

Raytheon

Raytheon Marine Company

**Raytheon Pathfinder
Series Radar**

ASLMTX5

Parts Lists

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List of Spare and Accessories

List of 4kW Core Assembly Parts

List of Modulator/PSU PCB parts

‘Pathfinder’ Radar Spares & Accessories

48” Open Array & 4kW Pedestal

Antenna

Description	Comment	Part No.
48"antenna mounting kit	O-ring + fixings (4 nuts, 4 + 4 washers)	R58046

Pedestal

Description	Comment	Part No.
4KW PEDESTAL CASE SEAL	Seals upper and lower castings	R58047
4KW PED FINAL DRIVE BELT		R58049
4KW PED GEARBOX ASSY	Complete gearbox, c/w motor	R58050
4KW PED SHM HALL SENSOR	C/w cable and connector	R58051
4KW PED SWITCH ASSY	Isolator switch	R58052
4KW PED MOUNTING KIT	4 studs, 4 nuts, 4 + 4 + 4 washers	R58054
4KW PED BITUMEN WASHER PK, 10MM	Qty. 4 (Part of pedestal mounting kit)	R58055
4KW PED CONNECTOR 8 WAY	For inter-unit cable	R58056
4KW PED COAXIAL TUBE ASSY		R58061

Core Assembly

Description	Comment	Part No.
4KW PED MODULATOR PCB		R58057
4KW PED IF PCB		R58058
4KW PED RIBBON 10 WAY 175MM	Mod/PSU to IF PCBs	R58059
4KW PED CORE ASSEMBLY	Complete core, fully tested	R58060
Magnetron, 4kW		R098
Circulator		R094
Receiver LNC PCB		R101
Connector assy.		R105
Ribbon cable		R103
Receiver cover & seal		R106

Accessories

Description	Comment	Part No.
Extension cable 5m	Existing	M92699
Extension cable 10m	Existing	M92700
Owner’s Handbook	81154_3	81154

NOTE: The following are ‘top level’ items, for the 4kW, 48" O/A radar systems:

Interunit cable, 15m	M92728
Interunit cable, 25m	M92705
Radar arch cable kit, 15m (5m interunit + 10m Extension)	E55017
48" open array, c/w fixings	M92693
4kW Pedestal	M92654

4357-006 CORE ASSEMBLY 4Kw

PART NUMBER	DESCRIPTION	QUANTITY
07308	CONNECTOR HOUSING, 2 WAY	1
07311	TERMINAL, FEMALE 'MINI-FIT Jr'	2
08034	FLAT CABLE TIE HOLDER	1
15214	HEATSHRINK SLEEVING RS397-916	0.175
15292	SELF ADHESIVE URATHANE TAPE	0.03
21284	M4x8 POZI P/HEAD.S/S TUFLOK	13
21285	M3 X 8 POZI P/HEAD.S/S TUFLOK	27
21286	M3 X 16 POZI P/HEAD.S/S TUFLOK	5
21288	M3x12 POZI P/HEAD.S/S TUFLOK	2
23078	M4 PLAIN WSHR.STAINLESS STEEL	2
3004-126-E	CORE CASTING + CHOKE ASSY.	1
3010-278-C	LNC RECIEVER SEAL	1
3010-279-C	RUBBER BOOT.	1
3011-055-B	RECEIVER RAM (L SHAPE)	1
3011-071-A	IF RAM (L SHAPED)	1
3011-072-C	SPECIAL CONDUCTIVE WASHER	1
3011-075-A	RAM (RECTANGLE)	1
3011-076-A	RECEIVER RAM (RECTANGLE)	1
3011-087-A	COVER INSULATOR	1
3011-093-B	LOWER COVER INSULATOR	1
3029-193-A	HIGH VOLTAGE LABEL (RADAR)	2
3030-170-A	CIRCULATOR ASSEMBLY 1.5 TO 4KW	1
3030-174-C	CABLE SCREEN	1
3030-200-A	MAGNETRON 4KW,NJRC-MAF1421B	1
3034-011-F	CONNECTOR ASSEMBLY	1
3036-103-J	RECEIVER COVER	1
3036-140-C	LNC SCREEN LID	1
3036-193-A	IF PCB COVER	1
3036-195-A	LOWER COVER	1
4346-006P	LNC (RMEM)	1
4346-009-C	RIB. CABLE ASSY 18 WAY	1
4346-025	OPEN ARRAY I.F PCB	1
4357-013	MOD PCB.4KW 3 PHASE.	1
4357-019-A	RIBBON CABLE ASSY	1
4357-026	ENCODER ASSY	1

