

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 RJ-3450

MANUFACTURER'S SPECIFICATIONS

Power Source:	13.8 V, DC
Receiver Section	
Frequency Range:	26.965 MHz to 27.405 MHz
Sensitivity:	0.5 μ V for 10 dB S/N at 1 kHz, 30% Modulation Bandwidth 5 kHz for 6 dB
Selectivity:	55 dB
Adjacent Channel Rejection:	Less than 10% at 0.2 W/50 Ω
Audio Distortion at 1 kHz:	(Built-in Speaker) Less than 10% at 4 W/8 Ω (External Speaker)
Cross Modulation Rejection:	Better than 40 dB
Squelch Sensitivity:	2 dB, approx.
Transmitter Section	
Frequency Range:	26.965 MHz to 27.405 MHz
Power Output at 13.8 V, DC:	4 W Maximum
Modulation:	Less than 100%
Emission (Class D Operation):	6A3
Spurious Emission:	-60 dB
Frequency Tolerance:	$\pm 0.005\%$
Speaker:	3" (8 cm) PM Dynamic Speaker
Dimensions:	[Microphone] 2 $\frac{3}{4}$ " (Wide) $\times$ 5 $\frac{3}{8}$ " (High) $\times$ 2 $\frac{1}{4}$ " (Deep) (70 $\times$ 131 $\times$ 57 mm) [Body] 7 $\frac{5}{8}$ " (Wide) $\times$ 2 $\frac{7}{8}$ " (High) $\times$ 8 $\frac{11}{16}$ " (Deep) (194 $\times$ 72 $\times$ 220 mm)
Weight:	[Microphone] 15 oz. (430 g) [Body] 6 lb. 6 oz. (2.9 kg) without Car-bracket
Impedance:	EXT Speaker Jack 8 Ω Antenna 50 Ω Microphone 50 Ω (Built-in Microphone)

Courtesy of the Manufacturer

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

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PANASONIC MODEL RJ-3450

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 13.8-volt DC input.
 Connect low sides of test equipment to ground unless specified otherwise.
 Connect 50-ohm dummy load or antenna before keying transmitter.
 Connect microphone.

Suggested Alignment Tools: GC ELECTRONICS:
 T1 thru T14 5000,5009,8276,8728A
 L5, L7, FL2 9440,8728,8728A
 FL1 9300,9302,9304
 CS4, C76, C87 5000,8276

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of frequency counter to TP10.	Ch. 19		Check for 10.240MHz $\pm$ 650Hz.
Input of oscilloscope to TP3.	Ch. 19	T9	Adjust for maximum RF.
Input of frequency counter to TP3.	Ch. 19	C87	Adjust for 35.740MHz $\pm$ 300Hz.
Input of DC meter to TP5.	Ch. 1	C54	Adjust for 1.20 volts $\pm$.1 volt. Check for approximately 2.80 volts on Channel 40.
Input of frequency counter to TP12 (IC5 Pin 13).	Ch. 1		Check for 1.920MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP4.	Ch. 19	T8	Adjust for maximum RF.
Input of frequency counter to TP4.	Ch. 1		Check for 37.660MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP6.	Ch. 19, XMT	C76	Adjust for 10.695MHz $\pm$ 300Hz.
Input of frequency counter to antenna input.	Ch. 1, XMT		Check for 26.965MHz. Check all channels. If necessary, readjust C76 for correct frequency. See page 4 for channel frequencies.

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, present as follows, unless otherwise indicated:
 Ch. 9/Reg Reg, Auto/Man Man, Squelch MINIMUM, NB/ANL Off.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP8. 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T7,T6,T5	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T4,T3,T2,T1	Adjust for maximum output. If necessary, readjust T5, T6, and T7 for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Preset as indicated, unless otherwise noted:
Ch. 9/Reg Reg, Auto/Man Man, Squelch MINIMUM, NB/ANL Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV. Input of DC meter to TP11.	Ch. 19	R139	VOLUME RANGE GAIN Set volume, R1002, for 0db (.775V RMS) on AC VTVM. Adjust for 2.50V DC at TP11.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19 Squelch Maximum	R24,R150	SQUELCH RANGE Set R150 to midrange. Adjust R24 so squelch just breaks. If necessary, readjust R150 so that squelch just breaks.

TRANSMITTER ALIGNMENT

Connect a 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.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input.	Ch. 19	T10,T11,T12, T13,T14,L5	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19	L7,FL1,FL2	Adjust for 4.0 watts RF output maximum.

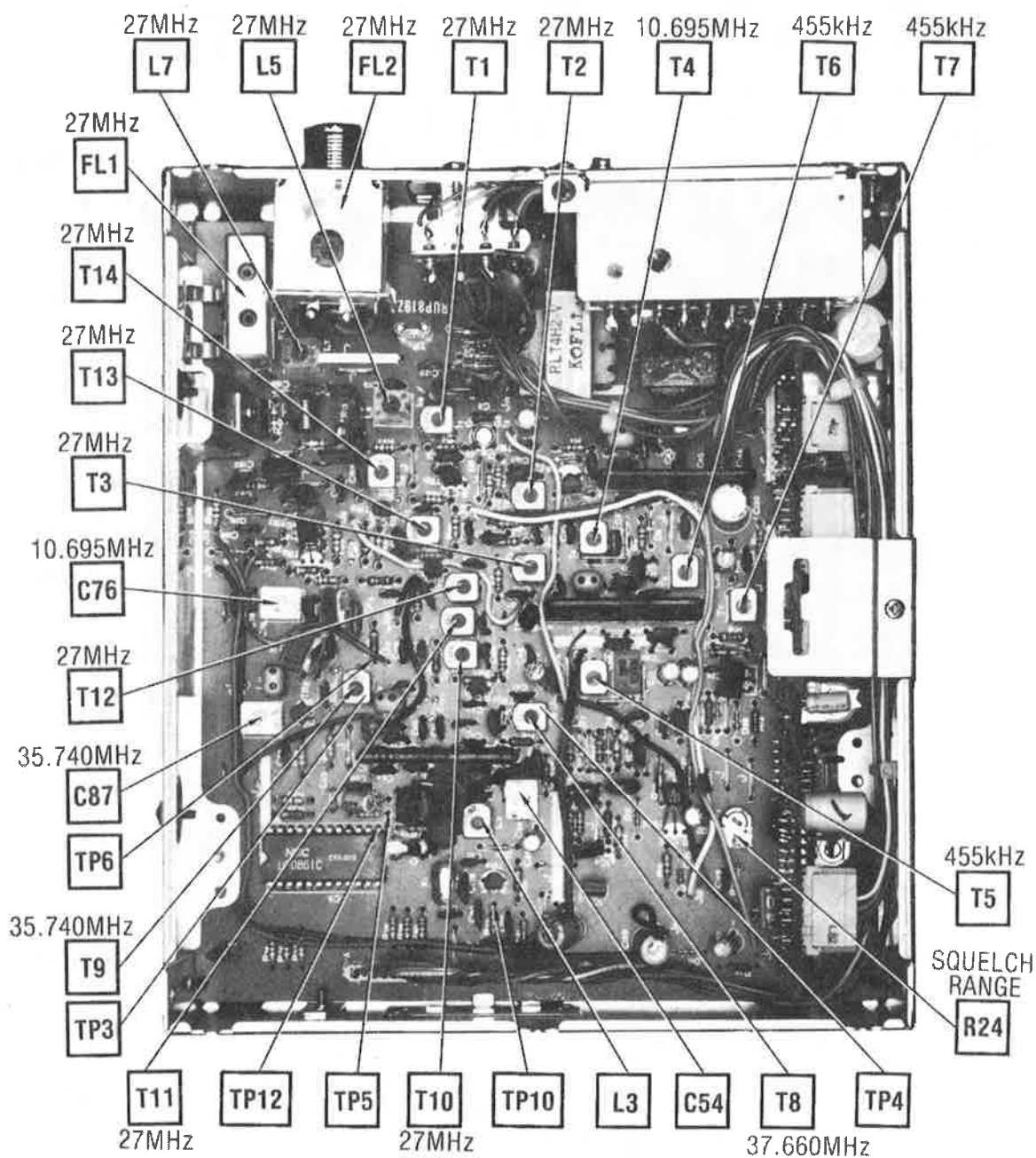
TRANSMITTER ADJUSTMENTS

Connect a 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

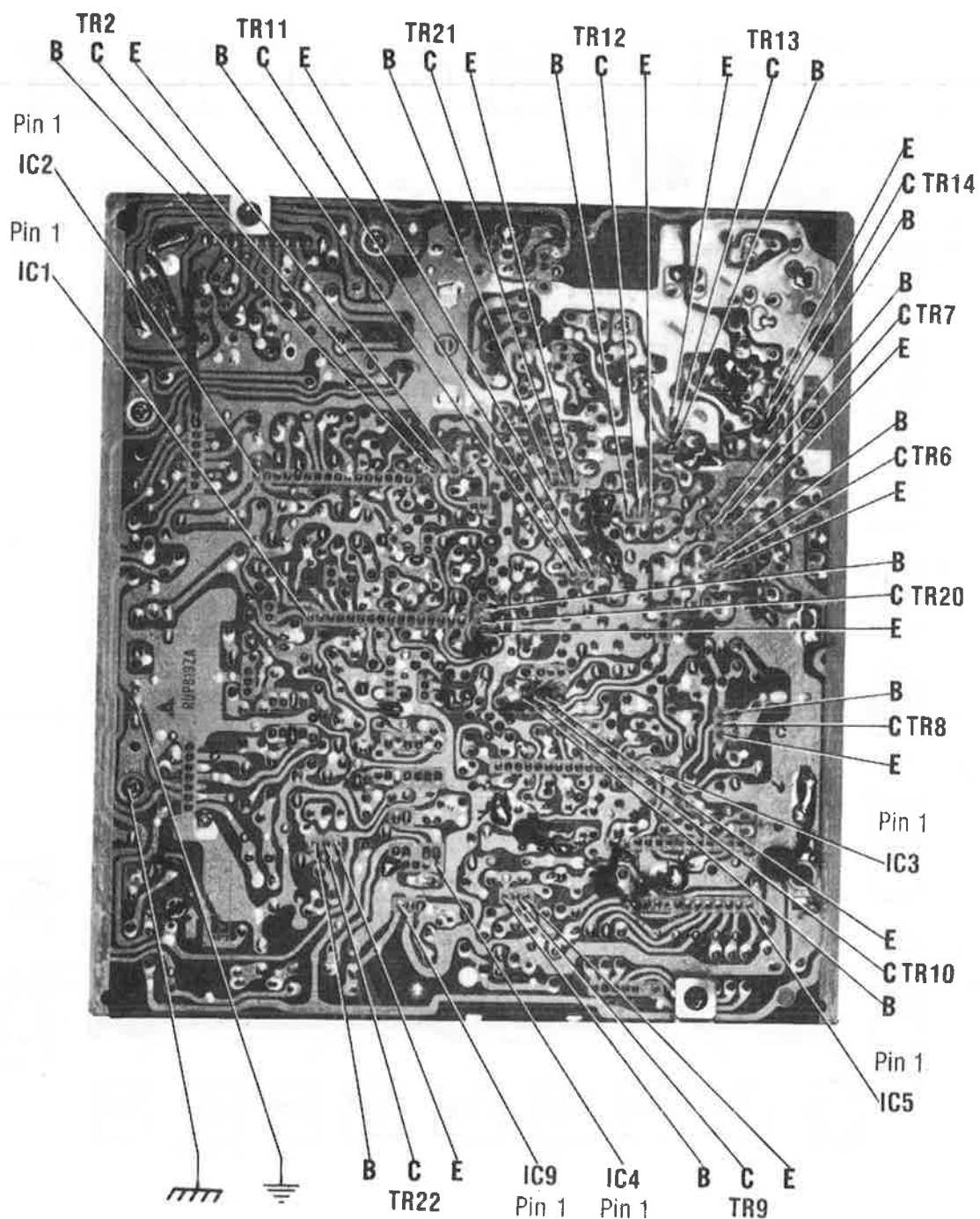
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP2.	Ch. 19, Rec	R50	AMC Adjust for .650 volts DC $\pm$.01 volt.

