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Component Outline Main P.C. Board

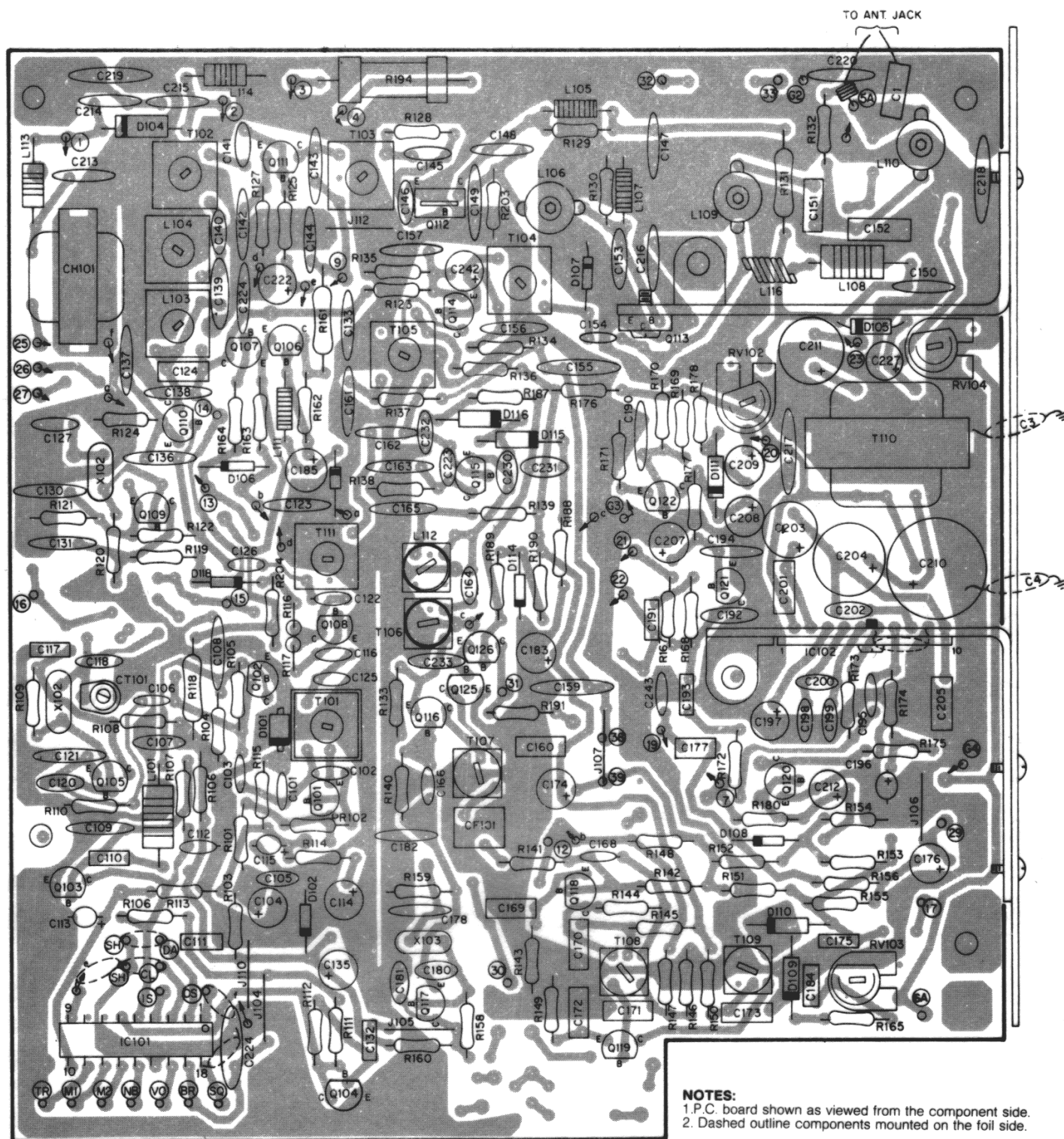
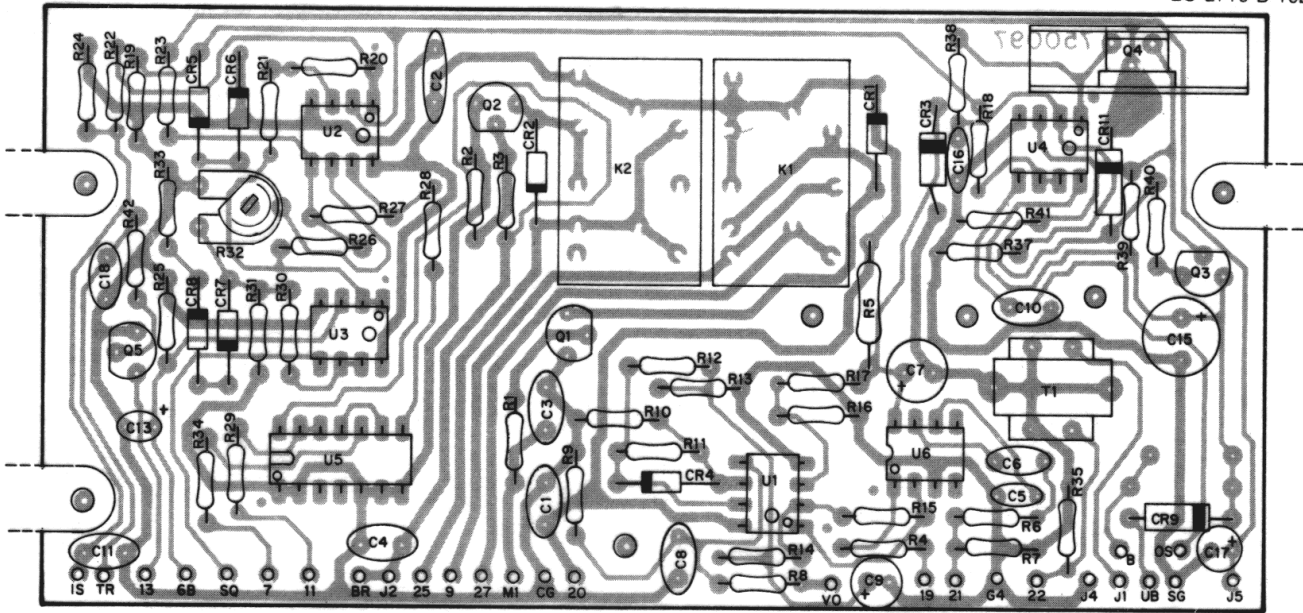


