



PHOTOFACT[®] with

CIRCUITRACE[®]

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.



MODEL CB144

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

GC Electronics:

T3,T4,T5,T6,T7,T8,T10.....5000,8290

ALL other tunable coils and transformers.....9440

PAGE MODEL CB144

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 TP2, low side to ground.	455kHz, 1000Hz @ 30% modulation.	Any	T5,T6,T7	Set generator output low enough to prevent AGC limiting. Adjust for maximum.
High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz @ 30% modulation.	13	T1,T2,T3, T4	Set generator output low enough to prevent AGC limiting. Adjust for maximum.

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

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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
DELTA TUNE Frequency Counter		11	C66,R79	Connect counter to TP2, set Delta Tune to center detent. Adjust C66 for 10.1600MHz. Set Delta Tune fully clockwise. Adjust R79 for 10.1613MHz.
RF GAIN RANGE High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz, @ 30% modulation, output .5uV.	13	R96	Adjust for best S/N ratio.
SQUELCH RANGE High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz @ 30% modulation, output 200uV.	13	R4	Set squelch control fully clockwise. Adjust so that squelch just breaks.
NOISE BLANKER High side thru .01uF to antenna jack, low side to ground.	24.000MHz, 1000Hz @ 30% modulation, output 300uV.	Any	T8,R10	Set NB switch on. Adjust T8 for maximum. Adjust R10 until signal is heard in audio.
S METER High side thru .01uF to antenna jack, low side to ground.	27.115MHz 1000Hz @ 30% modulation, output 20uV.	13	R72	Adjust for S 9 on panel meter.

TRANSMITTER

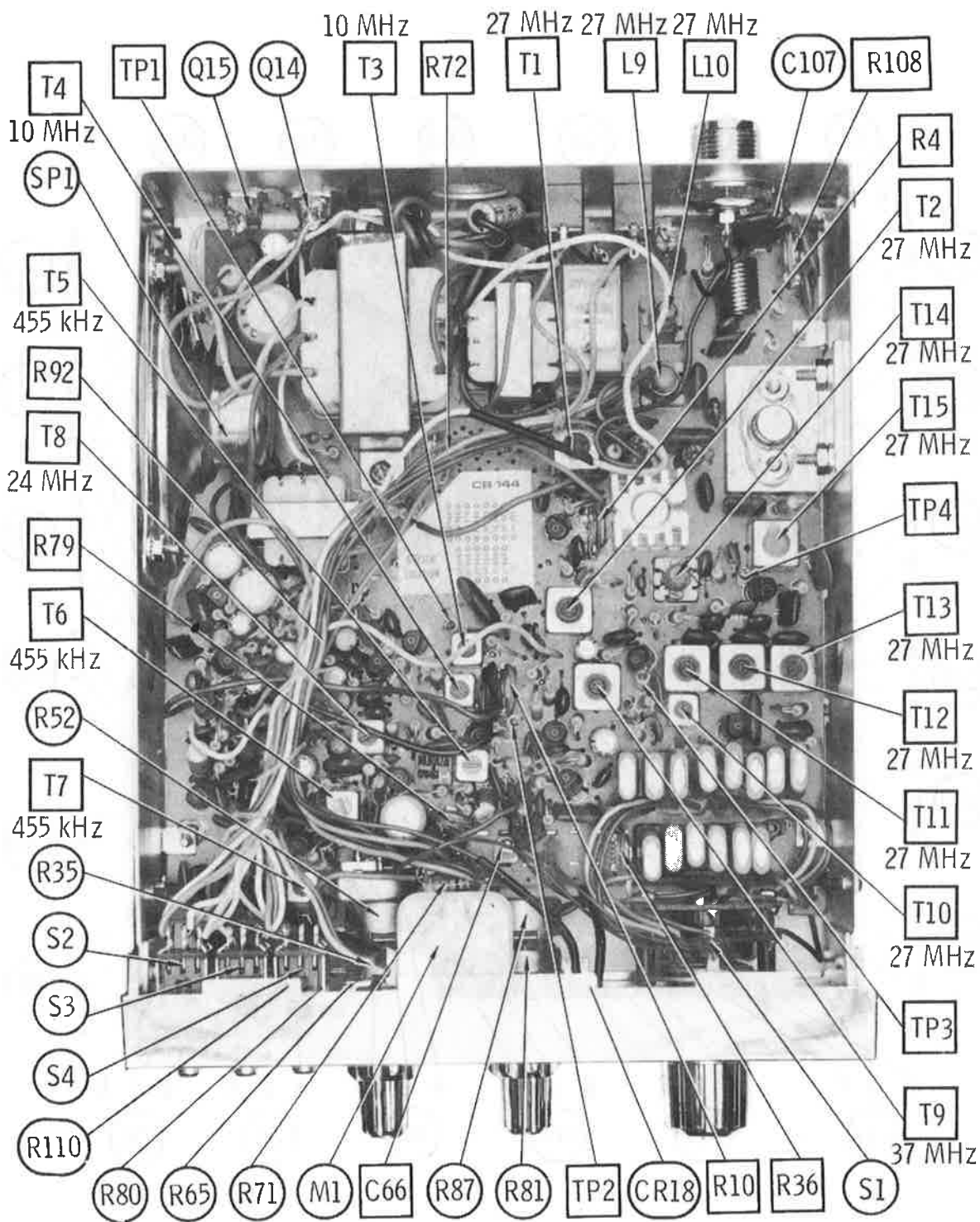
Connect an RF Wattmeter or 50-ohm, 25-watt dummy load to antenna connector.
Adjustments made with 14-volt DC input.

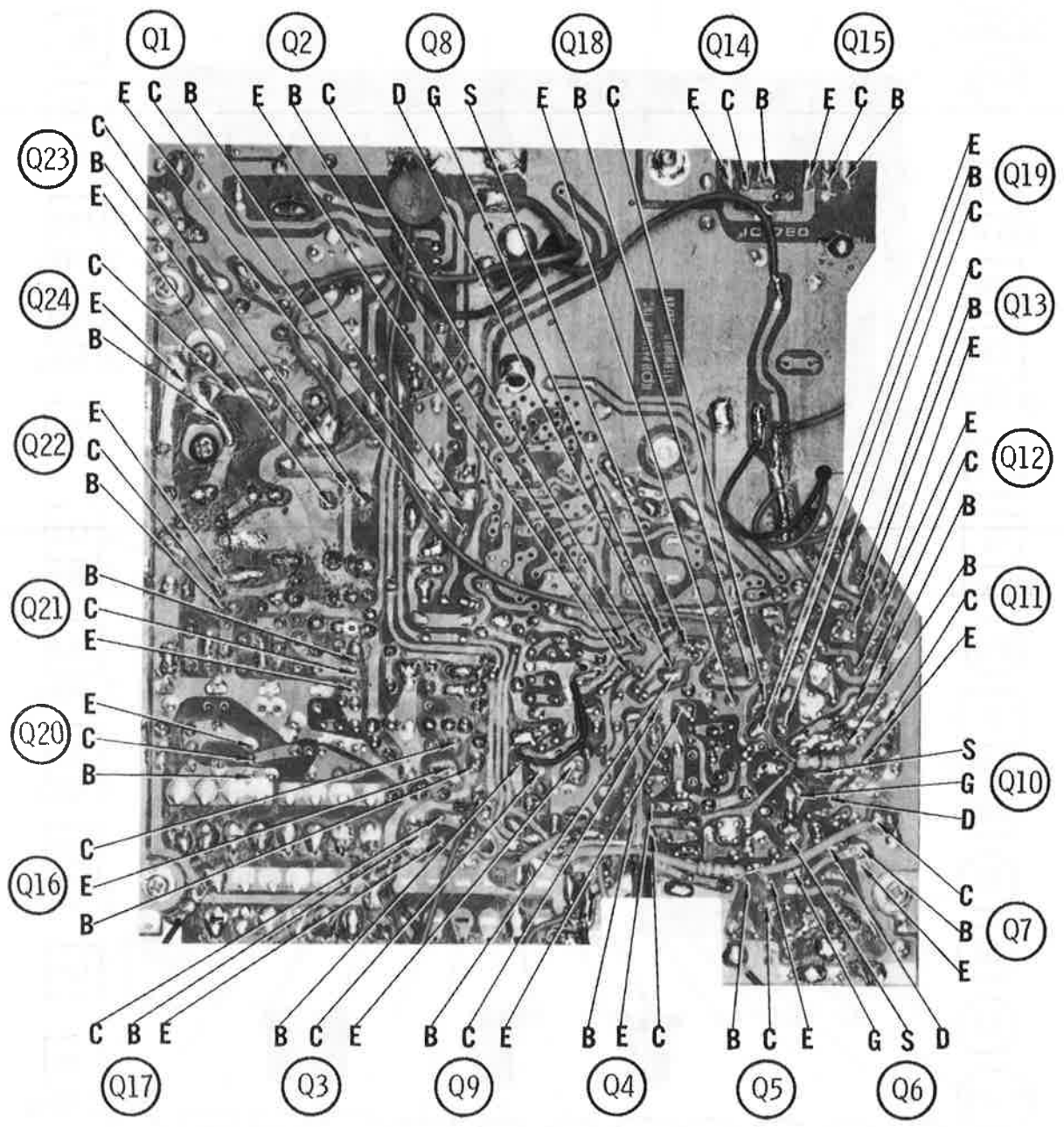
INDICATOR	ADJUST	REMARKS
OSCILLATOR, MIXER, BUFFER, DRIVER, FINAL RF Wattmeter	T9,T10,T11, T12,T13, T14,T15,L9, L10	Channel selector to Ch. 13. Key transmitter. Adjust for maximum.
OUTPUT POWER RF Wattmeter	L9,L10	Key transmitter. Adjust for 4 watts output.

