

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 near in the cabinet as possible.

Connect either 50-ohm dummy load or the normally used antenna system.



MODEL CB-2170

MANUFACTURER'S SPECIFICATIONS

Transmitter section

RF power output	4W (maximum)
Frequency range	27MHz Citizens Band
Channels	40 chs. P.L.L. (Phase Locked Loop) circuit Synthesizer
Type of crystal	HC-18U
	Tolerance
	10.240MHz ± 0.003%
Transmitter modulation	100% (maximum)
Modulation limiter	Yields high average modulation at average voice levels
Antenna matching	Nominal 50 ohms
Carrier deviation	Not greater than ± 800Hz nominal on (exceeds F.C.C., D.O.C., etc. requirements)
Harmonic suppression	Exceeds 60dB

Receiver section

Audio power output	3.5 Watts maximum power output
Sensitivity	0.5μV/m for 10dB S + N/N ratio at 30% at 1000Hz modulation
Channels	40 chs. P.L.L. (Phase Locked Loop) circuit Synthesizer
Type of crystal	HC-18U
	11.150MHz ± 0.003%
Selectivity	6dB down at ± 3kHz;
	60dB down at ± 10kHz.
Intermediate frequency	1st-IF: 10.695MHz,
	2nd-IF: 455kHz

Circuit type	Dual conversion superheterodyne: Phase Locked Loop (P.L.L.) frequency synthesizer provides 40 transmit and receive channels. Delta tuning of ±1.0kHz on each channels plus ceramic filter.
Auxiliary circuits	Automatic noise limiter (ANL), Variable squelch, Public Address System (P.A.)

General

Power source	DC 12.0V Nominal negative or positive ground
Antenna	50 ohm external antenna for car or base operation
Speaker	3-1/8" P.D.S. 8-ohm Imp.
Microphone	Press-to-talk dynamic microphone (500 ohm)
Accessories	Microphone hanger Mobile mounting bracket Mounting screws Microphone with plug and cord. Power supply cord with fuse holder and socket. Spare fuse (2.3A)
Dimensions	2-17/32" (H) x 6-11/16" (W) x 7-9/16" (D)
Weight	3.6 lbs. without microphone
Cabinet	Metal body with plastic front

SHARP MODEL CB-2170

Courtesy of the Manufacturer

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

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9CE1075

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 9-volt DC input.
Adjustments made with 12-volt DC input.
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, T2, T8, T203, T204, T301, T302.....9440
T3 thru T7, T9, T201, T202, T205, T206.....5000, 5009, 8276, 8728, 8728A, 9089
L301, L302, T303, T304.....8728, 8728A, 9091
C203.....5000, 8276, 9089

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of frequency counter thru 5pF capacitor to TP201 (Q201 emitter).	Ch. 19	C203	Adjust for 10.240MHz +300Hz.
Input of oscilloscope to TP202 (IC202 Pin 4).	Ch. 19	T201	Adjust for maximum RF (25mV typical). (See Figure 1.)
Input of frequency counter thru 5pF capacitor to TP202 (IC202 Pin 4).	Ch. 19		Check for 15.360MHz +450Hz.
Input of DC meter to TP203 (junction of R208 and R209).	Ch. 1	T202	Adjust for 2.00 volts. Check for approximately 4.25 volts on Channel 40.
Input of oscilloscope to TP204 (T205 secondary).	Ch. 40	T205, T206	Adjust for maximum RF (400mV typical). (See Figure 2.)
Input of frequency counter thru 5pF capacitor to TP204 (T205 secondary).	Ch. 1		Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP205 (T204 secondary).	Ch. 19, XMT	T203, T204	Adjust for maximum RF (800mV typical). (See Figure 3.)

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Set output of generator low enough to prevent AGC limiting. Preset controls as follows unless otherwise specified: Squelch MINIMUM, ANL Off, Delta 0.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of frequency counter thru 5pF capacitor to TP1 (Q3 base).	Ch. 19 Delta 0	T8	Adjust for 11.150MHz +100Hz.
Output of signal generator thru .01uF to TP1 (Q3 base). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T7, T6, T5, T9	Adjust for maximum output.
Output of signal generator to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T4, T3, T2, T1	Adjust for maximum output. Readjust T5, T6, T7, T9 for maximum.

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 specified: ANL Off, Delta 0.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 2000uV.	Ch. 19 Squelch Clockwise	R709	DEEPEST POINT (SQUELCH RANGE) Adjust so squelch just breaks.
Output of signal generator to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	R32	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 oscilloscope to TP301 (Q302 base).	Ch. 19, XMT	T301, T302	Adjust for maximum RF (400mV typical) (See Figure 4.)
Input of RF wattmeter to antenna input.	Ch. 19, XMT	T303, T304, L302	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19, XMT	L301	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 or modulation meter to antenna input. Inject a 1000Hz, 700mV signal at mic input.	Ch. 19, XMT	R110	MODULATION LEVEL Adjust for 100% modulation maximum. (See Figure 5.)
Input of RF wattmeter to antenna input.	Ch. 19, XMT	R315	RF POWER METER Adjust so RF meter agrees with RF wattmeter.

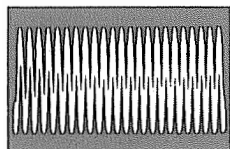


FIGURE 1

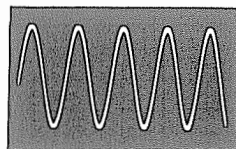


FIGURE 2

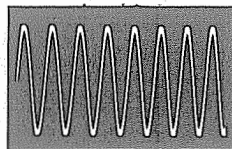


FIGURE 3

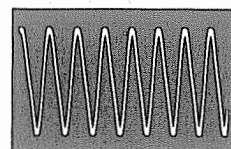


FIGURE 4

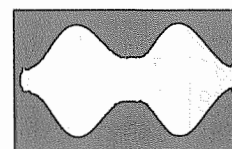
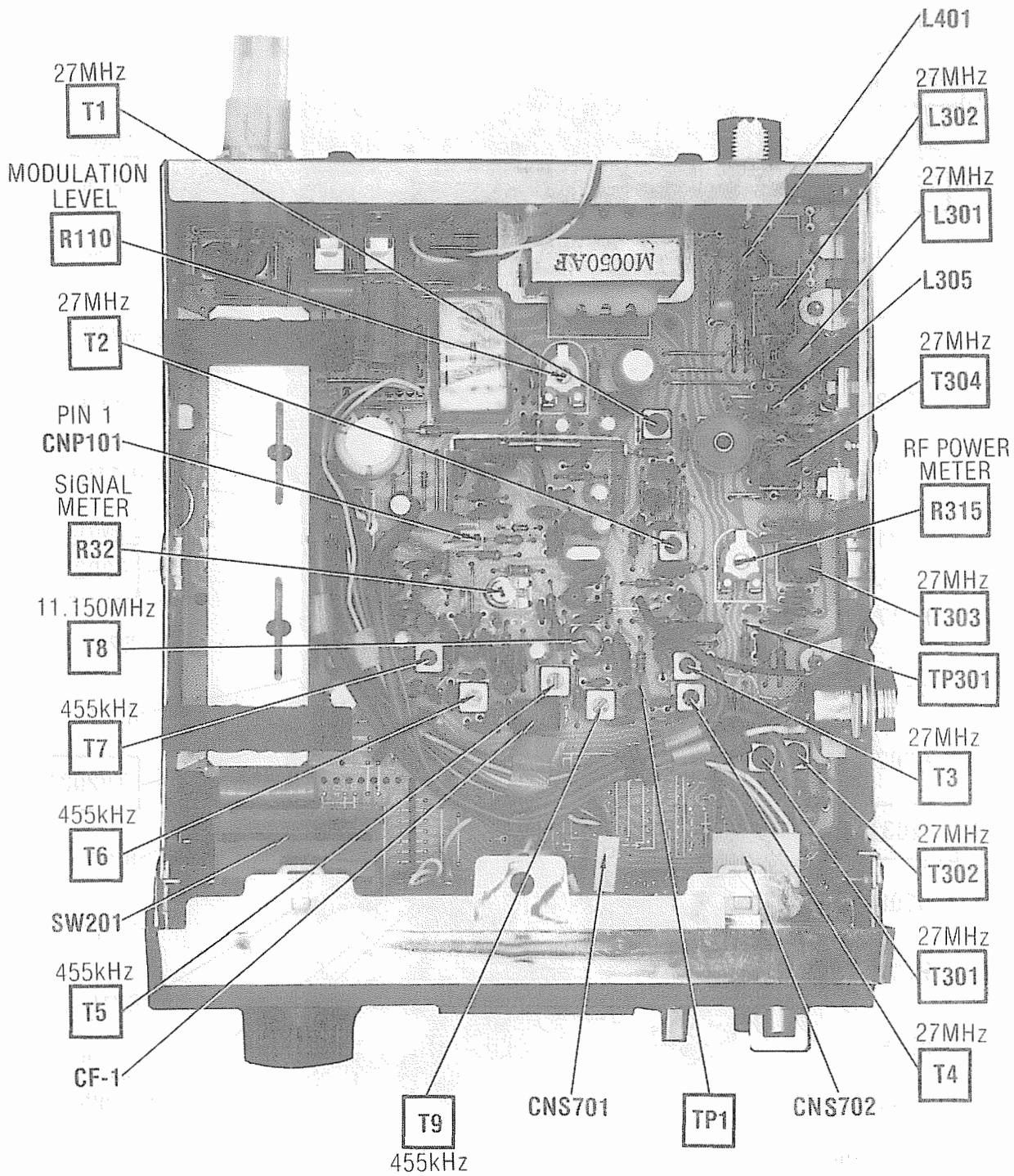