Figure 4-1. Component Outline Main P.C. Board

Component Outline Control Interface P.C. Board



**NOTES:**

1. P.C. board shown as viewed from the component side.
2. Dashed outline components mounted on the foil side.

Figure 4-2. Component Outline Control Interface P.C. Board

Parts List

Main P.C. Board

Reference Designator	Description	Part No.
C2	.01 uF, 50V, ceramic	72A426
C3	.01 uF, 50V, ceramic	72A426
C101	18 pF, 50V, ceramic	72A402
C102	15 pF, 50V, ceramic	72A401
C103	3 pF, 50V, ceramic	72A900
C104	10 uF, 16V, electrolytic	72A434
C105	.1 uF, 12V, disc	72A146
C106	10 pF, 50V, ceramic	72A399
C107	.01 uF, 25V, disc	72A440
C108	330 pF, 50V, ceramic	72A416
C109	330 pF, 50V, ceramic	72A416
C110	.001 uF, 50V, ceramic	72A424
C111	.01 uF, 50V, ceramic	72A426
C112	39 pF, 50V, ceramic	72A407
C113	.22 uF, 35V, tantalum	72A452
C114	10 uF, 16V, electrolytic	72A433
C115	.1 uF, 35V, tantalum	72A451
C116	15 pF, 50V, ceramic	72A401
C117	.01 uF, 50V, ceramic	72A426
C118	39 pF, 50V, ceramic	72A420
C119	not used	
C120	560 pF, 50V, ceramic	72A421
C121	100 pF, 50V, ceramic	72A412
C122	15 pF, 50V, ceramic	72A401
C123	.01 uF, 50V, ceramic	72A440
C124	100 pF, 500V, mica	72A441
C125	33 pF, 50V, ceramic	72A406
C126	18 pF, 50V, ceramic	72A402
C127	56 pF, 50V, ceramic	72A408
C128	not used	
C129	.001 uF, 50V, ceramic	72A933
C130	82 pF, 50V, ceramic	72A446
C131	.01 uF, 25V, disc	72A440
C132	.001 uF, 50V, ceramic	72A424
C133	.01 uF, 25V, disc	72A446
C134	not used	
C135	10 uF, 16V, electrolytic	72A434
C136	220 pF, 50V, ceramic	72A415
C137	.01 uF, 25V, disc	72A440
C138	.01 uF, 25V, disc	72A440
C139	3 pF, 50V, ceramic	72A900
C140	2 pF, 50V, ceramic	72A444
C141	68 pF, 50V, ceramic	72A409
C142	.01 uF, 25V, disc	72A440
C143	100 pF, 50V, ceramic	72A412
C144	.01 uF, 25V, disc	72A440
C145	2200 pF, 50V, ceramic	72A459
C146	470 pF, 50V, ceramic	72A418
C147	.01 uF, 25V, disc	72A440
C148	120 pF, 50V, ceramic	72A413

Reference Designator	Description	Part No.
C149	220 pF, 50V, ceramic	72A415
C150	.01 uF, 25V, disc	72A440
C151	100 pF, 500V, mica	72A441
C152	270 pF, 500V, mica	72A442
C153	82 pF, 50V, ceramic	72A410
C154	27 pF, 50V, ceramic	72A404
C155	.047 uF, 50V, ceramic	72A419
C156	.01 uF, 25V, disc	72A440
C157	.01 uF, 25V, disc	72A440
C158	not used	
C159	.047 uF, 50V, ceramic	72A419
C160	.047 uF, 50V, ceramic	72A443
C161	.01 uF, 25V, disc	72A440
C162	120 pF, 50V, ceramic	72A413
C163	.01 uF, 25V, disc	72A440
C164	2 pF, 50V, ceramic	72A444
C165	.01 uF, 25V, disc	72A440
C166	10 pF, 50V, ceramic	72A399
C167	not used	
C168	2 pF, 50V, ceramic	72A444
C169	.047 uF, 50V, ceramic	72A443
C170	.047 uF, 50V, ceramic	72A443
C171	.047 uF, 50V, ceramic	72A443
C172	.047 uF, 50V, ceramic	72A443
C173	.047 uF, 50V, ceramic	72A443
C174	3.3 uF, 25V, electrolytic	72A431
C175	4700 pF, 50V, ceramic	72A425
C176	1 uF, 50V, electrolytic	72A430
C177	.033 uF, 50V, ceramic	72A428
C178	56 pF, 50V, ceramic	72A408
C179	not used	
C180	560 pF, 50V, ceramic	72A421
C181	100 pF, 50V, ceramic	72A411
C182	68 pF, 50V, ceramic	72A445
C183	10 uF, 16V, electrolytic	72A434
C184	.022 uF, 50V, ceramic	72A427
C185	47 uF, 10V, electrolytic	72A436
C186 thru		
C189	not used	
C190	.01 uF, 25V, disc	72A440
C191	.022 uF, 50V, ceramic	72A427
C192	150 pF, 50V, ceramic	72A414
C193	.01 uF, 50V, ceramic	72A426
C194	.01 uF, 25V, disc	72A440
C195	2200 pF, 50V, ceramic	72A459
C196	3.9 uF, 25V, tantalum	72A455
C197	33 uF, 6.3V, electrolytic	72A435
C198	68 pF, 50V, ceramic	72A409
C199	68 pF, 50V, ceramic	72A409
C200	220 pF, 50V, ceramic	72A415
C201	.068 uF, 50V, ceramic	72A429
C202	100 uF, 50V, ceramic	72A411
C203	47 uF, 16V, electrolytic	72A437
C204	220 uF, 16V, electrolytic	72A449

