



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.



REALISTIC MODEL TRC-200

MODEL TRC-200 (21-184)

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

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ALIGNMENT INSTRUCTIONS

CAUTION: Use an 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 12-volt DC input.
Connect low sides of test equipment to ground unless specified otherwise.
Connect a 50-ohm dummy load or antenna before keying transmitter.
Suggested Alignment Tools: GC ELECTRONICS:
L4, L5, T3, T4, T7 8728
T1, T2, T6 9440

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
Input of frequency counter to TP10.	Ch. A.		Check for 26.630MHz.
Output of signal generator thru .01uF to TP1. 455kHz, 1000Hz @ 30% modulation.	Ch. A.	T4, T3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.085MHz, 1000Hz @ 30% modulation.	Ch. A.	T2, T1	Adjust for maximum output. Repeat above steps, if necessary.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.085MHz, 1000Hz @ 30% modulation.	Ch. A	VR3	SQUELCH RANGE Turn squelch control VR2 fully clockwise. Adjust VR3 so that squelch just breaks.

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 of transmitter.

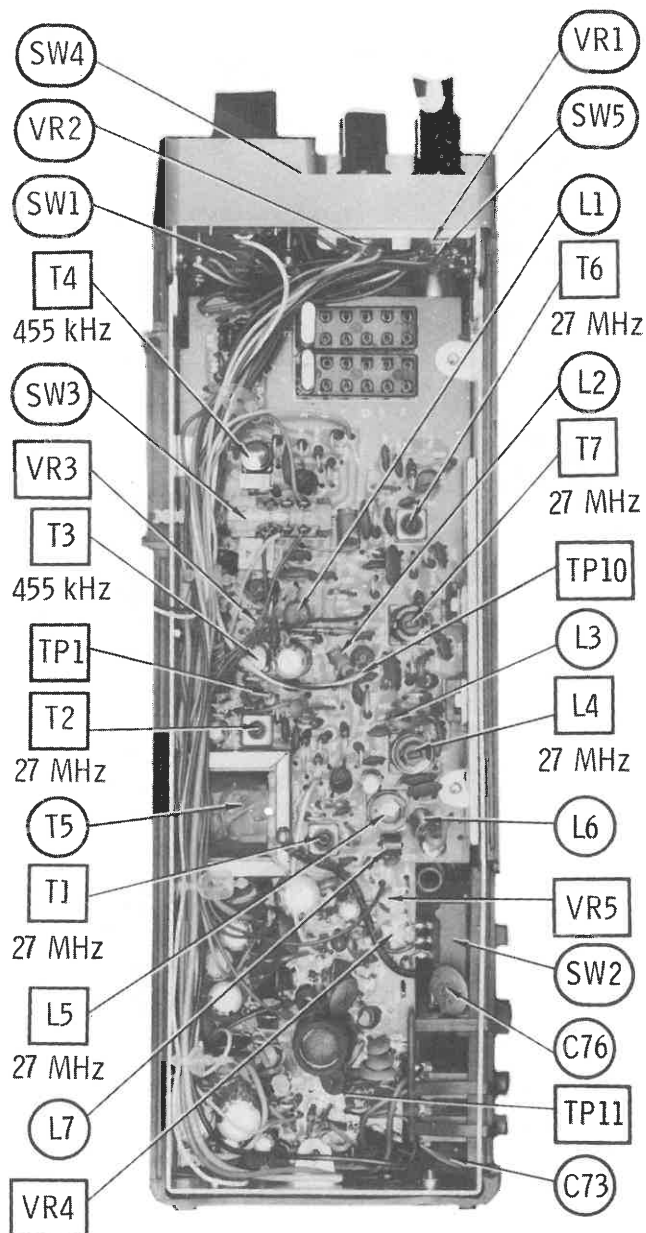
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to Q11 collector.	Ch. A		Check for 27.085MHz.
	Ch. A, Hi/Low-Hi	T6, T7, L4, L5	Adjust for maximum.
	Ch. A	L5, L4	Adjust for 4 watts maximum.

TRANSMITTER ADJUSTMENTS

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

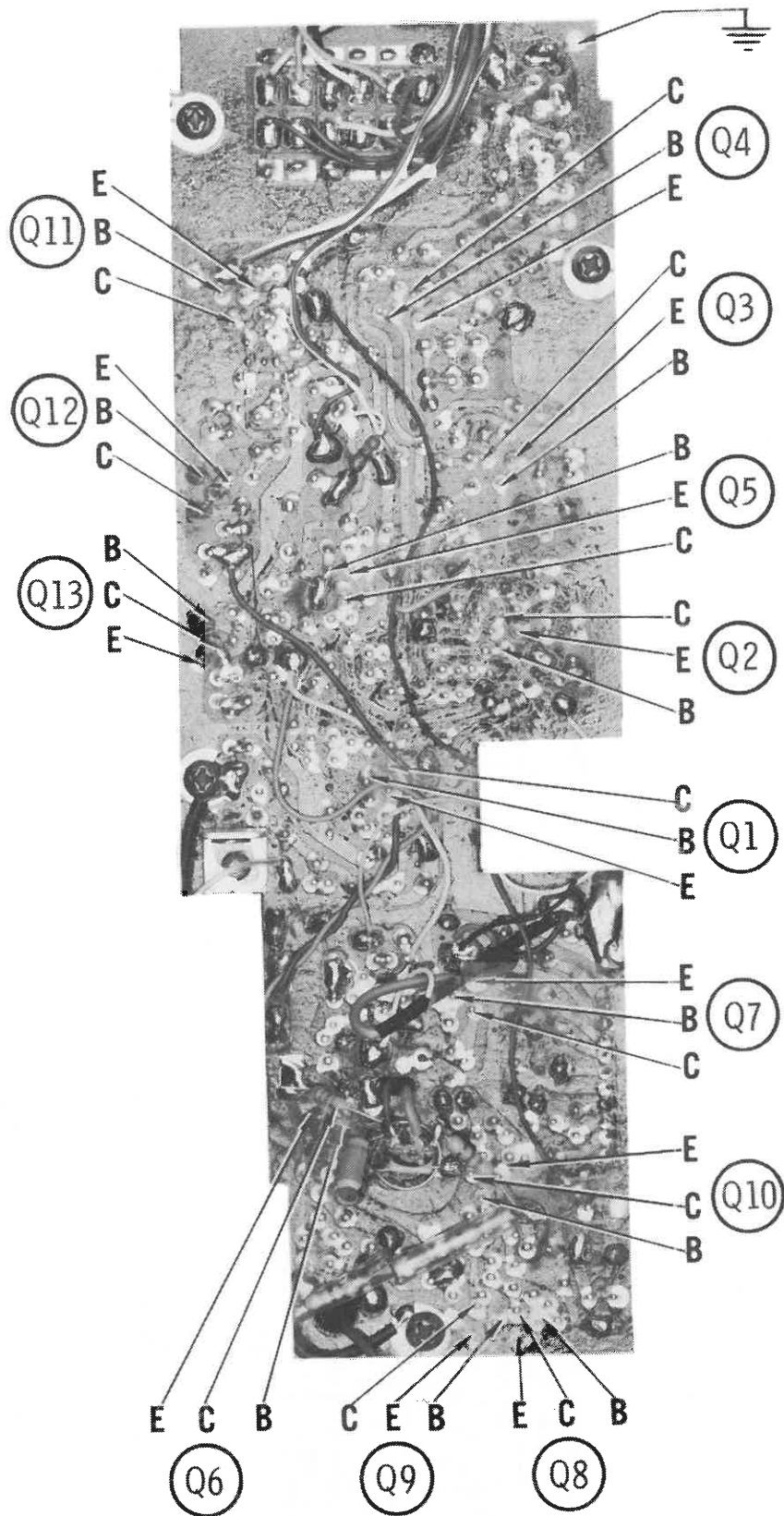
NOTE: Be sure to check transmit frequency and power on all active channels after adjustments of transmitter.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 2500Hz signal at 1mV to TP11.	Ch. A, Hi/Low-Hi	VR6	MOD Adjust VR6 for 50% modulation.
Modulation meter to antenna jack. Inject a 2500Hz signal at 11mV to TP11.	Ch. A	VR5	MOD - HI Adjust VR5 for 100% modulation maximum.
Modulation meter to antenna jack. Inject a 2500Hz signal at 11mV to TP11.	Ch. A	VR4	MOD - LO Adjust VR4 for 100% modulation maximum.

