



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.



CPI MODEL CP400

MODEL CP400

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 13.8-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. Connect Microphone.

Suggested Alignment Tools: GC ELECTRONICS:
 L201 thru L207, L209 thru L214, L216.....9300, 9302, 9304
 L501, L502, L603.....9440
 C640, C648, C652, C667.....5000, 8276, 9089

NOTE: The following adjustments must be made prior to alignment.
 Do not attempt to adjust LOOP FILTER L601 and L602. This is a factory adjustment only.

PRELIMINARY ADJUSTMENTS

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP7 (Q514 base) on audio processor board.	Ch. 19	R549	VOLTAGE REGULATOR Adjust for 10.00 volts DC.
Input of oscilloscope to TP5 (Junction of R522 and R523) on audio processor board. Inject a 1000Hz, 100mV p-p audio signal at mic input.	Ch. 19 LSB Mic Gain MINIMUM	R510	MIC PREAMP GAIN Adjust for slight clipping (800mV p-p typical). (See Figure 1.)

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP8 on SMO Board.	Ch. 19		Check for -8.00V DC.
Input of frequency counter to TP6 on SMO Board.	Ch. 19 USB XMT	C640	Adjust for 12.8030MHz.
Input of frequency counter to TP6 on SMO Board.	Ch. 19 LSB XMT	C648	Adjust for 12.8000MHz.
Input of frequency counter to TP7 on SMO Board.	Ch. 19 USB	C667	Adjust for 10.1970MHz.
Input of frequency counter to TP7 on SMO Board.	Ch. 19 LSB	C652	Adjust for 10.2000MHz.
Input of DC meter to TP3 on SMO Board.	Ch. 1 AM	L603	Adjust for 2.40 volts DC. Check for approximately 6.70 volts DC on Channel 40.
Input of frequency counter to TP4 on SMO Board.	Ch. 1 AM		Check for 3.965MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to J603 on SMO Board.	Ch. 1 AM/LSB		Check for 16.765MHz. If necessary readjust C648 for correct frequency. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to J603 on SMO Board.	Ch. 1 USB		Check for 16.768MHz. If necessary readjust C640 for correct frequency. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP4 on RX-TX Board.	Ch. 19 AM	L206, L207	Adjust for Maximum RF (2.7 volts p-p typical). (See Figure 2.)

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. Preset controls as follows, unless otherwise noted: Clarifier Midrange, Squelch MINIMUM, NB Off.

NOTE: Shield cans must be in place during alignment/adjustment procedures.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator to antenna input. 27.185, no modulation.	Ch. 19 LSB	L213, L212, L211, L214, L210, L209	Adjust for Maximum audio output.
Output of signal generator to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 1uV. Inject a 100pps, 1uSec pulse width signal at antenna input. Input of oscilloscope to TP6 on audio processor board.	Ch. 19 AM NB On	L502, L501	Adjust for Maximum pulse amplitude. (2.5 volts peak typical). (See Figure 3.)

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RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Preset controls as follows, unless otherwise noted: Clarifier Midrange, Squelch MINIMUM, NB Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator to antenna input. 27.185MHz, no modulation. Output 220uV. Input of oscilloscope to TP8 on RX-TX Board.	Ch. 19 LSB	R306	IF AGC Adjust for 3.00 volts p-p, 1000Hz audio signal. (See Figure 4.)
Output of signal generator to antenna input. 27.185MHz, no modulation. Output 700uV. Input of DC meter to TP5 on RX-TX Board.	Ch. 19 LSB	R292	RF AGC Adjust for 1.50 volts DC.
Output of signal generator to antenna input. 27.185MHz, 1000Hz @ 50% modulation. Output 220uV. Input of oscilloscope to TP8 on RX-TX Board.	Ch. 19 AM	R314	AM LEVEL Adjust for 2.00 volts p-p, 1000Hz audio signal. (See Figure 5.)
Output of signal generator to antenna input. 27.184MHz, no modulation. Output 50uV.	Ch. 19 LSB	R286	SIGNAL METER Adjust for 9 on SIGNAL scale of meter.

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 AM Mic Gain MINIMUM	L216,L204, L202,L203	Adjust for Maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19 AM Mic Gain MINIMUM	L205,L201	Adjust for Equal power output on Channel 1 and Channel 40.
Input of RF wattmeter to antenna input.	Ch. 19 AM Mic Gain MINIMUM	R205	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 oscilloscope to TP1 on RX-TX Board. Inject a 1000Hz, 20mV p-p audio signal at mic input.	Ch. 19 LSB Mic Gain MINIMUM	R274	RF LEVEL Adjust for .5 volts p-p, 1000Hz audio. (See Figure 6.)
Input of oscilloscope thru X10 probe to TP2 on RX-TX Board. Inject a 1000Hz, 100mV p-p audio signal at mic input.	Ch. 19 AM Mic Gain MINIMUM	R699	AM CARRIER LEVEL Adjust for 90% modulation maximum. (See Figure 7.)
Input of RF wattmeter to antenna input.	Ch. 19 AM Mic Gain MINIMUM	R412	RF METER At 4.0 watts RF output adjust for 4 on RF scale of meter.

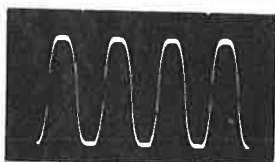


FIGURE 1

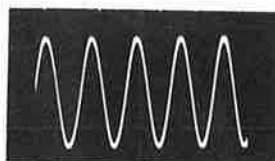


FIGURE 2

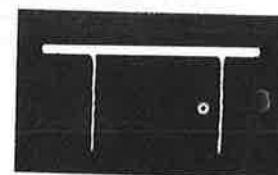


FIGURE 3

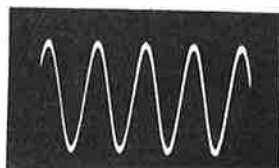


FIGURE 4

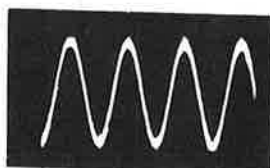


FIGURE 5

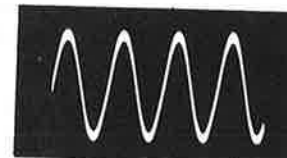


FIGURE 6

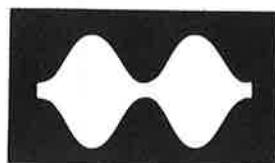
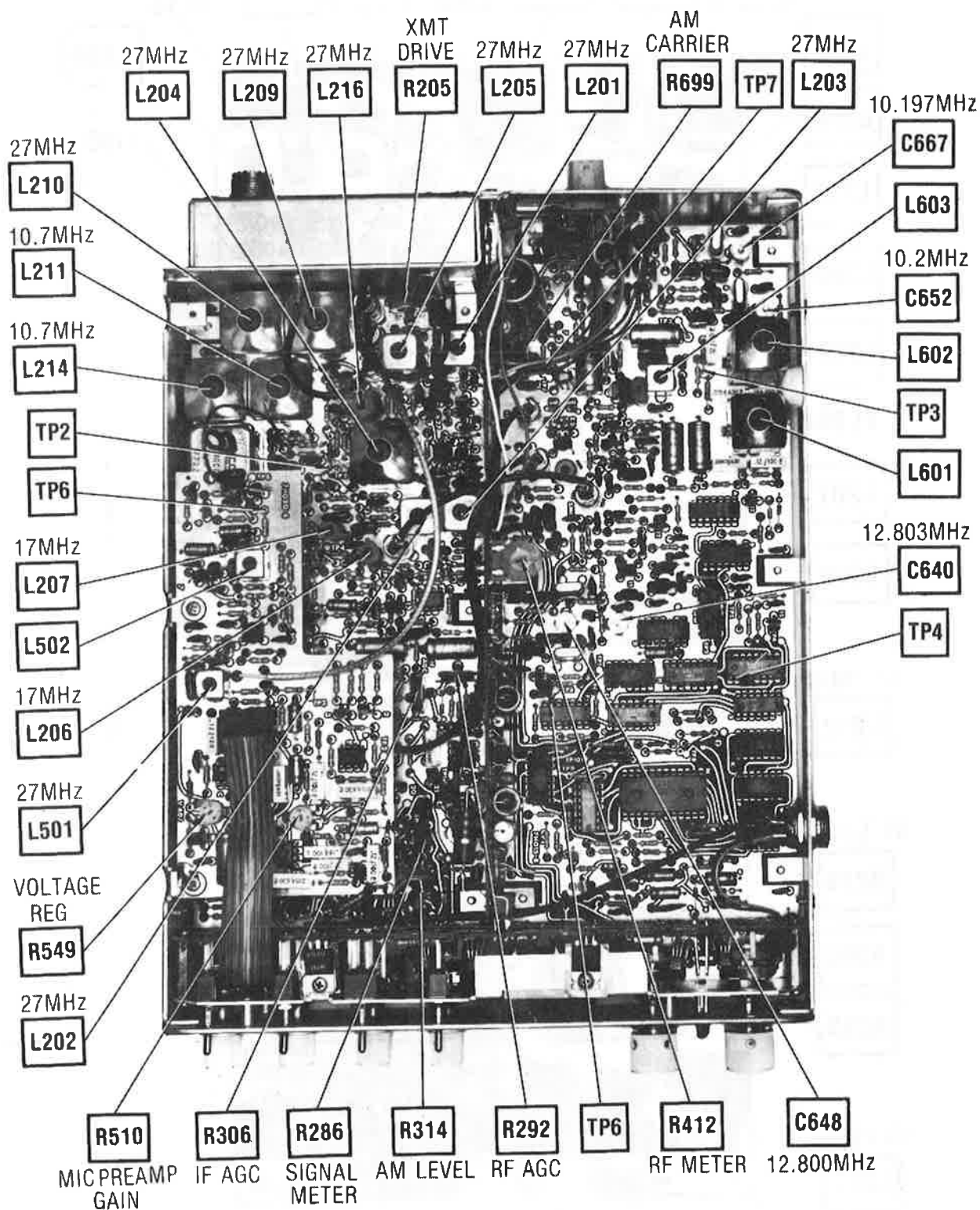
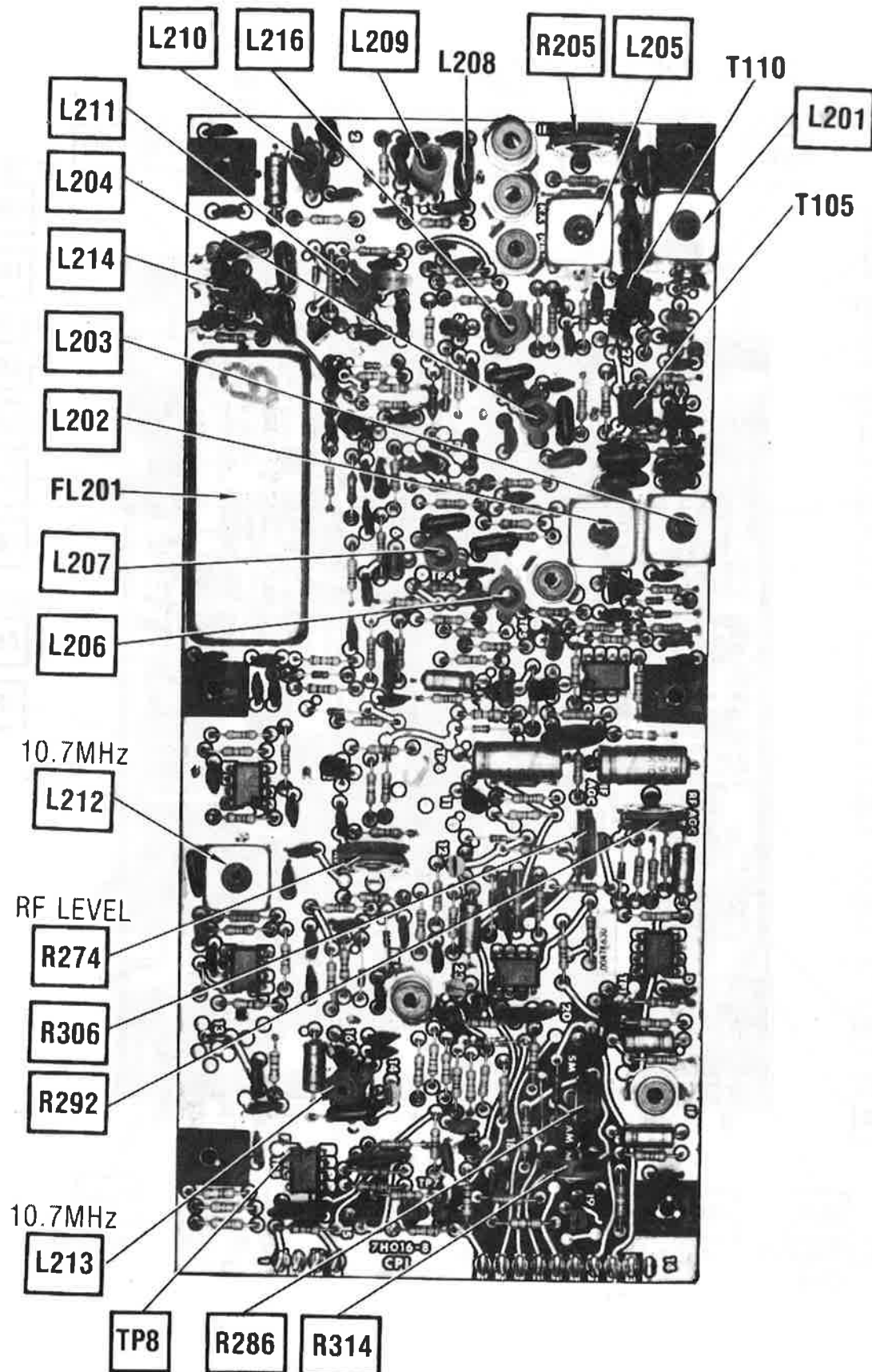


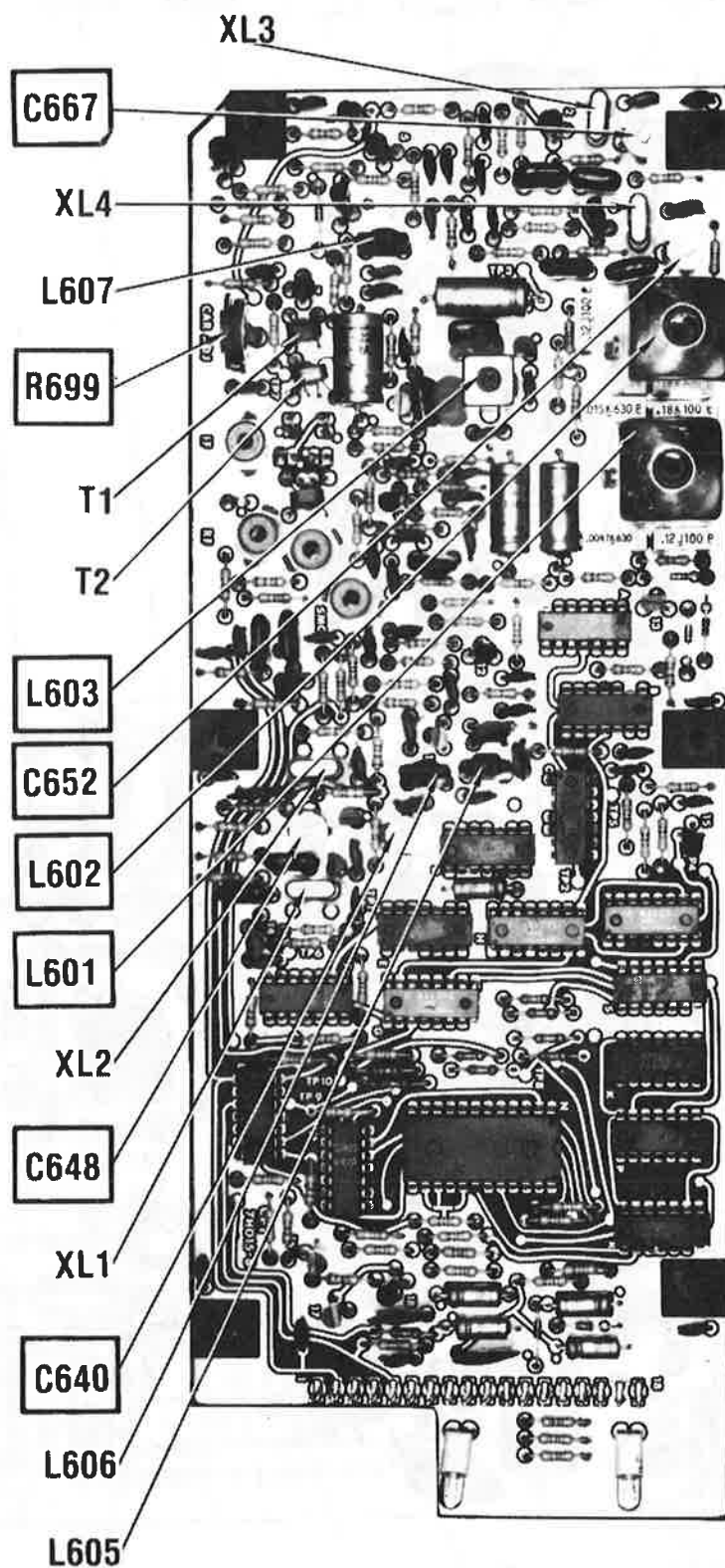
FIGURE 7



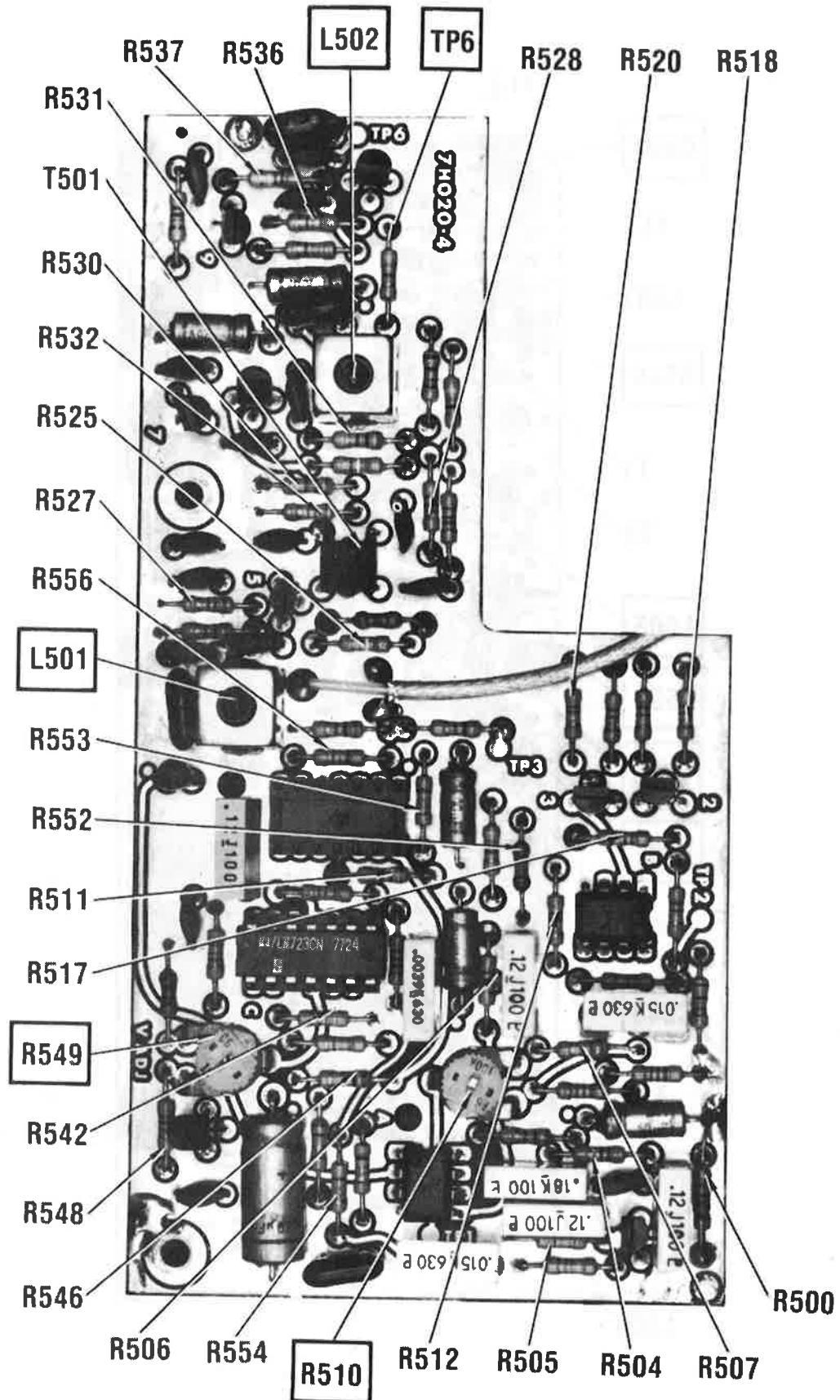
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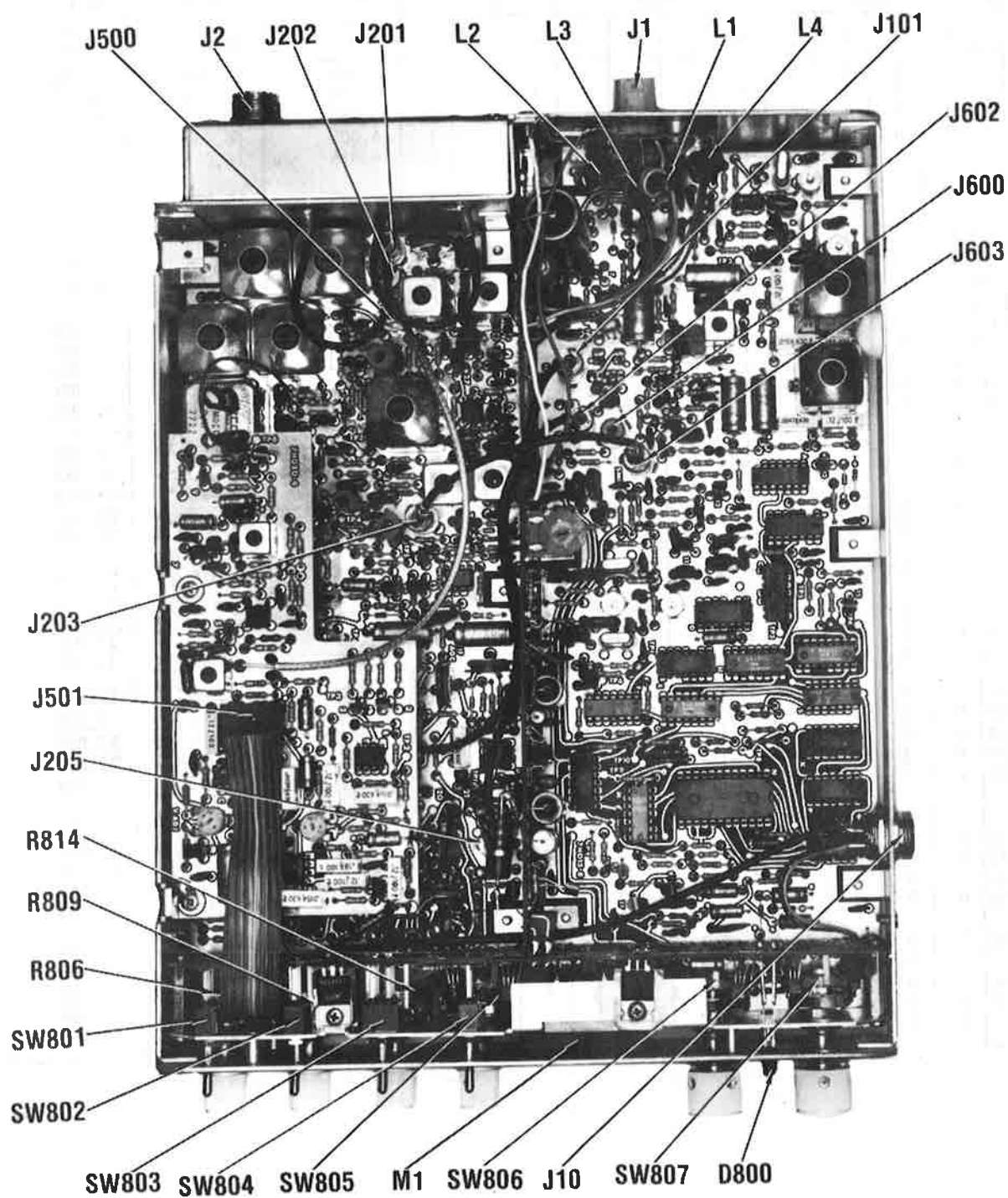
REC - XMT BOARD



