 73 Ford,	167	BM-907	116				
OPF-4009 (Sim. to	159	SBP-3033 63 Buick	23	Merc.	167	BM-909	119				
Pg.5)	159	SBP-4027 64 Buick	28	TR-3636 73 Ford,	167	BM-910	111				
OPX-4438 74 Opel	174	SBP-7168A 66-67 Buick.	62	TRM-4824 74 Ford	159	BM-911	141				
OPX-4472	165	SCE-6804	77	(Pg.45)	160	BM-921 (Sim. to pg.73)	153				
OXA-3670 73 Olds.	170	SEA-6801	72	TRP-4724 74 Ford	171	BM-926	119				
OXE-3483 73 Olds.	167	SED-9060	99	TRX-4647 74 Ford,Merc.	177	BM-950	146				
OXE-3632 73 Olds.	165	SEK-3529 73 Buick	168	TRX-4647 74 Ford,Merc.	177	BM-960	121				
P-69	6	SEK-3540 73 Buick	168	TU-6217	58	BM-960	117				
P-651 51 Ply. (Rev.)	6	SEL-9606	74	TUN-5	15	BM-1100	130				

BUICK (CONT.)	VOL.	BUICK (CONT.)	VOL.	CADILLAC (CONT.)	VOL.	CARTAPE (CONT.)	VOL.	CHEVROLET (CONT.)	VOL.	CHEVROLET (CONT.)	VOL.
34BFP1 73	140	7293604 66	35	1SCM1 71	102	513LSC	209	21BPT2 72	125	91VFM2 69	70
34BFP2 73	139	7293614 66	36	1SCM2 (Sim.to Pg.19)	102	514FS	211	21HP1 72	112	91VFP1 69	73
34BPT1 73	144	7293634 66	37	1SC411 71	97			21HP2 72	120	91VMP1 69	70
41XPB1, 41XPBK1 74	138	7293644 66	38	2SCFMT1/MT2		CENTURY		21HPK1 72	112	91ZPB1 69	59
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44AFM1 74	175	7293664 66	37	2SCFMT1/MT2	112			21TFP1 72	117	985158 62	17
44AFM2 74	172	7293674 66	38	2SC411 72	112	CHANNEL MASTER		21TFP2/P3 72	127	985159 62	18
44AFMT1 74	173	7293914 66	37	36CFMT1 73	139	6203	116	21TPB1 72	110	985203 62	17
44AFP1 74	170	7298904 67	44	36CFP1 73	142	6204	113	21TPB2 72	124	985227 62	18
44AFP2 74	170	7298914 67	43	36CM1 73	144	6275	122	21TT411 72	112	985264 62	17
44APB1 74	171	7298924 67	44	36CM2 73	178	6283	126	21VFM1 72 (Sim. to	78	985315 62	18
44APBK1 74	171	7298934 67	43	46CFMT1/72 74	170	6284	129	Pg. 25)		985332 62	18
44APBT1 74	169	7298944 67	45	46CFP1 74	175	6285	126	21VFP2/P3 72	127	985383 62	17
44BFM1 74	175	7298954 67	44	46CM1 74	179	6286	125	21VMP1/H1 72 (Sim.	78	985396 63	20
44BFM2 74	172	7298964 67	43	46CM2 74	178	6287	124	Pg. 59)		985431 63	19
44BFMT1 74	173	7298974 67	45	56CFMT1/72/T3 75	194	6288	151	21XFM1 72	118	985443 63	19
44BFP1 74	170	7302504 68	54	56CFM2 75	213	6289	152	21XPBT1 72	115	985447 63	19
44BFP2 74	171	7302514 68	50	56CFP1 75	190	6291	183	31AP1 73	137	985449 63	19
44BPT1 74	169	7302524 68	51	56CFM1/72 75	192	6292	121	31APB2 73	145	985453 63	19
50APB1 75	192	7302534 68	50	66CFP1 76 (Pg.35)	190	6294	119	31APBK1 73	137	985455 63	19
50APB2 75 (Pg.29)	192	7302544 68	50	66CM1 76 (Pg.39)	213	6295	158	31APBK2 73	145	985471 63	20
50APBK1 75	192	7302554 68	51	95CFM1 69	63	6296	152	31BFM1 73 (PCB AR-151)	140	985672 64	24
50APBK2 75	192	7303994 67	58	95CFM2 69	63	6297	156	31BFMT1 73	151	985686 63	21
50BPM1		7304884 A 68	51	95CFP1 69	74	6298	157	31BFMT2 73	142	985694 63	20
75 (Pg. 103)	188	7306914 69	70	95CFP2 69	63	6299	227	31BFP1/PK1 73	138	985773 64	24
50BPM1/T2 75	191	7306934 69	70	95CFM1 69	63	6317	226	31BPB1 73	137	985776 64	23
50BPM2 75	210	7306964 69	70	95CT411/12 69	71	6318	203	31BPB2 73	145	985815 64	24
50BPM1/PK1 75		7307554 72	112	(7307205) 69	70	6348	229	31BPBK1 73	137	985831 64	24
(Pg. 103)	191	7313514 (14AFP1) 71	101	990552 66	37	6376	189	31BPBK2 73	145	985832 64	23
50BPM1	191	7313514 (24AFP1) 72	118	990553 66	36	6378	188	31FPMT1 (Pg.19)	139	985834 64	24
50BPM2 75	190	7313514 (24AFP2) 72	129	990555 66	36	6379	187	31FPMT2 (Pg.57)	74	985875 64	24
50BPM3 75 (Pg.29)	192	7313604 (14APB1) 71	106	7264165 54	5	6382	225	31FPBT1 (Pg.47)	124	985876 64	23
50BPM4 75	192	7313604 (24APB1) 72	115	7264185 54	5	6383	223	31TPB1 (Pg.47)	124	985877 64	24
50BPM5 75 (Pg.29)	192	7895851-1 76	229	7265825 55	5	6384	218	31TTCP1 (Pg.47)	124	985916 64	24
50BPM6 75	190	7930134 (14BPT2) 71	114	7265845 55	6	6385A	224	31XFM1 (Pg.29)	109	985921 64	24
50BPM7 75	215	7930134 (14BPT1) 71	100	7266505 56	6	6540	211	31XFP1 (Pg.25)	127	985957 64	24
50BPM8 75 (Pg.103)	188	7930134 (24BPT1) 72	114	7266535 56	6	6541	35	31XFP2 (Pg.25)	127	985966 65	23
50BPM9 75 (Pg.103)	188	7930134 (24BPT2) 72	128	7268005 57	7	6542	35	31XFP3 (Pg.25)	127	986096 65	29
50BPM10 75 (Pg.103)	191	7930134 (34BPT1) 73	138	7268005 57	7	6543	42	31XPB1 73 (Pg.47)	124	986099 65	29
50BPM11 75	220	7930144 (14BPT1) 71	98	7272405 58	8			31XPBK1 (Pg.47)	124	986101 65	29
50BPM12 75	191	7930144 (14BPT2) 71	120	7272505 59	10			31YFM1 (Pg.25)	78	986113 65	29
50BPM13 75	192	7930144 (24BPT1) 72	120	7272505 59	10	CHEVELLE(See Chevrolet)		31YFP1 (Pg.25)	127	986113 66	38
50BPM14 75	189	7930224 (24BPT1) 72	117	7274905 60	12			41APB1	165	986116 66	31
50BPM15 75	186	7930234 (14BPT1) 71	96	7274925 60	12			41APB2 74	165	986116 66	36
50BPM16 75	217	7930234 (24BPT1) 72	110	7276605 61	16			41BPM1 74	171	986118 65	29
50BPM17 75	186	7930244 (14BPT1) 71	102	7279615 62	18			41BPM2 74	169	986118 66	38
50BPM18 75	193	7930244 (24BPT1) 72	113	7281225 62	18			41BPM3 74	168	986201 65	29
54BPM1/72 75	189	7932241 75	217	7282315 63	19			41BPM4 74	165	986202 65	31
54BPM2/72 75	188	7933241 75	186	7283295 63	20	CHEVROLET		41BPM5 74	165	986203 65	29
60APB1/BK1 76 (Pg.29)	192	7933251 75	189	7286315(LP) 63-64	25			41BPM6 74	166	986248 65	29
60BPM1 76 (Pg.13)	189	7933261 75	191	7290255 65	31	01APB1/B2	101	41BPM7 74 (Pg.19)	75	986250 65	31
60BPM2 76 (Pg.13)	188	7933271 75	193	7290545 65	31	01BPM1/M2 70	77	41BPM8 74 (Pg.17)	101	986252 65	29
