

PARTS LIST VHF HMS SERIES

This section contains parts lists for the VHF HMS SERIES power amplifier. It has the top assembly listing followed by listings of the various sub assemblies, down to the component part level.

250/500W VHF HMS TOP ASSEMBLY

Qty	Reference No.	Part Description	TPL Part Number
2		250W Final Stage	T-102166-SA
1		Driver Stage	T-102272-SA
1		Input Splitter	T-102187-S-SA
1		Output Combiner	T-102187-C-SA
1		Low Pass Filter	T-102183-SA
1		RF Input Sensor	T-102268-SA
1		Interconnect Board	T-101943-SA
1		Control Board	T-101299-N-1-SA
1		Digital Display Board	T-101921-SA
1		LED Board	T-101947-SA
1		Mechanical Assembly	MECH-1-HMS-SA
1		Wiring Harness	WH-HMS-SA
1		Power Supply 28V	PS28-55

Mech for HMS Series MECH-1-HMS-SA

Qty.	Reference No.	Part Description	TPL Part Number
1		Panel Front	V14-101902
1		Panel Rear	V14-101903
1		Air Baffle	V14-101908
1		Screen, Front Panel	V14-101909
1		Chassis, Amplifier	V14-101901
1	P1	Receptacle, AC, Male	SW CRAFT EAC-309
1		Line Cord Assembly	J6-107

PARTS LIST (continued)

Mech for HMS Series
MECH-1-HMS-SA

Qty.	Reference No.	Part Description	TPL Part Number
1	SW2	Switch, Rocker NKK M2018TJW01-FA-1A	J1-131A
1	SW1	15A Circuit Breaker	J1-150E-ETA
5		LED Holder LH48	J3-114
2		Spacer	H2-116
2		5 mOhm 10W, Resistor	C2-270
2		Terminal Block	F3-108

Air Duct Assembly
V14-101904-1-SA

Qty	Reference No.	Part Description	TPL Part Number
1		Air Duct	V14-101904
2		Terminal Strip, 3 eyelet	F3-105
2	Fan 1,2	Fan 28VDC	J1-114D
1	C3	1000uF, 35V Capacitor	A4-121A
1		Molex Female Pin #24 AWG	F1-142-1
1		Molex Male Pin #24 AWG	F1-143-1
3		Terminal, Molex #22-30	F1-148
1		Plug Female 3 Pos Crimp	F1-161
1		Molex Receptacle Female	F2-177
1		Molex Plug Male	F2-176

PARTS LIST (continued)

Panel Meter Board
T-101921-SA

Qty	Reference No.	Part Description	TPL Part Number
1		PC Board	T-101920
1		LCD Display, Optrex	J3-121
4	C2,C3,C5,C6	.1uF, Cer Cap	A5-268
1	R1	10 Ohm, Resistor	C1-124
1	R3	100 Ohm, Resistor	C1-148
1	C4	10uF, Tant Cap 35V	A4-127
9	C7,C1,C9,C11, C13,C15,C17, C19,C21	150pF, Cer Cap	A5-152
1	R7	20K, Pot	C3-113
2	R5,R6	22K, Resistor	C1-204
1	R2	330 Ohm, Resistor	C1-160
1	U2	TLC2543CN, IC	B7-170
1	U1	MC1404, IC	B6-112
1	U3	M68HC705-2JP, IC	B7-165
8	C8,C10,C12,C14 C16,C18,C20, C22	1uF x 35V, Tant Cap	A4-140
1	U4	MC34064, IC	B6-111
1	Y1	Resonator	B6-125
1	Q1	2N2907, PNP Transistor	B2-149
1	J2	Header 3	F1-160
1	R4	2M x 1/4W, Resistor	C1-250
1	JP1	Header 2, Molex 22-03-2021	F1-160A
1	J3	Header 7x2, Molex 15-44-3214	F2-178
1	J1	Header, Ribbon Type 3M 2514-6002-YUB	F2-224
3	RP1,RP2,RP3	22K, Resistor Array 8 pin SIP	C4-104

PARTS LIST (continued)

