

PHOTOFACT[®] with CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPARTS 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.

COBRA MODEL 19



MODEL 19

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

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Printed in U. S. of America

SCY275

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

GC ELECTRONICS

T4, T5, T6.....5000, 8290

ALL others9440

RECEIVER

Connect an AC VTVM or AF Wattmeter across speaker voice coil.

Adjustments made with 14-volt DC input.

Adjust volume control to obtain suitable reading.

SIGNAL GENERATOR	GEN FREQ	CHANNEL	ADJUST	REMARKS
High side thru .01uF to base of TR3, low side to ground.	455kHz, 1000Hz @ 30% modulation.	Any	T4, T5, T6	Set generator output to maintain 0.5V across Speaker Voice Coil. Adjust for maximum.
High side thru .01uF to Antenna Jack, low side to ground.	27.115MHz 1000Hz @ 30% modulation, output 5uV.	13	T1, T2, T3	Adjust for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF Wattmeter across speaker voice coil.

These adjustments made with 14-volt DC input.

Adjust volume control to obtain a suitable reading.

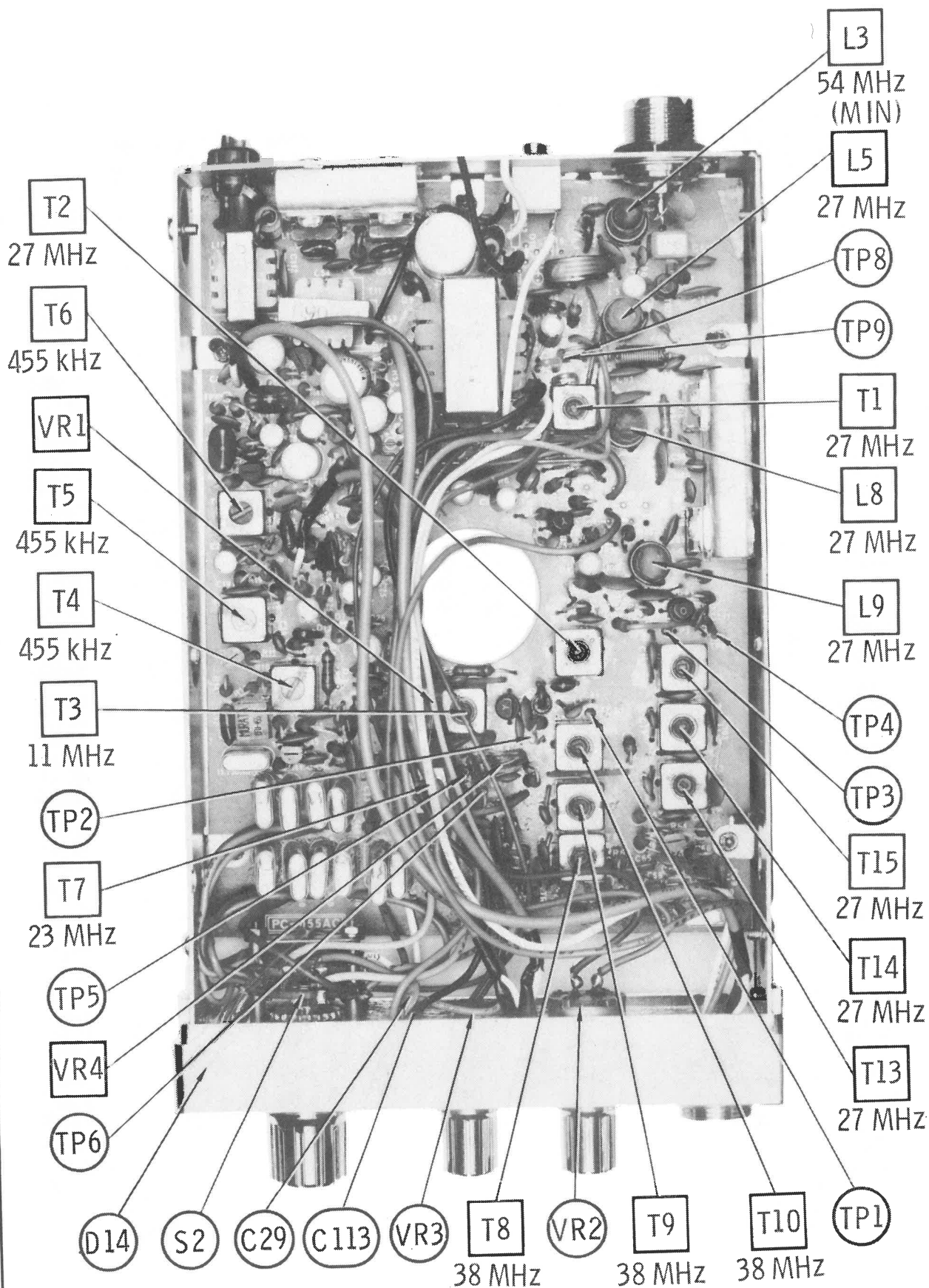
SIGNAL GENERATOR	GEN FREQ	CHANNEL	ADJUST	REMARKS
AGC High side thru .01uF to Antenna Jack, low side to ground.	27.115MHz, 1000Hz @ 30% modulation, output 500,000uV.	13	VR1	Adjust volume control to obtain 0db. Decrease generator to 10uV. Adjust so that signal does not drop more than 10db.
SQUELCH RANGE High side thru .01uF to Antenna Jack, low side to ground.	27.115MHz 1000Hz @ 30% modulation, output 200uV.	13	VR4	Set squelch control fully clockwise. Adjust so that squelch just breaks.

TRANSMITTER

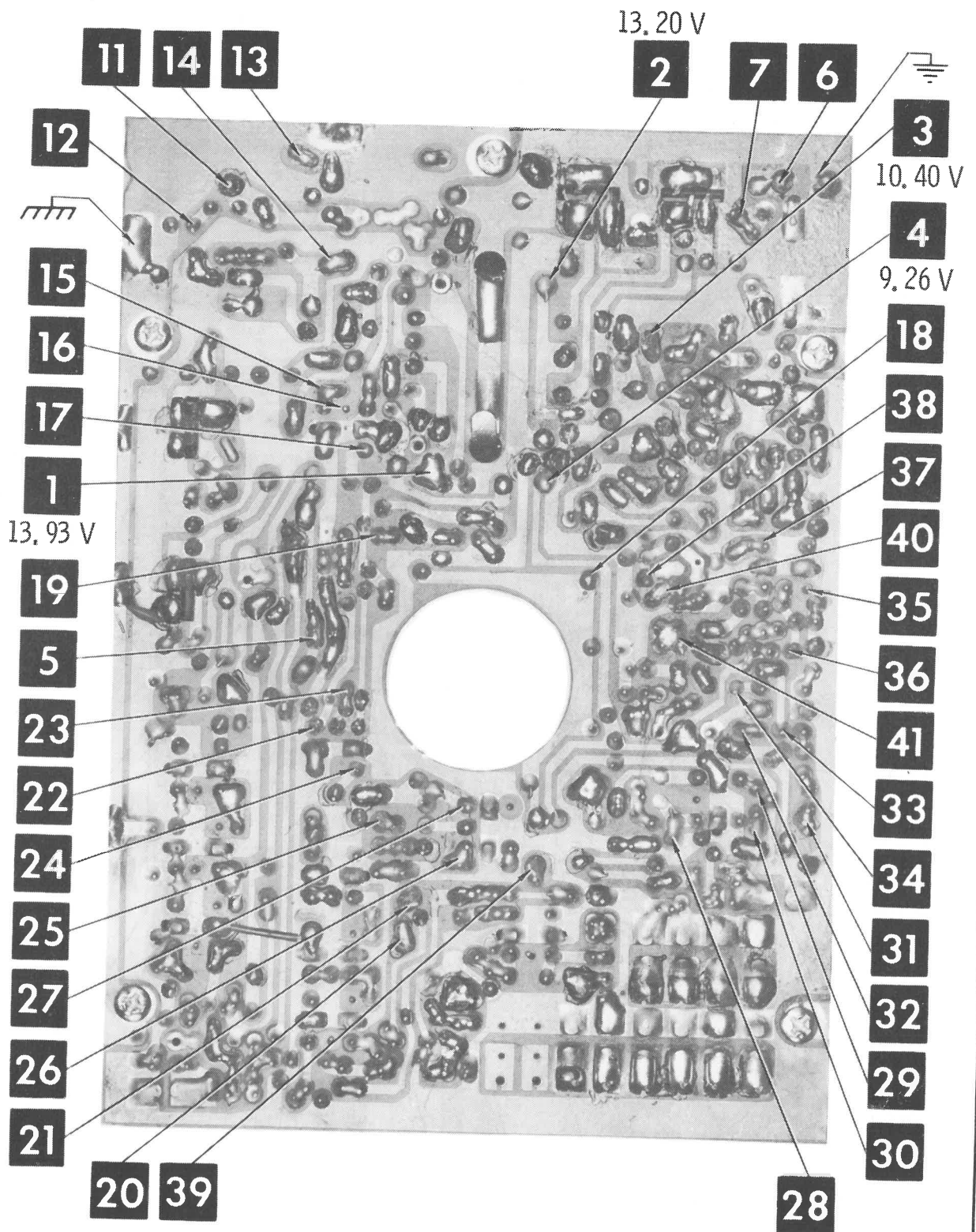
Connect an RF Wattmeter or 50-ohm, 25-watt dummy load to antenna connector.