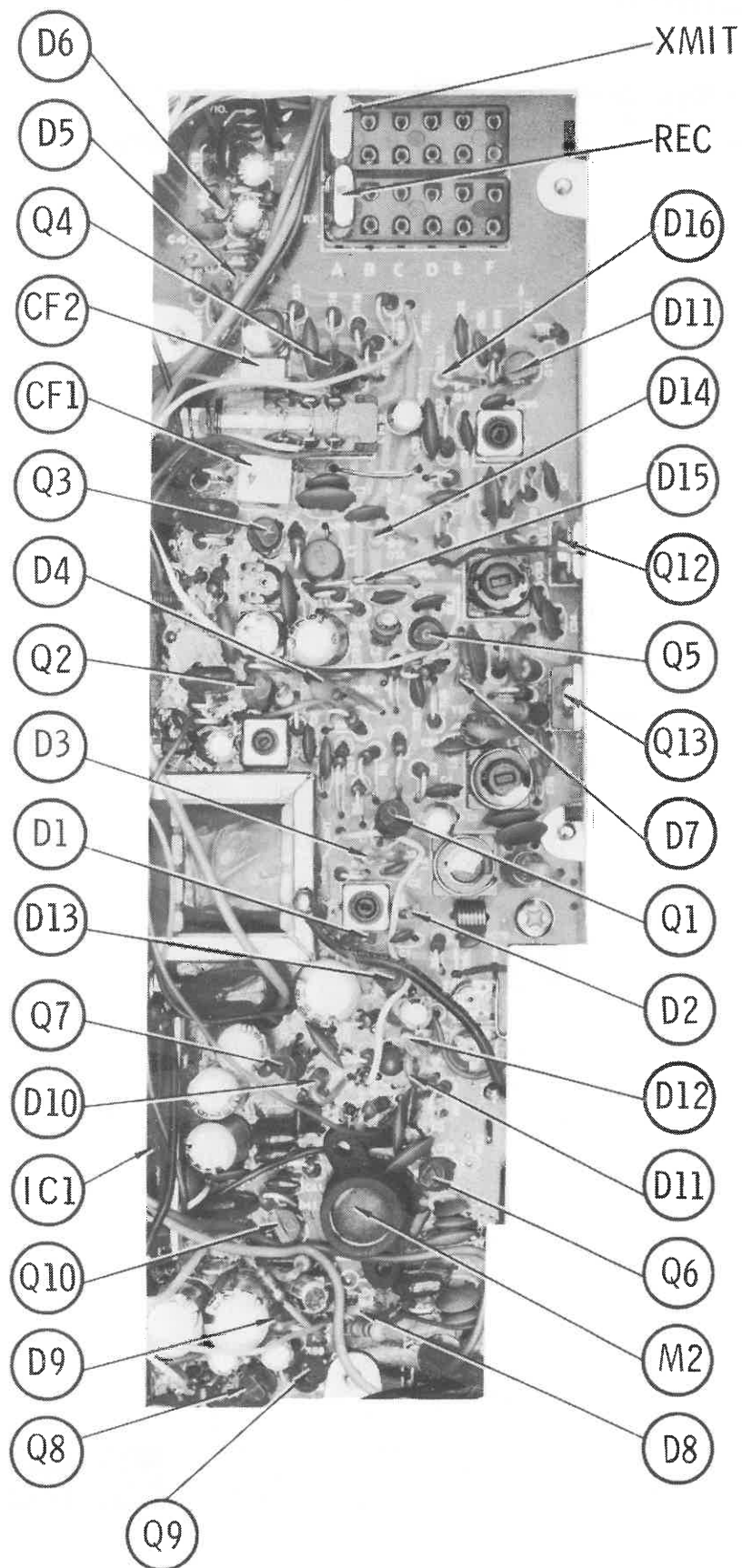


REALISTIC MODEL TRC-200

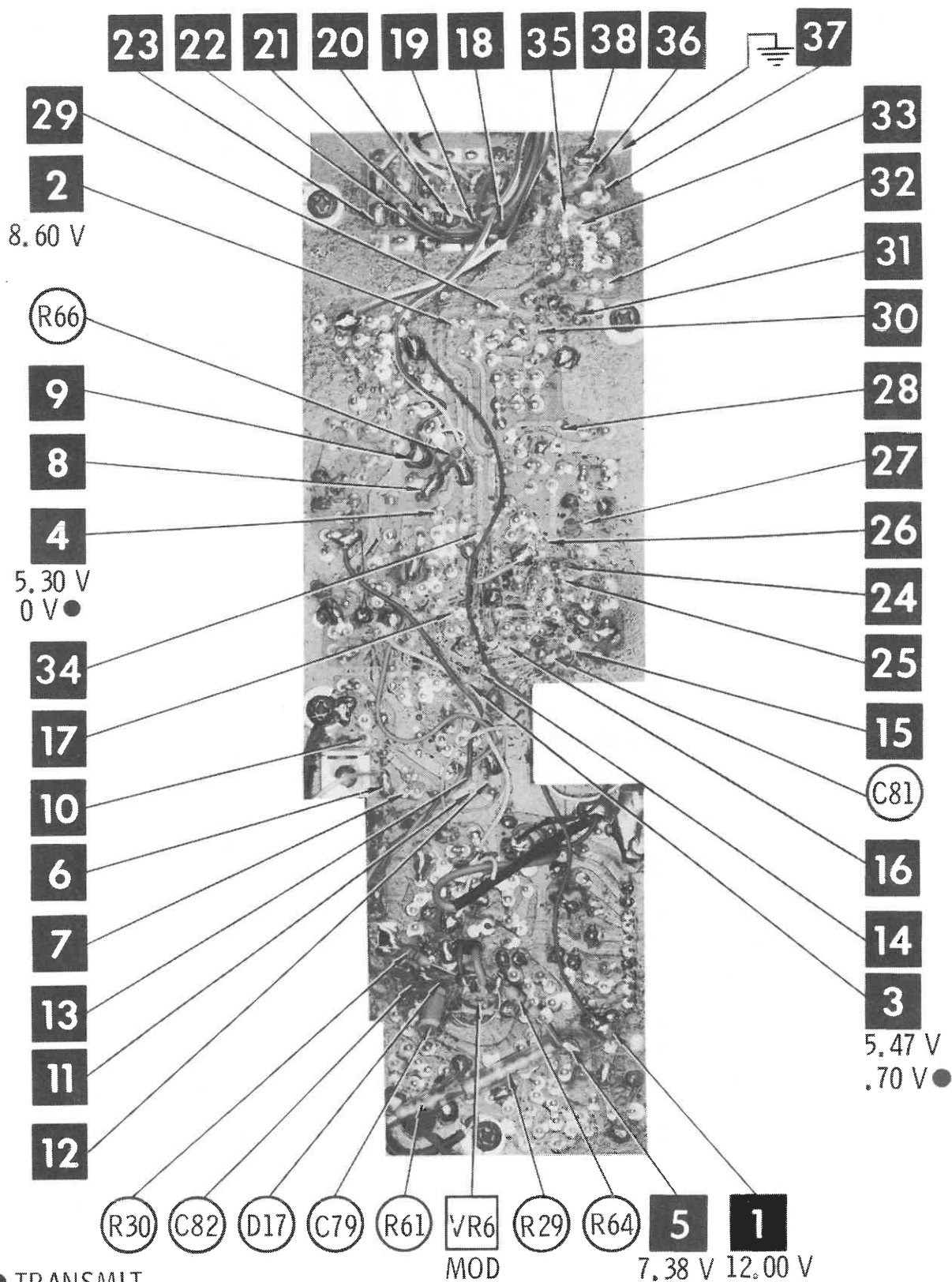
CABINET-REAR



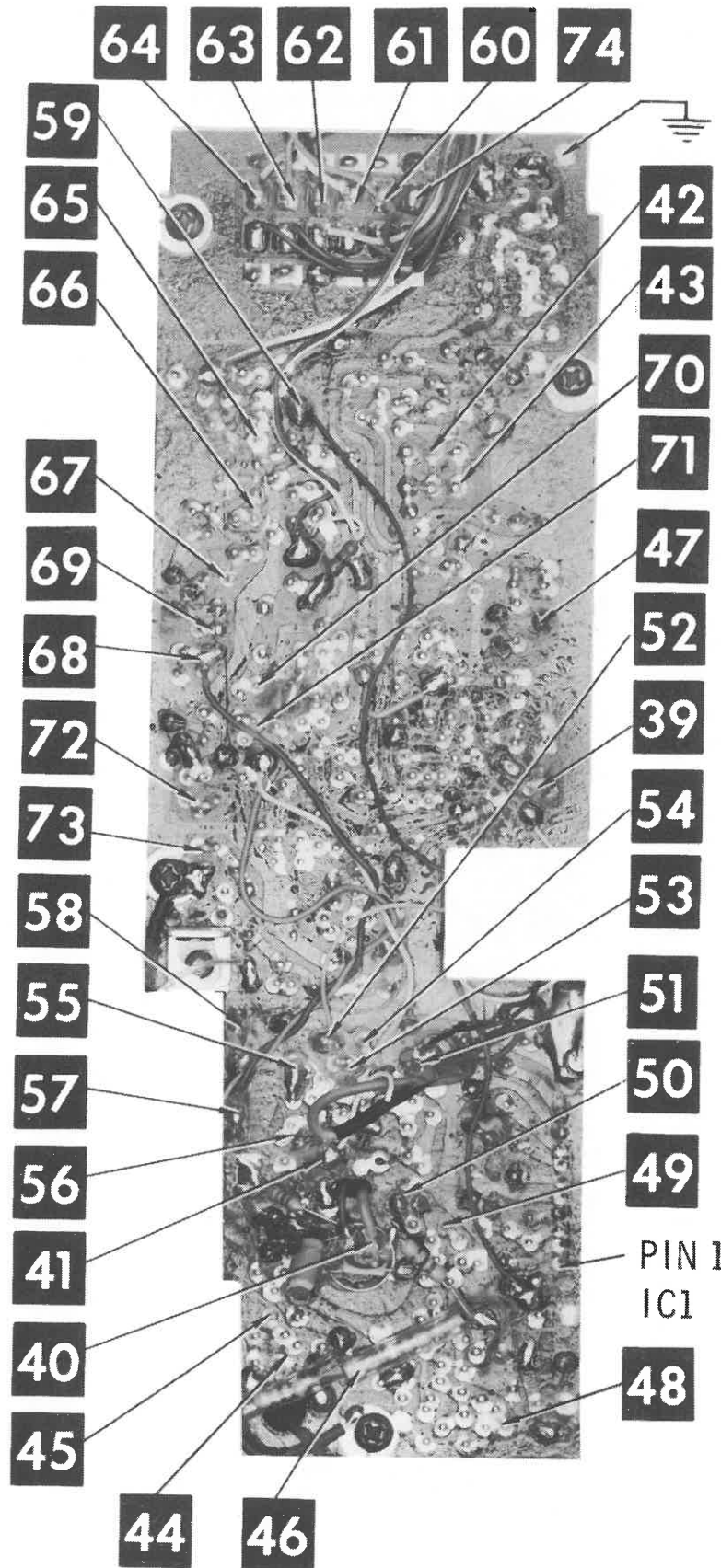