TRANSMITTER ADJUSTMENTS

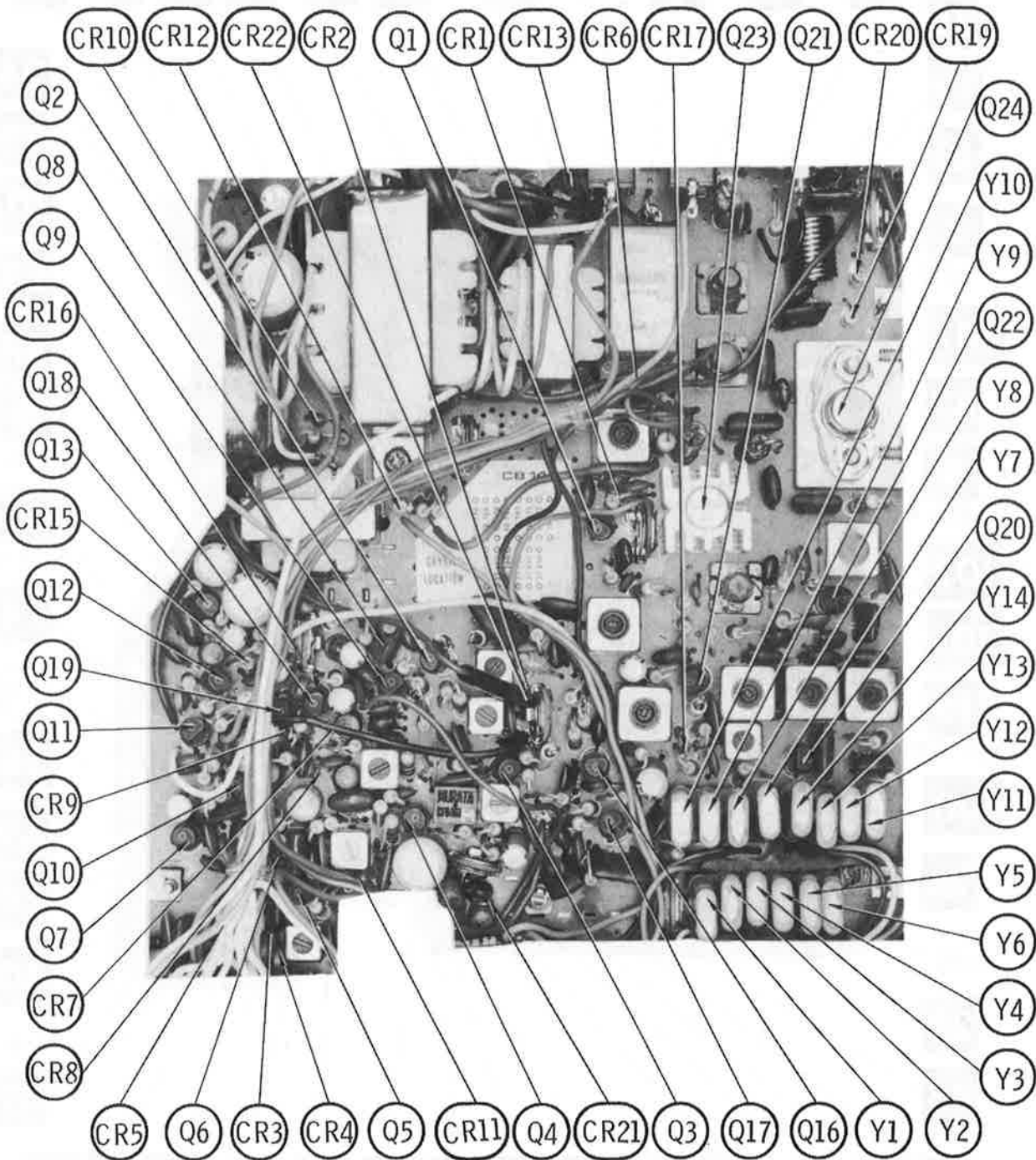
Connect an RF Wattmeter or 50-ohm, 25-watt dummy load to antenna connector.
Adjustments made with 14-volt DC input.

INDICATOR	ADJUST	REMARKS
AMC Modulation Meter connected to antenna jack.	R92	Disable AMC circuit. Inject a 1000Hz signal at mic input. Key transmitter. Adjust signal for overmodulation. Restore AMC operation. Adjust R92 for 100% modulation.
RF PANEL METER RF Wattmeter	R108	Key transmitter. Adjust so that panel RF meter agrees with RF wattmeter.



