



Raymarine Limited

RAY 240 VHF Radio

Tune-up Info and Parts Lists

FCC ID PJ5RAY240

IC: 4069B-RAY240

Tune-up Info

There are no operator Tune-up procedures

for the RAY 240 VHF Radio

Parts Lists

Index

Transceiver Unit – RF PCB	4552-001
Transceiver Unit – Processor PCB	4552-002
Transceiver Unit – Connector PCB	4552-021
Handset Unit	4552-004
Active Speaker	4552-005

Raymarine RAY 240 VHF
Transceiver Unit - RF PCB 4552-001

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY PER</u>	<u>CICUIT REFERENCE</u>
3015-277-G	RF PCB D552	0.25	
91010R0	ZERO OHM LINK, 0603 PACKAGE	1	R179
91031K	RESISTOR 1K, 1206	1	R181
910647R	RESISTOR 47R, 1206	1	R75
91AAAXX100K	RES. 100K, 1%, 0.063W, 0603	20	R17, R18, R19, R23, R24, R25, R26, R27, R28, R29, R30, R95, R132, R133, R134, R146, R147, R148, R149, R159
91AAAXX100R	RES. 100R, 1%, 0.063W, 0603	6	R77, R98, R105, R117, R141, R176
91AAAXX120R	RESISTOR 120R, 1%, 0.063W	3	R31, R73, R145 R73
91AAAXX150K	RES MFILM 150K 1% 0.063W 0603	2	R44, R45
91AAAXX180R	RESISTOR 180R 1% 0.063W	2	R991, R992
91AAAXX220K	RESISTOR 220K 1% 0.063W 0603	1	R162
91AAAXX220R	RESISTOR 220R 1% 0.063W 0603	6	R116, R124, R137
91AAAXX220R	RESISTOR 220R 1% 0.063W 0603	3	R140, R143, 144
91AAAXX330K	RES. 330K, 1%, 0.063W, 0603	3	R994, R995, R78
91AAAXX330R	RES. 330R, 1%, 0.063W, 0603	1	R213
91AAAXX470K	RESISTOR - 470K 1% 0603	1	R13
91AAAXX470R	RESISTOR 470R,1% 0.063W 0603	5	R32, R169, R170, R171, R993
91AAAXX560R	RES 560R,1%,0.063W	2	R185, R210
91AAAXXX10K	RESISTOR 10K,1% 0.063W 0603	18	R14, R15, R20, R21, R52, R54 R81, R82, R83, R85, R86, R87 R88, R89, R90, R94, R102, R188
91AAAXXX10R	RES. 10R,1%,0.063W,0603	10	R106, R107, R108, R110, R112, R113, R114, R115
91AAAXXX10R	RES. 10R,1%,0.063W,0603	2	R122, R175
91AAAXXX12K	RESISTOR 12K 1% 0.063W 0603	1	R153
91AAAXXX15K	RESISTOR 15K 1% 0.063W 0603	1	R131
91AAAXXX1K0	RESISTOR 1.0K,1% 0.063W 0603	20	R1, R2, R3, R4, R5, R46, R47, R48, R49, R104, R135, R138, R142, R154, R155, R186, R190, R191,R192, R193
91AAAXXX1K2	RESISTOR - 1K2 1% 0603	1	R208
91AAAXXX1K5	RESISTOR 1.5K,1% 0.063W 0603	1	R50
91AAAXXX1K6	RES MFILM 1K6 1% 0.063W 0603	2	R160, R161
91AAAXXX1K8	RES. 1K8,1%,0.063W,0603	2	R58, R111
91AAAXXX22K	RES. 22K,1%,0.063W,0603	1	R152
91AAAXXX27R	RES. 27R,1%,0.063W,0603	4	R97, R99, R101, R209
91AAAXXX2K2	RESISTOR 2.2K,1% 0.063W 0603	3	R163, R164, R165
91AAAXXX2K4	RES MFILM 2K4 1% 0.063W 0603	2	R128, R130
91AAAXXX2K7	RESISTOR - 2K7 1% 0603	1	R53
91AAAXXX33K	RESISTOR 33K,0.063W,0603	3	R84, R158, R172
91AAAXXX39K	RESISTOR 39K,1% 0.063W 0603	1	R183
91AAAXXX3K3	RESISTOR 3.3K,1% 0.063W 0603	2	R6, R7
91AAAXXX3K9	RES MFILM 3K9 1% 0.063W 0603	26	R51, R55, R56, R57, R79, R80, R125, R126, R194, R195, R196, R197, R198, R199, R200, R201, R203, R204, R205, R206, R207,