MAIN BOARD



MAIN BOARD

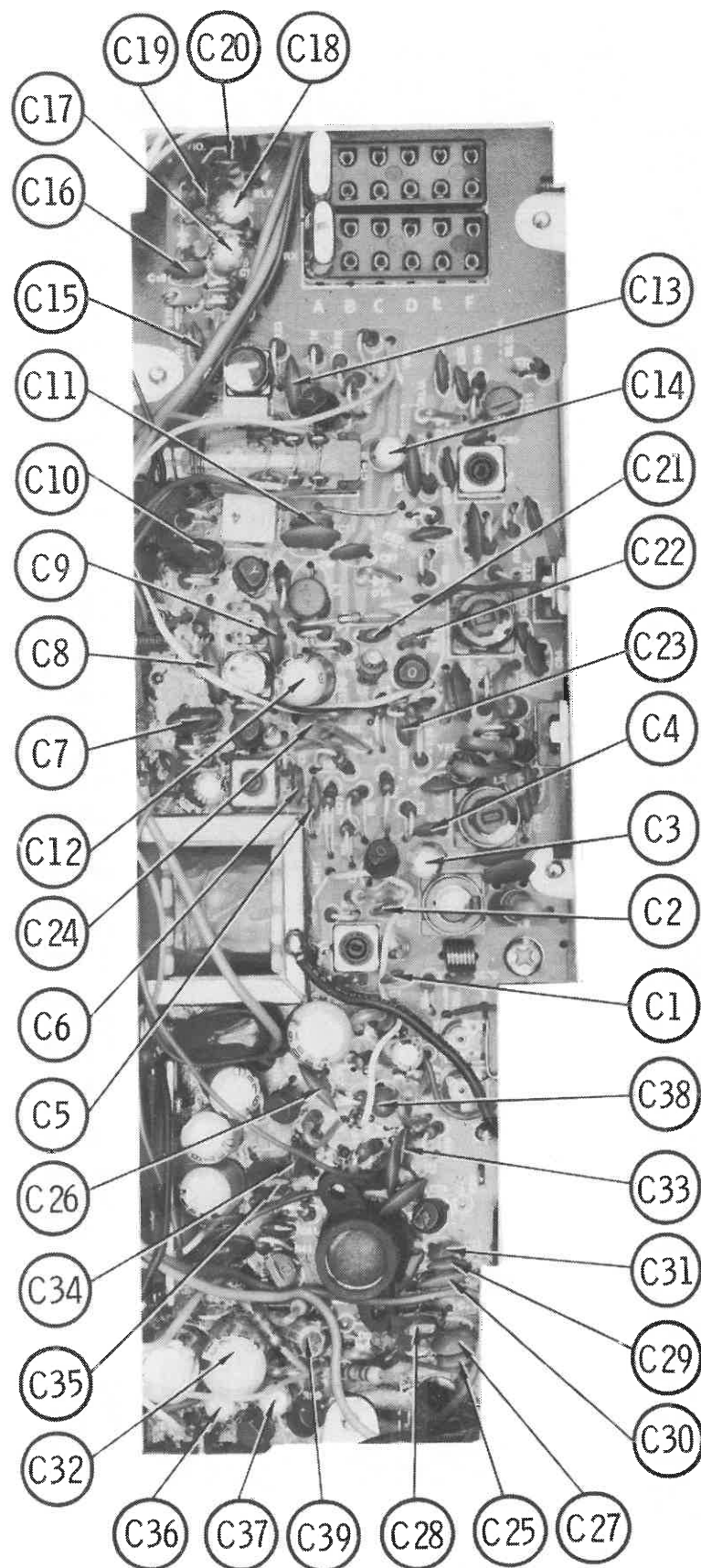


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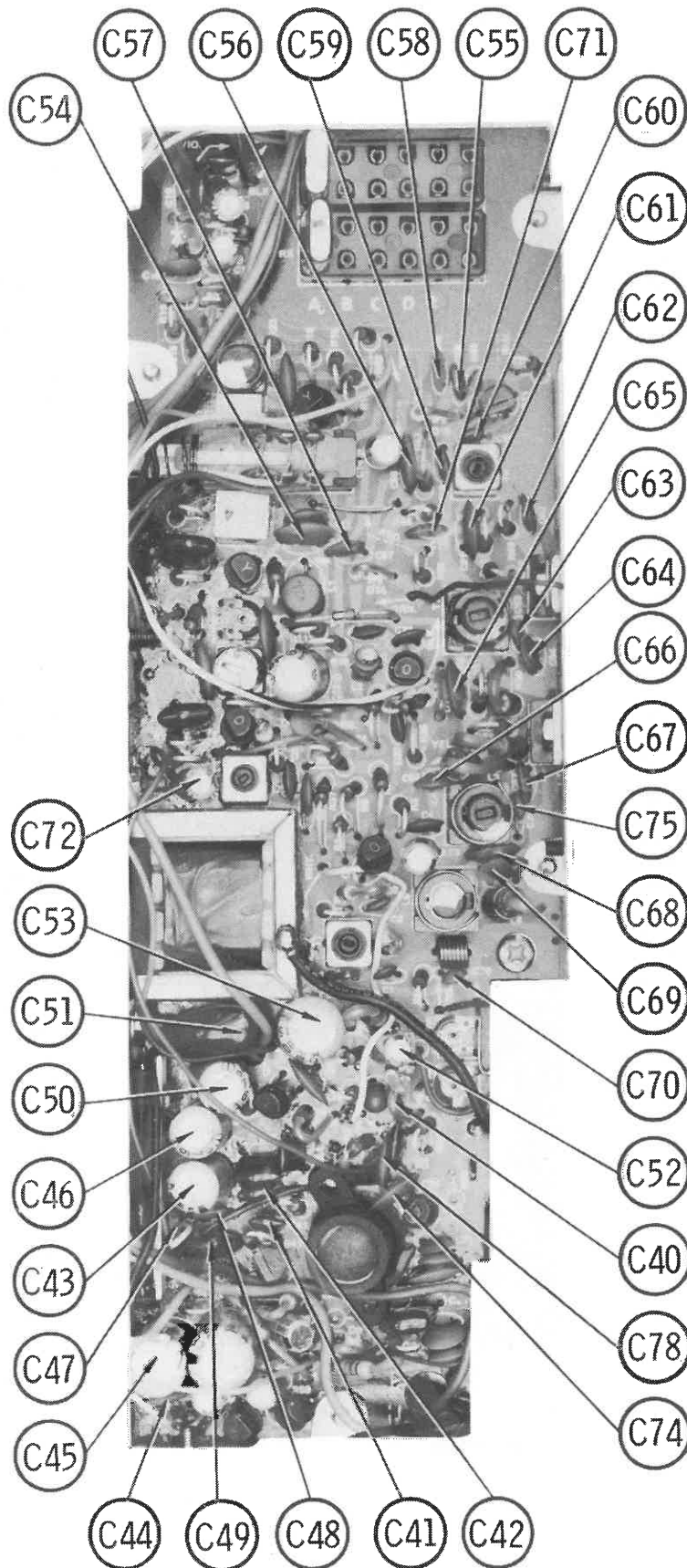