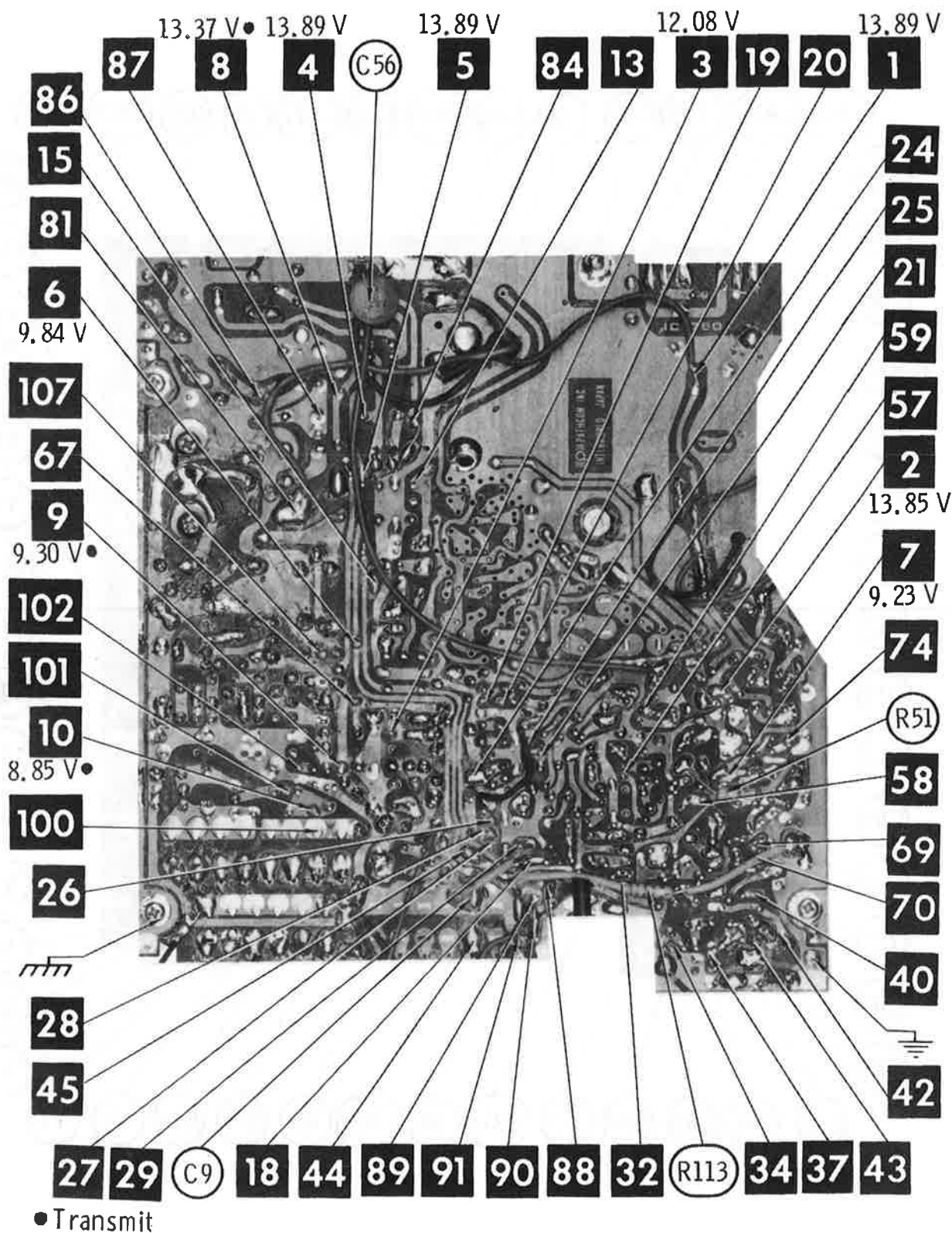


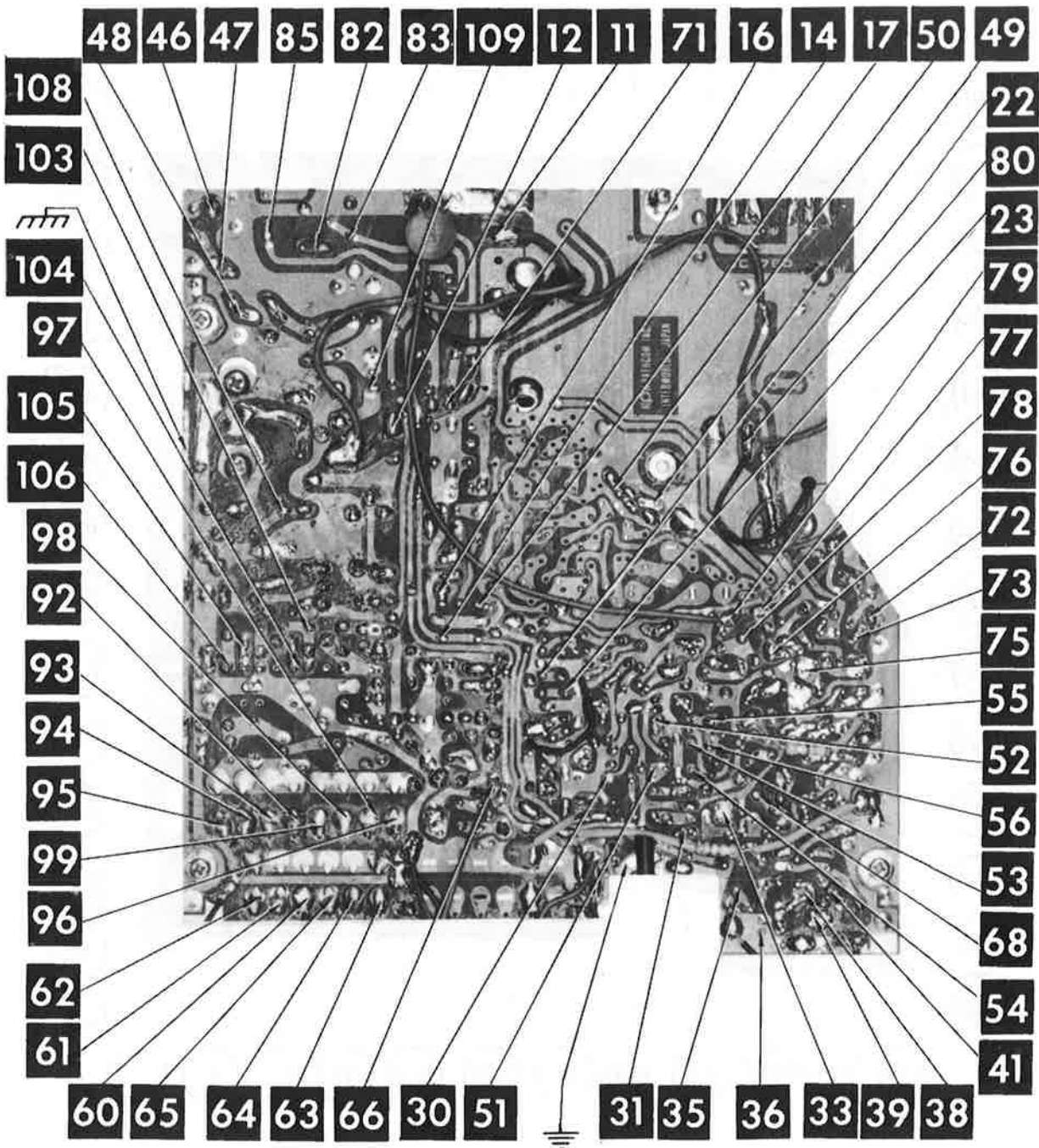
MAIN BOARD



PACE MODEL CB144

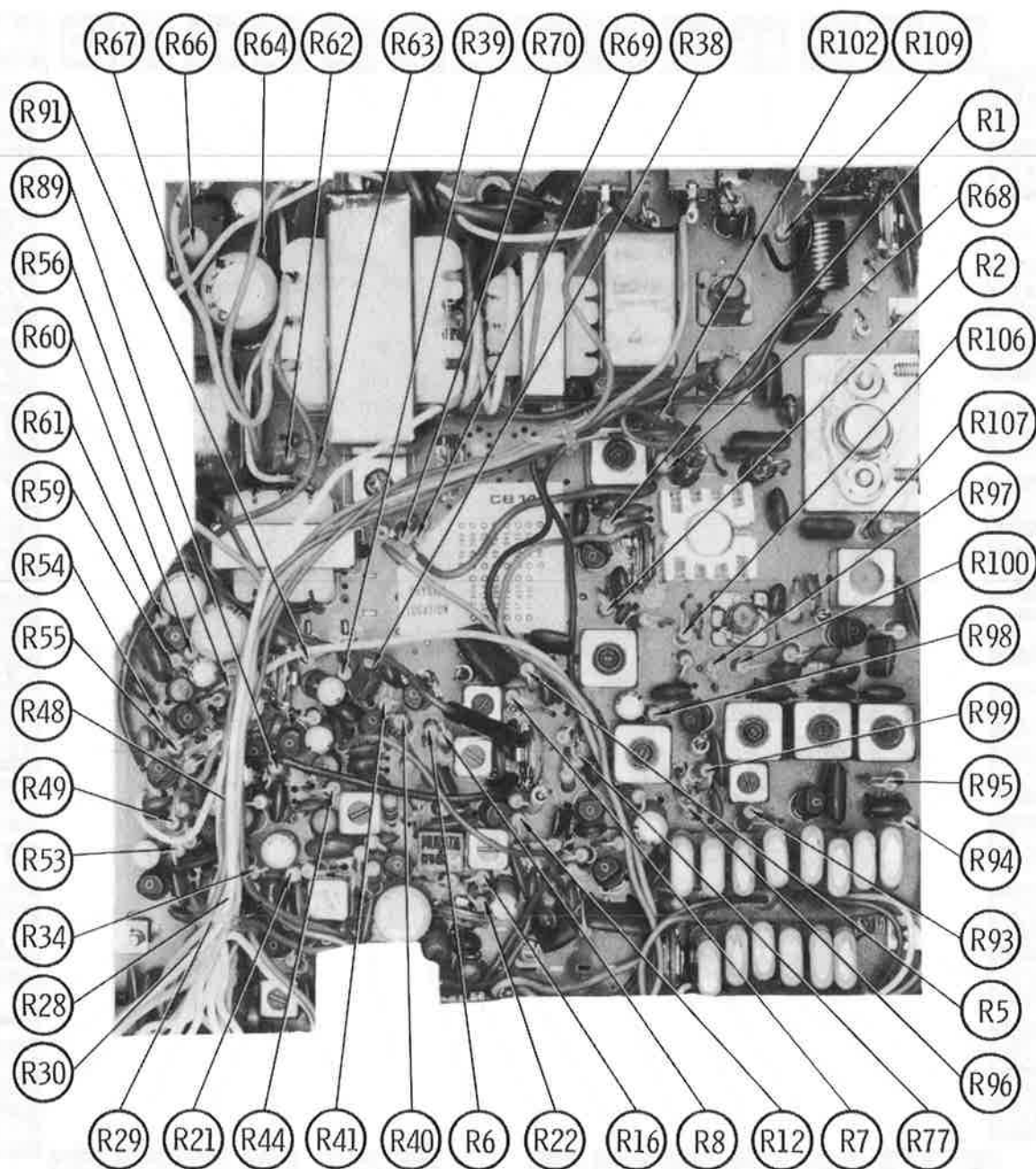
MAIN BOARD



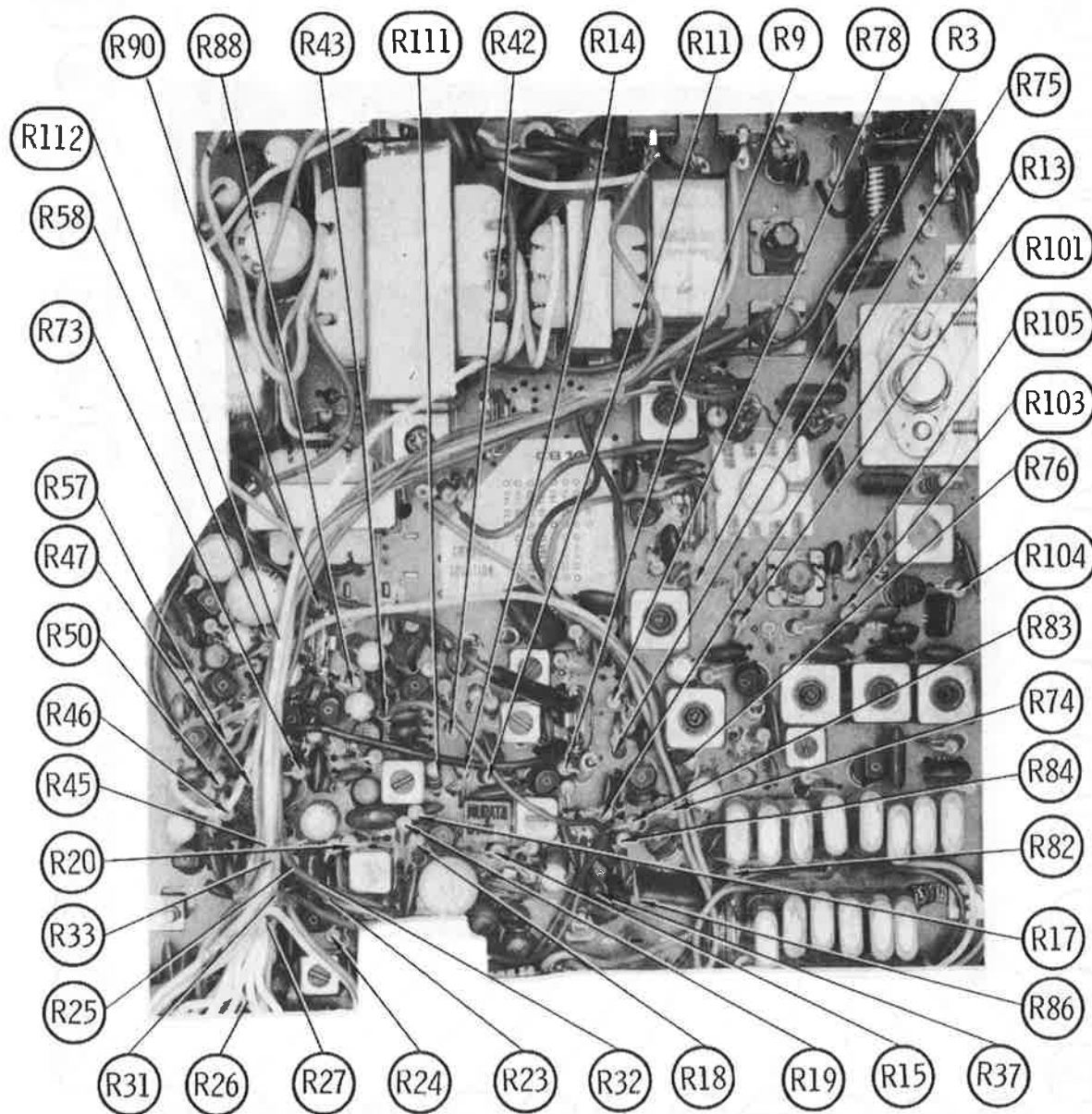


PAGE MODEL CB144

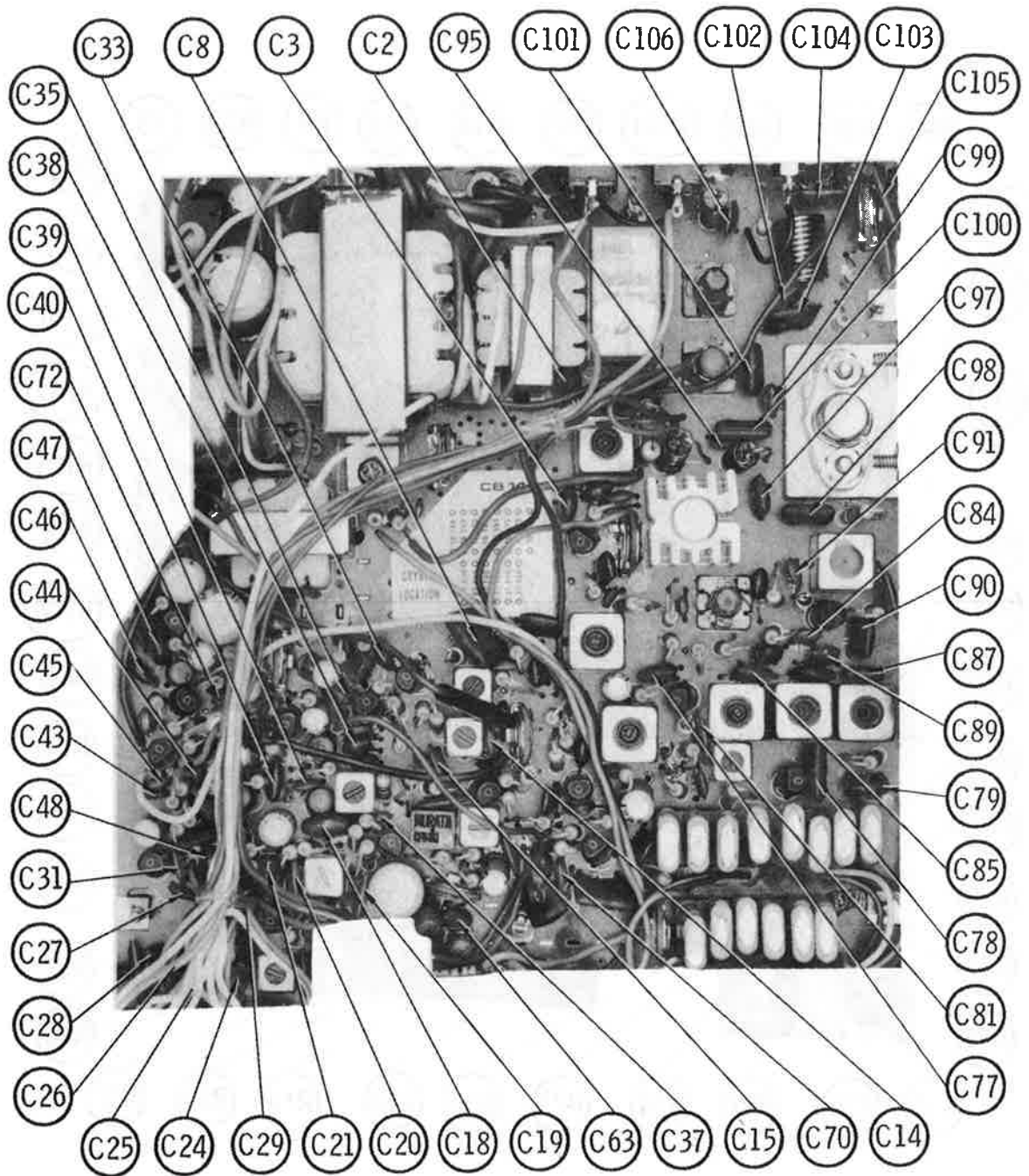
MAIN BOARD



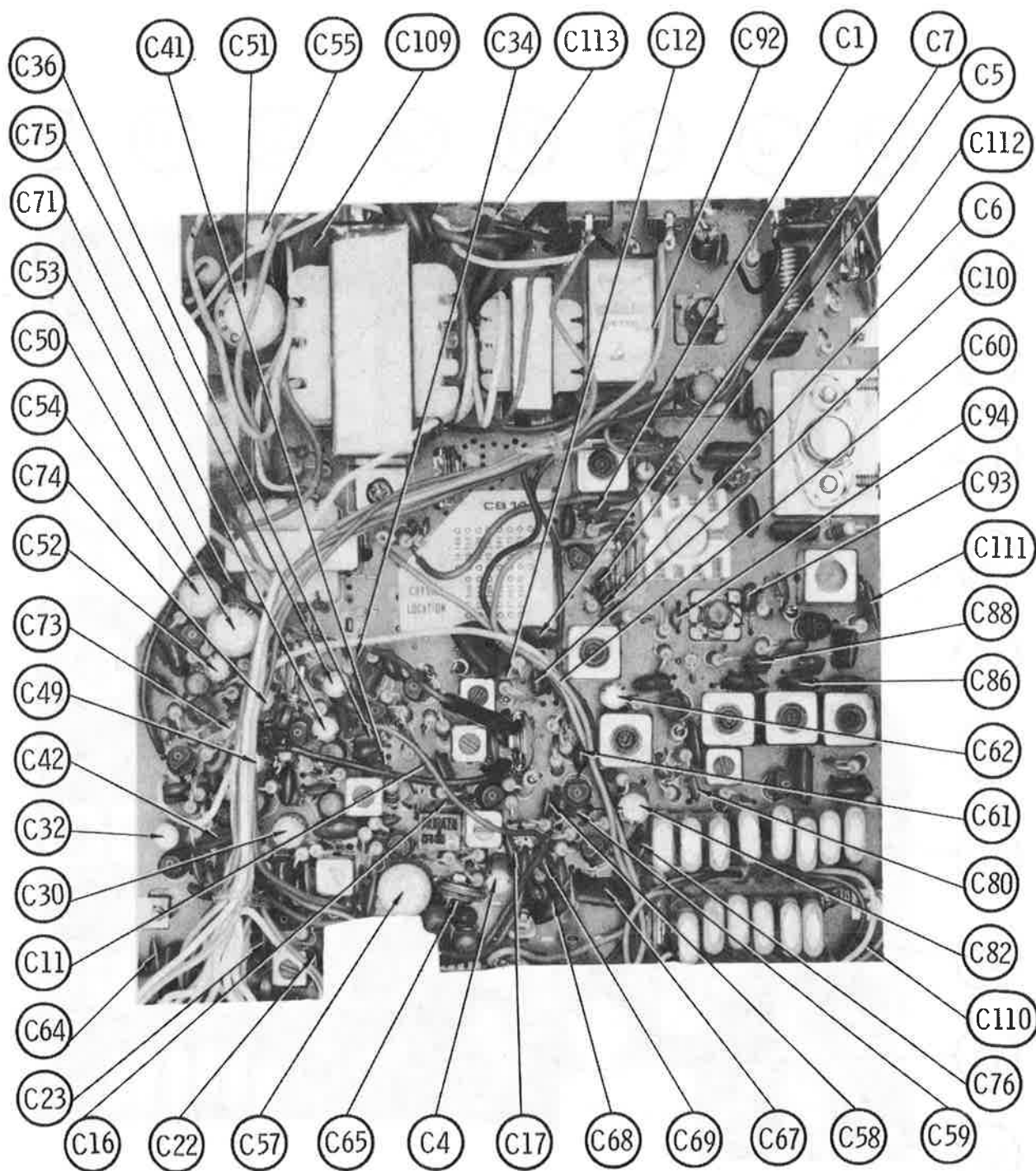
MAIN BOARD



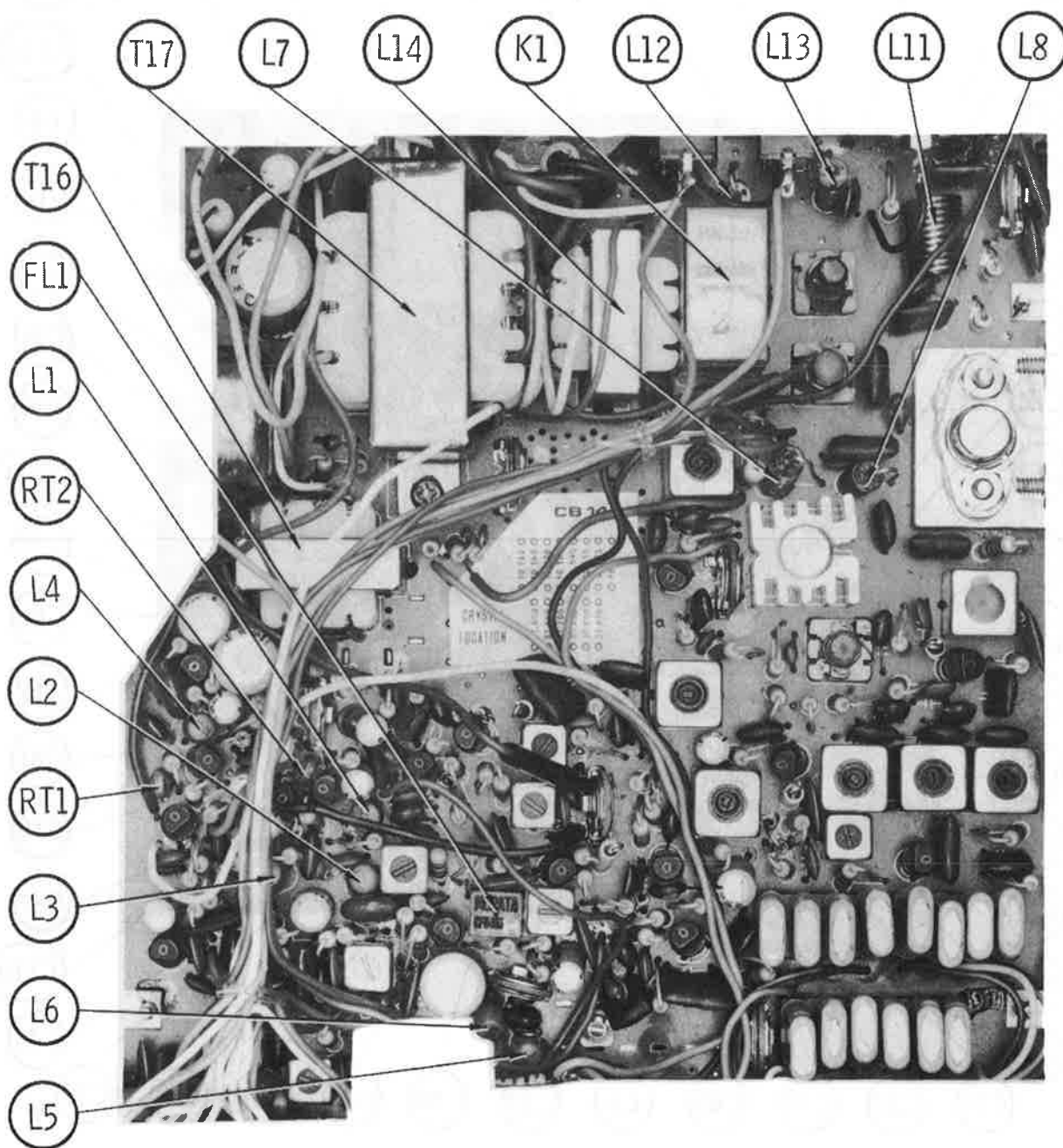
MAIN BOARD



MAIN BOARD



MAIN BOARD



MAIN BOARD

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord, 2-Wire	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) -6 feet 17109 (Plastic) or 17129 (Rubber) -9 feet
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
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets

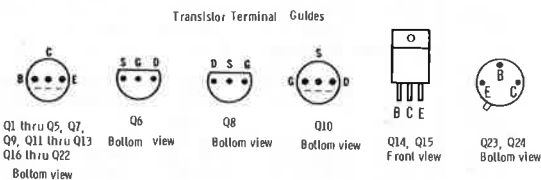
SEMICONDUCTORS (Select replacement transistor for best results)

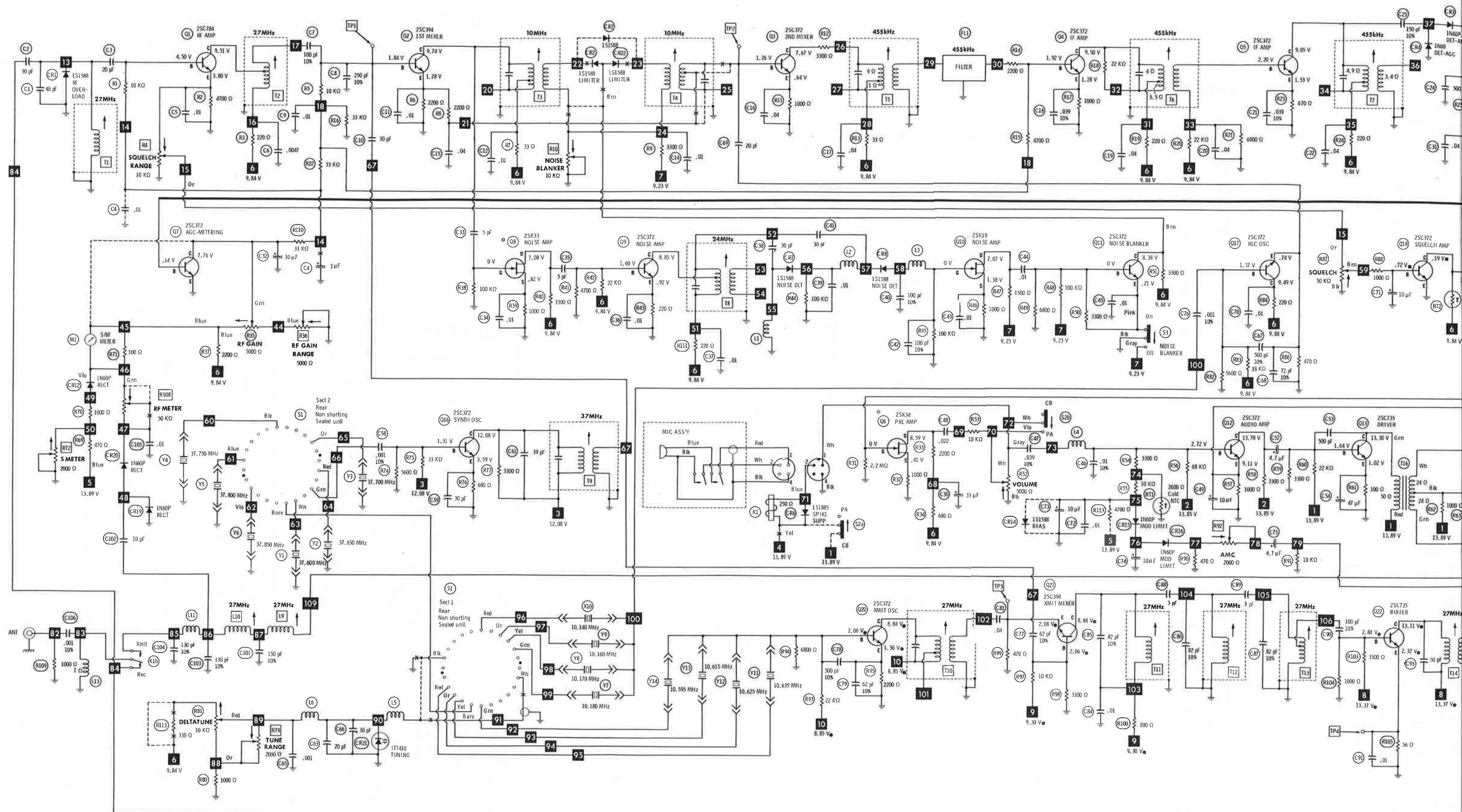
ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	WORKMAN PART No.
CR1	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR2	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR3	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR4	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR5	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR6	1S1885	IP20-0054	GE-504A	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116	8D4
CR7	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR8	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR9	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR10	MV-3 (Varistor)	KB169								
