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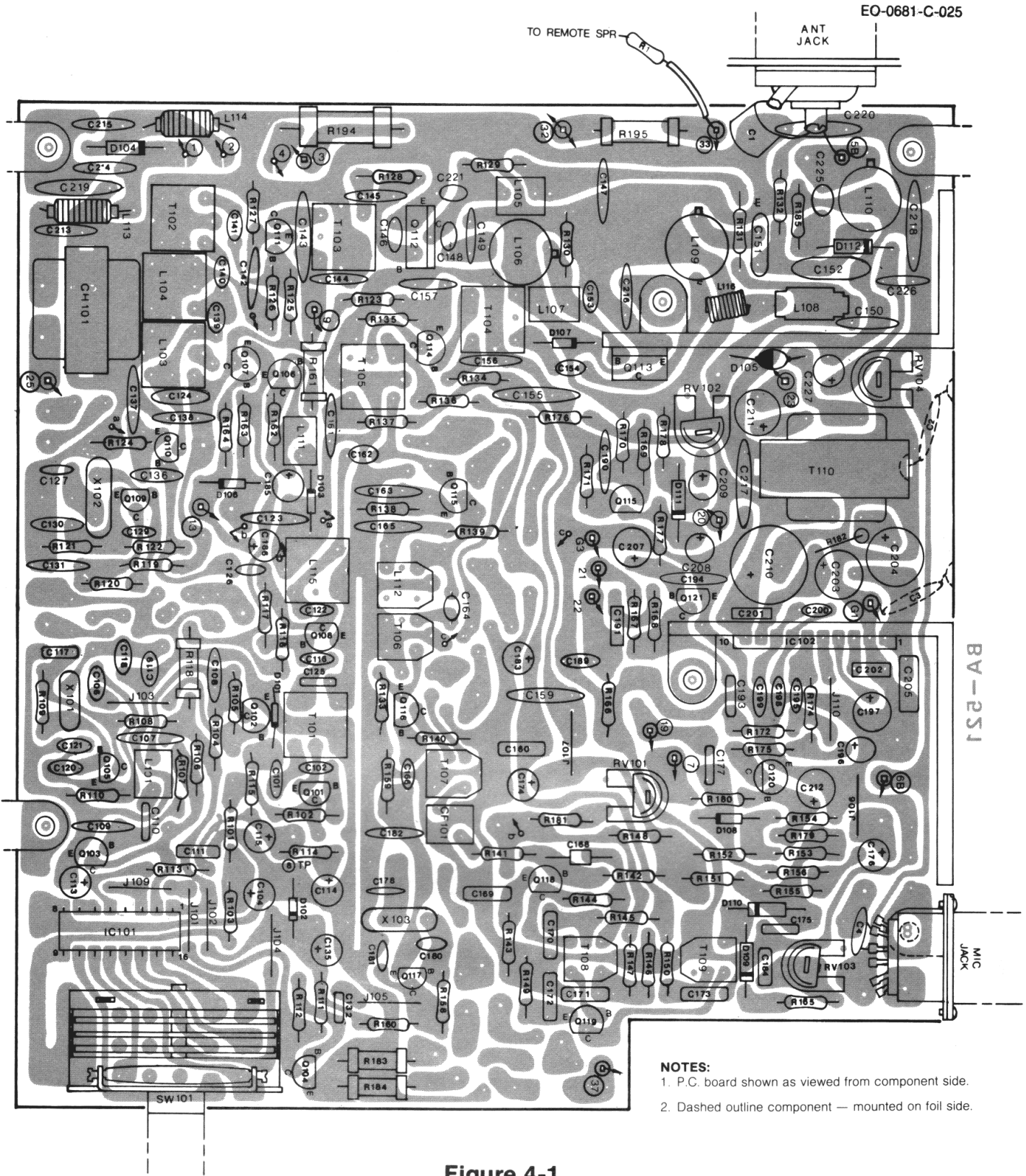
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Component Outline, Model 681

