

# Component List

Bill of Materials For Project [0301-MMFE-8.PrjPcb] (No PCB Document Selected)



Source Data: 0301-MMFE-8.PrjPcb  
 Project: 0301-MMFE-8.PrjPcb  
 Variant: None  
 Report Date: 5/13/2014 4:21:02 PM  
 Print Date: 5/30/2014 4:41:33 PM

#	Quantity	Designator	Description	#Column Name	MFGPN	Footprint	DNP	Size	Watt	Cost	Availability	Size mm	Power W	Cost	Received
1	4	B1, B2, B3, B4	Single Terminal Socket		NA	MTG300_600		255	0	0	NA	1020	0	0	0
2	109	C11, C12, C13	CAP CER 4.7uF 0402 6.3V 20% X5R		GRM155R60J475ME87D	CAPC.0402		5	0	0.02	13K-Arrow	54.5	0	1.635	0
3	164	C21, C22, C23	Cap Cer 0.22uF 0201 6.3V 20% X5R		TY_JMK063B.J22AMP-F	CAPC.0201		18	0	0.03	9k-AV	29.52	0	4.961	0
4	112	C15, C16, C17	CAP CER 100uF 6.3V 20% X5R 1206		CL31A107M0JHNNNE	CAPC.1206		5.12	0	0.15	7K-DK	573.44	0	16.8	0
5	19	C136, C138, C139	CAP CER 0.01uF 10V 10% X5R C0201		1201220109KA72A	C0201		5	0	0.085	13K-AV	9.5	0	0.1615	0
6	7	C460, C461, C468	CAP CER 0.001uF 25V 10% X7R C0201		GRM033R7E102KA01D	C0201		5	0	0.03	250K-AV	3.5	0	0.021	0
7	12	C52, C80, C152	CAP CER 0.1uF 10V 10% X5R C0201		120116D104KA72A	C0201		5	0	0.03	13K-AV	6	0	0.36	0
8	6	C462, C467, C477	CAP CER 10uF 6.3V 20% X5R 0402		CL05A109M02SNLNC	CAPC.0402		1.67	0	0.18	1M-AV	10.02	0	1.08	0
9	10	C144, C469, C470	CAP CER 189pF 50V 5% C0201		GRM0335C1H180JA01D	C0201	[NoValue]	5	0	0.03	250K-AV	5	0	0.03	0
10	2	C62, C63	Cap Cer 0.22uF 0402 50V 10% X5R		UMK105B.J22AKV-F	CAPC.0402		5	0	0.023	30k-AV	1	0	0.046	0
11	4	C480	CAP CER 10uF 35V 10% X5R 1206		GMK316B.J10EKL	1206		5.12	0	0.078	64K-AV	20.48	0	0.312	0
12	1	C145	CAP CER 47pF 25V 5% X7R 0201		GRM0335C1E470JA01D	C0201		5	0	0.004	15K-AV	0.5	0	0.004	0
13	2	C146, C147	CAP CER 470pF 25V 10% X7R 0201		GRM033R7E471KA01D	C0201		5	0	0.004	15K-AV	1	0	0.008	0
14	1	CBL1, CBL2	miniSAS 41 36 ckt		8F36-AA105-1.00	NA		0	0	11.11	6 week - AV	0	0	11.11	0
15	128	D6, D7, D8, D9	TVS with Ultra Low Capacitance SOT-563-6		NUP4141UPXV6T1G	SOT-563-6		2.89	0	0.21	4K-DK	369.92	0	26.88	0
16	1	D129	Blue LED Vh=2.7V 0603 SMD		LTST-C193BTKT-5A	LED_LITE-LTST-C191TBKT-2		1.28	0.02	0.47	7K-DK	1.28	0.02	0.47	0
17	10	D135, D136, D137	LED GREEN CLEAR 0603 SMD		LTST-C190GKT	LED_LITE-LTST-C191TBKT-2		1.28	0.02	0.47	302K-DK	12.8	0.2	0.47	0
18	1	D131	Silicon Switching Diode for High-Speed Switching		BA515	SOT-23		7.25	0.025	0.07	9K-DK	7.25	0.025	0.07	0
19	2	D148, D151	DFLS130L-7 in a PowerDI_123 Vh=3		DFLS130L-7	PowerDI_123		5	2	0.1	15K-Arrow	11.6	0.4	0.2	0
20	2	D149, D152	LED, Red, LTST-C190CKT, 0603		LTST-C190CKT	LED_LITE-LTST-C191TBKT-2		1.28	0.02	0.35	170K-DK	2.56	0.04	0.7	0
21	2	DDCC1, DDCC2	Dual, 26Vn, 4A DDCC		LTM4619EVFPBF	ltm4619		333.75	0.02	23.33	1K-DK	787.5	0.04	47.86	0
22	2	F1, F2	PTC Resettable Fuse 1.5A 24VDC		1812			16.1	0	0.21	22K-AV	32.2	0	0.42	0
23	6	FTG3, FTG4	Fiducial Target		FIDUCIAL_TARGET_S100-200	FIDUCIAL_TOP_S100-200		2.25	0	0	NA	13.5	0	0	0
24	2	J1, J2	Elastomeric Connector		ZEBRA	zebra		1025	0	6.00	Sarah	2050	0	10	0