TRUTH CHART

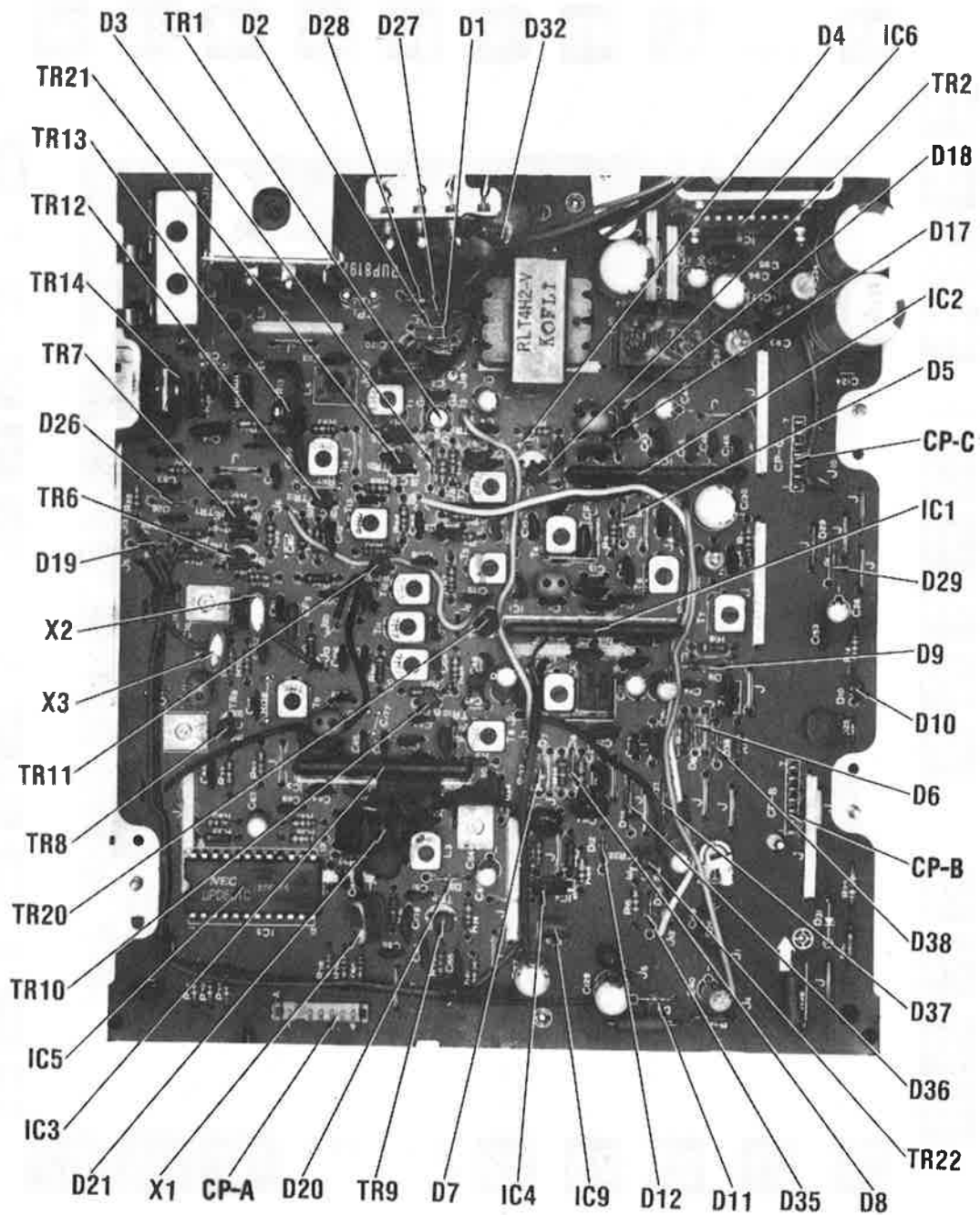
C H A N N E L	1 = 4.68 Volts 0 = .03 Volts								DIVIDER INPUT IN MHz AT TP12	REC & XMIT SYNTH OUTPUT IN MHz AT TP4	
	IC5 PROGRAM DIVIDER										
	PINS										
	8	7	6	5	4	3	2	1			
1	1	1	0	0	0	0	0	0	1.920	37.660	
2	1	1	0	0	0	0	0	1	1.930	37.670	
3	1	1	0	0	0	0	1	0	1.940	37.680	
4	1	1	0	0	0	1	0	0	1.960	37.700	
5	1	1	0	0	0	1	0	1	1.970	37.710	
6	1	1	0	0	0	1	1	0	1.980	37.720	
7	1	1	0	0	0	1	1	1	1.990	37.730	
8	1	1	0	0	1	0	0	1	2.010	37.750	
9	1	1	0	0	1	0	1	0	2.020	37.760	
10	1	1	0	0	1	0	1	1	2.030	37.770	
11	1	1	0	0	1	1	0	0	2.040	37.780	
12	1	1	0	0	1	1	1	0	2.060	37.800	
13	1	1	0	0	1	1	1	1	2.070	37.810	
14	1	1	0	0	0	0	0	0	2.080	37.820	
15	1	1	0	1	0	0	0	1	2.090	37.830	
16	1	1	0	1	0	0	1	1	2.110	37.850	
17	1	1	0	1	0	1	0	0	2.120	37.860	
18	1	1	0	1	0	1	0	1	2.130	37.870	
19	1	1	0	1	0	1	1	0	2.140	37.880	
20	1	1	0	1	1	0	0	0	2.160	37.900	
21	1	1	0	1	1	0	0	1	2.170	37.910	
22	1	1	0	1	1	0	1	0	2.180	37.920	
23	1	1	0	1	1	1	0	1	2.210	37.950	
24	1	1	0	1	1	0	1	1	2.190	37.930	
25	1	1	0	1	1	1	0	0	2.200	37.940	
26	1	1	0	1	1	1	1	0	2.220	37.960	
27	1	1	0	1	1	1	1	1	2.230	37.970	
28	1	1	1	0	0	0	0	0	2.240	37.980	
29	1	1	1	0	0	0	0	1	2.250	37.990	
30	1	1	1	0	0	0	1	0	2.260	38.000	
31	1	1	1	0	0	0	1	1	2.270	38.010	
32	1	1	1	0	0	1	0	0	2.280	38.020	
33	1	1	1	0	0	1	0	1	2.290	38.030	
34	1	1	1	0	0	1	1	0	2.300	38.040	
35	1	1	1	0	0	1	1	1	2.310	38.050	
36	1	1	1	0	1	0	0	0	2.320	38.060	
37	1	1	1	0	1	0	0	1	2.330	38.070	
38	1	1	1	0	1	0	1	0	2.340	38.080	
39	1	1	1	0	1	0	1	1	2.350	38.090	
40	1	1	1	0	1	1	0	0	2.360	38.100	