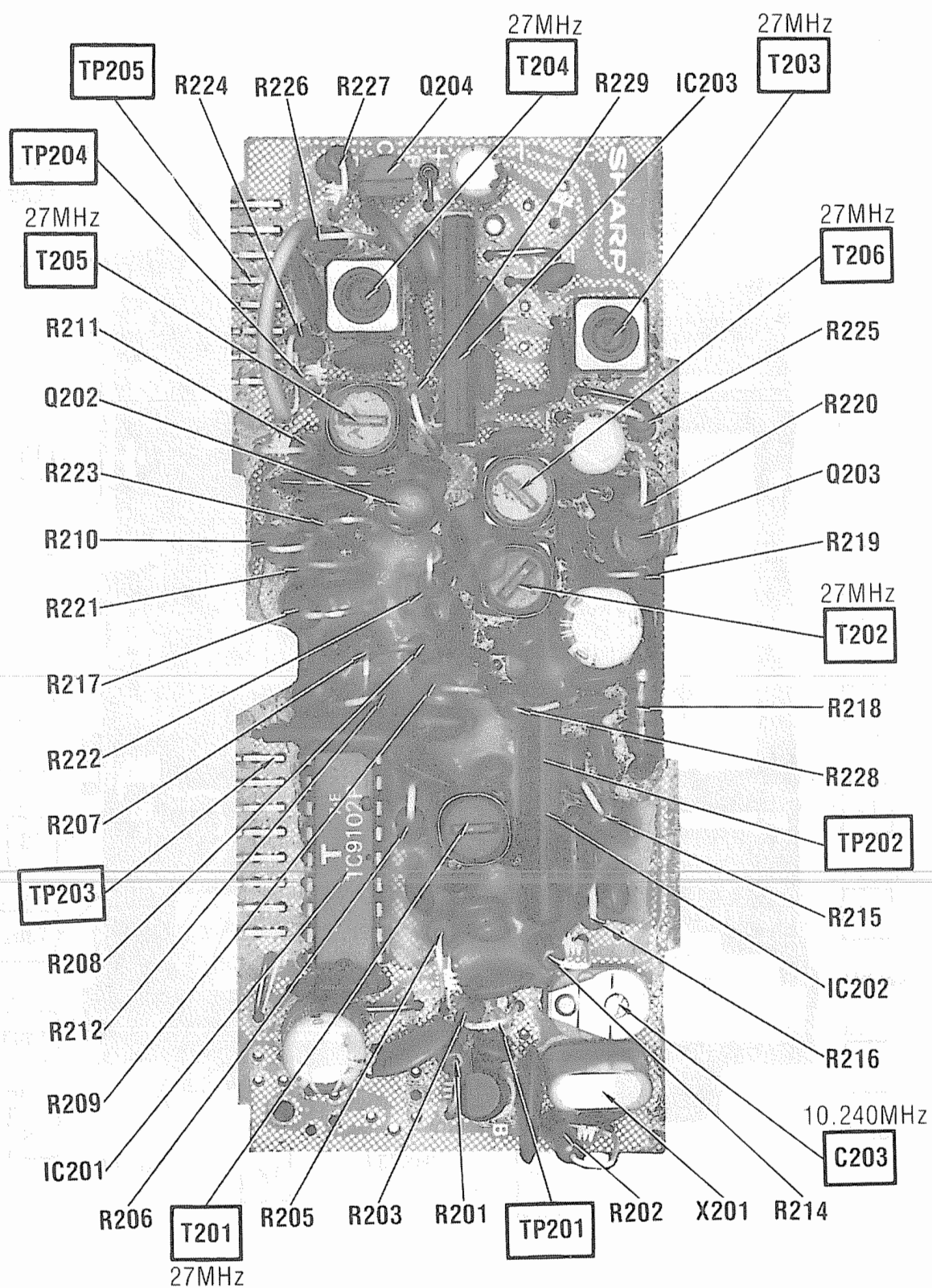
FIGURE 5

TRUTH CHART

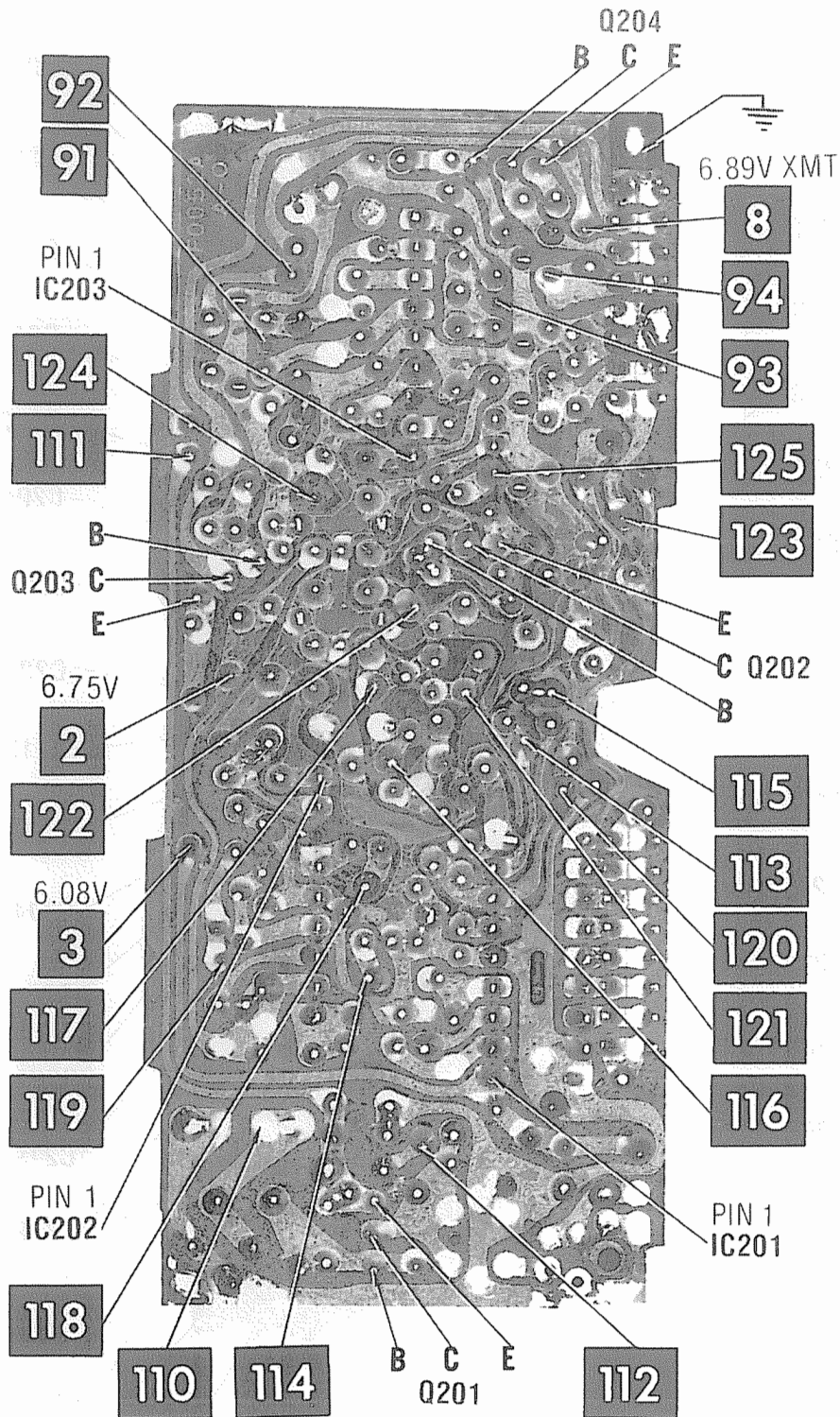
C H A N N E L	1 = 6.75V 0 = .37V								RECEIVE VCO OUTPUT IN MHz AT TP204	TRANSMIT VCO OUTPUT IN MHz AT TP204	
	CHANNEL INPUT CODES										
	IC201 PINS										
	11	12	13	14	15	16					
1	0	0	0	0	0	0			16.270	16.725	
2	0	0	0	0	0	1			16.280	16.735	
3	0	0	0	0	1	0			16.290	16.745	
4	0	0	0	1	0	0			16.310	16.765	
5	0	0	0	1	0	1			16.320	16.775	
6	0	0	0	1	1	0			16.330	16.785	
7	0	0	0	1	1	1			16.340	16.795	
8	0	0	1	0	0	1			16.360	16.815	
9	0	0	1	0	1	0			16.370	16.825	
10	0	0	1	0	1	1			16.380	16.835	
11	0	0	1	1	0	0			16.390	16.845	
12	0	0	1	1	1	0			16.410	16.865	
13	0	0	1	1	1	1			16.420	16.875	
14	0	1	0	0	0	0			16.430	16.885	
15	0	1	0	0	0	1			16.440	16.895	
16	0	1	0	0	1	1			16.460	16.915	
17	0	1	0	1	0	0			16.470	16.925	
18	0	1	0	1	0	1			16.480	16.935	
19	0	1	0	1	1	0			16.490	16.945	
20	0	1	1	0	0	0			16.510	16.965	
21	0	1	1	0	0	1			16.520	16.975	
22	0	1	1	0	1	0			16.530	16.985	
23	0	1	1	1	0	1			16.560	17.015	
24	0	1	1	0	1	1			16.540	16.995	
25	0	1	1	1	0	0			16.550	17.005	
26	0	1	1	1	1	0			16.570	17.025	
27	0	1	1	1	1	1			16.580	17.035	
28	1	0	0	0	0	0			16.590	17.045	
29	1	0	0	0	0	1			16.600	17.055	
30	1	0	0	0	1	0			16.610	17.065	
31	1	0	0	0	1	1			16.620	17.075	
32	1	0	0	1	0	0			16.630	17.085	
33	1	0	0	1	0	1			16.640	17.095	
34	1	0	0	1	1	0			16.650	17.105	
35	1	0	0	1	1	1			16.660	17.115	
36	1	0	1	0	0	0			16.670	17.125	
37	1	0	1	0	0	1			16.680	17.135	
38	1	0	1	0	1	0			16.690	17.145	
39	1	0	1	0	1	1			16.700	17.155	
40	1	0	1	1	0	0			16.710	17.165	