SYNTH BOARD



AUDIO BOARD



CHASSIS - BOTTOM

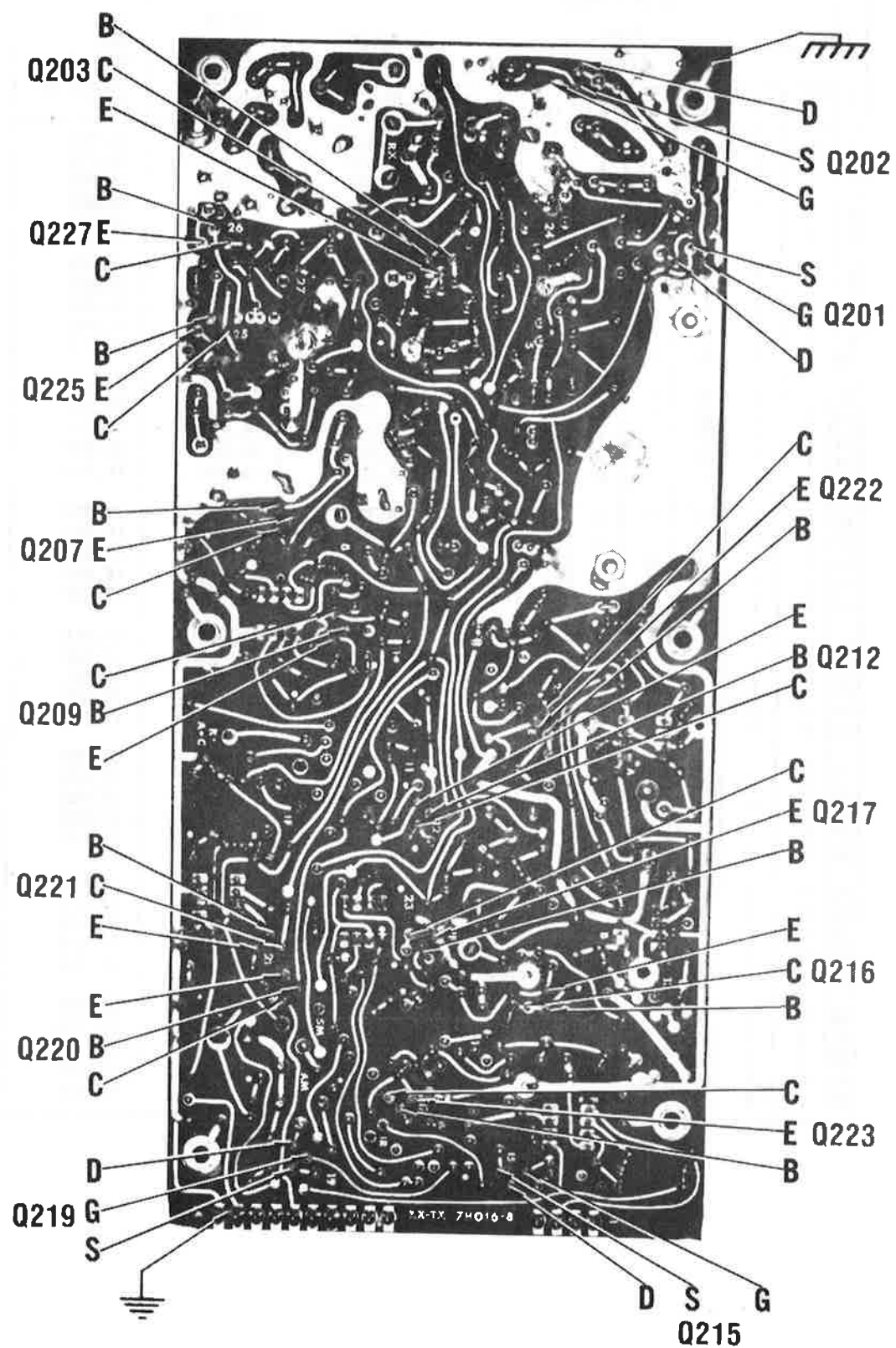
TRUTH CHART

CHANNEL	PROGRAMMABLE DIVIDER CHANNEL INPUT CODES PINS												DIVIDER INPUT IN MHz AT TP4	AM/LSB SMO OUTPUT IN MHz AT J603	USB SMO OUTPUT IN MHz AT J603
	U600J*				U600H				U600G						
	6	5	4	3	6	5	4	3	6	5	4				
	1 = .50 Volts (*) 1 = 3.80 Volts	0 = 3.53 Volts 0 = 0 Volts													
1	0	0	1	0	1	1	1	1	1	0	0	3.965	16.765	16.768	
2	0	0	1	0	1	1	1	1	1	0	1	3.975	16.775	16.778	
3	0	0	1	0	1	1	1	1	1	1	0	3.985	16.785	16.788	
4	0	0	0	1	0	1	1	0	0	1	1	4.005	16.805	16.808	
5	0	0	0	1	0	1	1	0	1	0	0	4.015	16.815	16.818	
6	0	0	0	1	0	1	1	0	1	0	1	4.025	16.825	16.828	
7	0	0	0	1	0	1	1	0	1	1	0	4.035	16.835	16.838	
8	0	0	0	1	0	1	1	1	0	1	1	4.055	16.855	16.858	
9	0	0	0	1	0	1	1	1	1	0	0	4.065	16.865	16.868	
10	0	0	0	1	0	1	1	1	1	0	1	4.075	16.875	16.878	
11	0	0	0	1	0	1	1	1	1	1	0	4.085	16.885	16.888	
12	0	0	0	1	1	0	0	0	0	1	1	4.105	16.905	16.908	
13	0	0	0	1	1	0	0	0	1	0	0	4.115	16.915	16.918	
14	0	0	0	1	1	0	0	0	1	0	1	4.125	16.925	16.928	
15	0	0	0	1	1	0	0	0	1	1	0	4.135	16.935	16.938	
16	0	0	0	1	1	0	0	1	0	1	1	4.155	16.955	16.958	
17	0	0	0	1	1	0	0	1	1	0	0	4.165	16.965	16.968	
18	0	0	0	1	1	0	0	1	1	0	1	4.175	16.975	16.978	
19	0	0	0	1	1	0	0	1	1	1	0	4.185	16.985	16.988	
20	0	0	0	1	1	0	1	0	0	1	1	4.205	17.005	17.008	
21	0	0	0	1	1	0	1	0	1	0	0	4.215	17.015	17.018	
22	0	0	0	1	1	0	1	0	1	0	1	4.225	17.025	17.028	
23	0	0	0	1	1	0	1	1	0	1	1	4.255	17.055	17.058	
24	0	0	0	1	1	0	1	0	1	1	0	4.235	17.035	17.038	
25	0	0	0	1	1	0	1	0	1	1	1	4.245	17.045	17.048	
26	0	0	0	1	1	0	1	1	1	0	0	4.265	17.065	17.068	
27	0	0	0	1	1	0	1	1	1	0	1	4.275	17.075	17.078	
28	0	0	0	1	1	0	1	1	1	1	0	4.285	17.085	17.088	
29	0	0	0	1	1	0	1	1	1	1	1	4.295	17.095	17.098	
30	0	0	0	1	1	1	0	0	0	1	1	4.305	17.105	17.108	
31	0	0	0	1	1	1	0	0	1	0	0	4.315	17.115	17.118	
32	0	0	0	1	1	1	0	0	1	0	1	4.325	17.125	17.128	
33	0	0	0	1	1	1	0	0	1	1	0	4.335	17.135	17.138	
34	0	0	0	1	1	1	0	0	1	1	1	4.345	17.145	17.148	
35	0	0	0	1	1	1	0	1	0	1	1	4.355	17.155	17.158	
36	0	0	0	1	1	1	0	1	1	0	0	4.365	17.165	17.168	
37	0	0	0	1	1	1	0	1	1	0	1	4.375	17.175	17.178	
38	0	0	0	1	1	1	0	1	1	1	0	4.385	17.185	17.188	
39	0	0	0	1	1	1	0	1	1	1	1	4.395	17.195	17.198	
40	0	0	0	1	1	1	1	0	0	1	1	4.405	17.205	17.208	

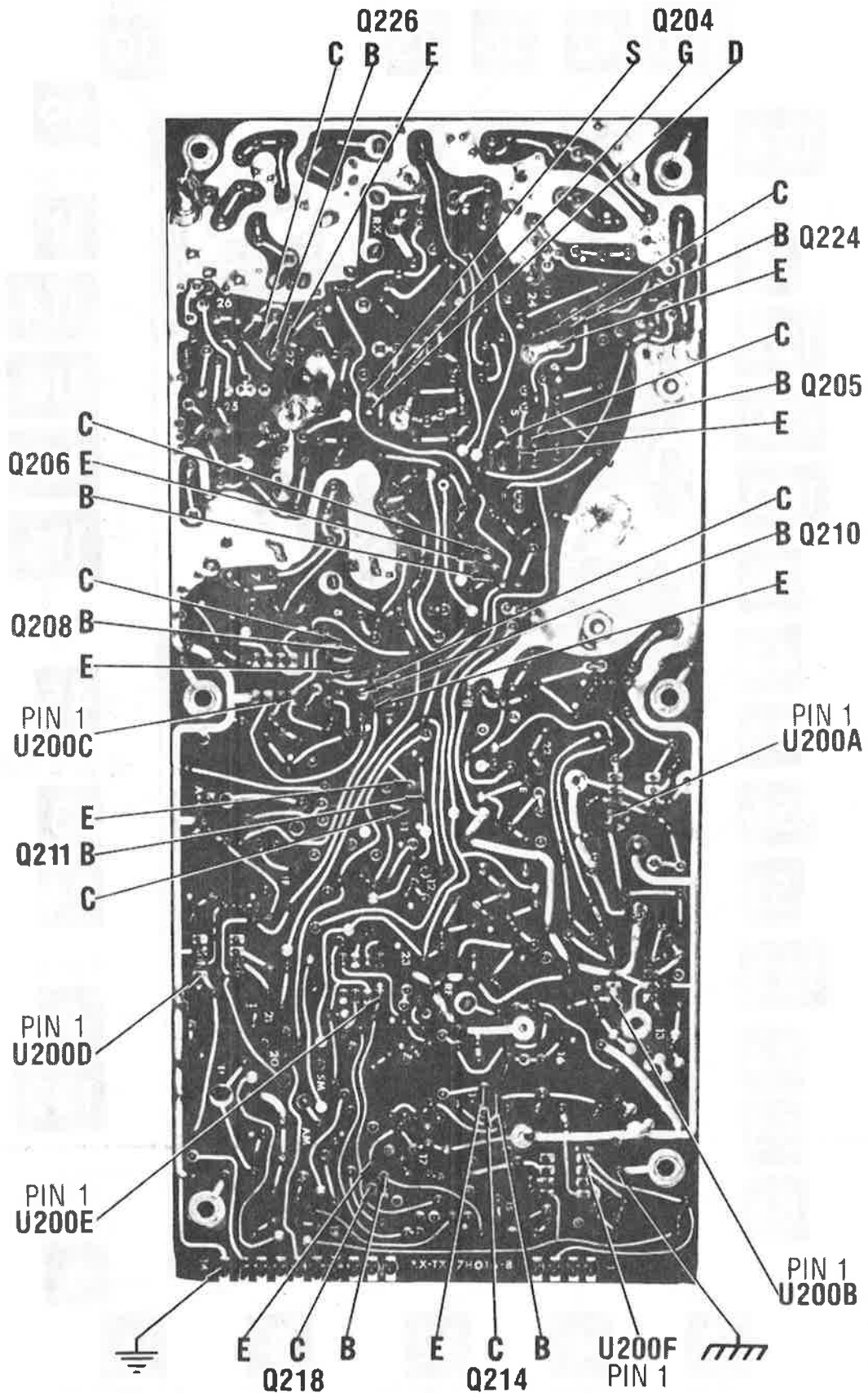
TRUTH CHART

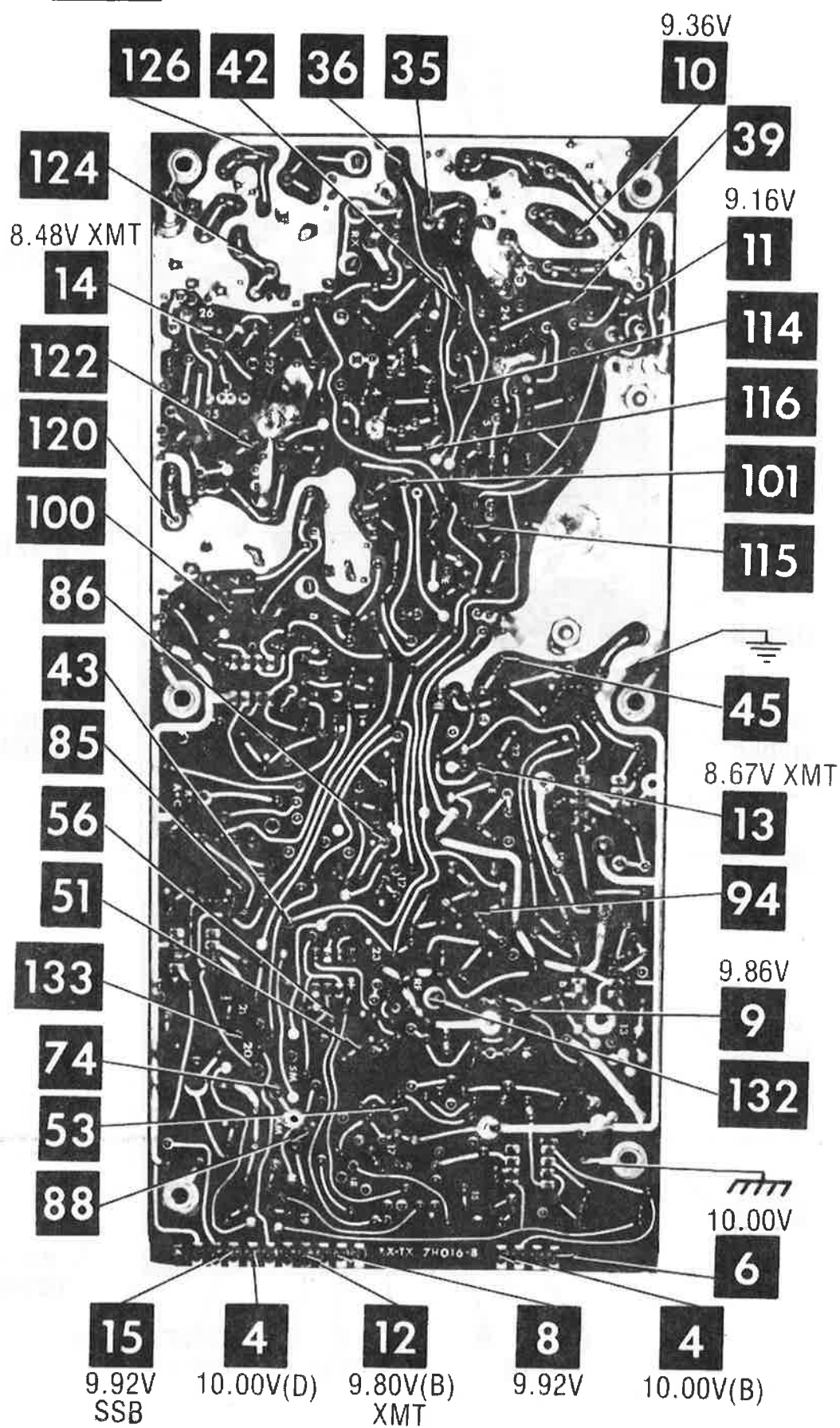
CHANNEL	1 = 4.90 Volts 0 = 0 Volts								DIVIDER INPUT IN MHz AT TP4	AM/LSB SMO OUTPUT IN MHz AT J603	USB SMO OUTPUT IN MHz AT J603
	MEMORY OUTPUT CODES										
	PINS										
	U600M										
	2	1	3	21	20	19	18				
1	1	1	1	1	1	1	0		3.965	16.765	16.768
2	1	1	1	1	1	0	1		3.975	16.775	16.778
3	1	1	1	1	1	0	0		3.985	16.785	16.788
4	1	1	1	1	0	1	1		4.005	16.805	16.808
5	1	1	1	1	0	1	0		4.015	16.815	16.818
6	1	1	1	1	0	0	1		4.025	16.825	16.828
7	1	1	1	1	0	0	0		4.035	16.835	16.838
8	1	1	1	0	1	1	1		4.055	16.855	16.858
9	1	1	1	0	1	1	0		4.065	16.865	16.868
10	1	1	0	1	1	1	1		4.075	16.875	16.878
11	1	1	0	1	1	1	0		4.085	16.885	16.888
12	1	1	0	1	1	0	1		4.105	16.905	16.908
13	1	1	0	1	1	0	0		4.115	16.915	16.918
14	1	1	0	1	0	1	1		4.125	16.925	16.928
15	1	1	0	1	0	1	0		4.135	16.935	16.938
16	1	1	0	1	0	0	1		4.155	16.955	16.958
17	1	1	0	1	0	0	0		4.165	16.965	16.968
18	1	1	0	0	1	1	1		4.175	16.975	16.978
19	1	1	0	0	1	1	0		4.185	16.985	16.988
20	0	1	1	1	1	1	1		4.205	17.005	17.008
21	0	1	1	1	1	1	0		4.215	17.015	17.018
22	0	1	1	1	1	0	1		4.225	17.025	17.028
23	0	1	1	1	1	0	0		4.255	17.055	17.058
24	0	1	1	1	0	1	1		4.235	17.035	17.038
25	0	1	1	1	0	1	0		4.245	17.045	17.048
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29	0	1	1	0	1	1	0		4.295	17.095	17.098
30	0	1	0	1	1	1	1		4.305	17.105	17.108
31	0	1	0	1	1	1	0		4.315	17.115	17.118
32	0	1	0	1	1	0	1		4.325	17.125	17.128
33	0	1	0	1	1	0	0		4.335	17.135	17.138
34	0	1	0	1	0	1	1		4.345	17.145	17.148
35	0	1	0	1	0	1	0		4.355	17.155	17.158
36	0	1	0	1	0	0	1		4.365	17.165	17.168
37	0	1	0	1	0	0	0		4.375	17.175	17.178
38	0	1	0	0	1	1	1		4.385	17.185	17.188
39	0	1	0	0	1	1	0		4.395	17.195	17.198
40	1	0	1	1	1	1	1		4.405	17.205	17.208

CPI MODEL CP400

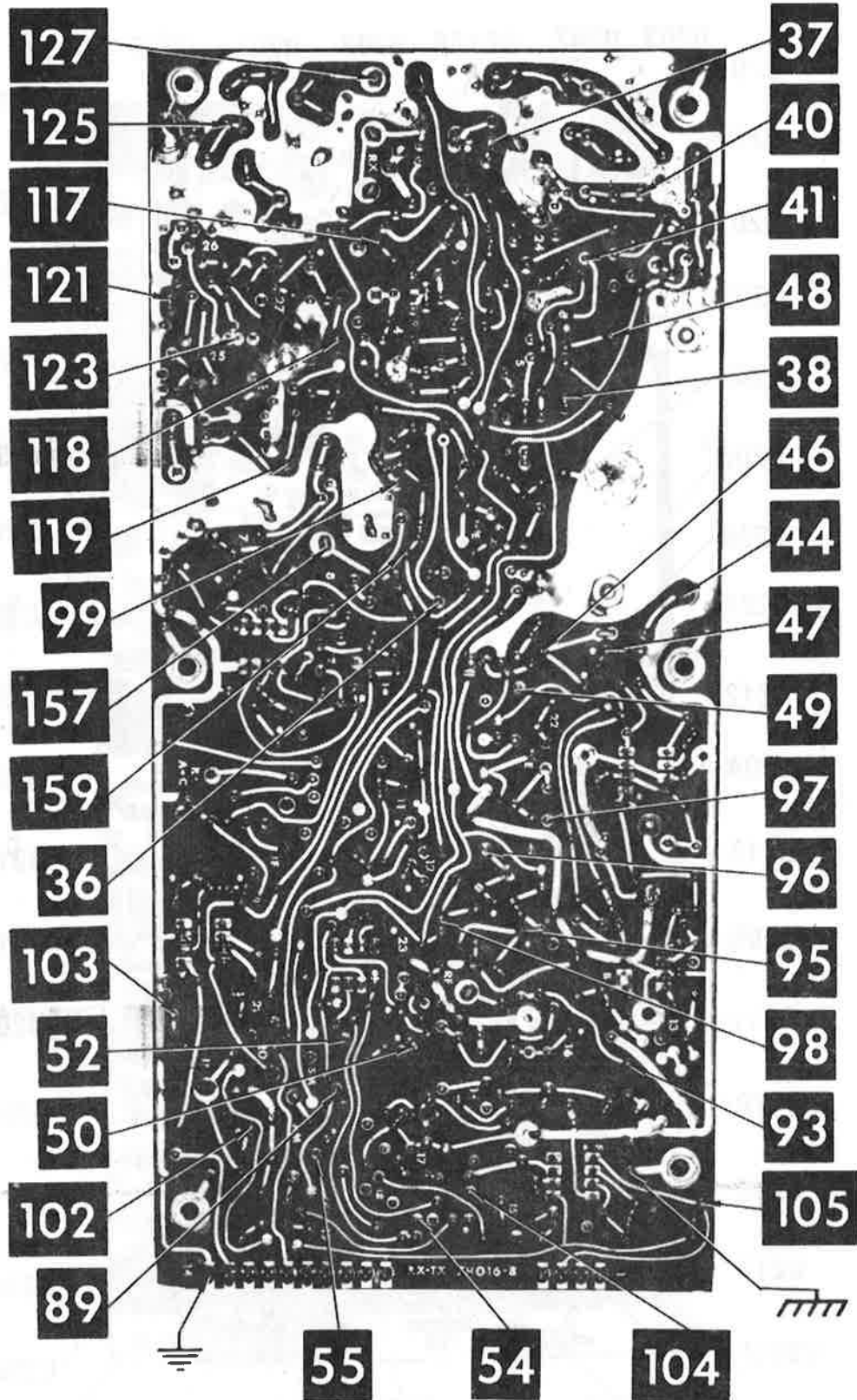


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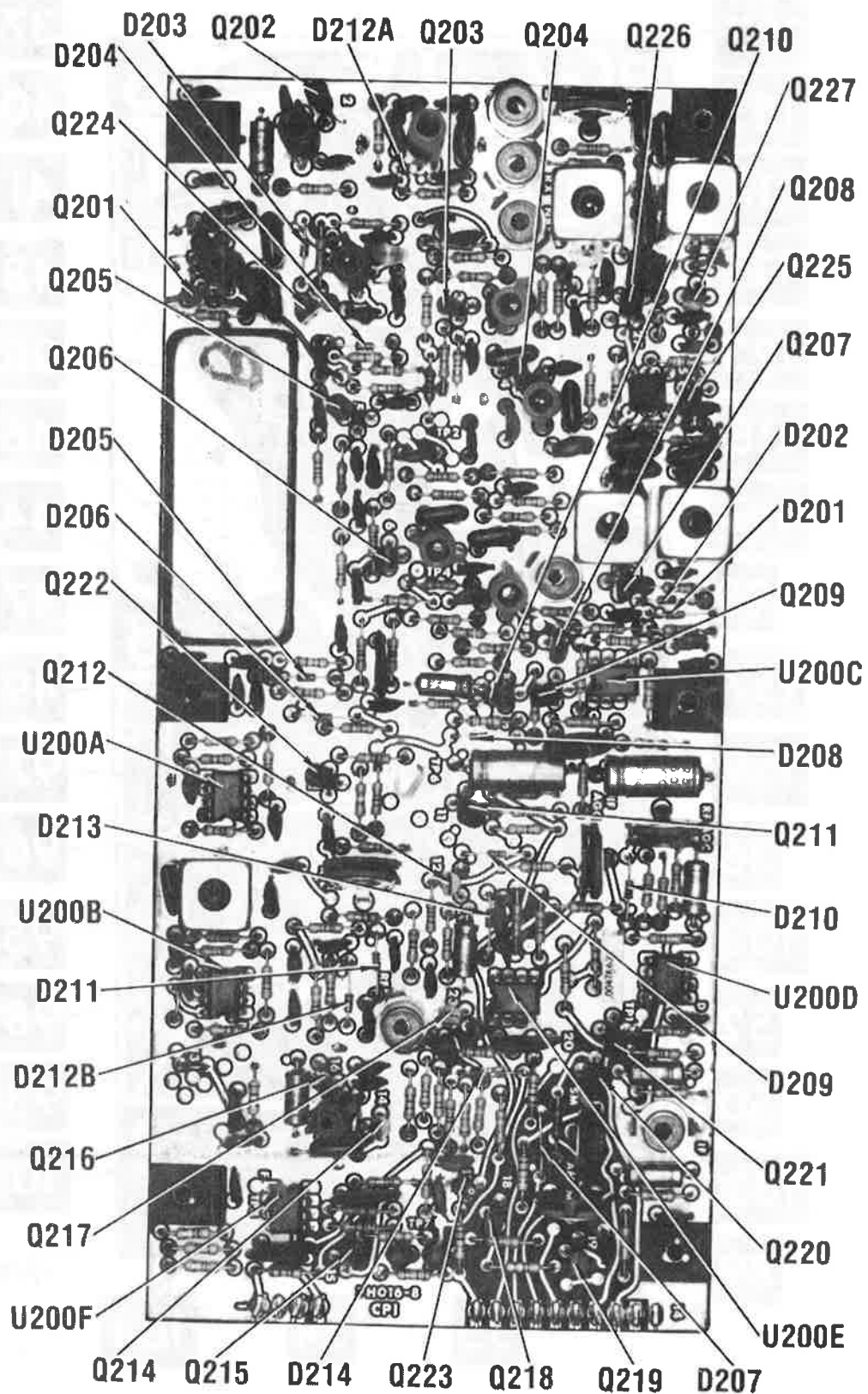