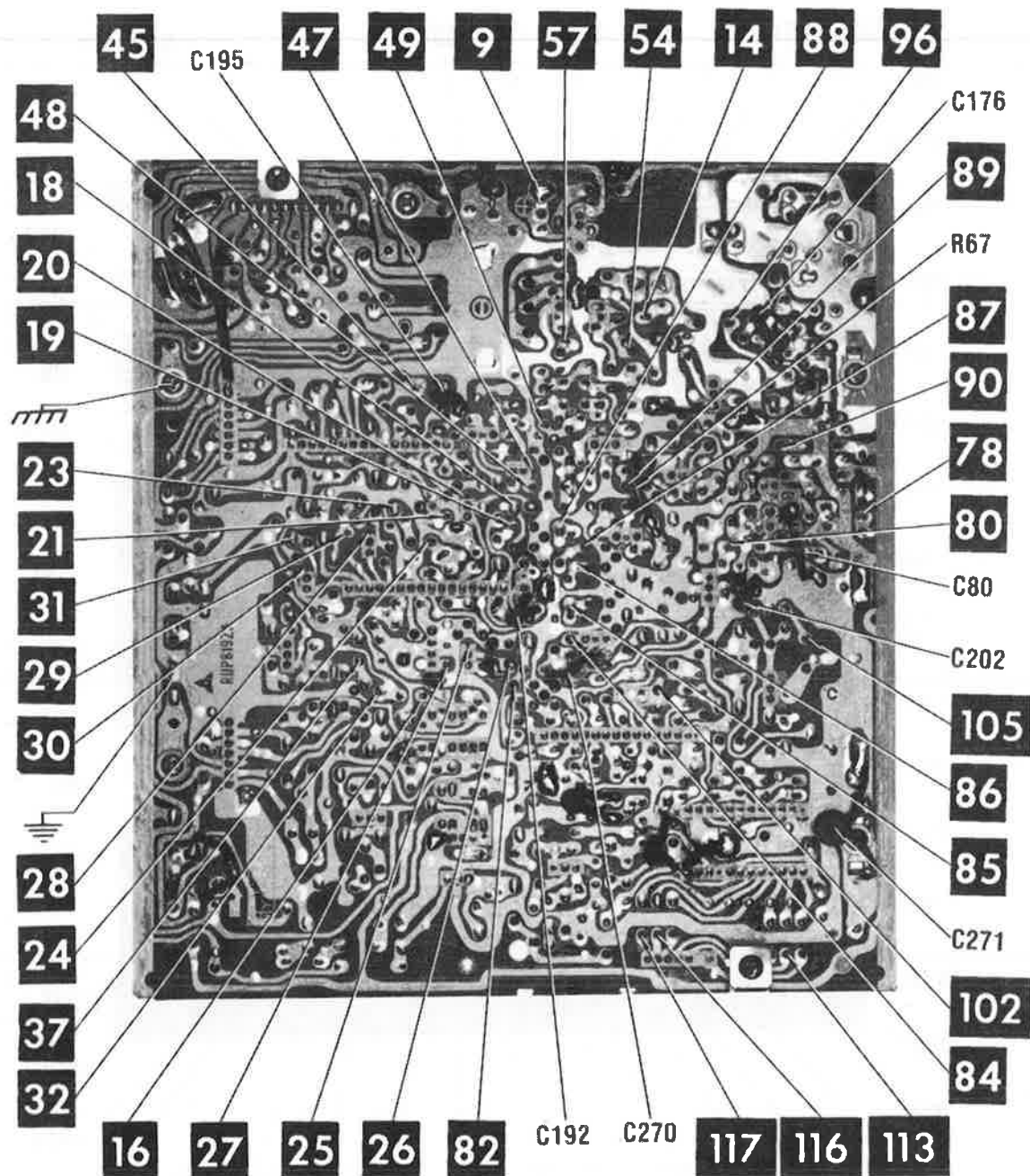
CHASSIS-TOP



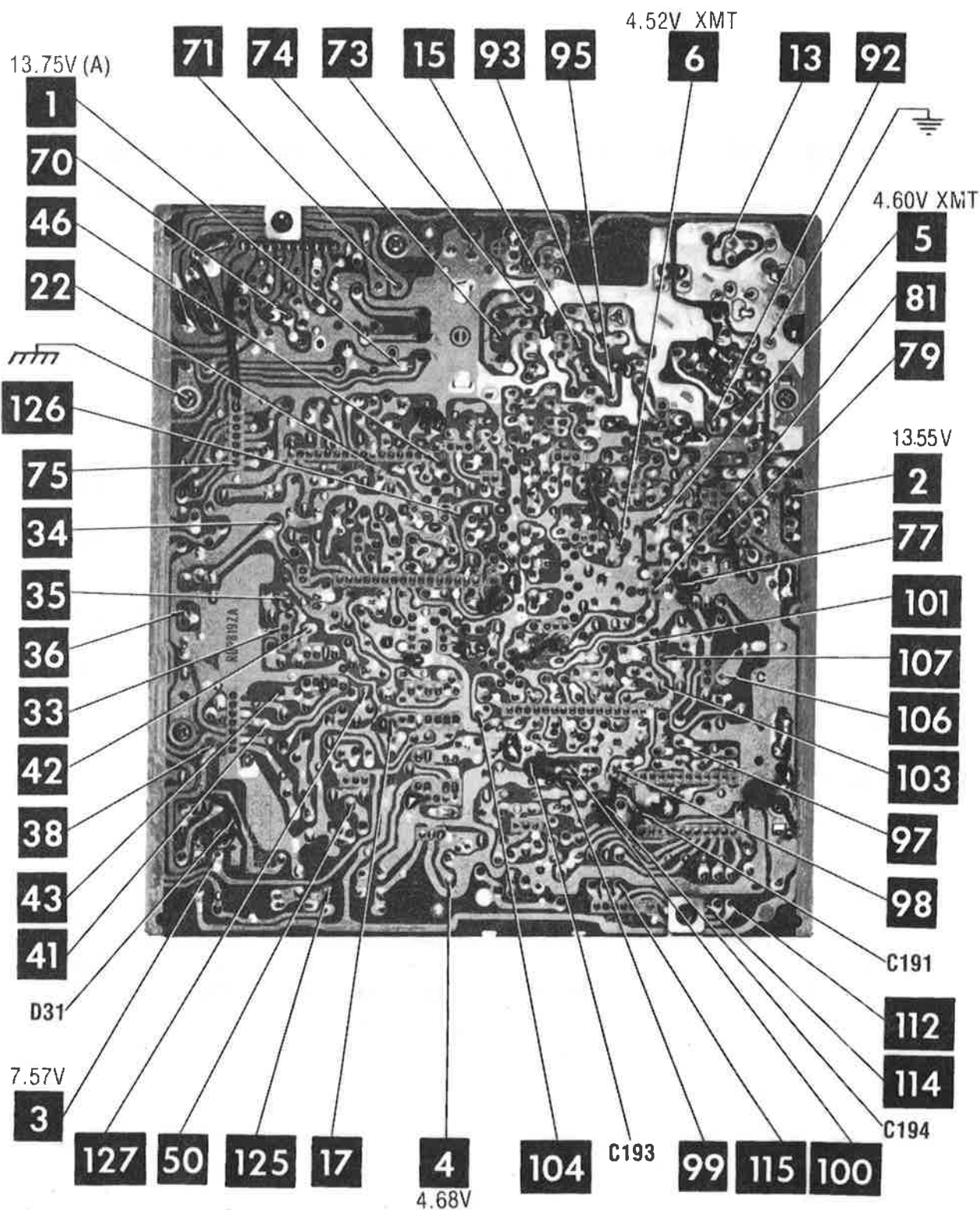
MAIN BOARD



MAIN BOARD

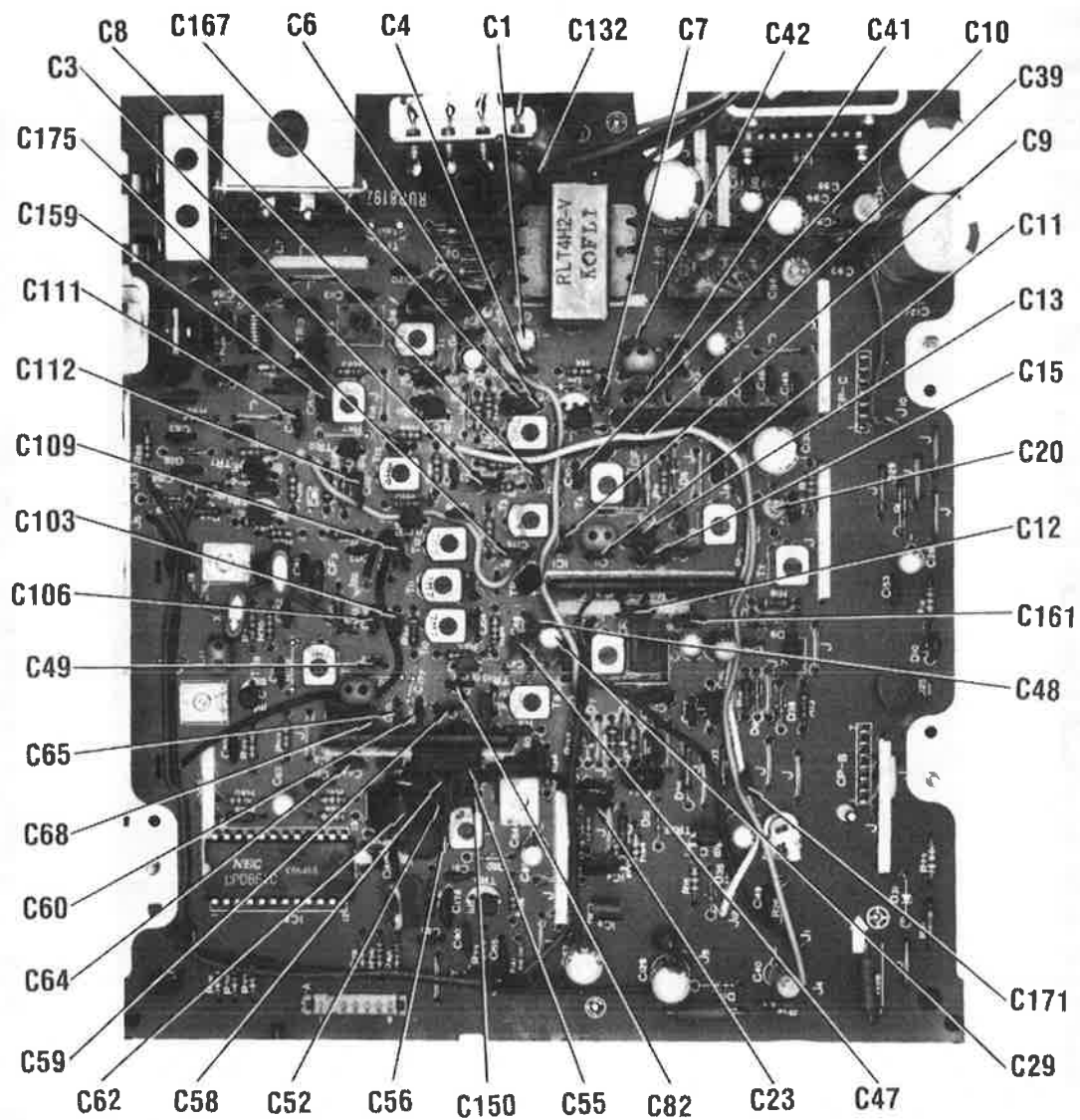


MAIN BOARD