60BPM3 76 (Pg.29)	192	7933281 75	193	7293015 66	38	01BPM2/M2 70	77	41BPM9 74	167	986281 65	31
60BPM4 76 (Pg.57)	191	7933301 75	217	7293905 66	38	01BPM3/M2 70	75	41TFP1 74 (Pg.25)	127	986281 65	31
60BPM5 76 (Pg.57)	221	7293915 66	189	7293915 66	37	01BPM4/M2 70	74	41TFP2 74 (Pg.25)	127	986330 65	29
60BPM6 76 (Pg.27)	185	7298465 67	44	7298465 67	44	01BPM5/M2 70	74	41XFM1 74 (Pg.29)	109	986338 65	29
60BPM7/BK1 76 (Pg.65)	187	7298475 67	45	7298475 67	45	01BPM6/M2 70	92	41XFP1/PK1 74 (Pg.25)	127	986339 65	29
60BPT1/T2 76	220	7298485 67	45	7298485 67	45	01BPM7/M2 70	90	41XPB1/BK1 74	167	986374 65	29
60BPM8 76 (Pg.85)	191	7303215 68	51	7303215 68	51	01BPM8/M2 70	85	41YFP1 74 (Pg.25)	127	986376 65	29
60BPM9 76 (Pg.85)	189	7303225 68	56	7306165 69	74	01BT412 70	85	41YFP2 74 (Sim. to	127	986521 66	38
60BPM10 76 (Pg.87)	186	7306165 69	74	7311205 69	71	01BT411 70 (Sim. to	85	Pg. 25)	127	986522 66	36
61HFM2(Sim.to Pg.47)	221	7311205 69	71	7330015 71	100	01BT412 70 (Sim. to	85	50HFM1 75 (Pg.103)	188	986523 66	36
61HFM3 76	229	7330025 71	102	7330025 71	102	01FM1 70	77	50HFM2/PK1 (Pg.103)	191	986529 66	36
94APB1 67	61	7330035 71	96	7330035 71	96	01FM2 70 (Sim. to	77	50HFM3 75	220	986530 65	29
94APB2/PK1 69	67	7330495 72	112	7330495 72	112	01FM3 70 (Sim. to	75	51APB1/BK1 75	187	986544 66	38
94BPM1 69	62	7330705 71	114	7330705 71	114	Pg. 19)	75	51BPM1/M2 75	189	986545 66	35
94BPM2 69	62	7330725 72	118	7330725 72	118	01FPF1 70	92	51BPM2/T2 75	189	986546 66	37
94BPT1 69	68	9341846 (36CM1) 73	144	9341846 (36CM2) 73	170	01FPF2 70	92	51BPM3/T2 75	189	986644 66	37
94BPT2 69	70	9341866 73	142	9341866 73	142	01FPF3 70	90	51BPM4/T2 75	189	986668 53	4
94BPM3 69	62	9341876 73	139	9341876 73	139	01TFP1 70	92	51BPM5/T2 75	188	986669 53	4
94BPM4 69	62	9342586 74	178	9342586 74	178	01VFM1/M2 70	78	51BPM6/T2 75	187	986731 66	37
980051 60	12	9342606 (46CFP1) 74	175	9342606 (46CFP2) 74	175	01VFM3 70	90	51BPM7/T2 75	188	986769 66	36
980052 60	13	9342606 (56CFP1) 75	190	9342606 (56CFP2) 75	190	01VFM4 70	94	51BPM8/T2 75	187	986774 66	36
980132 61	15	9344134 (34BPT1) 73	140	9344134 (34BPT2) 73	140	01VFP1/P2 70	90	51BPM9/T2 75	187	986775 66	36
980134 61	16	9344164 (44BPT1) 74	175	9344164 (44BPT2) 74	175	01VFP2/P3 70	78	51BPM10/T2 75	189	986776 66	36
980135 61	14	9344174 (44BPM1) 74	175	9344174 (44BPM2) 74	175	01VFP3 70	92	51BPM11/T2 75	189	986782 67	41
980296 62	17	9344184 (44BPM2) 74	175	9344184 (44BPM3) 74	175	01VMP1/PH1 70	78	51BPM12/T2 75	189	986824 67	42
980297 62	18	9344194 (44BPM3) 74	172	9344194 (44BPM4) 74	172	11AFM1 71	100	51BPM13/T2 75	189	986825 67	41
980316 62	19	9344154 74	169	9344154 74	169	11AFP1 71	104	51BPM14/T2 75	191	986845 67	41
980462 63	21	9344164 74	173	9344164 74	173	11AFP2 71	104	51BPM15/T2 75	191	986846 67	41
980463 63	21	9344174 74	173	9344174 74	173	11AFP3 71 (Sim. to	101	51BPM16/T2 75	192	986847/A 67	42
980464 (LP) 63	20	9345270 (Pg.103)	191	9345270 (Pg.103)	191	Pg. 25)	105	51BPM17/T2 75</			

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7299111 68	49	7933501 (21APBK2) 72..124		376 67	42	35RA2-43-5101A	5	CF75603 70	88	2884059 68 (Sim. to Pg. 41)	58
7299561 66	37	7933501 (41XPBK1) 74..167		376 68	55			CG15703 70	93	2884063 68 (Sim. to Pg. 41)	58
7300471 67	43	7933501 (51XPBK1) 75..186		382 68	55	CORTINA		CG01303 71	104	2884064 68 (Sim. to Pg. 41)	58
7300481 67	44	7933511 (21AFP1) 72..117		391 68	50	6BEF 66	39	CG01403 71	105	2884066 68 (Sim. to Pg. 41)	58
7300491 67	43	7933511 (21AFP1/K3) 72..117		393 68	53	7BEF 67	50	CG05903 71	105	2884068 68 (Sim. to Pg. 41)	58
7300941 67	42	7933511 (51XPBK1) 75..189		402 69	73			CG15603 71	104	2884105 70	93
7301001 67	44	7933641 (11HBP2) 71..97		403 69	69			CG64803 71	93	2884128 69	68
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7302721 69	73	7933641 (51APB2) 73..145		723 68	55			OBBS 70	92	2884610 70	88
7302721 (11VFP1) 69	73	7933641 (51APB3) 73..145		746 68	55			OBVT 70	97	2884633 70	92
7302721 (11VFP1) 71	104	7933641 (51APB1) 75..187		786 68 (Sim. to Pg. 75)	47			OBWD 70	94	2884653 70	92
7303131 68	49	7935021 (21HBP1) 72..112		2580786 68 (Sim. to Pg. 75)	47			1BDV 70-71 (Sim. to Pg. 45)	89	2884658 70	85
7303201 68	53	7935021 (51APBK2) 72..120		2820275 67	43			1BWD 71 (Sim. to Pg. 45)	91	2884749 70	89
7303201 69	70	7935021 (51APBK1) 73..137		2820635 68	51			1CH3513 75	214	2884750 70	94
7303211 68	53	7935021 (51APBK2) 73..145		2864724 68	55			1CH4007 70	90	2884750 72	128
7303211 69	70	7935021 (51APBK1) 75..187		2864924 68	53			1CH4007 72	180	2884752 (OBBC73) 70..94	94
7303231 68	48	7935201 (51APBK1) 74..165		2864966 68	50			1CH405 74	181	2884752 (CF75203) 70..88	84
7303241 68	48	7935841 72	125	2884095 70	87			1CH4508 75	192	2884753 70	84
7303311 68	48	7936011 (11HFP2) 71..93	93	2884286 69	73			1DC2002 70	84	2884754 70	83
7304161 68	48	7936011 (21BFP1) 72..113	113	2884288 69	69			1DP2010 71	109	2884756 (2DP1006) 70..84	88
7304611 68	49	7936011 (21BFP2) 72..113	113	2884289 69	73			1DP2902 69	67	2884757 70	93
7304621 68	58	7936011 (51BFP1) 73..138	138	2884544 70	86			1DT1214 72	135	2884759 (OBBJ, 1BBJ) 70-71	89
7305201 68	49	7936011 (41BFP1) 74..168	168	2884631 69	61			1DT1244 72	137	2884759 (2PD1212) 72..128	128