Adjustments made with 14-volt DC input.

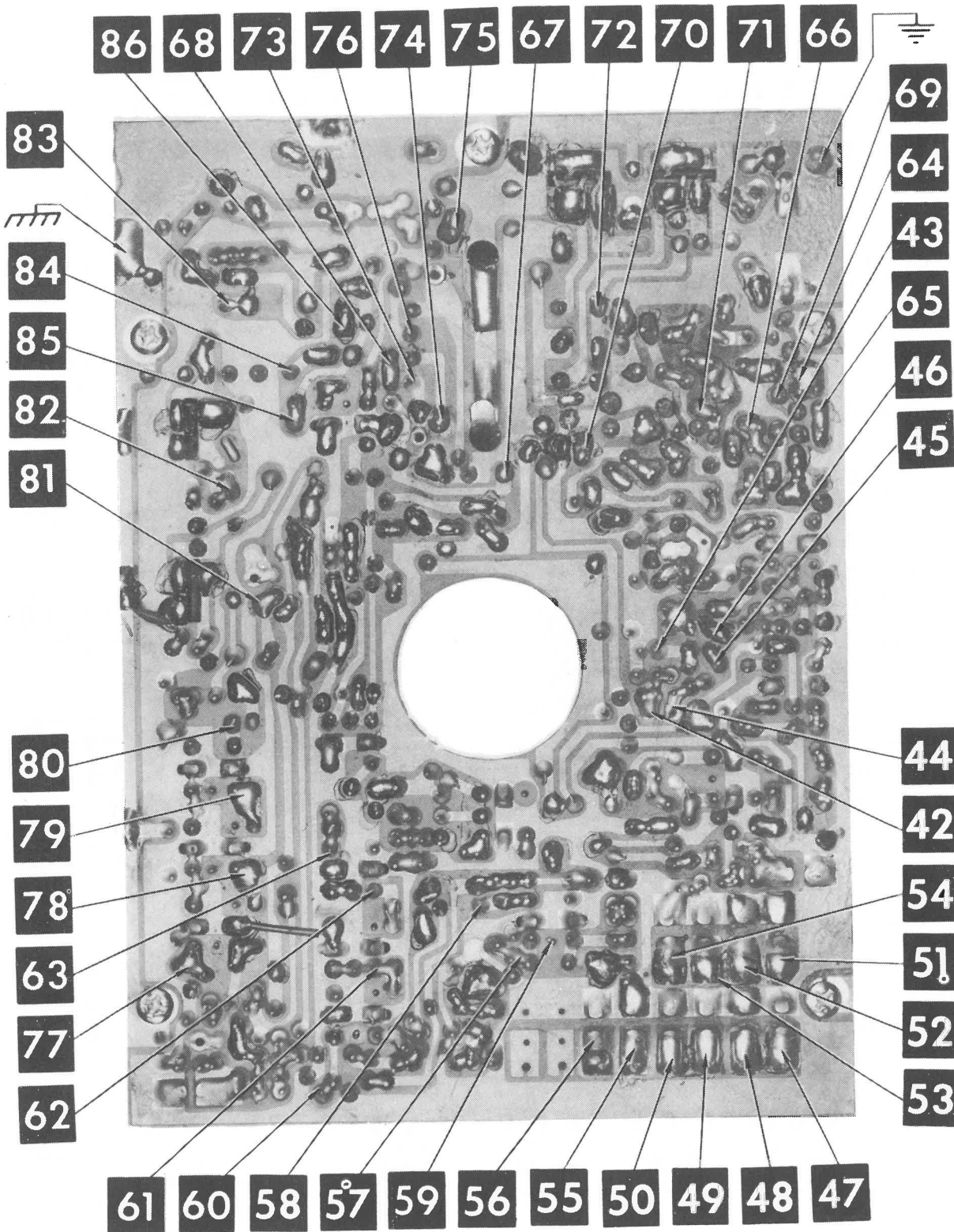
INDICATOR	ADJUST	REMARKS
OSCILLATOR, MIXER, BUFFER, DRIVER, FINAL RF Wattmeter Oscilloscope response to 40MHz	T7	Scope to TP5 and TP6. Adjust for maximum.
	T8, T9, 10	Scope to TP1 and TP2. Adjust for maximum.
	T13, T14	Scope to TP3 and TP4. Adjust for maximum.
	T15	
OUTPUT POWER RF Wattmeter	L5, L8, L9	Key transmitter. Adjust for maximum output.
TVI TRAP TV (Ch. 2)	L3	Key transmitter. Adjust for MINIMUM interference on TV.
FINAL INPUT POWER Remove jumper at TP8 and TP9 and connect 0-1500 DC milliammeter between L6 and R79.	L5	Adjust for 5 watts (maximum).
FREQUENCY CHECK Frequency Counter		Check all channels for frequency tolerance.