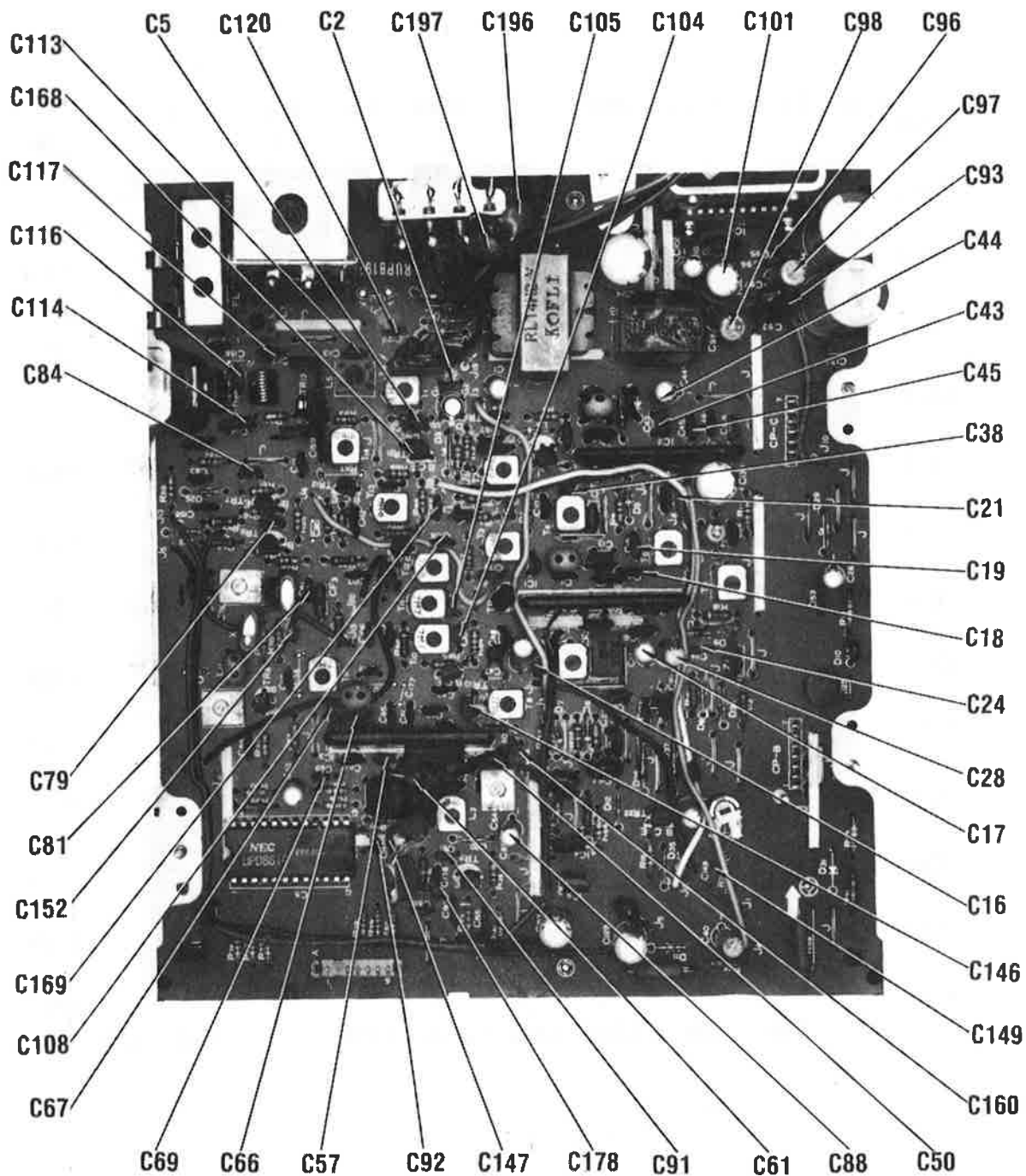


PANASONIC MODEL RJ-3450

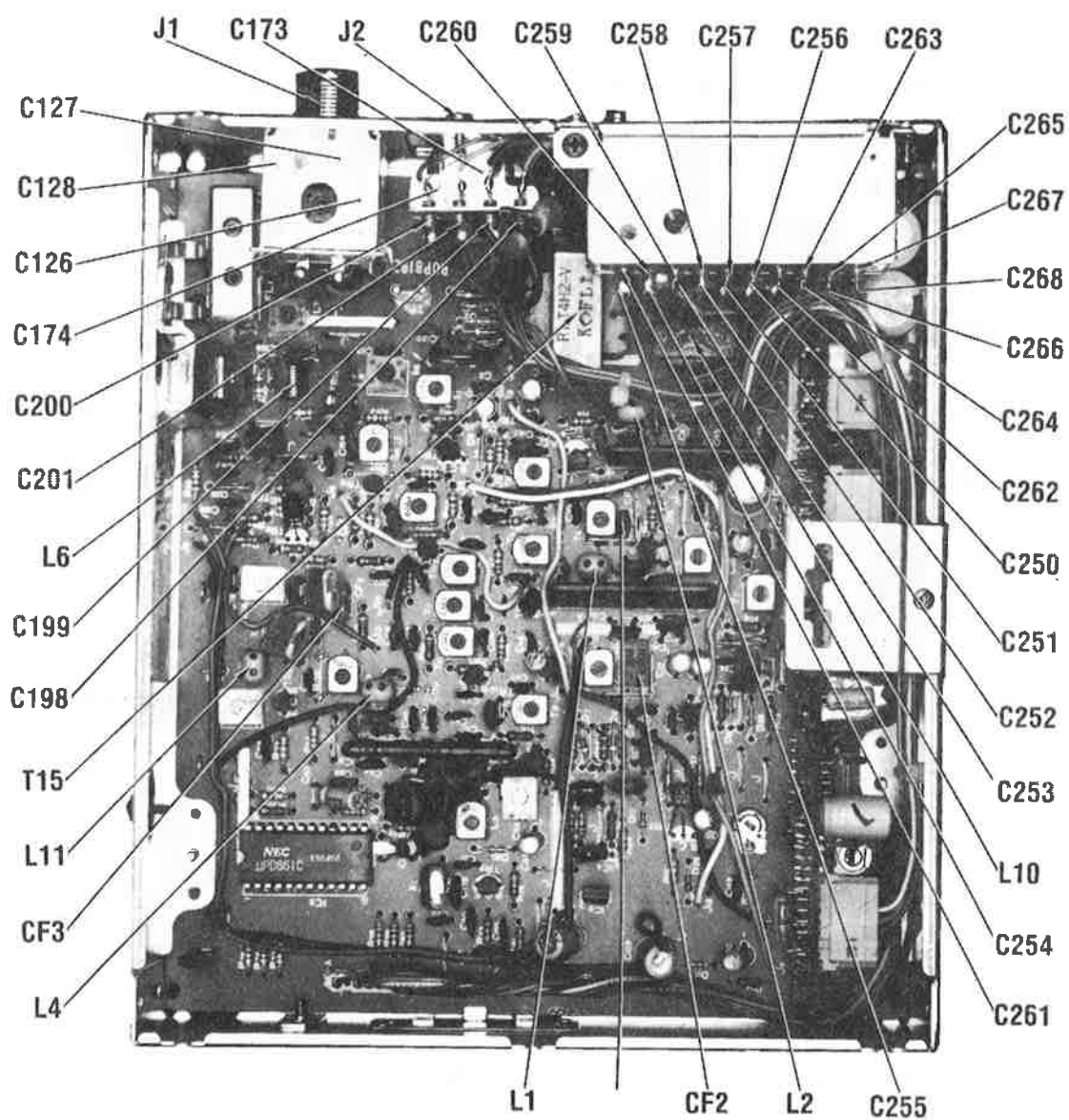
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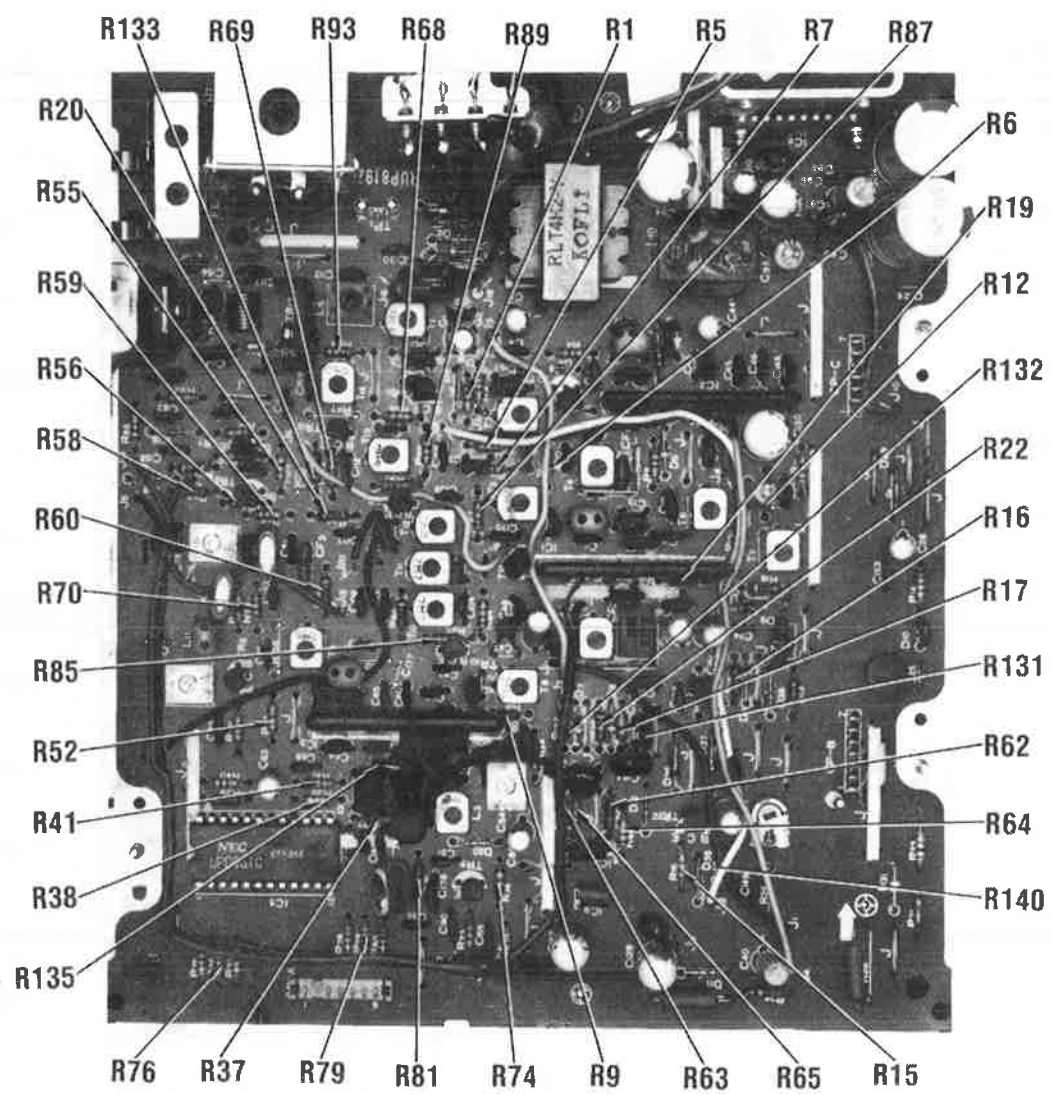
MAIN BOARD