7305211 68	49	7936011 (51BFP1) 75..186	186	2884633 (89MC) 69	65			1DT1316 73	153	2884759 (2PD1315) 73..157	157
7305211 69	49	7936181 72	118	2884633 (1CH4007) 70	90			1DT1317 73	158	2884759 (2PD1315) 73..157	157
7305211 70	49	7936191 72	118	2884649 70	92			1DT1336 73	153	2884759 (2PD1315) 73..157	157
7305211 71	49	7936271 72	117	2884750 70	94			1DT1919 70	157	2884759 (2PD1315) 73..157	157
7305211 72	49	7936601 72	112	2884750 72	128			1DT2214 73	133	2884759 (2PD1315) 73..157	157
7305211 73	49	7936721 72	127	2884752 70	94			1DT2314 73	153	2884759 (2PD1315) 73..157	157
7305211 74	49	7937571 (21VFP1) 72..117	117	2884752 70	94			1DT2314 73	153	2884759 (2PD1315) 73..157	157
7305211 75	49	7937571 (21VFP2) 72..127	127	2884753 70	94			1DP1207 72	131	2884759 (2PD1315) 73..157	157
7305211 76	49	7937581 72	78	2884753 70	94			1DP1208 72	131	2884759 (2PD1315) 73..157	157
7305211 77	49	7939071 (51BPT1) 73..139	139	2884754 70	83			1DP1209 72	128	2884759 (2PD1315) 73..157	157
7305211 78	49	7939071 (41BPT1) 74..166	166	2884758 70	81			1DP1211 72	128	2884759 (2PD1315) 73..157	157
7305211 79	49	7939071 (51BPT1/T2) 75..188	188	2884759 72	128			1DP1313 73	156	2884759 (2PD1315) 73..157	157
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7305211 81	49	7939081 (51BPT2) 73..142	142	2884847 69	77			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 82	49	7939081 (51BPT3) 73..151	151	2884874 70	77			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 83	49	7939081 (41BPT1) 74..171	171	2884875 70	79			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 84	49	7939081 (51BPT1/T2) 75..189	189	2884876 70	77			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 85	49	7939081 (51BPT2) 75..206	206	3420560 70	108			1DP1506 75	196	2884759 (2PD1315) 73..157	157
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7305211 87	49	9343051 75	189	3489157 70	96			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 88	49	9343061 75	186	3501013 (1PD1209, 2PD1209) 72	128			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 89	49	9344651 75	189	3501013 73 (Sim. to Pg. 73)	122			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 90	49	9345270 (Pg. 103)	191	3501045 71	105			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 91	49	9345280 (Pg. 103)	191	3501059 71	105			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 92	49	9345290 (Pg. 103)	188	3501156 72	128			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 93	49	9347740 76	221	3501163 (1CH1210, 2CH1210) 72	136			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 94	49	9347980 75-76	220	3501163 (1CH1314) 73	157			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 95	49	9348311 76	217	3501164 (18BFW1) 71	98			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 96	49	9348321 76	217	3501164 (28BFW1) 72	109			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 97	49	9348341 76	218	3501164 (38BFW1/ 7313966) 73	147			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 98	49	9348361 75	217	3501165 71	108			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 99	49			3501166 71	104			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 100	49			3501167 71	104			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 101	49			3501231 74	179			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 102	49			3501232/33/34/35 74	181			1DP1506 75	196	2884759 (2PD1315) 73..157	157
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7305211 104	49			3501238 74	176			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 105	49			3501240 (1CH2401, 5CH2401) 74	181			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 106	49			3501240 (1CH3507, 5CH3507) 75	195			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 107	49			3501240 75	214			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 108	49			3501328 75	195			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 109	49			3501329 (1CH4402, 5CH4402) 74	180			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 110	49			3501329 (1CH4508, 5CH4508) 75	192			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 111	49			3501504 (1CL2206) 72	133			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 112	49			3501504 (1CL2311) 73	155			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 113	49			3501531 72	155			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 114	49			3501622 75	196			1DP1506 75	196	2884759 (2PD1315) 73..157	157
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7305211 116	49			7313966 73	147			1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 117	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 118	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 119	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 120	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 121	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 122	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 123	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 124	49							1DP1506 75	196	2884759 (2PD1315) 73..157	157
7305211 125	49							1DP1506 75	196	2884759 (2PD1315) 73..	

EDSEL	VOL.	FORD (CONT.)	VOL.	FORD (CONT.)	VOL.	FORD (CONT.)	VOL.	GM (See GMC or Chevrolet)	VOL.	HITACHI	VOL.