91AAAXX47K	RESISTOR 47K,1% 0.063W 0603	9	R211, R212, R216, R217 R8, R10, R33, R34, R35, R36, R37, R38, R39
91AAAXX47K	RESISTOR 47K,1% 0.063W 0603	8	R40, R41, R42, R43, R100, R103, R118, R189
91AAAXX47R	RESISTOR 47R 1% 0.063W 0603	2	R156, R157
91AAAXX4K7	RESISTOR 4.7K,1% 0.063W 0603	16	R59, R60, R61, R62, R63, R64, R65, R66, R67, R69, R70, R71, R72, R119, R151, R182
91AAAXX51R	RES. 51R, 1%, 0.063W, 0603	1	R74
91AAAXX56R	RESISTOR SM 56R 1% 0603 0.063W	1	R96
91AAAXX5K6	RESISTOR - 5K6 1% 0603	2	R9, R150
91AAAXX68K	RESISTOR 68K,1% 0.063W 0603	2	R167, R168
91AAAXX68R	RES MFILM 68R 1% 0.063W 0603	4	R136, R139, R174, R177
91AAAXX6K8	RESISTOR 6K8,1%,0.063W,0603	1	R166
91FCGX82R	82R 1W 5% 2512	1	R187
9200BAS21	DIODE MICROWAVE BAS21 SOT23	3	D17, D18, D33
9200BAS21	DIODE MICROWAVE BAS21 SOT23	4	D34
9200BAT18	DIODE SWITCHING BAT18	1	D26
9200BAT54	BAT54 SCHOTTKY DIODE	1	D16
9200BAV99	BAV99 DIODE	1	D15
9200BB133	DIODE VARACTOR	14	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14
93261U	CAPACITOR Y5V 1206 1uF 50V	1	C136
93ACHAXX100P	CAP. SM,100pF,50V,5%,0603	4	C11, C42, C234, C910
93ACHAXX220P	CAP COG 220PF 50V 5% 0603	4	C2, C3, C4, C5
93ACHAXX470P	CAPACITOR,470pF,50V,5%,0603	1	C183
93ACHAXX47P	CAPACITOR 47pF COG	2	C1, C22
93ACHAXXX10P	CAPACITOR 10pF	6	C8, C44, C45, C52, C164, C194
93ACHAXXX12P	CAP. SM, 12pF,50V,5%,0603	2	C208, C209
93ACHAXXX15P	CAP COG 15PF 50V 5% 0603	3	C46, C47, C112
93ACHAXXX18P	CAPACITOR, 18pF, 50V, 5%, 0603	6	C23, C28, C33, C53, C56, C191,
93ACHAXXX22P	CAP. SM,22pF,50V,5%,0603	5	C26, C31, C48, C55, C235
93ACHAXXX27P	CAP. SM,27pF,50V,5%,0603	6	C27, C32, C36, C38,C227, C231
93ACHAXXX33P	CAP. SM,33pF,50V,5%,0603	3	C25, C49, C902
93ACHAXXX39P	CAP COG 39PF 50V 5% 0603	2	C6, C7
93ACHAXXX56P	CAP. SM,56pF,50V,5%,0603	3	C13, C15, C29
93ACHAXXX82P	CAP COG 82PF 50V 5% 0603	2	C9, C998
93ACJAXX10P	CAP COG 10PF 100V 5% 0603	2	C16, C252
93ACJAXX18P	CAP COG 18PF 100V 5% 0603	6	C17, C18, C68,C253,C254, C262
93ACJAXXX1N	CAP COG INF 100V 5% 0805	2	C63, C64
93ADEBXX47N	CAPACITOR 47nF, 0603	2	C288, C289
93ADHAXXX1N5	1.5NF 50V X7R	1	C138
93ADHAXXX4N7	CAP X7R 4.7NF 50V 10% 0603	1	C40
93ADHAXXX4N7	CAP X7R 4.7NF 50V 10% 0603	2	C41, C172
93ADHBXX10N	CAP. 10nF XR7	19	C34, C104, C105, C110, C118, C119, C120, C143, C145, C152, C166, C167, C168, C169, C170, C171, C173, C220, C266
93ADHBXX1N	CAPACITOR 1nF 0603	67	C39, C51, C54, C58, C65, C75, C76, C77, C78, C81, C82, C83, C84, C85, C86, C87, C88, C89, C93, C94, C95, C96, C97, C99, C102, C103, C106, C107, C109, C11, C115, C116, C121, C122, C123, C128, C129, C130, C132,

