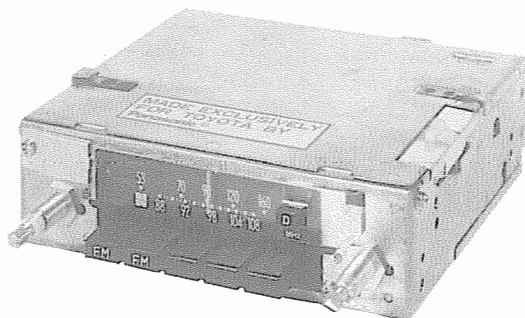


# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

For Supplier Address See PHOTOFACT Index



MODELS CR-652BTL (86011-29065)  
 CR-652BTR (86011-20200)  
 CR-652FUT (00852-20250)  
 CR-652T (86120-20150)  
 (Corona - All Models)

## ALIGNMENT INSTRUCTIONS

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

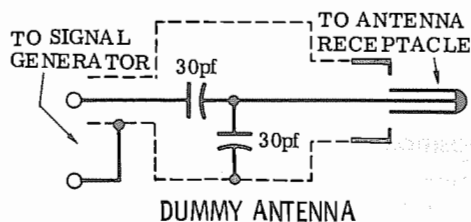
ALL .. GC ELECTRONICS: 9440

### PUSH-BUTTON ADJUSTMENT

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

GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
High side thru .1 uF to point A, low side to ground.	455MHz 400-Hz mod.	High freq. end stop.	Output meter across voice coil.	IFT3 thru IFT6	Adjust for maximum.
Thru dummy antenna to antenna input.	1615kHz	"	"	C37, C44 C49	"
Thru dummy antenna to antenna input.	600kHz	Tune to signal	Output meter across voice coil.	L8	Adjust for maximum. Repeat alignment until no further improvement is noted.

With radio installed in car and antenna extended 33", tune in a weak station near 1400kHz and adjust C37 for maximum output. Antenna adjustment C37 is located on tuning shaft behind dummy knob.



TOYOTA MODELS CR-652BTL/BTR/FUT/T

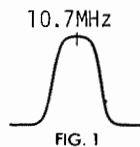
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4AK656

## ALIGNMENT INSTRUCTIONS (Continued)



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

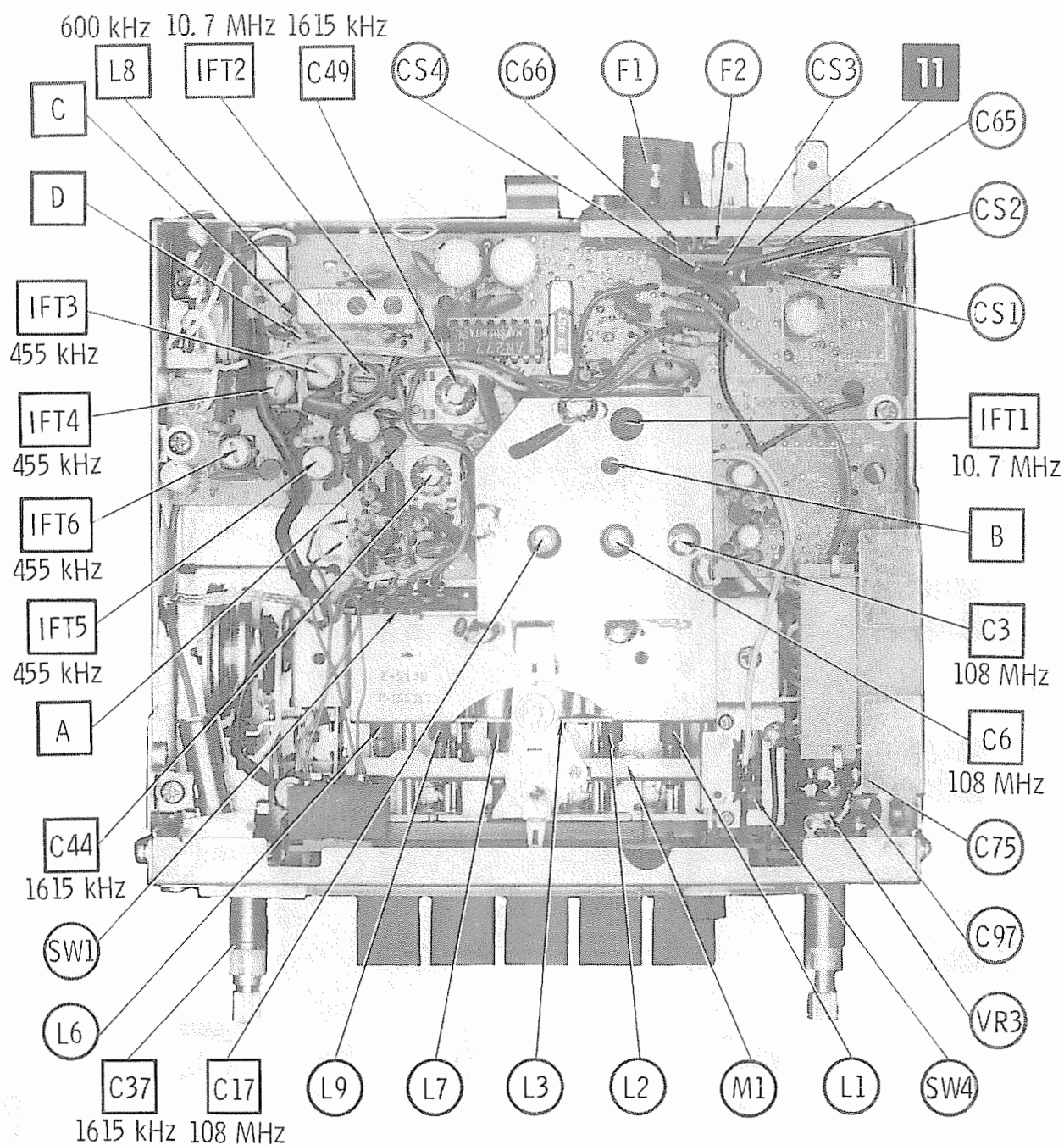
High side of generator thru .001uF to point B, low side to ground.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz Unmodulated	Point of non-interference	DC probe of VTVM to point C, common to ground.	IFT1, IFT2 (Pri.)	Adjust for maximum.
"	"	DC probe of VTVM to point D, common to ground.	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