CHASSIS-BOTTOM

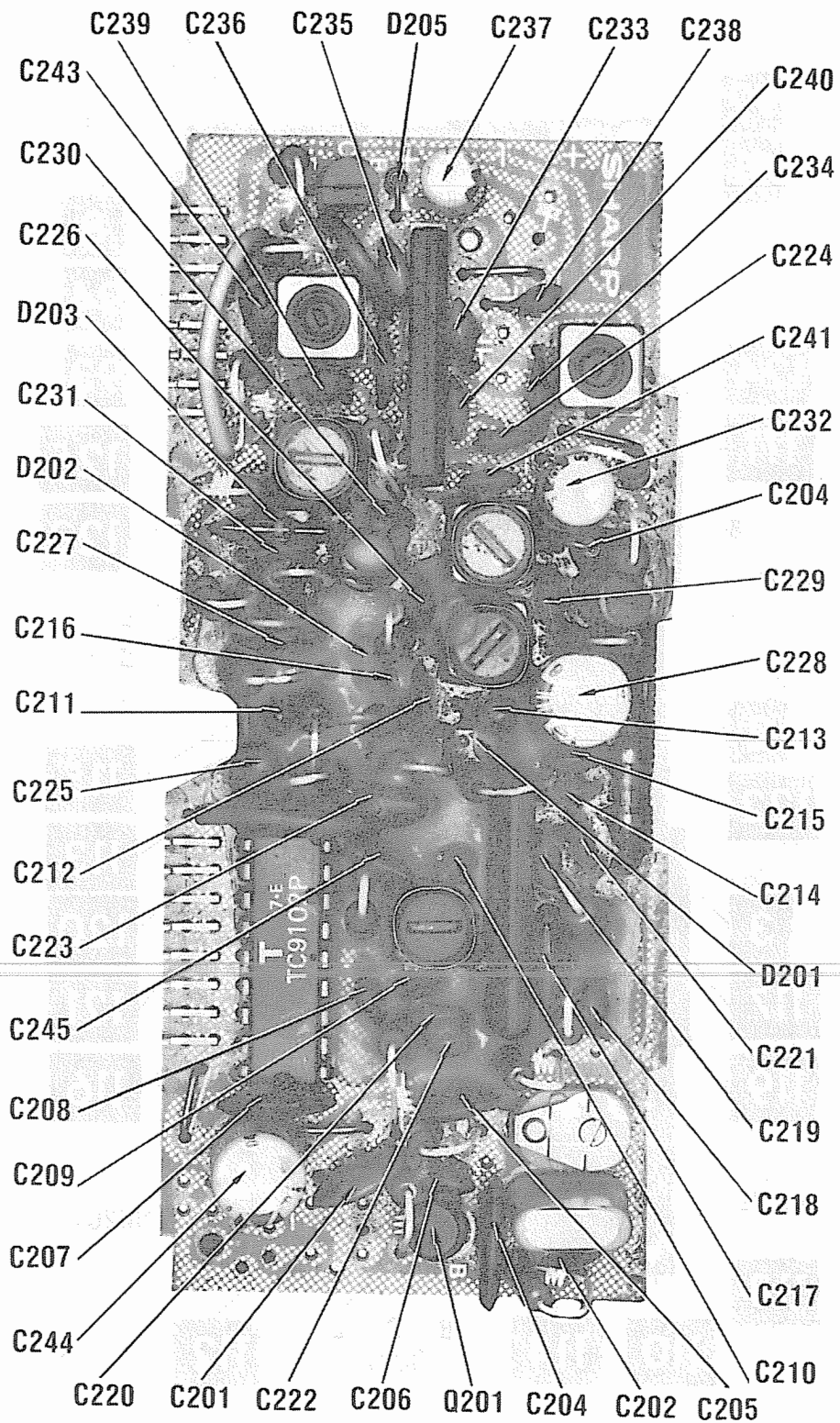


PLL BOARD

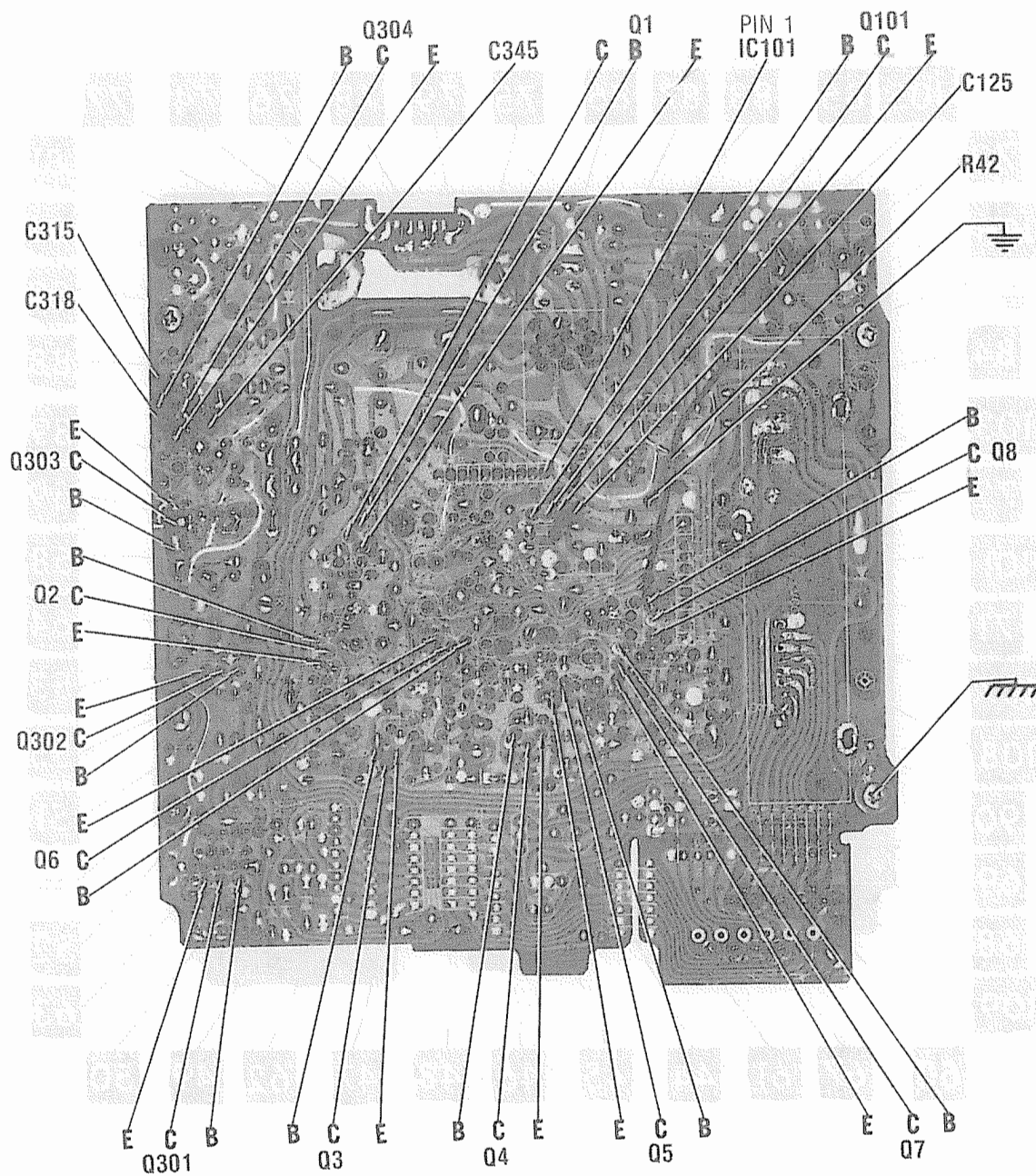


SHARP MODEL CB-2170

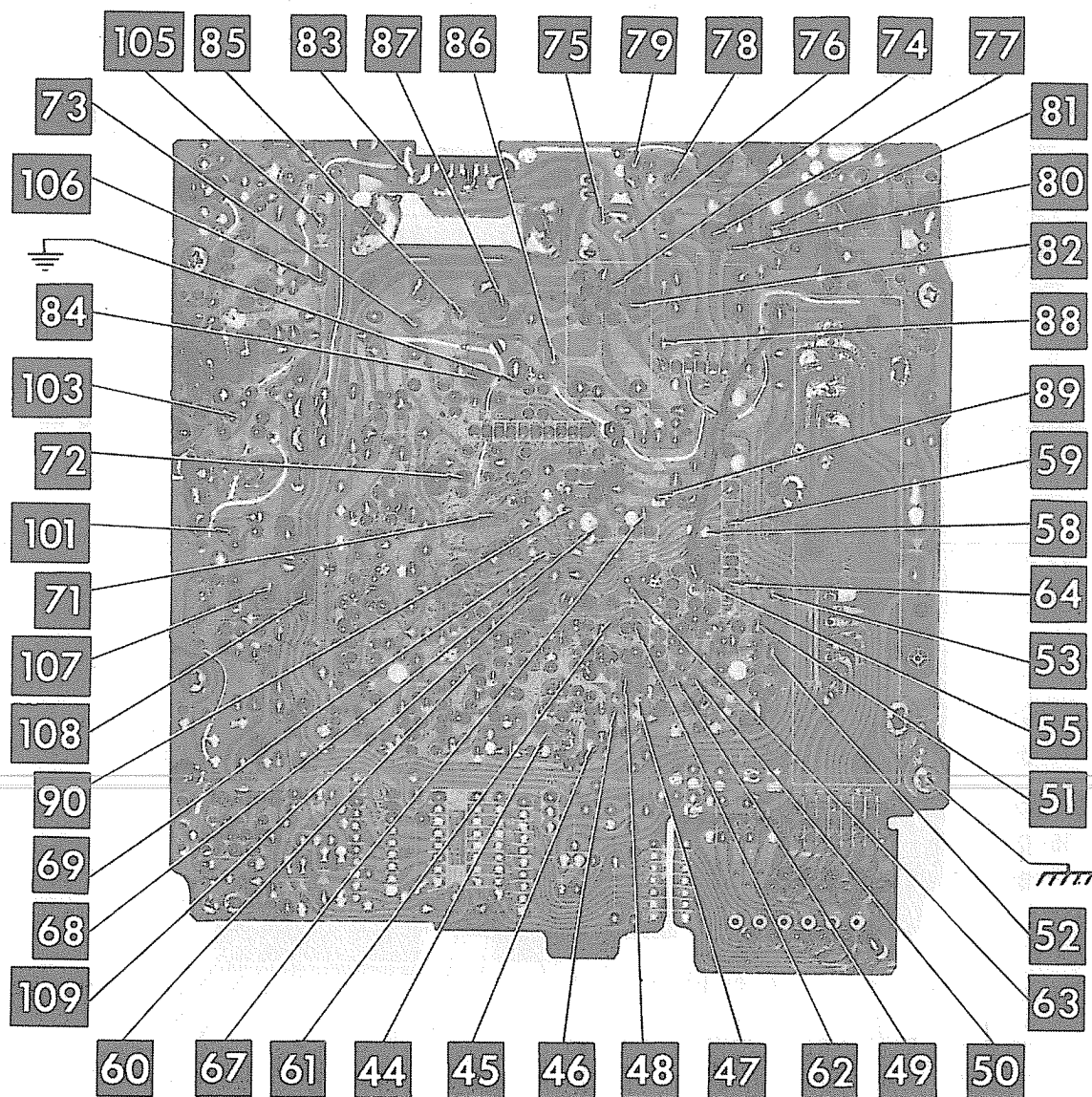
PLL BOARD



PLL BOARD

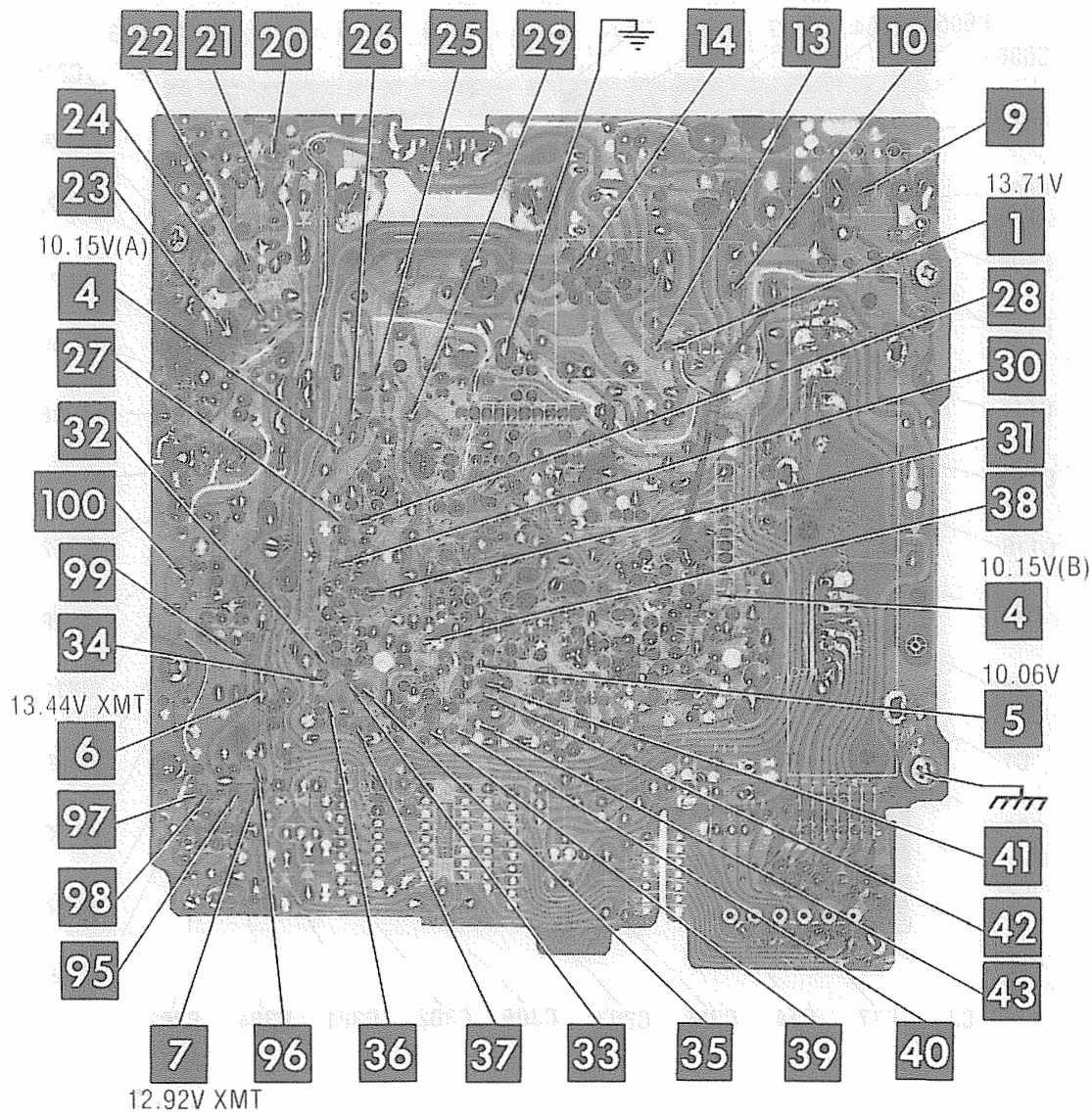


MAIN BOARD

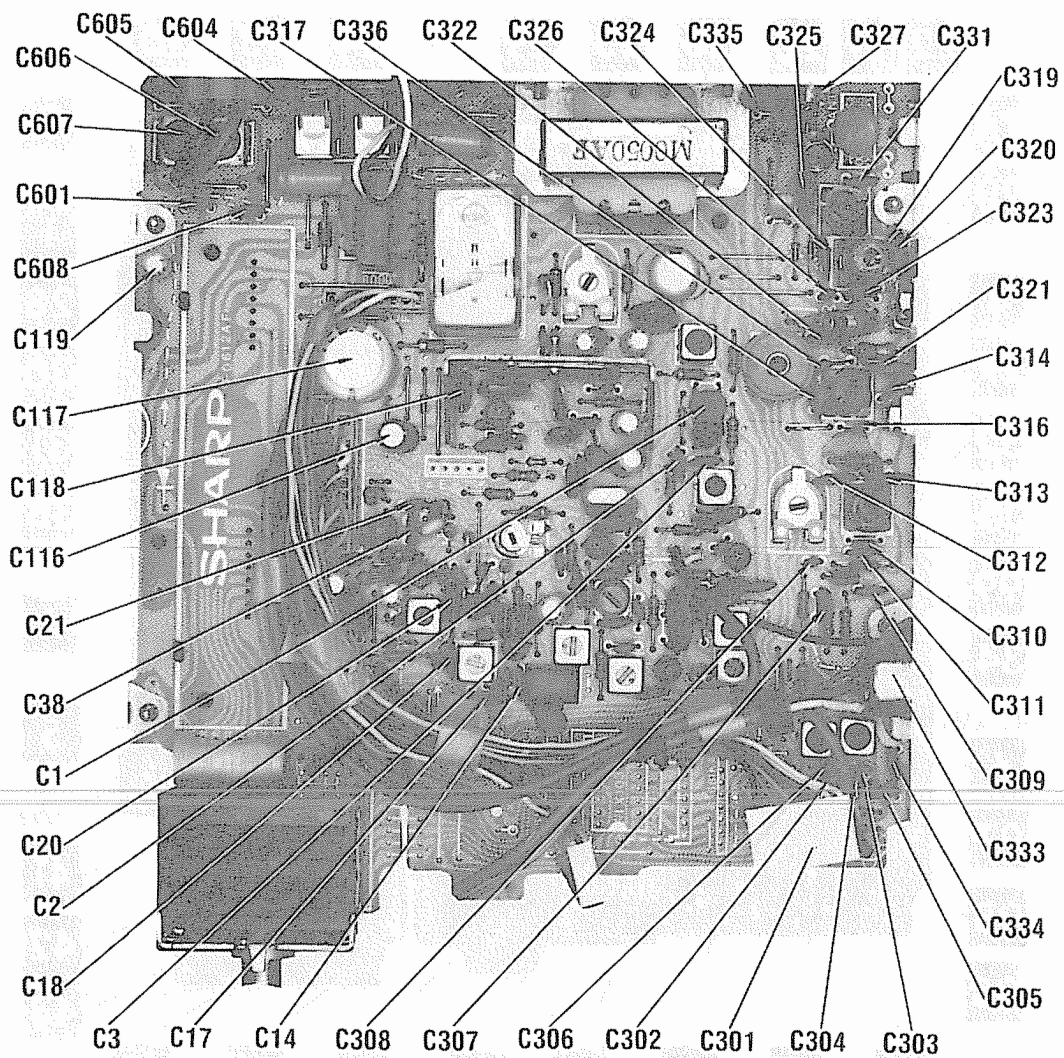


MAIN BOARD

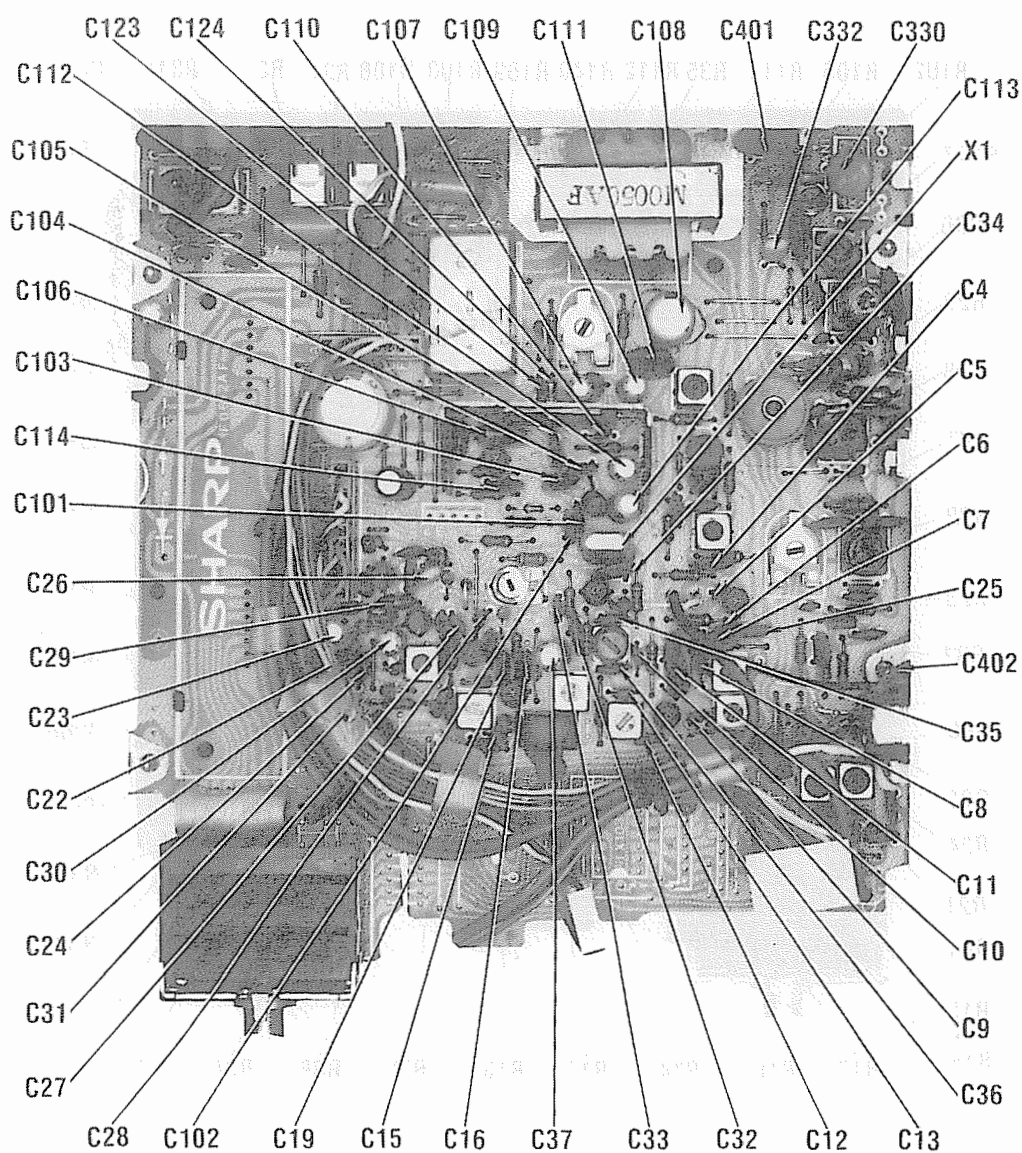
SHARP MODEL CB-2170



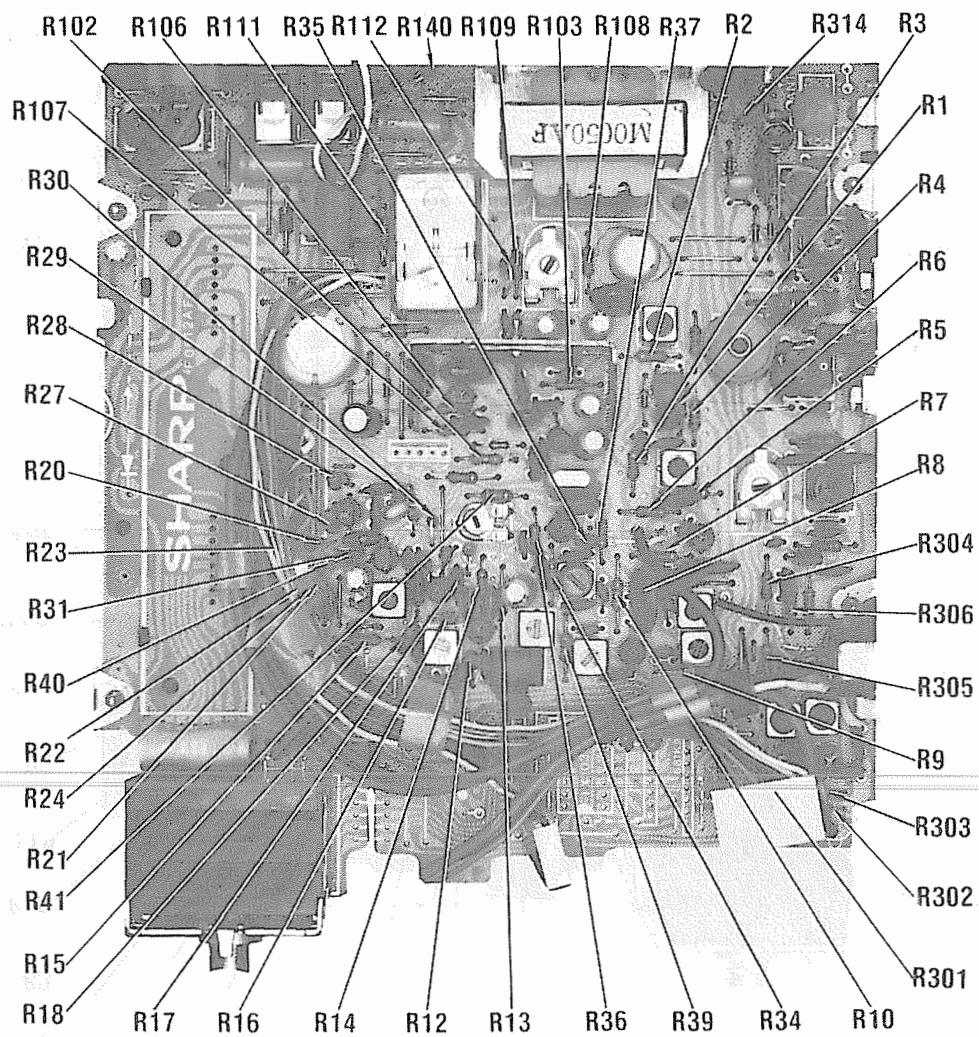
MAIN BOARD



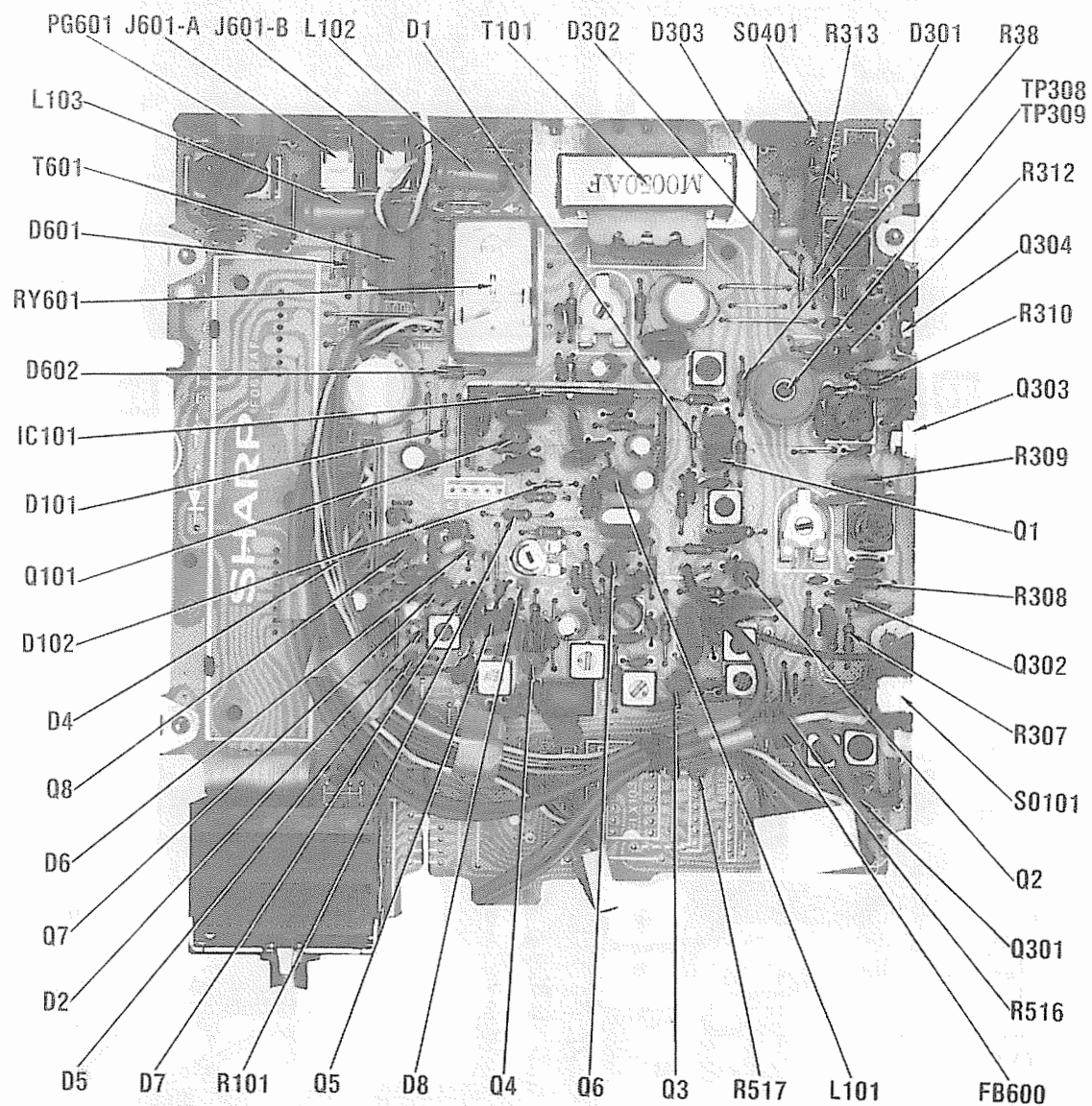
MAIN BOARD



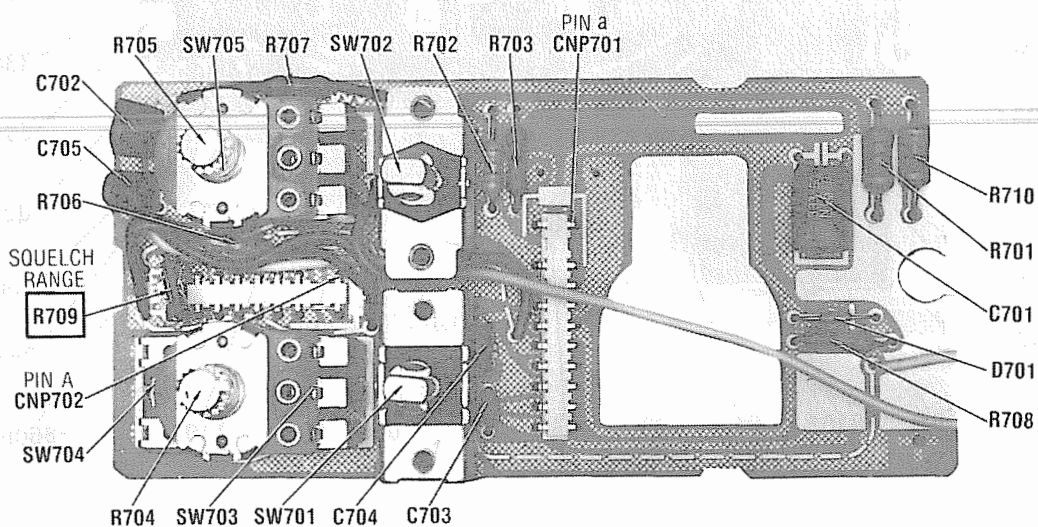