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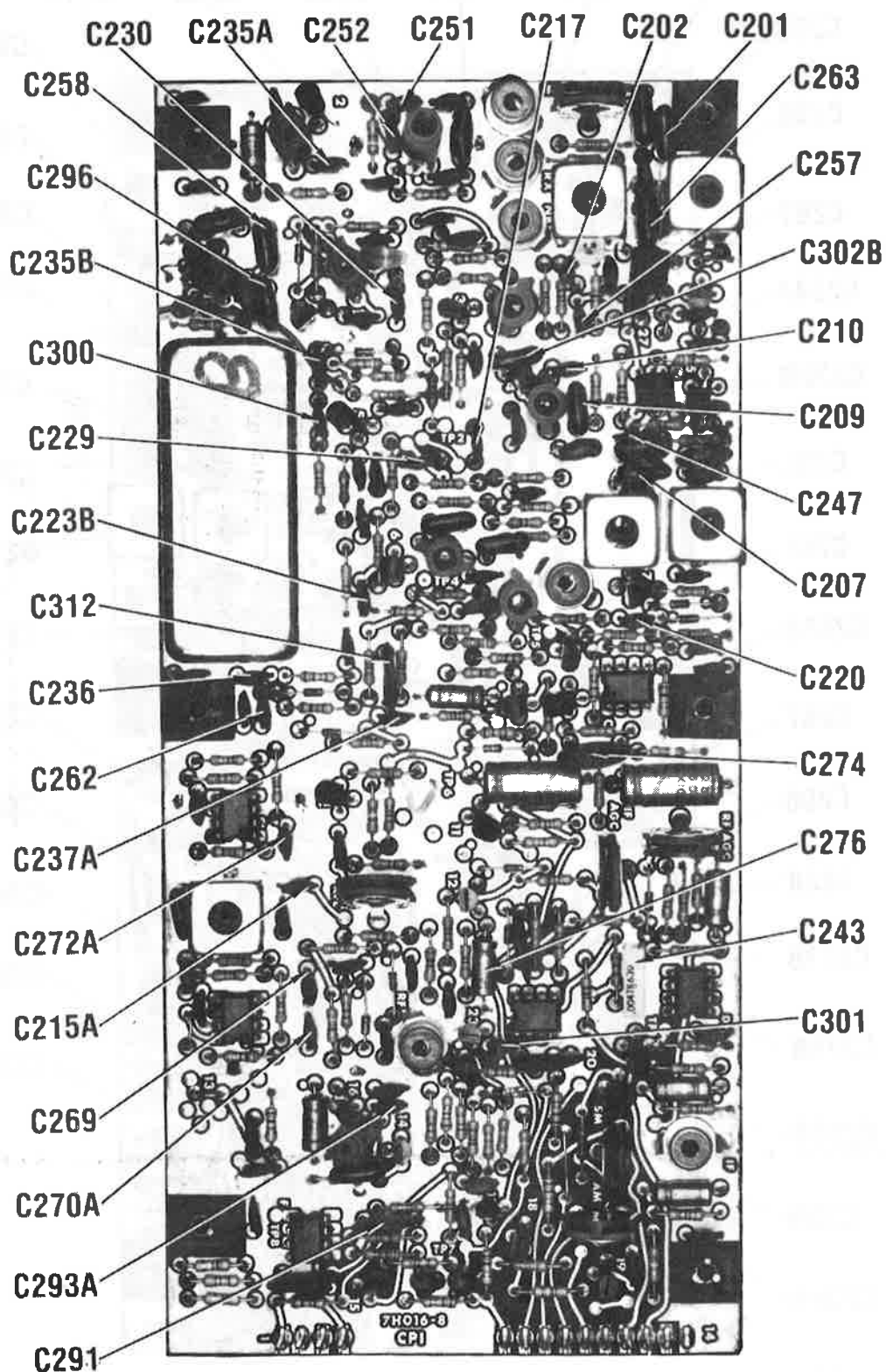


CPI MODEL CP400

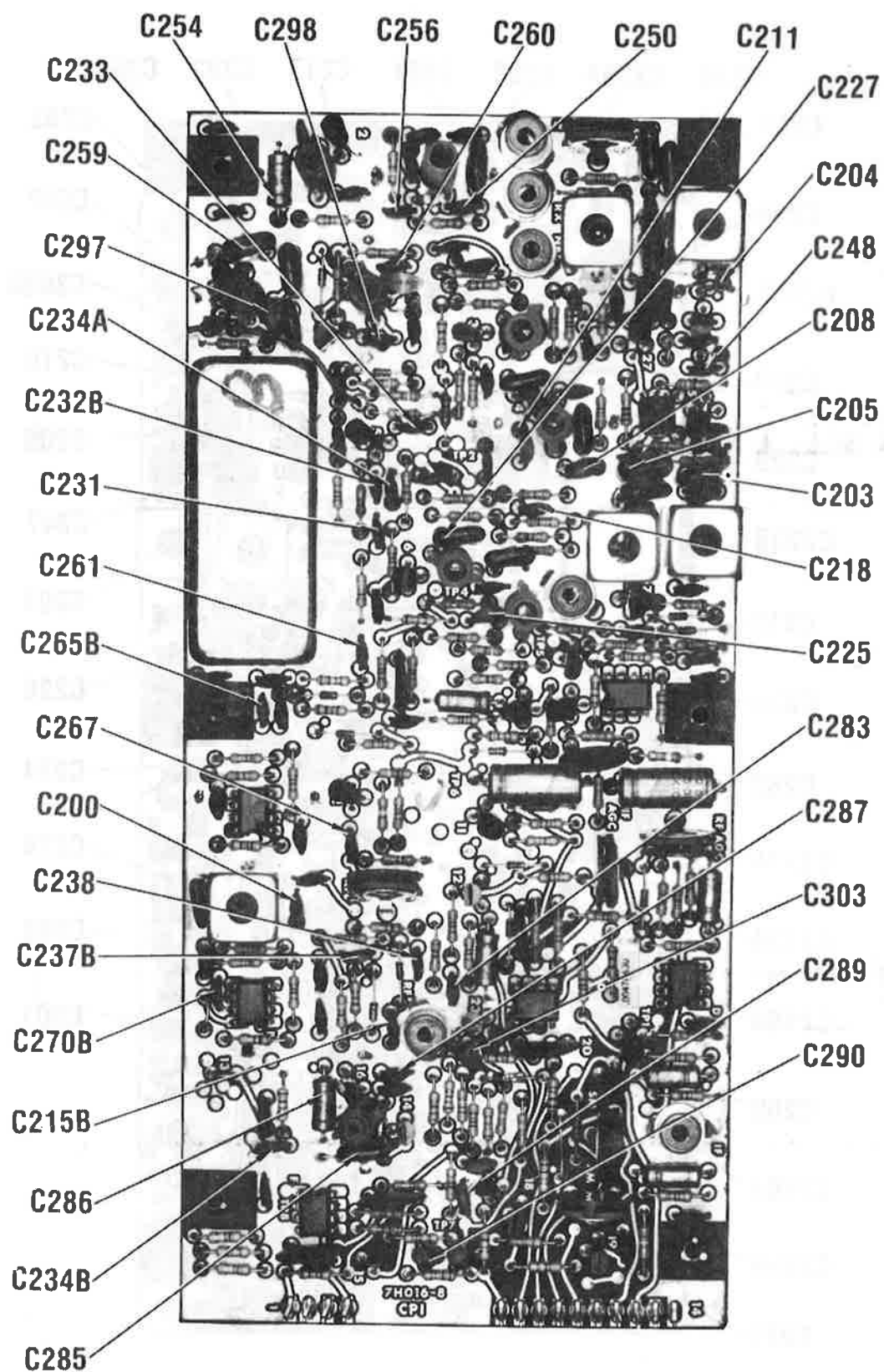
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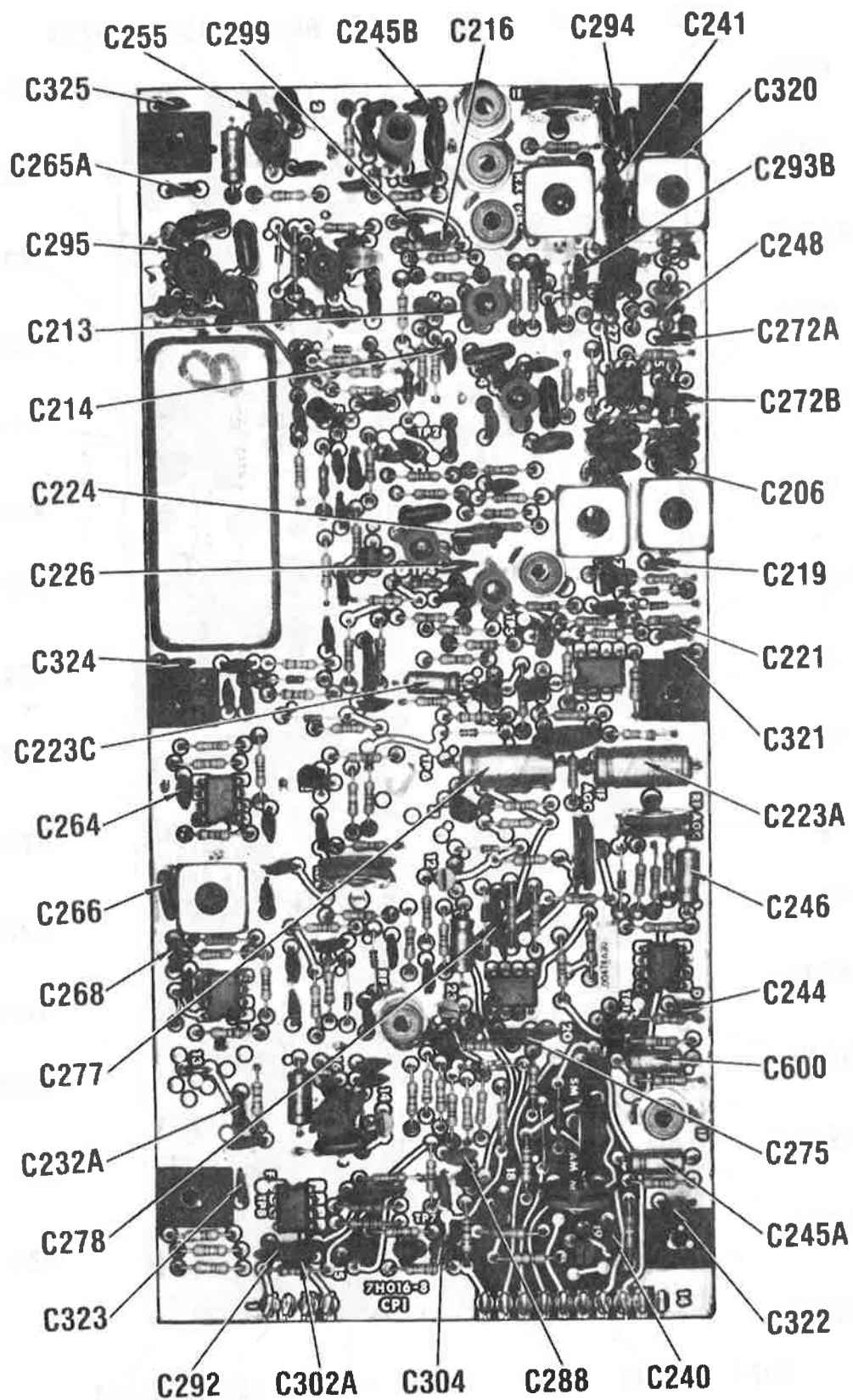
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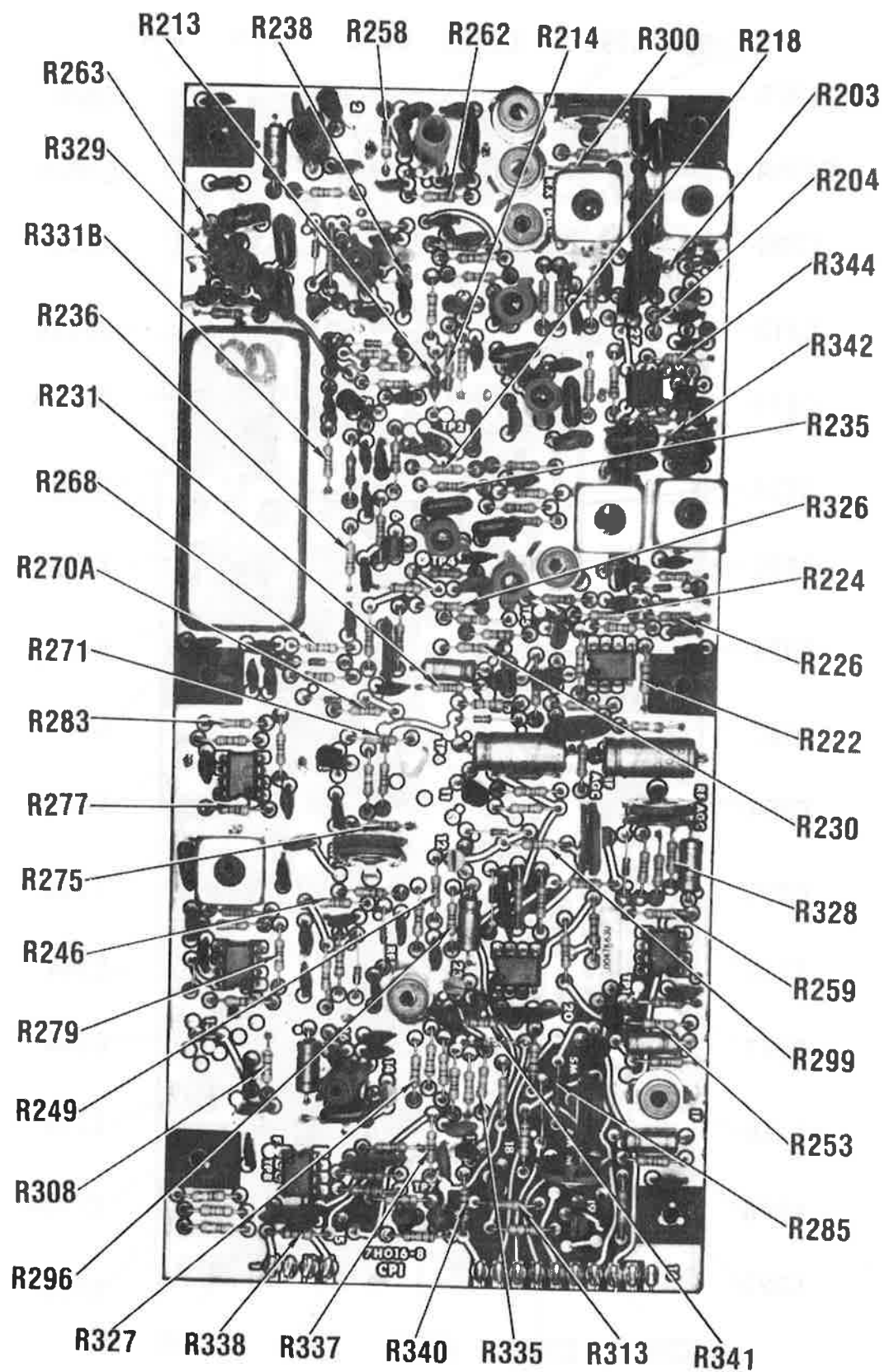
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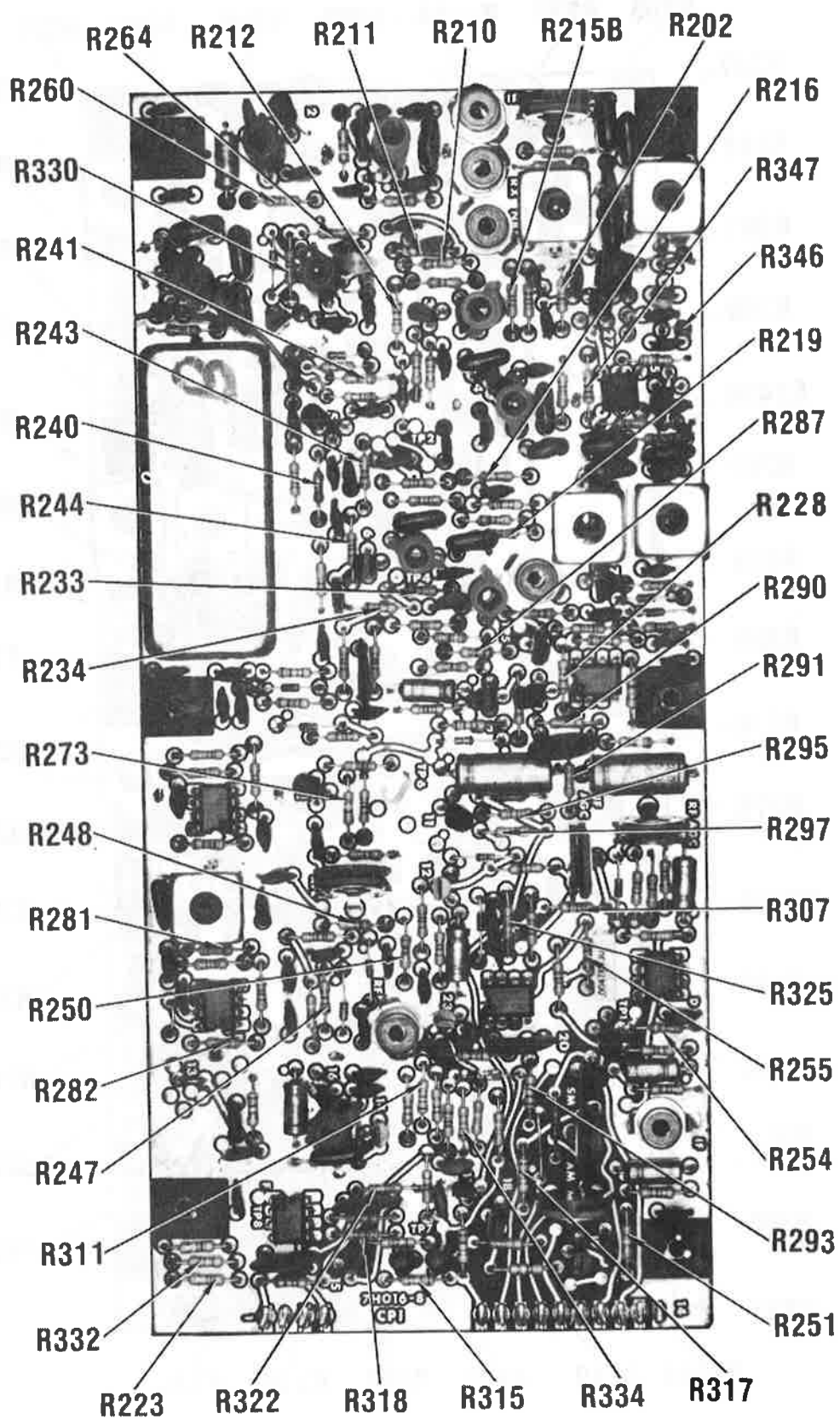
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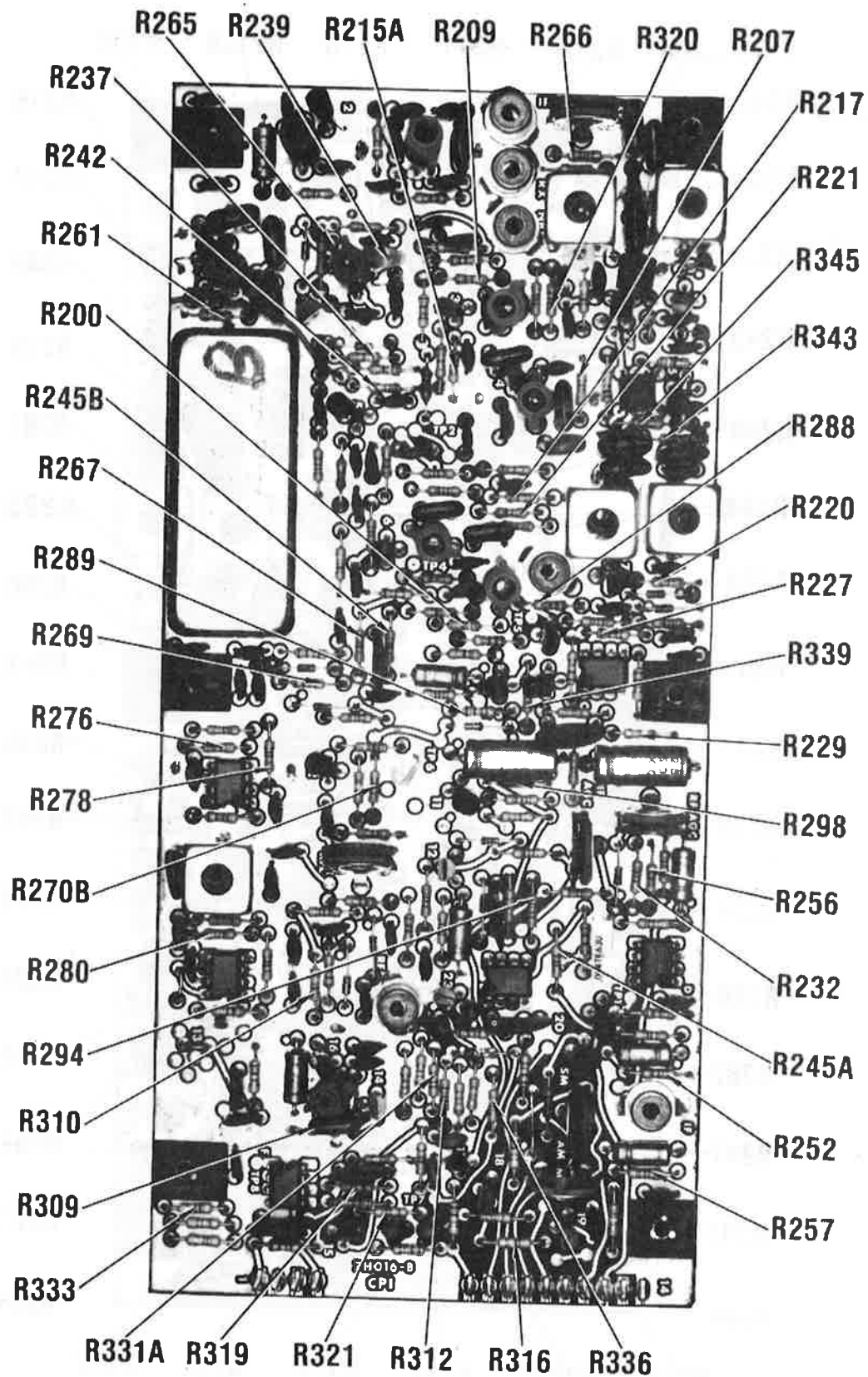
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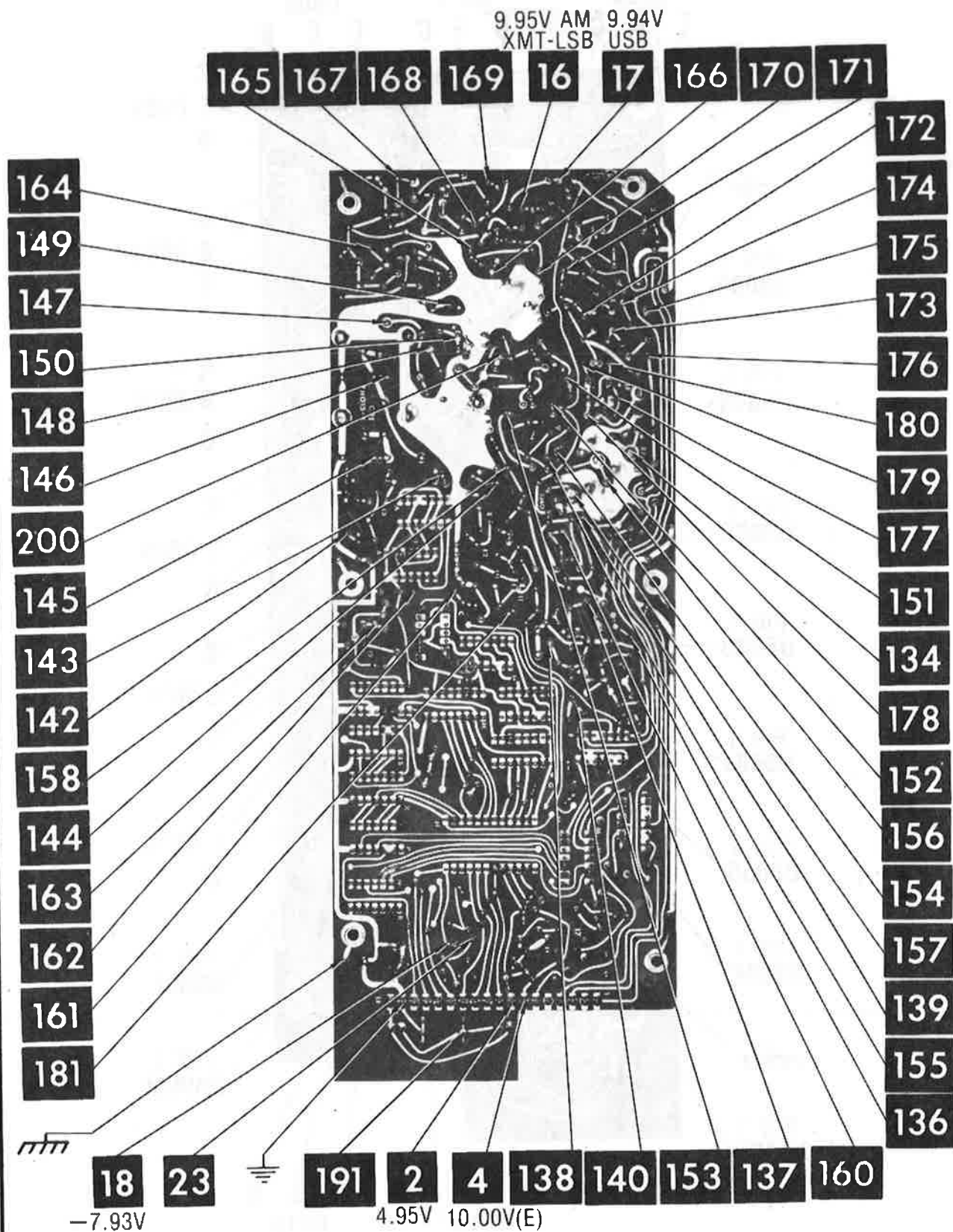
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REC - XMT BOARD