B9KF-18805-D/18806-C		D2TJ-18806 72	124	OB7B 70 (Sim. to		STBU 65	33	GMC		CS-133	103
59	10	D2UA-18806 72	126	Pg. 51)	59	STMF 65	28			CS-214	166
CKKF-18805/06 60	12	D2UA-18806 73	138	OB7F 70	83	STMS/SF 65	28			CS-1000IC	111
04BE 60	12	D2ZA-19A241 72	127	OB7M/TP/TPL 70	77	STMZ 65	28			CS-1050IC	123
85SE 58	8	D2ZA-19A242-AF 72		OB7T 70 (Sim. to		STPD 65	28			CS1100IC	103
87SE 58	8	(Pg. 57)		Pg. 51)	59	STPP 65	28			CS-1150IC	123
94BE 59	10	D2BU-18806 72	129	OB7W 70 (Sim. to		STPZ 65	28			CS-1440IC	153
		D3AA-19A168-AD 73	135	Pg. 51)	59	6A-D6DA-19A171 76	226			CS-1700IC	123
		D3AA-19A241 73	157	OB7W 70 (Sim. to		6A-D6DA-18806AA 76	221			CS-1750IC	143
		D3DA-19A241 73	137	Pg. 51)	59	6A-D6EA-19A171 76	226			CSK-1300 IC	148
		D3DA-18806 73	136	OFB0 70	75	6BF 56	6			KM1001	38
		D3SA-19A241 73	137	OFB1 (EP) 70 (Pg.59)	73	6BF 56	6			KM-1520H	129
		D3TA-18806A 73	138	OFB2 70	81	6BT 56	6			TM-816G	37
		D3TA-18806B 73	138	OFBSW 70	96	6TBB 66 (LP)	36			TRQ-206	116
		D3ZA-19A242-AB 73	153	OFB3 70	79	5TBB 67 & 69	59				
		D3ZA-18806 73	136	OFB4 70 (EP)	12	6TBF 66	36				
		D4AA-19A168-AA 74	183	OFB5 70	96	6TBT 66	34				
		D4AA-19A168-BA 74	181	OFB6 60 (LP)	30	6TBT 66, 67 (LP)	34				
		D4AA-19A241AA 74	174	OFB7 60	12	6TBT 67 & 69	59				
		D4AA-18806AA 74	171	OFB8 60	12	6TBU 66	36				
		D4AF-18810AA 74	172	OFB9 60	12	6TBU 66, 67	36				
		D4AA-19A171-BA 74	178	OFMH 60	12	6TBU 66, 67 (LP)	36				
		D4HA-18806AA 74	170	OFM1 71 (Sim. to		6TBM 67 & 69 (LP)	59				
		D4HA-18810AA 74	172	Pg. 51)	59	6TBF 66	36				
		D4HA-18810-BA 74	172	OFB7 71 (Sim. to		6TBP 66	36				
		D4TA-19A241AA 74	174	Pg. 51)	59	6TPT 66	36				
		D4TA-18806AA 74	171	OFB8 71 (Sim. to		6TPO 66	36				
		D4TA-18806BA 74	170	Pg. 51)	59	6TPZ 66	36				
		D4TA-18810AA 74	172	OFB9 71	115	7TBL 67	42				
		D4UA-18806AA 74	170	OFB0 70	79	7TDF 67	43				
		D5AA-19A168 75	186	OFB1 70	96	7TDF 67	41				
		D5AA-19A168-BD 76	222	OFB2 70	79	7TDF 67	41				
		D5AA-19A241 76 (Sim.		OFB3 70	96	7TDF 67	41				
		to Pg. 61)	188	OFB4 70	94	7TDF 67	41				
		D5DA-19A168-AA 75	199	OFB5 70	96	7TDF 67	41				
		D5DA-19A171-AB 75	200	OFB6 70	94	7TDF 67	41				
		D5HA-18810AA 76 (Sim.		OFB7 70	94	7TDF 67	41				
		to Pg. 49)	172	OFB8 70	94	7TDF 67	41				
		D5MA-19A168AA 76 (Sim.		OFB9 70	94	7TDF 67	41				
		to Pg. 55)	186	OFB0 70	94	7TDF 67	41				
		D5SA-19A168 75	186	OFB1 70	94	7TDF 67	41				
		D5SA-19A241 75	188	OFB2 70	94	7TDF 67	41				
		D6BA-19A168-BD 76	222	OFB3 70	94	7TDF 67	41				
		D6BA-19A242-AA 76	223	OFB4 70	94	7TDF 67	41				
		D6DA-19A171 76	226	OFB5 70	94	7TDF 67	41				
		D6DA-18806AA 76	221	OFB6 70	94	7TDF 67	41				
		D6EA-19A171 76	226	OFB7 70	94	7TDF 67	41				
		D6EA-19A188-AD 76	228	OFB8 70	94	7TDF 67	41				
		D6TA-19A241 76 (Sim.		OFB9 70	94	7TDF 67	41				
		to Pg. 61)	188	OFB0 70	94	7TDF 67	41				
		D6TA-18806AB 76 (Sim.		OFB1 70	94	7TDF 67	41				
		to Pg. 85)	171	OFB2 70	94	7TDF 67	41				
		D6MF 68	53	OFB3 70	94	7TDF 67	41				
		D6NF 69	62	OFB4 70	94	7TDF 67	41				
		D6PA-18806 74	94	OFB5 70	94	7TDF 67	41				
		D6QA-18806 72	127	OFB6 70	94	7TDF 67	41				
		D6RA-18806 72	122	OFB7 70	94	7TDF 67	41				
		D6SA-19A241 76	133	OFB8 70	94	7TDF 67	41				
		D6TA-18806 72	125	OFB9 70	94	7TDF 67	41				
		D6TJ-18806 73	138	OFB0 70	94	7TDF 67	41				
		D6TJ-18806 75 (Sim.		OFB1 70	94	7TDF 67	41				
		to Pg. 85)	171	OFB2 70	94	7TDF 67	41				
		D6ZA-19A171-AA 73	178	OFB3 70	94	7TDF 67	41				
		D6ZA-19A241 73	137	OFB4 70	94	7TDF 67	41				
		D6ZA-18806 73	136	OFB5 70	94	7TDF 67	41				
		D6ZA-19A241-AA 74	180	OFB6 70	94	7TDF 67	41				
		D6ZA-19A171-AB 74	179	OFB7 70	94	7TDF 67	41				
		D6ZA-18806AA 74	178	OFB8 70	94	7TDF 67	41				
		D6ZA-18806-AA 74	178	OFB9 70	94	7TDF 67	41				
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RV4CL	24	314L 61 Dodge	16	861 59 Chry.	12	CY70A 70 Chev.	77	TM315M	33	396/-12	6
RV5C	30	317 61 Ply.	15	900 55 Dodge	5	CYA62 62 Chev.	20	TM316M	40	397	7
RV5CC	30	317 61 Ply.	15	901 55 Desoto	5	CYA63 61-63 Chev.	22	TM316S	216	397X	7
RV5CL	30	322 62 Ply.	17	902 55 Chry.	5	CYA64 62-64 Chev.	25	TM318M	94	398X	9
O3BC 60 Chry.	13	323 62 Dodge	17	903 55 Chry.	5	CYM62 62 Chev.	19	TM325M (Pg. 108)	25	403	5
O3BD 60 Dodge	13	324 62 Ply.	17	910/HR 56 Dodge	6	CYM63 62-63 Chev.	22	TM326M	40	404	4
O3BS 60 Desoto	13	327 62 Chry.	17	911 65 Desoto	6	CYM64 62-64 Chev.	25	TM327M	46	406	11
O4BC 60 Chry.	13	330 63 Ply.	21	912/HR 56 Chry.	7	F85MP (200)	125	TM329M	77	412	28
O4BI 60 Chry.	13	331 63 Dodge	21	916/HR 56 Ply.	7	FM65M	35	TM336M	40	414	25
3BLE 63 Dodge	19	332 63 Dodge	21	917HR 57 Ply.	8	FM67M	45	TM402S	230	424	25
3BVD 63 Ply.	19	333 63 Chry.	21	918 57 Dodge	7	FM68M	59	TM413S	160	500X	13
4TBC 64 Chry.	24	334 64 Dodge	24	919/HR 57 Desoto	7	FM70M	82	TM415M	32	503	4
4TBLH 64 Dodge	24	335 64 Ply.	25	920HR 57 Chry.	8	FM106M	40	TM416M	41	504	16
4TBL 64 Dodge	24	336 64 Dodge	25	921HR 57 Chry.	8	FM108M	55	TM416S	217	506/-12	7
4TBQ 64 Dodge	24	337 63 Dodge	22	922 58 Chry.	9	FM150M	85	TM525A	33	520T	21