			C134, C135, C137, C141, C142, C144, C146, C148, C149, C150, C153, C154, C155, C156, C157, C192, C204, C205, C206, C211 C238, C239, C241, C261, C263, C282
93AFEDXX220N	CAP Y5V 220NF 16V +80%/-20%	3	C202, C286, C287,
93AFFDXX100N	CAPACITOR 100nF, 0603	13	C100, C124, C131, C133, C174, C175, C176, C177, C178, C179, C180, C181, C182
93AIHAXXX1P2	CAP COG 1.2PF 50V +/- 0.25PF	6	C24, C50, C195, C196, C198, C920
93AIHAXXX1P5	CAP COG 1.5PF 50V 0603	5	C197, C199, C225, C264, C267
93AIHAXXX2P2	CAP COG 2.2PF 50V +/- 0.25PF	9	C201, C207, C219, C222, C224, C228, C232, C265
93AIHAXXX2P2	CAP COG 2.2PF 50V +/- 0.25PF	1	C268
93AIHAXXX3P3	CAP COG 3.3PF 50V +/- 0.25PF	12	C21, C193, C210, C21, C213, C214, C216, C218, C226, C233, C905, C906
93AIHAXXX5P	CAP COG 5PF 50V 0603	6	C20, C57, C221, C223, C230, C269
93AIHAXXX7P	CAP COG 7PF 50V 0603	2	C229, C236
93AIHAXXX8P	CAP COG 8PF 50V 0603	2	C90, C91
93AIHAXXX9P	9PF 50V 0.5PF COG	1	C249
93AIJAXXX1P	CAP COG 1PF 100V 0.5% 0603	2	C66, C92
93IEEEXXX22U	CAP AL 22uF 16V SM	5	C10, C160, C161, C162, C163
93ZEHEXX100U	CAP. 100uF, 50V, 20%, AL-ELEC	1	C203
93ZEHEXX10U	CAP. 10uF 50V ELEC.	1	C59
9400BA4116	IC FM IF DETECTOR	2	IC1, IC2
9400LM358	DUAL OP AMP	1	IC3
9400LMX2306	IC PLLATINUM LOW PWR FREQ SYNT	1	IC4
9400LTC1665	IC 8-BIT OCTAL DAC MICRO POWER	1	IC9
9400MC78M08	REGULATOR POSITIVE VOLTAGE 500	1	IC7
9400ST93C46CM1	E2PROM SO8 PACKAGE	1	IC8
95002B1132	TRANSISTOR 2W PNP 2SB1132T100Q	3	TR1, TR3, TR5
9500BC849C	BC 849C	10	TR2, TR4, TR23, TR24, TR25, TR26, TR27, TR29, TR30, TR37
9500BC856	TRANSISTOR BC856 PNP	1	TR36
9500BF996S	TRANSISTOR MOSFET NCHAN DUAL B	2	TR11, TR12
9500BFQ19	TRANSISTOR WIDEBAND NPN BFQ19	1	TR17
9500BFR520	TRANSISTOR WIDEBAND NPN BFR520	6	TR13, TR14, TR15, TR16, TR21, TR22
9500BFS17A	TRANSISTOR NPN 1GHZ WIDEBAND B	10	TR6, TR7, TR8, TR9, TR10, TR91, TR92, TR93, TR94, TR95
9600CHPIND12	FERRITE BEAD SM	2	L23, L46
9600MAG100N	IND 100NH 0.092A	3	L4, L5, L10
9600MAG120N	IND 120NH 0.092A	1	L13
9600MAG150N	INDUCTOR 150NH 0.4A 5% 0805	2	L12, L14
9600MAG1U	INDUCTOR 1UH 0.92A 5% 0805	7	L22, L27, L29, L30, L41, L91,
9600MAG22N	INDUCTOR 22NH 0.5A 5% 0805	1	L20
9600MAG33N	INDUCTOR 33NH 0.5A 5% 0805	3	L6, L7, L8
9600MAG47N	INDUCTOR 47NH 0.5A 5% 0805	3	L9, L16, L19
9600MAG56N	IND 56NH 0.092A SM	2	L17, L18
9600MAG68N	INDUCTOR 68NH 0.5A 5% 0805	2	L1, L2
9600MAG820N	INDUCTOR 820NH 0.18A 5% 0805	1	L3
9600MAGF10U	INDUCTOR 10UH	2	L24, L28