Reference Designator	Description	Part No.
C205	.068 uF, 50V, ceramic	72A429
C206	not used	
C207	33 uF, 6.3V, electrolytic	72A435
C208	10 uF, 16V, electrolytic	72A434
C209	1 uF, 50V, electrolytic	72A430
C210	1000 uF, 16V, electrolytic	72A450
C211	47 uF, 25V, electrolytic	72A438
C212	33 uF, 6.3V, electrolytic	72A435
C213	.01 uF, 25V, disc	72A440
C214	.01 uF, 25V, disc	72A440
C215	.01 uF, 25V, disc	72A440
C216	.01 uF, 25V, disc	72A440
C217	.047 uF, 50V, ceramic	72A419
C218	.047 uF, 50V, ceramic	72A419
C219	.047 uF, 50V, ceramic	72A419
C220	.047 uF, 50V, ceramic	72A419
C221	not used	
C222	4.7 uF, 25V, electrolytic	72A432
C223	39 pF, 50V, ceramic	72A407
C224	.01 uF, 25V, disc	72A440
C225	1.5 pF, 50V, ceramic	72A902
C226	.0047 uF, 50V, ceramic	72A853
C227	1 uF, 50V, electrolytic	72A430
C228 thru		
C229	not used	
C230	6.8 pF, 50V, ceramic	72A854
C231	100 pF, 50V, ceramic	72A411
C232	.0033 uF, 50V, ceramic	72A852
C233	330 pF, 50V, ceramic	72A416
C234 thru		
C239	not used	
C240	33 uF, 16V, electrolytic	72A850
C241	not used	
C242	1 uF, 50V, electrolytic	72A430
C243	100 pF, 50V, ceramic	72A411
C244	.047 uF, 50V, ceramic	72A419
CH101	choke	72A482
CF101	ceramic filter, 455 kHz	78A067
CT101	3.3 - 18 pF trimmer	72A439
D101	SMV1334, varactor	76A135
D102	1N751A, zener	76A134
D103	1N757, zener	76A133
D104	1N4002	76A132
D105	1N4002	76A132
D106	1N4148	76A037
D107	1N4148	76A037
D108	1N4148	76A037
D109	1N60	76A057
D110	1N60	76A057
D111	1N60	76A057
D112	1N60	76A057

Reference Designator	Description	Part No.
D113	not used	
D114	1N4148	76A037
D115	1N60	76A057
D116	1N60	76A057
D117	not used	
D118	1N4148	76A037
IC101	MM58141, PLL IC	76A150
IC102	TA7205P, audio amplifier	76A137
L101	rf choke, 22 uH	72A490
L102	not used	
L103	coil, 27 MHz, .23 uH	72A481
L104	coil, 27 MHz, .435 uH	72A480
L105	rf choke, 2.2 uH	72A489
L106	rf coil, slug tuned, 0.14 to 0.26 uH	72A486
L107	rf choke, 68 uH	72A491
L108	rf coil	72A487
L109	rd coil, slug tuned, 0.40 to 0.85 uH	72A484
L110	rf coil, slug tuned, 0.17 to 0.33 uH	72A485
L111	rf choke, 68 uH	72A491
L112	transformer, 10.7 MHz	73A041
L113	rf choke, 1.5 uH	72A488
L 14	rf choke, 1.5 uH	72A488
L115	not used	
L116	rf coil, 0.45 uH	72A483
Q101	MPS3704	76A142
Q102	MPS6514	76A140
Q103	MPS6513	76A139
Q104	MPS6513	76A139
Q105	MPS6513	76A139
Q106	MPS3704	76A142
Q107	MPS3702	76A141
Q108	MPS6513	76A139
Q109	MPS6513	76A139
Q110	MPS6513	76A139
Q111	MPS6513	76A139
Q112	MPS-U02	76A143
Q113	MRF472	76A144
Q114	MPS6514	76A140
Q115	MPS6514	76A140
Q116	MPS6513	76A139
Q117	MPS6513	76A139
Q118	MPS6514	76A140
Q119	MPS6514	76A140
Q120	MPS5172	76A138
Q121	MPS6514	76A140
Q122	MPS6513	76A139
Q123 thru		
Q124	not used	
Q125	2N5088	76A149
Q126	2N5088	76A149

Reference Designator	Description	Part No.
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NOTE: all resistors are 5%, ¼ watt unless otherwise stated.