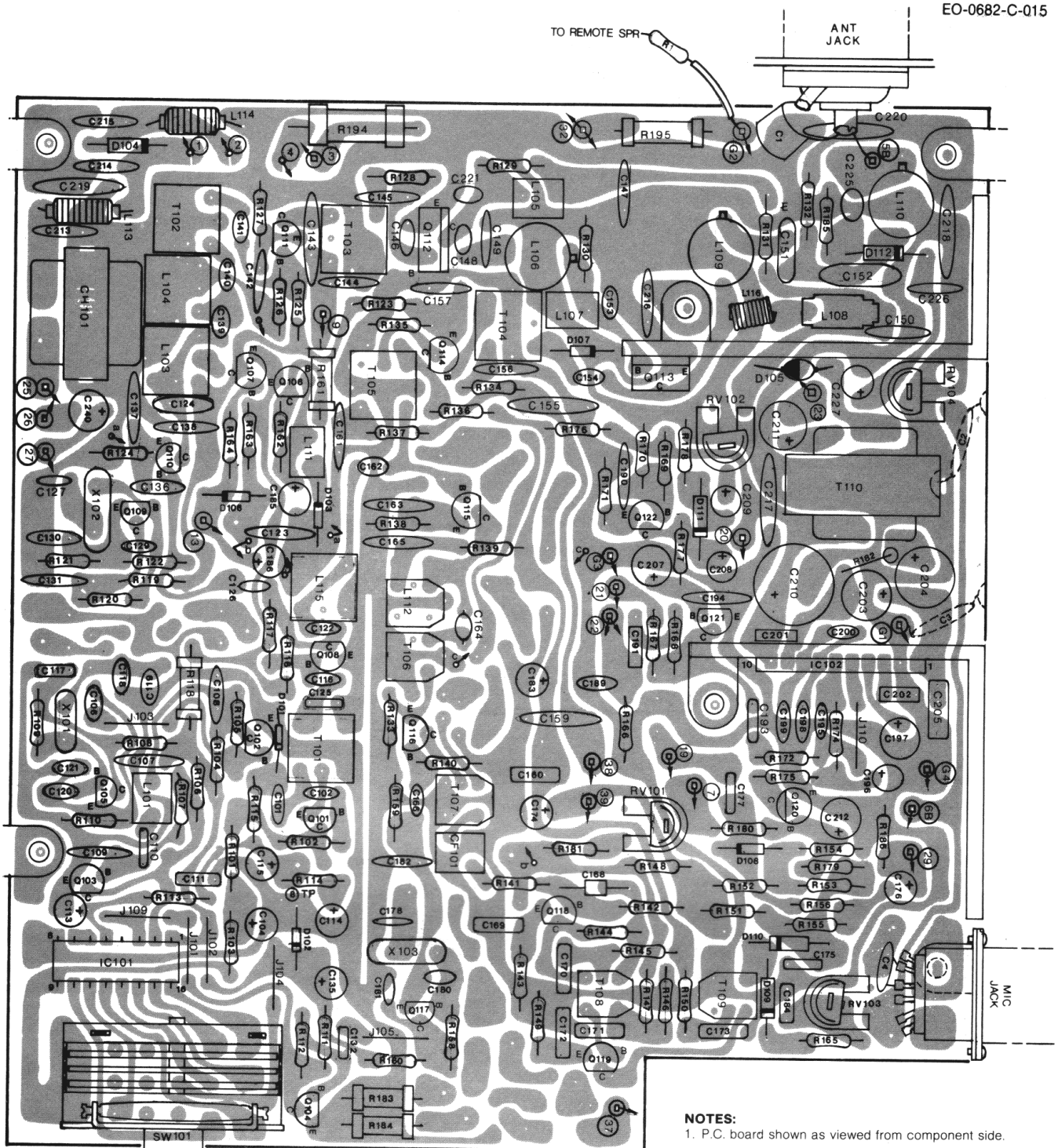


NOTES:

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

Figure 4-1
 Component Outline, Model 681

Component Outline, Model 682



- NOTES:**
1. P.C. board shown as viewed from component side.
 2. Dashed outline component — mounted on foil side.