		IP20-0098(1)								
CR11	BZ090 (9.0 Volt 5% Zener)	IP20-0019	GEZD-9.1	ZB9.1B				RT-240	ECG139	
CR12	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR13	GI-300B	IP20-0167	GE-504A	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116	8D4
CR14	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
CR15	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR16	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR17	BZ090 (9.0 Volt 5% Zener)	IP20-0019	GEZD-9.1	ZB9.1B				RT-240	ECG139	
CR18	ME116R	IP28-0006								
CR19	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR20	1N60P	IP20-0016	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60
CR21	1TT410		GE-90		HEPR2503	RE 195	SK3126	RT-262	ECG132	D201
	1S1658	IP20-0166(1)	GE-90		HEPR2503	RE 195	SK3126	RT-262	ECG132	D201
CR22	1S1588	IP20-0061	GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177	D200
Q1	2SC784-0	IP20-0037	GE-60	PTC132	HEPS0008	RE 28	SK3018	RT-108A	ECG229	TR-70
Q2	2SC394-0	IP20-0038	GE-60	PTC121	HEPS0014	RE 9	SK3018	RT-107A	ECG229	(1R)2SC372
Q3	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q4	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q5	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q6	2SK34	IP20-0035(1)	GE-FET-2	PTC151	HEPF0021	RE 45	SK3116	RT-175	ECG132	FE-100
	2SK19GR	IP20-0035(1)	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG132	FE-100