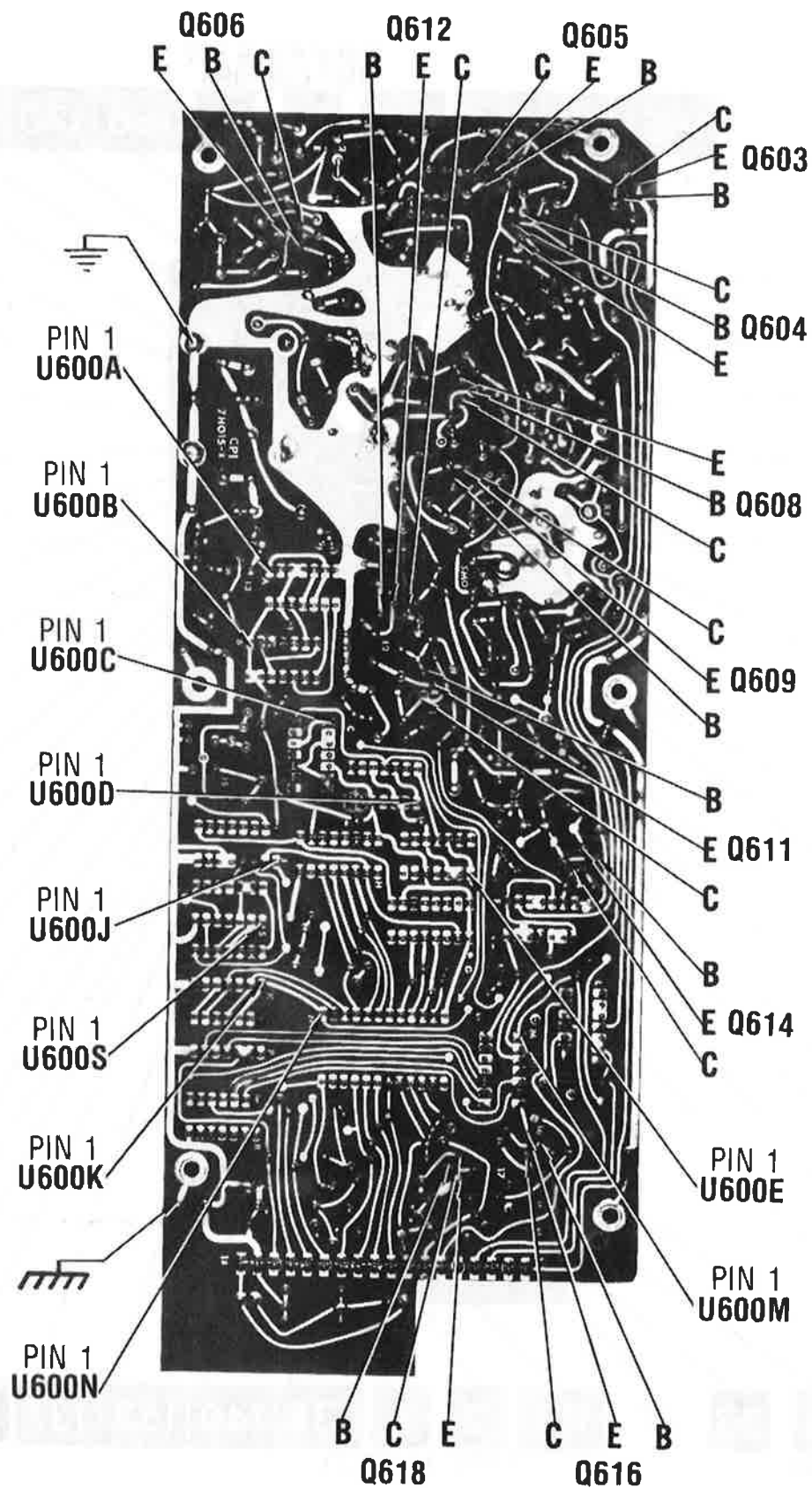


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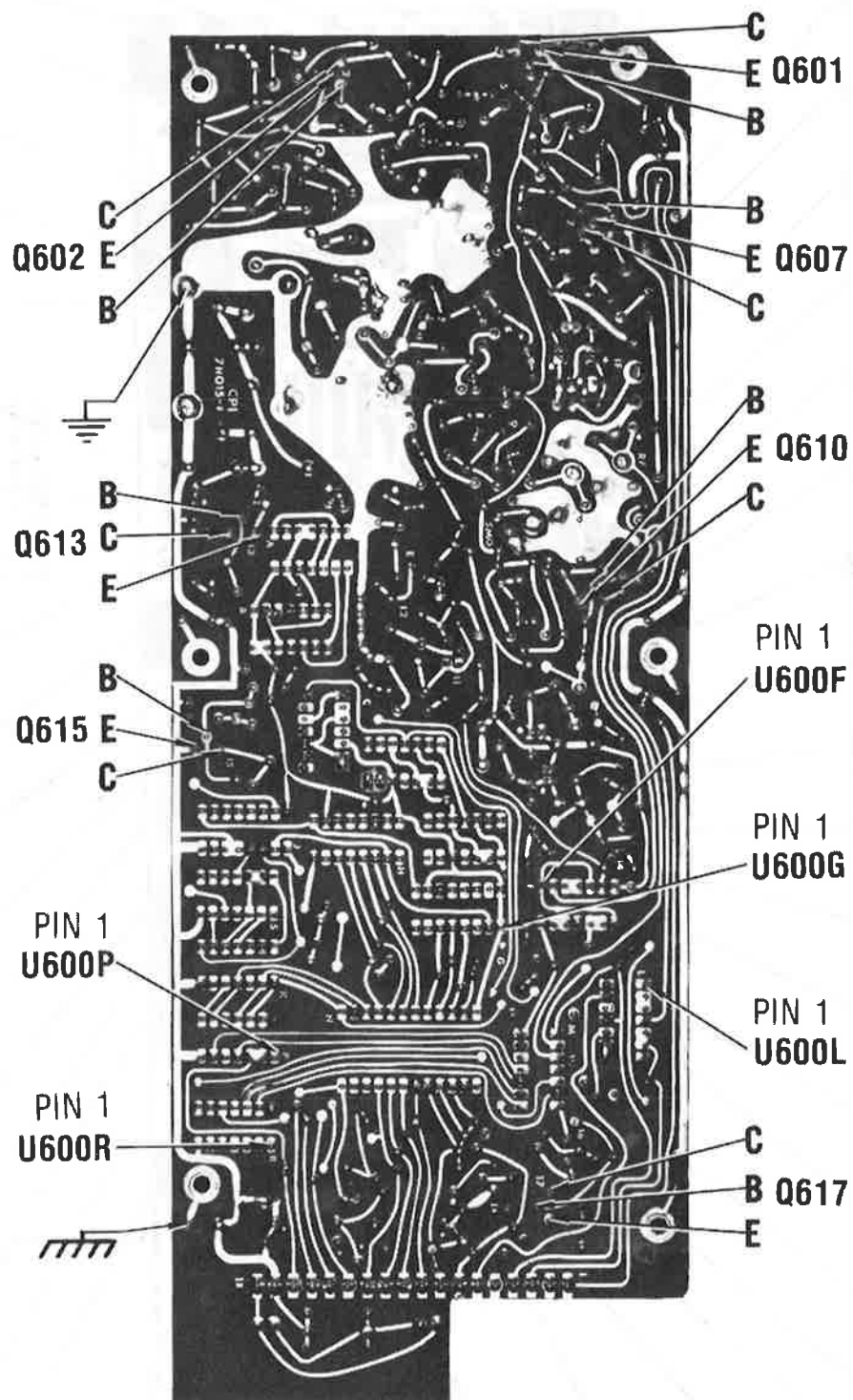