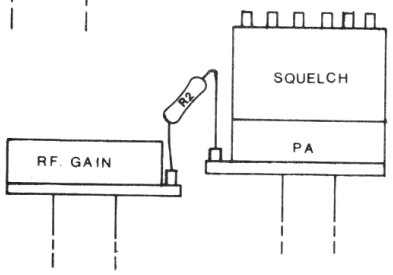



Figure 4-2

Component Outline, Model 682

Parts List



MAIN P.C. BOARD

- 681 only
- 682 only

Unmarked components are common to both radios.

Reference Designator	Description	Part No.
	□ main p.c. board, complete	AP-TBM027BB
	■ main p.c. board, complete	AP-TBM027CB
	main p.c. board, plated and drilled	PT-BM027AOX
C101	.001uF, 50V, ceramic disc	CK-CB102KBM
C102	22pF, 50V, ceramic disc	CC-CB220KOM
C103	(not used)	
C104	10uF, 16V, electrolytic	CE-ED100ALN
C105	.01uF, 50V, mylar	CQ-MB103KCH
C106	22pF, 50V, ceramic disc	CC-CB220KOM
C107	.01uF, 50V, ceramic disc	CK-CB103PEM
C108	330pF, 50V, ceramic disc	CC-CB331KOM
C109	330pF, 50V, ceramic disc	CC-CB331KOM
C110	.001uF, 50V, mylar	CQ-MB102KCH
C111	.01uF, 50V, mylar	CQ-MB103KCH
C112	(not used)	
C113	.22uF, 50V, electrolytic	CE-EGR22ZMN
C114	10uF, 16V, electrolytic	CE-ED100ZMN
C115	4.7uF, 25V, electrolytic	CE-EE4R78MN
C116	10pF, 50V, ceramic disc	CC-CB100DOM
C117	.01uF, 50V, mylar	CQ-MB103KCH
C118	.47pF, 50V, ceramic disc	CC-CB470KPM
C119	10pF, 50V, ceramic disc	CC-CB100KPM
C120	100pF, 50V, mylar	CC-CB101KOM
C121	100pF, 50V, mylar	DD360-65SL101K50
C122	8pF, 50V, ceramic disc	CC-CB080DOM
C123	.01uF, 50V, ceramic disc	CK-CB103PEM
C124	100pF, 500V, mica	CM-SD101KCS
C125	1000pF, 50V, mylar	CQ-MB102KCH
C126	100pF, 50V, mylar	CC-CB101KOM
C127	33pF, 50V, mylar	CC-CB330KPM
C128	(not used)	
C129	560pF, 50V, mylar	CK-CB561KBM
C130	82pF, 50V, mylar	CC-CB820KPM
C131	.01uF, 50V, mylar	CK-CB103PEM
C132	560pF, 50V, mylar	CQ-MB561KCH
C133	(not used)	
C134	(not used)	
C135	10uF, 16V, electrolytic	CE-ED100ALN
C136	150pF, 50V, ceramic disc	CC-CB151KOM
C137	.01uF, 50V, ceramic disc	CK-CB103PEM
C138	.01uF, 50V, ceramic disc	CK-CB103PEM
C139	2pF, 50V, ceramic disc	CC-CB020COM
C140	2pF, 50V, ceramic disc	CC-CB020COM
C141	68pF, 50V, ceramic disc	CC-CB680KOM
C142	.01uF, 50V, ceramic disc	CK-CB103PEM
C143	100pF, 50V, ceramic disc	CC-CB101KPM
C144	.01uF, 50V, ceramic disc	CK-CB103PEM
C145	.01uF, 50V, ceramic disc	CK-CB103PEM
C146	470pF, 50V, ceramic disc	CK-CB471KBM
C147	.01uF, 50V, ceramic disc	CK-CB103PEM
C148	82pF, 50V, ceramic disc	CC-CB820KOM
C149	220pF, 50V, ceramic disc	CC-CB221KOM
C150	.01uF, 50V, ceramic disc	CK-CB103PEM
C151	100pF, 500V, mica	CM-SD101KCS
C152	270pF, 500V, mica	CM-SD271KCS
C153	82pF, 50V, ceramic disc	CC-CB820KOM