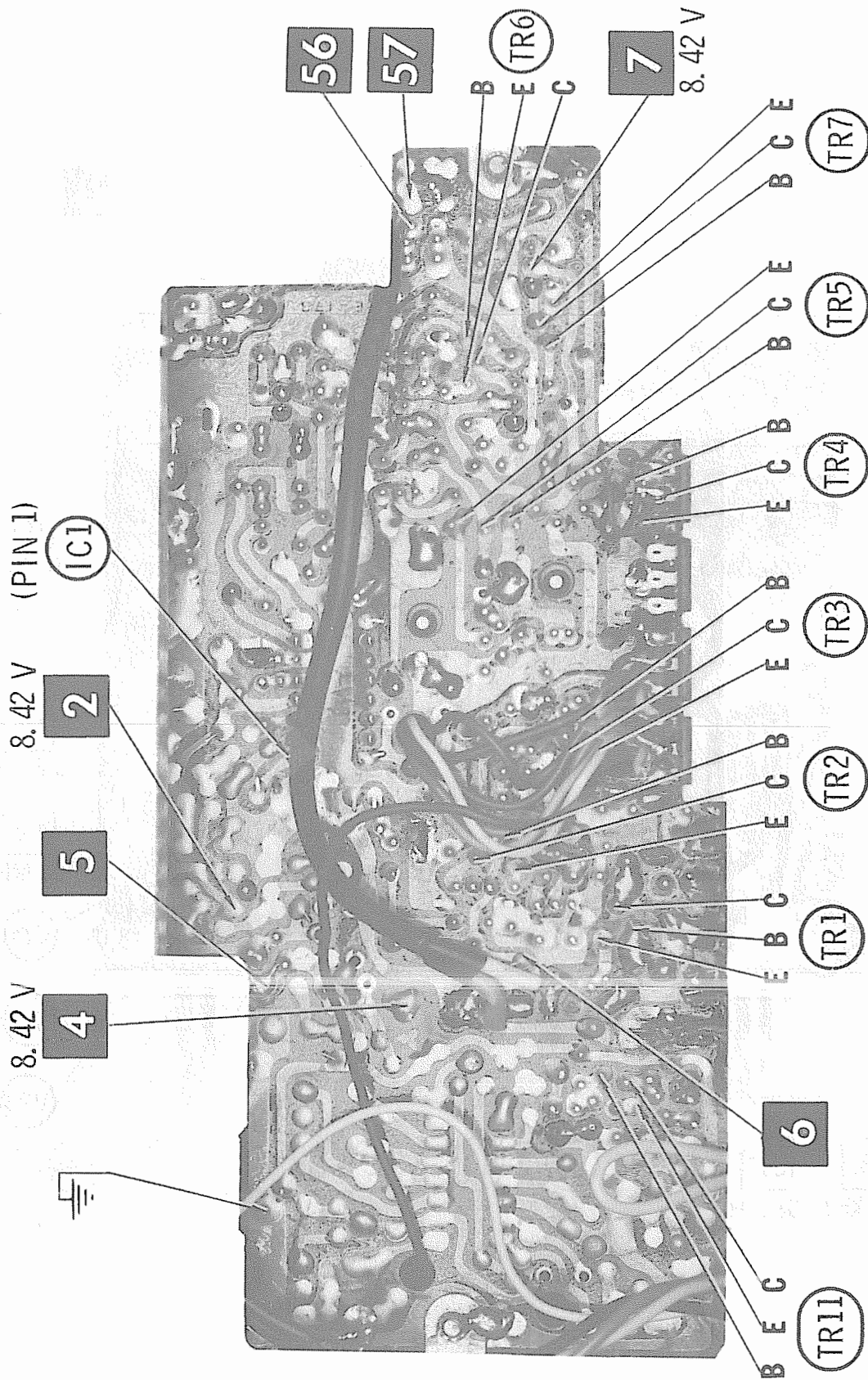
High side of generator thru .001 uF to point B, low side to ground. Use only enough marker signal for indication. Use 60-hertz frequency modulated signal with 450kHz sweep. Use 60-hertz sawtooth voltage in scope for horizontal deflection.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
10.7MHz 450kHz Sweep	Point of non-interference	Vert input of scope to point C, low side to ground.	IFT1, IFT2 (Pri.)	Disconnect stabilizing capacitor C32. Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown. Reconnect C32.
"	"	Vert input of scope to point D, low side to ground.	IFT2 (Sec.)	Adjust IFT2 (Sec.) to place marker at center of S curve similar to Fig. 2. Readjust IFT2 (Pri.) for maximum amplitude and straightness of line.

### FM RF ALIGNMENT—SELECTOR IN FM POSITION

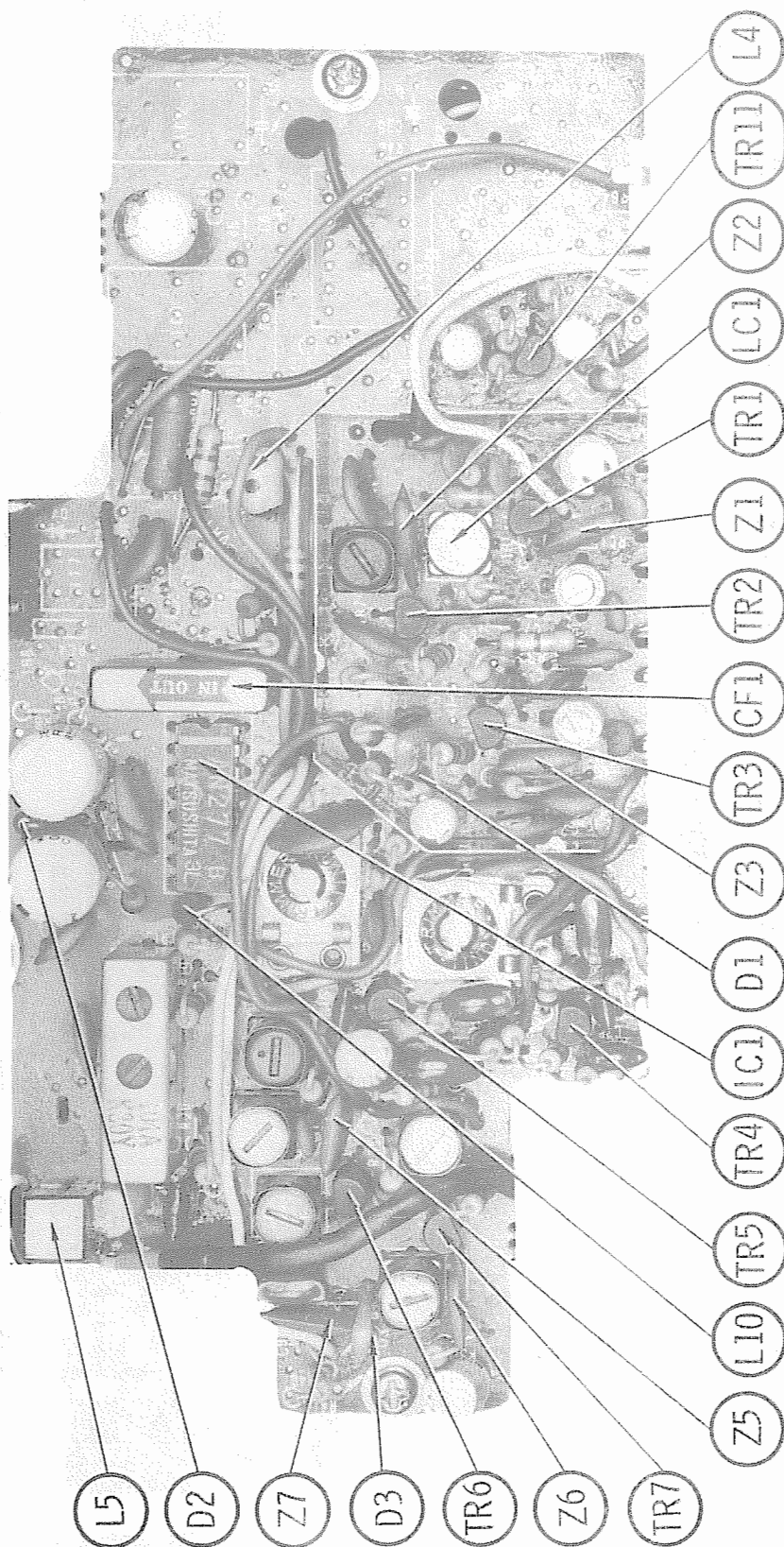
Connect generator across antenna terminals with 120-ohm carbon resistor in series with each lead. Adjustment of coils by bending should not be attempted unless the coil is deformed or replaced.				
GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
108MHz Unmodulated	Tune to signal	"	C3, C6, C17	Adjust for maximum. Repeat FM RF steps until no further improvement is noted.



