

PARTS LIST

Model PA6-2EF-HMS

This section contains parts lists for the Model PA6-2EF-HMS power amplifier. It has the top assembly listing followed by listings of the various subassemblies, down to the piece part level.

PA6-2EF-HMS

100mW/300W UHF HMS Top Assembly

Reference No.	Part Description	Manufacturer part number	Qty
	PA6 HMS Amp Sub Assy	PA6-HMS-AMP-SA	1
	Mech for HMS Series	MECH-1-HMS-SA	1
	Control Board	T-101298-H-SA	1
	Panel Meter Board	101921-SA	1
	Interconnect Board	101943-SA	1
	LED Board	101947-SA	1
	Cable Assembly	101950-SA	1
	Air Duct Assembly	V14-101904-1-SA	1
	Power Supply 28V 1000W	PS28-20	1

Mech for HMS Series

MECH-1-HMS-SA

Reference No.	Part Description	TPL Part Number	Qty.
	Panel Front	V14-101902	1
	Panel Rear	V14-101903	1
	Air Baffle	V14-101908	1
	Screen, Front Panel	V14-101909	1
	Chassis, Amp	V14-101901	1
P1	Recepticle, AC, Male	J6-108	1
	Line Cord ASSY	J6-107	1
	Fuse Holder	J2-109	1

SW2	Switch, Rocker NKK M2018TJW01-FA-1A	J1-131A	1
SW1	Switch, AC ON/OFF, Rocker	J1-119	1
	LED Holder LH48	J3-114	5
	Spacer	H2-116	2
	Resistor 5 mohm 10W	C2-270	2
	Terminal Block	F3-108	2

Air Duct Assembly
V14-101904-1-SA

Reference No.	Part Description	TPL Part Number	Qty.
	Air Duct	V14-101904	1
	Terminal Strip, 3 eyelet	F3-105	2
Fan 1,2	Fan 28VDC Mechatronics F1238H24B1	J1-114D	2
C3	Capacitor, 1000uF, 25 V	A4-121A	1
	Molex Female Pin #24 AWG	F1-142-1	1
	Molex Male Pin #24 AWG	F1-143-1	1
	Terminal, Molex #22-30	F1-148	3
	Plug Female 3 Pos Crimp	F1-161	1
	Molex Recepticle Female	F2-177	1
	Molex Plug Male	F2-176	1

Panel Meter Board
101921-SA

Qty	Reference	Value	Description	TPL P/N
1			PC Board	101920
1			LCD Display, Optrex DMC50448N	HMS- DISPLAY
4	C2,C3,C5,C6	.1uF	CER. CAP.	A5-268
1	R1	10	RES	C1-124
1	R3	100	RES	C1-148
1	C4	10uF	TANT CAP 35V	A4-127
9	C7,C1,C9,C11, C13,C15,C17, C19,C21	150P	CER CAP	A5-152
1	R7	20K	POT	C3-113
2	R5,R6	22K	RES	C1-204
1	R2	330	RES	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	TANT CAP PANASONIC ECS-F1CE 110 5K	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, 1/4W	RES	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	HEADER RIBBON TYPE 3M 2514-6002-UB	F2-224
3	RP1,RP2,RP3	RESISTOR ARRAY	PANASONIC EX8F6V223G 8 PIN SIP	C4-104

**Interconnect Board
101943-SA**

Qty	Ref	Part DESCRIPTION	TPL PN
1		PCB Interconnect	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
101947-SA**

Qty	Ref	Part DESCRIPTION	TPL PN
1		PC Board, LED	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	

**HMS Control Board
101298-I-SA**

Qty	Reference	Part	DESCRIPT.	TPL PN
1			PC Board Control Board	101298
7	C11,C12,C13, C14,C20,C21, C22	.001uF	CER CAP	A5-172
8	C1,C3,C5,C6, C7,C8,C9, C10	.1uF	CER. CAP.	A5-268

5	C18,C15,C16, C17,C2	.22uF	CAP	A5-270A
1	R2	0	JUMPER	BUSS WIRE
8	R46,R49,R59,R 60,R62,R64, R68,R71	1.0K	RES	C1-172
2	R44,R47	1.0M	RES	C1-244
2	R14,R27	1.2K	RES	C1-174
2	R9,R7	1.6K	RES	C1-177
5	R20,R18,R34, R41,R78	100	RES	C1-148
2	R55,R56	100K	RES	C1-220
9	R26,R32,R58, R63,R65,R28, R36,R66,R74	10K	RES	C1-196
1	VR1	10TP20K	10 T POT	C3-106
14	D1,D3,D4,D5, D6,D7,D9,D10, D11,D12,D13, D14,D15,D16	1N4148	DIODE	B3-110
1	D2	1N751A	ZENER DIODE	B3-119
5	R21,R22,R33,R 43,R52,	20K	RES	C1-203
1	R35	220	RES	C1-156
3	Q4,Q5,Q10	2N4401	TRANS	B2-100A
2	Q8,Q9	2N4403	TRANS	B2-149A
1	R54	3.9K	RES	C1-186
2	R31,R38	330	RES	C1-160
1	C4	33uF	ELECT. CAP	A4-113A
3	R48,R45,R50	4.7K	RES	C1-188
1	R53	47K	RES	C1-212
4	R23,R73,R80, R81	49.9K	RES 1%	C1-213A
2	R67,R51	5.6K	RES	C1-190