Reference Designator	Description	Part No.
C154	27pF, 50V, ceramic disc	CC-CB270KOM
C155	.047uF, 50V, ceramic disc	CK-CB473ZFM
C156	.01uF, 50V, ceramic disc	CK-CB103PEM
C157	.01uF, 50V, ceramic disc	CK-CB103PEM
C158	(not used)	
C159	.047uF, 50V, ceramic disc	CK-CB473ZFM
C160	.047uF, 50V, mylar	CQ-MB473KCH
C161	.01uF, 50V, ceramic disc	CK-CB103PEM
C162	10pF, 50V, ceramic disc	CC-CB100DOM
C163	.01uF, 50V, ceramic disc	CK-CB103PEM
C164	4pF, 50V, ceramic disc	CC-CB040COM
C165	.01uF, 50V, ceramic disc	CK-CB103PEM
C166	47pF, 50V, ceramic disc	CC-CB470KOM
C167	(not used)	
C168	2.2pF, 500V, ceramic disc	CG-2H2R2KNN
C169	.047uF, 50V, mylar	CQ-MB473KCH
C171	.047uF, 50V, mylar	CQ-MB473KCH
C172	.047uF, 50V, mylar	CQ-MB473KCH
C173	.047uF, 50V, mylar	CQ-MB473KCH
C174	3.3uF, 25V, electrolytic	CE-EE3R3ALN
C175	.0047uF, 50V, mylar	CQ-MB472KCH
C176	1uF, 50V, electrolytic	CE-EG010ALN
C177	.0022uF, 50V, mylar	CQ-MB222KCH
C178	39pF, 50V, ceramic disc	CC-CB390KPM
C179	(not used)	
C180	560pF, 50V, ceramic disc	CK-CB561KBM
C181	560pF, 50V, ceramic disc	CK-CB561KBM
C182	68pF, 50V, ceramic disc	CC-CB680KPM
C183	10uF, 16V, electrolytic	CE-ED100ALN
C184	.022uF, 50V, mylar	CQ-MB223KCH
C185	10uF, 16V, electrolytic	CE-ED100ALN
C186	.47uF, 50V, electrolytic	CE-EGR47ALN
C187	(not used)	
C188	(not used)	
C189	<u>.0022uF, 50V, ceramic disc</u>	<u>CK-CB222KBM</u>
C190	.01uF, 50V, ceramic disc	CK-CB103PEM
C191	.022uF, 50V, mylar	CQ-MB223KCH
C192	220pF, 50V, ceramic disc	CC-CB221KOM
C193	.01uF, 50V, mylar	CQ-MB103KCH
C194	.01uF, 50V, ceramic disc	CK-CB103PEM
C195	390pF, 50V, ceramic disc	CK-CB391KBM
C196	5.6uF, 25V, tantalum	CS-SE5R6MDN
C197	33uF, 6.3V, electrolytic	CE-EB330ALN
C198	68pF, 50V, ceramic disc	CC-CB680KOM
C199	68pF, 50V, ceramic disc	CC-CB680KOM
C200	390pF, 50V, ceramic disc	CK-CB391KBM
C201	.068uF, 50V, mylar	CQ-MB683KCH
C202	.022uF, 50V, mylar	CQ-MB223KCH
C203	47uF, 16V, electrolytic	CE-ED470ALN
C204	220uF, 16V, electrolytic	CE-AD221ZLS
C205	.068uF, 50V, mylar	CQ-MB683KCH
C206	(not used)	
C207	33uF, 6.3V, electrolytic	CE-EB330ALN
C208	10uF, 16V, electrolytic	CE-ED100ALN
C209	1uF, 50V, electrolytic	CE-EG010ALN
C210	1000uF, 16V, electrolytic	CE-ED102ZUN
C211	47uF, 25V, electrolytic	CE-AE470ZLS
C212	33uF, 6.3V, electrolytic	CE-EB330ALN
C213	.01uF, 50V, ceramic disc	CK-CB103PEM
C214	.01uF, 50V, ceramic disc	CK-CB103PEM
C215	.01uF, 50V, ceramic disc	CK-CB103PEM
C216	.01uF, 50V, ceramic disc	CK-CB103PEM
C217	.047uF, 50V, ceramic disc	CK-CB473ZFM
C218	.047uF, 50V, ceramic disc	CK-CB473ZFM
C219	.047uF, 50V, ceramic disc	CK-CB473ZFM
C220	.047uF, 50V, ceramic disc	CK-CB473ZFM
C221	27pF, 50V, ceramic disc	CC-CB270KOM
C222	(not used)	
C223	(not used)	
C224	(not used)	
C225	4pF, 500V, ceramic disc	CC-EE040COM