Pathfinder Open Array Radar : Modulator			Revised: April 27th 1999			
4357-024 (PCB 3015-185)			Revision: F			
Bill Of Materials				4357-013		
Item	Quantity	Reference	Value	Part No. 4kW Open Array	Foot-print	Rating/Tolerance
1	1	Brkt1	H/S_Bracket	3036-199-A	-	
2	1	CH1	CH1	-	HOLE_3.4_PTH	
3	1	CH2	CH2	-	HOLE_3.4_PTH	
4	1	CH3	CH3	-	HOLE_3.4_PTH	
5	1	CH4	CH4	-	HOLE_3.4_PTH	
6	1	CH5	CH5	-	HOLE_3.4_PTH	
7	1	CH6	CH6	-	HOLE_3.4_PTH	
8	1	CH7	CH7	-	HOLE_3.4_PTH	
9	1	CH8	CH8	-	HOLE_3.4_PTH	
10	1	CH9	CH9	-	HOLE_3.4_PTH	
11	1	CH11	CH11	-	HOLE_3.4_PTH	
12	2	CLIP1,CLIP2	H/S-CLIP	15096	-	
13	1	CN1	Wago-257-454	NF	WAGO_4WAY_UPRIGHT	
14	1	CN2	PicoFlex2x9	07299	PFLX_9X2	
15	1	CN3	Molex-39-30-1080	07371	MOLEX_MINIFITJR_4X2_R/A	
16	1	CN5	Molex_KK_1x4_RA	07349	MOLEX_KK_1X4_LATCH_RA	
17	1	CN6	CON2	07307	MOLEX_MINIFITJR_1X2	
18	1	CN7	PicoFlex2x5	07370	PFLX_5X2	
19	1	CN8	Wago-733-368	07369	WAGO_MULTI_MICRO_1X8_R/A	
20	1	CN9	Molex_KK_1x3_RA	07368	MOLEX_KK_1X3_LATCH_RA	
21	1	CN10	Wago-256-404/406	-	WAGO_6WAY_45	
22	2	CT2,CT1	3030-214	NF	TX_20.32_5.08_22.86_10.16	
23	23	C1,C2,C3,C4,C5,C6,C7,C8, C9,C10,C11,C12,C13,C14, C15,C16,C102,C140,C141, C159,C210,C215,C252	1n	93041000P	C0805	
24	6	C17,C18,C19,C20,C21,C22	100p	9302100P	C0805	
25	5	C23,C24,C27,C129,C130	4n7	93BDHXXX4N7	C0805	
26	53	C25,C26,C28,C32,C41,C66, C69,C70,C71,C72,C73,C74, C76,C77,C81,C82,C83,C96, C101,C104,C105,C106,C107, C108,C116,C117,C118,C124, C135,C137,C145,C158,C160, C191,C192,C193,C195,C206, C216,C217,C218,C219,C226, C227,C235,C237,C238,C239, C241,C242,C243,C246,C251	100n	93070U1	C1206	
27	7	C34,C35,C36,C37,C38,C196, C209	470p	9301470P	C0805	100V
28	3	C39,C40,C103	2n2	03083	CRECT_5.08_2.5_9.0_8.0	1KV
29	16	C42,C45,C48,C54,C55,C56, C57,C75,C84,C85,C87,C100, C122,C132,C203,C204	10n	93040U01	C0805	
30	7	C43,C46,C49,C109,C112, C138,C229	2n2	93BDHXXX2N2	C0805	
31	4	C44,C47,C133,C172	680u	03132	CPRAD_7.50_16.0_20.0	50V
32	1	C50	680u	NF	CPRAD_7.50_16.0_20.0	50V
33	5	C51,C52,C53,C146,C154	47n	03151	CRECT_10.0_5.0_11.0_13.0	250V
34	2	C58,C59	470p	NF	C0805	
35	1	C60	10u	932410U	CPRAD_SM_B_D4.0_H5.5	25V
36	2	C65,C61	100u	9324100U	CPRAD_SM_D_D6.3_H5.5	
37	10	C62,C63,C64,C114,C115, C143,C144,C214,C245,C249	1u	9306105X7R	C1206	16V
38	1	C67	4n7	03122	CRECT_5.00_2.00_6.50_7.50	400V
39	1	C79	470n	??	C1206	16V
40	2	C92,C80	1n0	93041000P	C0805	100V
41	2	C88,C134	33n	930433N	C0805	
42	3	C89,C90,C91	470p	9302470P	C0805	
43	1	C94	100n	03152	CRECT_2.5_4.6_9.0_4.6	5%
44	2	C110,C123	1000u	03134	CPRAD_5.0_12.5_15.0	10V
45	8	C111,C136,C149,C150,C151, C152,C155,C213	220u	03135	CPRAD_3.5_8.0_15.0	25V
46	1	C113	1u	03146	CRECT_5.08_5.0_10.5_7.2	63V
47	2	C121,C120	100n	03093	CRECT_10.16_5.0_12.5_12.0	250V
48	3	C127,C128,C220	220p	9300220P	C0805	100V
49	1	C131	NF	NF	C0805	
50	1	C139	330p	93BDHBXX330P	C0805	
51	4	C142,C147,C207,C208	4u7	93HEFEXX4U7	CPRAD_SM_B_D4.0_H5.5	25V
52	1	C148	1u	93HEHEXX1U	CPRAD_SM_B_D4.0_H5.5	50V
53	1	C153	1n	03090	CRECT_5.0_3.0_11.0_10.0	1KV
54	2	C157,C156	47p	03148	CRECT_5.08_2.5_9.0_8.0	1KV
55	3	C161,C167,C185	10n	NF	C0805	
56	3	C162,C164,C186	1n	NF	C0805	
57	1	C163	4n7	NF	C0805	
58	2	C165,C170	100p	NF	C0805	
59	1	C166	2n2	NF	CRECT_5.08_2.5_9.0_8.0	1KV
60	2	C180,C168	220p	NF	C0805	