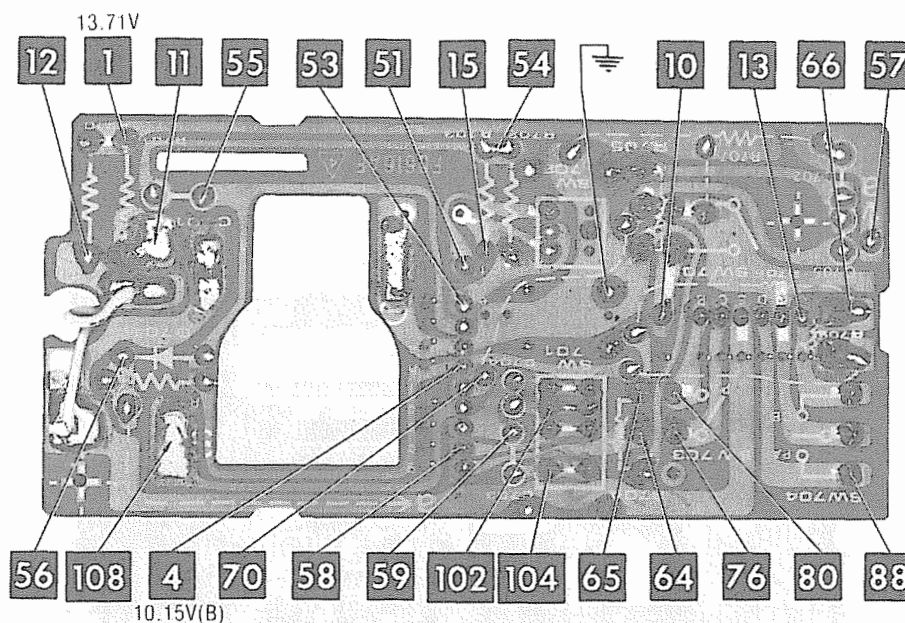
MAIN BOARD



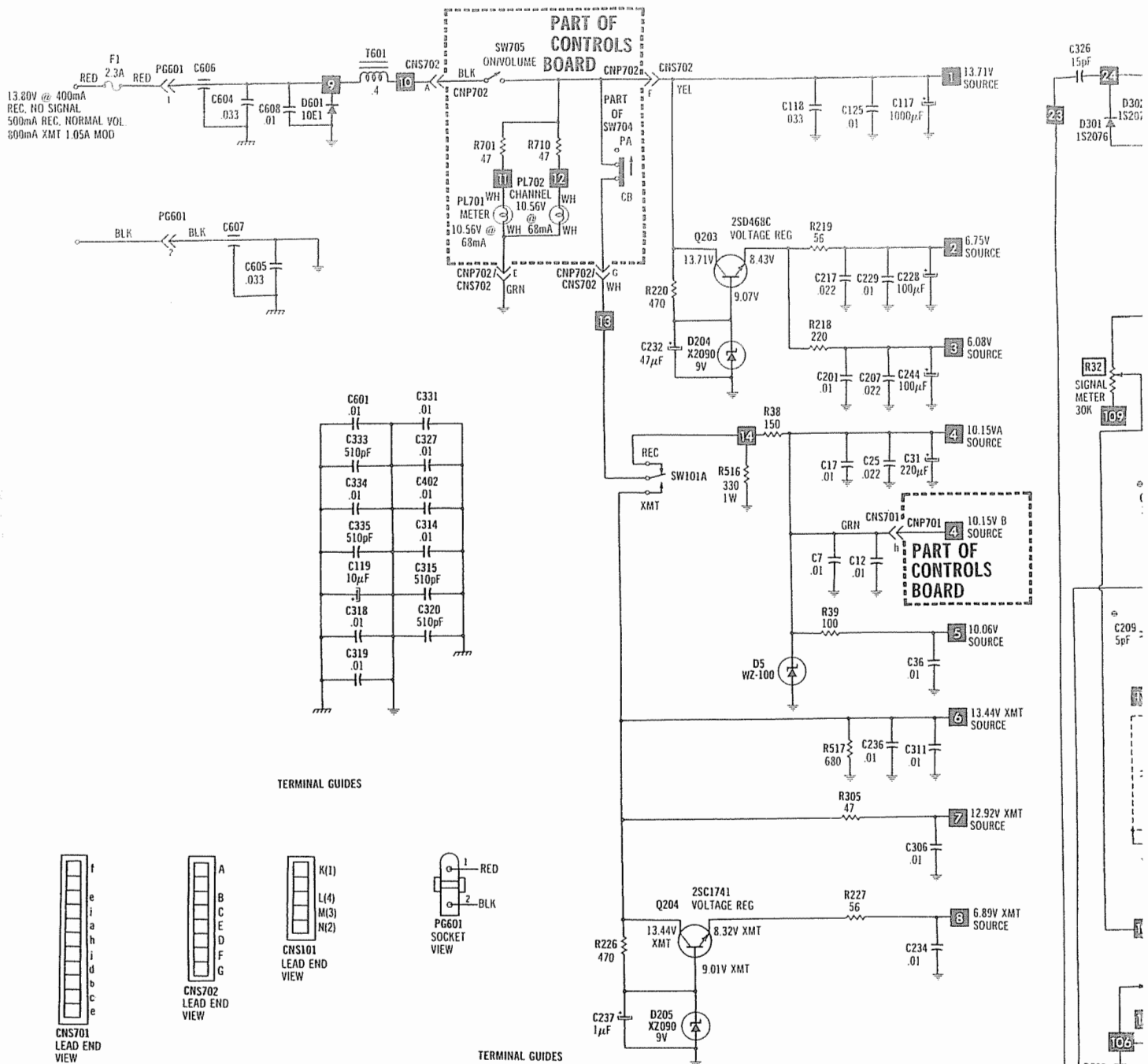
MAIN BOARD



MAIN BOARD



CONTROL BOARD



TERMINAL GUIDES

TERMINAL GUIDES

— Circuitry not used in some versions.

--- Circuitry used in some versions.

※ Nominal value ▽ Common tie point

⊥ Ground

⊥ Chassis

⊙ See parts list

Waveforms and Voltages taken in Channel 19 with switching in receive unless noted.

Item numbers in rectangles appear in the alignment/adjustment instructions.

Supply voltage maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Terminal identification may not be found on unit.

Resistors are 1/2W or less, 5% unless noted.

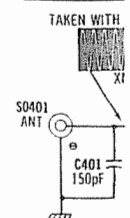
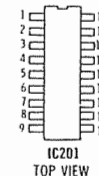
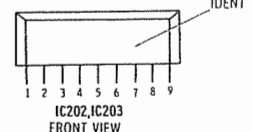
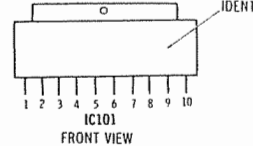
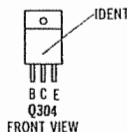
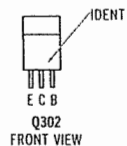
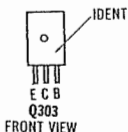
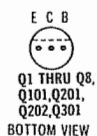
Value in () used in some versions.

Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).