CPI MODEL CP400

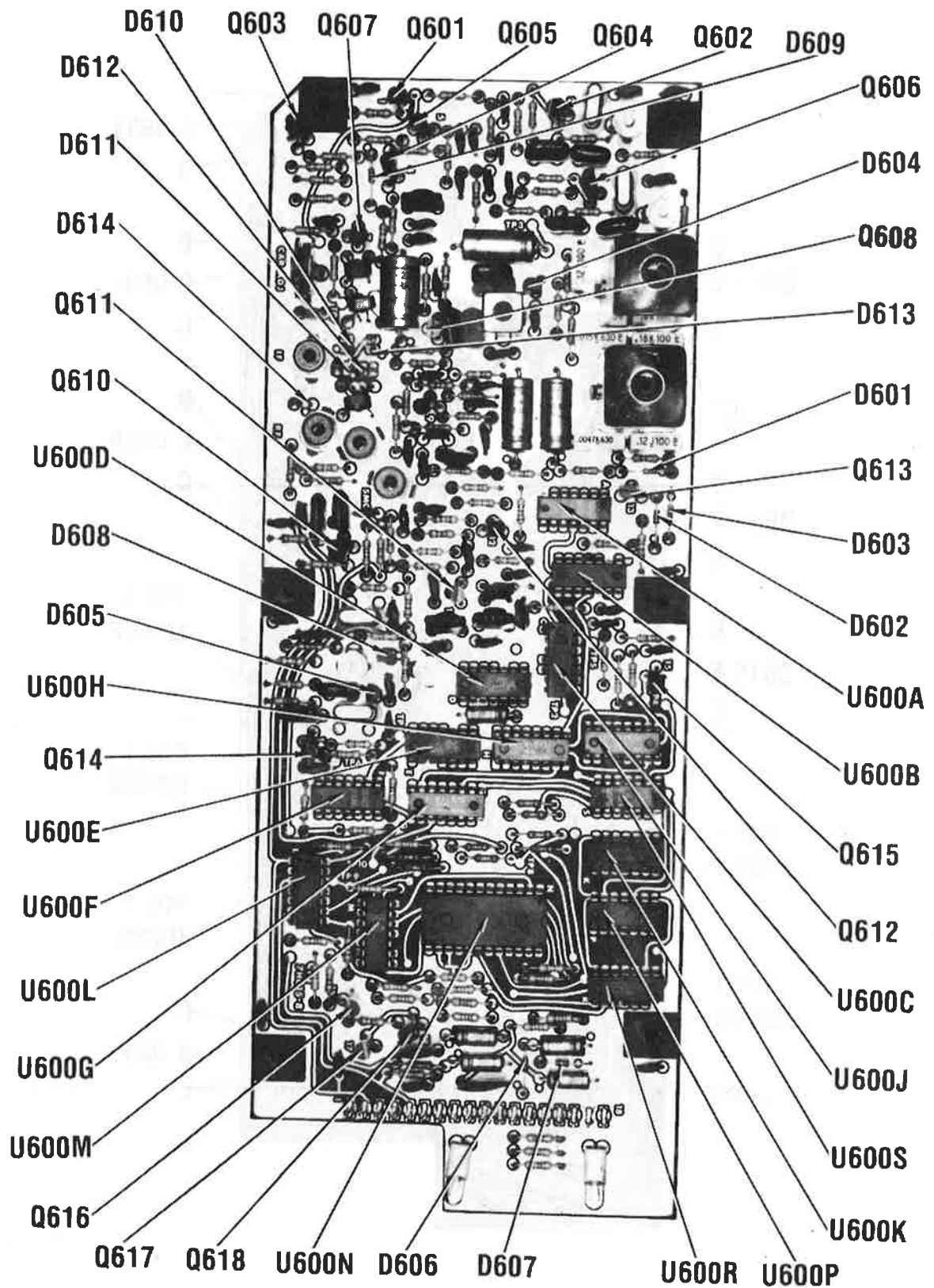
SYNTH BOARD



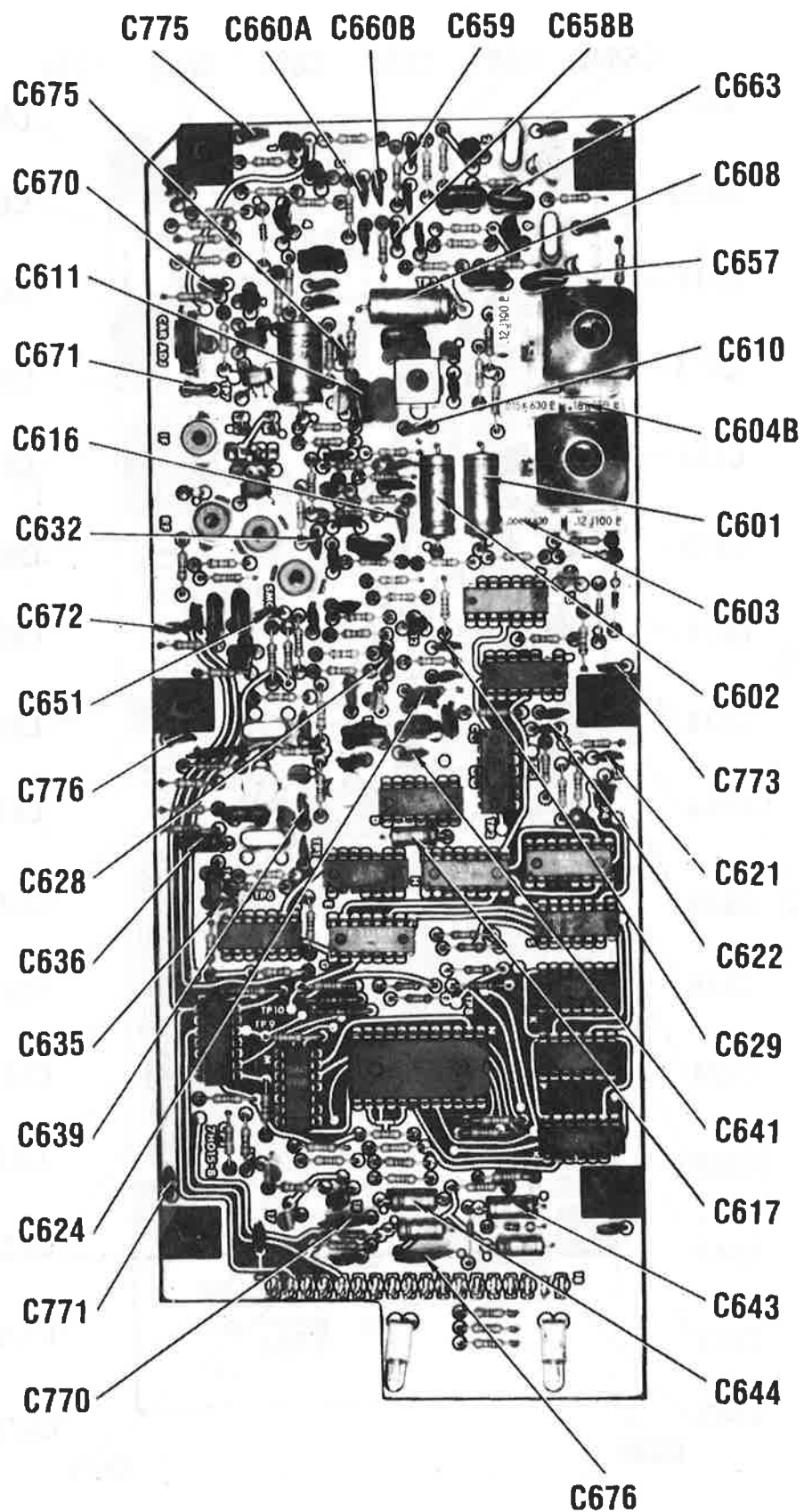
SYNTH BOARD



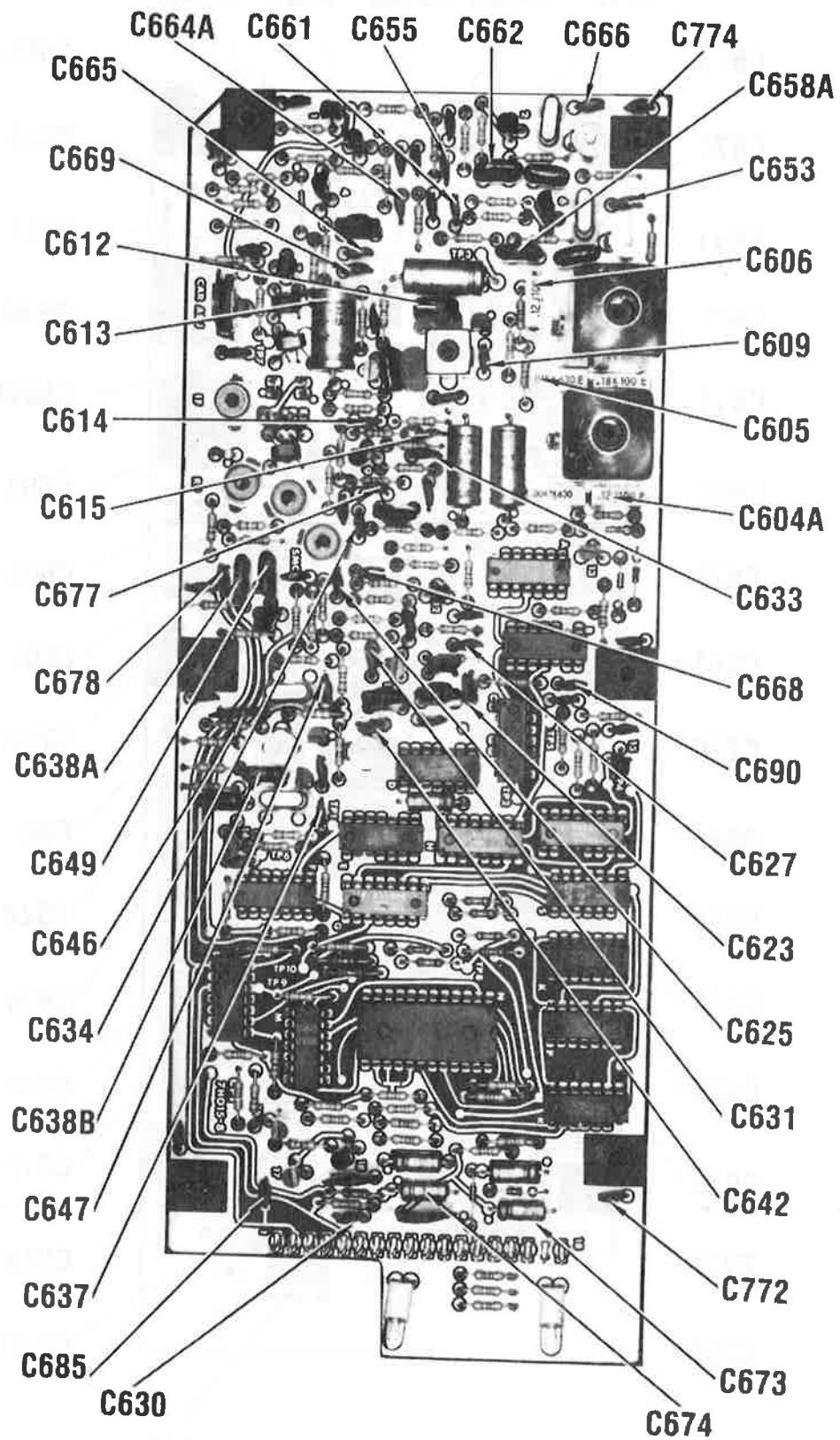
SYNTH BOARD



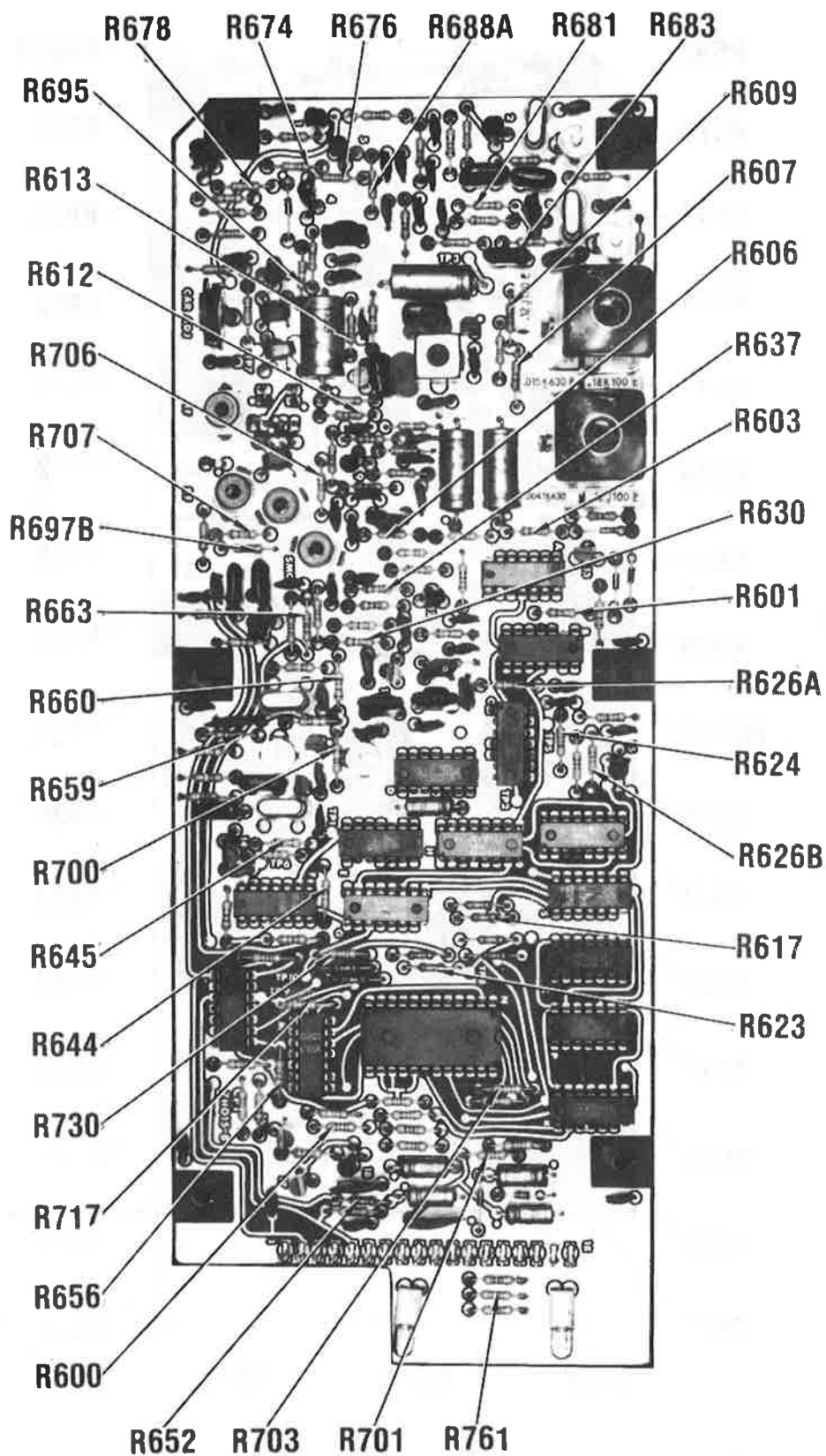
SYNTH BOARD



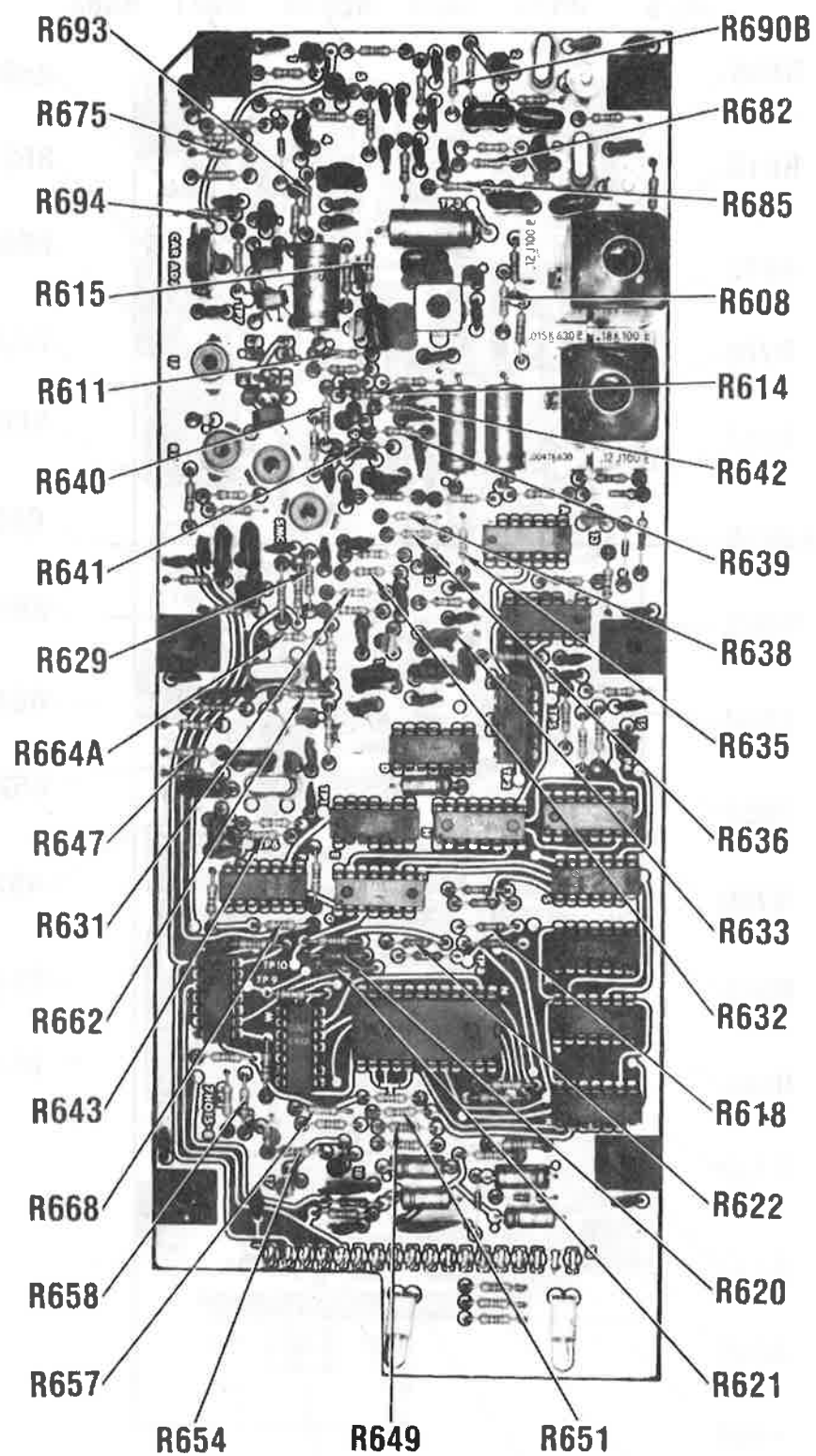
SYNTH BOARD



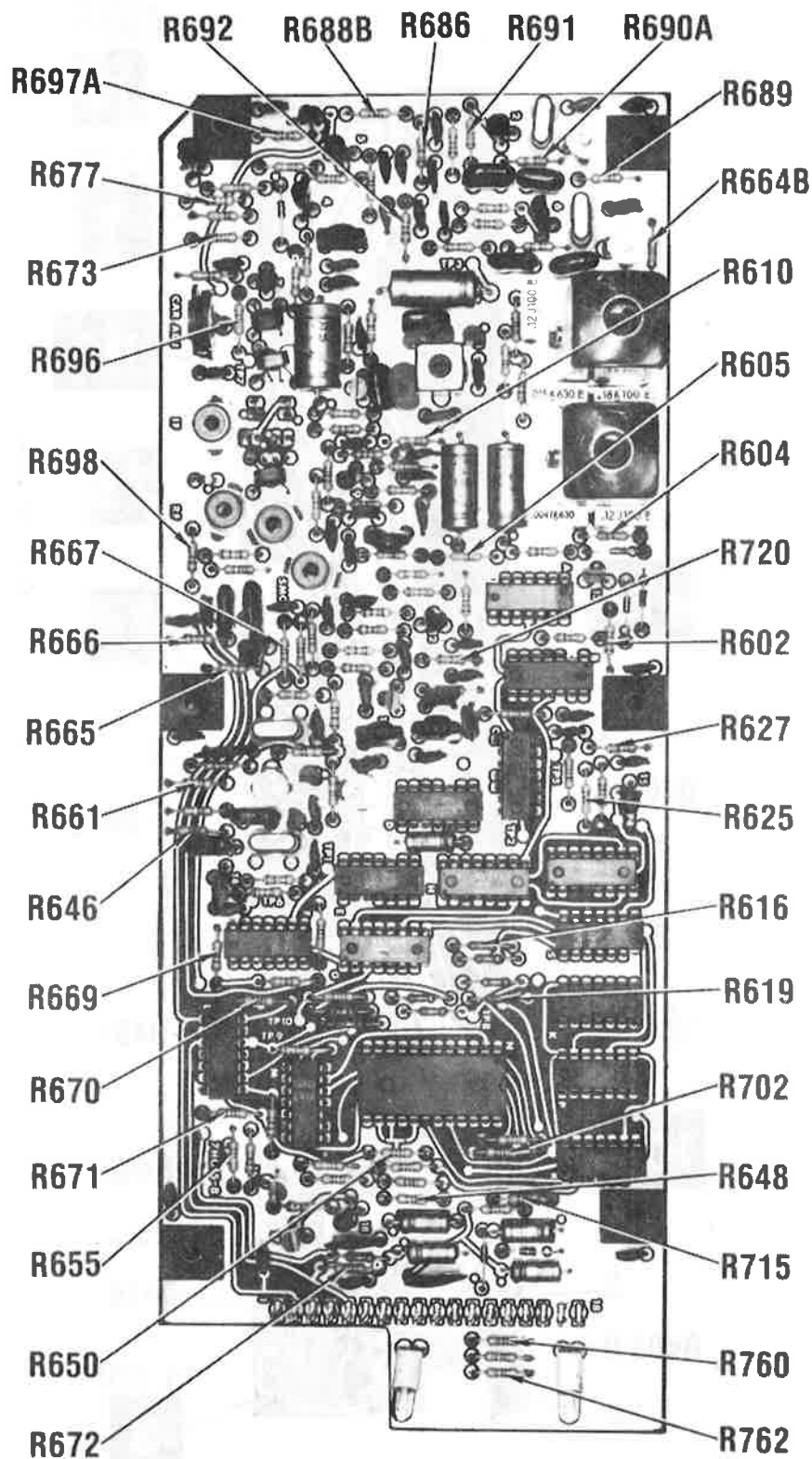
SYNTH BOARD



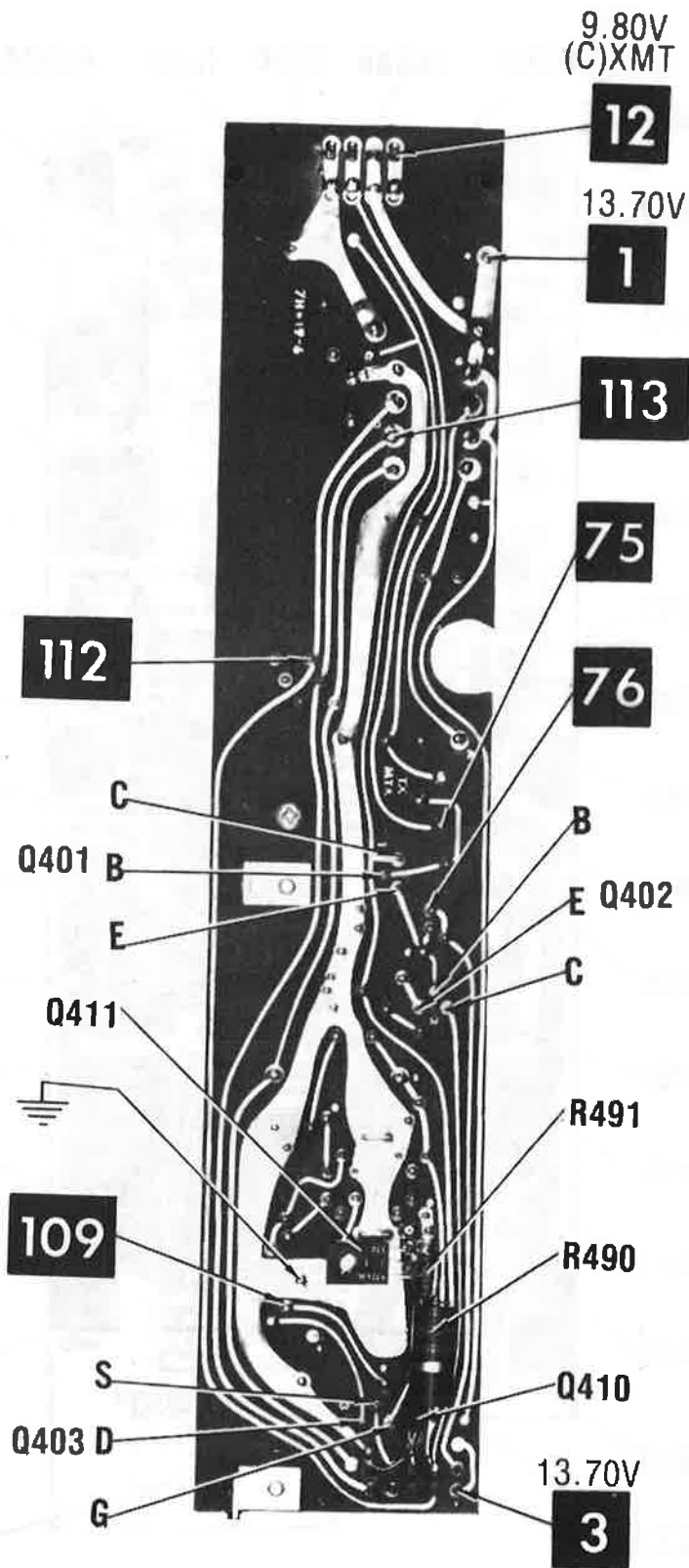
SYNTH BOARD



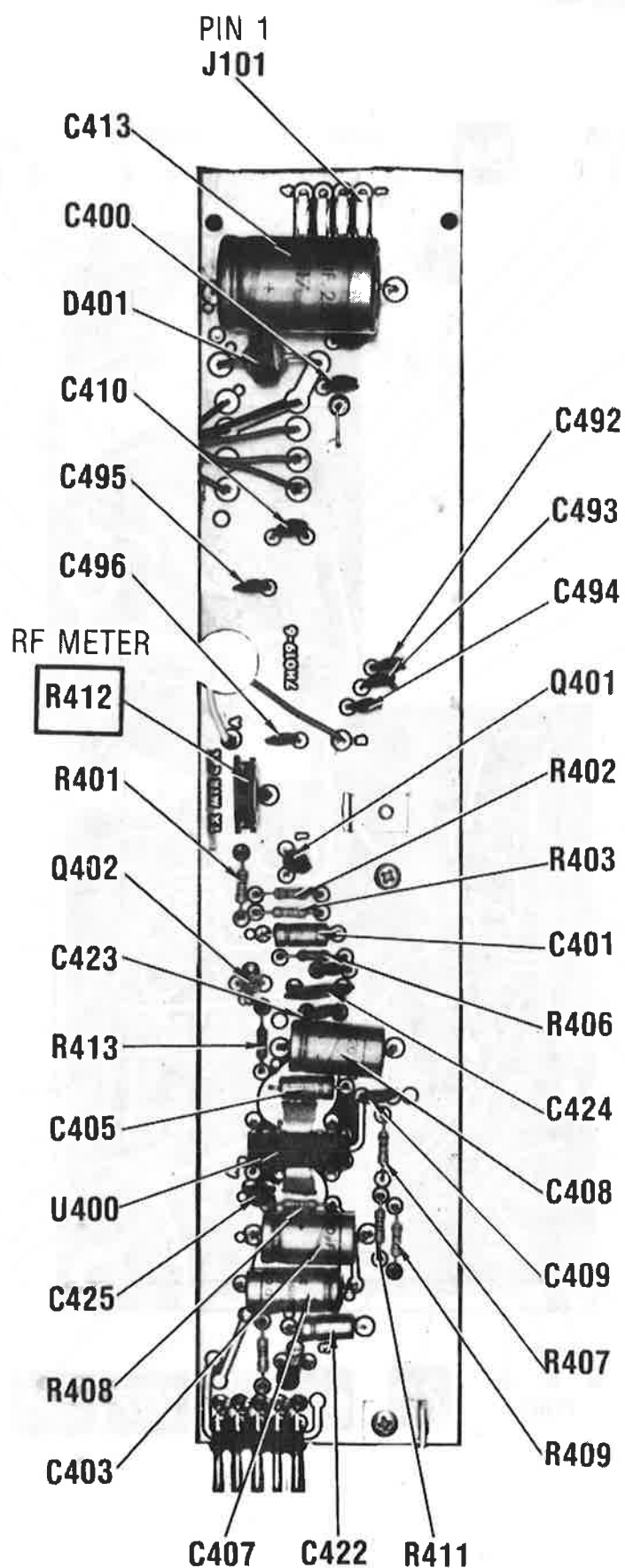
SYNTH BOARD



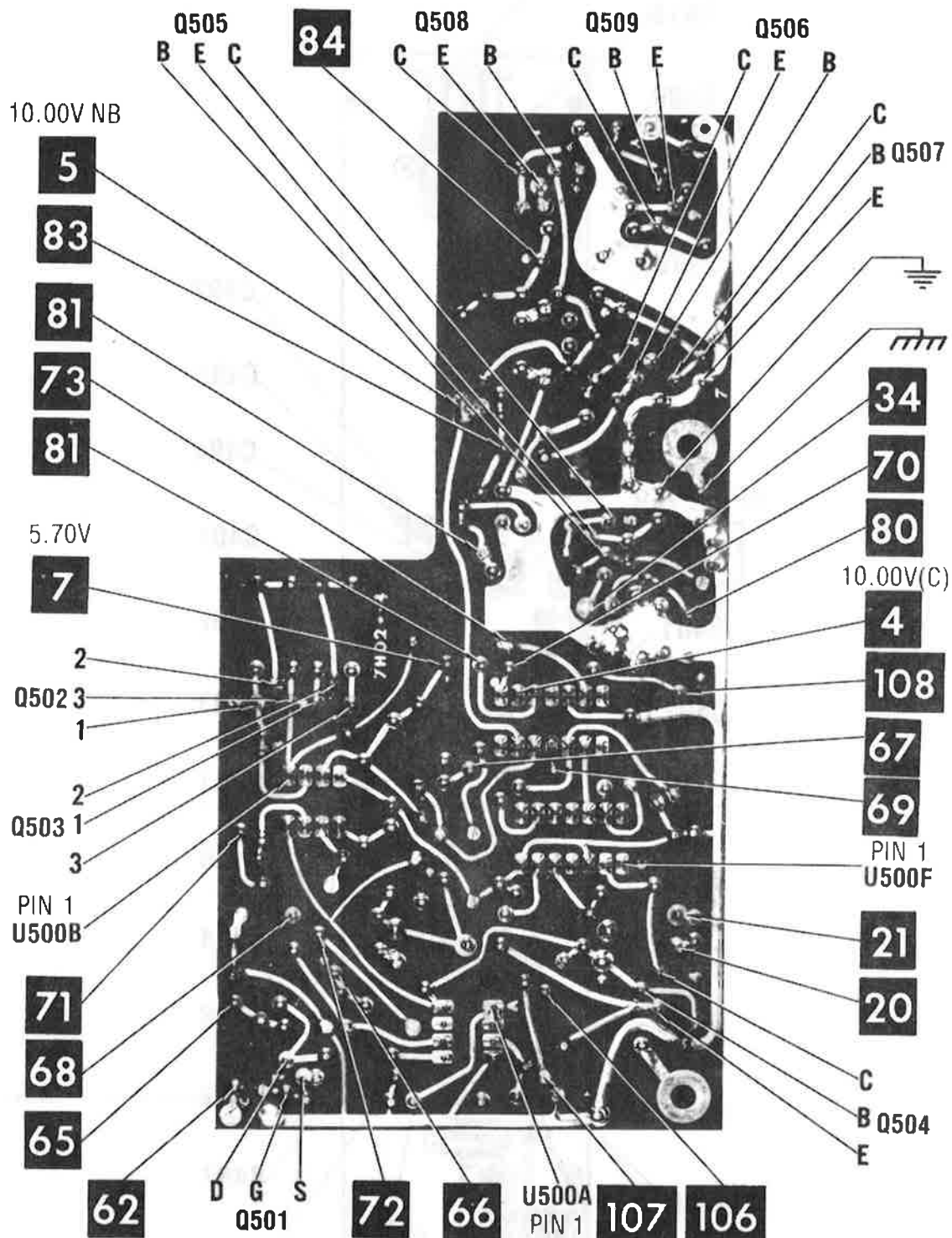
SYNTH BOARD



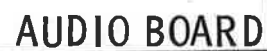
AUDIO AMP BOARD



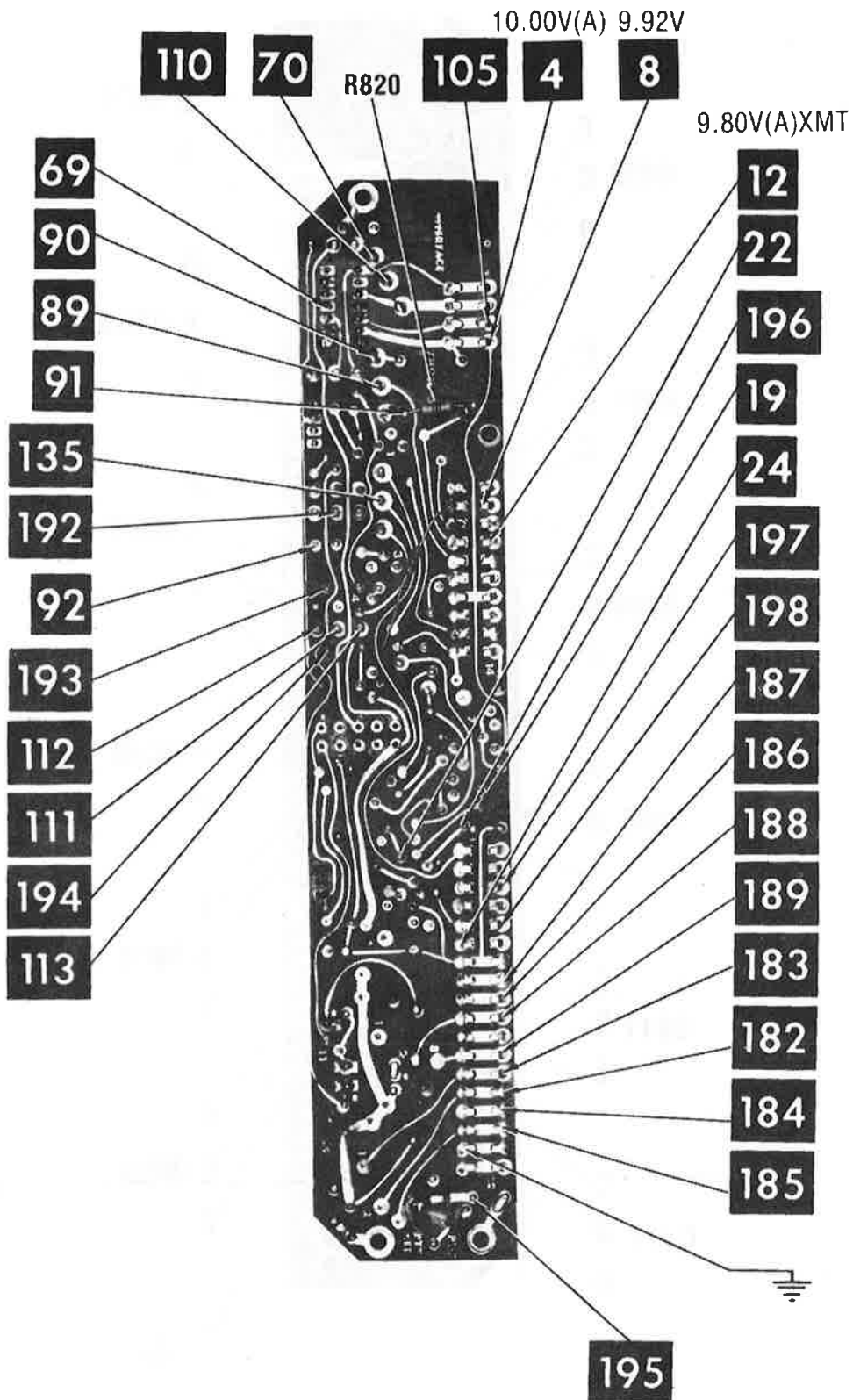
AUDIO AMP BOARD



AUDIO BOARD

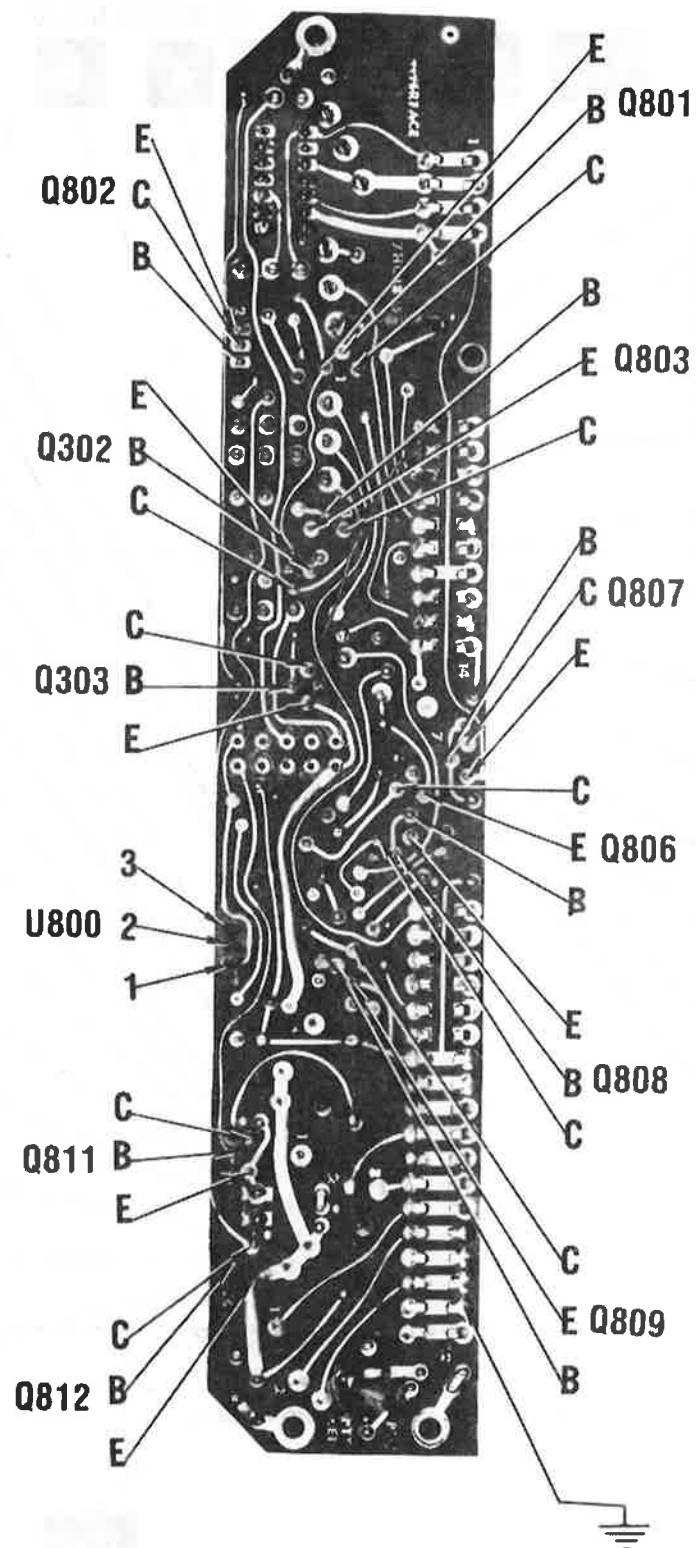




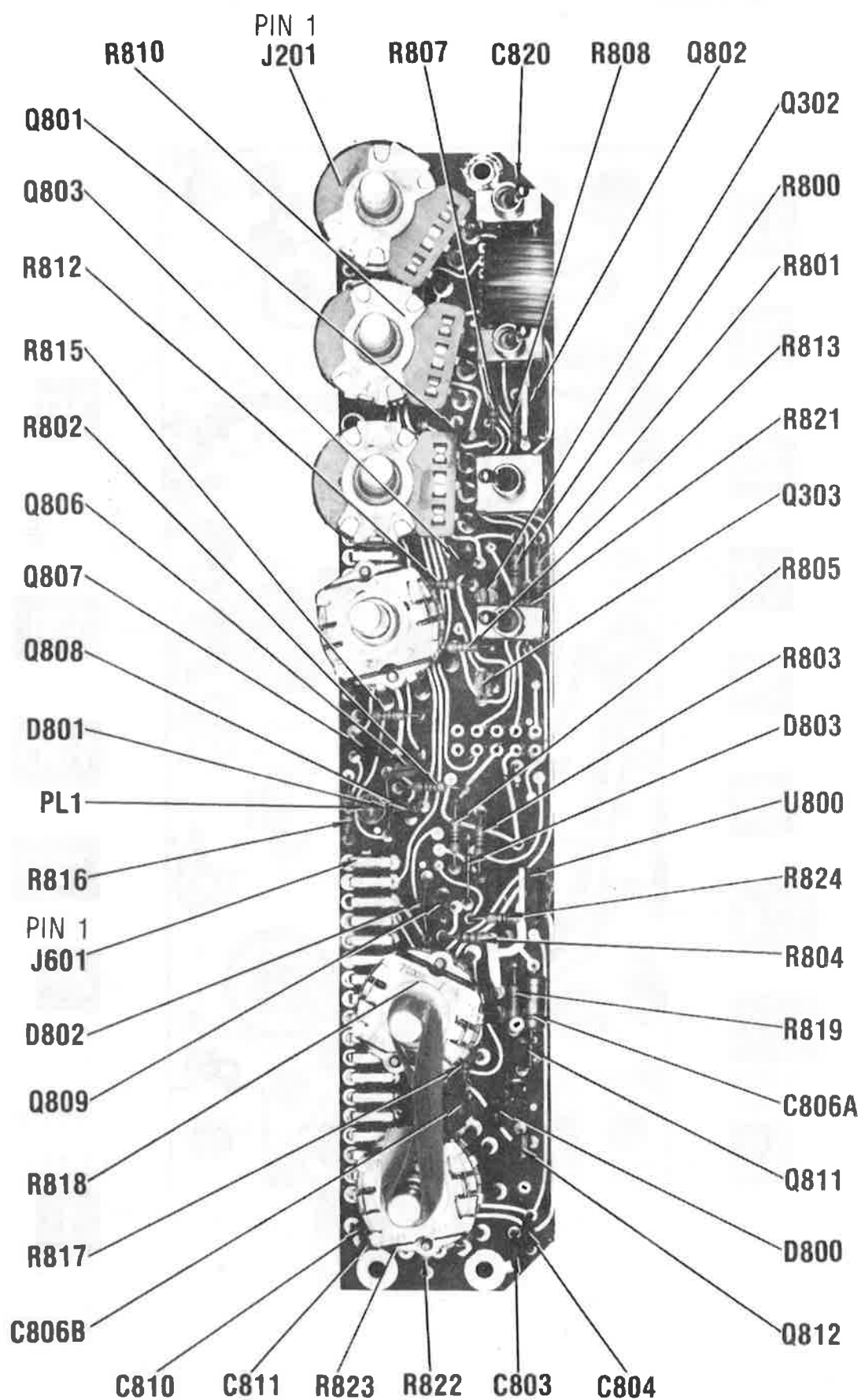


CPI MODEL CP400

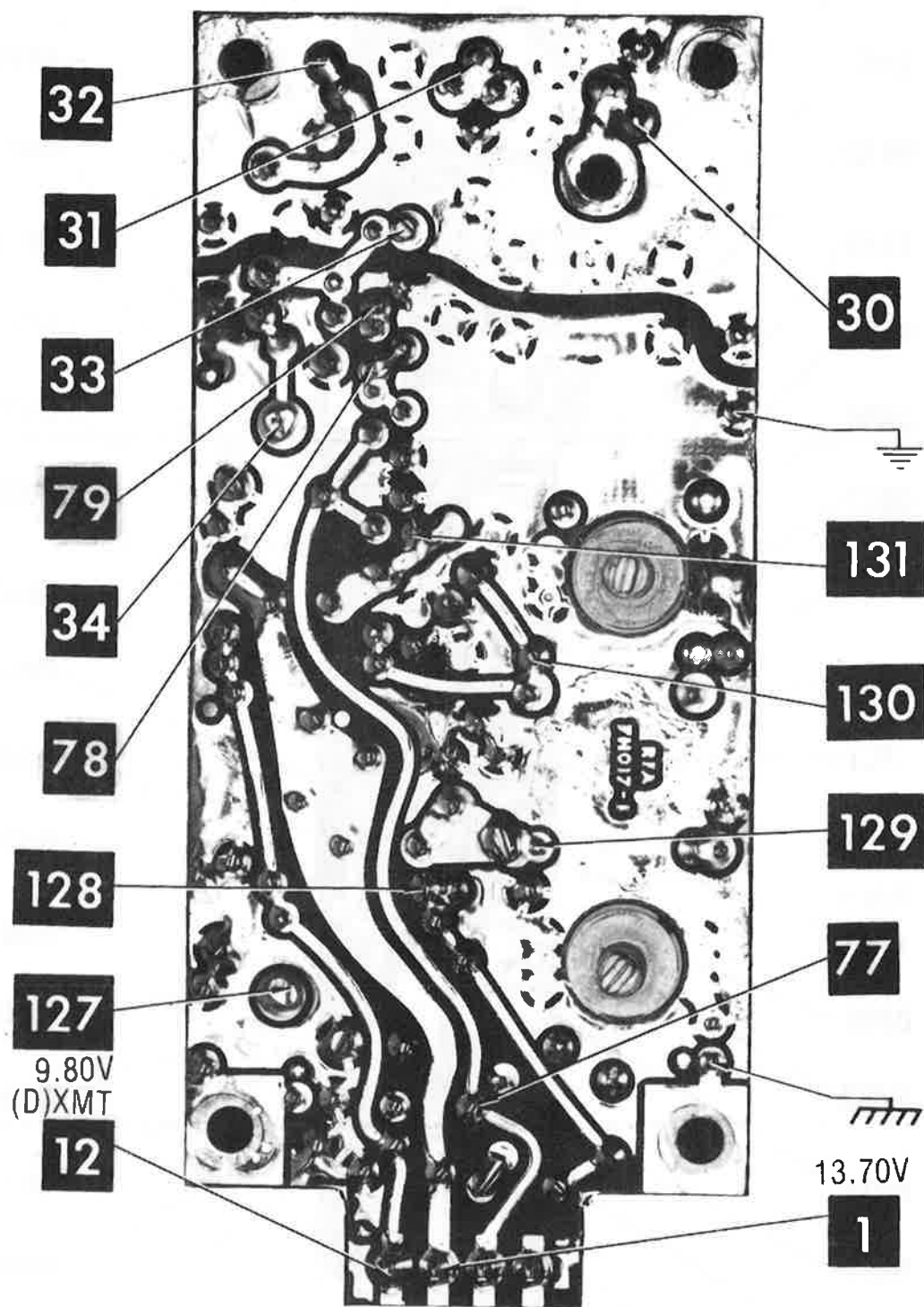
CONTROL BOARD



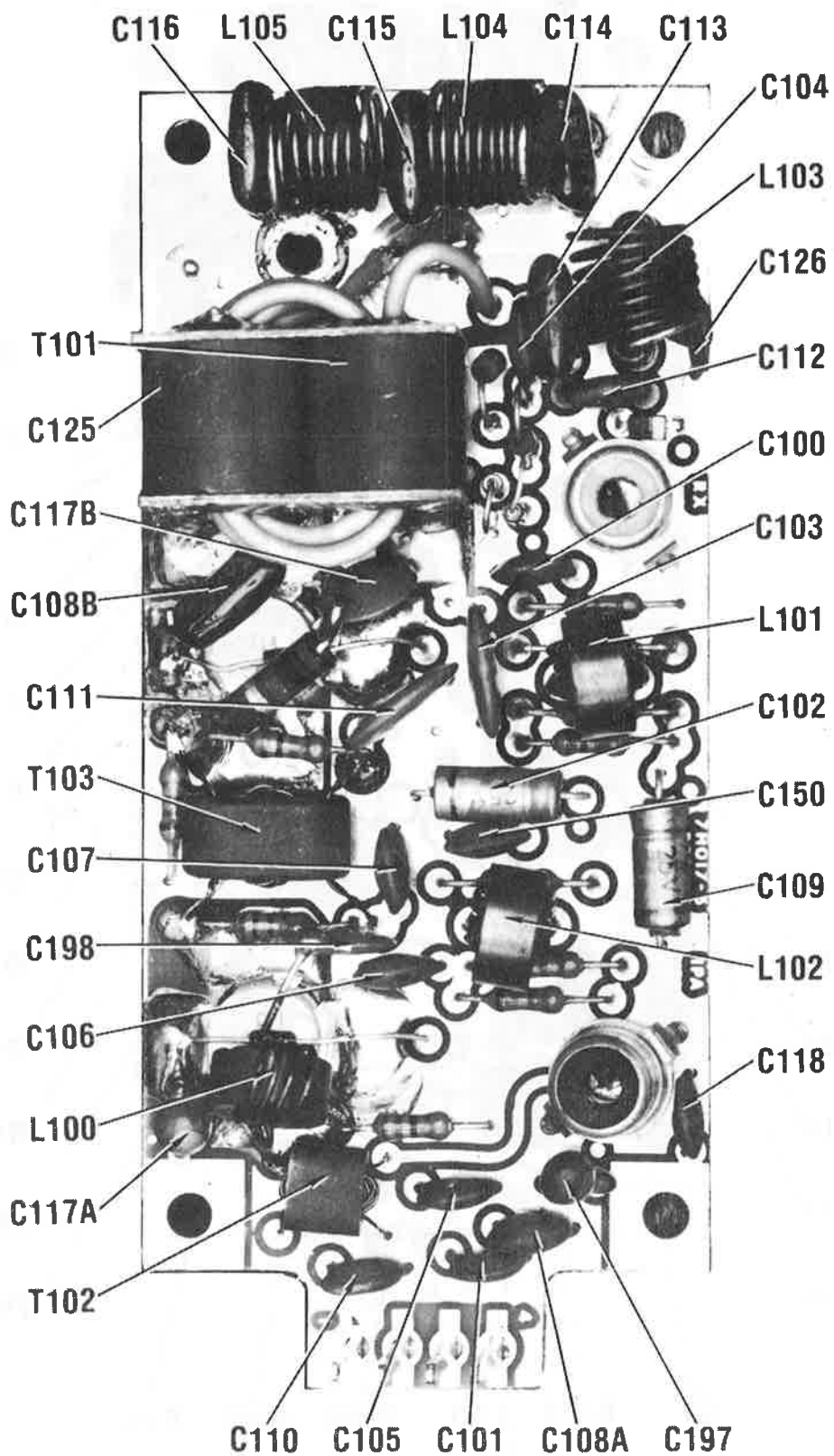
CONTROL BOARD



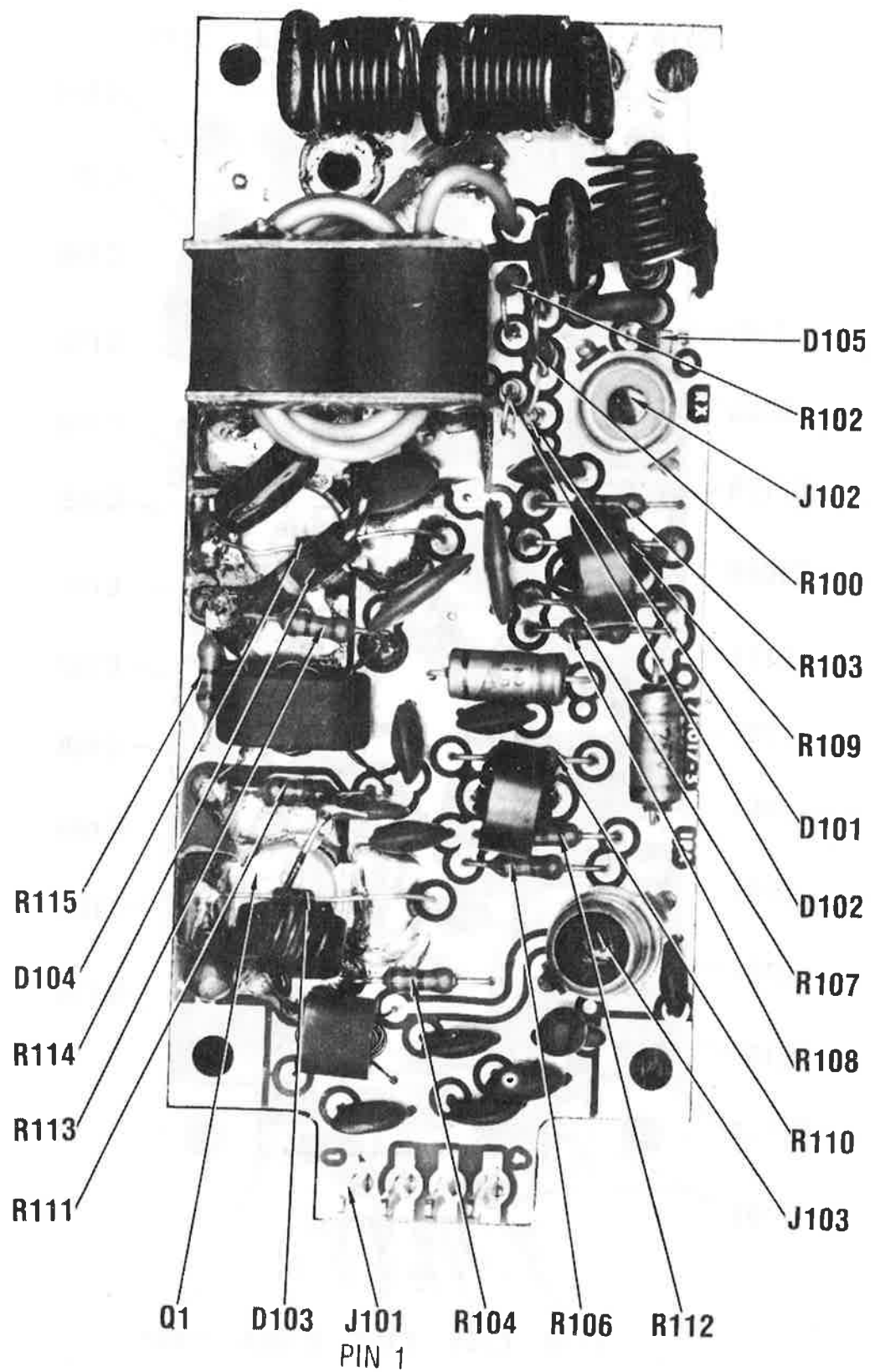
CONTROL BOARD

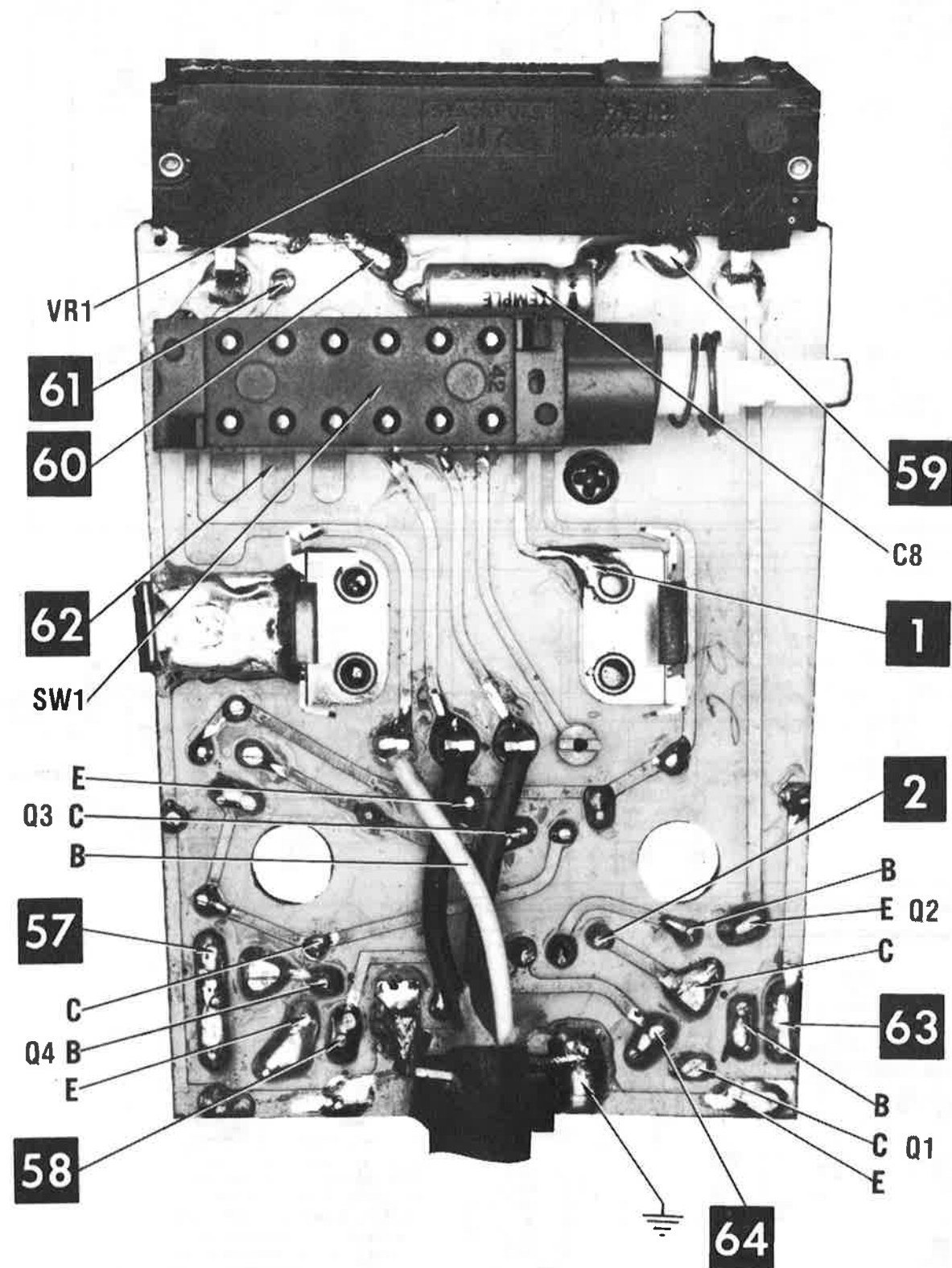


RF POWER BOARD

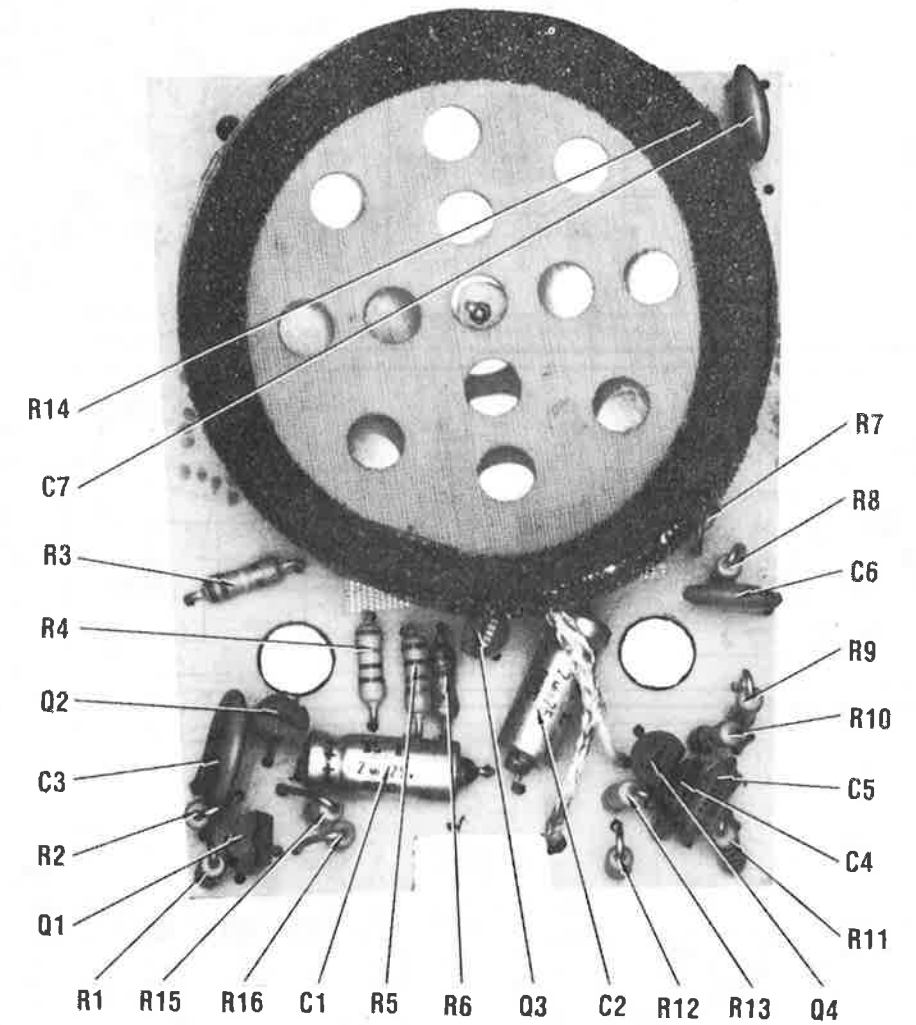


RF POWER BOARD

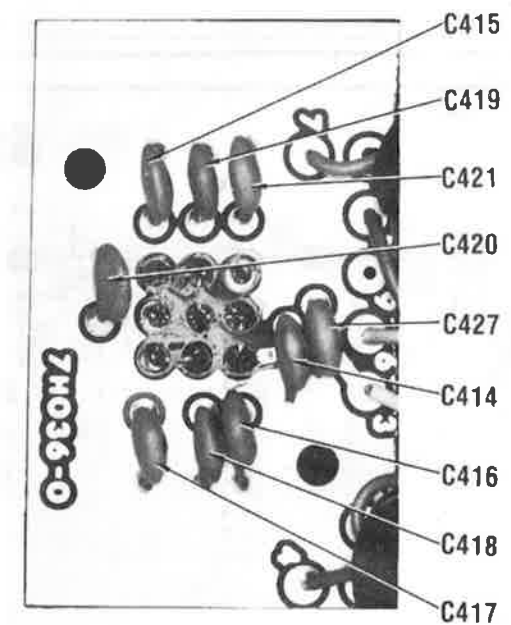




MIC BOARD

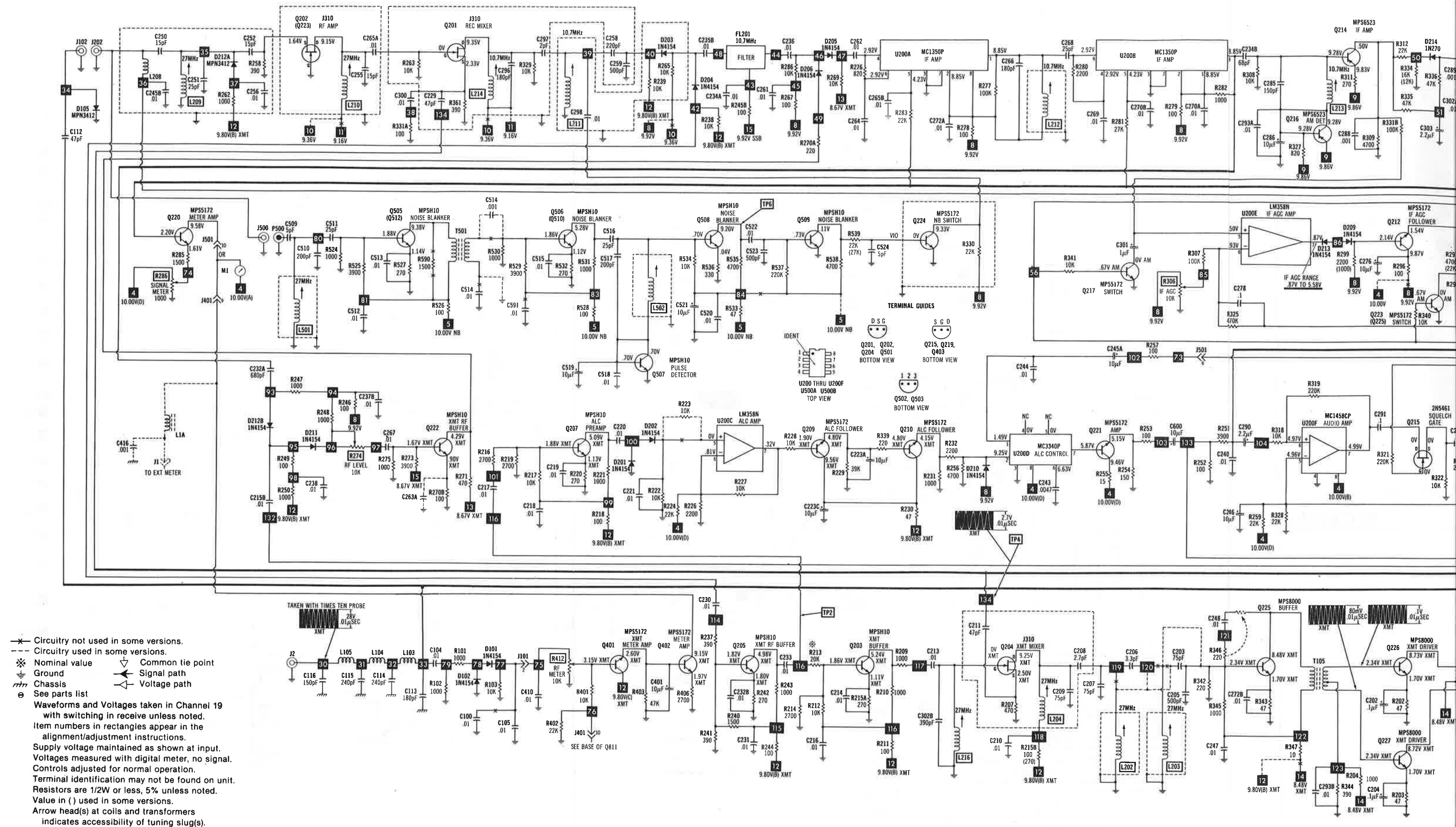


MIC BOARD

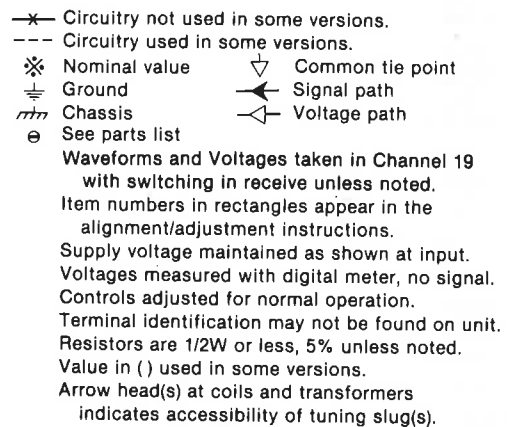


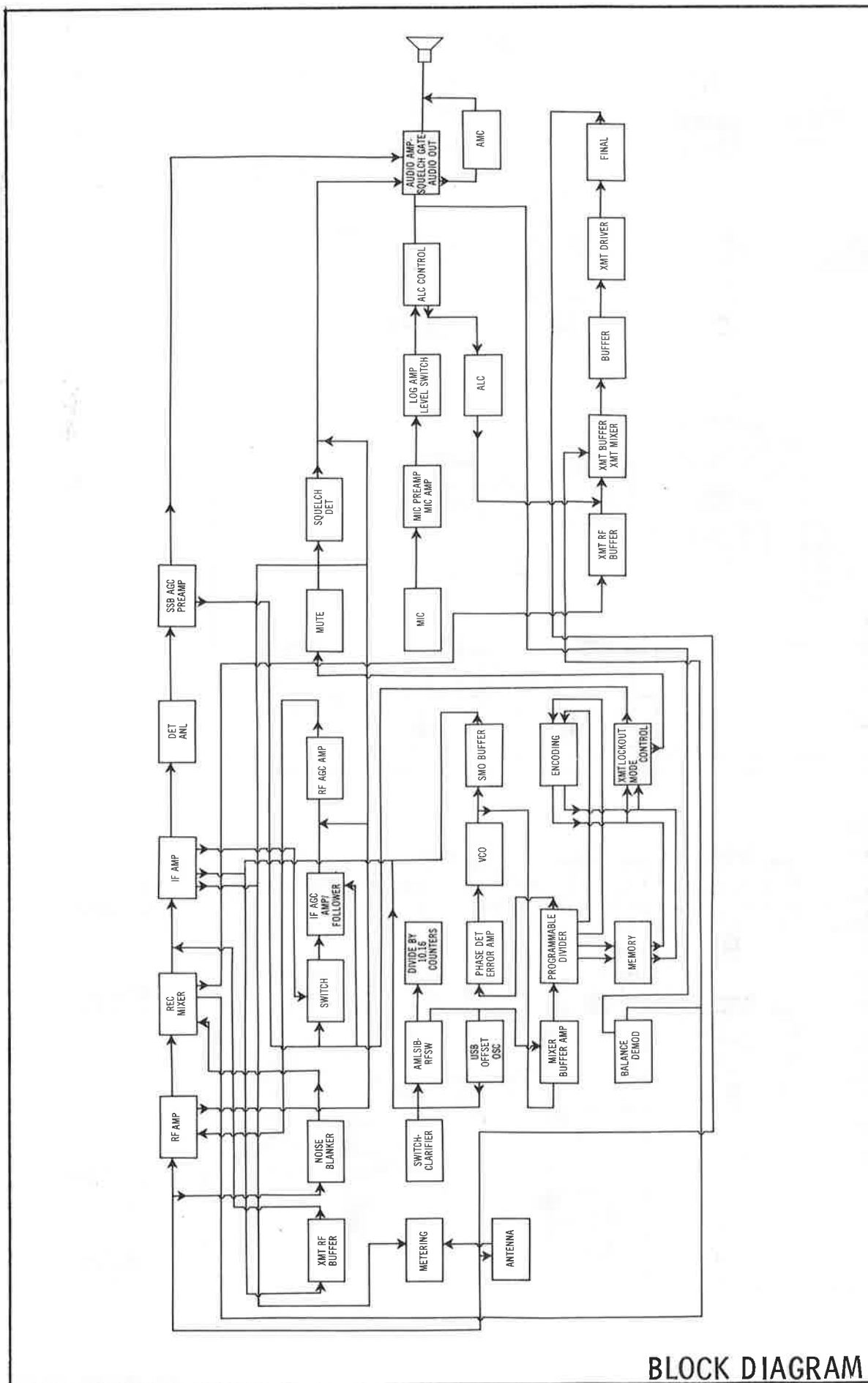
JACK BOARD





A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITACE**
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CPI MODEL CP400

PARTS LIST AND DESCRIPTION

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

WIRING DATA

Cable (Speaker)(Unshielded).....	Use BELDEN No. 8782 (AWG24)(4 colors)
Shielding Strap.....	Use BELDEN No. 8660 (3/16" width)
Hook-up Wire (General Use).....	Use BELDEN No. 8524 (AWG22)(13 colors)
Hook-up Wire (Shielded).....	Use BELDEN No. 8401 (Braided Shield)(1 conductor)(AWG25)
	Use BELDEN No. 8421 (Spiral Shield)(1 conductor)(AWG25)
	Use BELDEN No. 8737 (Spiral Shield)(2 conductor)(AWG22)
Microphone Cable (Coiled).....	Use BELDEN No. 8491 (4 conductor-2 shielded)(6 ft.)(AWG23)
Coax(Transmission Line).....	Use BELDEN No. 8216 (RG-174/U, 50 ohms)

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RAYTHEON PART No.	RCA PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D101	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D102	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D103	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D104	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D105	MPN3412		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D201	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D202	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D203	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D204	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D205	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D206	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D207	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D208	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D209	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D210	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D212A	MPN3412		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D212B	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D213	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D214	1N270		1N34AS	PTC207	REN 109	SK3087	ECG109	TM109/**	WEP134	103-287
D401	MR750	4A008	GE-512	PTC204	REN 156	SK3051/156	ECG156	TM156	WEP4008	212-Z9000
D601	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D602	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D603	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D604	WV209	4A005	GE-90		REN 614		ECG614	TM614	WEP200	103-219
D605	WV209	4A005	GE-90		REN 614		ECG614	TM614	WEP200	103-219
D606	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D607	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D608	WV209	4A005	GE-90		REN 614		ECG614	TM614	WEP200	103-219
D609	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D610	MBD101	4A004	GE-510	PTC205	REN 125	SK3081/125	ECG125	TM125	WEP170	212-Z9000