61	1	C169	100n	NF	CRECT_10.16_5.0_12.5_12.0	250V
62	2	C171,C183	47p	NF	CRECT_5.08_2.5_9.0_8.0	1KV
63	1	C173	47n	NF	CRECT_10.0_5.0_11.0_13.0	250V
64	2	C175,C176	33n	NF	C0805	
65	3	C177,C178,C205	100n	NF	C1206	
66	2	C179,C230	2n2	NF	C0805	
67	1	C181	1u	NF	C1206	16V
68	1	C182	10u	NF	CPRAD_SM_B_D4.0_H5.5	16V
69	1	C184	100n	NF	CRECT_15.0_7.5_15.5_17.5	630V
70	1	C188	100n	NF	CRECT_10.16_5.0_12.5_12.0	250V
71	1	C189	100p	NF	CRECT_5.08_2.5_9.0_8.0	1KV
72	1	C190	NFit	NF	C0805	
73	1	C194	33p	930133P	C0805	
74	2	C197,C198	NF	NF	C0805	
75	1	C199	150p	9300150P	C0805	100V
76	1	C200	22p	930122P	C0805	
77	1	C201	NF	NF	C0805	
78	1	C202	47p	930147P	C0805	
79	1	C221	see-table	W-LINK	C6KV_DISC	6.3KV
80	1	C222	see-table	03121	C6KV_DISC	6.3KV
81	2	C224,C223	see-table	NF	C6KV_DISC	6.3KV
82	1	C225	220u	NF	CPRAD_3.5_8.0_15.0	25V
83	1	C228	4n7	03138	CRECT_22.5_7.0_16.0_24.5	2KV
84	1	C231	1u	NF	CRECT_27.5_13.0_24.0_31.5	400V
85	1	C232	2u2	03128	CRECT_37.5_17.0_29.0_41.5	400V
86	1	C233	100u	NF	CPRAD_7.5_18.0_40.0	400V
87	1	C234	100u	03149	CPRAD_7.5_18.0_40.0	400V
88	1	C250	1u5	NF	CRECT_37.5_20.0_39.5_41.5	630V
90	5	D1,D12,D13,D14,D34	BZX84C12V	9203BZX12V	DSOT23	
91	8	D8,D9,D10,D26,D40,D60, D63,D66	BAS19	9200BAS19	DSOT23	
92	4	D15,D17,D29,D54	MURS120T3	9200UF1A200V	SMB	
93	4	D16,D18,D30,D55	BYV27-200	NF	SOD57	
94	7	D19,D21,D23,D61,D62,D64, D65	10BQ060	920010BQ060	SMB	
95	3	D20,D24,D25	11DQ050	NF	DO-41	
96	2	D38,D22	BAV99	9200BAV99	DSOT23	
97	2	D28,D27	UF180	02087	SOD57	
98	1	D33	BYV27-200	02082	SOD57	
99	2	D48,D36	BAX12A	NF	DO-41	
100	2	D49,D37	10BQ060	NF	SMB	
101	1	D39	BZX84C5V1	9203BZX84C5V1	DSOT23	
102	1	D41	BZV85-C18	02074	DO-41	
103	1	D42	UF180	NF	SOD57	