REALISTIC MODEL TRC-200

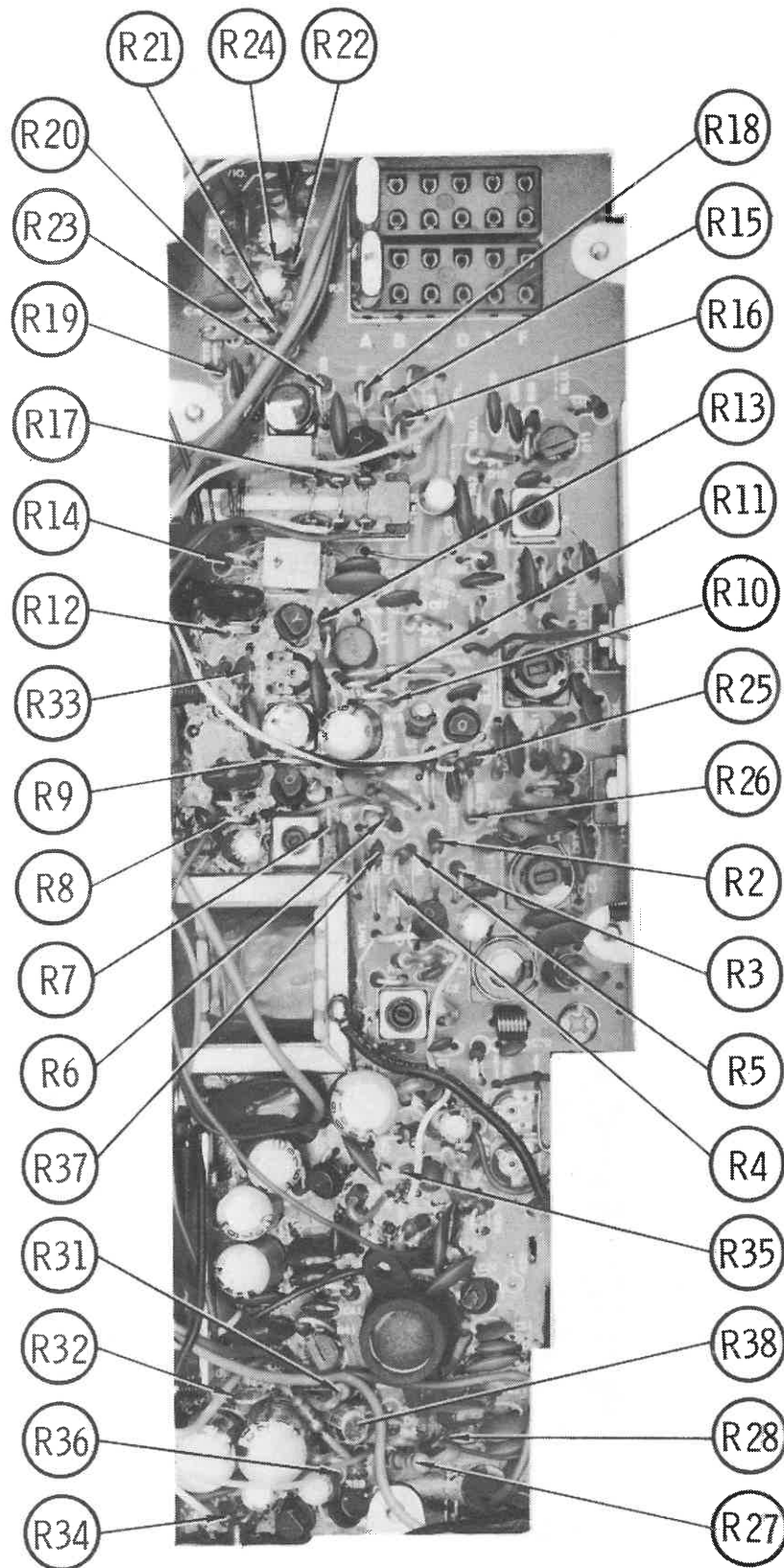
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