Q7	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q8	2SK33	IP20-0035(1)	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG132	FE-100
	2SK19GR	IP20-0035(1)	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG132	FE-100
Q9	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q10	2SK19GR	IP20-0035	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG132	FE-100
Q11	2SC372-0	IP20-0039	GE-210	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q12	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q13	2SC735-0	IP20-0041	GE-20	PTC123	HEPS0015	RE 13	SK3122	RT-107A	ECG289	TR-24
Q14	2SD360D	IP20-0083(10)	GE-66	PTC110	HEPS5027	RE 203	SK3041	RT-197	ECG235	TR-76
Q15	2SD360D	IP20-0083(10)	GE-66	PTC110	HEPS5027	RE 203	SK3041	RT-197	ECG235	TR-76
Q16	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q17	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q18	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q19	2SA562-0	IP20-0046	GE-21	PTC103	HEPS0019	RE 26	SK3114	RT-126A	ECG290	TR-54
Q20	2SC372-0	IP20-0039	GE-210	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A	(1R)2SC372
Q21	2SC394-0	IP20-0038	GE-60	PTC121	HEPS0014	RE 9	SK3018	RT-107A	ECG229	(1R)2SC372
Q22	2SC735-0	IP20-0041	GE-20	PTC123	HEPS0015	RE 13	SK3122	RT-107A	ECG289	TR-24
Q23	2SC781 (11)	IP20-0048	GE-219	PTC179	HEPS3001	RE 79	SK3048	RT-182	ECG195A	TR-65
	2SC776	IP20-0048(12)	GE-219	PTC179	HEPS3001	RE 79	SK3048	RT-182	ECG195A	TR-65
Q24	2SC1239	IP20-0005(13)	GE-46	PTC176		RE 198		RT-182	ECG237	