104	1	D43	BZX84C6V8	NF	DSOT23	
105	1	D46	BZV85-C18	NF	DO-41	
106	1	D47	BYV27-200	NF	SOD57	
107	1	D50	UF180	NF	SOD57	
108	2	D52,D53	BAV70	9200BAV70	DSOT23	
109	2	D56,D57	UX-FOB	02077	DAX_30.0_7.0_7.0	8KV
110	1	D58	UF5404	02078	DO-201AD	400V
111	1	D59	UF5404	02078	DO-201AD	400V
112	2	EndCap1,EndCap2	Wago-256-EndCap	07235	-	
113	2	FB1,FB3	BL01RN1-A62	15249	LAX_12.5_3.5_5.0	
114	2	FB4,FB2	BL01RN1-A62	NF	LAX_12.5_3.5_5.0	
115	2	HT1,HT2	SW50-2	15347	HEATSINK_REDP_SW38	8.6C/W
116	1	HT3	HEATSINK-3036-172	3036-172	HEATSINK_3036-172	
117	1	JP1	Motor-On(C)	07350	JP_1X2_2.54	
118	2	LABEL1,LABEL2	LABEL	-	LABEL_HV	
119	4	L1,L4,L11,L12	BEAD_L1	NF	L1206	
120	6	L2,L3,L5,L9,L10,L13	BEAD_L1	9600L1	L1206	
121	3	L6,L7,L8	100uH	15185	LRAD_5.08_8.0_12.0	
122	4	OP1,OP2,OP3,OP4	PC357-D	9400PC357D	SO6/4	
123	1	OP5	PC357-D	NF	SO6/4	
124	1	PCB	3015-185	3015-185	-	
125	7	Q1,Q5,Q9,Q13,Q14,Q15,Q16	STP60N05FI	05052	TO220	
126	4	Q2,Q6,Q10,Q25	BC856	9500BC856	TRSOT23	
127	6	Q3,Q7,Q11,Q22,Q29,Q39	BC846	9500BC846	TRSOT23	
128	3	Q4,Q8,Q12	2N3906	95003906	TRSOT23	
129	6	Q17,Q27,Q34,Q38,Q40,Q43	IMX1	9500IMX1	SOT23-6	
130	2	Q18,Q19	IMZ1	9500IMZ1	SOT23-6	
131	3	Q20,Q28,Q44	2N2222A	95002N2222A	TRSOT23	
132	1	Q21	IRF540/IRFP2807	05045	TO220	
133	1	Q23	BC807	9500BC807	TRSOT23	
134	2	Q24,Q26	IMT1	9500IMT1	SOT23-6	
135	3	Q30,Q32,Q45	BC846	NF	TRSOT23	
136	1	Q31	IRFP2807	NF	TO220	
137	2	Q33,Q46	IMZ1	NF	SOT23-6	
138	3	Q35,Q36,Q37	2N3904	95003904	TRSOT23	
139	1	Q41	IRFP450	05056	TO247	
140	1	Q42	IRFP450	NF	TO247	
141	7	RIV1,RIV2,RIV3,RIV4,RIV5, RIV6,RIV7	RIV-SCREW	26008	-	
142	1	RIV8	RIV-SCREW	NF	-	
143	1	RT1	PTH9M04BC222TS2F333	01205	RRECT_2.54_2.54_14.0_6.5	