4TBVE 64 Ply.	24	339 63 Dodge	22	923 58 Desoto	9	FM200A	34	TM526A	41	524	26
5BP 65 Ply.	28	343 63 Chry.	19	924HR	9	FM210A	87	TM527A	46	553	4
5BPD 65 Dodge	30	344 63 Dodge	22	925 58 Ply.	9	FM214A	201	TM527M	75	553/-12	6
5BPD 65 Ply.	28	345 63 Ply.	22	927 59 Desoto	11	FM273AX	203	TM570A	82	556	6
5BVC 65 Ply.	28	347 62 Dodge	19	927 59 Chry.	11	FM356A	87	TM573A	158	595/-12	6
5FBC 65 Chry.	30	348 64 Chry.	24	929 59 Chry.	11	FM481AX	130	TM626A	41	596/-12	6
5FBD 65 Dodge	30	350 63 Dodge	19	2820635 68 Chry.	51	FM675A	202	TM703S	95	597X	7
5FBI 65 Chry.	30	351 64 Chry.	25			FM775AX	202	TM706S	47	601X	13
5FBL 65 Dodge (Pg.86)	30	352 64 Chry.	25			FM775AX-1	225	TM707S-1,708S-1,		611T (MoPar 610T)	4
5FBP 65 Ply.	30	353 64 Dodge	25			FM900	44	TM709S	65	612 (MoPar 609)	4
5FBPD 65 Ply.	28	354 64 Dodge	24			FM990X	47	TM711S	68	624 (MoPar 624)	8
5FBVE 65 Ply. (Pg.86)	30	360 65 Ply.	30			FM991X	60	TM713S	72	701 (MoPar 701)	12
5TBDT 65 Dodge (Sim. to Pg. 64)	26	361 6PBD 66 Ply.	36			FM992X	85	TM714S (Mech. Ch		829 (MoPar 829)	4
6BL 66 Dodge	37	362 65 Dodge	36			FMA-100	26	MTD1763)	82	845 (MoPar 845)	8
6BP 66 Ply.	37	363 65 Dodge	36			FM6C2	19	TM718S (Ch. TD138)	116	846 (MoPar 846)	8
6BPD 66 Ply.	37	363S 66 Dodge	35			GMT3A6 48-53 Chev/GMC	5	TM912S	262	849 (MoPar 849)	8
6BVE 66 Ply.	37	364 5FBDD 65 Dodge	30			GHT5A6 48-53 Chev/GMC	5	U3MH	24	852 (MoPar 852)	8
6BVS 66 Ply.	37	364 6FBDD 66 Dodge	36			GV-701	11	VW47 53-57 VW	7	853 (MoPar 853)	8
6BVS 66 Ply.	37	365 65 Chry.	28			GV-800	9	VW48 58 VW	12	854 (MoPar 854)	8
6FBC 66 Chry.	36	365S 66 Chry.	35			HR3A6 51-53 Henry J	5	VW49 VW	12	856 (MoPar 856)	10
6FBDD 66 Dodge	36	366 6FBC 66 Chry.	36			HM2A6 51-52 Hudson	5	VW49A 51-52 Hudson	5	857 (MoPar 857)	10
6FBL 66 Dodge	36	366 6FBC 66 Chry.	36			HM3A6 51-53 Hudson	5	VW46A 58-64 VW	25	860 (MoPar 860)	12
6FBP 66 Ply.	36	367 5FBI 65 Chry.	30			HNA46 54 Hudson	5	VW46 60 VW	22	861 (MoPar 861)	12
6FBPD 66 Ply.	36	369 6FBP, 6FBVE 66 Ply.	48			HNA6 54 Hudson	5	VW46 58-63 VW	22	875AX	224
6FBVE 66 Ply.	36	369 7FBP 67 Ply.	48			HN5M6 51-53 Hudson	5	VW46 58-64 VW	25	923 (MoPar 923)	9
7BC 67 Chry.	42	370 67 Dodge	48			HT3A6 53 Hudson	5	O3AR (See Amer.Motors		927 (MoPar 927)	11
7BD 67 Dodge	42	372 (Pg. 86) 65 Ply.	30			ILSTCA,-12 55 Intl.	6	8990811)	12	891600	24
7BD 67 Dodge	42	373 (Pg. 86) 65 Dodge.	30			KM201R	41	04MA 60 Amer. Motors		980886 64 Opel	26
7BDT 67 Dodge	44	374 67 Ply.	48			KM203R	41	(Pg. 19)	11		
7BP 67 Ply.	42	375 67 Chry.	48			KM204R	66	04MD/ME/MEF (Pg. 77)	12	Chassis	
7BVE 67 Ply.	42	376 7BC 67 Chry.	42			KRA36 51-53 Kaiser	5	1C2RFM4 (Pg. 43)	178	R15A6	5
7FBC 67 Chry.	48	376 (2820635 68 Chry.)	51			NH3C 53 Nash	4	1C3RMX4 (Pg. 39)	180	R16M6	5
7FBD 67 Dodge	48	377 67 Dodge	42			NH4C 54 Nash (See AC-154)	5	1C5RMX4	204	R17A6	5
7FBDD 67 Dodge	48	378 67 Dodge	48			NH5C 55 Nash (See AC-154)	5	2AT-1	21		
7FBP 67 Ply.	48	379 66 Dodge	36			OE2A6 51-52 Olds	5	2MP2031	127		
7FBPD 67 Ply.	48	381 67 Dodge	43			OE4FM 64 Olds	26	2MP2031	127		
7FVMA 67 Dodge, Ply.	48	385 67 Dodge, Ply.	48			OE4FMC 64 Olds	34	2MP2031	127		
12B 61 Dodge	15	402 60 Chry.	13			OE4FMD 64 Olds	26	2MP2031	127		
13BC 61 Chry.	15	403 60 Dodge	13			OE4FME 64 Olds	26	2MP2031	127		
13BD 61 Dodge	16	404 61 Chry.	15			OE4FMC 64 Olds	34	2MP2031	127		
13BS 61 Desoto	16	407 61 Chry.	15			OE65A 65 Olds	32	2MP2031	127		
14BC 61 Chry.	15	409 62 Chry.	18			OE66A 65-66 Olds	40	2MP2031	127		
14BI 61 Chry.	15	410 62 Chry.	18			OE67A 67 Olds	45	2MP2031	127		
24BC 62 Chry.	18	411 63 Chry.	20			OE67B 67 Olds	45	2MP2031	127		
24BI 62 Chry.	18	413 63 Chry.	20			OE67X 57 Olds	25	2MP2031	127		
24BCS 63 Chry.	20	414 64 Chry.	24			OE69X 59 Olds	12	2MP2031	127		
24BI 63 Chry.	20	415 64 Chry.	24			OE69X 60 Olds	14	2MP2031	127		
44BCS 64 Chry.	24	416 65 Chry.	31			OE69X 60 Olds	14	2MP2031	127		
44BI 64 Chry.	24	416 66 Chry.	31			OE69X 60 Olds	14	2MP2031	127		
84BC 58 Chry.	8	417 65 Chry.	31			OE69X 60 Olds	14	2MP2031	127		
85BC 58 Chry.	9	417 66 Chry.	31			OE69X 60 Olds	14	2MP2031	127		
94BC 59 Chry.	10	418 67 Chry.	39			OE69X 60 Olds	14	2MP2031	127		
101 60 Dodge	13	418 67 Chry.	39			OE69X 60 Olds	14	2MP2031	127		
102 60 Dodge	13	420 66 Chry.	43			OE69X 60 Olds	14	2MP2031	127		
104 60 Ply.	13	421 67 Chry.	43			OE69X 60 Olds	14	2MP2031	127		
106 60 Dodge	14	608 53 Ply.	4			OE69X 60 Olds	14	2MP2031	127		
107 61 Dodge	15	609 53 Dodge	4			OE69X 60 Olds	14	2MP2031	127		
109 61 Ply.	15	610T 53 Dodge	4			OE69X 60 Olds	14	2MP2031	127		
110 60 Ply.	13	611T 54 Dodge (See 610T)	4			OE69X 60 Olds	14	2MP2031	127		
111 61 Dodge	15	612 54 Dodge (See 609)	4			OE69X 60 Olds	14	2MP2031	127		
112 60 Desoto	14	613 55 Ply.	5			OE69X 60 Olds	14	2MP2031	127		
113 61 Ply.	15	614 55 Dodge	5			OE69X 60 Olds	14	2MP2031	127		
114 61 Dodge	15	620 56 Ply.	7			OE69X 60 Olds	14	2MP2031	127		
202 62 Dodge	18	621 56 Dodge	7			OE69X 60 Olds	14	2MP2031	127		
203 62 Ply.	18	624 57 Dodge	8			OE69X 60 Olds	14	2MP2031	127		