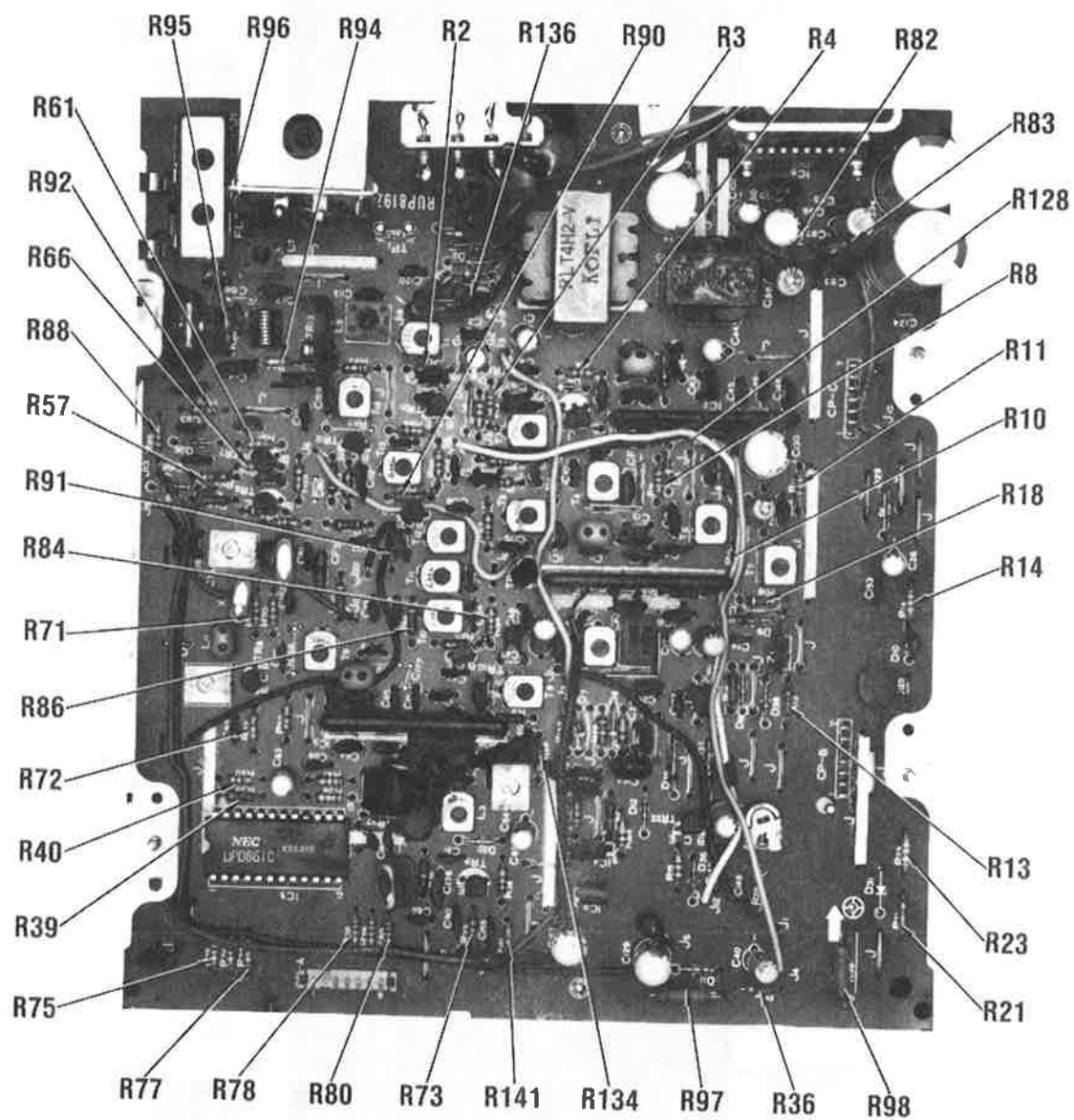
MAIN BOARD



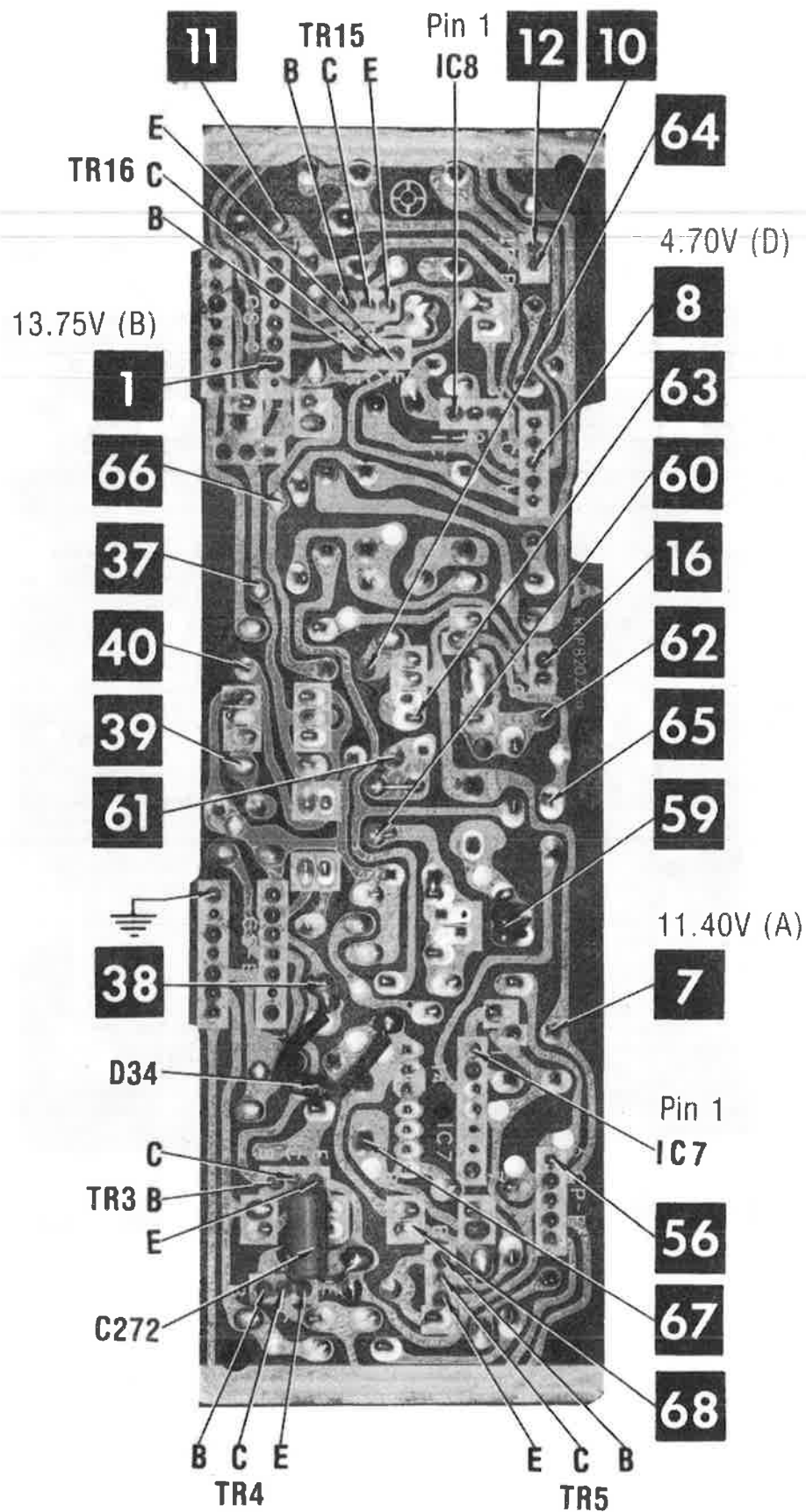
CHASSIS-TOP



MAIN BOARD

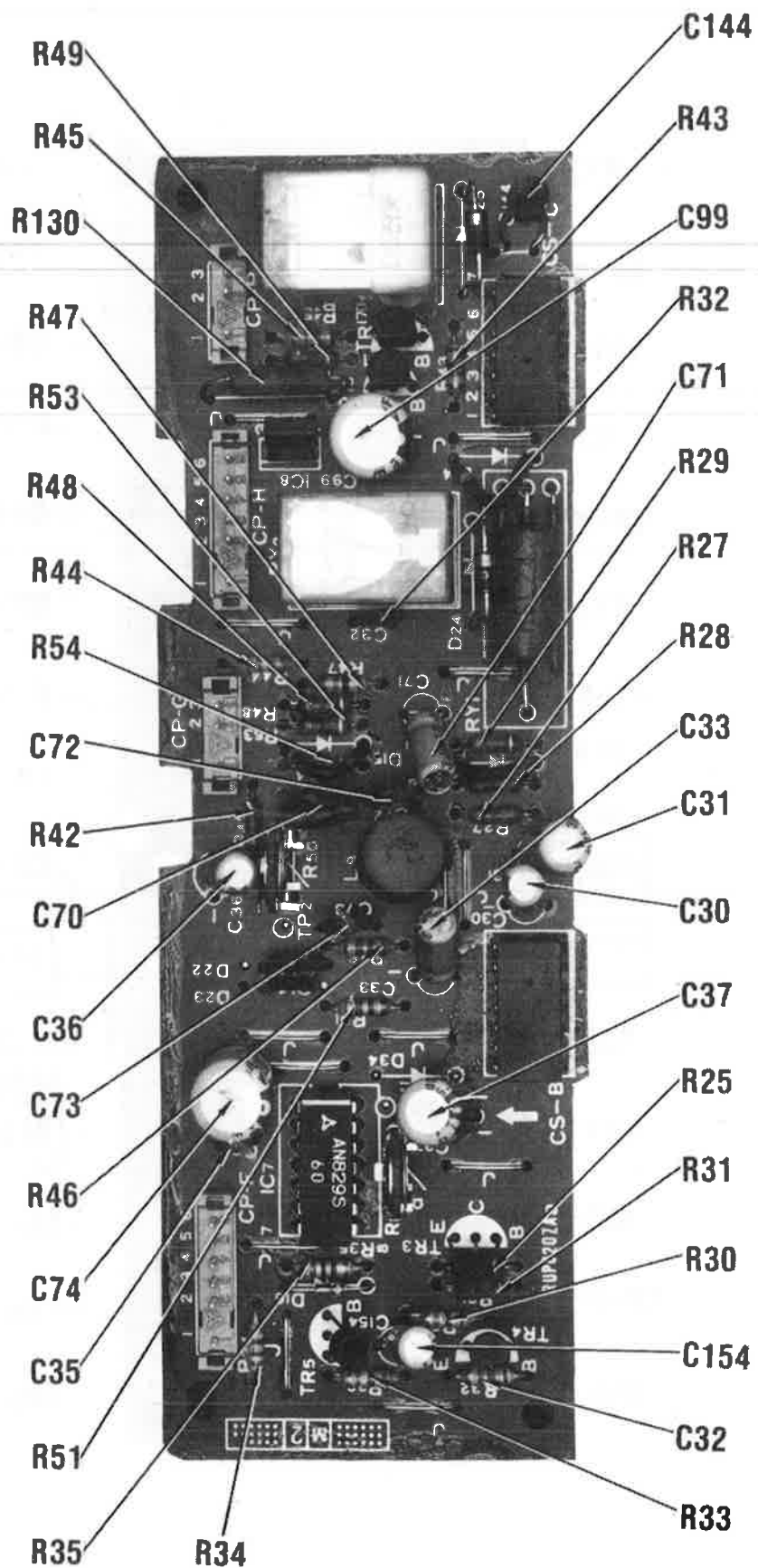


MAIN BOARD

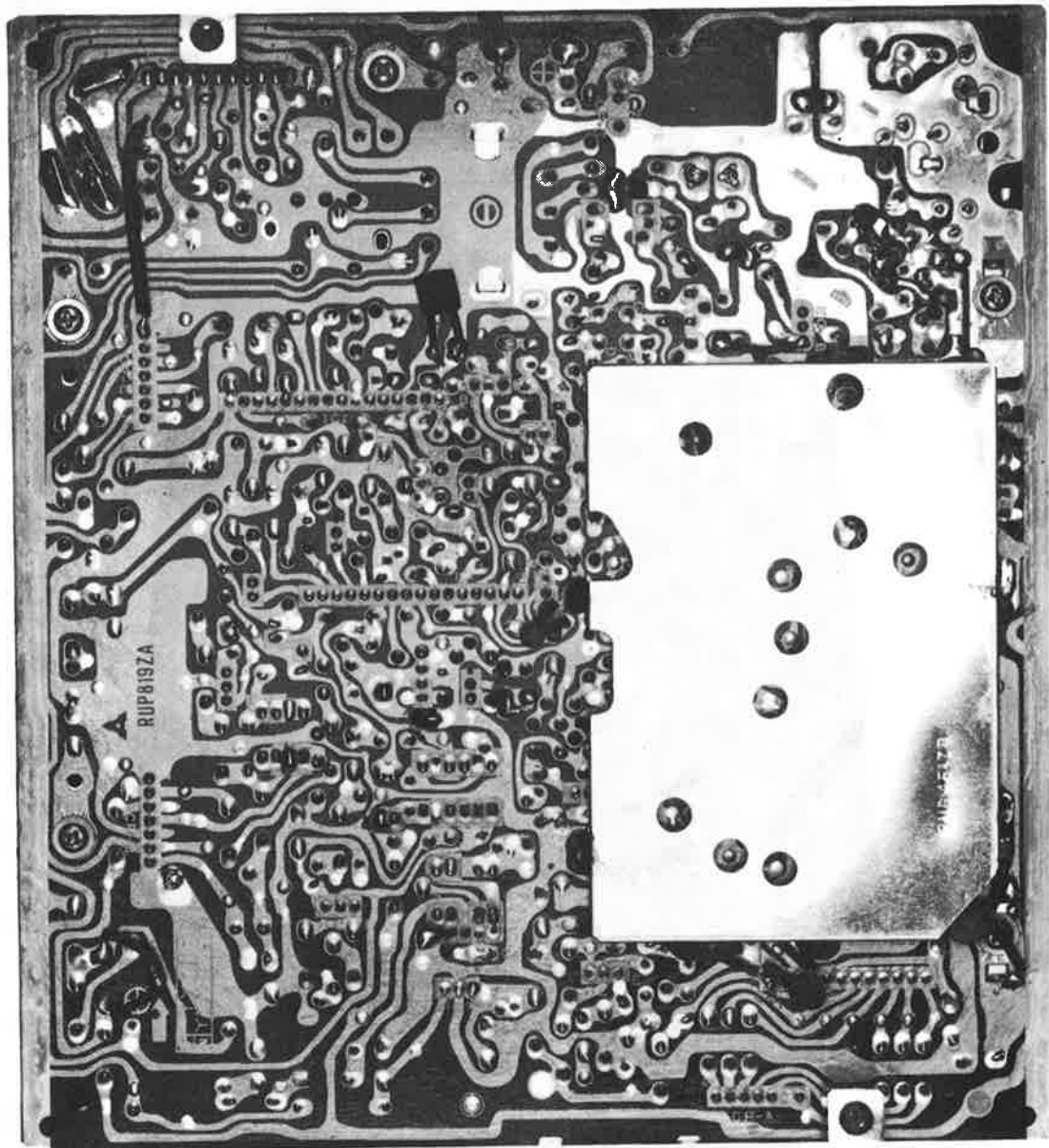


RELAY BOARD

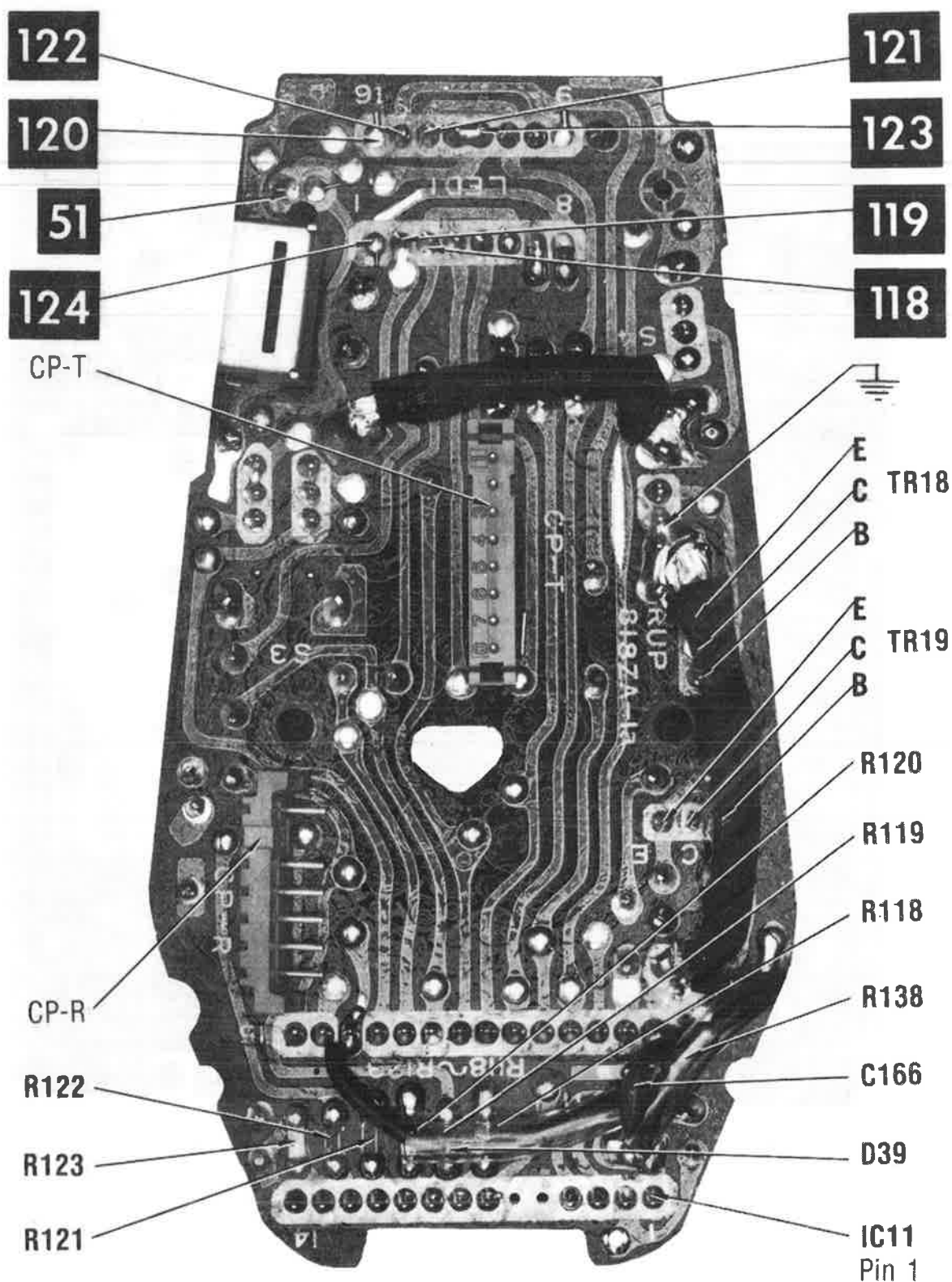




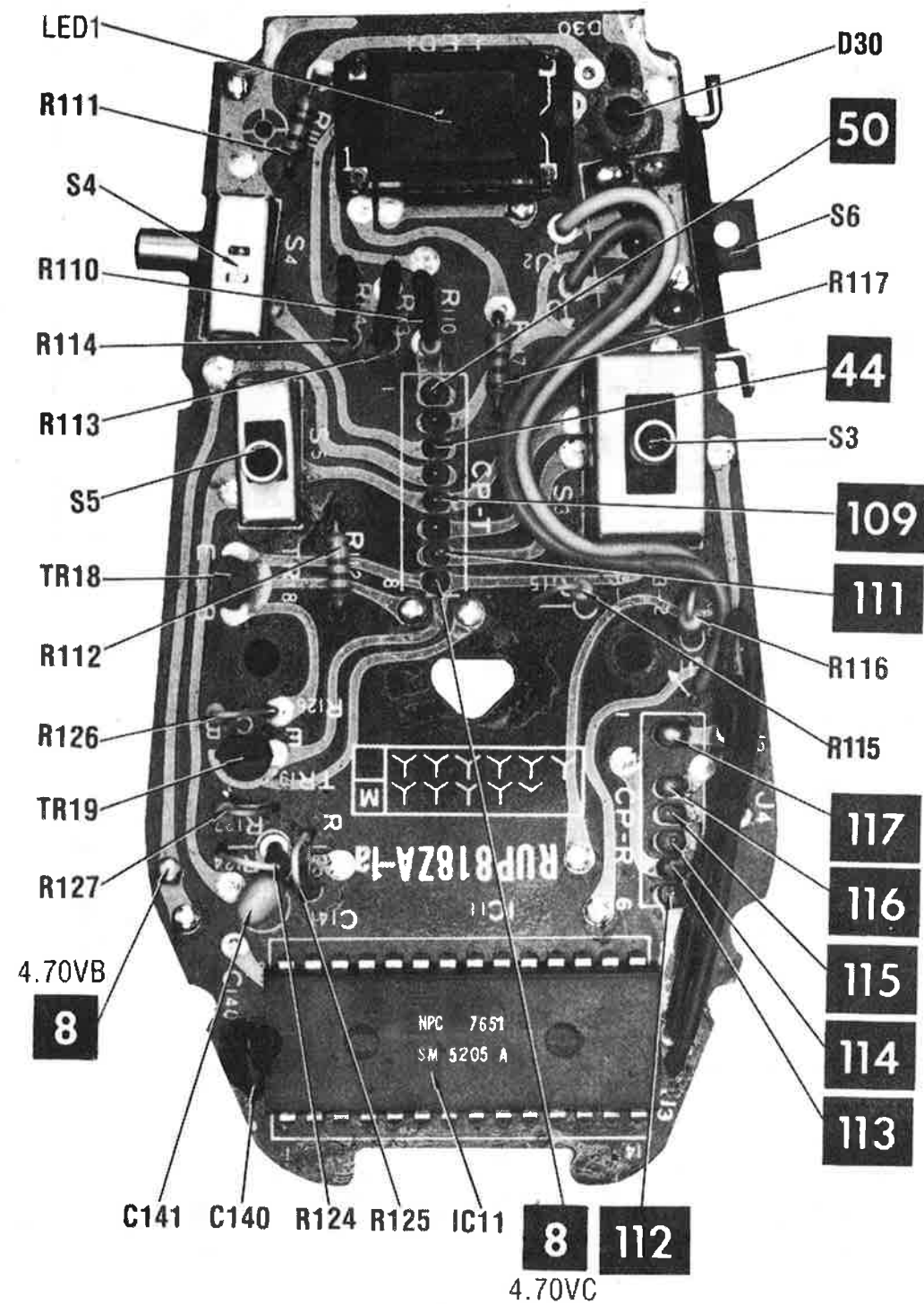
RELAY BOARD



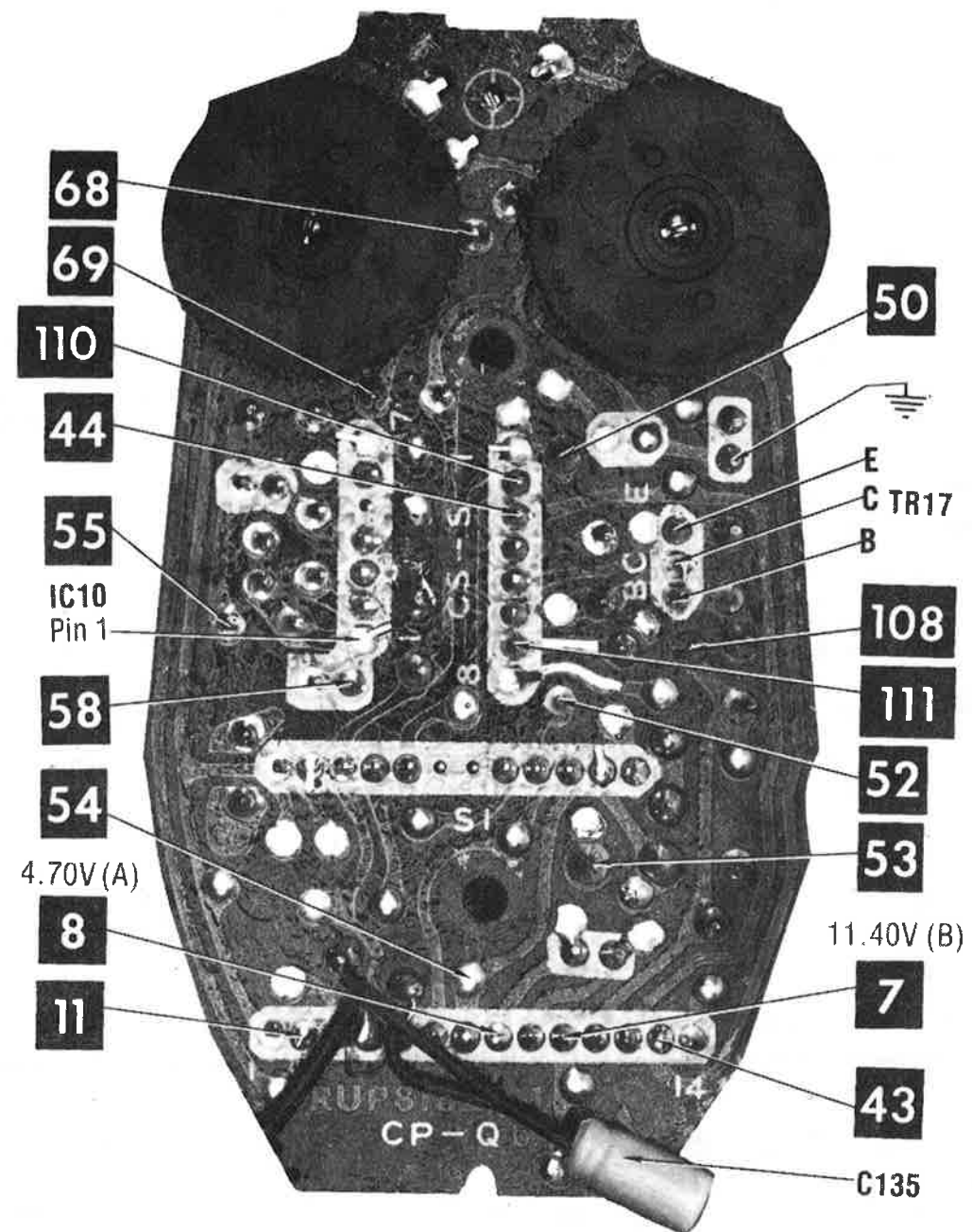
SHIELD LOCATION



CH. DISPLAY BOARD



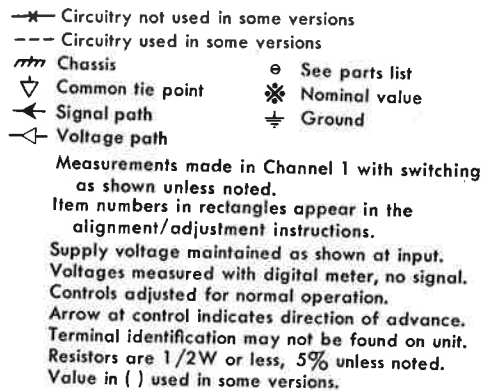
CH. DISPLAY BOARD



MIC BOARD

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POWER SUPPLY SCHEMATIC

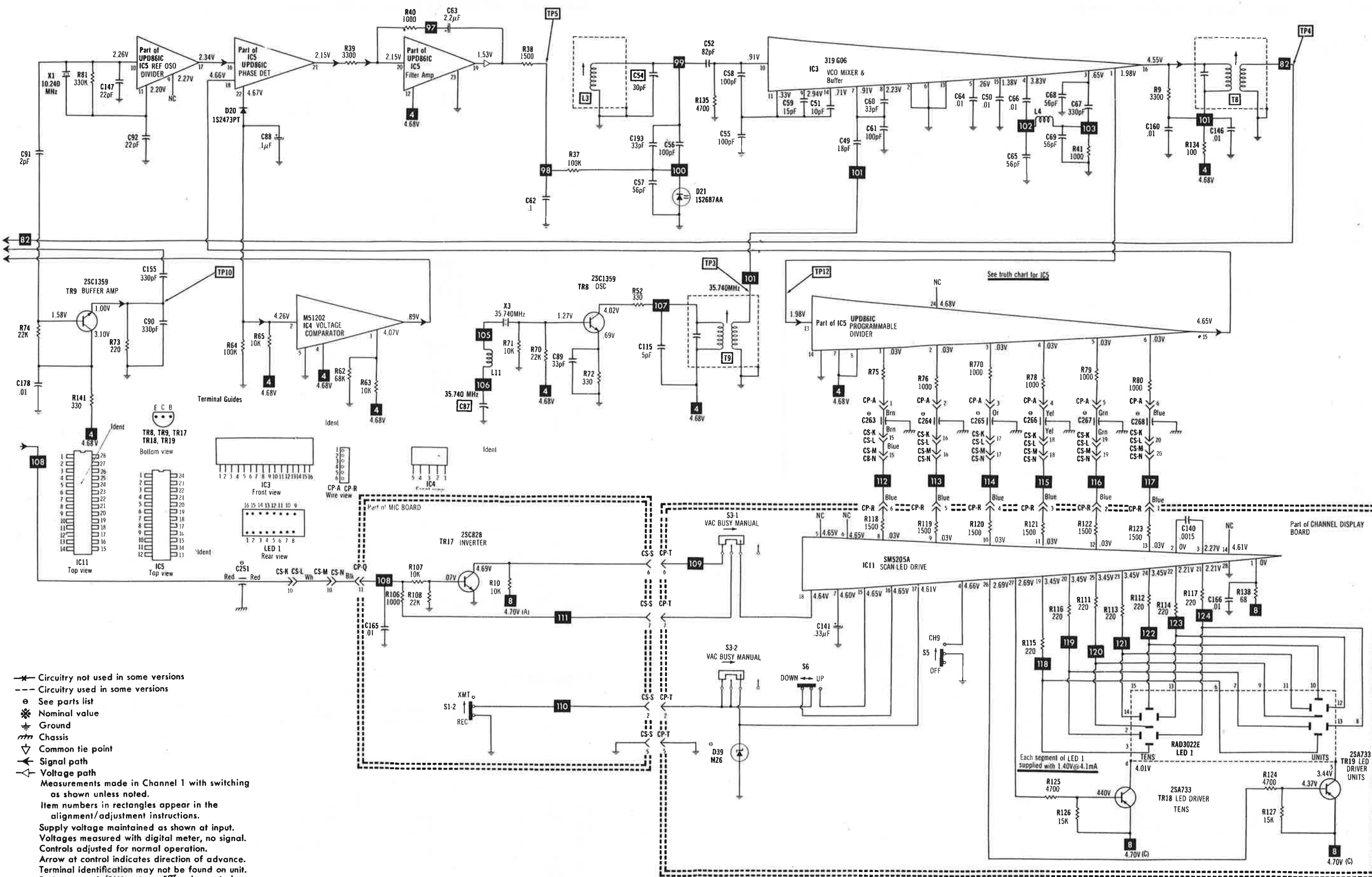


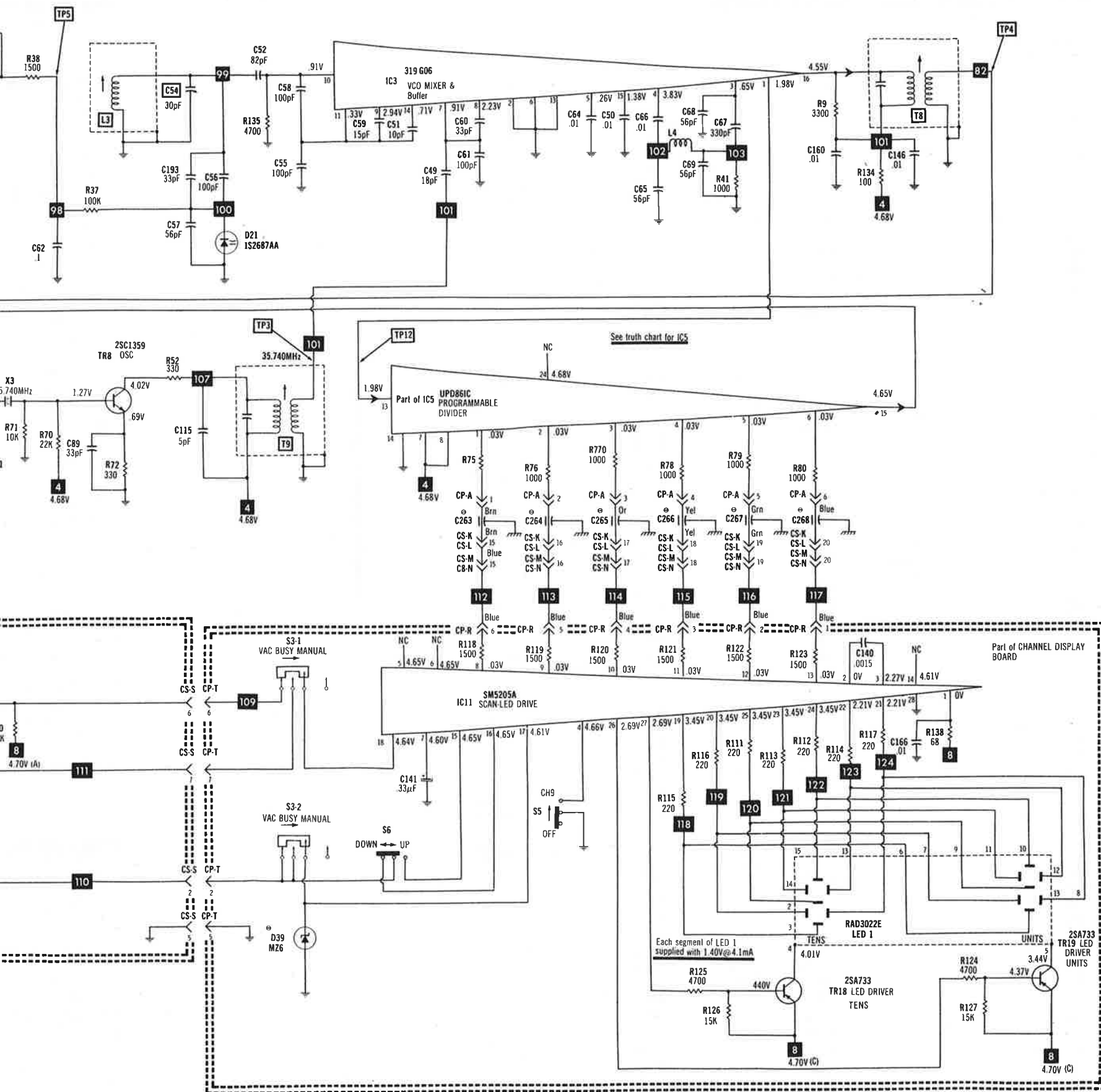


SEMICONDUCTORS (See)

ITEM No.	TYPE No.	MFR. PART No.
D1	MA150	
D2	MA150	
D3	1S2473	
D4	MA150	
D5	MA150	
D6	1S2473TP	
D7	MA150	
D8	MA150	
D9	0A90LF	
D10	VD1150M	
D11	1S2473TP	
D12	1S2473TP	
D13	MA150	
D14	MA150	
D15	MA150	
D16	1S2473	
D17	0A90LF	
D18	0A90	
D19	1S2473TP	
D20	1S2473TP	
D21	1S2687AA	
D22	MA150	
D23	MA150	
D24	1R10E6J	
D25	VD10E1LF	
D26	1S2473TP	
D27	1S2473	
D28	1R10E6J	
D29	VD10E1LF	
D30	RD7R5EB	
D31	1R10E6X	
D32	1S2473TP	
D33	1R10E6J	
D34	VD10E1LF	
D35	MA150	
D36	1S2473	
D37	0A90LF	
D38	1S2473TP	
D39	MZ6	
IC1	MZ206	
IC2	312A12	
IC3	315S02	
IC4	319G06	
IC5	MS1202	
IC6	UPD861	
IC7	AN315	
IC8	AN829S	
IC9	AN829	
IC10	78L05	
IC11	78L05	
IC12	AN360	
IC13	SM5205A	
IC14	3SK40	
IC15	2SC829	
IC16	2SC1327	
IC17	2SC1327	
IC18	2SC829	
IC19	2SC1359	
IC20	2SA564	
IC21	2SC1359	
IC22	2SC1359	
IC23	2SC1359	
IC24	2SC1359	
IC25	2SC1957	
IC26	2SC1909	
IC27	2SC828	
IC28	2SC828	
IC29	2SC828	
IC30	2SA733	
IC31	2SA733	
IC32	2SC829	
IC33	2SC828	
IC34	2SC828	

* Lead configuration may vary from
/** Also available as exact type rep





PLL SCHEMATIC

PANASONIC MODEL RJ-3450

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.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D1	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D2	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D3	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D4	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D5	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D6	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D7	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D8	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D9	0A90LF		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D10	VD1150M		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D11	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D12	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D13	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D14	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D15	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D16	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D17	0A90LF		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D18	0A90		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D19	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D20	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D21	1S2687AA		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D22	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D23	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D24	IR10E6J		GE-504A	PTC202	HEPR0054	REN 116	SK3313	RT-215	ECG116	TM116	WEP158	212-76-02