Reference Designator	Description	Part No.
C226	.0047uF, 50V, ceramic disc	CK-CB472PEM
C227	1uF, 50V, electrolytic	CE-EG010ALN
C228		
through		
C239	(not used)	
C240	■ 33uF, 16V, electrolytic	CE-ED330ALN
CF101	ceramic filter	FB-R455A08M
CH101	choke coil	LJ-119H001Y
D101	ITT410, silicon	QD-CTT410XQ
D102	MZ205, zener	QD-ZM205XE
D103	RD9.1E, zener	QD-ZRD9EXAA
D104	1S1885, silicon	QD-SS1885XT
D105	V06C, silicon	QD-SVO6CXXB
D106	1S1555, silicon	QD-SS1555XT
D107	1S1555, silicon	QD-SS1555XT
D108	1S1555, silicon	QD-SS1555XT
D109	1N60, germanium	QD-G1N60XXT
D110	1N60, germanium	QD-G1N60XXT
D111	1N60, germanium	QD-G1N60XXT
D112	1N60, germanium	QD-G1N60XXT
D113	(not used)	
IC101	PLL01A	QQ-OPLL01AO
IC102	(TOYO) BA-521	QQ-MBA521AX
L101	rf coil	LF-220KD01N
L102	(not used)	
L103	rf coil	TR-10CD004S
L104	rf coil	TR-10CD005S
L105	rf coil	LF-2R2KD01N
L106	rf coil	TR-A5CZ001M
L107	rf coil	LF-680KD01N
L108	rf coil	LD-AX3825M
L109	rf coil	TR-A5CZ002M
L110	rf coil	TR-A5CZ003M
L111	rf coil	LF-680KD01N
L112	rf coil	TR-07MB007N
L113	rf coil	LD-ADB4024B
L114	rf coil	LD-ADB4024B
L115	rf coil	TR-10MD006S
L116	rf coil	LA-1KE1011A
Q101	(MITSUBISHI) 2SC710D	QT-CO710XBE
Q102	(NEC) 2SC829B	QT-CO829XAN
Q103	(NEC) 2SC829B	QT-CO829XAN
Q104	(NEC) 2SC829B	QT-CO829XAN
Q105	(MITSUBISHI) 2SC710D	QT-OO710XBE
Q106	(MATSUSHITA) 2SC1318(Q)	QT-C1318XAN
Q107	(MATSUSHITA) 2SA719(Q)	QT-AO719XAN
Q108	2SC1359B	QT-C1359XAN
Q109	(MITSUBISHI) 2SC710D	QT-CO710XBE
Q110	(MITSUBISHI) 2SC710D	QT-CO710XBE
Q111	2SC1687	QT-C1687XAN
Q112	(SONY) 2SC1760-3	QT-C1760XAS
Q113	(NEC) 2SC1306	QT-C1306XZA
Q114	2SC1047B	QT-C1047XAN
Q115	2SC1359B	QT-C1359XAN
Q116	2SC829C	QT-CO829XBN
Q117	(MITSUBISHI) 2SC710D	QT-CO710XBE
Q118	(NEC) 2SC829C	QT-CO829XBN
Q119	(NEC) 2SC829C	QT-CO829XBN
Q120	2SC372Y	QT-CO372XDN
Q121	2SC828PQ	QT-CO828XDN
Q122	2SC828P	QT-CO828XAN
R101	100, 10% 1/4w, carbon film	RD25RJ101D
R102	100k, 10% 1/4w, carbon film	RD25RJ104D
R103	1.5k, 10% 1/4w, carbon film	RD25RJ152D