CHASSIS-BOTTOM VIEW

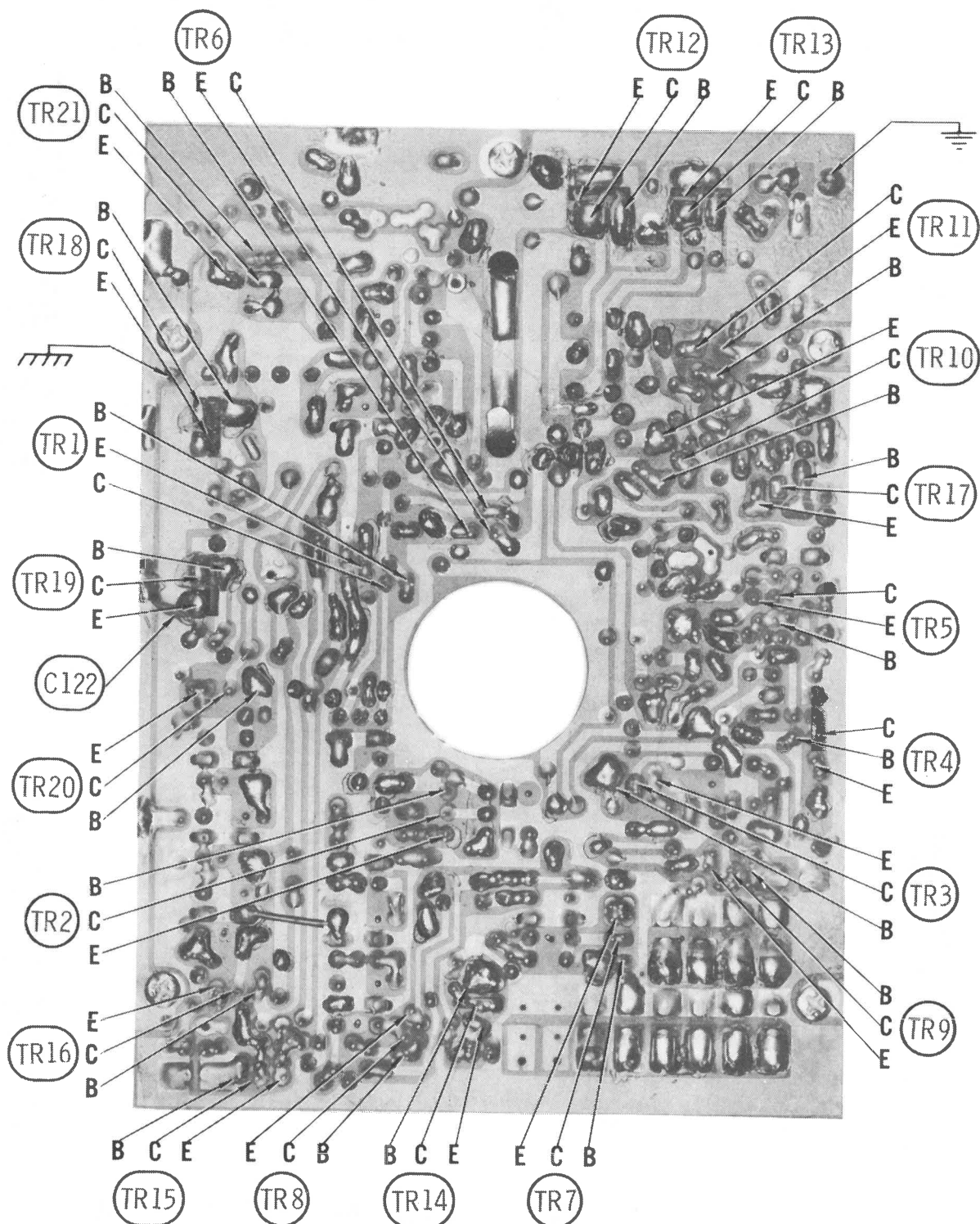


MAIN BOARD

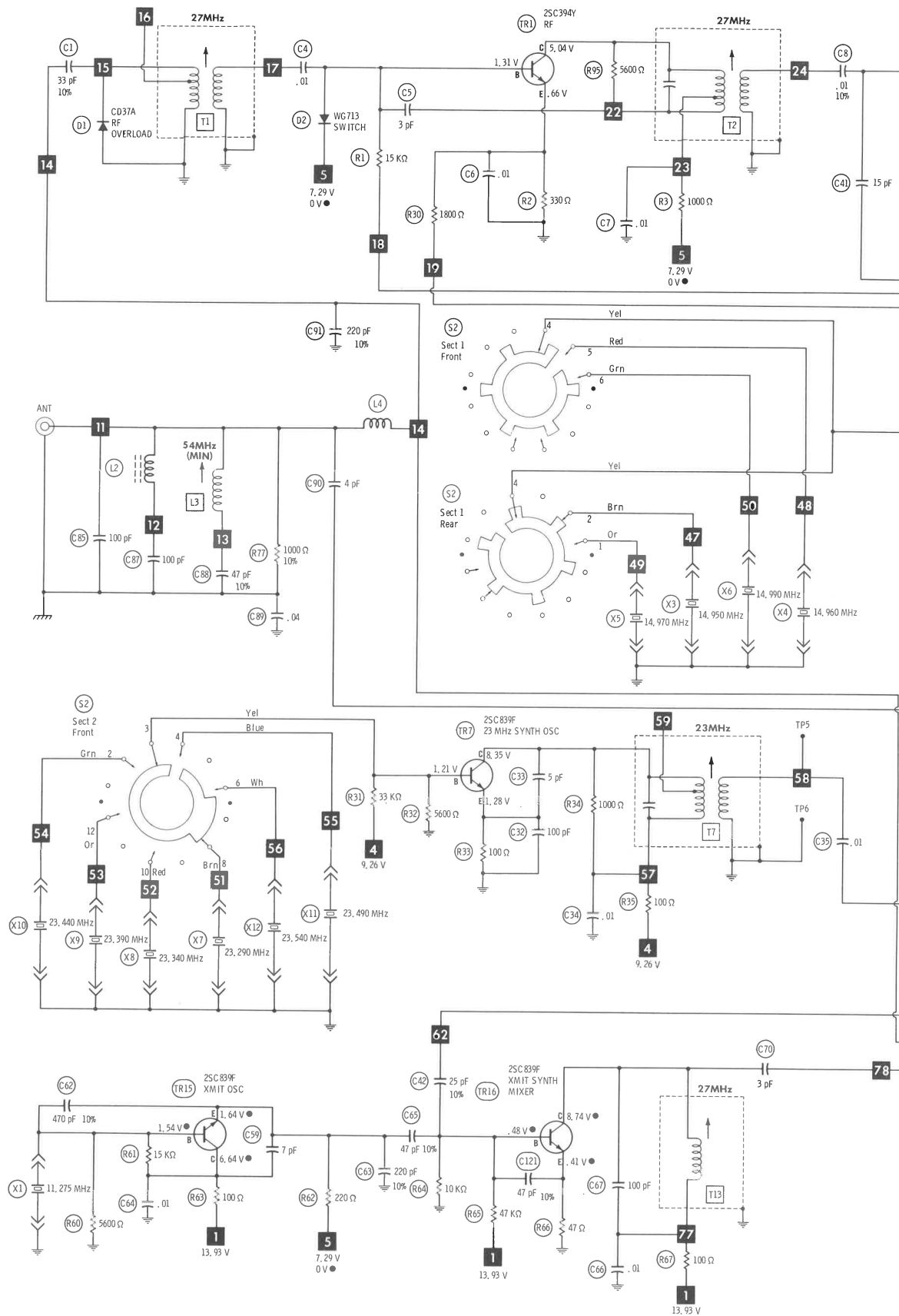


COBRA MODEL 19

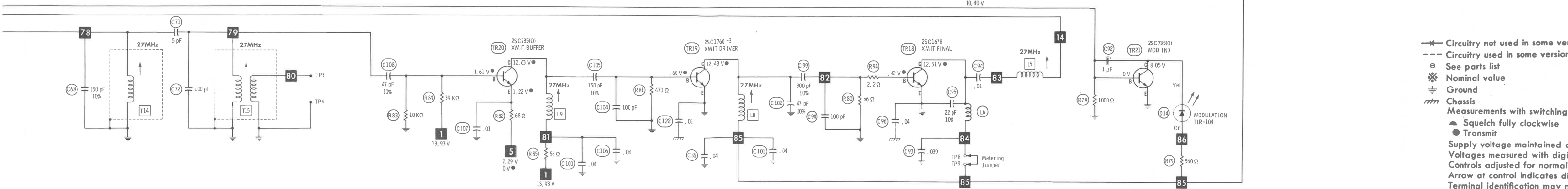
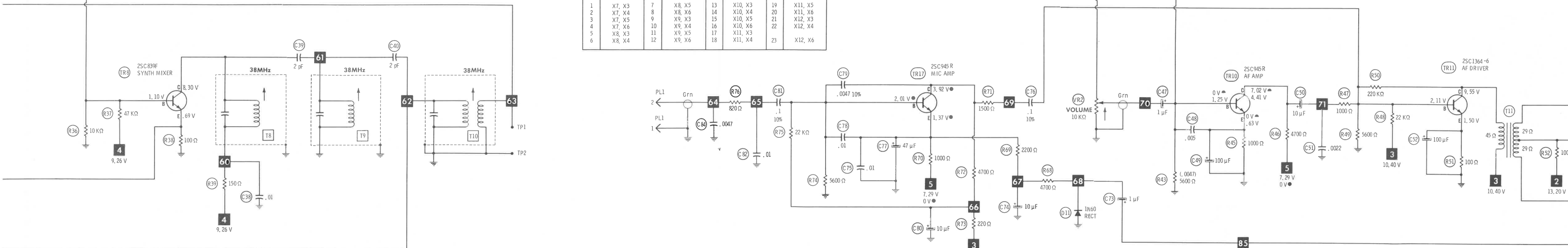
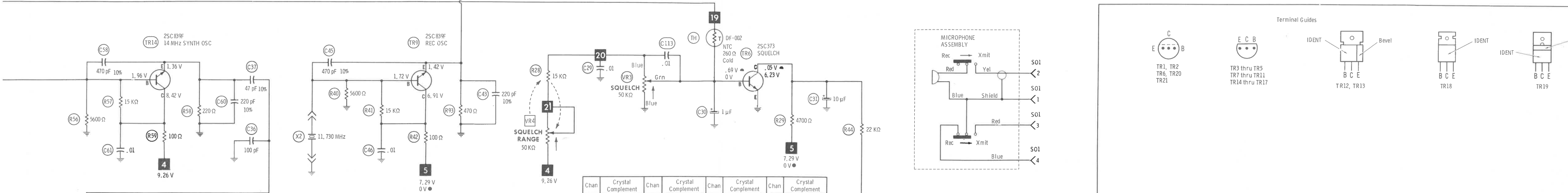
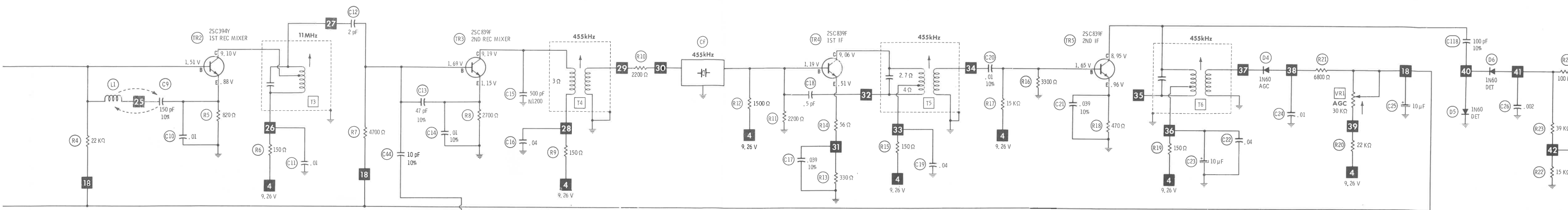
MAIN BOARD