144	1	RV1	2K	91072KEVM	SM_POT_3MM	
145	42	R22,R32,R40,R59,R64,R65, R66,R104,R108,R132,R133, R146,R166,R168,R188,R195, R197,R201,R261,R267,R268, R269,R270,R271,R272,R273, R274,R275,R280,R281,R284, R287,R288,R299,R301,R304, R305,R306,R312,R355,R362, R0	10k	910310K	R1206	
146	1	R1	0R	NF	R1206	
147	1	R3	1K0	91031K	R1206	1%
148	1	R4	1K8	NF	R1206	
149	1	R5	3K9	NF	R1206	
150	4	R7,R134,R161,R255	15K	910615K	R1206	
151	12	R8,R9,R95,R97,R99,R116, R119,R147,R329,R330,R352, R356	10R	910310R	R1206	
152	29	R10,R15,R16,R17,R18,R42, R58,R106,R117,R124,R148, R149,R150,R151,R152,R153, R171,R194,R262,R276,R277, R285,R295,R297,R308,R343, R344,R347,R351	1K0	91031K	R1206	1%
153	1	R11	1R0	91DCFXX1R0	R1210	
154	1	R12	120R	9106120R	R1206	
155	1	R13	3R3	91063R3	R1206	
156	10	R14,R46,R52,R189,R193, R264,R265,R266,R289,R360	47K	910647K	R1206	
157	3	R19,R236,R353	NF	NF	R1206	
158	15	R20,R93,R96,R98,R143, R156,R157,R158,R159,R198, R199,R203,R257,R283,R293	100R	9103100R	R1206	
159	12	R21,R48,R60,R72,R73,R78, R79,R84,R85,R94,R131, R296	2K2	91062K2	R1206	
160	6	R23,R29,R49,R50,R51,R160	220R	9106220R	R1206	
161	6	R24,R27,R43,R162,R311, R349	5K6	91035K6	R1206	1%
162	29	R25,R37,R38,R39,R44,R45, R53,R54,R55,R61,R62,R63, R74,R77,R80,R83,R86,R89, R110,R127,R130,R142,R164, R196,R254,R258,R298,R358, R361	4K7	91064K7	R1206	
163	4	R26,R56,R67,R68	27k	910327K	R1206	1%
164	12	R28,R33,R34,R47,R113, R114,R115,R128,R176,R286, R345,R350	100K	9106100K	R1206	
165	1	R30	0R	91060R0	R1206	1%
166	7	R31,R41,R70,R109,R163, R259,R309	3K3	91033K3	R1206	1%
167	1	R35	220K	9106220K	R1206	
168	3	R36,R190,R291	33K	910333K	R1206	
169	1	R57	10K	910310K	R1206	1%
170	1	R69	NF	NF	R1206	
171	2	R71,R263	1K5	91061K5	R1206	
172	19	R75,R76,R81,R82,R87,R88, R129,R135,R136,R137,R138, R139,R140,R154,R155,R167, R186,R317,R318	47R	910647R	R1206	
173	3	R90,R91,R92	10R	01191	RAX_15.0_4.0_12.0	2W
174	4	R100,R101,R103,R145	470R	9106470R	R1206	
175	1	R102	20m	01231	RRECT_28.0_7.0_7.0_19.0	4W_5%
176	3	R111,R187,R294	22K	910622K	R1206	
177	1	R112	3K3	91033K3	R1206	
178	3	R141,R144,R313	22R	910622R	R1206	
179	1	R165	680R	9106680R	R1206	
180	1	R169	0R	91060R0	R1206	
181	1	R170	3R3	NF	R1206	
182	3	R172,R202,R322	33R	01211	RAX_15.0_4.0_12.0	2W
183	3	R173,R174,R175	0R1	01208	RAX_15.0_4.0_12.0	1W
184	1	R177	10R	NF	R1206	
185	2	R178,R307	2K7	91062K7	R1206	
186	1	R179	15K	910615K	R1206	
187	3	R180,R200,R241	22K	NF	R1206	
188	7	R181,R182,R183,R184,R185, R310,R348	6K8	91036K8	R1206	1%
189	3	R191,R192,R278	270R	9103270R	R1206	
190	1	R204	22R	NF	R1206	
191	11	R205,R207,R215,R216,R217, R218,R229,R238,R239,R240, R243	1K0	NF	R1206	1%
192	2	R206,R208	10K	NF	R1206	
193	2	R209,R210	470R	NF	R1206	