Reference Designator	Description	Part No.
R104	1.5k, 10% 1/4w, carbon film	RD25RJ152D
R105	100k, 10% 1/4w, carbon film	RD25RJ104D
R106	1.5k, 10% 1/4w, carbon film	RD25RJ152D
R107	100k, 10% 1/4w, carbon film	RD25RJ104D
R108	1.5k, 10% 1/4w, carbon film	RD25RJ152D
R109	100k, 10% 1/4w, carbon film	RD25RJ104D
R110	2.2k, 10% 1/4w, carbon film	RD25RJ222D
R111	1.5k, 10% 1/4w, carbon film	RD25RJ152D
R112	100k, 10% 1/4w, carbon film	RD25RJ104D
R113	3.3k, 10% 1/4 w, carbon film	RD25RJ332D
R114	470, 10% 1/4w, carbon film	RD25RJ471D
R115	22k, 10% 1/4w, carbon film	RD25RJ223D
R116	470, 10% 1/4w, carbon film	RD25RJ471D
R117	100k, 10% 1/4w, carbon film	RD25RJ104D
R118	100, 10% 1/2w, metal oxide	RGHANJ101N
R119	1.5k, 10% 1/4w, carbon film	RD25RJ152D
R120	100k, 10%, 1/4w, carbon film	RD25RJ104D
R121	1K, 10%, 1/4w, carbon film	RD25RJ102D
R122	2.7k, 10%, 1/4w, carbon film	RD25RJ272D
R123	3.3.k, 10%, 1/4w, carbon film	RD25RJ332D
R124	330, 10%, 1/4w, carbon film	RD25RJ331D
R125	3.3k, 10%, 1/4w, carbon film	RD25RJ332D
R126	1k, 10%, 1/4w, carbon film	RD25RJ102D
R127	68, 10%, 1/4w, carbon film	RD25RJ680D
R128	100, 10% 1/4w, carbon film	RD25RJ101D
R129	220, 10%, 1/4w, carbon film	RD25RJ221D
R130	47, 10%, 1/4w, carbon film	RD25RJ470D
R131	10, 10%, 1/2w, metal oxide	ERX-12ANJ100
R132	47k, 10%, 1/4w, carbon film	RD25RJ473D
R133	220, 10%, 1/4w, carbon film	RD25RJ221D
R134	680, 10%, 1/4w, carbon film	RD25RJ681D
R135	1.5k, 10%, 1/4w, carbon film	RD25RJ152D
R136	100, 10%, 1/4w, carbon film	RD25RJ101D
R137	1.8k, 10%, 1/4w, carbon film	RD25RJ182D
R138	1k, 10%, 1/4w, carbon film	RD25RJ102D
R139	470, 10%, 1/4w, carbon film	RD25RJ471D
R140	3.3k, 10%, 1/4w, carbon film	RD25RJ332D
R141	1k, 10%, 1/4w, carbon film	RD25RJ102D
R142	4.7k, 10%, 1/4w, carbon film	RD25RJ472D
R143	470, 10%, 1/4w, carbon film	RD25RJ471D
R144	47k, 10%, 1/4w, carbon film	RD25RJ473D
R145	220, 10% 1/4w, carbon film	RD25RJ221D
R146	3.3k, 10%, 1/4w, carbon film	RD25RJ332D
R147	12k, 10%, 1/4w, carbon film	RD25RJ123D
R148	27k, 10%, 1/4w, carbon film	RD25RJ273D
R149	220, 10%, 1/4w, carbon film	RD25RJ221D
R150	47, 10%, 1/4w, carbon film	RD25RJ470D
R151	22k, 10%, 1/4w, carbon film	RD25RJ223D
R152	390k, 10%, 1/4w, carbon film	RD25RJ394D
R153	47k, 10%, 1/4w, carbon film	RD25RJ473D
R154	68k, 10%, 1/4w, carbon film	RD25RJ683D
R155	33k, 10%, 1/4w, carbon film	RD25RJ333D
R156	47k, 10%, 1/4w, carbon film	RD25RJ473D
R157	(not used)	
R158	100k, 10%, 1/4w, carbon film	RD25RJ104D
R159	1.5k, 10%, 1/4w, carbon film	RD25RJ152D
R160	1.5k, 10%, 1/4w, carbon film	RD25RJ152D
R161	22, 10%, 1/2w, metal oxide	ERG-12ANJ220
R162	1k, 10%, 1/4w, carbon film	RD25RJ102D
R163	390, 10%, 1/4w, carbon film	RD25RJ391D
R164	10k, 10%, 1/4w, carbon film	RD25RJ103D
R165	820, 10% 1/4w, carbon film	RD25RJ821D
R166	3.3k, 10%, 1/4w, carbon film	RD25RJ332D
R167	27k, 10%, 1/4w, carbon film	RD25RJ273D
R168	3.3k, 10%, 1/4w, carbon film	RD25RJ332D
R169	220k, 10%, 1/4w, carbon film	RD25RJ224D
R170	22k, 10%, 1/4w, carbon film	RD25RJ223D
R171	150, 10%, 1/4w, carbon film	RD25RJ151D
R172	2.2k, 10%, 1/4w, carbon film	RD25RJ222D
R173	(not used)	