MAIN BOARD

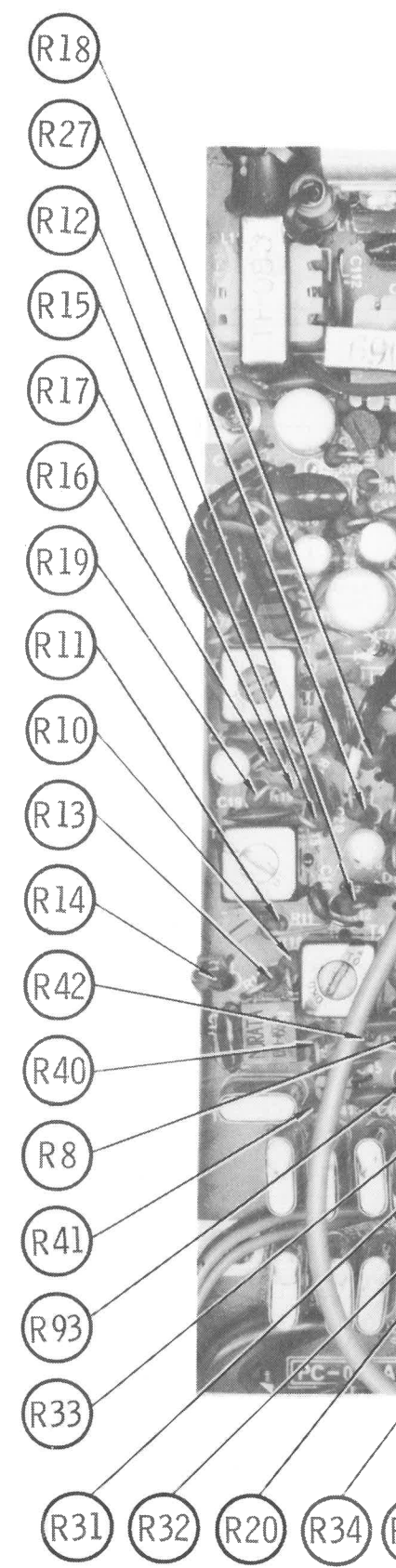
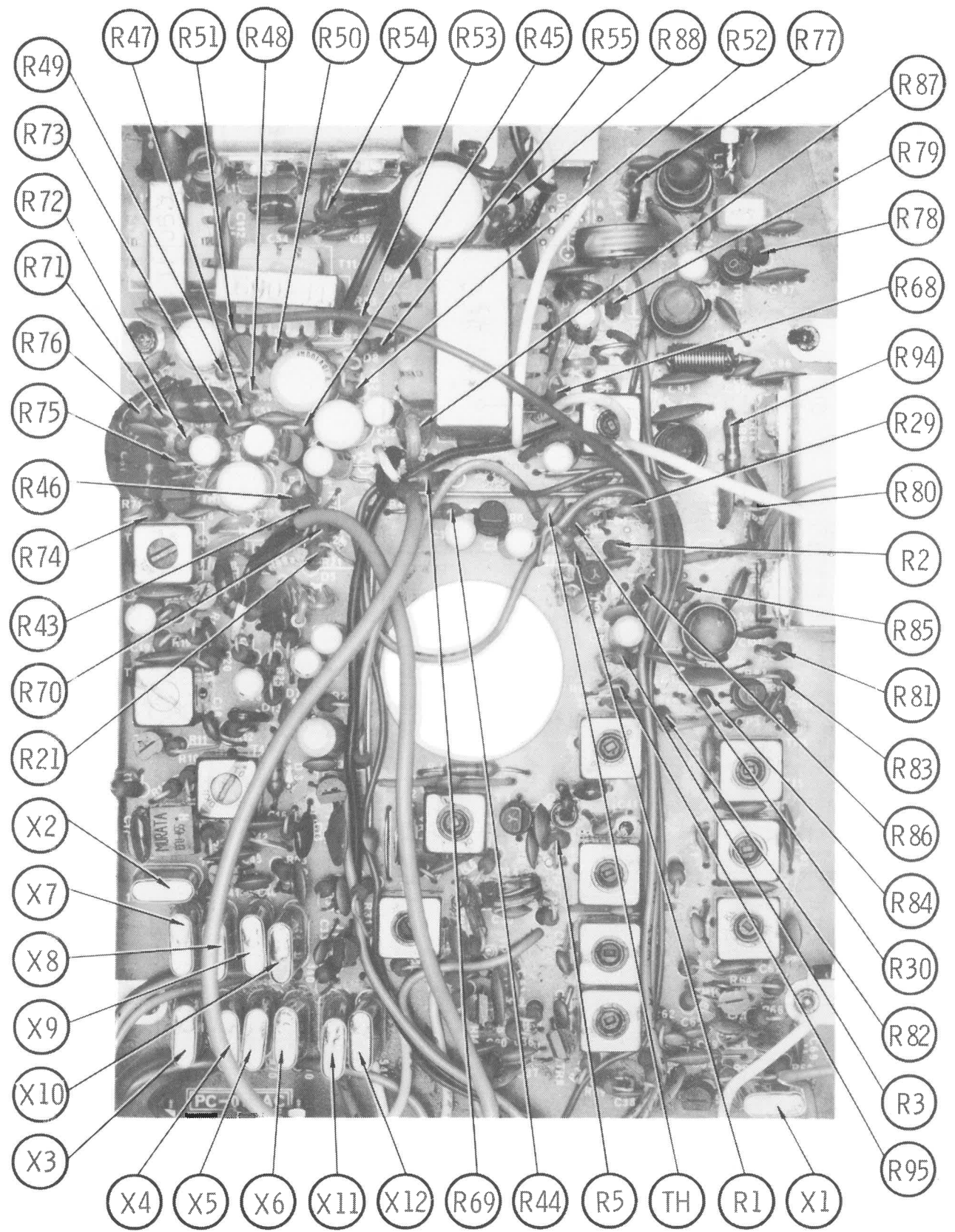
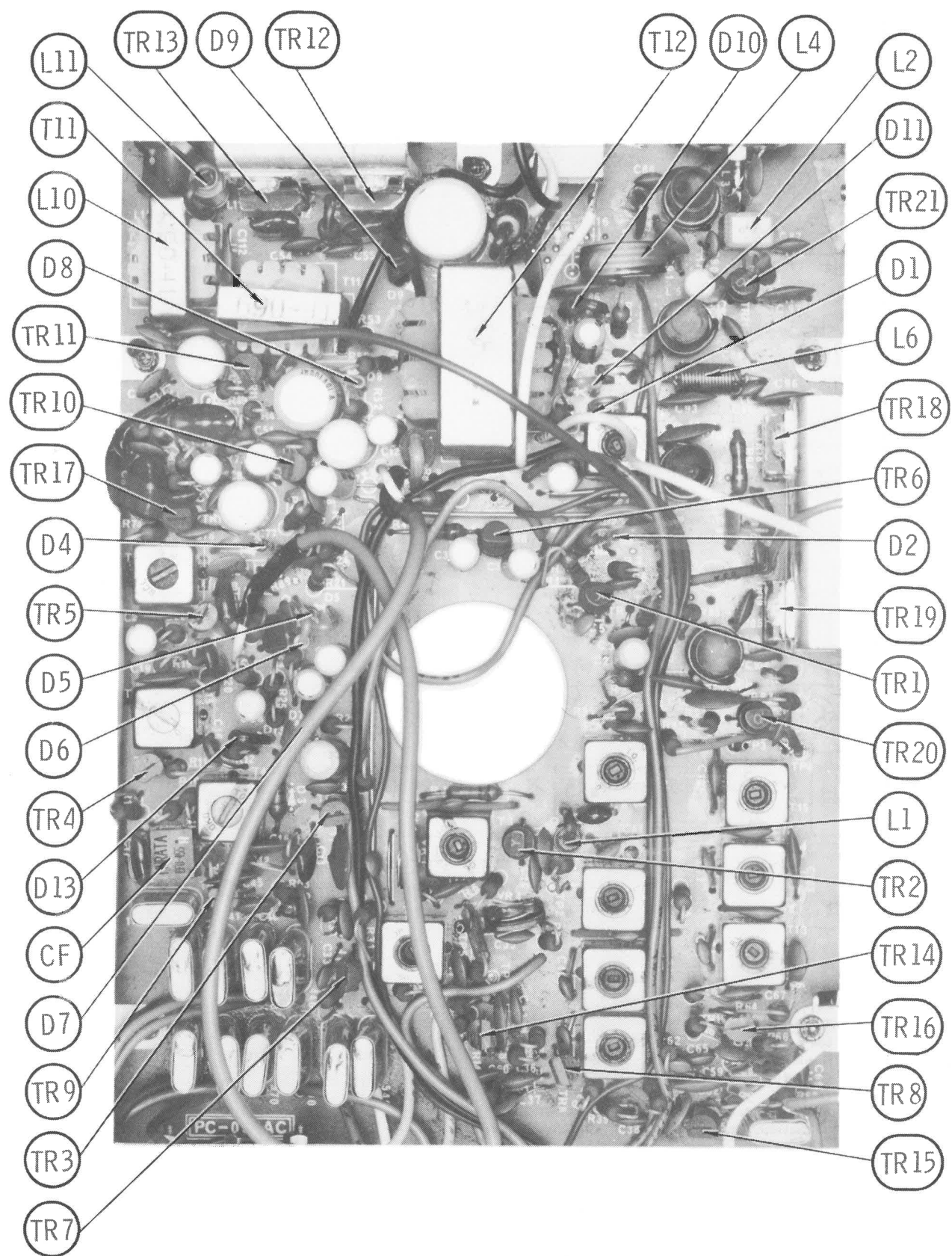