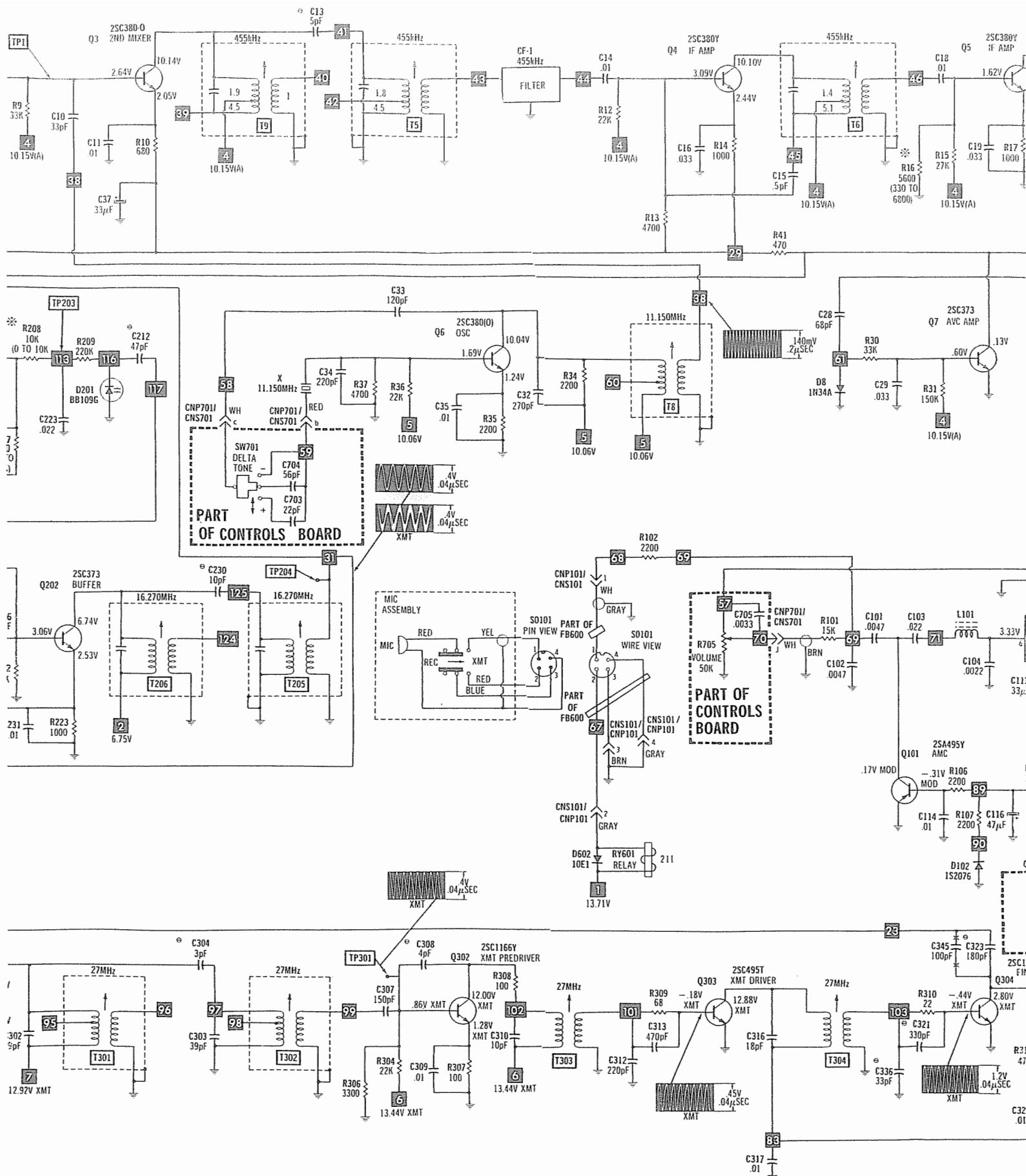
A PHOTOFACT STANDARD NOTATION SCHEMATIC

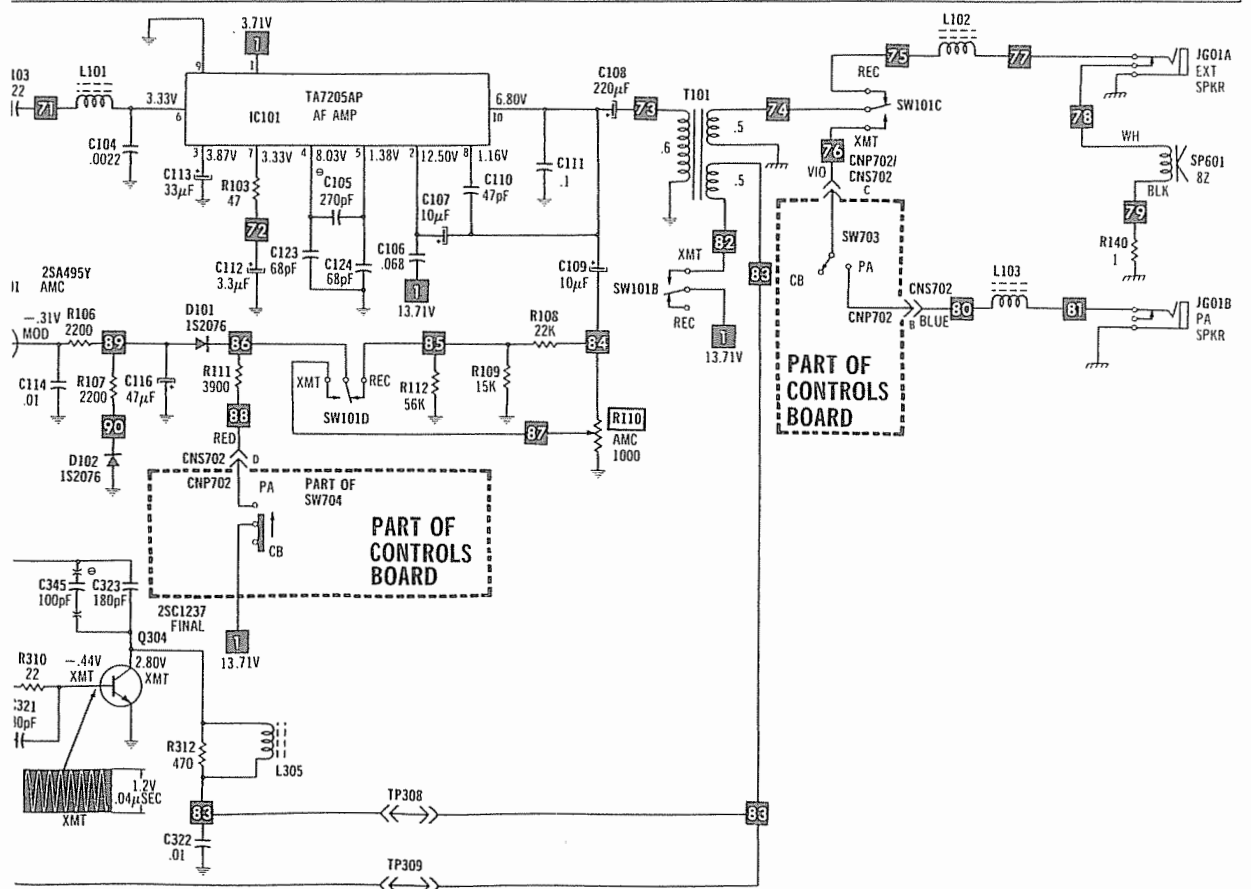
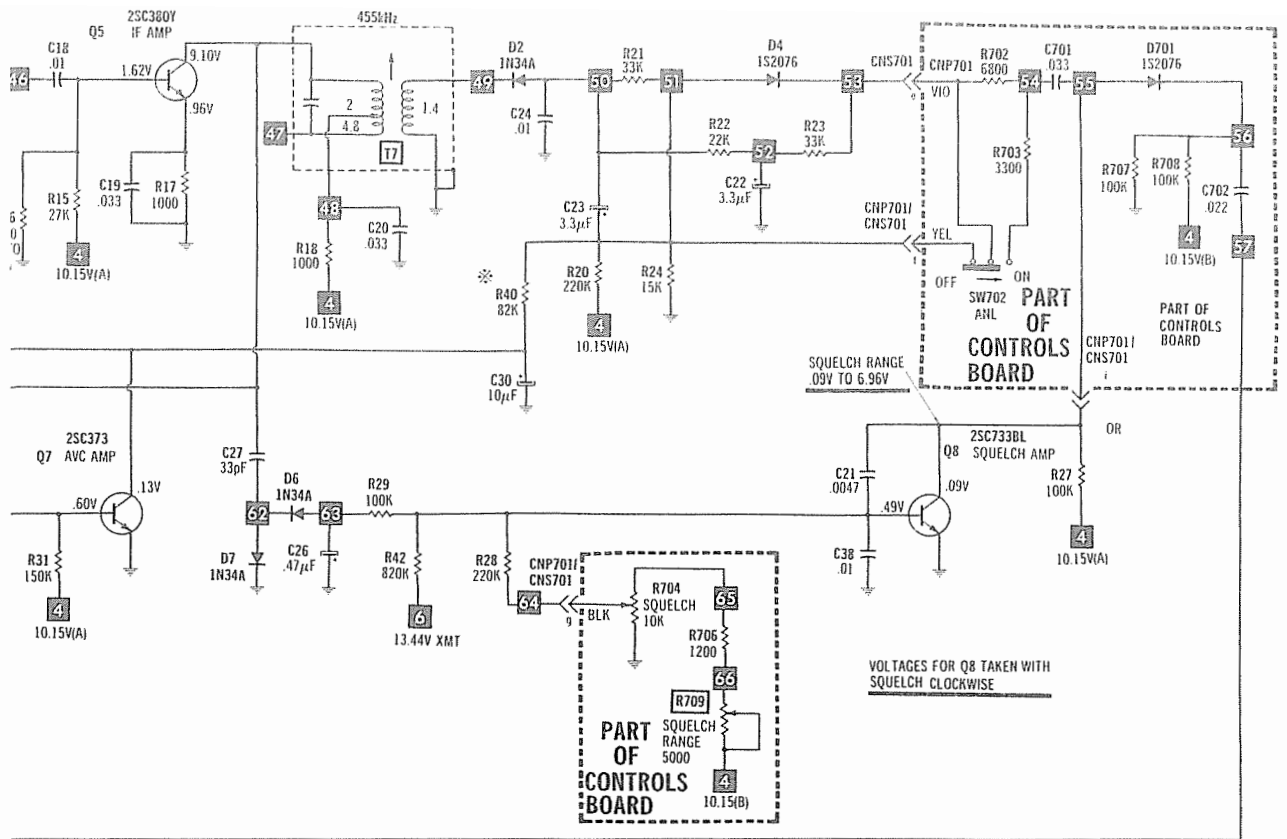
WITH **CIRCUITRACE**

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POWER SUPPLY SCHEMATIC



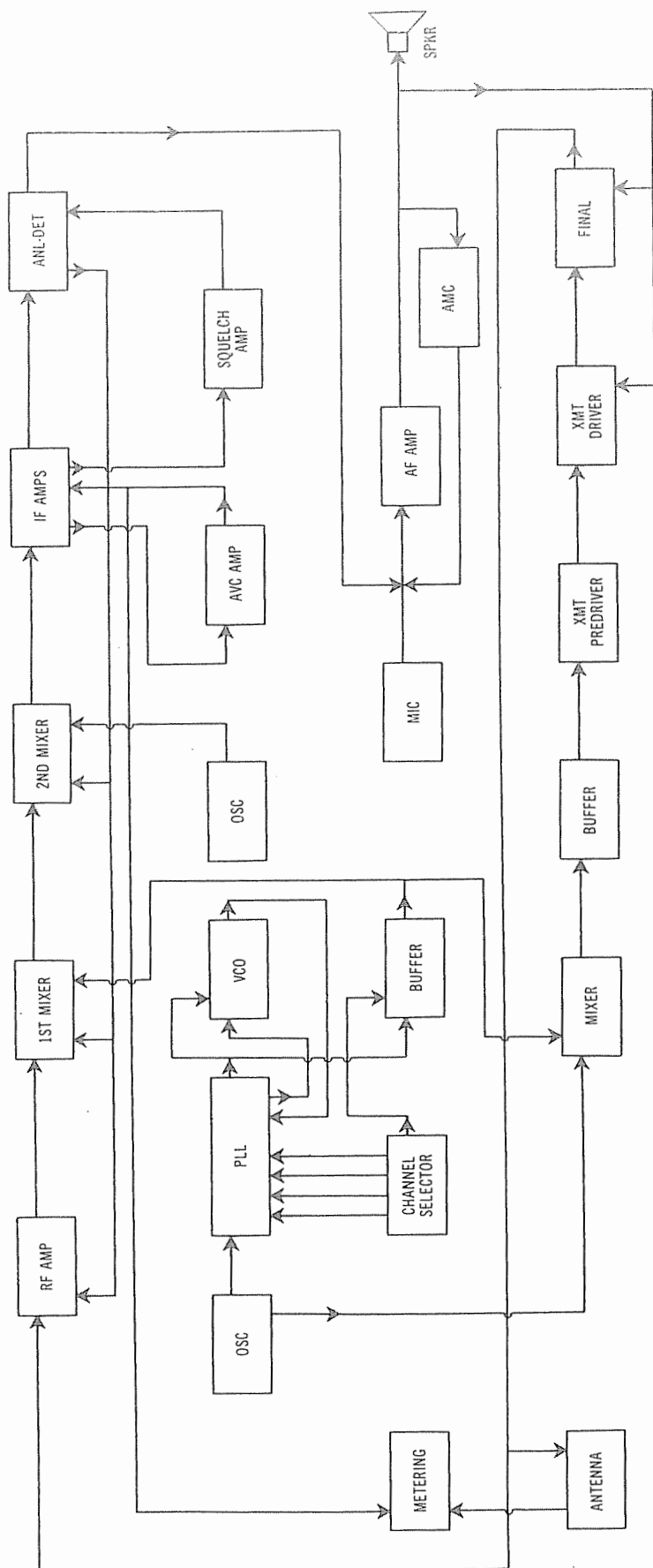


SEMICON

ITEM No.	TYF No.
D1	1S207
D2	1N34A
D4	1S207
D5	WZ-10E
D6	1N34A
D7	1N34A
D8	1N34A
D101	1S207
D102	1S207
D201	8B109
D202	1S213
D203	1S207
D204	XZ-09
D205	XZ-09
D301	1S207
D302	1S207
D303	1S207
D601	10E1
D602	10E1
D701	1S207
IC101	TA720
IC201	TC910
IC202	TA731
IC203	TA731
Q1	2SC78
Q2	2SC39
Q3	2SC38
Q4	2SC2E
Q5	2SC38
Q6	2SC38
Q7	2SC37
Q8	2SC73
Q101	2SA45
Q201	2SC37
Q202	2SC37
Q203	2SD46
Q204	2SC17
Q301	2SC7
Q302	2SC11
Q303	2SC45
Q304	2SC12