HMS Control Board, 101298-I-SA Continued				
2	R30,R39	510	RES	C1-165
1	R79	8.2K	RES	C1-194
2	R75,R70	1N963B	12V ZENER DIODE	B3-101
4	R76,R82,R72, R77	499K	RES 1%	C1-237A
1	U3	LM324N	IC OPAMP	B7-124
1	U2	LM7805CT	IC DC REG.	B7-139
6	Q1,Q2,Q3,Q6, Q11,Q12	MPS-A14	TRANS	B2-139
2	VR6,VR7	P20K	POT	C3-109
3	VR4,VR3,VR5	P5K	POT	C3-102
1	SW1	SW SPDT	SWITCH	J1-108
1	Q7	TIP105	TRANS	B2-104
2	R69,R24	5.49K	RES 1%	C1-388A
1	D8	1N749A	ZENER DIODE	B3-127
8	R6,R1,R3,R5, R10,R12,R15, R16	4.99K	RES 1%	C1-189A
2	R4,R11	12K	RES	C1-198
2	VR8,VR2	200	POT 10 TURN	C3-101-1
4	R8,R13,R25, R29	100K 1%	RES 1%	C1-220A
1	U1	OP492	OP AMP	B7-175
1	U5	MPQ3799	QUAD TRANS	B7-180
1	U4	LM78L08	REGULATOR	B7-139A

Cable Assemblies (101950)

Qty	Reference	Description	TPL PN
1	W1	Cable	101950-1
1	W2	Cable	101950-2
1	W3	Cable	101950-3
1	W4	Cable	101950-4
1	W5	Cable	101950-5
1	W6	Cable	101950-6
1	W7	Cable	101950-7
1	W8	Cable	101950-8

RF Assembly
PA6-HMS-AMP-SA

DESCRIPTION	PART NUMBER	Qty
UHF HMS HIGH POWER DRIVER	T-101606-D-SA	1
HMS UHF 100W MODULE	T-101606-F-SA	4
HMS DIRECTIONAL COUPLER	T-101050-SA	1
INPUT OUTPUT SPLITTER	T-101832-C-SA	2
LPF; UHF HMS; 450-470	T-101383-1-SA	1
UHFC; PRE DRIVER	T-101649-710-SA	1
HMS H.S. FOR PA6 28/V MODULES	U-101300-8	1
Enclosure	V14-101906	1
Top Cover	V14-101907	1
1.0 UF 50V RADIAL ELEC. CAP	A4-106	1
33 UF 35V AXIAL ELEC. CAP	A4-113	1
0.1 UFD 50V CERAMIC DISC CAP	A5-268	1
TIP-105 W/MICA PNP DARL 8 AMP	B2-104	1
TIP145 TRAN PNP DARL 60V 10AMP	B2-154	1
1N4743A 13V 1.0W 5% ZENER DIODE	B3-106	1
DC Connector Male	HMS-CONN-M-SA	1
10K 10% THERMISTER W/MOUNTING HOLE	C2-115A	1
PANEL JACK TYPE N TEFLON UG58	F2-138	2
6-32 X 3/8 CS 100 DEG PFH	G1-313	2
6-32 X 1/2 CS 100 DEG PFH	G1-316	2
COAX SHIELD SOLDER W/CENTER LEAD	H5-102	1
3 POST TERMINAL ASSY	F3-105-SA	1
22uF 50V RADIAL ELECT. CAP	A4-125	1
DIODE 50PIV 6 AMP AXIAL	B3-112C	2

HMS 100W Module
T-101606-F-SA

DESCRIPTION	PART NUMBER	Qty
PCB TEFLON 100 WATT UHF	T-101606	1
7PF METAL CLAD MICA MINI CAP	A1-100A	1
ATC CHIP CAP 10 PF	A2-128A	1
100PF CHIP CAP	A2-148	4
24PF CHIP CAP .120L, .100W	A2-133A	1
1000PF CHIP CAP	A2-172	2
100PF CHIP CAP ATC	A2-191	4
33 UFD 35V RADIAL ELEC. CAP	A4-113A	2
0.1 UFD 50V CERAMIC DISC CAP	A5-268	2
EP10 TRIMMER CAP 0.8 TO 10pF	A5-708	1
VAR CAP MINI 3-18pF CERAMIC	A5-810	1
MRF393 UHF TRANSISTOR	B2-193	1
FERRITE BEAD	E1-100	2
0.15 UH CHOKE	E1-112	2
EMI FILTER BOLT IN STYLE 1000pF	E3-102	2
COPPER HEAT SINK SPREADER PA6	U-101823	1
HEAT DISSIPATOR	U-101830	2