9600MAGF33N	IND 33NH 3A	3	L36, L39, L40
9600MAGF47N	INDUCTOR 47NH 3A SM	11	L31, L32, L33, L34, L35, L37, L38, L42, L43, L44, L45
01214	TRIMMER 4K7 PIHER PT10LV472M	1	RPT1
02097	DIODE PWR	2	D27, D28
07454	12 WAY BOX CONNECTOR	3	SKT1, SKT2, SKT3
15477	CERAMIC DISCRIMINATOR 455KHZ	2	CDIS5, CDIS6
15478	CERAMIC DISCRIMINATOR 455KHZ	2	CDIS1, CDIS2
15484	XTAL 16.445MHZ	1	XOSC8
15485	XTAL 20.945MHZ	1	XOSC7
15486	XTAL 21.85MHZ	1	XOSC6
15487	XTAL 46.542MHZ	1	XOSC5
15488	XTAL FILTER 16.9MHZ (PAIR)	1	XOSC9
15489	XTAL FILTER 21.4MHZ (PAIR)	1	XOSC3
15497	EMC CHOKE	1	L15
3036-319-B	VCO SCREENING CAN	1	
4552-001SM	RF PCB TRANSCEIVER BOX D552	1	

Raymarine RAY 240 VHF
Transceiver Unit -Processor PCB 4552-002

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY PER</u>	<u>CICUIT REFERENCE</u>
01244	VARISTOR V33ZA5	1	V2
03135	CAP. 220uF ELECT., 25V	5	C28, C90, C114, C115, C116
03170	POLYESTER CAPACITOR 220nF	3	C99, C102, C103
04086	IC STEREO PWR AMP 22W BTL	1	IC30
07307	PCB HEADER, 2 WAY - LOCKING	1	SKT2
07449	EDGE CONNECTOR 62 WAY	1	SKT1
07450	CON 6 WAY PIN HEADER	1	PL1
07451	12 WAY PIN HDR PCB STACKING	3	PL5, PL6, PL7
07452	12 WAY PIN HDR	1	PL8
15249	FERRITE BEAD INDUCTOR	4	L2, L3, L4, L5
15480	RELAY DPDT G5V-2 12V OMRON	1	RLY2
4552-002SM	CPU TRANSCEIVER BOX D552 US	1	
3015-291-C	RAY240 PROCESSOR PCB	0.25	
91010R0	ZERO OHM LINK, 0603 PACKAGE	11	R75, R76, R180, R213, R214, R22, R223, R224, R103, R111, R119
91062K2	RESISTOR 2K2, 1206	1	R72
910647R	RESISTOR 47R, 1206	1	R255
91068R2	RESISTOR 8R2, 1206	2	R55, R80
9108VC180400	TRANSIENT VOLTAGE SUPRESSOR	1	V4
91AAAXX100K	RES. 100K, 1%, 0.063W, 0603	3	R176, R177, R192
91AAAXX100R	RES. 100R, 1%, 0.063W, 0603	2	R96, R97
91AAAXX180R	RESISTOR 180R 1% 0.063W	10	R134, 203, R204, R205, R206, R207, R208, R209, R210, R258
91AAAXX330K	RES. 330K, 1%, 0.063W, 0603	1	R175
91AAAXX330R	RES. 330R, 1%, 0.063W, 0603	1	R188
91AAAXX390R	RES. 390R, 1%, 0.063W, 0603	2	R63, R88
91AAAXX560K	RES MFILM 560K 1% 0.063W 0603	4	R172, R173, R182, R211
91AAAXX10K	RESISTOR 10K,1% 0.063W 0603	91	R1, R2, R6, R7, R9, R10, R13, R15, R17, R24, R34, R36, R37, R39, R40, R42, R43, R45, R46, R48, R49, R51, R52, R78, R79 RR84, R94, R149, R150, R151, R156, R157, R158, R163, R164, R165, R171,R189, R190, R201, R218, R219, R220, R225, R229, R230, R234, R235, R237,R239, R240, R243, R247, R251, R259, R261, R262, R263, R264, R265 R269, R270, R271, R272, R273, R275, R276, R277, R278, R281 R285, R286, R287, R288, R289, R290, R291, R295, R296, R297, R298, R299, R300, R301, R302, R303, R304, R305, R306, R310, R311
91AAAXX12K	RESISTOR 12K 1% 0.063W 0603	4	R62, R87, R146, R236
91AAAXX15K	RESISTOR 15K 1% 0.063W 0603	2	R65, R231
91AAAXX18K	RESISTOR 18K 1% 0.063W 0603	7	R22, R23, R26, R32, R33, R91,