204 62 Ply.	17	700 58 Dodge	8			OE69X 60 Olds	14	2MP2031	127		
206 64 Dodge	24	700 60 Dodge (Rev.)	14			OE69X 60 Olds	14	2MP2031	127		
214 63 Ply.	19	701 59 Simca	12			OE69X 60 Olds	14	2MP2031	127		
215 63 Dodge	19	703 61 Dodge	16			OE69X 60 Olds	14	2MP2031	127		
216 63 Ply.	22	706 64 Dodge	26			OE69X 60 Olds	14	2MP2031	127		
217 63 Dodge	22	706 5TBDT 65 (Sim. to Page 64) Dodge	26			OE69X 60 Olds	14	2MP2031	127		
218 64 Ply.	24	706 7BDT 67 Dodge	44			OE69X 60 Olds	14	2MP2031	127		
219 64 Dodge	23	819 53 Ply.	4			OE69X 60 Olds	14	2MP2031	127		
220 64 Ply.	23	820 53 Dodge	4			OE69X 60 Olds	14	2MP2031	127		
221 64 Dodge	24	821 Desoto	4			OE69X 60 Olds	14	2MP2031	127		
222 65 Ply.	28	824 53 Chry.	4			OE69X 60 Olds	14	2MP2031	127		
223 65 Dodge	28	824 53 Chry.	4			OE69X 60 Olds	14	2MP2031	127		
224 65 Ply.	28	828 54 Dodge									



PONTIAC (CONT.)	VOL.	PONTIAC (CONT.)	VOL.	PONTIAC (CONT.)	VOL.	PONTIAC (CONT.)	VOL.	PORSCHE (CONT.)	VOL.	RANGER (CONT.)	VOL.
12BPB2 (7930012)		22GFP3 (See Page 89)	.120	42GPBK3 74 Grand Prix		92FPB1 69 Beaumont,		1VW2323 (Sapphire XIX)		TC-200PB	23
12BPBK2 (7930202)		22GFP2		(See Page 85)	.175	Firebird, Tempest	66	73 911, 914	.154	TC-200-PB	32
71 Pontiac	105	22GFP3 (7312942)		51BPBT1 75	.220	92GFM1, 92GFM2		1VW2335 (Sapphire XXV)		TC-300M 64 VW	23
12BPBT1 (7930242)		72 Grand Prix	.120	51APB1 (7933561),		69 Grand Prix	66	73 914	.181	TC-300M,MD 65 Prod.	
71 Pontiac	101	22GPB1 (7307332)		51APBK1 (7935021)		92GFM3 Grand Prix 69	79	1VW2427 74 911T, 914	.199	Similar to page 144	23
12BPBT2 (7930242)		22GPBK1 (7312912)		75 Astré	.187	92GFM1 (7307432) 69		1VW3401 74 914	.193	TC-300M 5-041	36
71-1/2 Pontiac	117	72 Grand Prix	.114	51BFM1, 51BFM2		Grand Prix	69	1VW4112 (Sapphire XVII)		TC-400PB 64 VW	23
12BT411 (7934782)		22GPB2 (7307332)		(7314211), 75 Astré	.191	92GFP2 69 Grand Prix	64	71 911, 911T, 914	.124	TC-400PB 65 Prod.	
71 Pontiac	97	22GPBK2 (7312912)		51BPFI (7936011),		(Similar to page 93)	64	1VW4309 (Sapphire XXI)		Similar to page 144	23
12FFM1 (7313542)		72 Grand Prix	.126	51BPFK1 (7933501)		92GFP6 69 1/2		1VW4412, 5VW4412	.179	TP-803	74
71 Firebird	106	22KT411 (7936232) 72		75 Astré	.186	Grand Prix		(Similar to page 63)	.69	TRM-64M	23
12FFP1 (7313532)		Ventura II	.112	51XFPM1 (7933261)		92GFM1 (7307332)	72	74 911, 914	.201	TRT	52
71 Firebird	97	22AFM1 (7935042)		75 Ventura II	.191	92GFM1 (7307332)	72	1VW4419 (Sapphire XXI)		VW-64PB 64 VW	23
12FFP1 (7313532)		73 Grand Prix, Tempest	.144	51XFMT1, 51XFMT2		99 Grand Prix	72	74 914	.191	51T (100007-253)	208
71-1/2 Firebird	120	32AFM3 73 GP, Tempest	.154	(7933281) 75 Ventura		92GFP6 69 1/2		2VM1327 (Sapphire XVIIII)		53T (Ch. 100007-255)	213
12FFPK1 (7313562)		32AFM4 73 GP, Tempest	.154	II	.193	Grand Prix		73 914	.155	54T	220
71 Firebird	97	32AFM1 (7935102)		51XFP1 (7933251)		(Similar to page 89)	72	5VW1137 73 914	.155	77T (Ch. 100017-219)	212
12FFPK1 (7313562)		73 Grand Prix, Tempest	.152	51XFP1 (7933511)		983578 62	.17	5VW1419 (Sapphire XIX)		86T	216
12FFP1 (7313522)		32AFM2 (7935102)		75 Ventura II	.189	983579 62	.18	XVIIII 74 911T	.192	93MPX	217
71 Firebird	98	73 Grand Prix, Tempest	.148	51XFP1 (7933241)		983687 62	.20	5VW2335 (Sapphire XXV)		100007-151	151
12FFPK1 (7313552)		32AFP1 (7935022)		75 Ventura II	.186	983873 63	.20	73 914	.181	100007-210	233
71 Firebird	98	32APP2 (9340432)		51XPB2/BK2	.217	983873A Similar to		5VW2427 74 911T, 914	.199		
12FFPK1 (7313552)		73 Grand Prix, Tempest	.149	51XPBK1 (7933501)		page 105 63 Pontiac	24	5VW3401 74 914	.193		
12FT451 (7930492)		32AFP1 (7935032)		75 Ventura II	.186	983874 63 Tempest	.19	5VW4309 73 914	.179		
71 Firebird (Console)	98	73 Grand Prix, Tempest	.137	51XPBT1, 51XPBT2		983875 63	.21	5VW4419 (Sapphire XXI)			
12GFM1 (7312332)		32APP2 (9340432)		(7933271) 75		983945 63	.21	74 914	.191		
71 Grand Prix	106	72 Grand Prix, Tempest	.149	Ventura II	.193	984065 64 Tempest	.24				
12GFP1 (7307432)		32APB1 (7935002)		52AFM1 (9340452)		984076 64	.23				
12GFP1 (7307432)		73 Grand Prix, Tempest	.140	75 Grand Prix, Lemans	.190	984077 64 Pontiac	.24				
71-1/2 Grand Prix	120	32APB2 (7935002)		52AFM1, 52AFM2		984078 64 Pontiac	.24				
12GFPK1 (7312942)		32APBK1 (7935012)		(7935102) 75 Grand		986823 67 1/2					
71-1/2 Grand Prix	120	73 Grand Prix, Tempest	.140	Prix, Lemans	.187	Firebird	46				
12GPB1 (7307332)		32APBK2 (7935012)		52AFM3 (75)	.215	986824 67 1/2					
71 Grand Prix	98	73 Pontiac	.138	52AFM1 (9340432)		Firebird	47				
12GCBK1 (7312912)		32APBT1 (7935092)		52AFP1 (9340442)		984817 53-54	.47				
71 Grand Prix	98	73 Grand Prix, Tempest	.145	75 Grand Prix, Lemans	.189	984961 55	.5				
21AFM1 (7933261)		52BFM1 (7939142)		52AFP1 (7935002)		985865 56 See 984961	5				
72 Ventura II	113	73 Pontiac	.144	52AFBK1 (9347172)		985669 56	.6				
21AFP1 (7933251)		32BFMT1 (7939162)		75 Lemans	.193	98671 57	.7				
72 Ventura II	120	32BFMT2 (7939162)		52APBT1, 52APBT2		98672 57	.7				
21AFP1 (7933511)		73 Pontiac	.148	(7935092) 75 Grand		98822 58	.8				