A PHOTOFAC STANDARD NOTATION SCHEMATIC
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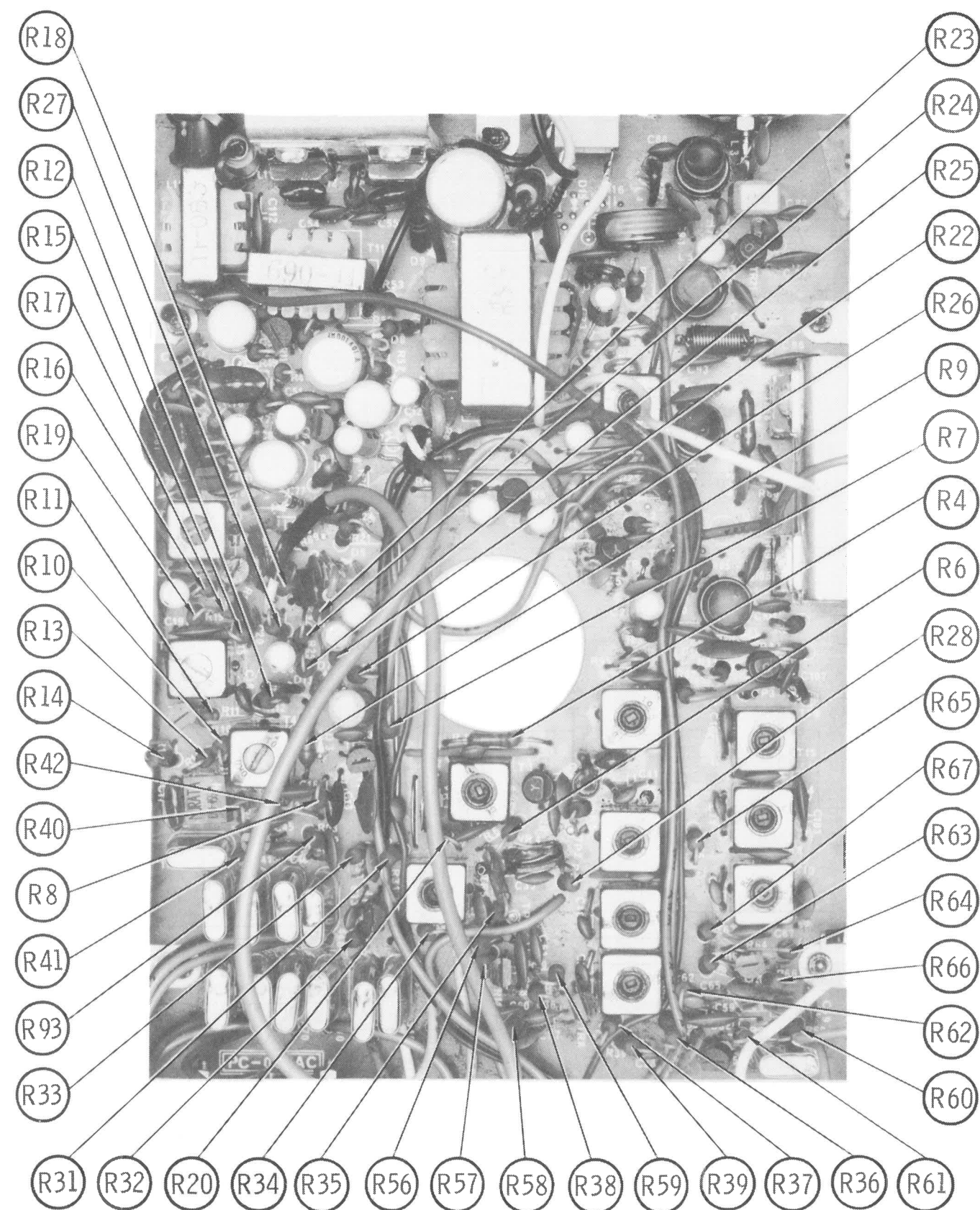
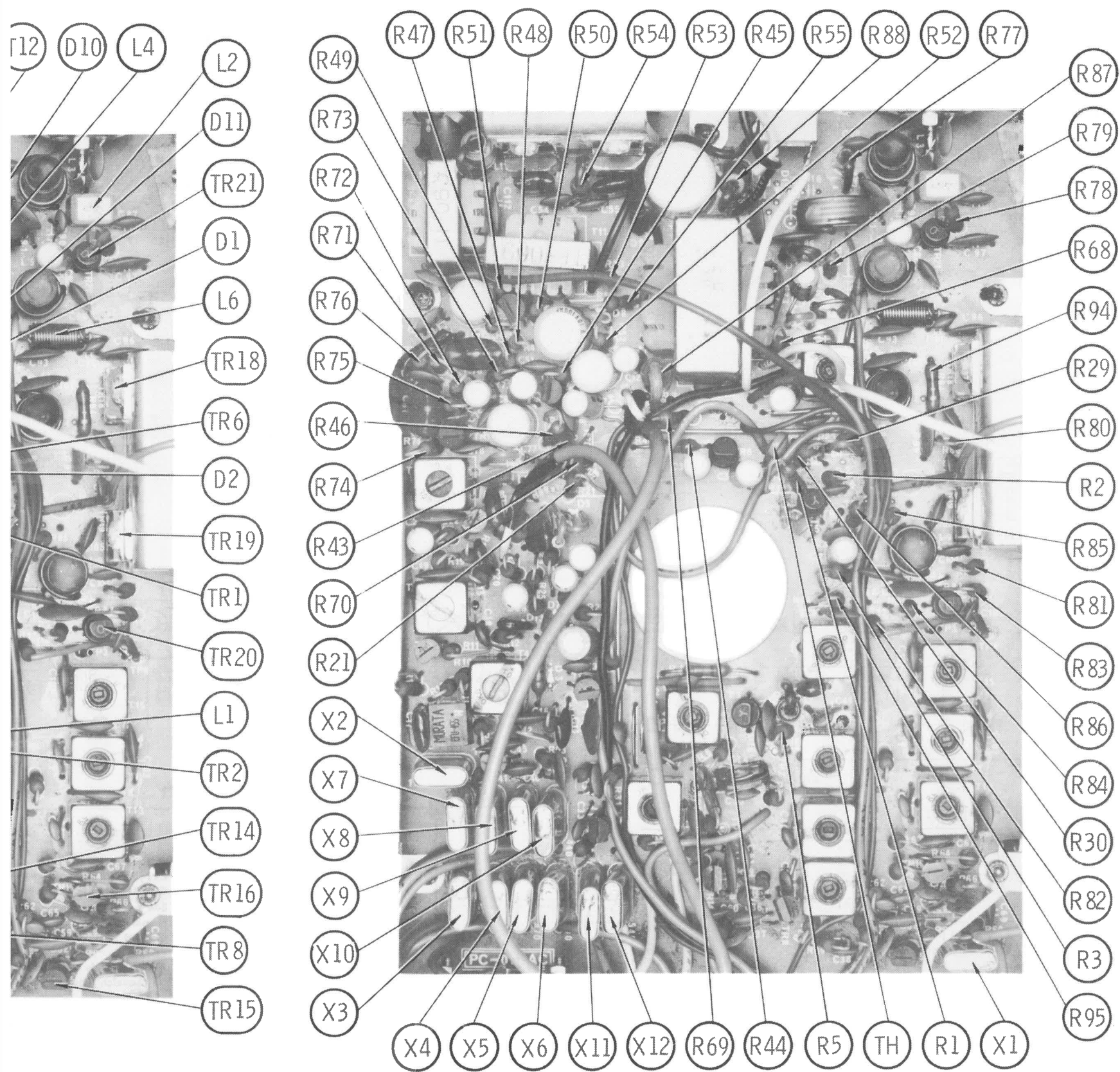