91AAAXXX1K0	RESISTOR 1.0K,1% 0.063W 0603	22	RR132 R16, R57, R58, R59, R77, R82, R83, R127, R128, R129, R138, R139, R142, R191, R200, R221, R241, R242, R248, R260, R269
91AAAXXX1K5	RESISTOR 1.5K,1% 0.063W 0603	2	R25, R254
91AAAXXX20K	RESISTOR 20K,1%,0.063W,0603	4	R137, R104, R112, R120
91AAAXXX22K	RES. 22K,1%,0.063W,0603	4	R27, R60, R85, R232
91AAAXXX27K	RESISTOR 27K 1% 0.063W	2	R186 R233
91AAAXXX2K2	RESISTOR 2.2K,1% 0.063W 0603	10	R4, R19, R56, R61, R68, R81 R86, R195, R227, R228
91AAAXXX33K	RESISTOR 33K,0.063W,0603	2	R131, R170
91AAAXXX39K	RESISTOR 39K,1% 0.063W 0603	12	R18, R64, R66, R89, R93, R107 R115, R123, R135, R136, R144, R148
91AAAXXX3K0	RESISTOR 3K0 1% 0.063W 0603	8	R3, R21, R153, R160, R167, R108, R116, R124
91AAAXXX3K3	RESISTOR 3.3K,1% 0.063W 0603	5	R133, R147, R154, R161, R196
91AAAXXX47K	RESISTOR 47K,1% 0.063W 0603	2	R54, R184
91AAAXXX47R	RESISTOR 47R 1% 0.063W 0603	1	R257
91AAAXXX4K7	RESISTOR 4.7K,1% 0.063W 0603	42	R5, R8, R11, R12, R14, R20, R28, R29, R30, R31, R67, R92, R98, R99, R100, R102, R110, R118, R126, R140, R141, R143 R145, R155, R168, R178, R179, R185, R194, R197, R212, R217, R226, R245, R249, R253, R292 R294, R105, R113, R121
91AAAXXX56K	RESISTOR 56K 1% 0.063W	1	R187
91AAAXXX5K6	RESISTOR - 5K6 1% 0603	7	R152, R159, R166, R256, R307 R308, R309
91AAAXXX6K8	RESISTOR 6K8,1%,0.063W,0603	6	R109, R117, R125, R130, R198,
920010BQ060	RECTIFIER - SCHOTTKY	1	D6
9200BAS16	DIODE SOT23 BAS16	7	D1, D2, D4, D5, D7, D9, D11
9200BAS19	DIODE SOT23 BAS19	2	D3, D8
9207SML210	LED,SM0805,SML210MT	1	LED1
930522N	CAPACITOR 22nF, 1206	2	C76, C82
93060U47	CAPACITOR 470nF 25V 10% 1206	2	C73, C79
9306105X7R	CAP. 1uF 16V X7R 1206	13	C1, C3, C5, C38, C41, C43, C45 C48, C65, C66, C68, C88
93ACHAXX100P	CAP. SM,100pF,50V,5%,0603	1	C61
93ACHAXX470P	CAPACITOR,470pF,50V,5%,0603	3	C2, C4, C6
93ACHAXXX33P	CAP. SM,33pF,50V,5%,0603	2	C49, C50
93ADEBXX47N	CAPACITOR 47nF, 0603	20	C11, C12, C13, C14, C15, C16 C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C37, C40, C42, C44
93ADHBXX1N	CAPACITOR 1nF 0603	17	C27, C30, C31, C32, C33, C35, C113, C118, C67, C109, C100 C101, C104, C105, C106, C107, C108
93ADHBXX2N2	CAPACITOR 2.2nF 0603	6	C7, C8, C9, C10, C158, C159
93AFFDXX100N	CAPACITOR 100nF, 0603	35	C29, C34, C51, C55, C56, C57,