72 Ventura II	120	32BFP1 (7939122)		Prix, Lemans	.192	98823 58	.8				
21APB1 (7933241)		32BFP1 (7939122)		52APBT3 75	.213	98837 59	.8				
21APBK1 (7933501)		32BFPK1 (7939132)		52BFM1 (9343502)		988976 58	.10				
72 Ventura II	114	73 Pontiac	.137	75 Pontiac	.190	988977 59	.11				
21APB2 (7933241)		32BPB1 (7939102)		52BFMT1, 52BFMT2		988978 59	.11				
21APBK2 (7933501)		73 Pontiac	.140	(7939162) 75 Grand		989614 60	.12				
72 Ventura II	126	32BPB2 (7939102)		Prix, Lemans	.187	989615 60	.13				
21XFM1 (7936191)		32BPBK1 (7939112),		52BFMT3 (75)	.215	989692 61	.14				
72 Ventura II	115	73 Pontiac	.140	52BFPK1 (9343482)		989693 61	.15				
12MPBT1 (7936181)		32BPBK2 (7939112)		52BFPK1 (9343492)		989792 61	.15				
72 Ventura II	117	73 Pontiac	.138	75 Pontiac	.189	989831 61 Tempest	.15				
22AFM1 (7930542)		52BPBT1 (7939152)		52BPB1 (7939102)		7284742	.22				
72 Tempest	113	75 Lemans	.193	52BPK1 (7939112)		7284742A 66 Pontiac	.36				
22AFP1, 22AFP2 (7307402)		75 Pontiac	.145	52BPBK1 (9343482)		7289752 65 Pontiac	.29				
72 Tempest	120	32FPF1 (Pg. 81)	.113	52BPBK1 (9343492)		7289772 65 Pontiac	.29				
22AFP3 (See Page 89)	.120	32FPF1 (Pg. 89)	.120	75 Pontiac	.189	7291562 65 Tempest	.30				
22AFP4, 22AFP5 (See Page 89)	.120	32FPF1 (Pg. 89)	.120	52BPBK1 (9343482)		7291582 65 Tempest	.29				
22AFP6, 22AFP7, 22AFP8,	.126	32FPF1 (Pg. 107)	.126	52BPBK1 (9343492)		7292112 65 Tempest	.29				
22AFP9 (7312922)		32GPB1 (9342522)		52BPBK1 (9343492)		7293472 66 Tempest	.38				
72 Tempest	120	73 Pontiac	.140	52FPB1 (7313542)		7293492 66 Pontiac	.36				
22APB1 (7307302)		32GPB2 (9342522)		75 Firebird	.191	7293502 66 Tempest	.38				
22APBK1 (7312892)		32GPBK1 (9342532)		52FPB2 (7313522),		7293512 66 Pontiac	.35				
72 Tempest	114	73 Grand Prix	.140	75 Firebird	.186	7293522 67 1/2					
22APB2 (7307302)		32GPBK2 (9342522)		52FPBK1 (7313552)		7293532A 66 Pontiac	.36				
22APBK2 (7312892)		73 Grand Prix	.138	75 Firebird	.186	7294322 65 Pontiac	.35				
72 Tempest	126	41APBK1 (7935201) 74		52FPBK1 (9343482)		7294342 66 Pontiac	.37				
22KT411 (7307402)		Astra (Canadian)	.165	52FPBK1 (9343482)		7294342 66 Pontiac	.38				
72 Firebird, Grand	112	41BPBK1 (7936011),		52FPBK1 (9343482)		7298802 67 Tempest	.41				
Prix, Tempest		60HPM1 (76 (Pg. 57))	.191	85 Gran Am, Grand Prix	.193	7298812 67 Tempest	.42				
72 Pontiac	112	60HPM2 76 (Pg. 57)	.221	60HPM1/PK1 76 (Pg. 27)	.186	7298822 67 Pontiac	.43				
12BFM1 (7930032) 72		60HPM3 76 (Pg. 65)	.187	60HPM1/PK1 76 (Pg. 27)	.186	7298822 68 Pontiac	.49				
Pontiac	112	60HPM1/BK1 76 (Pg. 65)	.187	60HPM1/T2 76 (Pg. 65)	.220	7298832 67 Pontiac	.42				
72 Pontiac	112	60XPM1 76 (Pg. 85)	.191	Pontiac		7298832-A 67 1/2					
12BFMT1 (7930252)		60XPM1/PK1 76 (Pg. 85)	.191	60XPM1/BK1 76 (Pg. 87)	.186	7298842 68 Prod. 68					
72 Pontiac	115	61HPM2 (Sim. to Pg. 47)	.221	61HPM3 76 (Pg. 103)	.190	Pontiac	49				
12BFPT1 (7930022)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7298842 67 Pontiac	.45				
72 Pontiac	109	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7300682 67 Pontiac	.45				
12BFPT2 (7930022)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7302322 67 1/2					
12BFPPK2 (7930212)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	Firebird	47				
72 Pontiac	109	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7302335 67 1/2					
(Similar to page 99)	.109	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7302752 68 Tempest	.50				
22BFP1 (7930212)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7302762 68 Tempest	.49				
72 Pontiac	109	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7303262 68 Tempest	.50				
22BPB1 (7930012)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7303302 68 Pontiac	.49				
72 Pontiac	118	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7303302-A 68 Pontiac	.50				
12BPB2 (7930122)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7303302-A 68 Pontiac	.50				
72 Pontiac	122	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7303432 (984888)					
12BPB3A, 22BPBK2A		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	68 Pontiac	57				
72 1/2 Pontiac	138	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7305572 68 Firebird	.50				
22BPBK1 (7930202)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7305582 68 Firebird	.50				
72 Pontiac	118	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7305592 68 Firebird	.59				
12BPBK2 (7930202)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7305602 68 Firebird	.49				
72 Pontiac	118	62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7307312 69 Pontiac	.72				
12BPBK3 (7930202)		62AFM1 (9340452) 74		62AFM1/PK1 76 (Pg. 103)	.190	7307332 69 Grand Prix	72				

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Corvaire	19	FLH-16663A 60/63 Chev	34	TC-26F	221	LA-61-PB 61 Lark	17	CII-65PB 65 Chevy II	35	PD-65PB 65 Fury	34