AM-FM RF-IF BOARD

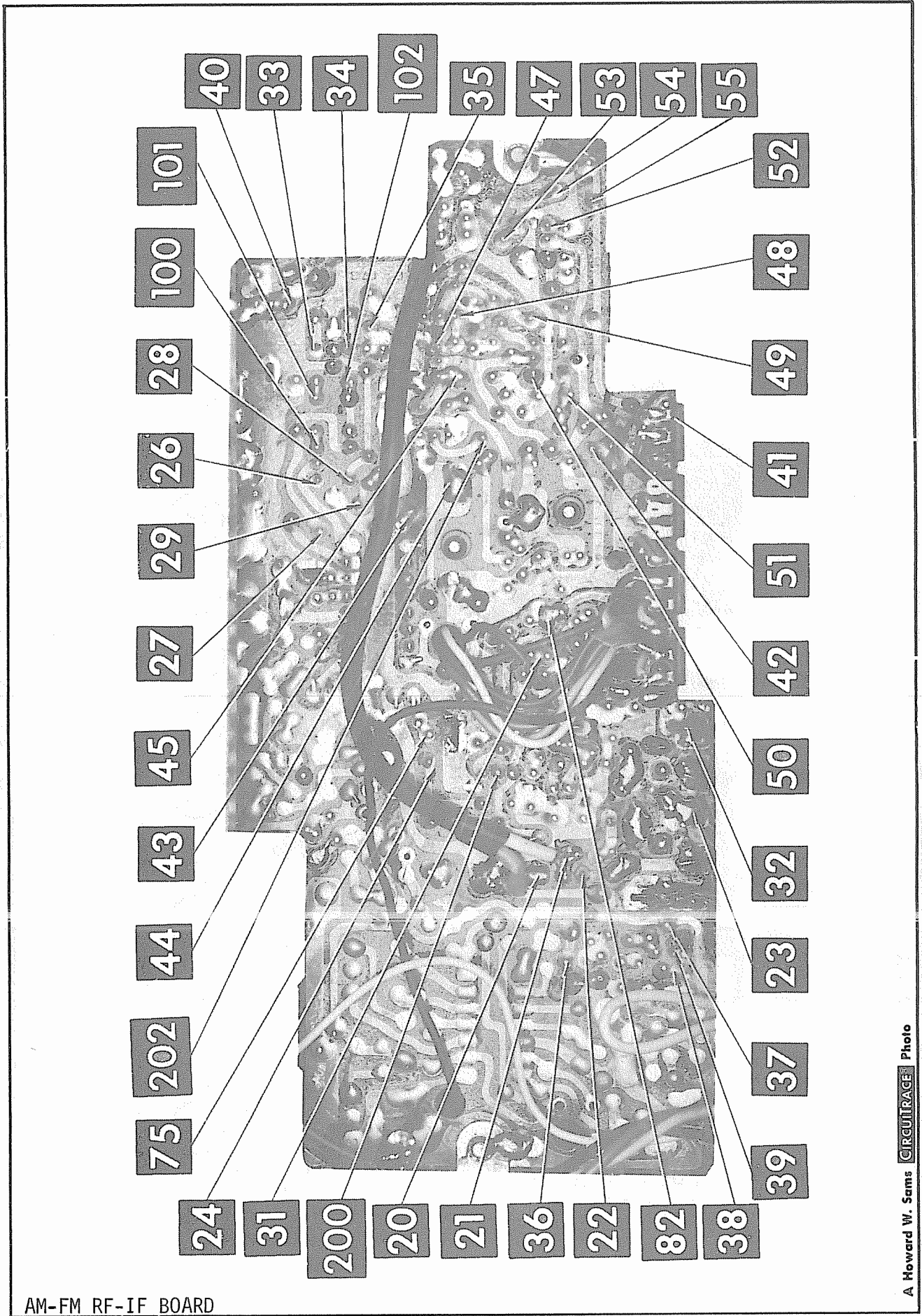


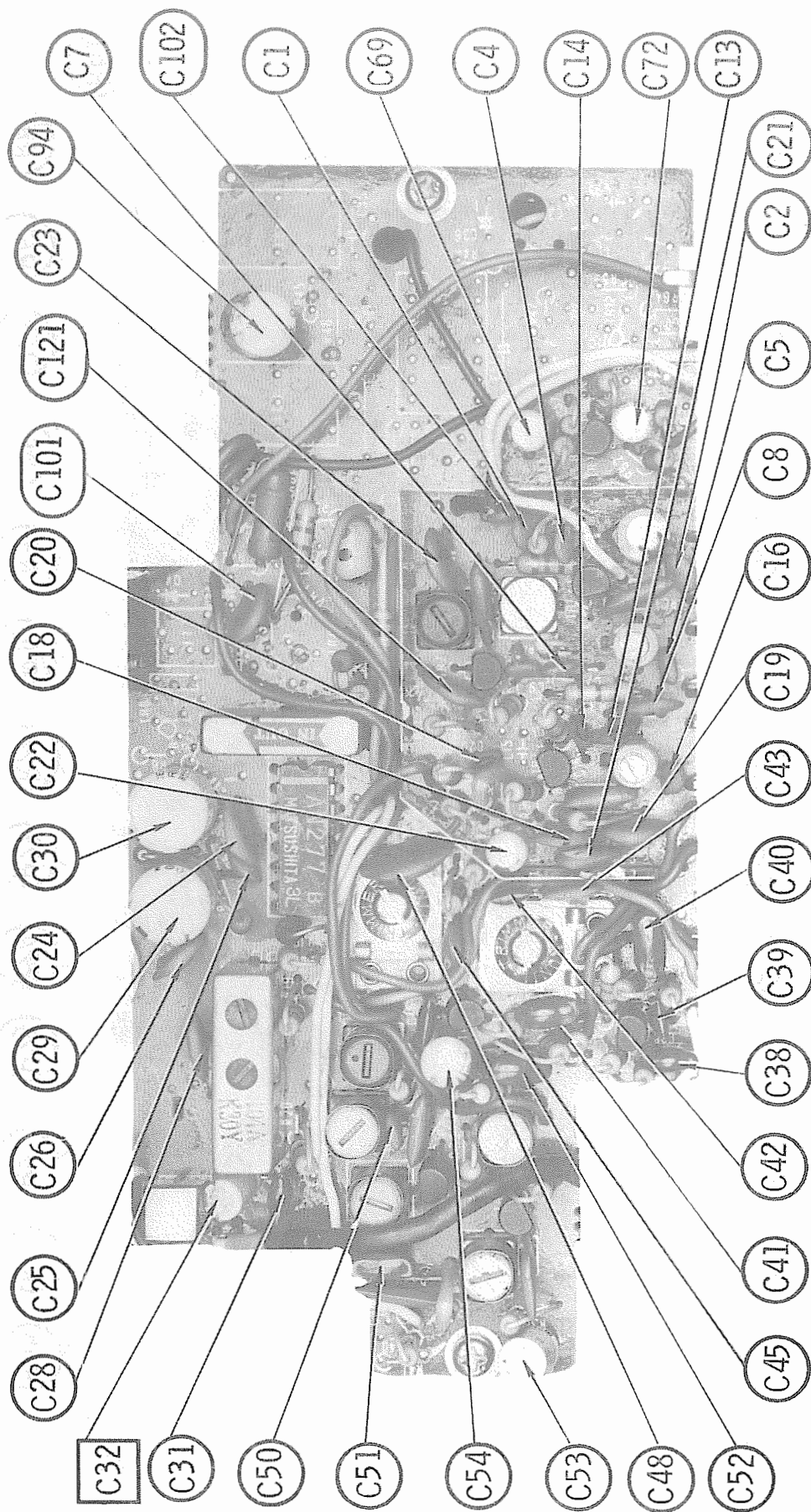
● AM POS



AM-FM RF-IF BOARD

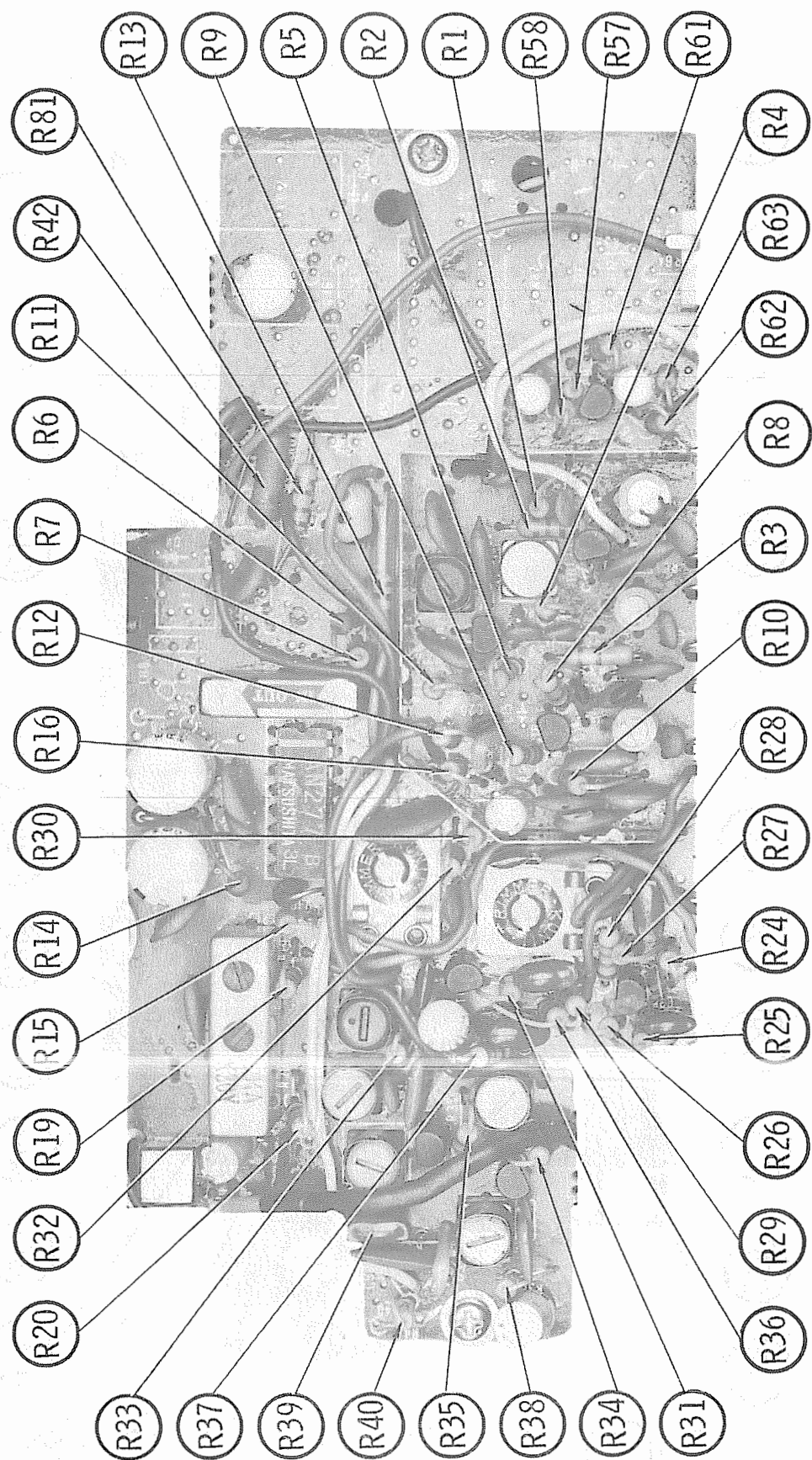






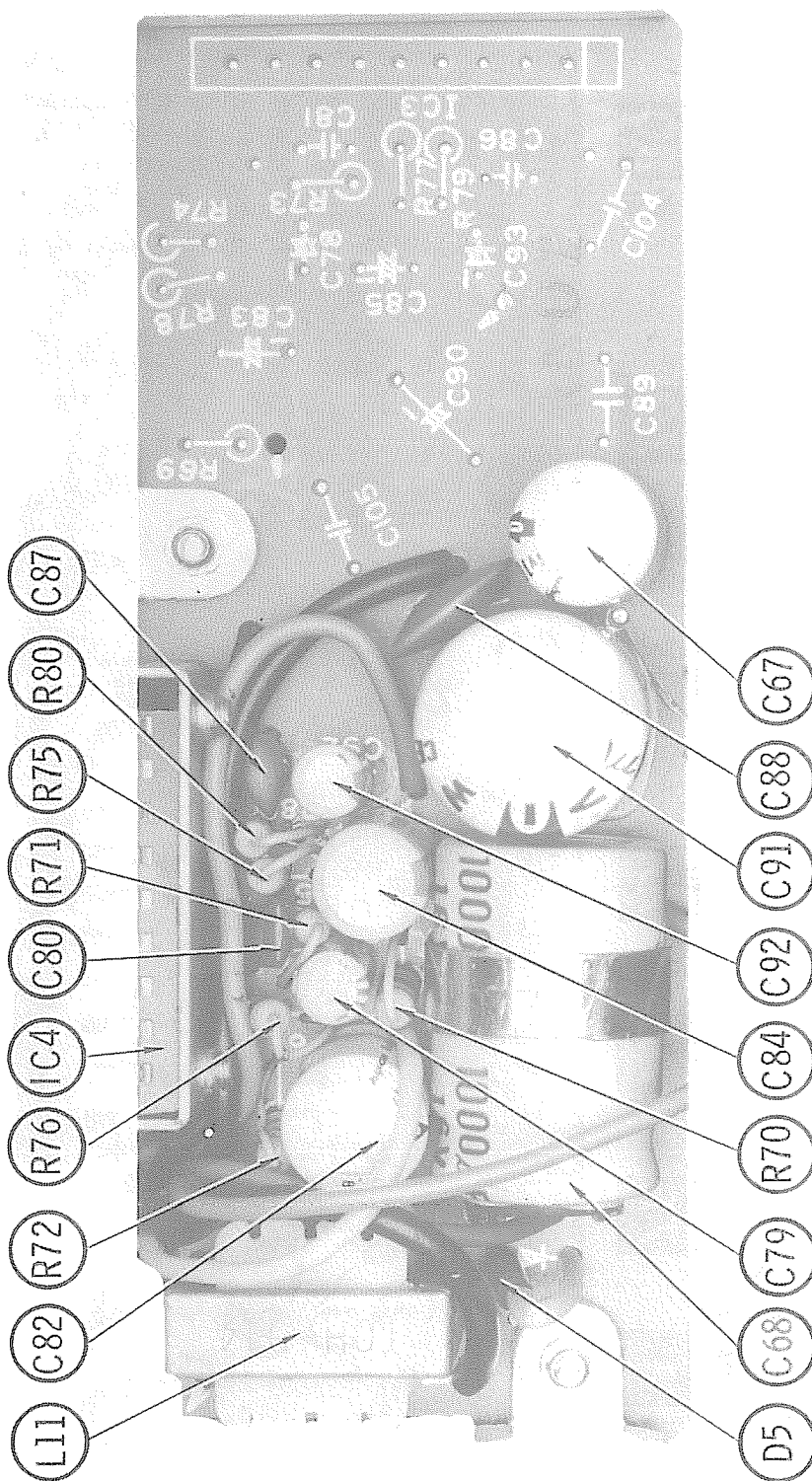
TOYOTA MODELS CR-652BTL/BTR/FUT/T

AM-FM RF-IF BOARD



AM-FM RF-IF BOARD

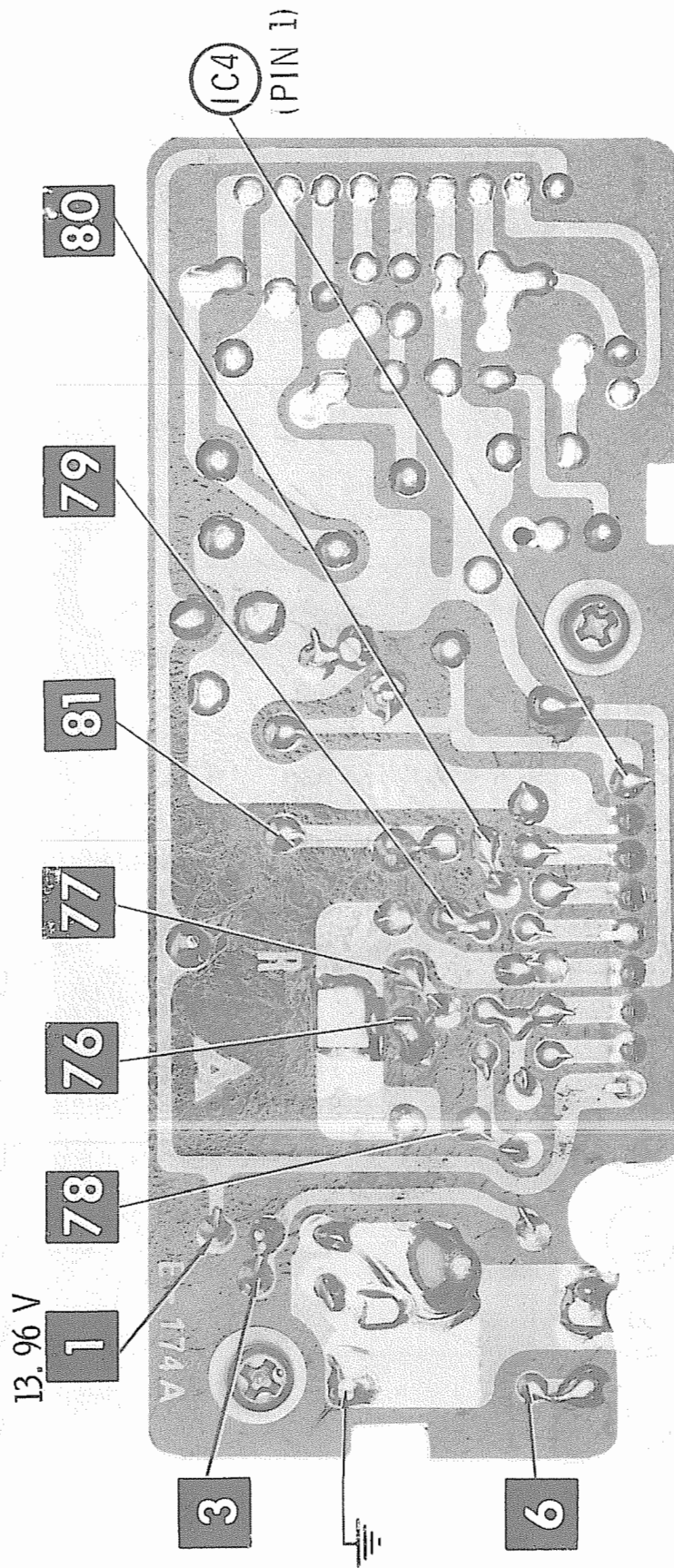




AUDIO BOARD

# AUDIO BOARD

100



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

## SEMICONDUCTORS

ITEM		REPLACEMENT DATA						
NO.	TYPE / MFG.	GENERAL	INTERNATIONAL	MALLORY	MOTOROLA	RCA	SPRAGUE	SYLVANIA
No.	No. / PART No.	ELECTRIC	RECTIFIER	PART No.	PART No.	PART No.	PART No.	PART No.
		PART No.	PART No.					
01	YEAD005	GE-90 (8)	0201 (8)		HEPR2503(8)	SK3126 (8)		