D611	MBD101	4A004	GE-510	PTC205	REN 125	SK3081/125	ECG125	TM125	WEP170	212-Z9000
D612	MBD101	4A004	GE-510	PTC205	REN 125	SK3081/125	ECG125	TM125	WEP170	212-Z9000
D613	MBD101	4A004	GE-510	PTC205	REN 125	SK3081/125	ECG125	TM125	WEP170	212-Z9000
D614	MPN3412		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D801	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D802	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
D803	1N4154		GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925	103-287
U201A	MC1350P	5C002	GEIC-217		REN 177	SK3234/746	ECG746	TM746	WEP2024	221-Z9028
U200B	MC1350P	5C002	GEIC-217		REN 177	SK3234/746	ECG746	TM746	WEP2024	221-Z9028
U200C	MC358N									
U200D	MC3340P	5C009								
U200E	MC3340									
U200F	LM358	5C007								
U200G	MC1458CP		GEIC-220	PTC763		SK3465/778	ECG778	TM778	WEP2053	
U400	TBA810S	5C012	GEIC-278			SK3184/1115	ECG1115	TM1115	WEP2098	
U500A	MC1458CP		GEIC-229	PTC767	REN 788	SK3147/788	ECG788	TM788	WEP2040	
U500B	MC1458CP	5C010	GEIC-229	PTC767	REN 788	SK3147/788	ECG788	TM788	WEP2040	
U500C	MC1458	5C010	GEIC-229	PTC767	REN 788	SK3147/788	ECG788	TM788	WEP2040	
U500F	MC1723	5C008								
U600	MC7805	5C004	GEIC-190			SK3591/960	ECG960	TM960	WEP7490	
U600A	N7400A		GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7408	
U600B	DM7474N	5A001	GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7402	
U600C	DM7490N	5A004	GE-7474		REN 7474	SK7474	ECG7474	TM7474	WEP7402	
U600D	DM7490N	5A005	GE-7490		REN 7490	SK7490	ECG7490	TM7490	WEP7402	
U600E	DM7493AN	5A006	GE-7490		REN 7490	SK7490	ECG7490	TM7490	WEP7402	
U600F	DM7493AN	5A006	GE-7490		REN 7490	SK7490	ECG7490	TM7490	WEP7402	
U600G	N7400A	5A001	GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7402	
U600H	9310N	5A007	GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7402	
U600I	9310N	5A007	GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7402	
U600J	9310N	5A007	GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7402	
U600K	DM7408N	5A003	GE-7408		REN 7408	SK7408	ECG7408	TM7408	WEP7408	
U600L	DM7408N	5A003	GE-7408		REN 7408	SK7408	ECG7408	TM7408	WEP7408	
U600M	DM7402N	5A002	GE-7402		REN 7402	SK7402	ECG7402	TM7402	WEP7402	
U600N	DM7402N	5A002	GE-7402		REN 7402	SK7402	ECG7402	TM7402	WEP7402	
U600O	N7400A	5A001	GE-7400		REN 7400	SK7400	ECG7400	TM7400	WEP7402	
U600P	DM7402H		GE-7402		REN 7402	SK7402	ECG7402	TM7402	WEP7402	
U600R	DM7408N		GE-7408		REN 7408	SK7408	ECG7408	TM7408	WEP7408	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SEMICONDUCTORS (Select replacement transistor for best results) (cont)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	MALLORY PART No.	RAYTHEON PART No.	RCA PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
Q600S	N7400A	5A001	GE-7400		REN 7400	SK7400	ECG7400	TM7400		
Q1	7400N		GE-7400		REN 7400	SK7400	ECG7400	TM7400		
Q2	B-3-12	3F008								
	2514						ECG320			
	CD2514									
Q201	J301		GE-FET-2	PTC161	REN 132	SK3448	ECG312	TM312	WEP920	121-756
Q202	J301		GE-FET-2	PTC161	REN 132	SK3448	ECG312	TM312	WEP920	121-756
Q203	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q204	J301		GE-FET-2	PTC161	REN 132	SK3448	ECG312	TM312	WEP920	121-756
Q205	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q206	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q208	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q209	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q210	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q211	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q212	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q214	MPS6523	3B004	GE-82	PTC103*	REN 159	SK3466/159	ECG159	TM159	WEP911	121-Z9003
Q215	2N5461	3D001	GE-FET-2	PTC161	REN 132	SK3448	ECG312	TM312	WEP920	121-756
Q216	MPS6523	3B004	GE-82	PTC103*	REN 159	SK3466/159	ECG159	TM159	WEP717	121-Z9003
Q217	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q218	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q219	2N5461	3D001	GE-FET-2	PTC161	REN 132	SK3448	ECG312	TM312	WEP920	121-756