			C58, C59, C62, C68, C69, C70, C71, C72, C74, C77, C78, C80, C81, C83, C84, C85, C86, C89, C91, C92, C93, C94, C95, C96, C97, C98, C112, C117, C119
93BDHXXX4N7	CAP. 4n7, 0805 CERAMIC	2	C36, C75
93CKEIXX10U	CAP CER 10uF 16V	2	C120, C121
940074HC4051	IC 74HC4051	7	IC1, IC2, IC3, IC4, IC5, IC6, IC13
94009S12	IC MICROCONTROLLER 16-BIT MC9S	1	IC8
9400IMP809	IC SOT23 RESET CONTROLLER	1	IC16
9400LM324	QUAD OP-AMP LM324	5	IC9, IC10, IC18, IC19, IC20
9400LM339	QUAD COMPARATOR	1	IC17
9400LM358	DUAL OP AMP	1	IC11
9400NJM2211	IC FSK DEMOD/TONE DECOD NJM221	2	IC22, IC26
9400PC357D	OPTO-COUPLER, GRADE D	3	ISO1, ISO6, ISO7
9401LM317	VOLT. REG. - LM317MDT	2	IC12, IC25
940374373	74HC373	3	IC27, IC28, IC29
9500BC807	BC807	5	TR15, TR26, TR33, TR34, TR44
9500BC849C	BC 849C	11	TR2, TR8, TR16, TR17, TR18, TR22, TR29, TR30, TR32, TR35 TR36
9500IMT1	DUAL TRANSISTOR ARRAY	1	TR6
9500IMX1	DIGITAL TRANSISTOR ARRAY	9	TR1, TR4, TR5, TR7, TR11 TR13, TR14, TR19
9500IMZ1	DUAL TRANSISTOR ARRAY	3	TR3, TR10, TR12
9600CR14MHZ	14.0MHz CRYSTAL(HC49/4HSMX)	1	XTL1
9600FER2012	CHIP FERRITE BEAD BLM21 SERIES	12	L10, L11, L13, L14, L15, L16, L18, L20, L21, L22, L23, L24
9600L1	CHIP INDUCTOR	8	L12, L17, L19, L27, L28, L29, L30, L31

Raymarine RAY 240 VHF
Transceiver Unit - Connector PCB 4552-021

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY PER</u>	<u>CIRCUIT REFERENCE</u>
02086	DIODE 1N5407	1	D1
15380	AUTOMOTIVE FUSE CLIP	2	F1
15492	10A FUSE	1	
3101-238-B	SEATALK 1/2 SPADE CARRIER	1	PL5
4552-021SM	CONNECTOR PCB ASSY RAY240	1	
4552-028-A	8 WAY POWER CONNECTOR	1	PL4
4552-029-A	H\SET 8 WAY CONNECTOR	2	SKT1, SKT2
3015-295-D	RAY240 CONNECTOR PCB	0.125	
93261U	CAPACITOR Y5V 1206 1uF 50V	4	C1, C2, C16, C31
93ADHBXX1N	CAPACITOR 1nF 0603	17	C3, C4, C5, C6, C7, C8, C9, C10 C15, C19, C20, C23, C24, C25, C26, C30, C32
9600MFSM185	FUSE RESET PTC 1.8A 1.2W	2	F2, F3