02	YEA0010	GE-X11	Z-1208	ZB8.2	HEPZ0411	SK3059	RT239	ECG 5072
	(8.2 V Zener)							
03	0A90	1N60	1N60	PTC206	HEP135	SK3088		
D5	YAAD004	GE-504A	804	PTC201	HEPRO052	SK3031	RT213	ECG 109 ECG 116
1C1	AN277B							
1C4	AN214							
TR1	2SC1047BCD	GE-61	TR-70	PTC132	HEP56	SK3018	RT107	ECG 108
TR2	2SC1047BCD	GE-61	TR-70	PTC132	HEP56	SK3018	RT107	ECG 108
TR3	2SC829BC	GE-20	TR-24	PTC132	HEP50	SK3018	RT108	ECG 107
TR4	2SC829BC	GE-20	TR-24	PTC132	HEP50	SK3018	RT108	ECG 107
TR5	2SC829BC	GE-20	TR-24	PTC132	HEP50	SK3018	RT108	ECG 107
TR6	2SC829BC	GE-20	TR-24	PTC132	HEP50	SK3018	RT108	ECG 107
TR7	2SC829BC	GE-20	TR-24	PTC132	HEP50	SK3018	RT108	ECG 107
TR11	2SC828RST	GE-20	TR-24	PTC132	HEP728	SK3122	RT100	ECG 123A

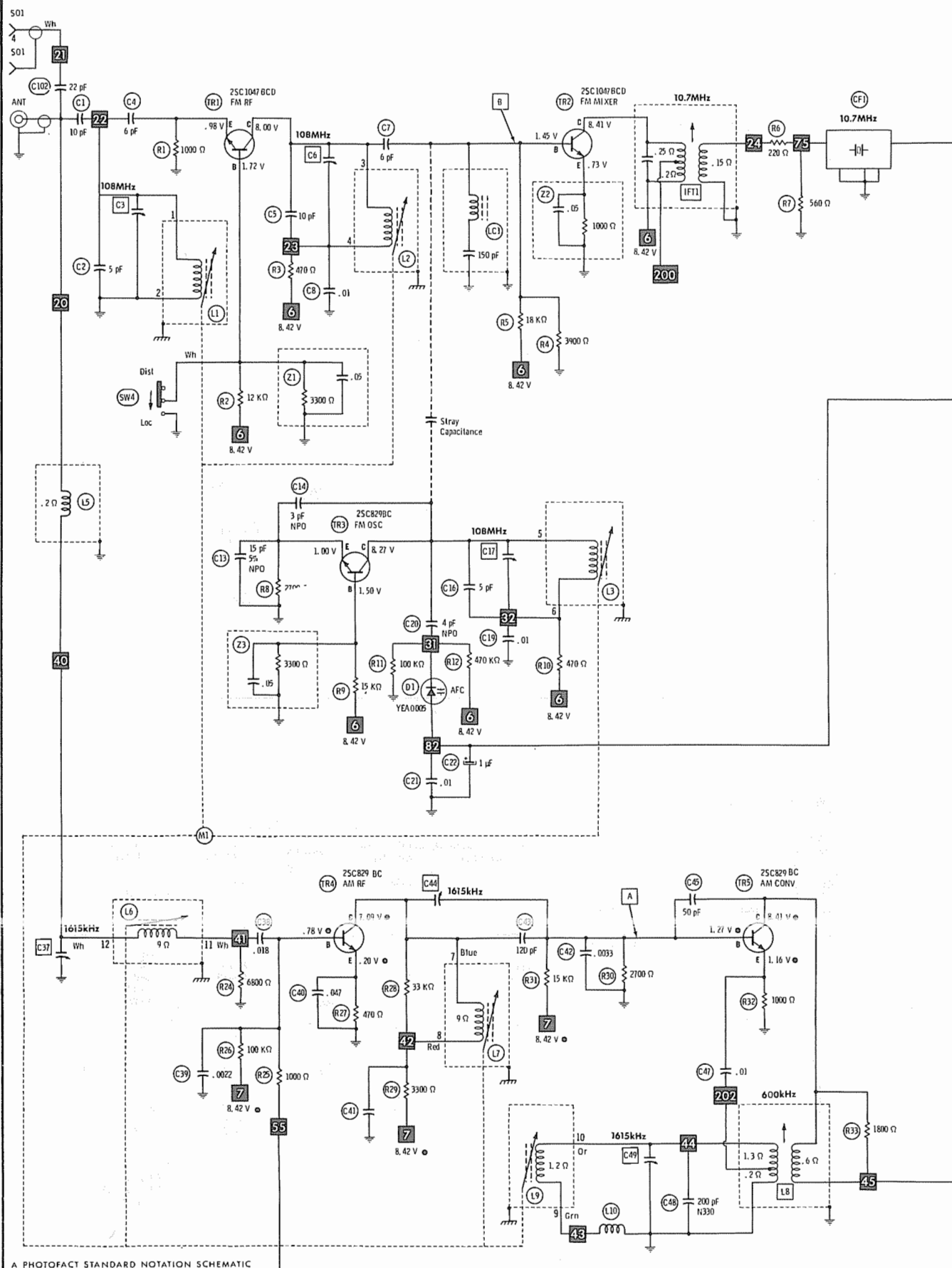
(B) Varactor