ELECTI

ITEM No.
C22
C23
C26
C30
C31
C37
C107
C108
C109
C112
C113
C116
C117
C119
C211
C225
C228
C232
C237
C244
C332



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.	MALLORY PART No.	RAYTHEON PART No.	RCA PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D1	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D2	1N34A	VHD1N34A/-1	1N34AS	PTC207	REN 109	SK3087	ECG109	TM109/**	WEP134/109	103-29001
D4	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D5	WZ-100	VHEWZ-100//1F		ZM108		SK3785/5019A	ECG5019A	TM5019	WEP1420/5019	103-29010
D6	1N34A	VHD1N34A/-1	1N34AS	PTC207	REN 109	SK3087	ECG109	TM109/**	WEP134/109	103-29001
D7	1N34A	VHD1N34A/-1	1N34AS	PTC207	REN 109	SK3087	ECG109	TM109/**	WEP134/109	103-29001
D8	1N34A	VHD1N34A/-1	1N34AS	PTC207	REN 109	SK3087	ECG109	TM109/**	WEP134/109	103-29001
D101	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D102	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D201	BR1096	VHCBB1096/H		PTC302		SK3864/605	ECG605	TM605		
D202	1S2139C	VHC1S2139-C-1		PTC311			ECG611	TM611		103-146
D203	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D204	XZ-090	VHEXZ-090/-1	GE20-9.1	ZB9.1B	REN 139	SK3060/139A	ECG139A	TM139A/**	WEP1109/139A	103-272
D205	XZ-090	VHEXZ-090/-1	GE20-9.1	ZB9.1B	REN 139	SK3060/139A	ECG139A	TM139A/**	WEP1109/139A	103-272
D301	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D302	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D303	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
D601	10E1	VHD10E1/-1	GE-504A	PTC201	REN 116	SK3311	ECG116	TM116	WEP156	212-76-02
D602	10E1	VHD10E1/-1	GE-504A	PTC201	REN 116	SK3311	ECG116	TM116	WEP156	212-76-02
D701	1S2076	VHD1S2076/-1	GE-514	PTC214	REN 177	SK3100/519	ECG519	TM519	WEP925/519	103-131
IC101	TA7205AP	RH-1X1070AFZZ	GEIC-179	PTC780	REN 1155	SK3231/1155	ECG1155	TM1155	WEP949/1155	221-29051
IC201	TC9102P	RH-1X1067AFZZ								
IC202	TA7310P	RH-1X1068AFZZ			REN 1192	SK3445/1192	ECG1192	TM1192	WEP2120/1192	221-29061
IC203	TA7310P	RH-1X1068AFZZ			REN 1192	SK3445/1192	ECG1192	TM1192	WEP2120/1192	221-29061
Q1	25C784R	VS25C784-R/1F	GE-60*	PTC132*	REN 229*	SK3246/229*	ECG229*	TM229*/**	WEP784	121-29021*
Q2	25C394Y	VX25C394-Y/-1	GE-61*	PTC121*	REN 229*	SK3124/289	ECG229*	TM229*	WEP394	121-29021*
Q3	25C380-0	VS25C380-0/-1	GE-61*	PTC136*	REN 107	SK3245/199	ECG107	TM107	WEP380	121-522
Q4	25C280Y	VS25C380-Y/-1	GE-61*	PTC136*	REN 107	SK3245/199	ECG107	TM107	WEP380	121-522
Q5	25C380Y	VX25C380-Y/-1	GE-61*	PTC136*	REN 107	SK3245/199	ECG107	TM107	WEP380	121-522
Q6	25C380-0	VS25C380-0/-1	GE-61*	PTC136*	REN 107	SK3245/199	ECG107	TM107	WEP380	121-522
Q7	25C373	VS25C373-G/-1	GE-212	PTC121*	REN 199	SK3245/199	ECG199	TM199/**	WEP373	121-972*
Q8	25C733BL	VX25C733-BL-1	GE-62	PTC139*	REN 199	SK3245/199	ECG199	TM199/**	WEP66/199	121-972*
Q101	25A495Y	VS25A495-Y/-1	GE-221*	PTC103*	REN 159*	SK3114/290	ECG159*	TM159*/**	WEP495	121-29003*
Q201	25C373	VS25C373-G/-1	GE-212	PTC121*	REN 199	SK3245/199	ECG199	TM199/**	WEP373	121-972*
Q202	25C373	VS25C373-G/-1	GE-212	PTC121*	REN 199	SK3245/199	ECG199	TM199/**	WEP373	121-972*
Q203	25D468C	VS25D468-C/-1	GE-47	PTC178	REN 293	SK3849/293	ECG382	TM382	WEP912/293	121-29066
Q204	25C1741	VS25C1741/-1	GE-47	PTC144*	REN 128*	SK3124/289	ECG128*	TM128*	WEP59/128*	121-792*
Q301	25C735Y	VS25C735-Y/-1	GE-210	PTC123*	REN 289	SK3122	ECG289	TM289/**	WEP735A	121-29065
Q302	25C1166Y	VS25C1166-Y/-1	GE-81*	PTC143	REN 297	SK3449/297	ECG297	TM297/**	WEP910/289	921-340
Q303	25C495T	VS25C495-T/-1	GE-270	PTC180	REN 295	SK3253/295	ECG295	TM295	WEP913/295	121-880
Q304	25C1237	VS25C1237-1F	GE-215	PTC110	REN 235	SK3197/235	ECG235	TM235	WEP1237	121-29039

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C22	3.3 25V	VCEAAU1EW335A	PC5-50	VTT3R3A50	QV1-25	EV-1618.1
C23	3.3 25V	VCEAAU1EW335A	PC5-50	VTT3R3A50	QV1-25	EV-1618.1
C26	.47 6.3V	VCAAKU0XA474M		TDC474M050EL	QDT1-19	S050-R479
C30	10 16V	VCEAAU1CW106Y	PC10-25	VTT10B25	QV1-41	EV-1222
C31	220 10V	VCEAAU1AW227Y	PC250-10	VTT220F10	QV1-115	EV-1140
C37	33 16V	VCEAAU1CW336Y	PC30-25	VTT33D25	QV1-63	EV-1325
C107	10 16V	VCEAAU1CW106Y	PC10-25	VTT10B25	QV1-41	EV-1222
C108	220 10V	VCEAAU1AW227Y	PC250-10	VTT220F10	QV1-115	EV-1140
C109	10 16V	VCEAAU1CW106Y	PC10-25	VTT10B25	QV1-41	EV-1222
C112	3.3 25V	VCEAAU1EW335A	PC5-50	VTT3R3A50	QV1-25	EV-1618.1
C113	33 16V	VCEAAU1CW336Y	PC30-25	VTT33D25	QV1-63	EV-1325
C116	.47 6.3V	VCAAKU0XA476Y	PC50-16	VTT47016	QV1-73	EV-1226
C117	1000 16V	VCEAAU1CW108Y	PC1000-16	VTT1000M16	QV1-183	EV-1261
C119	10 16V	VCEAAU1CW106Y	PC10-25	VTT10B25	QV1-41	EV-1222
C211	.22 35V	VCSATU1VF224M		TDC224M050EL	QDT1-10	S050-R229
C225	1 25V	VCSATU1EF105M		TDC105M035EL		S035-19
C228	100 10V	VCEAAU1AW107Y	PC100-10	VTT100D10	QV1-93	EV-1131
C232	47 10V	VCEAAU1AW476Y	PC50-16	VTT47016	QV1-73	EV-1226
C237	1 50V	VCEAAU1HW105A	PC1-50	VTT1A50	QV1-11	EV-1615
C244	100 10V	VCEAAU1AW107Y	PC100-10	VTT100D10	QV1-93	EV-1131
C332	.1 16V			TDC104M050EL	QDT1-2	S050-R109