194	2	R211,R237	100K	NF	R1206	
195	1	R212	47R	NF	R1206	
196	1	R213	2K2	NF	R1206	
197	1	R214	15K	NF	R1206	
198	2	R219,R230	33R	NF	RAX_15.0_4.0_12.0	2W
199	2	R223,R234	100R	NF	R1206	
200	1	R224	680R	NF	R1206	
201	3	R225,R235,R244	4K7	NF	R1206	
202	1	R226	1K5	NF	R1206	
203	1	R227	0R0	NF	R1206	
204	5	R228,R245,R247,R336,R337	10R	NF	R1206	
205	3	R231,R232,R233	0R1	NF	RAX_15.0_4.0_12.0	1W
206	1	R242	220K	01234	RAX_17.78_5.0_14.0	1%/2W/500V
207	1	R246	NF	NF	R1206	
208	1	R248	*	91061K5	R1206	1%
209	1	R249	*	NF	R1206	1%
210	1	R250	0R	91060R0	R1206	
211	1	R252	0R	91060R0	R1206	
212	2	R260,R346	12K	910612K	R1206	
213	1	R290	39K	910639K	R1206	
214	1	R292	1K8	91061K8	R1206	
215	1	R314	68K	910368K	R1206	
216	1	R315	470K	01227	RAX_25.4_6.8_18.0	7kV
217	5	R316,R319,R320,R321,R359	1R0	91061R0	R1206	
218	1	R323	1K0	01225	RAX_20.0_5.5_15.0	2.5W
219	1	R324	0R47	91040R47	R1210	0.5W
220	3	R325,R331,R332	0R47	NF	R1210	0.5W
221	1	R326	0R47	91040R47	R1210	0.5W
222	2	R327,R328	0R47	91040R47	R1210	0.5W
223	1	R333	0R47	NF	R1210	0.5W
224	2	R334,R335	0R47	NF	R1210	0.5W
225	1	R338	4R7	AC03	RAX_20.0_5.5_15.0	2.5W
226	1	R339	4R7	01190	RAX_15.0_4.0_12.0	2.5W
227	1	R340	10R	01191	RAX_15.0_4.0_12.0	2.5W
228	1	R341	470K	W-LINK	RAX_15.0_4.0_10.0	0.5W/350V
229	1	R342	470K	01232	RAX_15.0_4.0_10.0	0.5W/350V
230	1	R357	22R	01226	RAX_15.0_4.0_12.0	2W
231	4	SCRW2,SCRW3,SCRW4,SCRW5	ST-SCREW-4X12MM	21117	-	
232	2	SIL1,SIL2	TO247-SILPAD	15306	-	1kV
233	1	SIL3	CUSTOM-SILPAD-TO220X8?	-	-	
234	2	TH_DATUM,TH_TH2	TEST-POINT	-	HOLE_4.0_TOOLING	
235	4	TP19,TP20,TP21,TP22	TEST-POINT	TP_F164/124/0		
236	4	TP34,TP35,TP36,TP37	TEST-POINT	TP_C74/40		
237	1	TX1	3030-210	3030-210	TX_RM12_2X6	
238	1	TX2	3030-211	NF	TX_RM10_2X6	
239	1	TX3	3030-212	3030-212	TX_ETD44	
240	1	TX4	3030-213	NF	TX_ETD54	
241	4	Term1,Term2,Term3,Term4	Wago-256-term	07234	-	
242	1	T1	TDK-ZJYS51R5-4P	9600CHOKE1	CMODE_SM1_SM8DIL	
243	1	T3	B8275-A2103-N1	15345	CMODE_2	
244	1	U1	74HC86	940074HC86	SO14	
245	2	U2,U11	74LS221	940074LS221	SO16	
246	2	U3,U14	LM324	9400LM324	SO14	
247	1	U4	MC33035DW	9400MC33035DW	SO24L	
248	1	U7	TL431-SO8	9400431	SO8	
249	1	U8	UCC3800	9400UCC3800	SO8	
250	1	U9	TL431-SO8	NF	SO8	
251	1	U10	UCC3800	NF	SO8	
252	1	U12	74HC14	940074HC14ST	SO14	
253	1	U13	TC4427	94004427	SO8	
254	1	VARNISH	RED	43009	-	
255	1	VR1	V56ZA2	01219	RSQ_5.08_4.0_11.0_8.0	
256	1	VR2	NF	NF	RSQ_5.08_4.0_11.0_8.0	
257	7	WASH1,WASH2,WASH3,WASH4, WASH5,WASH6,WASH7	FIBRE-WASHER	23042	-	
258	1	WASH8	FIBRE-WASHER	NF	-	