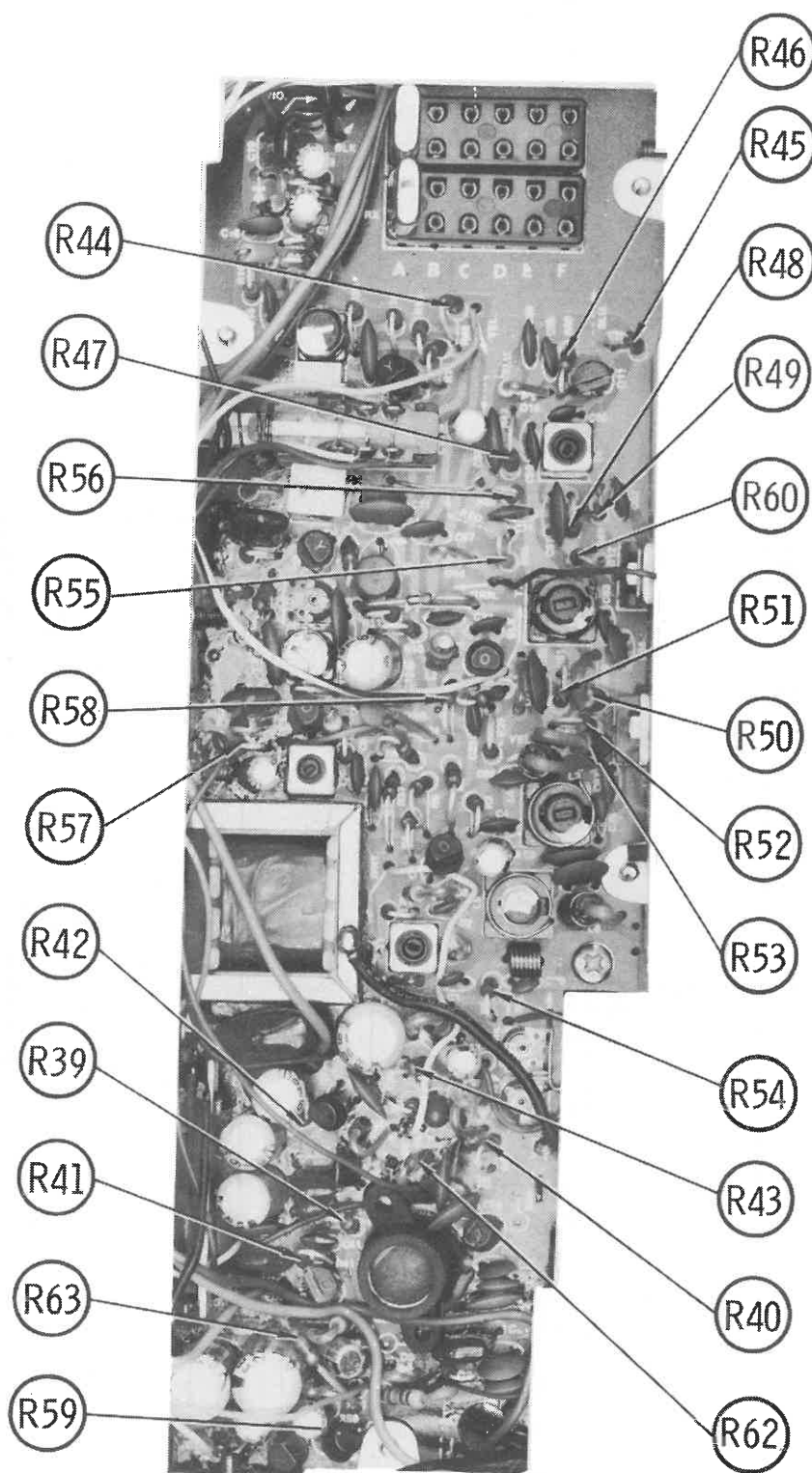
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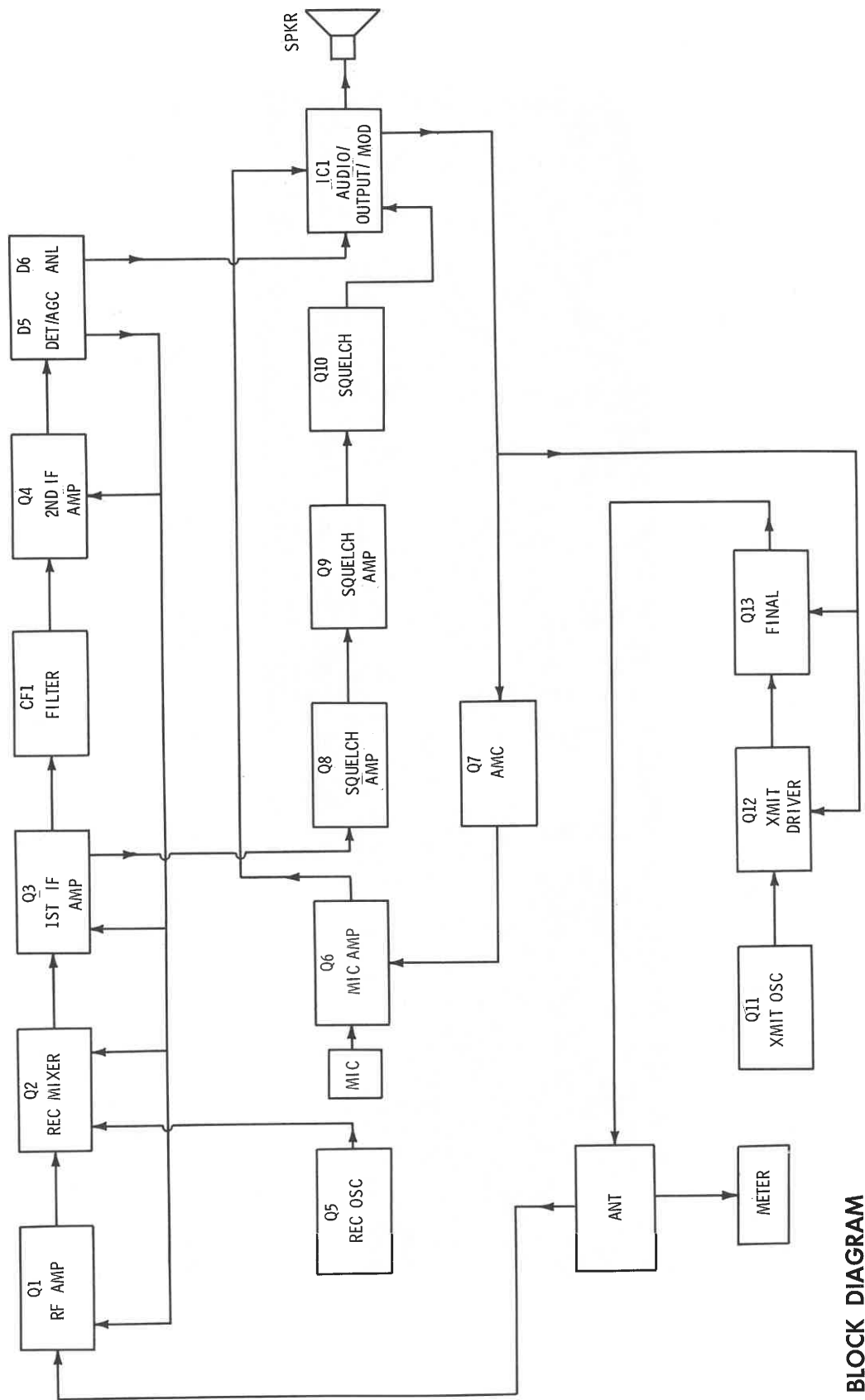
MAIN BOARD