R101	330	72A552
R102	100k	72A612
R103	3.3k	72A576
R104	1.5k	72A568
R105	220k	72A620
R106	820	72A562
R107	100k	72A612
R108	1.5k	72A568
R109	100k	72A612
R110	2.2k	72A572
R111	820	72A562
R112	100k	72A612
R113	3.3k	72A576
R114	470	72A556
R115	22k	72A596
R116	470	72A556
R117	33k	72A600
R118	100, ½w	72A717
R119	3.3k	72A576
R120	100k	72A612
R121	2.2k	72A572
R122	1k	72A564
R123	2.2k	72A572
R124	270	72A550
R125	22k	72A596
R126	not used	
R127	68	72A536
R128	100	72A540
R129	220	72A548
R130	47	72A532
R131	10, ½w	72A693
R132	47k	72A604
R133	1k	72A564
R134	680	72A560
R135	1.5k	72A568
R136	100	72A540
R137	1.8k	72A570
R138	1k	72A564
R139	470	72A556
R140	100k	72A612
R141	1k	72A564
R142	4.7k	72A580
R143	470	72A556
R144	47k	72A604
R145	220	72A548
R146	330	72A552
R147	1.5k	72A568
R148	27k	72A598
R149	220	72A548
R150	47	72A532
R151	22k	72A596
R152	270k	72A622

Reference Designator	Description	Part No.
R153	47k	72A604
R154	68k	72A608
R155	33k	72A600
R156	47k	72A604
R157	not used	
R158	100k	72A612
R159	1.5k	72A568
R160	1.5k	72A568
R161	22, ½w	72A701
R162	1k	72A564
R163	390	72A554
R164	10k	72A588
R165	820	72A562
R166	not used	
R167	27k	72A598
R168	3.3k	72A576
R169	220k	72A620
R170	22k	72A596
R171	150	72A544
R172	2.2k	72A572
R173	820	72A562
R174	68	72A536
R175	10k	72A588
R176	82	72A538
R177	270	72A550
R178	680	72A560
R179	22k	72A596
R180 thru		
R184	not used	
R185	1k	72A564
R186	not used	
R187	820k	72A634
R188	820k	72A634
R189	220k	72A620
R190	4.7k	72A580
R191	22k	72A596
R192 thru		
R193	not used	
R194	15, 3w, ww	72A907
R195 thru		
R202	not used	
R203	560	72A558
R204	18k	72A594
RV101	not used	
RV102	2k, variable	72A397
RV103	20k, variable	72A856
RV104	20k, variable	72A856
T101	transformer, 37 MHz	73A047
T102	transformer, 27 kHz	73A042
T103	transformer, 27 kHz	73A043
T104	transformer, 27 MHz	73A044
T105	transformer, 27 MHz	73A045
T106	transformer, 10.7 MHz	73A041

Reference Designator	Description	Part No.
T107	transformer, 455 kHz	73A038
T108	transformer, 455 kHz	73A039
T109	transformer, 455 kHz	73A040
T110	audio transformer	73A048
T111	transformer, 27 MHz	73A046
X101	11.8066MHz crystal	78A068
X102	10.695 MHz crystal	78A069
X103	10.24 MHz crystal	78A070

Mechanical Parts

Part No.	Description	Qty
460092	top cover	1
460093	bottom cover	1
650065	antenna connector	1
650076	speaker jack	1
650102	chassis mounted phono jack	1
650109	square flange receptacle, 9 pin	1
650111	power connector	1
879535	dc power cord assembly, 5 ft	1