Interconnect Board
T-101943-SA

Qty	Ref. No.	Part Description	TPL P/N
1		PCB, Interconnect	T-101942
1	J4	Cinch, P/N 009-00341-1 REF 50-44SN-3	F2-114-1
1	JP1	Jumper Breakaway Header, Molex 22-03-2031	F1-204
1	J1	Header, Molex 22-27-2041	F1-134
1	J2	Header, Ribbon Type 3M 2510-6002-UB	F2-220
1	J6	Header, Molex 22-27-2031	F1-160
1	J3	Header, Molex 22-27-2101	F1-138
1	J5	Header, Ribbon Type 3M 2514-6002-UB	F2-224
1	J8	Header, Ribbon Type 3M 2526-6002-UB	F2-228
1	J7	Header, Molex 22-27-2121	F1-129

LED Board
T-101947-SA

Qty	Ref. No.	Part Description	TPL Part Number
1		PCB Board, LED	T-101947
4	D1,D2, D3,D4	LED, Flashing Red	J3-113
1	D5	Green LED	J3-107
6		LED Standoff, Bivar ELM2-280	H2-175
1	J1	Header, Ribbon Type 3M 2510-6002-UB	Z-10

PARTS LIST

FCC ID: BBD3-2XF-H

PARTS LIST (continued)

HMS CONTROL BOARD

T-101298-N-1-SA

Qty	Ref. No.	Part Description	TPL Part Number
1		PCB, Control Board	T-101298-N-1
8	C6,C11 C12,C13, C14,C20, C21,C22	.001uF, Cer Cap	A5-172
8	C1,C3,C5, C7,C8, C9,C10, C24	.1uF, Cer Cap	A5-268A
5	C2,C15, C16,C17, C18	.22uF, Cap	A5-270A
1	R2	Jumper	BUSS WIRE
8	R7,R8,R46 R49,R59 R62,R64, R68	1.0K, Resistor	C1-172
2	R44,R47	1.0M, Resistor	C1-244
2	R54,R89	2.2K, Resistor	C1-180
2	R4,R6	3.0K, Resistor	C1-183A
6	R18,R20, R34,R41, R60,R78	100 Ohm, Resistor	C1-148
2	R55,R56	100K, Resistor	C1-220
10	R28,R32, R36,R58, R63,R65, R66,R74, R83,R71	10K, Resistor	C1-196
3	VR1,VR6, VR7	10TP20K, 10 Turn Pot	C3-113
10	D1,D3,D4, D5,D6,D7, D13,D14, D15,D17, D18	1N4148, Diode	B3-110
1	D2	1N751A, Zener Diode	B3-119

PARTS LIST

FCC ID: BBD3-2XF-H

PARTS LIST (continued)

HMS Control Board,
T-101298-N-1-SA (continued)

Qty	Ref. No.	Part Description	TPL Part Number
5	R21,R22, R33,R43, R52	20K, Resistor	C1-203
1	R35	220 Ohm, Resistor	C1-156
2	Q4,Q5	2N4401, Transistor	B2-100A
5	Q8,Q9, Q13,Q14, Q15	2N4403, Transistor	B2-149A
1	C4	33uF, Elect Cap	A4-113A
3	R45,R48, R50	4.7K, Resistor	C1-188
2	R53	47K, Resistor	C1-212
4	R23,R73, R80,R81	49.9K, Resistor	C1-213A
1	R67	5.6K, Resistor	C1-190
3	R70,R79, R92	8.2K, Resistor	C1-194
2	D19,D20	12V Zener Diode 1N963B	B3-101
4	R72R76, R77,R82	499K, Resistor	C1-237A
2	U1,U3	LM324N, IC OPAMP	B7-124
1	U2	LM7805CT, +5V Voltage Regulator	B7-139A
6	Q1,Q2,Q3, Q6,Q11, Q12	MPS-A14, Transistor	B2-139
1	U8	LM339, Quad Comparator	B7-154
3	VR3,VR4, VR5	5K, Pot	C3-102
1	SW1	SPDT Switch	J1-108
1	Q7	TIP105, Transistor	B2-104
2	R24,R69	5.49K, Resistor	C1-388A
1	D8	1N749A, Zener Diode	B3-127

PARTS LIST

FCC ID: BBD3-2XF-H

PARTS LIST (continued)