MAIN BOARD



MAIN BOARD



BLOCK DIAGRAM

PARTS LIST AND DESCRIPTION

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

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	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D2	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D3	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D4	EQA01-09 (R)		GEZD-9.1	Z1209	ZB9.1A	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D5	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D6	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D7	HV80		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D8	HV80		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D9	HV80		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D10	EQA01-05 (T)		GEZD-5.1	Z1203		HEPZ0406		SK3056	RT-235	
D11	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D12	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D13	S1B-01-02		GE-504A	5A4D	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D14	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D15	HV80		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D16	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D17	HV80		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
IC1	HA1339									
Q1	2SC784-0		GE-60 *	(IR)2SC380A	PTC132 *	HEPS0008 *	RE 28 *	SK3018 *	RT-187	ECG229 *
Q2	2SC372-0		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
	2SC371-0 (1)		GE-61 *	(IR)2SC537B	PTC101 *	HEPS0011 *	RE 13 *	SK3124	RT-302	ECG123A *
Q3	2SC372Y		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
Q4	2SC372Y		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
Q5	2SC372-0		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
	2SC371-0 (1)		GE-61 *	(IR)2SC537B	PTC101 *	HEPS0011 *	RE 13 *	SK3124	RT-302	ECG123A *
Q6	2SC373		GE-212	(IR)2SC373	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-105	ECG199
Q7	2SC373		GE-212	(IR)2SC373	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-105	ECG199
Q8	2SC373		GE-212	(IR)2SC373	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-105	ECG199
Q9	2SC373		GE-212	(IR)2SC373	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-105	ECG199
Q10	2SC1364		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 13 *	ST 3124	RT-308	ECG123A *
Q11	2SC1364		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 13 *	SK3124	RT-308	ECG123A *
Q12	2SC1728		GE-275				RE 204		RT-310	ECG302
Q13	2SC1816 (11)		GE-216		PTC186		RE 201	SK3197	RT-146	ECG235

* Lead Configuration may vary from original.

(1) Used in some versions.

(11) Rating, 16 Watt @ 4.0 Amp.