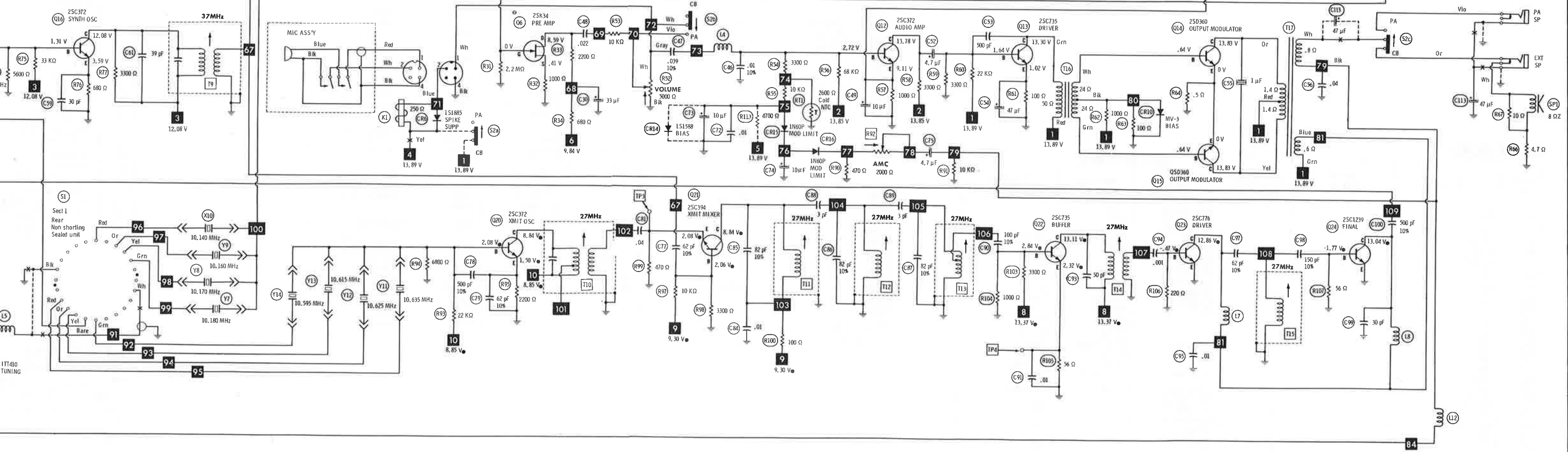
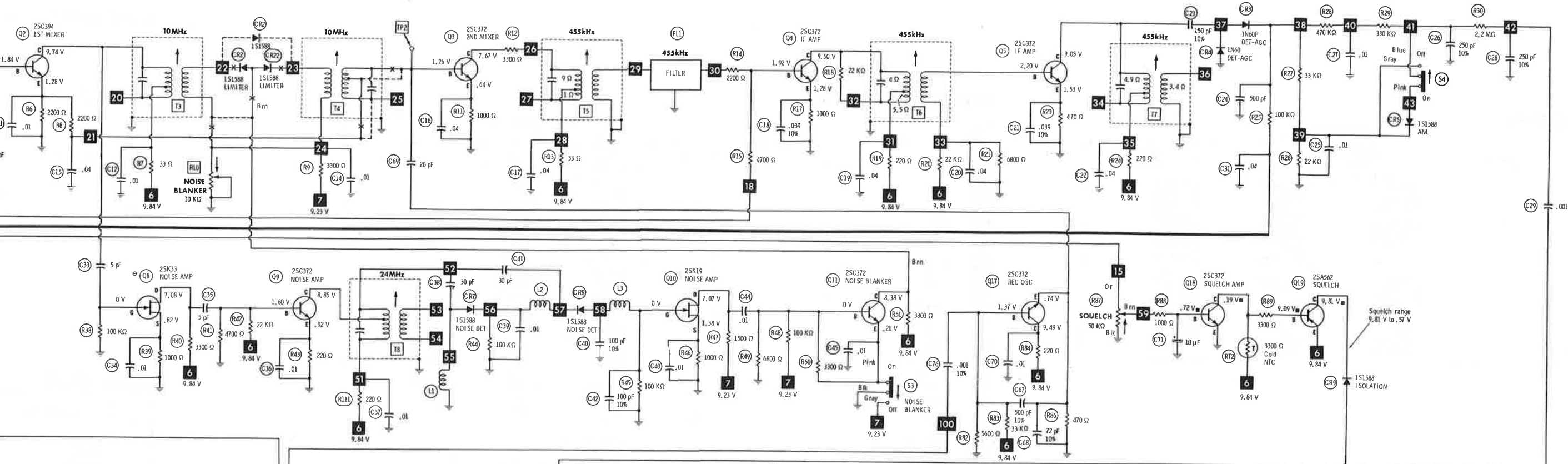
- (1) Used in some versions.
 (10) Rating, 10 watt @ 800 mA.
 (11) Rating, 800 mw @ 1.0 amp.
 (12) Rating, 1.0 watt @ 1.0 amp.
 (13) Rating, 12 watt @ 4.0 amp.