Raymarine RAY 240 VHF

Handset Unit 4552-004

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY PER</u>	<u>CIRCUIT REFERENCE</u>
3015-292-E	RAY240 HANDSET PCB	0.125	
91010R0	ZERO OHM LINK, 0603 PACKAGE	1	R1
910618R	RESISTOR 18 OHM +/-5% - 1206	3	R43, R45, R46
910633R	RESISTOR 33 OHM, 1206	1	R44
91068R2	RESISTOR 8R2, 1206	1	R37
91072KEVM	POTENTIOMETER 2K0 or 2K2 3mmSQ	2	RPT1, RPT2
91AAAXX100K	RES. 100K, 1%, 0.063W, 0603	12	R32, R47, R48, R50, R51, R52, R53, R54, R55, R58, R63, R70
91AAAXX100R	RES. 100R, 1%, 0.063W, 0603	2	R4, R61
91AAAXX150K	RES MFILM 150K 1% 0.063W 0603	2	R38, R42
91AAAXX180R	RESISTOR 180R 1% 0.063W	2	R75, R76
91AAAXX220R	RESISTOR 220R 1% 0.063W 0603	1	R74
91AAAXX390R	RES. 390R, 1%, 0.063W, 0603	1	R16
91AAAXX470R	RESISTOR 470R,1% 0.063W 0603	1	R18
91AAAXX560K	RES MFILM 560K 1% 0.063W 0603	1	R33
91AAAXX10K	RESISTOR 10K,1% 0.063W 0603	10	R20, R21, R31, R41, R49, R57, R59, R60, R64, R65
91AAAXX12K	RESISTOR 12K 1% 0.063W 0603	1	R17
91AAAXX18K	RESISTOR 18K 1% 0.063W 0603	1	R15
91AAAXX1K0	RESISTOR 1.0K,1% 0.063W 0603	5	R22, R26, R28, R29, R30
91AAAXX1K8	RES. 1K8,1%,0.063W,0603	1	R73
91AAAXX20K	RESISTOR 20K,1%,0.063W,0603	1	R27
91AAAXX22K	RES. 22K,1%,0.063W,0603	2	R19, R62
91AAAXX2K2	RESISTOR 2.2K,1% 0.063W 0603	2	R34, R35
91AAAXX39K	RESISTOR 39K,1% 0.063W 0603	2	R13, R14
91AAAXX4K7	RESISTOR 4.7K,1% 0.063W 0603	8	R5, R6, R7, R8, R9, R10, R11 R36
91AAAXX6K8	RESISTOR 6K8,1%,0.063W,0603	1	R12
91AAAXX82K	RES. 82K, 1%, 0.063W, 0603	4	R2, R3, R39, R40
9200BAS16	DIODE SOT23 BAS16	8	D2, D3, D4, D5, D6, D7, D8, D9
9203BZX3V6	ZENER DIODE	1	D1
9207SML210	LED,SM0805,SML210MT	25	LED1, LED2, LED3, LED4, LED5, LED6, LED7, LED8, LED9, LED10, LED11, LED12, LED13, LED14, LED15, LED16, LED17, LED18, LED19, LED20, LED21, LED22, LED23, LED24, LED25
9300220P	CAPACITOR 220pf +/-2% 0805 100V	2	C44, C50
930115P	CAPACITOR 15pF 0805	1	C10
930122P	CAPACITOR 22P, 0805	2	C11, C12
93040U01	CAPACITOR 0.01uF, X7R	1	C29
93060U047	CAPACITOR 0.047uF,	1	C26
93070U1	CAPACITOR 0.1uF, 1206	10	C13, C14, C15, C16, C17, C18, C20, C22, C56,
93070U22	CAPACITOR .22uf 16V+-20 1206	5	C36, C37, C38, C39, C40
9324100U	CAPACITOR 100uF ELECT. 6.3VDC	8	C2, C3, C4, C5, C6, C7, C8, C21
93ACHAXX100P	CAP. SM,100pF,50V,5%,0603	1	C23
93ADHBXX1N	CAPACITOR 1nF 0603	4	C31, C45, C51, C53,