**UHF HMS High Power Driver
T-10606-D-SA**

DESCRIPTION	PART NUMBER	Qty
PCB TEFLON 100 WATT UHF	T-101606	1
24PF CHIP CAP .120L .100W	A2-133A	1
100PF CHIP CAP	A2-148	4
1000PF CHIP CAP	A2-172	2
100PF CHIP CAP ATC	A2-191	4
33 UFD 35V RADIAL ELEC. CAP	A4-113A	2
0.1 UFD 50V CERAMIC DISK CAP	A5-268	2
EP10 TRIMMER CAP 0.8pF TO 10 pF	A5-708	1
ATC CHIP CAP 10 pF	A2-128A	1
VAR CAP MINI 3-18pF CERAMIC	A5-810	1
MRF393 UHF TRANSTOR	B2-193	1
DIODE 50 PIV 6 AMP AXIAL	B3-112C	1
150 OHM 2W 5% MO RESISTOR	C1-752	2
FERRITE BEAD	E1-100	2
0.15 UH CHOKE	E1-112	2
EMI FILTER BOLT IN STYLE 1000pF	E3-102	2
HEAT DISSIPATOR	U-101830	2

**LPF; UHF HMS; 450-470 MHz
T-101383-1-SA**

DESCRIPTION	PART NUMBER	Qty
PCB FILTER	T-101383	1
5pF METAL CLAD MICA CAP	A1-100	4
10pF METAL CLAD MICA CAP	A1-101	4

HMS Directional Coupler
T-101050-SA

DESCRIPTION	PART NUMBER	Qty
PCB HMS COUPLER	T-101050A	1
PCB	T-101050B	1
120PF CERAMIC DISC CAP	A5-150	2
1N 5711 DIODE	B3-118	2
50 OHM CHIP RESISTOR 2%	C2-111	2
FERRITE BEAD	E1-100	4

RF Detector HMS
T-101332-SA

DESCRIPTION	PART NUMBER	Qty
PCB	T-100428	1
700PF METAL CLAD MICA CAP	A1-113	1
1 PF DIPPED MICA CAP	A8-100	1
1N5711 DIODE	B3-118	1
47 OHM RES. 1/2W	C1-340	1

Input Output Splitter
T-101832-C-SA

DESCRIPTION	PART NUMBER	Qty
UHF 4 WAY SPLITTER	T101832	2
100 OHM 150W FLANGE RESISTOR	C2-110	2
100 OHM 20W FLANGE RESISTOR	C2-116A	4

UHFC; Pre-Driver w/Reg & Detector
T-101649-710-SA

DESCRIPTION	PART NUMBER	Qty
PCB HYBRID AMPLIFIER	T-101649	1
1000PF CHIP CAP	A2-172	3
0.047 UF CHIP CAP	A2-188	2
10UFD 35V TANTALUM CAP	A4-127	2
0.1 UFD HI TEMP CAP	A5-268A	2
LM338T 5 AMP VOLTS VAR REGULATOR	B2-189	1
1N5711 DIODE	B3-118	1
MHW710-2 RF MOD 13W/440-470 MHZ	B5-113	1
20 OHM 1/4W RES.	C1-131	1
270 OHM 1/4W RES.	C1-158	2
620 OHM 1/4W RES.	C1-167	1
2.2K OHM 1/4W RES.	C1-180	1
0.22 UH CHOKE	E1-111	1

Model PA6-2BF-HMS

This section contains parts lists for the Model PA6-2BF-HMS power amplifier. It has the top assembly listing followed by listings of the various subassemblies, down to the piece part level. If a subassembly has been previously listed under another model it is not repeated under this model listing.