Reference Designator	Description	Part No.
R174	10, 10%, 1/4w, carbon film	RD25RJ100D
R175	10k, 10%, 1/4w, carbon film	RD25RJ103D
R176	82, 10%, 1/4w, carbon film	RD25RJ820D
R177	270, 10%, 1/4w, carbon film	RD25RJ271D
R178	680, 10%, 1/4w, carbon film	RD25RJ681D
R179	22k, 10%, 1/4w, carbon film	RD25RJ223D
R180	1.8k, 10%, 1/4w, carbon film	RD25RJ182D
R181	18k, 10%, 1/4w, carbon film	RD25FJ183D
R182	100, 10%, 1/4w, carbon film	ERD-14VJ101
R183	270, 10%, 1/2w, metal oxide	ERG-12ANJ271
R184	270, 10%, 1/2w, metal oxide	ERG-12ANJ271
R185	1k, 10%, 1/4w, carbon film	RD25RJ102D
R186	10k, 10%, 1/4w, carbon film	RD25RJ103D
R187		
through		
R193	(not used)	
R194	15, 10%, 2w, metal oxide	ERX-2ANJ150
R195	150, 10%, 1w, metal oxide	ERG-1ANJ151
RV101	10k potentiometer	RP-GNB10301
RV102	2k, potentiometer	RP-GNB20201
RV103	20K, potentiometer	RP-GNB20301
RV104	20k, potentiometer	RP-GNB20301
SW101	rotary wafer switch	SR-0724301H
T101	rf coil	TR-10CA004S
T102	rf coil	TR-10CB001S
T103	rf coil	TR-10CP005S
T104	rf coil	TR-10MP003T
T105	rf coil	TR-10CA005S
T106	rf coil	TR-07MB007N
T107	i-f transformer	TR-07LA004N
T108	i-f transformer	TR-07LA005N
T109	i-f transformer	TR-07LA023N
T110	audio transformer	TB-G25B001W
VR1	50k, potentiometer (part of on/off switch)	ERV-0176
X101	9.50996 MHz, crystal	XA-S1B2001T
X102	9.94500 MHz, crystal	XG-S1A1001T
X103	6.40030 MHz, crystal	XG-S1A2001T