Chassis Mounted Components

Reference Designator	Description	Part No.
C1	330 pF, 50V, ceramic	72A416
C2	560 pF, 50V, ceramic	72A421
C3	.001 uF, 50V, ceramic	72A424
C4	.001 uF, 50V, ceramic	72A424
C5	.001 uF, 50V, ceramic	72A424

Microphone Assembly

Reference Designator	Description	Part No.
	2716 microphone assembly	879498
	microphone keyboard module	879403
	control interface assembly	879499
	control interface pc board	750097
C1	.001 uF, 50V, ceramic	722849
C2	.047uF, 50V, ceramic	72A419

Reference Designator	Description	Part No.
C3	.001 uF, 50V, ceramic	722849
C4	.001 uF, 50V, ceramic	722849
C5	2200 pF, 50V, ceramic	722459
C6	.1 uF, 50V, ceramic	720146
C7	47 uF, 16V, electrolytic	722437
C8	.001 uF, 50V, ceramic	722849
C9	10 uF, 16V, electrolytic	722434
C10	.001 uF, 50V, ceramic	722849
C11	.001 uF, 50V, ceramic	722849
C12	not used	
C13	4.7 uF, 25V, electrolytic	722398
C14	not used	
C15	220 uF, 16V, electrolytic	722449
C16	.01 uF, 25V, ceramic	722440
C17	10 uF, 16V, electrolytic	722434
C18	.001 uF, 50V, ceramic	722849
CR1	1N4148, switching diode	760037
CR2	1N4148, switching diode	760037
CR3	1N4740A, zener	760332
CR4	1N751, zener	760134
CR5	1N4148, switching diode	760037
CR6	1N4148, switching diode	760037
CR7	1N4148, switching diode	760037
CR8	1N4148, switching diode	760037
CR9	1N4002	760132
CR10	not used	
CR11	1N5238B	760318
K1	relay	730056
K2	relay	730056

NOTE: all resistors are 5%, 1/4W unless otherwise noted.

R1	10k	722588
R2	560	722558
R3	560	722558
R4	22k	722596
R5	91, 1/2W	722716
R6	10k	722588
R7	2.2k	722572
R8	100k	722612
R9	220k	722620
R10	27k	722598
R11	470k	722628
R12	1k	722564
R13	270	722550
R14	10k	722588
R15	10k	722588
R16	3k	722575
R17	12k	722590
R18	560	722558
R19	220	722548
R20	4.7M	722652
R21	4.7k	722580

Reference Designator	Description	Part No.
R22	8.2k	722586
R23	not used	
R24	10k	722588
R25	4.7k	722580
R26	2.2k	722572
R27	1.2M	722638
R28	27k	722598
R29	10k	722588
R30	560	722558
R31	330	722552
R32	not used	
R33	82	722538
R34	68k	722608
R35	330	722552
R36	not used	
R37	100	722540
R38	330k	722624
R39	3.3	722504
R40	820	722562
R41	10	722516
R42	10k	722588
RV1	10k, variable resistor	722398
Q1	MPSA13	760324
Q2	MPS3704	760142
Q3	MPS3702	760141
Q4	TIP-30	760319
Q5	MPS6514	760140
T1	microphone transformer	730036
U1	LM358	760320
U2	LM358	760320
U3	LM358	760320
U4	LM358	760320
U5	MC1400	760114
U6	MC3340P	760105
S1	on/off switch	700061
S2	ptt switch 4pdt	700062
SP1	speaker, 2 1/4" diameter	730035

Mechanical Parts

Part No.	Description	Qty
150487	keyboard cover plate	1
350678	speaker grill	1
650108	strain relief	1
460150	microphone case front	1

Part No.	Description	Qty
460151	microphone case rear	1
460165	bezel	1
460166	keyboard hinge	1
460167	ptt button	1
460168	microphone hanger button	1
620094	microphone coil cord	1
650106	9 pin connector plug	1
650107	cable clamp 9 pin	1
350688	microphone hanger	1

Schematic Diagrams

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