Q220	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q221	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q222	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/313	ECG229	TM229	WEP956	121-925
Q223	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q224	MPS5172	3A004	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q225	MPS8000	3F001	GE-81		REN 287	SK3250/315	ECG195A	TM195A	WEP64	121-Z9027
Q226	MPS8000	3F001	GE-81		REN 287	SK3250/315	ECG195A	TM195A	WEP64	121-Z9027
Q227	MPS8000	3F001	GE-81		REN 287	SK3250/315	ECG195A	TM195A	WEP64	121-Z9027
Q302	MPS6562	3B002	GE-82	PTC103	REN 193	SK3114/290	ECG159	TM159	WEP911	121-Z9003
Q303	MPS5172	3A004	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q401	MPS5172	3A004	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q402	MPS5172	3A004	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q403	2N5461	3D001	GE-FET-2	PTC161	REN 132	SK3746/326	ECG312	TM312	WEP920/312	121-756
Q410	MPS5172	3A004	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q411	MPS5172	3A004	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q501	2N5458	3C003	GE-FET-2	PTC161	REN 133	SK3112	ECG312	TM312	WEP801	121-756
Q502	MSD7000	4A009					ECG276		WEP164	
	MSD6101						ECG276		WEP164	
Q503	MSD7000	4A009					ECG276		WEP164	
	MSD6101						ECG276		WEP164	
Q504	MPS6562	3B002	GE-82	PTC103*	REN 193	SK3114/290	ECG159	TM159	WEP911	121-Z9003
Q505	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q506	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q507	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q508	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q509	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q601	MPS6562	3B002	GE-82	PTC103*	REN 193	SK3114/290	ECG159	TM159	WEP911	121-Z9003
Q602	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q603	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q604	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q605	MPS6562	3B002	GE-82	PTC139	REN 193	SK3114/290	ECG159	TM159	WEP911	121-Z9003
Q606	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q607	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q608	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q609	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q610	MPS6523	3B004	GE-82	PTC103*	REN 159	SK3466/159	ECG159	TM159	WEP717	121-Z9003
Q611	2N5224	3A003	GE-20	PTC121	REN 123A	SK3444/123A	ECG123A	TM123A	WEP735A	121-Z9000A
Q612	MPSH10	3A004	GE-61	PTC121	REN 161	SK3039/316	ECG229	TM229	WEP956	121-925
Q613	2N5224	3A003	GE-20	PTC121	REN 123A	SK3444/123A	ECG123A	TM123A	WEP735A	121-Z9000A
Q614	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q615	2N5224	3A003	GE-20	PTC121	REN 123A	SK3444/123A	ECG123A	TM123A	WEP735A	121-Z9000A
Q616	2N5224	3A003	GE-20	PTC121	REN 123A	SK3444/123A	ECG123A	TM123A	WEP735A	121-Z9000A
Q617	2N5224	3A003	GE-20	PTC121	REN 123A	SK3444/123A	ECG123A	TM123A	WEP735A	121-Z9000A
Q618	MPS6562	3B002	GE-82	PTC103*	REN 193	SK3114/290	ECG159	TM159	WEP911	121-Z9003
Q601	MPS6562	3B002	GE-82	PTC103*	REN 192	SK3114/290	ECG159	TM159	WEP911	121-Z9003
Q802	2N6406									
Q803	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q806	MPS5172	3A005	GE-20	PTC139	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q807	MPS6562	3B002	GE-82	PTC103*	REN 193	SK3114/290	ECG290	TM290	WEP911	121-Z9003
Q808	MPS5172	3A005	GE-20	PTC139*	REN 66	SK3444/123A	ECG123A	TM123A	WEP724	121-Z9000A
Q809	MPS6562	3B002	GE-82	PTC103	REN 193	SK3114/159	ECG159	TM159	WEP911	121-Z9003
Q811	MPS5172	3A005	GE-20	PTC139*	REN 66	SK3444/123	ECG123A	TM123A	WEP724	121-Z9000A
Q812	MPS5172	3A005	GE-20	PTC139*	REN 66	SK3444/123	ECG123A	TM123A	WEP724	121-Z9000A
MIC BOARD										
Q1	2N3710		GE-20	PTC101	REN 199	SK3444/123A	ECG123A	TM123A	WEP735	121-Z9000A
Q2	2N3710		GE-20	PTC101	REN 199	SK3444/123A	ECG123A	TM123A	WEP735	121-Z9000A
Q3	71S58Y		GE-269	PTC103*	REN 290	SK3114/290	ECG290	TM290/**	WEP911	121-1019
Q4	2N5306		2N5306	PTC153	REN 172	SK3156/172A	ECG172A	TM172A	WEP791	121-Z9024