93ADHBXX2N2	CAPACITOR 2.2nF 0603	1	C54
93AFEDXX220N	CAP Y5V 220NF 16V +80%/-20%	2	C9, C49
93BDHXXX2N2	CAP. 2n2, 0805 X7R	1	C47
93CKEIXXX10U	CAP CER 10uF 16V	10	C24, C25, C27, C28, C30, C32, C33, C34, C35, C57
93ZEHEXXX10U	CAP. 10uF 50V ELEC.	1	C1
9400A3212	HALL EFFECT SM	1	IC5
9400IMP809	IC SOT23 RESET CONTROLLER	1	IC6
9400LM317AEMP	REGULATOR	1	IC1
9400TDA8551	IC BTL AUDIO AMPLIFIER 1W S08	1	IC2
9400TI430	IC MICROCONTROLLER MIXED SIG	1	IC4
9400TLV2262	DUAL OP AMP	1	IC3
9500BC807	BC807	1	TR3
9500BC849C	BC 849C	11	TR4, TR5, TR6, TR7, TR8, TR9, TR10, TR11, TR12, TR13, TR14
9500J177	TRANSISTOR J FET	1	TR2
9501BC868	EC868	3	TR15, TR16, TR17
9600BOURNS620	SWITCH, SM, TACTILE	24	SW1, SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9, SW10, SW11, SW12, SW13, SW14, SW15, SW16, SW17, SW18, SW19, SW20, SW21, SW22, SW23, SW24
9600CHPIND12	FERRITE BEAD SM	4	L1, L2, L3, L4
9600CONNECT3	CONNECTOR ZIF 30 F05-4103006R	1	SKT1
9600CR6MHZ	CRYSTAL SM 6MHZ	1	XTL1
9600MOLEX2	CON MLX 2WAY	2	PL1, PL4
9600MOLEX8	8 WAY SM MOLEX CONNECTOR	1	PL3
9600SWALPS	SWITCH SIDE PB TYPE TAKT LOW	3	SW25, SW25, SW27

Raymarine RAY 240 VHF
Active Speaker 4552-005

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY PER</u>	<u>CICUIT REFERENCE</u>
04088	IC AUDIO AMP 6W MONO BTL SOT11	1	
26016	RIVET SNAP 3mm	1	
3011-156-A	RAY240 SPEAKER SHIM	1	
3011-157-A	RAY240 SPEAKER THERMAL PAD	1	
3020-431-A	RAY240 SPEAKER HEATSINK	1	
4552-005SM	ACTIVE SPEAKER PCB D552	1	
3015-294-A	ACTIVE SPEAKER PCB	0.063	
9106680R	RESISTOR 680R, 1206	1	R14
91AAAXX100K	RES. 100K, 1%, 0.063W, 0603	3	R4, R5, R15
91AAAXX10K	RESISTOR 10K,1% 0.063W 0603	7	R8, R10, R11, R12, R13, R16, R18
91AAAXX1K0	RESISTOR 1.0K,1% 0.063W 0603	7	R1, R6, R7, R9, R17, R19, R20
91AAAXX39K	RESISTOR 39K,1% 0.063W 0603	2	R2, R3
9203BZX15V	ZENER DIODE BZX84-C15	1	D1
93070U1	CAPACITOR 0.1uF, 1206	1	C6
93ACHAXX100P	CAP. SM,100pF,50V,5%,0603	3	C26, C27, C30
93ADHBXX1N	CAPACITOR 1nF 0603	11	C12, C18, C19, C20, C21, C22, C23, C24, C25, C28, C29
93AFEDXX220N	CAP Y5V 220NF 16V +80%/-20%	5	C2, C£, C8, C9, C10
93AFFDXX100N	CAPACITOR 100nF, 0603	1	C17
93CKEIXX10U	CAP CER 10uF 16V	2	C1, C11
93KEGEXX100U	CAPACITOR 100uF 35VOLT 20%	5	C7, C13, C14, C15, C16
94014066	QUAD SWITCH	1	IC2
9500BC807	BC807	1	TR2
9500BC849C	BC 849C	1	TR1
9600JST2	CONN 2 PIN JST SM	1	PL3
9600JST5	CONN 5 WAY JST SM	1	PL2
9600JST8	CONN 8 WAY JST SM	1	PL5