HMS 250W MODULE
T-102166-SA

Qty	Ref. No.	Part Description	TPL Part Number
1	C12	404, Arco Var Cap	A1-118
1	C1	403, Arco Var Cap	A1-117
1	C27	402, Arco Var Cap	A1-116
1	C23	1000pF, Chip Cap	A2-172
2	C22, C18	100pF, Chip Cap	A2-148
7	C2,C7,C8, C9,C10, C20,C24	0.1uF, Chip Cap	A2-190-1
1	R1	2.0K, SMT Trim Pot	C3-202
2	C25,C21	10uF x 50V., SMT Cap	A4-150A
1	C17	500pF, Semco Cap	A1-112B
2	L4,C5	10T., #16 AWG, Coil	E2-104
1	L1	4T., #18 AWG, .20" Dia. Coil	E6-161
1	L10	3T., #18 AWG, .25" Dia. Coil	E6-160
1	C3	125pF, Semco CAP	A1-109B
1	T1	9:1, RF Transformer	E8-120
1	U1	LM2940, +5V Voltage Regulator, IC SMT	B7-190
1	D1	BAV99LT1, Dual Diode	B3-175
2	R4,R5	47 Ohm, SMT Resistor	C5-47R
1	R2	1.0K, SMT Resistor	C5-102
1	R3	4.3K, SMT Resistor	C5-432
2	R7,R8	100 Ohm x 20W, Flang Resistor	C2-116A
2	L8,L9	Balun Core, Feronics	E5-107A
2		Heat Dissipater	U-101830
2	L3,L2	½ Turn, #14 AWG, Air Coil	E6-152
2	L6,L7	2 Turn #16 AWG, Air Coil	E6-159
1	RT1	10K @ 25° C, Thermistor	C2-115-2

PARTS LIST (continued)

DRIVER STAGE
T-102272-SA

Qty	Ref. No.	Description	TPL Part Number
1		PCB, Driver	T-10227
1	C10	15pF, Metal Clad Cap	A1-102A
1	C2	25pF, Metal Clad Cap	A1-104A
2	C9,C8	75pF, Metal Clad Cap	A1-108A
1	C4	100pF, Metal Clad Cap	A1-109A
1	C5	150pF, Mini Mica Cap	A1-110A
1	C3	403, Arco Variable Cap	A1-117
1	C11	404, Arco Variable Cap	A1-118
3	C16,C18, C21	100pF, Chip Cap	A2-148
4	C13,C17, C18,C20	1000pF, Chip Cap	A2-172
2	C1,C12	1000pF, Chip Cap ATC	A2-172A
3	C22,C7,C6	0.1uF, Chip Cap	A2-190-1
1	C15	1.0uF, Tant. Cap	A2-211
2	C14,C23	10uF, 50VDC SMT Cap	A2-204
1	Q2	TIP-102, Transistor	B2-155
1	Q1	MRF171A, VHF LDMOS RF Power Transistor	B2-227
1	D1	BAV99LT1, Dual Diode	B3-175
1	U1	LM2940CS, +5V Voltage Regulator	B7-190
1	RT1	10K, SMT Thermistor	C2-115-E
2	R1,R5	2K, Multi Turn Pot	C3-125
1	R2	45 Ohm, SMT Resistor	C5-47R
4	R4,R6,R7, R8	1.0K, SMT Resistor	C5-102
1	R3	180 Ohm, 1W SMT Resistor	C5-181
1	L7	Ferrite SMT Bead	E1-101-1
1	L6	10T, #18 AWG, Coil	E6-126
1	L5	1uH, Chip Inductor	E2-1RO

PARTS LIST (continued)

INPUT SENSOR 1-102268-SA

Qty	Ref. No.	Description	TPL Part Number
1		PCB, Input Sensor	T-102269
2	C2,C1	1000pF, Chip Cap	A2-172
1	C3	0.1uF, Chip Cap	A2-190-1
1	R1	50 Ohm, Chip Resistor	C2-111
1	D1	MMSD301T, Schottky Diode	B3-180
1	L1	1uH, Choke	E2-1R0

INPUT SPLITTER

T-102187-S-SA

Qty	Ref. No.	Description	TPL Part Number
1		PCB, Splitter/Combiner	T-102185
1		100 Ohm, 150W Resistor	C2-110

OUTPUT COMBINER

T-102187-C-SA

Qty	Ref. No.	Description	TPL Part Number
1		PCB, Splitter/Combiner	T-102185
1		10K, SMT Thermistor	C2-115-2
1		100 Ohm x 150W, Flang Resistor	C2-110
1		BAV99LT1, Dual Diode	B3-175