(CONTINUED ON PAGE 70)

PAGE MODEL CB144







PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA			
		MFGR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	1 50V		PC1-50	MTV1CB50	EV-1615
C30	33 16V		PC30-25	VTT33D25	EV-1325
C32	10 16V		PC10-25	VTT10A25	EV-1222
C49	10 16V		PC10-25	VTT10A25	EV-1222
C50	220 16V		PC250-25	VTT220G16	EV-1240
C51	1000 16V		PC1000-16	VTT1000L16	EV-1260
C52	4.7 25V		PC5-50	VTT4R7A50	EV-1319
C45	4.7 16V		PC50-16	VTT47D16	EV-1226
C55	1 63V NP				
C57	100 16V		PC100-16	VTT100F16	EV-1230
C62	10 16V		PC10-25	VTT10A25	EV-1222
C71	10 16V		PC10-25	VTT10A25	EV-1222
C73	10 16V		PC10-25	VTT10A25	EV-1222
C74	10 16V		PC10-25	VTT10A25	EV-1222
C75	4.7 25V		PC5-50	VTT4R7A50	EV-1319
C82	33 16V		PC30-25	VTT33D25	EV-1325
C113	47 16V		WBR50-25	MTA50E15	TVA-1150

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	40			CD6ED390J03	SX439	
C2	30			CD6ED300J03	SX430	
C3	20			CD6CD200J03	SX420	
C5	.01 50V			DPMS4S1	EWFA1A110	1PB-S10
C6	.0047		DD-472	GP4700	GP247	2SS-D47
C7	100 10%			CD10FD101J03	SX310	424MC1000J501
C8	250 10%			CD10FD251J03		
C9	.01		DC-103	GP10000	MAG5011	2SS-S10
C10	30			CD6ED300J03	SX430	
C11	.01		DC-103	GP10000	MAG5011	2SS-S10
C12	.01		DC-103	GP10000	MAG5011	2SS-S10
C14	.01		DC-103	GP10000	MAG5011	2SS-S10
C15	.04			GP140	GP140	5GA-S40
C16	.04			GP140	GP140	5GA-S40
C17	.04			GP140	GP140	5GA-S40
C18	.039 10%			M192P3939R8	192P3939R8	5GA-S40
C19	.04			GP140	GP140	5GA-S40
C20	.04			GP140	GP140	5GA-S40
C21	.039 10%			M192P3939R8	192P3939R8	5GA-S40
C22	.04			GP140	GP140	5GA-S40
C23	150 10%			CD7FD151J03	SX315	424MC1500J501
C24	500 50V			CD15FD501J03		
C25	.01		DC-103	GP10000	MAG5011	2SS-S10
C26	250 10%		DC-103	CD10FD251J03	MAG5011	2SS-S10
C27	.01			GP10000		
C28	250 10%			CD10FD251J03		
C29	.001		DD-102	GP1000	GP210	2SS-D10
C31	.04				GP140	5GA-S40

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS(cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C33	5			CD6CD050D03		
C34	.01		DC-103	GP10000	MAG5011	2SS-S10
C35	5			CD6CD050D03		
C36	.01		DC-103	GP10000	MAG5011	2SS-S10
C37	.01		DC-103	GP10000	MAG5011	2SS-S10
C38	30			CD6ED300J03	SX430	
C39	.01		DC-103	GP10000	MAG5011	2SS-S10
C40	100 10%			CD10FD101J03	SX310	424MC1000J501
C41	30			CD6ED300J03	SX430	
C42	100 10%			CD10FD101J03	SX310	424MC1000J501
C43	.01		DC-103	GP10000	MAG5011	2SS-S10
C44	.01		DC-103	GP10000	MAG5011	2SS-S10
C45	.01		DC-103	GP10000	MAG5011	2SS-S10
C46	.01 10%			DPMS4S1	EWFA1A110	1PB-S10
C47	.039 10%			MFP05S39	M192P3939R8	192P3939R8
C48	.022 50V			DPMS2S22	EWFA1A122	1PB-S22
C53	500			CD15FD501J03		
C56	.04				GP140	5GA-S40
C58	.001 10%			DPMS6D1	EWFA1A210	1PB-D10
C59	30			CD6ED300J03	SX430	
C60	.0047		DD-472	GP4700	GP247	2SS-D47
C61	39			CD6ED390J03	SX439	
C63	20			CD6CD200J03	SX420	
C64	.04				GP140	5GA-S40
C65	.001		DD-102	GP1000	GP210	2SS-D10
C66	30					
C67	500 10%			CD15FD501J03		
C68	62 10%			CD6ED620J03	SX462	424MC62R0J501
C69	20			CD6CD200J03	SX420	
C70	.01		DC-103	GP10000	MAG5011	2SS-S10
C72	.01		DC-103	GP10000	MAG5011	2SS-S10
C76	.001 10%			CD19FD102J03	SX210	424ME1001J501
C77	62 10%			CD6ED620J03	SX462	424MC62R0J501
C78	500 10%			CD15FD501J03		
C79	62 10%			CD6ED620J03	SX462	424MC62R0J501
C80	.01		DC-103	GP10000	MAG5011	2SS-S10
C81	.04				GP140	5GA-S40
C84	.01		DC-103	GP10000	MAG5011	2SS-S10
C85	82 10%			CD10ED820J03	SX482	424MC82R0J501
C86	82 10%			CD10ED820J03	SX482	424MC82R0J501
C87	82 10%			CD10ED820J03	SX482	424MC82R0J501
C88	3			CD6CD050D03		
C89	3			CD6CD050D03		
C90	100 10%			CD10FD101J03	SX310	424MC1000J501
C91	.01		DC-103	GP10000	MAG5011	2SS-S10
C92	.01		DC-103	GP10000	MAG5011	2SS-S10
C93	50			CD6ED500J03		
C94	.001		DD-102	GP1000	GP210	2SS-D10
C95	.01		DC-103	GP10000	MAG5011	2SS-S10
C97	62 10%			CD6ED620J03	SX462	424MC62R0J501
C98	150 10%			CD7FD151J03	SX315	424MC1500J501
C99	30			CD6ED300J03	SX430	
C100	500 10%			CD15FD501J03		
C101	150 10%			CD7FD151J03	SX315	424MC1500J501
C102	10			CD6CD100D03		
C103	130 10%			CD7FD131J03	SX313	424MC1300J501
C104	130 10%			CD7FD131J03	SX313	424MC1300J501
C105	.01		DC-103	GP10000	MAG5011	2SS-S10
C106	.001 10%			CD19FD102J03	SX210	424ME1001J501
C107	.01		DC-103	GP10000	MAG5011	2SS-S10
C108	.1		DC-104	MGP1	MAG5001	TG-P10
C109	.04				GP140	5GA-S40
C110	.04				GP140	5GA-S40
C111	.04				GP140	5GA-S40
C112	.04				GP140	5GA-S40

(1) Used in some versions.

PARTS LIST AND D

(When ordering parts, state Mod

CONTROLS (All wat

ITEM No.	FUNCTION
R4	Squelch Range
R10	Noise Balance
R35	RF Gain
R52	Volume/Switch
R36	RF Gain Range
R72	S Meter
R79	Tune Range
R81	Delta Tune
R87	Squelch
R92	AMC
R108	RF Meter

(2) Cut off one of the end
(18) Includes R35 & R52.
(19) Includes R81 & R87.

COILS (RF-IF)

ITEM No.	FUNCTION
L1	RF Choke
L2	RF Choke
L3	RF Choke
L4	RF Choke
L5	RF Choke
L6	RF Choke
L7	RF Choke
L8	RF Choke
L9	Final Tank (27MHz)
L10	P1 Filter (27MHz)
L11	P1 Filter
L12	RF Choke
L13	RF Choke
T1	Rec Ant (27MHz)
T2	Rec RF (27MHz)
T3	Rec Mixer (10MHz)
T4	Rec Mixer (10MHz)
T5	IF (455kHz)
T6	IF (455kHz)
T7	IF (455kHz)
T8	Noise Amp (24MHz)
T9	Synth Osc (37MHz)
T10	Xmit Osc (27MHz)
T11	Xmit Mixer (27MHz)
T12	Harmonic Sup. (27MHz)
T13	Harmonic Sup. (27MHz)
T14	Xmit Buffer (27MHz)
T15	Xmit Driver (27MHz)

FILTER CHOKE

ITEM No.	RATINGS		
	CURRENT (Measured)	DC RES.	IN
L14	1.6A	.2	

PARTS LIST AND DESCRIPTION (CONTINUED)
(When ordering parts, state Model, Part Number, and Description.)