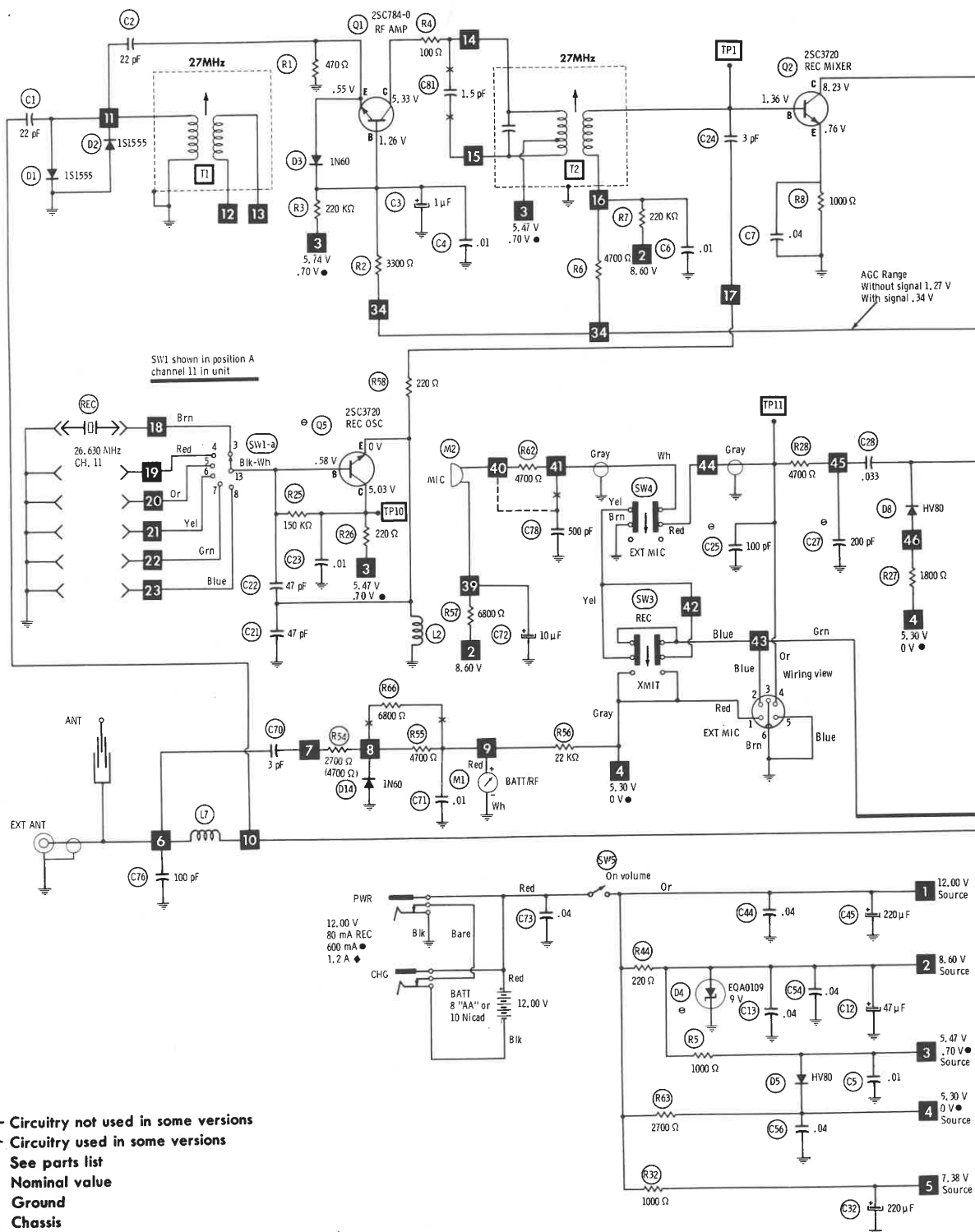
REALISTIC MODEL TRC-200

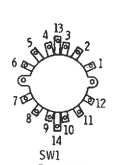
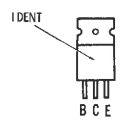
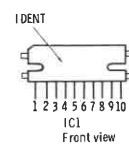
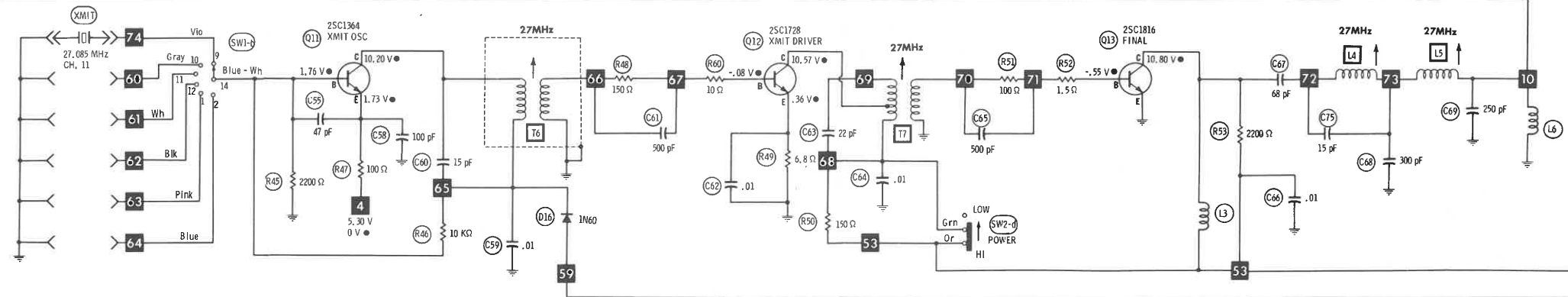
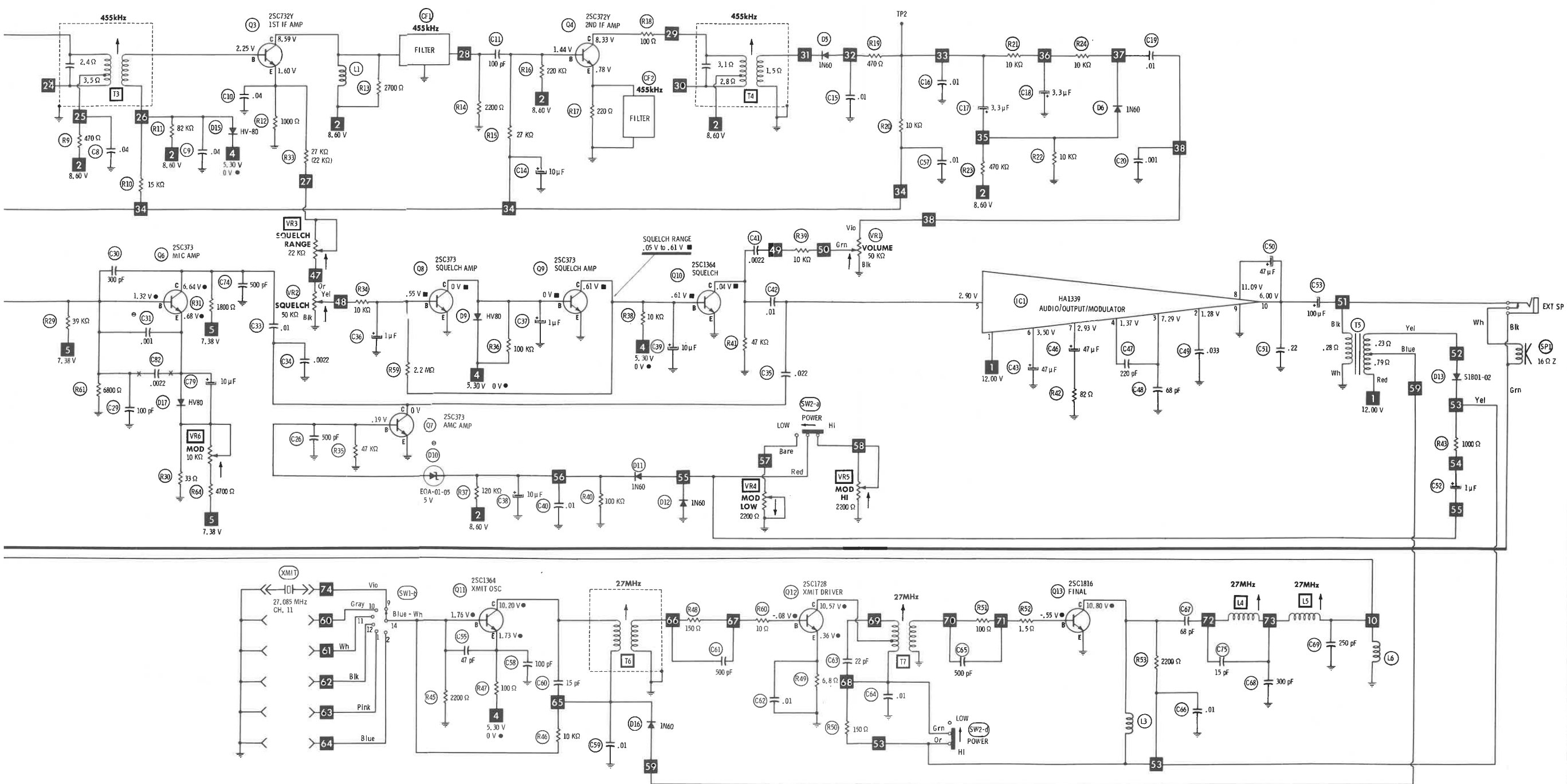
ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C3	1 50V	CE04W1H010	PC1-50	VTT1B63	QV1-11	EV-1615
C12	47 16V	CE04W1C470B	PC50-16	VTT47D16	QV1-73	EV-1226
C14	10 16V	CE04W1C100F	PC10-25	VTT10A25	QV1-41	EV-1222
C17	3.3 16V	CE04W1C3R3	PC5-50	VTT3R3A50	QV1-23	EV-1318
C18	3.3 16V	CE04W1C3R3	PC5-50	VTT3R3A50	QV1-23	EV-1318
C32	220 16V	CE04W1C221E	PC250-25	VTT220G16	QV1-117	EV-1240
C36	1 50V	CE04W1H010	PC1-50	VTT1B63	QV1-11	EV-1615
C37	1 50V	CE04W1H010	PC1-50	VTT1B63	QV1-11	EV-1615
C38	10 6.3V			TDC106M025FL	QDT1-64	SD25-109
C39	10 16V	CE04W1C100F	PC10-25	VTT10A25	QV1-41	EV-1222
C43	47 16V	CE04W1C470B	PC50-16	VTT47D16	QV1-73	EV-1226
C45	220 16V	CE04W1C221E	PC250-25	VTT220G16	QV1-117	EV-1240
C46	47 16V	CE04W1C470B	PC50-16	VTT47D16	QV1-73	EV-1226
C50	47 16V	CE04W1C470B	PC50-16	VTT47D16	QV1-73	EV-1226
C52	1 50V	CE04W1H010	PC1-50	VTT1B63	QV1-11	EV-1615
C53	100 16V	CE04W1C101C	PC100-16	VTT100F16	QV1-95	EV-1230
C72	10 16V	CE04W1C100F	PC10-25	VTT10A25	QV1-41	EV-1222
C79	10 16V	CE04W1C100F	PC10-25	VTT10A25	QV1-41	EV-1222