D25	VD10E1LF		GE-504A	PTC202	HEPR0054	REN 116	SK3313	RT-215	ECG116	TM116	WEP158	212-76-02
D26	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D27	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D28	IR10E6J		GE-504A	PTC202	HEPR0054	REN 116	SK3313	RT-215	ECG116	TM116	WEP158	212-76-02
D29	VD10E1LF		GE-504A	PTC202	HEPR0054	REN 116	SK3313	RT-215	ECG116	TM116	WEP158	212-76-02
D29	RD7R5EB		GEZD-7.5	ZB7.5B		REN 138	SK3059	RT-239	ECG138A	TM138/**	WEP107	103-Z9002
D31	IR10E6X		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D32	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D32	IR10E6J		GE-504A	PTC202	HEPR0054	REN 116	SK3313	RT-215	ECG116	TM116	WEP158	212-76-02
D32	VD10E1LF		GE-504A	PTC202	HEPR0054	REN 116	SK3313	RT-215	ECG116	TM116	WEP158	212-76-02
D33	MA150		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D34	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D35	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D36	0A90LF		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D37	0A90LF		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D38	1S2473TP		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D39	MZ6		GEZD-6.8	ZB6.8A		REN 5071	SK3334	RT-238	ECG5071	TM5071/**	WEP106	103-Z9008
IC1	312A12											
IC2	315S02											
IC3	319G06											
IC4	M51202											
IC5	UPD861											
IC6	AN315											
IC7	AN829S											
IC8	AN829											
IC9	78L05											
IC10	AN360											
IC11	SM5205A											
TR1	3SK40		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222/**	WEP905	121-826
TR2	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-Z9021*
TR3	2SC1327		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
TR4	2SC1327		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
TR5	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-Z9021*
TR6	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229/**	WEP66	121-972
TR7	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR8	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229/**	WEP66	121-972
TR9	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229/**	WEP66	121-972
TR10	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229/**	WEP66	121-972
TR11	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229/**	WEP66	121-972
TR12	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229/**	WEP66	121-972
TR13	2SC1957		GE-270	PTC180	HEPS3044	REN 295	SK3197	RT-308	ECG295	TM295	WEP66	121-972
TR14	2SC1909		GE-215	PTC186	HEPS3044	REN 235	SK3197	RT-308	ECG235	TM235	WEP913	121-880
TR15	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
TR16	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
TR17	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
TR18	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
TR19	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
TR20	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-Z9021*
TR21	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
TR22	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972

* Lead configuration may vary from original.
 /** Also available as exact type replacement.

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	1 50V	ECEA50V1	PC1-50	VTT1A50	QV1-11	EV-1615