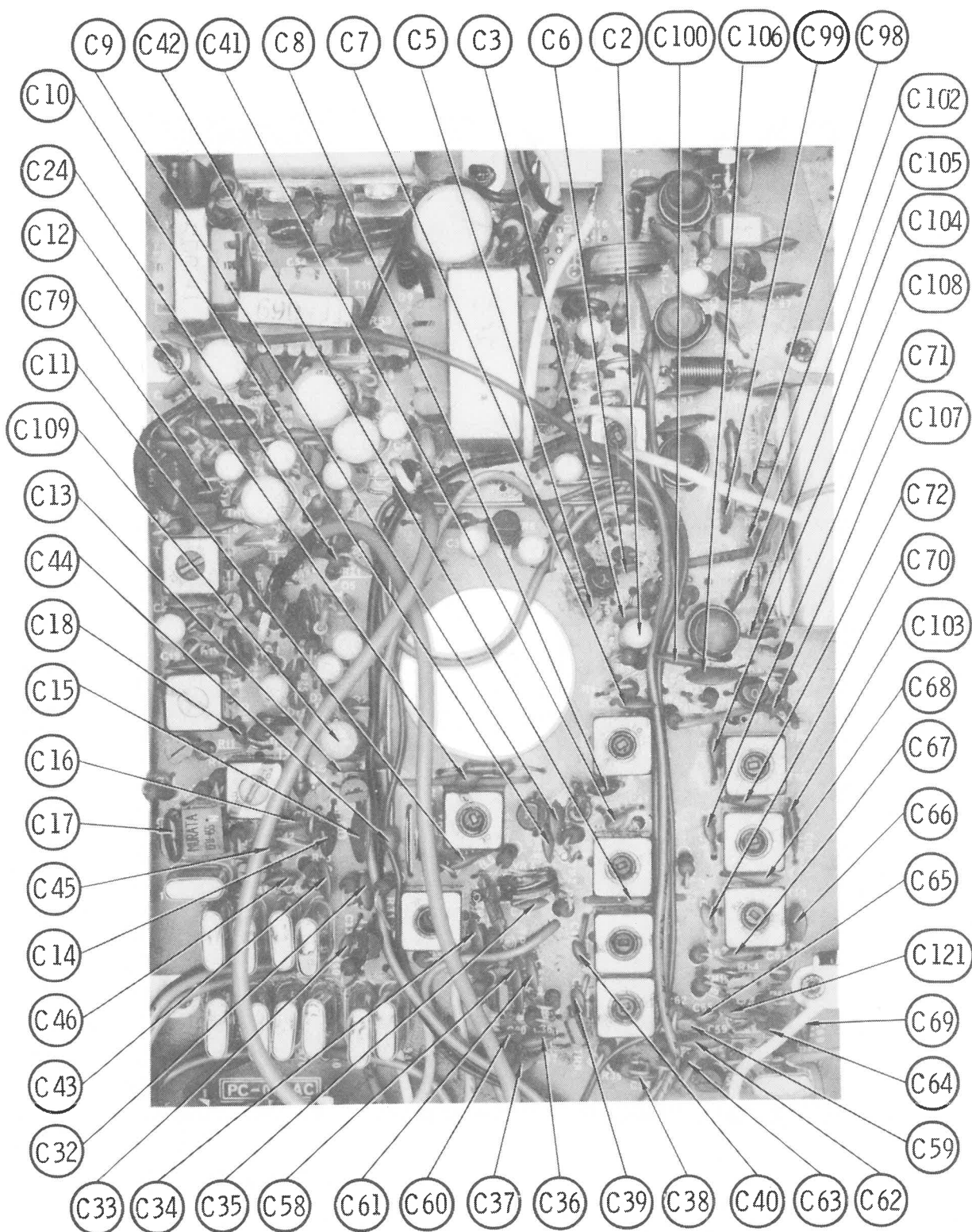
✕ Circuitry not used in some ver
 --- Circuitry used in some version
 e See parts list
 * Nominal value
 ⏏ Ground
 Chassis
 Measurements with switching
 ● Squelch fully clockwise
 ● Transmit
 Supply voltage maintained a
 Voltages measured with digi
 Controls adjusted for normal
 Arrow at control indicates di
 Terminal identification may n
 Resistors are 1/2W or less, n
 Value in () used in some ver