PA6-2BF-HMS 10W/300W UHF HMS Top Assembly

Reference No.	Part Description	Manufacturer part number	Qty
	PA6 HMS Amp Sub Assy	PA6-HMS-AMP-1-SA	1
	Mech for HMS Series	MECH-1-HMS-SA	1
	Control Board	T-101298-H-SA	1
	Panel Meter Board	101921-SA	1
	Interconnect Board	101943-SA	1
	LED Board	101947-SA	1
	Cable Assembly	101950-SA	1
	Air Duct Assembly	V14-101904-1-SA	1
	Power Supply 28V 1000W	PS28-20	1

RF Assembly
PA6-HMS-AMP-1-SA

DESCRIPTION	PART NUMBER	Qty
UHFC; PRE DRIVER	T-101649-710-SA	1
HMS UHF 100W MODULE	T-101606-F-SA	4
HMS DIRECTIONAL COUPLER	T-101050-SA	1
INPUT OUTPUT SPLITTER	T-101832-C-SA	2
LPF; UHF HMS; 450-470	T-101383-1-SA	1
HMS H.S. FOR PA6 28/V MODULES	U-101300-8	1
Enclosure	V14-101906	1
Top Cover	V14-101907	1
1.0 UF 50V RADIAL ELEC. CAP	A4-106	1
33 UF 35V AXIAL ELEC. CAP	A4-113	1
0.1 UFD 50V CERAMIC DISC CAP	A5-268	1
TIP-105 W/MICA PNP DARL 8 AMP	B2-104	1
TIP145 TRAN PNP DARL 60V 10AMP	B2-154	1
1N4743A 13V 1.0W 5% ZENER DIODE	B3-106	1
DC Connector Male	HMS-CONN-M-SA	1
10K 10% THERMISTER W/MOUNTING HOLE	C2-115A	1
PANEL JACK TYPE N TEFLON UG58	F2-138	2
6-32 X 3/8 CS 100 DEG PFH	G1-313	2
6-32 X 1/2 CS 100 DEG PFH	G1-316	2
COAX SHIELD SOLDER W/CENTER LEAD	H5-102	1
3 POST TERMINAL ASSY	F3-105-SA	1
22uF 50V RADIAL ELECT. CAP	A4-125	1
DIODE 50PIV 6 AMP AXIAL	B3-112C	2

PA6-2GF-HMS**35W/300W UHF HMS Top Assembly**

Reference No.	Part Description	Manufacturer part number	Qty
	PA6 HMS Amp Sub Assy	PA6-HMS-AMP-2-SA	1
	Mech for HMS Series	MECH-1-HMS-SA	1
	Control Board	T-101298-H-SA	1
	Panel Meter Board	101921-SA	1
	Interconnect Board	101943-SA	1
	LED Board	101947-SA	1
	Cable Assembly	101950-SA	1
	Air Duct Assembly	V14-101904-1-SA	1
	Power Supply 28V 1000W	PS28-20	1

RF Assembly
PA6-HMS-AMP-2-SA

DESCRIPTION	PART NUMBER	Qty
HMS UHF 100W MODULE	T-101606-F-SA	4
HMS DIRECTIONAL COUPLER	T-101050-SA	1
INPUT OUTPUT SPLITTER	T-101832-C-SA	2
LPF; UHF HMS; 450-470	T-101383-1-SA	1
HMS H.S. FOR PA6 28/V MODULES	U-101300-8	1
Enclosure	V14-101906	1
Top Cover	V14-101907	1
1.0 UF 50V RADIAL ELEC. CAP	A4-106	1
33 UF 35V AXIAL ELEC. CAP	A4-113	1
0.1 UFD 50V CERAMIC DISC CAP	A5-268	1
TIP-105 W/MICA PNP DARL 8 AMP	B2-104	1
TIP145 TRAN PNP DARL 60V 10AMP	B2-154	1
1N4743A 13V 1.0W 5% ZENER DIODE	B3-106	1
DC Connector Male	HMS-CONN-M-SA	1
10K 10% THERMISTER W/MOUNTING HOLE	C2-115A	1
PANEL JACK TYPE N TEFLON UG58	F2-138	2
6-32 X 3/8 CS 100 DEG PFH	G1-313	2
6-32 X 1/2 CS 100 DEG PFH	G1-316	2
COAX SHIELD SOLDER W/CENTER LEAD	H5-102	1
3 POST TERMINAL ASSY	F3-105-SA	1
22uF 50V RADIAL ELECT. CAP	A4-125	1
DIODE 50PIV 6 AMP AXIAL	B3-112C	2

WARRANTY

TPL COMMUNICATIONS has tested and found this unit to function properly and to operate within the parameters of its stated specifications.

TPL COMMUNICATIONS warrants that this product is free from defects in material and workmanship. If found to be defective within two (2) years from the date of purchase, the factory at its discretion, will either repair or replace the unit at no cost provided the unit is delivered by the owner to the factory intact. Warranty does not apply to any product which has been subjected to misuse, neglect, accident, improper installation or used in violation of instructions furnished by us, nor does it extend to units which have been repaired or altered outside our service department, nor where the serial number has been removed, defaced or changed.

SERVICE

For service on this amplifier, contact:

TPL COMMUNICATIONS
Customer Service Department
213 256-3000
800 HI POWER
FAX 213 254-3210

APPENDIX I

FRONT PANEL METER READINGS

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