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FJB-6612A 61-62 Chev.	19			CHP-164T 64 Chev.	26	VA-60-M 60 Valiant	14	63/64 Chevrolet	23	PO-63PB 63 Pontiac	26
FJB-6613A 60-61	18	SAAB		CHP-165T 65 Chev.	32	VA-61-PB 61 Valiant	18	CII-64PB/RS 63/64 Chev.	23	PO-64PB 63/64 Pontiac	23
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FJB-6615A	27	OBSA 70		CHP-654T 64 ChevyII	26			CH-65PB 65 Chev.	37	W/Air Conditioning	46
FJB-6618A 61 Rambler	17	OBSAA 70 96		COM-60 60 Corvaire	16	STUDEBAKER		CH-67PB 67 Chev.	46	PO-67PB 67 Pontiac	46
FJB-6619A	21	OBSAB 70 97		COP-60 60 Corvaire	16	AC-2300 55-5327 53	4	CHT-63M 63 ChevTruck	26	RA-63PB 63 Rambler	26
FJB-6643A 60-62 Comet	21	OBSA 70		COP-006T 66 Corvaire	40	AC-2301 55-5323 53	4	CHT-64M See page 136	23	RA-64PB 64 Rambler	23
Falcon	19	OBSAA 70 96		CTP-264T 64 Comet	26	AC-2686 55-5528 55 See	4	64 Chev. Truck	23	RA-65PB 65 Rambler	32
FJB-6649A Tractor	20	OBSAB 70 97		CTP-266T 66 Comet	39	AC-2687 55-5524 55 See	4	CHT-65M 65 ChevTruck	35	RA-66PB 66 Rambler	32
FJB-6658	21	OBSA 70		CTR-166T 66	40	Model AC-2300	4	CHT-65PB 65 ChevTruck	35	Ambassador	37
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Dauphine	12	185A 71 99	113	DOP-868T 68 Dodge	32	AC-2978 60	13	CM-65PB 65 Comet	31	SP-63PB 63 Buick Spl.	26
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Dauphine	12	185A 71 99	113	DOP-870T 70 Dodge	32	AC-3085 61	15	CM-67PB 67 Comet, 202,	36	SP-67PB 66/67 Buick	32
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FJB-16513A 64 VW	28	185A 71 99	113	DOP-873T 73 Dodge	32	AC-3216 62	18	CO-63M/PB 60/63	46	TC-MPX-1	63
FJB-16520A 63	23	185A 71 99	113	DOP-874T 74 Dodge	32	AC-3217 62	18	CO-64PB 60/64 Corvaire	23	TC-8-M-8	69
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FJB-16522A 63 Dodge	23	185A 71 99	113	DOP-877T 77 Dodge	32	AC-3255 62	18	CO-67PB 66/67 Corvaire	46	TC-67T	180
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FJB-16563A 63 Tractor	23	185A 71 99	113	DOP-892T 92 Dodge	32	AC-3556 66Studebaker	36	DD-65PB 65 Dodge	34	TC-300M 64 VW	23
FJB-16563A 63 Buick	23	185A 71 99	113	DOP-893T 93 Dodge	32	SUNBEAM		DD-66PB 66 Polara	36	TC-300M 5-041 65 Prod.	36
FJB-16563A 63 Chevy	23	185A 71 99	113	DOP-894T 94 Dodge	32	R-8001 (88SU) 68	68	DD-67PB 67 Monaco	36	TC-300M 5-072	36
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FJB-16563A 63 Ford	23	185A 71 99	113	DOP-896T 96 Dodge	32	TEMPEST (See Pontiac)		DE-68PB 68 Dodge	46	TC-400PB 64 VW	23
FJB-16563A 63 Merc.	23	185A 71 99	113	DOP-897T 97 Dodge	32	TEN		DE-69PB 69 Dodge	26	TC-400PB 65 65	26
FJB-16563A 63 Olds	23	185A 71 99	113	DOP-898T 98 Dodge	32	AT-96-1 AR-96EX	49	DO-64PB 64 Dodge	23	Prod.	36
FJB-16563A 63 Plym.	23	185A 71 99	113	DOP-899T 99 Dodge	32	AT-96-2 AR-96EX-5	49	DO-65PB 65 Dodge	34	TC-410PB Similar to	36
FJB-16563A 63 Pontiac	23	185A 71 99	113	DOP-900T 00 Dodge	32	AT-96-3 AR-96VW	49	DO-66PB 66 Dodge	36	TC-410PB Similar to	36
FJB-16563A 63 Rambler	23	185A 71 99	113	DOP-901T 01 Dodge	32	AT-2010, AT-2110	52	DO-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Tractor	23	185A 71 99	113	DOP-902T 02 Dodge	32	FA-205/EF, FT-250-2,		DO-68PB 68 Dodge	36	TC-410PB Similar to	36
FJB-16563A 63 Buick	23	185A 71 99	113	DOP-903T 03 Dodge	32	13, 12	57	DO-69PB 69 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Chevy	23	185A 71 99	113	DOP-904T 04 Dodge	32	61RVW/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Dodge	23	185A 71 99	113	DOP-905T 05 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Ford	23	185A 71 99	113	DOP-906T 06 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Merc.	23	185A 71 99	113	DOP-907T 07 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Olds	23	185A 71 99	113	DOP-908T 08 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Plym.	23	185A 71 99	113	DOP-909T 09 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Pontiac	23	185A 71 99	113	DOP-910T 10 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Rambler	23	185A 71 99	113	DOP-911T 11 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Tractor	23	185A 71 99	113	DOP-912T 12 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Buick	23	185A 71 99	113	DOP-913T 13 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Chevy	23	185A 71 99	113	DOP-914T 14 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Dodge	23	185A 71 99	113	DOP-915T 15 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Ford	23	185A 71 99	113	DOP-916T 16 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Merc.	23	185A 71 99	113	DOP-917T 17 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Olds	23	185A 71 99	113	DOP-918T 18 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Plym.	23	185A 71 99	113	DOP-919T 19 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Pontiac	23	185A 71 99	113	DOP-920T 20 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
FJB-16563A 63 Rambler	23	185A 71 99	113	DOP-921T 21 Dodge	32	61R/6 Volt	49	DS-67PB 67 Dodge	46	TC-410PB Similar to	36
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