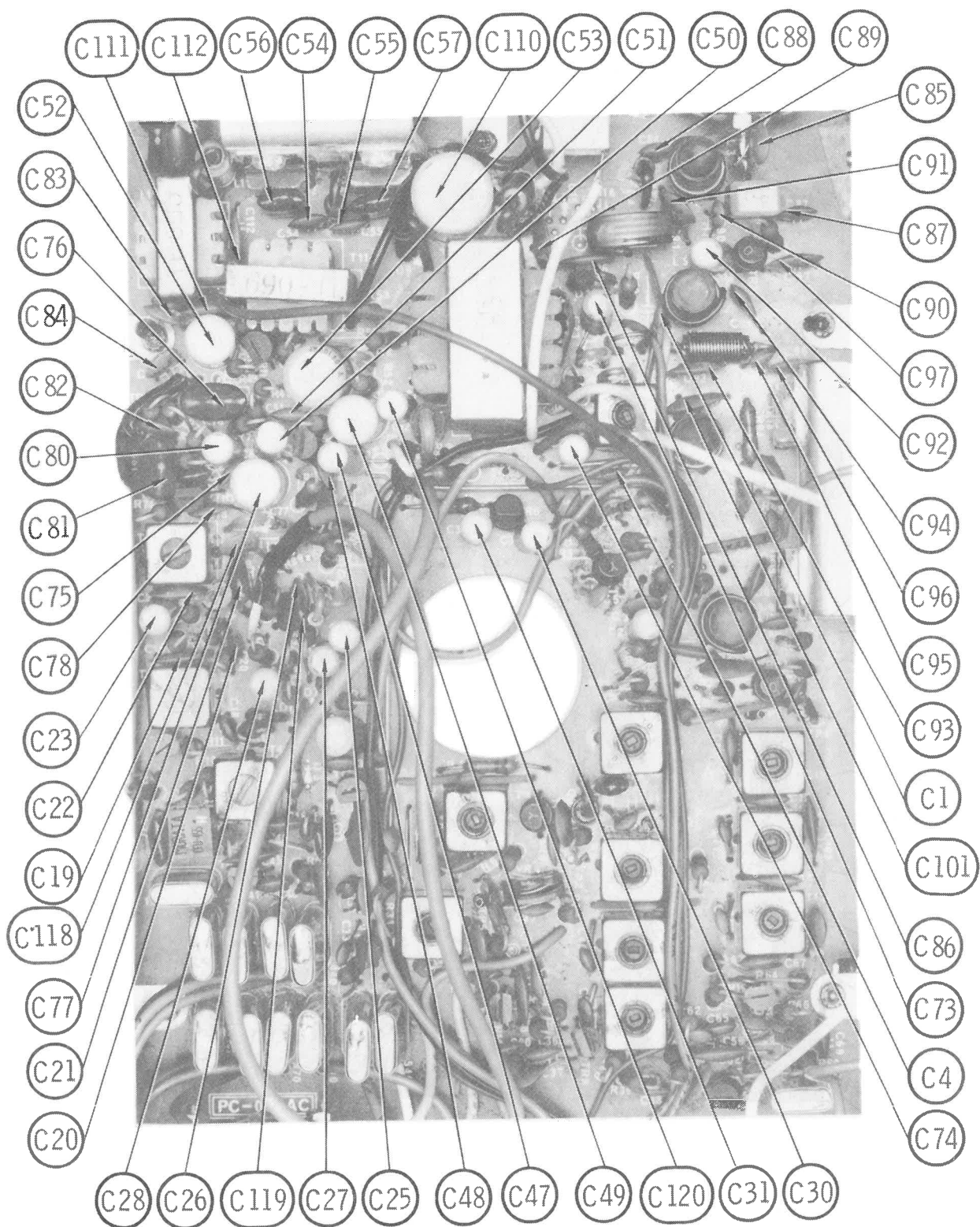


MAIN BOARD





MAIN BOARD



MAIN BOARD

PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	CD37A	151-040-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D2	WG713	151-049-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D4	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D5	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D6	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D7	WG713	151-049-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D8	MV-1	151-049-9-002	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D9	SR1K-1	151-040-9-003	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D10	SR1K-1	151-040-9-003	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D11	1N60	150-001-9-001	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D13	CZ092	152-051-9-001	GEZD-9.1	Z1210	PTC505	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D14	TLR-104	158-008-9-001								
TR1	2SC394Y	176-042-9-001	GE-17	(IR)2SC460B	PTC139	HEPS0014	RE 9	SK3018	RT-107A	ECG107
TR2	2SC394Y	176-042-9-001	GE-17	(IR)2SC460B	PTC139	HEPS0014	RE 9	SK3018	RT-107A	ECG107
TR3	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR4	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR5	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR6	2SC373	176-025-9-001	GE-62	(IR)2SC373	PTC121	HEPS0015	RE 64	SK3122	RT-105	ECG199
TR7	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR8	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR9	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR10	2SC945R	176-042-9-003	GE-20	TR-24	PTC136	HEPS0015	RE 13	SK3124	RT-107A	ECG199
TR11	2SC1364-6	176-054-9-001	GE-18	TR-24	PTC136	HEPS0015	RE 13	SK3122	RT-102	ECG123A
TR12	2SC1096M	172-024-9-004 (1)	GE-28	TR-55	PTC110		RE 42	SK3041	RT-197	ECG186
TR13	2SC1096M	172-024-9-004	GE-28	TR-55	PTC110		RE 42	SK3041	RT-197	ECG186
TR14	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR15	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR16	2SC839F	176-042-9-002	GE-17	TR-24	PTC121	HEPS0015	RE 13	SK3018	RT-107A	ECG123A
TR17	2SC945R	176-042-9-003	GE-20	TR-24	PTC136	HEPS0015	RE 13	SK3124	RT-107A	ECG199
TR18	2SC1678	172-028-9-001			PTC186					ECG235
TR19	2SC1760-3	172-028-9-002			PTC158					
TR20	2SC735-0	176-042-9-006	GE-63	TR-24	PTC123	HEPS0014	RE 78	SK3124	RT-107A	ECG194
TR21	2SC735-0	176-042-9-006	GE-63	TR-24	PTC123	HEPS0014	RE 78	SK3124	RT-107A	ECG194

(1) Rating 10 watts @ 2 amps.

COBRA MODEL 19

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFG. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C23	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C25	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C27	.47 16V	022-122-9-002	RME-A-J-001	EP30-1	PC1-50	VTT47B63	EV-1310
C28	1 16V	022-127-9-003	RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C30	1 16V	022-127-9-003	RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C31	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C47	1 16V	022-127-9-003	RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C49	100 10V	022-127-9-004	RME-E-E-100	EP15-100	PC100-10	VTT100E10	EV-1130
C50	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C52	100 10V	022-127-9-004	RME-E-E-100	EP15-100	PC100-10	VTT100E10	EV-1130
C53	100 16V	022-127-9-005	RME-E-E-100	EP15-100	PC100-16	VTT100F16	EV-1230
C73	1 50V	022-127-9-006	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C74	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C77	47 16V	022-127-9-007	RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C80	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C92	1 16V	022-127-9-003	RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C109	47 10V	022-127-9-008	RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C110	470 16V	022-127-9-009	RME-L-E-500	EP15-500	PC500-16	VTT470J16	EV-1250
C120	10 16V	022-127-9-001	RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA			
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	SPRAGUE PART No.
C1	33 10%		CCT0-330	DTZ-33	NP033	10TCC-Q33
C3	.01		CCD-103	DC-103	GP10000	2SS-S10
C4	.01		CCD-103	DC-103	GP10000	2SS-S10
C5	3		CCT0-3R3	DTZ-3R3	NP03P3	10TCC-V33
C6	.01		CCD-103	DC-103	GP10000	2SS-S10
C7	.01		CCD-103	DC-103	GP10000	2SS-S10
C8	.01 10%		1MDF-1-103	CPJ-103	DPMS4S1	1PB-S10
C9	150 10%		CCD-151	DD-151	CN0315	10TCC-T15
C10	.01		CCD-103	DC-103	GP10000	2SS-S10
C11	.01		CCD-103	DC-103	GP10000	2SS-S10
C12	2		CCT0-2R2	DTZ-2R2	NP02P2	10TCC-V22
C13	47 10%		CCT0-470	DTZ-47	NP047	10TCC-Q47