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C1	22 10%	MC-100 MC-100	DTZ-22	NP022	CN0422	QC2-141 QC2-141 QC2-141	10TCC-Q22
C2	22 10%		DTZ-22	NP022	CN0422		10TCC-Q22
C4	.01		UK50-103	MGP01	MAG5011		TG-S10
C5	.01		UK50-103	MGP01	MAG5011		TG-S10
C6	.01		UK50-103	MGP01	MAG5011		TG-S10
C7	.04 10%				M192P3939R8	192P3939R8	
C8	.04						
C9	.04						
C10	.04 10%				M192P3939R8	192P3939R8	
C11	100 10%			DD-101	GP100	GP310	10TS-T10





Selector switch SW1 in position "A" Switch sequence:
1. A
2. B
3. C
4. D
5. E
6. F

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

CAPACITORS (cont)

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C13	.04	MC-100	UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C15	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C16	.01			WMF1S1	EWFTA110	QF1-91	1PB-S10
C19	.01 10%			DPMS6D1	EWFTA210	QF1-1	1PB-D10
C20	.001 10%						
C21	47 10%						
C22	47 10%						
C23	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C24	3 +5		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C25	100 10%		DD-101	GP100	GP310		10TS-T10
		FC-60	DC-203	MGP02	TA120	QC2-157	TG-S20
			DD-501	GP500	GP350		10TS-T50
C26	500		DD-201	GP200	GP320		10TS-T20
C27	200 10%		DD-821	GP820	GP382		10TS-T82
C28	.033 10%		DD-101	GP100	GP310		10TS-T10
C29	100 10%		DD-301	GP300	GP330		10TS-T30
C30	300		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C31	.001		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C33	.01				M192P2229R8		192P2229R8
C34	.0022 10%				M192P2239R8	QF1-127	1PB-S22
C35	.022 10%	(1)			MAG5011	QC2-141	TG-S10
C40	.01		UK50-103	MGP01	M192P2229R8		192P2229R8
C41	.0022 10%			WMF1S1	EWFTA110	QF1-91	1PB-S10
C42	.01 10%						
C44	.04						
C47	220		DD-221		GP322		10TS-T22
C48	68 10%		DD-680	GP68	GP468		10TS-Q68
C49	.033 10%				M192P3339R8		192P3339R8
C51	.22 50V 10%						
C54	.04	MC-100					
C55	47 10%						
C56	.04						
C57	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C58	100 10%		DD-101	GP100	GP310		10TS-T10
C59	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C60	15 10%		DTZ-15	NP015	CN0415		10TCC-Q15
C61	500		DD-501	GP500	GP350		10TS-T50
C62	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C63	22 10%		DTZ-22	NP022	CN0422		10TCC-Q22
C64	.01	MC-100	UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C65	500		DD-501	GP500	GP350		10TS-T50
C66	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C67	68 10%		DD-680	GP68	GP468		10TS-Q68
C68	300 10%		DD-301	GP300	GP330		10TS-T30
C70	3 +.5		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C71	.01		UK50-103	MGP01	MAG5011	QC2-141	TG-S10
C73	.04						
C74	500		DD-501	GP500	GP350		10TS-T50
C75	15 10%		DTZ-15	NP015	CN0415		10TCC-Q15
C76	100 NPO 10%	MC-100	DTZ-100	NP0100	CN0310		10TCC-T10
C78	500		DD-501	GP500	GP350		10TS-T50
C81	1.5		DTZ-1R5	NP01P5	CN0515		10TCC-V15
C82	.0022 10%				M192P2229R8		192P2229R8

(1) Used in some versions.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR1	Volume/Switch	50K	P-1644				
VR2	Squelch	50K	P-1645				
VR3	Squelch wange	22K	P-6337				
VR4	Mod Low	2200	P-6336				
VR5	Mod Hi	2200	P-6336				
VR6	Mod	10K	P6SX10K				

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke (2MH)	CA-3436	EL0610-202K		8.30.77
L2	RF Choke (2.2uH)	CA-3437	LF4-2R2K		
L3	RF Choke (2.2uH)	CA-2645	4LNC054		
L4	Final Amp (27MHz)	CA-2648	8SNF-057		
L5	Pi Filter (27MHz)	DA-2268	10PNP-028		
L6	RF Choke (.8uH)	CA-2195	4LNC-27		
L7	RF Choke (.4uH)	CA-3438	4LNC092		
T1	Rec Antenna	CA-3432	2229-6135		
T2	Rec RF	CA-3433	1624B		
T3	Rec Mixer (455kHz)	CA-3434	7MC352203N		
T4	IF (455kHz)	CA-3062	4202		
T6	Xmit Osc (27MHz)	CA-3432	2229-6115		
T7	Xmit Driver (27MHz)	CA-3064	8SNO-061		

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

TRANSFORMER

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFG. PART No.	THORDARSON PART No.	TRIAD PART No.	
T5	1	2	.4	CA-3435 E5804 (1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFG. PART No.	QUAM PART No.	
SP1	2 1/4" PM 16 ohms	S-4632	22A05Z16	

CRYSTALS

CHANNEL	CTS KNIGHTS PART No.		CHANNEL	CTS KNIGHTS PART No.		CHANNEL	CTS KNIGHTS PART No.	
	RECEIVE	TRANSMIT		RECEIVE	TRANSMIT		RECEIVE	TRANSMIT
1	B20M26510	A20M26965	9	B20M26610	A20M27065	17	B20M26710	A20M27165
2	B20M26520	A20M26975	10	B20M26620	A20M27075	18	B20M26720	A20M27175
3	B20M26530	A20M26985	*11	B20M26630	A20M27085	19	B20M26730	A20M27185
4	B20M26550	A20M27005	12	B20M26650	A20M27105	20	B20M26750	A20M27205
5	B20M26560	A20M27015	13	B20M26660	A20M27115	21	B20M26760	A20M27215
6	B20M26570	A20M27025	14	B20M26670	A20M27125	22	B20M26770	A20M27225
7	B20M26580	A20M27035	15	B20M26680	A20M27135	23	B20M26780	A20M27255
8	B20M26600	A20M27055	16	B20M26700	A20M27155			

* In unit.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	C-0670	455kHz
CF2	Filter	C-0671	455kHz
M1	Meter	M-0293	RF/Batt
SW1	Switch	S-1209	Channel Selector
SW2	Switch	J-0743	Hi/Lo
SW3	Switch	S-1210	Rec/Xmit
SW4	Switch	SC253-1-2	Ext. Mic
SW5	Printed Circuit Board	P-1644	Power (Part of Volume Control)
		GE-20B-5385B	Main

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

ITEM	PART No.	ITEM	PART No.
Panel, Top	Z-2732	Panel, Side - Long	Z-2734
Panel, Top	Z-2733	Escutcheon, Top	Z-2730
Cabinet, Front	Z-2728	Knob, Channel Selector	K-2144
Cabinet, Rear Assembly	Z-2729	Knob, Control	GE-20D-5365
Panel, Side - Short	Z-2735	Chassis	GE-20B-5367

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 13 Colors
Shielded Antenna Lead	8524 (Stranded) Available in 13 Colors
Shielded Cable	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
	Use BELDEN No. 8401 or 8421