C17	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C20	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C26	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C28	.1 50V	ECEA50ZR1		TDC104M050EL	QDT1-2	SD50-R109
C29	4.7 35V	ECEA35V4R7	PC5-50	VTT4R7B50	QV1-29	EV-1519
C30	1 50V	ECEA50V1	PC1-50	VTT1A50	QV1-11	EV-1615
C31	47 16V	ECEA16V47	PC50-16	VTT47D16	QV1-73	EV-1226
C33	.33 50V	ECEA50ZR33		TDC334M050EL	QDT1-14	SD50-R339
C34	1000 16V	ECEA16V1000	PC1000-16	VTT100DL16	QV1-183	EV-1260
C36	1 50V	ECEA50V1	PC1-50	VTT1A50	QV1-11	EV-1615
C37	100 10V	ECEA10V100	PC100-10	VTT100E10	QV1-93	EV-1130
C40	1 50V	ECEA50V1	PC1-50	VTT1A50	QV1-11	EV-1615
C44	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C63	2.2 25V	ECEA25N2R2	PC2-100	VTT2R2A50	QV1-19	EV-1517
C71	.33 50V	ECEA50ZR33		TDC334M050EL	QDT1-14	SD50-R339
C74	220 16V	ECEA16V220	PC250-25	VTT220H16	QV1-117	EV-1240
C88	.1 50V	ECEA50ZR1		TDC104M050EL	QDT1-2	SD50-R109
C94	470 16V	ECEA16V470	PC500-16	VTT470K16	QV1-151	EV-1250
C97	47 10V	ECEA10V47	PC50-16	VTT47D16	QV1-73	EV-1226
C98	47 10V	ECEA10V47	PC50-16	VTT47D16	QV1-73	EV-1226
C99	100 16V	ECEA16V100	PC100-16	VTT100F16	QV1-95	EV-1230
C101	100 10V	ECEA10V100	PC100-10	VTT100E10	QV1-93	EV-1130
C102	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C129	47 16V	ECEA16V47	PC50-16	VTT47D16	QV1-73	EV-1226
C130	100 16V	ECEA16V100	PC100-16	VTT100F16	QV1-95	EV-1230
C131	1000 16V	ECEA16V1000	PC1000-16	VTT100DL16	QV1-183	EV-1260
C133	100 10V	ECEA10V100	PC100-10	VTT100E10	QV1-93	EV-1130
C134	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C135	.1 50V	ECEA50ZR1		TDC104M050EL	QDT1-2	SD50-R109
C138	1 50V	ECEA50V1	PC1-50	VTT1A50	QV1-11	EV-1615
C139	47 16V	ECEA16V47	PC50-16	VTT47D16	QV1-73	EV-1226
C141	.33 50V	ECEA50ZR33		TDC334M050EL	QDT1-14	SD50-R339
C154	10 16V	ECEA16V10	PC10-25	VTT10B25	QV1-41	EV-1222
C157	47 10V	ECEA16V47	PC50-16	VTT47D16	QV1-73	EV-1226
C170	1 50V	ECEA50V1	PC1-50	VTT1A50	QV1-11	EV-1615
C272	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319

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
C2	.01	ECCD1H020C	UK50-103		MAG5011		
C3	.01		UK50-103		MAG5011		
C4	.001		DD-102		GP210		10TS-D10
C5	.01		UK50-103		MAG5011		
C6	.01		UK50-103		MAG5011		
C7	.01		UK50-103		MAG5011		
C8	2 + .25						
C9	.001		DD-102		GP210		10TS-D10
C10	.01		UK50-103		MAG5011		
C11	.001		DD-102		GP210		10TS-D10
C12	330 10%		DD-331	GP330	GP333		10TS-T33
C13	100 10%		DTZ-100	NP0100	CN0310		10TCC-T10
C14	33 NPO 10%		DTZ-33	NP033	CN0433		10TCC-Q33
C15	.01		UK50-103		MAG5011		
C16	.01		UK50-103		MAG5011		
C18	.033		UK50-333		MAG50133		
C19	.01		UK50-103		MAG5011		
C21	.01		UK50-103		MAG5011		
C22	.01		UK50-103		MAG5011		
C23	.01		UK50-103		MAG5011		
C24	100 10%		DTZ-100	NP0100	CN0310		10TCC-T10
C25	330 10%		DD-331	GP330	GP333		10TS-T33
C27	.01	ECCD1H020C	UK50-103		MAG5011		
C32	.01		UK50-103		MAG5011		
C35	680		DD-681	GP680	GP368		10TS-T68
C38	10 NPO 10%		DTZ-10	NP010	CN0410		10TCC-Q10
C39	.01		UK50-103		MAG5011		
C41	.022		UK25-223				HY-725
C42	.001		DD-102		GP210		10TS-D10
C43	180 10%		DTZ-180				10TCC-T18
C45	.01		UK50-103		MAG5011		
C46	.01		UK50-103		MAG5011		
C47	12 NPO 10%	ECCD1H020C			CN0412		10TCC-Q12
C48	.001		DD-102		GP210		10TS-D10
C49	18 NPO 10%				CN0418		10TCC-Q18

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

CAPACITORS (cont)