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C14	.01 10%	020-143-9-005	CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C15	500 N1200		CCD-403			GP140	5GA-S40
C16	.04 25V		6DP-3-393		DPMS6S39	PVC6139	6PS-S39
C17	.039 10%						
C18	.5 NPO 50V		CCD-403			GP140	5GA-S40
C19	.04 25V		1MDF-1-103	CPJ-103	DPMS4S1	EWF1A110	1PB-S10
C20	.01 10%		6DP-3-393		DPMS6S39	PVC6139	6PS-S39
C21	.039 10%		CCD-403			GP140	5GA-S40
C22	.04 25V		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C24	.01		CCD-202	DD-202	GP2000	GP220	2SS-D20
C26	.002 25V		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C29	.01		CCD-101	DD-101	GP100	GP310	10TS-T10
C32	100		CCTO-050				10TCC-V50
C33	5		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C34	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C35	.01		CCD-101	DD-101	GP100	GP310	10TS-T10
C36	100		CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C37	47 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C38	.01		CCTO-2R2	DTZ-2R2	NP02P2	CN0522	10TCC-V22
C39	2		CCTO-2R2	DTZ-2R2	NP02P2	CN0522	10TCC-V22
C40	2		CCTO-150	DTZ-15	NP015	CN0415	10TCC-Q15
C41	15			DTZ-25	NP025	CN0425	10TCC-Q25
C42	25 10%		CCD-221	DD-221		GP322	10TS-T22
C43	220		CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C44	10 10%		CCD-471	DD-471	GP470	GP347	10TS-T47
C45	470 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C46	.01		CCD-502	DC-502	GP5000	TA250	2SS-D50
C48	.005 25V		CCD-222	DD-222		GP222	2SS-D22
C51	.0022 25V		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C54	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C55	.01		6DP-3-333		DPMS6S33	EWF6133	6PS-S33
C56	.033 10%		6DP-3-333		DPMS6S33	EWF6133	6PS-S33
C57	.033 10%		CCD-471	DD-471	GP470	GP347	10TS-T47
C58	470 10%		CCTO-6R8	DTZ-6R8	NP06P8	CN0568	10TCC-V68
C59	7		CCD-221	DD-221		GP322	10TS-T22
C60	220 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C61	.01		CCD-471	DD-471	GP470	GP347	10TS-T47
C62	470 10%		CCD-221	DD-221		GP322	10TS-T22
C63	220 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C64	.01		CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C65	47 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C66	.01		CCD-101	DD-101	GP100	GP310	10TS-T10
C67	100		CCD-151	DD-151		CN0315	10TCC-T15
C68	150 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C69	.01		CCTO-3R3	DTZ-3R3	NP03P3	CN0533	10TCC-V33
C70	3		CCTO-050				10TCC-V50
C71	5		CCD-101	DD-101	GP100	GP310	10TS-T10
C72	100		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C75	.01		1MDF-3-104		DPMS2P1	EWF1A010	1PB-P10
C76	.1 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C78	.01		CCD-472	DD-472	GP4700	GP247	2SS-D47
C79	.0047 10%		1MDF-3-104		DPMS2P1	EWF1A010	1PB-P10
C81	.1 10%		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C82	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C83	.01		CCD-472	DD-472	GP4700	GP247	2SS-D47
C84	.0047 25V		CCD-101	DD-101	GP100	GP310	10TS-T10
C85	100		CCD-403	DD-403	GP100	GP140	5GA-S40
C86	.04		CCD-101	DD-101		GP310	10TS-T10
C87	100		CCD-101	DD-101		GP310	10TS-T10
C88	47 10%		CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C89	.04 25V		CCD-403			GP140	5GA-S40
C90	4		CCTO-4R7	DTZ-4R7	NP04P7	CN0537	10TCC-V47
C91	220 10%		CCD-221	DD-221		GP322	10TS-T22
C93	.039 25V		CCD-403			GP140	5GA-S40
C94	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C95	22 10%						
C96	.04 25V		CCD-403			GP140	5GA-S40
C97	.04 25V		CCD-403			GP140	5GA-S40
C98	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C99	300 10%		CCD-301	DD-301	GP300	GP330	10TS-T30
C100	.04 25V		CCD-403			GP140	5GA-S40
C101	.04		CCD-403			GP140	5GA-S40
C102	47 10%		CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C103	.04 25V		CCD-403			GP140	5GA-S40
C104	100		CCD-101	DD-101	GP100	GP310	10TS-T10
C105	150		CCD-151	DD-151		CN0315	10TCC-T15
C106	.04 25V		CCD-403			GP140	5GA-S40
C107	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C108	47 10%		CCTO-750	DTZ-75	NP075	CN0475	10TCC-Q75
C111	.04 25V		CCD-403			GP140	5GA-S40
C112	.04 25V		CCD-403			GP140	5GA-S40
C113	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C118	100 10%		CCD-101	DD-101	GP100	GP310	10TS-T10
C119	.022 10%		6DP-2-223		DPMS6S22	EWF6122	6PS-S22
C121	47 10%		CCTO-750	DTZ-75	NP075	CN0475	10TCC-Q75
C122	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR1	AGC	30K	008-227-9-001	TSV-50K (2) or T-50K (2)	C-503 (2)	MTC54L1 (2)	X201R503B (2)
VR2	Volume/Switch	10K	008-227-9-002				
VR3	Squelch	50K	008-227-9-003				
VR4	Squelch Range	50K	008-227-9-004	TSV-50K (2) or T-50K (2)	C-503 (2)	MTC54L1 (2)	X201R503B (2)

(2) Cut off one of the end terminals and bend to fit PC board.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.			WORKMAN PART No.	MFGR. PART No.
TH	260 CoId NTC		013-006-9-001				

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke	041-069-9-001			
L2	Antenna	041-069-9-002			
L3	TVI Trap (54MHz)	044-033-9-001			
L4	Antenna	041-069-9-003			
L5	Xmit Output (27MHz)	044-033-9-002			
L6	RF Choke	041-069-9-004			
L8	Driver Output (27MHz)	044-033-9-003			
L9	Buffer Output (27MHz)	044-033-9-002			
L11	RF Choke	041-069-9-005			
T1	Antenna (27MHz)	066-020-9-001	LA-029		
T2	RF Amp Output (27MHz)	066-020-9-002	LA-041		
T3	REC Mix Output (11MHz)	066-020-9-003	LA-043		
T4	IF Input (455kHz)	060-019-9-001	LA-073		
T5	Interstage IF (455kHz)	060-019-9-002	LA-106		
T6	IF Output (455kHz)	060-019-9-003	LA-107		
T7	Synth Osc (23MHz)	066-020-9-004	LA-046		
T8	Harmonic Sup (38MHz)	066-020-9-005	LA-047		
T9	Harmonic Sup (38MHz)	066-020-9-005	LA-047		
T10	Synth Mixer Out (38MHz)	066-020-9-006	LA-042		
T13	Xmit Mixer (27MHz)	066-020-9-007	LA-009		
T14	Harmonic Sup (27MHz)	066-020-9-007	LA-009		
T15	Harmonic Sup (27MHz)	066-020-9-008	LA-008		

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.	
L10	1000mA	.1	1.1mH	042-014-9-001 TF-083 or TF-017 (1)			(1) Number on unit

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T11	1	1		061-026-9-001 TF-069 or TF-011 (1)			(1) Number on unit

COBRA MODEL 19

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T12	50	8	061-026-9-002 TF-082 or TF-080 (1)			(1) Number on unit

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			MFGR. PART No.	QUAM PART No.	
SP	3" PM	8 ohms	580-016-9-001	30A0528	6/16/76

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F	1.5 Amp Quick acting	191-002-9-001		AGC1-1/2	HDJ	31201.2	150150
							26-2250

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
X1	11.275	133-010-9-001	MC90M11.275	A11 Transmit	X7	23.290	133-010-9-007	MA20M23.290	1,2,3,4
X2	11.730	133-010-9-002	MC90M11.730	A11 Receive	X8	23.340	133-010-9-008	MA20M23.340	5,6,7,8
X3	14.950	133-010-9-003	MB80M14.950	1,5,9,13,17,21	X9	23.390	133-010-9-009	MA20M23.390	9,10,11,12
X4	14.960	133-010-9-004	MB80M14.960	2,6,10,14,18,22	X10	23.440	133-010-9-010	MA20M23.440	13,14,15,16
X5	14.970	133-010-9-005	MB80M14.970	3,7,11,15,19	X11	23.490	133-010-9-011	MA20M23.490	17,18,19,20
X6	14.990	133-010-9-006	MB80M14.990	4,8,12,16,20,23	X12	23.540	133-010-9-012	MA20M23.540	21,22,23

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF S2	Ceramic Filter Switch Socket Printed Circuit Board	140-011-9-001 083-182-9-001 749-089-9-001	455kHz Channel Selector Crystal PC-055AC

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

ITEM	PART No.	ITEM	PART No.
Metal Chassis	257-063-9-001	Channel, Knob	751-121-9-001
Cabinet Upper	272-103-9-001	Knob, Volume/Squelch	751-121-9-002
Cabinet Bottom	272-104-9-001	Mounting Bracket	250-049-9-001
Front Panel	255-122-9-001	Microphone Hanger	741-080-9-001
		Winged Bolt	653-020-9-001

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Microphone	562-008-9-001	MK-025

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN 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 BELDEN No. 8497 3-Conductor (1 shielded for Press-to-Talk) Neoprene 8491 4-Conductor (2 shielded, 2 unshielded) Neoprene
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 inch)