CAPACITORS (cont)

MALLORY PART No.	SPRAGUE PART No.
	EV-1615 EV-1325 EV-1222 EV-1222 EV-1240 EV-1260 EV-1319 EV-1226 EV-1230 EV-1222 EV-1222 EV-1222 EV-1222 EV-1319 EV-1325 TVA-1150

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C33	5			CD6CD050D03		
C34	.01		DC-103	GP10000	MAG5011	2SS-S10
C35	5			CD6CD050D03		
C36	.01		DC-103	GP10000	MAG5011	2SS-S10
C37	.01		DC-103	GP10000	MAG5011	2SS-S10
C38	30			CD6ED300J03	SX430	
C39	.01		DC-103	GP10000	MAG5011	2SS-S10
C40	100 10%			CD10FD101J03	SX310	424MC1000J501
C41	30			CD6ED300J03	SX430	
C42	100 10%			CD10FD101J03	SX310	424MC1000J501
C43	.01		DC-103	GP10000	MAG5011	2SS-S10
C44	.01		DC-103	GP10000	MAG5011	2SS-S10
C45	.01		DC-103	GP10000	MAG5011	2SS-S10
C46	.01 10%			DPMS4S1	EWFA1A110	1PB-S10
C47	.039 10%			MFPS05S39	M192P3939R8	192P3939R8
C48	.022 50V			DPMS2S22	EWFA1A122	1PB-S22
C53	500			CD15FD501J03		
C56	.04				GP140	5GA-S40
C58	.001 10%			DPMS6D1	EWFA1A210	1PB-D10
C59	30			CD6ED300J03	SX430	
C60	.0047		DD-472	GP4700	GP247	2SS-D47
C61	39			CD6ED390J03	SX439	
C63	20			CD6CD200J03	SX420	
C64	.04				GP140	5GA-S40
C65	.001		DD-102	GP1000	GP210	2SS-D10
C66	30					
C67	500 10%			CD15FD501J03		
C68	62 10%			CD6ED620J03	SX462	424MC62R0J501
C69	20			CD6CD200J03	SX420	
C70	.01		DC-103	GP10000	MAG5011	2SS-S10
C72	.01		DC-103	GP10000	MAG5011	2SS-S10
C76	.001 10%			CD19FD102J03	SX210	424ME1001J501
C77	62 10%			CD6ED620J03	SX462	424MC62R0J501
C78	500 10%			CD15FD501J03		
C79	62 10%			CD6ED620J03	SX462	424MC62R0J501
C80	.01		DC-103	GP10000	MAG5011	2SS-S10
C81	.04				GP140	5GA-S40
C84	.01		DC-103	GP10000	MAG5011	2SS-S10
C85	82 10%			CD10ED820J03	SX482	424MC82R0J501
C86	82 10%			CD10ED820J03	SX482	424MC82R0J501
C87	82 10%			CD10ED820J03	SX482	424MC82R0J501
C88	3			CD6CD050D03		
C89	3			CD6CD050D03		
C90	100 10%			CD10FD101J03	SX310	424MC1000J501
C91	.01		DC-103	GP10000	MAG5011	2SS-S10
C92	.01		DC-103	GP10000	MAG5011	2SS-S10
C93	50			CD6ED500J03		
C94	.001		DD-102	GP1000	GP210	2SS-D10
C95	.01		DC-103	GP10000	MAG5011	2SS-S10
C97	62 10%			CD6ED620J03	SX462	424MC62R0J501
C98	150 10%			CD7FD151J03	SX315	424MC1500J501
C99	30			CD6ED300J03	SX430	
C100	500 10%			CD15FD501J03		
C101	150 10%			CD7FD151J03	SX315	424MC1500J501
C102	10			CD6CD100D03		
C103	130 10%			CD7FD131J03	SX313	424MC1300J501
C104	130 10%			CD7FD131J03	SX313	424MC1300J501
C105	.01		DC-103	GP10000	MAG5011	2SS-S10
C106	.001 10%			CD19FD102J03	SX210	424ME1001J501
C107	.01		DC-103	GP10000	MAG5011	2SS-S10
C108	.1	(1)	DC-104	MGP1	MAG5001	TG-P10
C109	.04				GP140	5GA-S40
C110	.04				GP140	5GA-S40
C111	.04				GP140	5GA-S40
C112	.04				GP140	5GA-S40

(1) Used in some versions.

REPLACEMENT DATA	
MALLORY PART No.	SPRAGUE PART No.
SX439 SX430 SX420 EWFA1A110 GP247 SX310	1PB-S10 2SS-D47 424MC1000J501
MAG5011 SX430 MAG5011 MAG5011 MAG5011 GP140 GP140 GP140 M192P3939R8 GP140 GP140 M192P3939R8 GP140 SX315	2SS-S10 2SS-S10 2SS-S10 2SS-S10 5GA-S40 5GA-S40 5GA-S40 192P3939R8 5GA-S40 5GA-S40 192P3939R8 5GA-S40 424MC1500J501
MAG5011	2SS-S10
MAG5011	2SS-S10
GP210 GP140	2SS-D10 5GA-S40

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.
R4 R10 R35	Squelch Range Noise Balance RF Gain	10K 10K 5000	IP24-0005 IP24-0038 (18)	T-10K T-10K	C-103 C-103	MTC14L1 MTC14L1	X201R103B X201R103B
R52 R36 R72 R79 R81	Volume/Switch RF Gain Range S Meter Tune Range Delta Tune	5000 5000 2000 2000 10K	IP24-0035 IP24-0040 IP24-0039 (18)	T-5000 T-252 T-252 (2)	C-502 C-252 C-252 (2)	MTC53L1 MTC23L1 MTC23L1 (2)	X201R502B X201R252B X201R252B
R87 R92 R108	Squelch AMC RF Meter	50K 2000 50K	IP24-0040	T-252 T-50K	C-252 C-503	MTC23L1 MTC54L1	X201R2523 X201R503B

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

(18) Includes R35 & R52.

(19) Includes R81 & R87.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke	IP21-0216	271		
L2	RF Choke	IP21-0185	102		
L3	RF Choke	IP21-0185	102		
L4	RF Choke	IP21-0073	100		
L5	RF Choke	IP21-0073	100		
L6	RF Choke	IP21-0073	100		
L7	RF Choke	IP21-0027	HL-109		
L8	RF Choke	IP21-0215	HL-140		
L9	Final Tank (27MHz)	IP21-0118	HL-129		
L10	P1 Filter (27MHz)	IP21-0118	HL-129		
L11	P1 Filter	IP21-0029	HL-112		
L12	RF Choke	IP21-0027	HL-109		
L13	RF Choke	IP21-0027	HL-109		
T1	Rec Ant (27MHz)	IP21-0019	TKXN34386HM		
T2	Rec RF (27MHz)	IP21-0020	TKXN34387Y		
T3	Rec Mixer (10MHz)	IP21-0038	85AC2531		
T4	Rec Mixer (10MHz)		HL-144		
T5	IF (455kHz)	IP21-0033	LMC-4201A		
T6	IF (455kHz)	IP21-0033	LPC-4201A		
T7	IF (455kHz)	IP21-0034	LMC-4202A		
T8	Noise Amp (24MHz)	IP21-0038	85AC2531		
T9	Synth Osc (37MHz)	IP21-0021	TKYN34384BM		
T10	Xmit Osc (27MHz)	IP21-0038	85AC2531		
T11	Xmit Mixer (27MHz)	IP21-0019	TKXN34386HM		
T12	Harmonic Sup. (27MHz)	IP21-0019	TKXN34386HM		
T13	Harmonic Sup. (27MHz)	IP21-0020	TKXN34387Y		
T14	Xmit Buffer (27MHz)	IP21-0117	HL-128		
T15	Xmit Driver (27MHz)	IP21-0022	TKXN34385HM		

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.	
L14	1.6A	.2	3.3mH	IP21-0037			

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T16	.5	1		IP21-0045			

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T17	32	8	IP21-0046			

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
Sp 1	2 7/8 X 1 3/4 8 Ohms	IP29-0003	23A05Z8	

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	2Amp Fast Acting			AGC2	HDJ	312002.5	150145	F62-2	

PAGE MODEL CB144

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
FL1	Filter	IP31-0048	455kHz (LB-86)
M1	Meter	IP27-0010	S-RF
K1	Relay	IP32-0004	Xmit-Rec
S1	Switch	IP25-0010	Channel Selector
S2	Switch	IP25-0040	PA-CB
S3	Switch	IP25-0040	Noise Blanker
S4	Switch	IP25-0040	ANL
	Socket	IP34-0003	(4) Crystals
	Socket	IP34-0005	(6) Crystals

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
Y1	37.600	IP31-0001	DA14M37.600	1,2,3,4
Y2	37.650	IP31-0002	DA14M37.650	5,6,7,8
Y3	37.700	IP31-0003	DA14M37.700	9,10,11,12
Y4	37.750	IP31-0004	DA14M37.750	13,14,15,16
Y5	37.800	IP31-0005	DA14M37.800	17,18,19,20
Y6	37.850	IP31-0006	DA14M37.850	21,22,23
Y7	10.180	IP31-0011	DC22M10.180	1,5,9,13,17,21

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
Y8	10.170	IP31-0012	BC22M10.170	2,6,10,14,18,22
Y9	10.160	IP31-0013	DC22M10.160	3,7,11,15,19
Y10	10.140	IP31-0014	DC22M10.140	4,8,12,16,20,23
Y11	10.635	IP31-0007	DB20M10.635	1,5,9,13,17,21
Y12	10.625	IP31-0008	DB20M10.625	2,6,10,14,18,22
Y13	10.615	IP31-0009	DB20M10.615	3,7,11,15,19
Y14	10.595	IP31-0010	DB20M10.595	4,8,12,16,20,23

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

ITEM	PART No.
Cabinet, Upper	IP30-0054
Cabinet, Lower	IP30-0055
Front Panel	IP30-0141
Front Plate	IP30-0142
Mounting Bracket	IP30-0058

ITEM	PART No.
Microphone Hanger	IP30-0061
Knob, Small Volume Squelch	IP30-0092
Knob, Small RF Gain, Delta Tune	IP30-0093
Knob, Big Channel Selector	IP30-0140

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Microphone	IP29-0010	