* 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	2 25V	18001	WBR2-50	TT25X2	QE1-35	TVA-1301
C2	2 25V		WBR2-50	TT25X2	QE1-35	TVA-1301
C8	5 35V		WBR5-50	TT50X5A	QE1-111	TVA-1303
C102	10 25V		WBR10-25	TT25X10	QE1-179	TVA-1204
C109	10 25V		WBR10-25	TT25X10	QE1-179	TVA-1204
C117A	2.2 35V		18006		TDC225M035FL	SD35-2R29
C197	2.2 35V		18006		TDC225M035FL	SD35-2R29
C202	.1 35V		18008		TDC104M050EL	SD50-R109
C204	.1 35V		18008		TDC104M050EL	SD50-R109
C223A	100 25V		18002	WBR100-25	TT25X100B	QE1-425
	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C223C	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C245A	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C246	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C254	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C276	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C277	100 25V	18002	WBR100-25	TT25X100B	QE1-425	TVA-1207
C280	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C286	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C290	2.2 35V	18006		TDC225M035FL		SD35-2R29
C295	2.2 35V	18006		TDC225M035FL		SD35-2R29
C301	.1 35V	18008		TDC104M050EL	QDT1-2	SD50-R109
C303	2.2 35V	18006		TDC225M035FL		SD35-2R29
C304	2.2 35V	18006		TDC225M035FL		SD35-2R29
C401	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C403	220 16V	18004				
C405	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C407	100 25V	18002	WBR100-25	TT25X100B	QE1-425	TVA-1207
C408	220 16V	18004				
C413	1000 25V	18003	WBR1000-25	TC2510A	QE1-593	TVA-1211
C422	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C425	2.2 35V	18006		TDC225M035FL		SD35-2R29
C503	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C506	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C519	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C521	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C527	100 25V	18002	WBR100-25	TT25X100B	QE1-425	TVA-1207
C528	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C532	2.2 35V	18006		TDC225M035FL		SD35-2R29
	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C600	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C601	100 25V	18002	WBR100-25	TT25X100B	QE1-425	TVA-1207
C602	100 25V	18002	WBR100-25	TT25X100B	QE1-425	TVA-1207
C608	100 25V	18002	WBR100-25	TT25X100B	QE1-425	TVA-1207
C613	220 16V	18004				
C617	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C643	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C644	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C673	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C674	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C806A	10 25V	18001	WBR10-25	TT25X10	QE1-179	TVA-1204
C806B	2.2 35V	18006		TDC225M035FL		SD35-2R29

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
C211	47 N750 10%		DTN-47	N47	CN7447		10TCU-Q47
C213	.01 50V		UK50-103		MAG5011		
C214	.01 50V		UK50-103		MAG5011		
C215A	.01 50V		UK50-103		MAG5011		
C215B	.01 50V		UK50-103		MAG5011		
C216	.01 50V		UK50-103		MAG5011		
C217	.01 50V		UK50-103		MAG5011		
C218	.01 50V		UK50-103		MAG5011		
C219	.01 50V		UK50-103		MAG5011		
C220	.01 50V		UK50-103		MAG5011		
	.001		DD-102		GP210		10TS-D10
C221	.01		UK50-103		MAG5011		
C223B	.01		UK50-103		MAG5011		
	120 5%			CD15FD121J03	SX312	QW1-29	MWA-121
C224	150			CD15FD151J03	SX315	QW1-31	MWA-151
C225	10 NPO 10%		DTZ-10	NP010	CN0410		10TCC-Q10
C226	.01 50V		UK50-103		MAG5011		
C227	120 5%			CD15FD121J03	SX312	QW1-29	MWA-121
C229	47 N750 10%		DTN-47	N47	CN7447		10TCU-Q47
C230	.01 50V		UK50-103		MAG5011		
C231	.01 50V		UK50-103		MAG5011		
	68 N750 10%		DTN-68	N68	CN7468		10TCU-Q68
C232A	680						
C232B	.01 50V		UK50-103		MAG5011		
C233	.01 50V		UK50-103		MAG5011		
C234A	.01 50V		UK50-103		MAG5011		
C234B	68 N750 10%		DTN-68	N68	CN7468		10TCU-Q68
C235A	.01 50V		UK50-103		MAG5011		
C235B	.01 50V		UK50-103		MAG5011		
C236	.01 50V		UK50-103		MAG5011		
C237A	.01 50V		UK50-103		MAG5011		
C237B	.01 50V		UK50-103		MAG5011		
C238	.01 50V		UK50-103		MAG5011		
C240	.01 50V		UK50-103		MAG5011		
C241	12 NPO 5%				CN0412		10TCC-Q12
C243	.0047 630V 10%						
C244	.01 50V		UK50-103		MAG5011		
C245B	.01 50V		UK50-103		MAG5011		
C247	.01		UK50-103		MAG5011		
C248	.01 50V		UK50-103		MAG5011		
C250	15 NPO 10%		DTZ-15	NP015	CN0415		10TCC-Q15
C251	25 NPO 10%		DTZ-25	NP025	CN0425		10TCC-Q25
C252	15 NPO 10%		DTZ-15	NP015	CN0415		10TCC-Q15
C255	15 NPO 10%		DTZ-15	NP015	CN0415		10TCC-Q15
C256	.01 50V		UK50-103		MAG5011		
C257	.01 50V		UK50-103		MAG5011		
C258	220 5%			CD15FD221J03	SX322	QW1-35	MWA-221
C259	500 5%	1C001C500					
C260	.01 50V		UK50-103		MAG5011		
C261	.01 50V		UK50-103		MAG5011		
C262	.01 50V		UK50-103		MAG5011		
C263A		(1)					
C263B	200			CD15FD201J03	SX320	QW1-34	MWA-201
C264	.01 50V		UK50-103		MAG5011		
C265A	.01 50V		UK50-103		MAG5011		
C265B	.01 50V		UK50-103		MAG5011		
C266	180 5%			CD15FD181J03	SX318	QW1-33	MWA-181
C267	.01 50V		UK50-103		MAG5011		
C268	25 NPO 10%		DTZ-25	NP025	CN0425		10TCC-Q25
C269	.01 50V		UK50-103		MAG5011		
C270A	.01 50V		UK50-103		MAG5011		
C270B	.01 50V		UK50-103		MAG5011		
C272A	.01 50V		UK50-103		MAG5011		
C272B	.01 50V		UK50-103		MAG5011		
C273	.01		UK50-103		MAG5011		
C274	.1 25V		UK25-104		MAG2501		HY-750
C275	.1 25V		UK25-104		MAG2501		HY-750
C278	.1 25V		UK25-104		MAG2501		HY-750
C283	.01 50V		UK50-103		MAG5011		
C285	150 5%			CD15FD151J03	SX315	QW1-31	MWA-151
C287	.01 50V		UK50-103		MAG5011		
C288	.001		DD-102		GP210		10TS-D10
C289	.001		DD-102		GP210		10TS-D10
C291	.1 25V		UK25-104		MAG2501		HY-750
C292	.1 25V		UK25-104		MAG2501		HY-750
C293A	.01 50V		UK50-103		MAG5011		
C293B	.01 50V		UK50-103		MAG5011		
C294	680 300V 5%			CD19FD681J03	SX368	QW1-33	MWC-681
C296	180 5%			CD15FD181J03	SX318		MWA-181
C297	2 NPO 10%	1A01DA2AA					
C298	.01 50V		UK50-103		MAG5011		
C299	.01 50V		UK50-103		MAG5011		
C300	.01 50V		UK50-103		MAG5011		
C302A	.01		UK50-103		MAG5011		
C302B	390 5%			CD15FD391J03	SX339	QW1-41	MWA-391
C312	.1 25V		UK25-104		MAG2501		HY-750
C320	.01 50V		UK50-103		MAG5011		
C321	.01 50V		UK50-103		MAG5011		
C322	.01 50V		UK50-103		MAG5011		
C323	.01 50V		UK50-103		MAG5011		
C324	.01 50V		UK50-103		MAG5011		
C325							
C400	.01 50V		UK50-103		MAG5011		
C409	.0056 100V						
C410	.01 50V		UK50-103		MAG5011		
C412	.001		DD-102		GP210		10TS-D10
C414	.001		DD-102		GP210		10TS-D10
C415	.001		DD-102		GP210		10TS-D10
C416	.001		DD-102		GP210		10TS-D10
C417	.001		DD-102		GP210		10TS-D10

CPI MODEL CP400

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
C418	.001		DD-102		GP210		10TS-D10
C419	.001		DD-102		GP210		10TS-D10
C420	.001		DD-102		GP210		10TS-D10
C421	.001		DD-102		GP210		10TS-D10
C423	.002				GP220		10TS-D20
C424	.1 25V						HY-750
C427	.001		UK25-104		MAG2501		10TS-D10
C492	.01 50V		DD-102		GP210		
C493	.01 50V		UK50-103		MAG5011		
C494	.01 50V		UK50-103		MAG5011		
C495	.01 50V		UK50-103		MAG5011		
	.01 50V		UK50-103		MAG5011		
C496	.001		DD-102		GP210		
C501	.12 100V 5%	1D002D12E4A					10TS-D10
C502	220		DTZ-220				10TCC-T22
C504	.12 100V 5%	1D002D12E4A					
C505	.18 100V 10%			WMF1P18	EWFA018		1PB-P18
C507	.12 100V 5%	1D002D12E4A					6PS-S15
C508	.015 630V 10%			DPMS6S15	EWFA115		10TCC-V50
C509	5 NPO 10%	1A01DA5AA					MMA-201
C510	200 5%			CD15FD201J03	SX320	QW1-34	10TCC-Q25
C511	25 NPO 10%		DTZ-25	NPO25	CN0425		
C512	.01 50V		UK50-103		MAG5011		
C513	.01 50V		UK50-103		MAG5011		
C514	.01 50V		UK50-103		MAG5011		
	.001		DD-102		GP210		10TS-D10
C515	.01 50V		UK50-103		MAG5011		
C516	25 NPO 10%		DTZ-25	NPO25	CN0425	QW1-34	10TCC-Q25
C517	200 5%			CD15FD201J03	SX320		MMA-201
C518	.01 50V		UK50-103		MAG5011		
C520	.01 50V		UK50-103		MAG5011		
C522	.01 50V		UK50-103		MAG5011		
C523	500 5%	1C001C500					
C524	5 NPO 10%	1A01DA5AA					10TCC-V50
C525	.01 50V		UK50-103		MAG5011		
C526	.12 100V 5%	1D002D12E4A					
C529	.0039 630V 10%			DPMS6D39	PVC6239		6PS-D39
C530	.015 630V 10%			DPMS6S15	EWFA115		6PS-S15
C531	200 5%			CD15FD201J03	SX320	QW1-34	MMA-201
C535	.01 50V		UK50-103		MAG5011		
C590	.01 50V		UK50-103		MAG5011		
C591	.01 50V		UK50-103		MAG5011		
C603	.0047 630V 10%			DPMS6D47	EWFA247		6PS-D47
C604A	.12 100V 5%	1D002D12E4A					
C604B	.18 100V 10%			WMF1P18	EWFA018		1PB-P18
C605	.015 630V 10%			DPMS6S15	EWFA115		6PS-S15
C606	.12 100V 5%	1D002D12E4A					
C609	.01 50V		UK50-103		MAG5011		
C610	68 N750 10%		DTN-68	N68	CN7468		10TCU-Q68
C611	390 5%			CD15FD391J03	SX339	QW1-41	MMA-391
C612	390 5%			CD15FD391J03	SX339	QW1-41	MMA-391
C614	.01 50V		UK50-103		MAG5011		
C615	20 NPO 10%		DTZ-20	NPO20	CN0420		10TCC-Q20
C616	20 NPO 10%		DTZ-20	NPO20	CN0420		10TCC-Q20
C620A	.01 50V		UK50-103		MAG5011		
C620B	.01		UK50-103		MAG5011		
C621	.01 50V		UK50-103		MAG5011		
C622	.01 50V		UK50-103		MAG5011		
C623	68 N750 10%		UK50-103		MAG5011		
C624	68 N750 10%		DTN-68	N68	CN7468		10TCU-Q68
C625	.01 50V		DTN-68	N68	CN7468		10TCU-Q68
C627	.01 50V		UK50-103		MAG5011		
C628	5 NPO 10%	1A01DA5AA	UK50-103		MAG5011		10TCC-V50
C629	.01 50V		UK50-103		MAG5011		
C630	.01 50V		UK50-103		MAG5011		
C631	5 NPO 10%	1A01DA5AA					10TCC-V50
C632	.01 50V		UK50-103		MAG5011		
C633	.01 50V		UK50-103		MAG5011		
C634	.01 50V		UK50-103		MAG5011		
C635	.001		DD-102		GP210		10TS-D10
C636	500 5%	1C001C500					
C637	.01 50V		UK50-103		MAG5011		
C638A	200 500V 5%			CD15FD201J03	SX320	QW1-34	MMA-201
C638B	200 500V 5%	1A01DA5AA		CD15FD201J03	SX320	QW1-34	MMA-201
C639	5 NPO 10%						10TCC-V50
C640	2-20	1E003					
C641	25 NPO 10%		DTZ-25	NPO25	CN0425		10TCC-Q25
C642	25 NPO 10%		DTZ-25	NPO25	CN0425		10TCC-Q25
C646	.1 25V		UK25-104		MAG2501		HY-750
C647	5 NPO 10%	1A01DA5AA					10TCC-V50
C648	2-20	1E003					
	200 5%			CD15FD201J03	SX320	QW1-34	MMA-201
C649	500	1C001C500					
C651	.01 50V		UK50-103		MAG5011		
C652	2-20	1E003					
C653	20 N750 10%		DTN-20	N20	CN7420		10TCU-Q20
C655	.01 50V		UK50-103		MAG5011		
C657	500 5%	1C001C500					
C658A	200 500V 5%			CD15FD201J03	SX320	QW1-34	MMA-201
C658B	.01 50V		UK50-103		MAG5011		
C659	.01 50V		UK50-103		MAG5011		
C660A	.01 50V		UK50-103		MAG5011		
C660B	.01 50V		UK50-103		MAG5011		
C661	.01 50V		UK50-103		MAG5011		
C662	200 500V 5%	1C001C500		CD15FD201J03	SX320	QW1-34	MMA-201
C663	500 5%						
C664A	25 NPO 10%		DTZ-25	NPO25	CN0425		10TCC-Q25
C664B	470						
C665	25 NPO 10%		DTZ-25	NPO25	CN0425		10TCC-Q25
C666	20 N750 10%		DTN-20	N20	CN7420		10TCU-Q20

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
C667	2-20	1E003	UK50-103		MAG5011		
C668	.01 50V		UK50-103		MAG5011		
C669	.01 50V		UK50-103		MAG5011		
C670	.01 50V		UK50-103		MAG5011		
C671	.01 50V		UK50-103		MAG5011		
C672	.01 50V		UK50-103		MAG5011		
C675	.01		UK25-104		MAG2501		HY-750
C676	.1 25V		UK50-103		MAG5011		
C677	.01 50V		UK50-103		MAG5011		
C678	.01 50V		UK50-103		MAG5011		
C685	.01 50V		UK50-103		MAG2501		HY-750
C770	.1 25V		UK50-103		MAG5011		
C771	.01 50V		UK50-103		MAG5011		
C772	.01 50V		UK50-103		MAG5011		
C773	.01 50V		UK50-103		MAG5011		
C774	.01 50V		UK50-103		MAG5011		
C775	.01 50V		UK50-103		MAG5011		
C776	.01 50V		UK50-103		MAG5011		
C803	.01 50V		UK50-103		MAG5011		
C804	.01 50V		UK50-103		MAG5011		10TS-D10
C810	.001		DD-102		GP210		
	.01 50V		UK50-103		MAG5011		10TS-D10
C811	.001		DD-102		GP210		
C820	.01 50V		UK50-103		MAG5011		

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.
(1) Factory selected value.

CPI MODEL CP400

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
R205	XMT Drive	100	2F001A1E2	T-100	MT12L1	X201R101B
R274	RF Level	10K	2F001A1E4	T-10K	MT14L1	X260R103B
R286	Signal Meter	1000	2F001A1E3	T-1000	MT13L1	X260R102B
R292	RF AGC	10K	2F001A1E4	T-10K	MT14L1	X260R103B
R306	IF AGC	10K	2F001A1E4	T-10K	MT14L1	X260R103B
R314	AM Level	10K	2F001A1E4	T-10K	MT14L1	X260R103B
R412	RF Meter	100K	2F004A1E5	T-10K	MT14L1	U260R104B
R510	Mic Preamp Gain	1000	2F004A1E3			U260R102B
R549	Voltage Reg	1000	2F001A1E3	T-1000	MT13L1	X260R102B
R699	AM Carrier	1000	2F003A1E4	F1-10K, SRS100	UA14L, SK1000	BU1, CF9, SS1, DC1
R806	Volume	10K				BU1, CF9, SS1, DC1
R809	Squelch	10K	2F003A1E4	F1-10K, SRS100	UA14L, SK1000	BU1, CF9, SS1, DC1
R814	Clarifier	10K	2F003A1E4	F1-10K, SRS100	UA14L, SK1000	BU1, CF9, SS1, DC1
VR1	Mic Gain	10K			MSC14L	US103L

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L2B	PI Filter				
L3A	PI Filter				
L3B	PI Filter				
L4B	PI Filter				
L100	RF Choke	6A002			
L101	RF Choke	6A002			
L102	RF Choke	6A002			
L103	PI Filter				
L104	PI Filter				
L105	PI Filter				
L201	(27MHz)	6D002B4R5A			
L202	XMT Mixer (27MHz)	6D002B9R5A			
L203	XMT Mixer (27MHz)	6D002B9R5A			
L204	XMT Mixer (27MHz)	6D002B9R5A			
L205	XMT Driver (27MHz)	6D002B4R5A			
L206	SMD Buffer (17MHz)	6D002B9R5A			

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF) (cont)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L207	SMO Buffer (17MHz)	6D002B9R5A			
L208	RF Choke				
L209	Rec RF (27MHz)	6D002B9R5A			
L210	RF Amp (27MHz)	6D002A16R5A			
L211	Rec Mixer (10.7MHz)	6D002A23R5A			
L212	IF Amp (10.7MHz)	6D002A23R5A			
L213	IF Amp (10.7MHz)	6D002A23R5A			
L214	Rec Mixer (10.7MHz)	6D002A23R5A			
L216	XMT Buffer (27MHz)	6D002B9R5A			
L501	Meter Amp (27MHz)	6D004	6D004906720		
L502	Noise Blanker	6D004	6D004906720		
L601	VCO	6D001			
L602	VCO	6D001			
L603	VCO	6D005	6D005906740		
L604	PI Filter				
L605	PI Filter				
L606	Trap				
L607	RF Choke				
T1	Carrier Buffer				
T2	Carrier Buffer				
T3	Balance Mod				
T101	Loading Final				
T102	XMT Driver				
T103	XMT Driver				
T105	XMT Buffer				
T110	XMT Driver				
T501	Noise Blanker				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP	4" PM 4 Ohms	7E002	4A05	

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	5A Quick Acting	7G007	7G009	MTH5	HRK	312005	150145	FG5-2	

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA							
	MFR. 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	7F003	18-032	18-034	18-010	18-092	1	2	3	NC	NC	4	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
D800	LED	4C003	XMT/MOD Indicator, MU5054 (1.60V @ 2.5mA XMT/1.60V @ 18mA Mod) 10.7MHz
FL201	Filter	7K004	
J2	Jack	7D005	
J101	Jack	7D005	
J102	Jack	7D005	
J103	Jack	7D005	
J201	Jack	7D005	
J202	Jack	7D005	
J203	Jack	7D005	
J500	Jack	7D005	
J600	Jack	7D005	
J601	Jack	7D005	
J602	Jack	7D005	
J603	Jack	7D005	
M1	Meter	7B004	
P500	Plug	7D006	
PL1	Lamp	7L007	Meter (8.50V @ 75mA)
PL2	Lamp	7L007	Channel Indicator (8.50V @ 75mA)
PL3	Lamp	7L007	Channel Indicator (8.50V @ 75mA)
SW801	Switch	7C008	On-Off
SW802	Switch	7C007	OFF/NB
SW803	Switch	7C007	PA/CB
SW804	Switch	7C008	SPKR1/SPKR2
SW805	Switch	7C010	AM/USB/LSB
SW806	Switch	7C009	Channel Selector (Units)
SW807	Switch	7C009	Channel Selector (Tens)
XL1	Crystal	7J008	12.803MHz
XL2	Crystal	7J007	12.8MHz
XL3	Crystal	7J006	10.197MHz
XL4	Crystal	7J005	10.2MHz

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

ITEM	PART No.	ITEM	PART No.
Cover, Acces.	8B038	Knob, Band Selector	8D012
Cover, Bottom	8B035	Knob, Squelch	8D012
Cover, Top	8B034	Knob, Volume	8D012
Knob, Channel Set (Tens)	8D011	Mounting Bracket, Bottom	8B041
Knob, Channel Set (Units)	8D011	Mounting Bracket, Top	8B040
Knob, Clarifier	8D012	Overlay, Front Panel	8F002