**TOYOTA MODELS CR-652BTL/BTR/FUT/T**

ITEM No.	RATING	REPLACEMENT DATA					
		MFGR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C22	1 50 V	ECEA50V1L	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C29	220 10 V	ECEA10V220L	RME-G-0-250	EP15-250	PC250-10	MTV250DB10	EV-1145
C30	220 10 V	ECEA10V220L	RME-G-0-250	EP15-250	PC250-10	MTV250DB10	EV-1145
C32	10 16 V	ECEA16V10L	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C53	47 6.3 V	ECEA6V47L	RME-C-B-050	EP6-50	PC50-10	VTT47A6	EV-1026
C54	47 10 V	ECEA10V47L	RME-O-D-050	EP15-50	PC50-10	MTV50CB15	EV-1226
C65	3.3 50 V	ECEA50V3R3L	RME-B-J-005	EP50-5	PC5-50	VTT3R3A50	EV-1519
C66	1 50 V	ECEA50V1L	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C67	100 16 V	ECEA16V100L	RME-E-E-100	EP15-100	PC100-16	MTV100CD15	EV-1230
C68	1000 16 V	ECEA16V1000L	RME-N-E-1000	EP15-1000	PC1000-16	MTA1000G25	EV-1260
C69	10 16 V	ECEA16V10L	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C72	10 16 V	ECEA16V10L	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C79	10 16 V	ECEA16V10L	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C82	100 16 V	ECEA16V100L	RME-E-E-100	EP15-100	PC100-16	MTV100CD15	EV-1230
C84	47 16 V		RME-E-E-050	EP15-50	PC50-16	MTV50CB15	EV-1226
	47 10 V	ECEA10V47L					
C91	470 16 V	ECEA16V470W	RME-L-E-500	EP15-500	PC500-16	MTV50DDN15	EV-1250
C92	10 16 V	ECEA16V10L	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C94	100 16 V		RME-E-E-100	EP15-100	PC100-16	MTV100CD15	EV-1230
	100 10 V	ECEA10V100L					