CHASSIS-MOUNTED COMPONENTS

Reference Designator	Description	Part No.
C1	200 pF, 500V, mica	FM11ZC221K5
C2	.01 uF, 50V, ceramic disc	DD310E103P50
C3	.01 uF, 50V, ceramic disc	DD310E103P50
C4	.01 uF, 50V, ceramic disc	DD310E103P50
J1	jack, antenna	YJCO2S007Z
J2	jack, microphone, 5 pin DIN	EZS-0084
J3	jack, phone, 3.5 mm	EZS-0056
J4	□ jack, phone, P.A.	EZS-0126
J5	■ jack, stereophone, remote speaker	EZS-0126
M	meter	EMM-0046
PL1	pilot lamp	EZP-0024E
PL2	pilot lamp	EZP-0024E
R1	8.2, 10%, 1/4w, carbon film	ERD-14TJ8R2
R2	■ 33K, 10%, 1/4w, carbon film	RD25RJ333D
S1	switch, on/off power (part of volume control)	ERV-0176 (see main p.c. board)
S2	■ switch, toggle, on/off	EST-0004
SP	speaker	EAS-0029
VR1	potentiometer, 50K, (volume control w/power switch)	ERV-0176
VR2	□ potentiometer, 10K, (squelch control)	ERV-0177
	■ potentiometer, 10K, (squelch control)	RVJE103B03
VR3	■ pontentiometer, 50K, (rf gain control)	ERV-0192
	fuse, 2A, 30mm	EZF-0005
	heat sink, —for IC102	ML-454AD002
	heat sink, —for Q113	ML-463AD001

MECHANICAL PARTS

Part No.	Description	Qty.
AM-681KD#01	□ escutcheon (front panel assembly)	1
AM-682KD#01	■ escutcheon (front panel assembly)	1
MU-667SZ019	□ chassis, main frame	1
MU-667SZ020	■ chassis, main frame	1
MB-762SZ016	□ panel, front, plastic	1
MB-762SZ017	■ panel, front, plastic	1
MCO88P003	case, upper	1
MCO88P004	case, lower	1
VE-90XVC014	channel selector dial plate	1
MCO46P010	bracket, meter	1
MWO-0345	holder, lamp (channel)	2
MWO-0346	■ holder, lamp (meter)	1
MTO-0003	knob, channel selector	1
MTO-0004	knob, squelch and volume	2
MYO-0142	bracket, speaker	1
EZS-0001	holder, fuse	1
ENO-0090	cord, power	1
EZZ-0025	bushing, power cord	1

ACCESSORY PARTS

Part No.	Description	Qty.
MCO46P006	bracket, mounting	1
MMO-0108A	handscrew	2
MYO-0025	holder, microphone	1
STPN401025Z	screw, self-tapping, M4x10	2
ZTU040000SX	washer, inside toothed, M4	2
STPT50132SN	screw, self-tapping, M5x13	4
ZTS050000SX	washer, outside toothed, M5	4
EAM-0032	microphone	1



Schematic Diagrams

HY-GAIN DE PUERTO RICO, INC.
P.O. Box 68 State Hwy 31, Km. 4.0
Naguabo, Puerto Rico 00718