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
C50	.01	RCV1PX30AG	UK50-103		MAG5011		
C51	10 NPO 10%		DTZ-10	NP010	CN0410		10TCC-Q10
C52	82 10%			CD15ED820J03	SX482	QW1-25	MMA-820
C53	.01						
C54	30						
C55	100 5%						
C56	100 N750 10%						
C57	56 N750 10%						
C58	100 5%						
C59	15 NPO 10%						
C60	33 NPO 5%	ECCD1H560KU					
C61	100 10%						
C62	.1						
C64	.01						
C65	56 10%						
C66	.01						
C67	330 10%						
C68	56 10%						
C69	56 10%						
C70	.068						
C72	.033	RCV1PX30AG					
C73	.033						
C75	39 NPO 10%						
C76	30						
C77	.01						
C78	100 10%						
C79	180 10%						
C80	.01						
C81	33 NPO 10%						
C82	7 NPO ±.5						
C83	.01	ECCD1H070DC					
C84	.01						
C86	.01						
C87	30						
C89	33 NPO 10%						
C90	330 10%						
C91	2 + .25						
C92	22 NPO 10%						
C93	.1						
C95	.001						
C96	.001	RCV1PX30AG					
C100	.033						
C103	.01						
C104	2 + .25						
C105	2 + .25						
C106	.01						
C107	.01						
C108	.001						
C109	.01						
C110	.001						
C111	.01	ECCD1H020C					
C112	.01						
C113	.01						
C114	220 10%						
C115	5 NPO ±.25						
C116	.01						
C117	220 10%						
C118	.01						
C119	82 10%						
C120	68 10%						
C121	.001	ECCD1H050CC					
C122	.033						
C123	.033						
C124	.033						
C125	.033						
C126	56 10%						
C127	15 10%						
C128	56 10%						
C132	.01						
C135	.068						
C136	33 NPO 10%	RCV1PX30AG					
C137	.01						
C140	.0015						
C144	.01						
C145	.01						
C146	.01						
C147	22 NPO 10%						
C148	.01						
C149	.01						
C150	.01						
C151	.01	ECCD1H020C					
C152	.01						
C153	.01						
C155	330 10%						
C158	.01						
C159	.01						
C160	.01						
C161	.01						
C162	.033						
C164	.068						
C165	.01	ECCD1H020C					
C166	.01						
C167	.01						
C168	.01						
C169	.01						
C171	.01						
C172	68 10%						
C173	.001						
C174	.001						
C175	.01						

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

CAPACITORS (cont)

ITEM No.	RATING
C176	56 10%
C178	.01
C191	.01
C192	22 NPO 10%
C193	33 NPO 10%
C194	.01
C195	68 10%
C196	.01
C197	.01
C198	.001
C199	.001
C200	.001
C201	.001
C202	5 NPO $\pm .25$
C205	.001
C206	.001
C250	.001
C251	.001
C252	.001
C253	.001
C254	.001
C255	.001
C256	.001
C257	.001
C258	.001
C259	.001
C260	.001
C261	.001
C262	.001
C263	.001
C264	.001
C265	.001
C266	.001
C267	.001
C268	.001
C270	.01
C271	.033

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

AGUE PART No.	
GENERAL LINE	
EV-1615	
EV-1222	
EV-1222	
EV-1222	
SD50-R109	
EV-1519	
EV-1615	
EV-1226	
SD50-R339	
EV-1260	
EV-1615	
EV-1130	
EV-1615	
EV-1222	
EV-1517	
SD50-R339	
EV-1240	
SD50-R109	
EV-1250	
EV-1226	
EV-1226	
EV-1230	
EV-1130	
EV-1222	
SD50-R109	
EV-1615	
EV-1226	
SD50-R339	
EV-1222	
EV-1226	
EV-1615	
EV-1319	

AGUE PART No.	
GENERAL LINE	
	10TS-D10
	10TS-D10
	10TS-D10
	10TS-T33
	10TCC-T10
	10TCC-Q33
	10TCC-T10
	10TS-T33
	10TS-T68
	10TCC-Q10
	HY-725
	10TS-D10
	10TCC-T18
	10TCC-Q12
	10TS-D10
	10TCC-Q18

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
C50	.01	RCV1PX30AG	UK50-103	NP010	MAG5011	QW1-25	10TCC-Q10
C51	10 NPO 10%		DTZ-10		CN0410		MMA-820
C52	82 10%				SX482		
C53	.01						
C54	30						
C55	100 5%						
C56	100 N750 10%		DTN-100		CD15FD101J03		MMA-101
C57	56 N750 10%				N100		10TCU-T10
C58	100 5%						
C59	15 NPO 10%		DTZ-15		CD15FD101J03		MMA-101
C60	33 NPO 5%	ECCD1H560KU	DTZ-33	NP015	CN0415	QW1-27	10TCC-Q15
C61	100 10%		DTZ-100		CN0433		10TCC-Q33
C62	.1				CN0310		10TCC-T10
C64	.01		UK50-103		M192P1049R8		1FT-P10
C65	56 10%				MAG5011		
C66	.01		UK50-103		CN0456		10TCC-Q56
C67	330 10%		DD-331		MAG5011		
C68	56 10%				GP333		10TS-T33
C69	56 10%				CN0456		10TCC-Q56
C70	.068		UK50-683		CN0456		
C72	.033	RCV1PX30AG	UK50-333	NP0100	MAG50168	QFT2-215	
C73	.033		UK50-333		MAG50133		
C75	39 NPO 10%				MAG50133		10TCC-Q39
C76	30				CN0439		
C77	.01		UK50-103		MAG5011		
C78	100 10%		DTZ-100		CN0310		10TCC-T10
C79	180 10%		DTZ-180				10TCC-T18
C80	.01		UK50-103		MAG5011		
C81	33 NPO 10%		DTZ-33		CN0433		10TCC-Q33
C82	7 NPO $\pm$.5	ECCD1H070DC					
C83	.01		UK50-103	NP033	MAG5011		
C84	.01		UK50-103		MAG5011		
C86	.01		UK50-103		MAG5011		
C87	30						
C89	33 NPO 10%		DTZ-33		CN0433		10TCC-Q33
C90	330 10%		DD-331		GP333		10TS-T33
C91	2 $\pm$.25						
C92	22 NPO 10%		DTZ-22		NP022	QFT2-215	10TCC-Q22
C93	.1	ECCD1H020C			WMF05P1		1FT-P10
C95	.001		DD-102		M192P1049R8		10TS-D10
C96	.001		DD-102		GP210		10TS-D10
C100	.033				M192P3339R8		1FT-S33
C103	.01		UK50-103		MAG5011		
C104	2 $\pm$.25						
C105	2 $\pm$.25						
C106	.01		UK50-103	DPMS6S33	MAG5011		
C107	.01		UK50-103		MAG5011		
C108	.001		DD-102		GP210		10TS-D10
C109	.01	RCV1PX30AG	UK50-103		MAG5011		
C110	.001		DD-102		GP210		10TS-D10
C111	.01		UK50-103		MAG5011		
C112	.01		UK50-103		MAG5011		
C113	.01		UK50-103		MAG5011		
C114	220 10%				CD15FD221J03	QW1-35	MMA-221
C115	5 NPO $\pm$.25						
C116	.01	ECCD1H050CC	UK50-103		MAG5011		
C117	220 10%		DTZ-220				10TCC-T22
C118	.01		UK50-103				
C119	82 10%						
C120	68 10%		DTZ-68	CD15ED820J03	MAG5011		MMA-820
C121	.001		DD-102		SX482		10TCC-Q68
C122	.033		UK50-333		CN0468		10TS-D10
C123	.033		UK50-333		GP210		
C124	.033		UK50-333		MAG50133		
C125	.033		UK50-333		MAG50133		
C126	56 10%				MAG50133		
C127	15 10%		DTZ-15		CN0456	NP015	10TCC-Q56
C128	56 10%				CN0415		10TCC-Q15
C132	.01		UK50-103		CN0456		10TCC-Q56
C135	.068	ECCD1H020C			MAG5011		
C136	33 NPO 10%		DTZ-33	NP033	CN0433	QFT2-91	10TCC-Q33
C137	.01				M192P1039R8		1FT-S10
C140	.0015				EW1A1215		1FT-D15
C144	.01		UK50-103		MAG5011		
C145	.01		UK50-103		MAG5011		
C146	.01		UK50-103		MAG5011		
C147	22 NPO 10%		DTZ-22		CN0422	NP022	10TCC-Q22
C148	.01		UK50-103		MAG5011		
C149	.01		UK50-103		MAG5011		
C150	.01		UK50-103		MAG5011		
C151	.01	ECCD1H020C	UK50-103		MAG5011		
C152	.01		UK50-103		MAG5011		
C153	.01		UK50-103		MAG5011		
C155	330 10%		DD-331	GP330	GP333		10TS-T33
C158	.01		UK50-103		MAG5011		
C159	.01		UK50-103		MAG5011		
C160	.01		UK50-103		MAG5011		
C161	.01		UK50-103		MAG5011		
C162	.033		UK50-153		MAG50115	QF1-195	1PB-S68
C164	.068				EW1A168		
C165	.01	ECCD1H020C	UK50-103		MAG5011		
C166	.01		UK50-103		MAG5011		
C167	.01		UK50-103		MAG5011		
C168	.01		UK50-103		MAG5011		
C169	.01		UK50-103		MAG5011		
C171	.01		UK50-103		MAG5011		
C172	68 10%		DTZ-68	NP068	CN0468		10TCC-Q68
C173	.001		DD-102		GP210		10TS-D10
C174	.001		DD-102		GP210		10TS-D10
C175	.01		UK50-103		MAG5011		

PANASONIC MODEL RJ-3450

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

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
C176	56 10%	ECKL1H102PF1 ECKV1H102ZF ECKV1H102ZF ECKL1H102PF					

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

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PARTS LIST AND DESCRIPTION (CONTINUED)

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

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	1A	2	1.24mH	RLT6F3			

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T15	5.12	8	RLT4H2			

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	1 1/4" PM, 50 Ohms	RAS3P01ZH		Also used as microphone.

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 Quick Acting	XBATE20NR5		AGC2	HDJ	312002	150145	FG2-2

PANASONIC MODEL RJ-3450

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFGR. 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											

Microphone includes Up/Down Channel Selector, Volume, Squelch, LED Display, On The Air Indicator, and NB/ANL switch. Also includes priority and scan switches. Microphone element also functions as internal speaker with 50-ohm impedance.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	RVF107MFNR	10.695MHz
CF2	Filter	RVFCF455H4	455kHz
CF3	Filter	RVF107MFR	10.695MHz
D30	LED	RVDGL31AR	XMT (1.60V @ 11.8mA)
FL1	Component Combination		Low Pass Filter (27MHz)
FL2	Component Combination		Low Pass Filter (27MHz)
J1	Jack	RJS258Y-R	Antenna
J2	Jack	RJU110Z-C	External Speaker
LED1	LED	RAD302ZE	Channel Readout (1.40V @ 4.1mA)
RY1	Relay	RSL24Z-B	AHL
RY2	Relay	RSL23Z-R	XMT
RY3	Relay	RSL22Z-R	Power
S1	Switch	RSH45XP	Rec/Xmt
S3	Switch	RSS3B01ZH	Vacant/Busy/Manual
S4	Switch	RSS2A04ZH	Na1/Nb
S5	Switch	RSS2A05ZH	Channel 9/Reg
S6	Switch	RST3A01ZA	Down/Up
X1	Crystal	RVCX10240Q4Z	10.240MHz
X2	Crystal	RVCX10695R4Z	10.695MHz
X3	Crystal	RVCX35740R4Z	35.740MHz
Z1	Component Combination	EXAF203Z471R	(.01uF X 2, 470 ohms)
	Cord	RJA56Z-Y	DC Power
	Cord	EMCT20A5T01	Connecting Assembly
	Socket	EMCT2005A01	20 Terminals (On Chassis)

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

ITEM	PART No.	ITEM	PART No.
Button (Push to talk)	RBC122Z	Cover, Mic	RKF358ZS
Button, Channel Selector	RBC123Z	Knob, Squelch	RBV16Z
Cover, Chassis	RKF359Z	Knob, Volume	RBV16Y

WIRING DATA

General-use Hook-up Wire (available in 5 colors)	BELDEN No. 8523	Coiled Microphone Cable	
Shielded Hook-up Wire (spiral wrapped)	BELDEN No. 8421	3-conductor (1 shielded)	23AWG BELDEN No. 9471 (5')
(braided)	BELDEN No. 8401		BELDEN No. 8497 (6')
Speaker Cable (available in 4 colors)	BELDEN No. 8782		BELDEN No. 9472 (7-1/2')
Bonding Strap	BELDEN No. 8672	28AWG BELDEN No. 9466 (6')	
AC Power Cord	(6') BELDEN No. 17106	31AWG BELDEN No. 9468 (10')	
	(9') BELDEN No. 17109	4-conductor (unshielded)	23AWG BELDEN No. 8415 (6')
		5-conductor (1 shielded)	28AWG BELDEN No. 9467 (6')
			BELDEN No. 9465 (7-1/2')