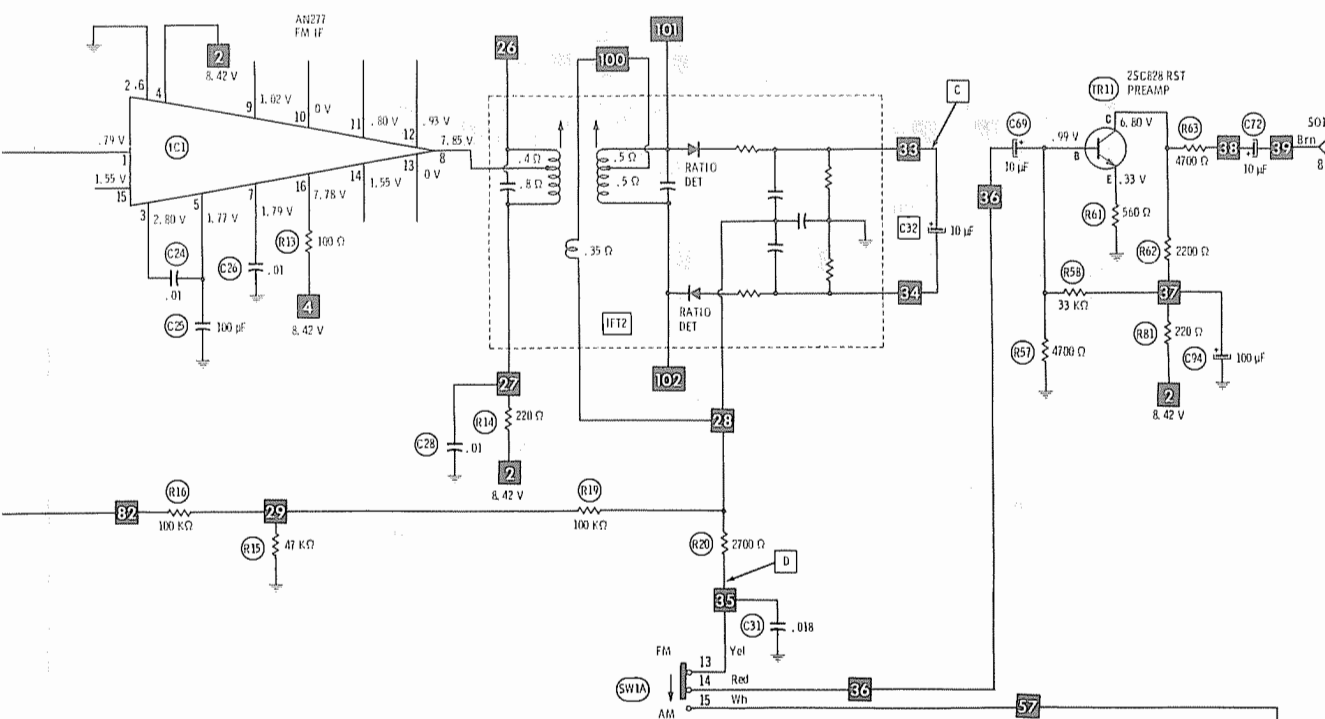
ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			ARCO/ELMENDO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	10	ECV1ZW1DP32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C2	5				NP05		10TCC-V50
C3	Trimmer						
C4	6						
C5	10	YECTTA139	CCT0-100	DTZ-10	NP010	CN0410	10TCC-V56
C6	Trimmer						10TCC-Q10
C7	6						
C8	.01		CCD-103	CK-103	MGP01	TA110	10TCC-V56
C13	15	YECTTA139	CCT0-150	DTZ-15	NP015	CH0415	T6-S10
C14	3						10TCC-Q15
C16	5				NP05		10TCC-V30
C17	Trimmer						10TCC-V50
C18	.01	YECTTA139	CCD-103	CK-103	MGP01	TA110	T6-S10
C19	.01		CCD-103	CK-103	MGP01	TA110	T6-S10
C20	4				NP03P9		10TCC-V39
C21	.01		CCD-103	CK-103	MGP01	TA110	T6-S10
C23	.01	10%	CCD-103	CK-103	MGP01	TA110	T6-S10
C24	.01		CCD-103	CK-103	MGP01	TA110	T6-S10
C25	100		CCO-101	DD-101	GP100	GP310	10TS-T10
C26	.01		CCO-103	CK-103	MGP01	TA110	T6-S10
C28	.01	10%	CCD-103	CK-103	MGP01	TA110	T6-S10
C31	.018		1MD-1-183			EW1A118	1PB-S18
C37			1MD-1-183			EW1A118	1PB-S18
C38	.018		1MD-1-222			EW1A222	1PB-D22
C39	.0022	10%	1DP-2-473	CPR 2200J	OPMS6022	EW1A147	225P47391W03
C40	.047		1DP-2-473		DPMS6S47	EW1A147	225P47391W03
C41	.047		1DP-2-473		DPMS6S47	EW1A147	225P47391W03
C42	.0033		6DP-1-332		OMF6D33	EW6G233	6PS-D33
C43	120	YECTTT70	CCD-151	DO-151	GP150	GP315	10TS-T15
C44	Trimmer						
C45	50		CCT0-510	DTZ-50	NP050	CN0450	10TCC-Q50
C48	200		*			*	10TCS-T20
C49	Trimmer	YECC005201KS YECTTT70					
C50	6						
C51	.047		1DP-2-473		DPMS6S47	EW1A147	10TCC-V56
C52	.047		1DP-2-473		OPMS6S47	EW1A147	225P47391W03

(CONTINUED ON PAGE 105)



A PHOTOFACT STANDARD NOTATION SCHEMATIC  
with **CIRCUITRACE**  
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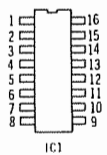
SEE NOTES ON PAGE 104