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.		
					Q-LINE	GENERAL LINE	
C1	.01 50V	VCCSPU1HL2ROC	NP022	MAG5011		10TCC-T27 10TCC-Q22	
C2	.01 50V			MAG5011			
C3	.01 50V			MAG5011			
C4	270 50V 5%						
C5	22 50V 5%			CN0422			
C6	.01 50V		NP068	MAG5011	QCC2-22	10TCC-Q68	
C7	.01 50V			MAG5011			
8	2 50V +0.25pF						
C9	68 50V 5%			CN0468			
	33-150						
C10	33 50V 5%	VCCSPU1HL5ROC	NP033	CN0433		10TCC-Q33	
C11	.01 50V			MAG5011			
C12	.01 50V			MAG5011			
C13	5 50V +0.25pF						
	2-6						
C14	.01 50V		VCCSPU1HLR50C	DPMS6533	MAG5011	QFT2-149	1FT-S33
C15	.5 50V +0.25pF				M192P3339R8		
C16	.033 50V				MAG5011		
C17	.01 50V				M192P3339R8		
C18	.01 50V				MAG5011		
C19	.033 50V	DPMS6533		M192P3339R8	QFT2-149	1FT-S33 1FT-S33 5GA-D47 1FT-S10 TG-S25	
C20	.033 50V			M192P3339R8			
C21	.0047 50V			GP247			
C24	.01 50V			WMF1S1	QFT2-91		
C25	.022 50V			HGP025			
C27	33 50V 5%	NP033	CN0433	QCC2-22	10TCC-Q33 10TCC-Q68 1FT-S33 10TCC-T27 10TCC-T12 10TCC-T22		
C28	68 50V 5%		NP068				
C29	.033 50V		DPMS6533			M192P3339R8	
C32	270 50V 5%						
C33	120 50V 5%		CN0312				
C34	220 50V 5%	VCCSPU1HLR50C	GP4700	MAG5011	QFT2-127 QCT2-46	5GA-D47 5GA-D47 1FT-S22 10TS-D22 10TCC-T27	
C35	.01 50V			MAG5011			
C36	.01 50V			MAG5011			
C38	.01 50V			MAG5011			
C101	.0047 50V			GP247			
C102	.0047 50V		DPMS2522	GP247	QFT2-127 QCT2-46	5GA-D47 5GA-D47 1FT-S22 10TS-D22 10TCC-T27	
C103	.022 50V/100			M192P2239R8			
C104	.0022 50V			GP222			
C105	270 50V 5%						
	100-330						
C106	.068 50V 10%	RTO-H1009AFZZ VCCSPU1HL391J	WMF1S68	EMF1A168	QF1-195 QCC2-26 QFT2-215	1PB-S68 10TCC-Q47 1FT-P10	
C110	47 50V 5%			CN0447			
C111	.1 50V			EMF05010			
C114	.01 30V			MAG5011			
C118	.033 50V		DPMS6533	M192P3339R8	QFT2-149	1FT-S33 10TCC-Q68 10TCC-Q68	
C123	68 50V 5%			CN0468			
C124	68 50V 5%			CN0468			
C125	.01 30V			MAG5011			
C201	.01 30V			MAG5011			
C202	33 NPO 50V 5%	VCCSPU1HL3ROC	NP033	CN0433	QCC2-22	10TCC-Q33	
	22-68						
C203	Trimmer						
C204	390 50V 5%						
C205	150 50V 5%						
C206	33 50V 5%	VCCSPU1HL3ROC	NP033	CN0315	QCC2-22	10TCC-T39 10TCC-T15 10TCC-Q33	
	0-68			CN0433			
C207	.022 50V						
C208	15 NPO 50V 5%			M192P2239R8	QFT2-127	1FT-S22 10TCC-Q15	
	0-22			CN0415			
C209	5 NPO 50V +0.25pF		DPMS2522				
	3-22						
C210	3 50V +0.25pF						
	1-22						
C212	47 NPO 5%	VCCUPU1HJ180J	NP047	CN0447	QCC2-26	10TCC-Q47	
	10-100						
C213	10 N750 50V 5%			CN7410			
	5-22						
C214	100 50V 5%		NP0100	CN0310		10TCC-T10 10TCC-T10	
C215	100 50V 5%			CN0310			
	33-220						
C216	18 N750 50V 5%			*			
	10-33						
C217	.022 50V	VCCCPU1HH5ROC	DPMS2522	M192P2239R8	QFT2-127 QCT2-41	1FT-S22 10TS-D10 10TCC-T10 10TCC-T10 10TCC-T10	
C218	.001 50V			GP210			
C219	100 50V 5%			CN0310			
C220	100 50V 5%			CN0310			
C221	100 50V 5%			CN0310			
C222	.001 50V	VCCCPU1HH100F	DPMS2522	GP210	QFT2-41 QFT2-127	10TS-D10 1FT-S22 10TCC-T10 10TCC-Q33	
C223	.022 50V			M192P2239R8			
C224	100 50V 5%			CN0310			
C226	33 NPO 50V 5%			CN0433			
	10-100						
C227	.01 50V		NP082	MAG5011	QCT2-41	10TCR-Q39 10TCR-Q33	
C229	.01 50V			MAG5011			
C230	10 NPO 50V +1pF						
	5-22						
C231	.01 50V			MAG5011			
C233	39 N220 50V 5%	VCCRPUIHH390J	NP0100	*		10TCR-Q39 10TCR-Q33	
C234	.01 50V			MAG5011			
C235	33 N220 50V 5%			*			
C236	.01 50V			MAG5011			
C238	.001 50V			GP210	QCT2-41		
C239	82 50V 5%			CN0482			
	33-200						
C240	100 50V 5%		NP0100	CN0310	10TCC-T10		
	0-220						
C241	100 50V 5%		NP0100	CN0310		10TCC-T10	

SHARP MODEL CB-2170

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C243	150 50V 5% 68-330			CN0315		10TCC-T15
C245	.01 50/100		WMF151	EWFA1110	QFT2-91	1FT-S10
C301	33 50V 5%		NP033	CN0433	QCC2-22	10TCC-Q33
C302	39 50V 5%			CN0439		10TCC-Q39
C303	39 50V 5%			CN0439		10TCC-Q39
C304	3 50V +0.25pF 3-5	VCCSPU1HL3R0C				
C305	.01 50V			MAG5011		
C306	.01 50V			MAG5011		
C307	150 50V 5%			CN0315		10TCC-T15
C308	4 50V +0.25pF 0-4	VCCSPU1HL4R0C				
C309	.01 50V			MAG5011		
C310	10 50V +0.5pF		NP010	CN0410	QCC2-15	10TCC-Q10
C311	.01 50V			MAG5011		
C312	220 50V 5%					10TCC-T22
C313	470 50V 5%	VCCSPU1HL471J				
C314	.01 30V			MAG5011		
C315	510 50V 5%	VCCSPU1HL511J				
C316	18 50V 5%			CN0418		10TCC-Q18
C317	.01 30V			MAG5011		
C318	.01 30V			MAG5011		
C319	.01 50V			MAG5011		
C320	510 50V 5%	VCCSPU1HL511J				
C321	330 50V 5%	VCCSPU1HL331J				10TCC-T33
C322	330-510					
C323	.01 30V 180 50V 5% 180-220			MAG5011		10TCC-T18
C324	270 50V 5%	VCCSPU1HL271J				10TCC-T27
C325	390 50V 5%	VCCSPU1HL391J				10TCC-T39
C326	15 50V 5%		NP015	CN0415		10TCC-Q15
C327	.01 50V			MAG5011		
C330	.01 30V			MAG5011		
C331	.01 50V			MAG5011		
C333	510 50V 5%	VCCSPU1HL511J				
C334	.01 50V			MAG5011		
C335	510 50V 5%	VCCSPU1HL511J				
C336	33 50V 5% 0-56		NP033	CN0433	QCC2-22	10TCC-Q33
C345	100 50V 5%		NP0100	CN0310		10TCC-T10
C401	150 50V 5% 33-150			CN0315		10TCC-T15
C402	.01 30V					
C601	.01 50V			MAG5011		
C604	.033 50V			MAG5011		
C605	.033 50V			MAG50133		
C606	Feedthru	RC-KZ1009AFZZ				
C607	Feedthru	RC-KZ1009AFZZ				
C608	.01 50V					
C701	.033 50V		DPMS6533	MAG5011		1FT-S33
C702	.022 50/100		DPMS2522	M192P3339R8	QFT2-149	1FT-S22
C703	22 50V 5%		NP022	M192P2239R8	QFT2-127	10TCC-Q22
C704	56 50V 5%			CN0422		10TCC-Q56
C705	.0033 50V		WMF1033	CN0456	QFT2-43	1FT-D33
				M192P3329R8		

*Not normally in distributor's stock. Available thru distributor on order to manufacturer.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA		
			MFR. PART No.	MALLORY PART No.	TRW PART No.
R32	Signal Meter	30K	RVR-M0146AFZZ	RVA0911H503	U260R503B
R110	ANC	1000	RVR-M0123AFZZ	RVA0911H102	U201R102B
R315	RF Meter	30K	RVR-M0129AFZZ	RVA0911H503	U201R503B
R704	Squelch/PA Switch	10K	RVR-B0131AFZZ		
R705	Volume/Power Switch	50K	RVR-D0107AFZZ		
R709	Squelch Range	5000	RVR-M0148AFZZ	RVA0911V502(2)	X260R502B(2)

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

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L101	RF Choke	RCILC0023AFZZ	3R3	9230-32	
L102	RF Choke	RCILC0059AFZZ			
L103	RF Choke	RCILC0059AFZZ			
L301	Loading Final (27MHz)	RCILR0135AFZZ		CB144 (34)	
L302	PI Filter (27MHz)	RCILR0055AFZZ		CB143 (34)	
L305	RF Choke	RCILC0011AFZZ		4610	
L401	Antenna Matching	RCILR0329AFZZ			
T1	Receive Antenna (27MHz)	RCILA0412AFZZ	A0412AF		
T2	RF Amp (27MHz)	RCILR0304AFZZ	R0304AF		
T3	Mixer (10.695MHz)	RCILR0157AFZZ	I0157AF		
T4	Mixer (10.695MHz)	RCILR0157AFZZ	I0157AF		
T5	IF (455kHz)	RCILR0228AFZZ	I0228		
T6	IF (455kHz)	RCILR0229AFZZ	I0229		
T7	IF (455kHz)	RCILR0169AFZZ	I0169		
T8	Oscillator (11.150MHz)	RCILB0421AFZZ	B0421		
T9	IF (455kHz)	RCILR0228AFZZ	I0228		
T201	Ref. Oscillator (10.240MHz)	RCILR3242AAZZ			
T202	VCO	RCILB3241AAZZ			
T203	XMT Mixer (27MHz)	RCILB0383AFZZ	B0383AF		
T204	XMT Mixer (27MHz)	RCILB0383AFZZ	B0383AF		
T205	Buffer (16.270MHz)	RCILR3243AAZZ	R3243		
T206	Buffer (16.270MHz)	RCILR3243AAZZ	R3243		
T301	Buffer (27MHz)	RCILB0383AFZZ	B0383AF		
T302	Buffer (27MHz)	RCILB0383AFZZ	B0383AF		
T303	XMT Predriver (27MHz)	RCILB0221AFZZ	B0221		
T304	XMT Driver (27MHz)	RCILR0037AFZZ			

(34) Cut off unwanted terminals and rotate replacement to use the two terminals required.

SHARP MODEL CB-2170

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.	
T601	1.05A	.4	2.3mH	RTRNC0003AFZZ			

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T101	4	8	RTRNM0050AFZZ			
		SEC. 2				
		27				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP601	3" PM 8 Ohms	VSP0080P-288A	30A0528	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1	2.3A Quick Acting	QFS-A232 AAFNA		AGC2-1/2	HRK	31202.5	150145

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	RFILA0056AFZZ	(455kHz) Ceramic
CNP101	Plug	QCHCM0402SGZZ	4 Pin Mic
CNS101	Connector	QCHW-0229AFZZ	Connecting Cord With Socket (4 Pin) Microphone
CNS701	Connector	QCHW-0232AFZZ	Connecting Cord With Socket And Plug (10 Pin and 7 Pin Assembly)
CNS702	Connector	QCHW-0232AFZZ	
FB600	Ferrite Bead	RCORF0051AFZZ	
J601A	Jack	QJAKB0050AFZZ	EXT SP
J601B	Jack	QJAKB0050AFZZ	PA SP
ME701	Meter	RMTRE0063AFZZ	Signal/RF
P6601	Plug	QSOCZ2454AFZZ	Power Supply
PL701	Lamp	RLMPM0019AGZZ	Meter (10.56V @ 68mA)
PL702	Lamp	RLMPM0019AGZZ	Channel (10.56V @ 68mA)
RY601	Relay	RRLYZ0007AFZZ	XMT/REC (211 Ohm) (Component consists of Switch and Relay)
S0101	Jack	QSOCZ2468AFZZ	Microphone
S0401	Jack	QSOCZ2470AFZZ	Antenna
SW201	Switch	QSW-R0144AFZZ	Channel Selector
SW701	Switch	QSW-B0003AFZZ	Delta
SW702	Switch	QSW-B0028AGZZ	ANL
SW704	Switch	RVR-B0131AFZZ	PA/CB
X1	Crystal	RCRSB0055AFZZ	(11.150MHz)
X201	Crystal	RCRSB0051AFZZ	(10.240MHz)
	Cord	QFSHJ9052AFZZ	Power Supply/Fuse Holder and Socket
	Microphone	RHICD0213AFZZ	
	P.C. Board	QPWBF0612AFZZ	Main
	P.C. Board	QPWBF0052AAZZ	PLL
	P.C. Board	QPWBF0616AFZZ	Volume

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Bottom	GCABB3447AFSA	Indicator, Channel, White Acryl.	HTNDI0056AFSA
Cabinet, Top	GCABA3447AFSA	Knob, ANL, Delta	JKNB0219AFSA
Chassis Front	LCHSS0121AFSA	Knob, Channel Selector	JKNB0337AFSA
Cover, Channel Indicator Black	PCOVU1104AF00	Knob, Volume, Squelch	JKNB0300AFSA
Dial, Channel	HDALP0369AFSA	Panel, Front	HPNLC1227AFSA

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)
Coax (Transmission Line)	Use BELDEN No. 8216 (RG-174/U, 50 ohms)
Microphone Cable (Coiled)	Use BELDEN No. 9466 (3 conductor-1 shielded)(6 ft.)(AWG28)