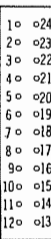
Terminal Guides



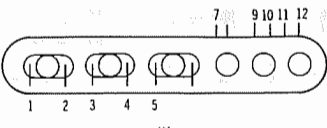
TR1 thru TR7 & TR11



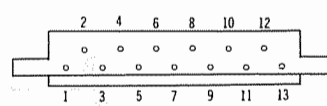
IC1



SW1

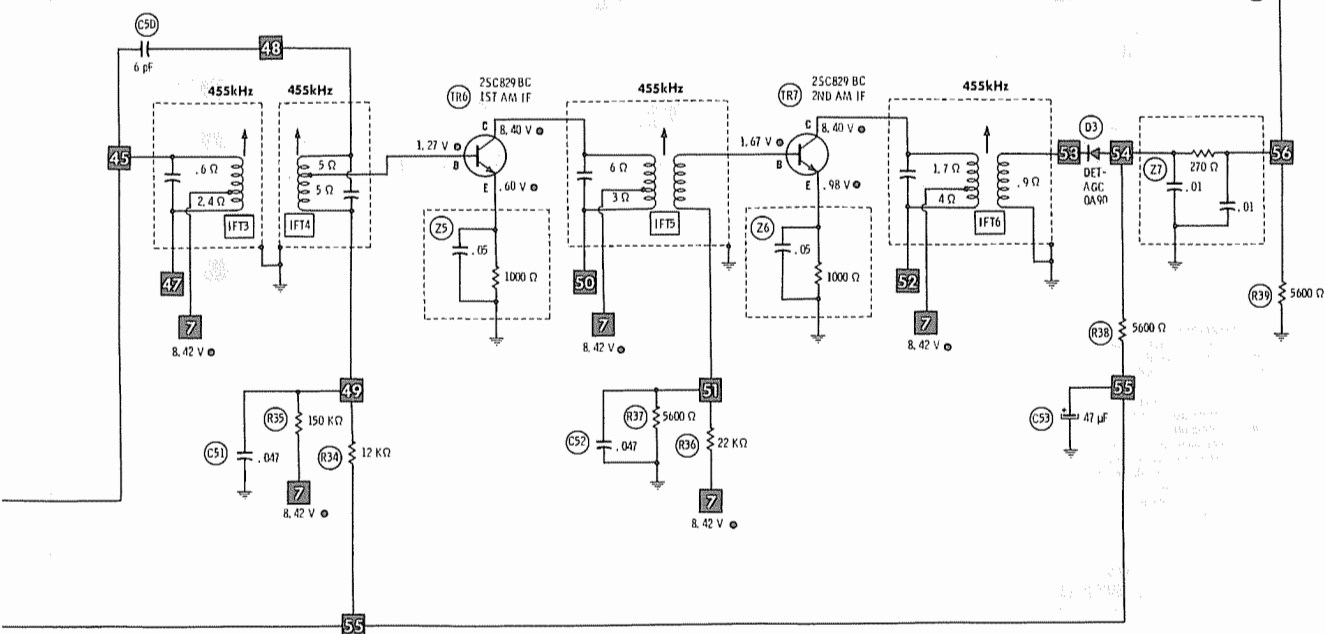


AM1

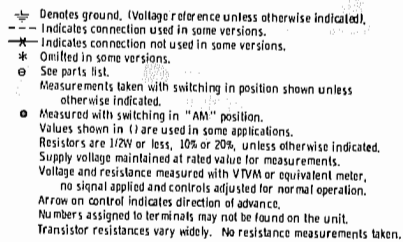


S01

Jumper from pin 6 to pin 8 and pin 5 to pin 7 when tape player is not used.







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				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C75	.01	YECCD12304M	CCD-103	CK-103	MGP01	TA110	TG-S10
C80	.0047		CCD-472	DD-472G	GP4700	JF247	10TS-D47
C87	150		CCD-151	DD-151	GP150	GP315	10TS-T15
C88	.3		1MD-3-304				
C97	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
C101	.01	YECCL510237	CCD-103	CK-103	MGP01	TA110	TG-S10
C102	22		CCD-103	DTZ-25		CN0425	10TCC-Q25
C121	.01		CCD-103	CK-103	MGP01	TA110	TG-S10
CS1	.001 Feedthru						
CS2	.001 Feedthru						
CS3	.001 Feedthru	YECCL510237					
CS4	.001 Feedthru	YECCL510237					

\* 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	RESIST-ANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
VR3A	Tone	10 K	EVK03B56SD14				
B	Volume-Left	10 K					
C	Volume-Right/Switch	10 K					

### RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
R42	100 5% 1 W F11m	3G-100	ERG1ANJ101				

### COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			
		MFR. PART No.	OTHER IDENTIFICATION	MEISSNER PART No.	MILLER PART No.
IFT1	FM Input IF	YE1FD7S7037	IF-037		
IFT2	Ratio Detector	EULBFD104	104AK30Y		
IFT3	AM Input IF (Pri.)	YE1A07S7072A			
IFT4	AM Input IF (Sec.)	YE1A07S7073B	1A-037		
IFT5	AM Interstage IF	YE1A07S7074C	1A-074		
IFT6	AM Output IF	YE1A07S7075D	1A-075		
L1	FM RF	(1)			
L2	FM RF	(1)			
L3	FM Oscillator	(1)			
L4	RF Choke	YELQD9CD06			
L5	Loading Choke	YELQD7S042			
L6	AM Antenna	(1)			
L7	AM RF	(1)			
L8	AM Oscillator	YELL07SD69	LLU69		
L9	AM Oscillator	(1)			
L10	RF Choke	YELT06C003			
LC1	10.7MHz Trap	YE1F07S5038			

(1) Part of Tuning Assembly (M1).

### FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFR. PART No.	STANCOR PART No.	THORDARSON PART No.	
L11	115 mA	.3	1.7 mH	YETQ02014 (TCH-014) (1)			(1) Number on unit.

TOYOTA MODELS CR-652BTL/BTR/FUT/T

## 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.

### SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	5" x 9" PM, 4 ohms	EAS18D55SC		Used with CX-362FUT and CX-363FUT (Tape Player)
SP2	5" x 9" PM, 4 ohms	EAS18D55SC		

### 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		XBB1C30NR1	YEFK02022	AGC 3	HDJ	312003	150145	
F2	3 A		YEAFO1004		AGC 3	HDJ	318003		

### MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Ceramic Filter	YEIN05D5001D	10.7 MHz
M1	Tuner Assembly	YEAU05130	
SW1	Switch	YESAU02Z024	AM-FM
SW4	Switch	YEAS09027	Local-Distance
Z1	Component Combination	YEXA002	Filter (3300, .05)
Z2	Component Combination	YEXA001	Filter (1000, .05)
Z3	Component Combination	YEXA002	Filter (3300, .05)
Z5	Component Combination	YEXA001	Filter (1000, .05)
		RC11010 (1)	(1) Number on unit.
Z6	Component Combination	YEXA001	Filter (1000, .05)
		RC11010 (1)	
Z7	Component Combination	YEXA004	Ratio Detector Filter (270, .01, .01)
		RC12004 (1)	
	Printed Circuit Board	E-173	AM-FM RF-IF
	Printed Circuit Board	E-174A	Audio

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

ITEM	PART No.	ITEM	PART No.
Dial Pointer	YEFH01088	Push Button, AM	YEFE10091
Knob, Volume, Tuning	YEFE07037	Push Button, FM	YEFE10092
Knob, Tone	YEFE08034	Button, Distance-Local	YEFE10093

### WIRING DATA

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