25	1	J9	2.0mm Thx 2xshrouded header		MLX_87832-1420	CON_MLX-87332-1420-2		105	0	1.28	4710-Ali Elec	105	0	1.28	0
26	2	J11, J12, J13	Connector HDMI 19 Male + 1 Shield		MOLEX_46765-1001	HDM-0467651001		448.75	0	1.22	1K-Hellind	897.5	0	2.44	3
27	5	J23	CONN JACK MMX SCR PCB		0734151471	COAX_2.54MM		12.32	0	0.35	915-DK	61.6	0	1.75	0
28	1	J20, J21	75783-0132		075783-0132	MOLEX_36TH		400	0	4.70	2K-Arrow	400	0	4.7	0
29	1	J24	CONN HEADER RT/A 156 4POS 30AU		3-641210-4	CON_TE-640445-4		160	0	1.9	2K-DK	160	0	1.9	0
30	0	J25	RJ45 MAC w/usb 7468111120R		746811120R	MAC64-746811120R		352	0.05	7.03	120-DK	0	0	0	0
31	2	J15, J16	Jumper 3-pad 0R0 0402 RES-3pad/PPR R0402-DUAL_JMP		CRCW0402000020E0	R0402-DUAL_JMP		0.5	0	0.01	1M-AV	1	0	0.02	0
32	96	L6, L7, L8, L9, L10	FB SM 220 ohm @100MHz 2000mA 0.25 0.045 ohm @DC L0805		BLM21PG221SN1D	L0805	[NoValue]	5.42	0.1	0.4	200K-AV	520.32	9.6	3.84	0
33	1	P1	Header, 16-Pin, Dual row		1010897162	HDR2X8		40.64	0	1.09	20K-AV	40.64	0	1.09	0
34	8	P7, P8, P9	Header, 2-Pin		102972-2	HDR1X2		10	0	0.13	10K-Mou	80	0	1.04	0
35	0	PCB1	0301-MMFE-8 - 3 week layout		0301-MMFE-8	NA		0	0	919.60	3 weeks	0	0	0	0
36	0	PCB2	0301-MMFE-8 - 2 week turn		0301-MMFE-8	NA		0	0	615.86	2 weeks	0	0	0	0
37	0	PCB3	0301-MMFE-8 - assembly - 10 day turn		0301-MMFE-8	NA		0	0	1075.06	2 weeks	0	0	0	0
38	23	PS4, PS5, PS6	Adjustable 1A Single Resistor Low Dropout Regulator		LT3080EDDFTRPBF	LT3080		9	0.02	2.40	5k-DK	207	0.46	55.2	0
39	5	Q21	N-Channel MOSFET		DMG1012T-SOT523	SOT-23_N		4	2.2	0.03	450K-AV	20	1	0.15	0
40	1024	R6, R7, R8, R9	RES 248R 50mW 0.01 R0201		ER-110GF248R9C	C0201		0.01	0.05	0.01	1M-AV	9.0112	51.2	6.3488	0
41	7	R1049, R1051	RES 499R 62mW 0.01 R0402		CRCW0402499R9FKED	RESC.0402		0.5	0	0.01	5M-AV	3.5	0	0.07	0
42	19	R1028, R1029	RES 120K 62mW 0.01 R0402		CRCW0402120KFKED	RESC.0402		0.5	0	0.01	1M-AV	9.5	0	0.19	0
43	9	R1048, R1053	RES 100K 62mW 0.01 R0402		CRCW0402100KFKED	RESC.0402		0.5	0	0.01	1M-AV	4.5	0	0.09	0
44	25	R1037, R1038	RES 4K97 62mW 0.01 R0402		CRCW04024K97FKED	RESC.0402		0.5	0	0.01	1M-AV	12.5	0	0.25	0
45	2	R1033, R1122	RES 22R1 62mW 0.01 R0402		CRCW040222R1FKED	RESC.0402		0.5	0	0.01	1M-AV	1	0	0.02	0
46	21	R1043, R1057	R0402, RES 0R0 62mW 0.01 R0402, RES 100R 62mW 0.01 R0402, RES 100R		CRCW0402000020E0, CRCW0402000020E0, CRCW0402000020E0	RESC.0402	[NoValue]	0.5	0	0.01	1M-AV	10.5	0	0.21	0
47	3	R1096	RES 300R 62mW 0.01 R0402		CRCW0402300RFKED	RESC.0402		0.5	0	0.01	1M-AV	1.5	0	0.03	0
48	11	R1093, R1094	RES 1M 62mW 0.01 R0402		CRCW04021M00FKED	RESC.0402		0.5	0	0.01	1M-AV	5.5	0	0.11	0
49	1	R1078	RES 180K 62mW 0.01 R0402		CRCW0402180KFKED	RESC.0402		0.5	0	0.01	1M-AV	0.5	0	0.01	0
50	2	R1081, R1082	RES 150 62mW 0.01 R0402		CRCW0402150RFKED	RESC.0402		0.5	0	0.01	1M-AV	1	0	0.02	0
51	2	R1083, R1084	RES 48K7 62mW 0.01 R0402		CRCW040248K7FKED	RESC.0402		0.5	0	0.01	1M-AV	1	0	0.02	0
52	1	R1086	RES 28K 62mW 0.01 R0402		CRCW040228K0FKED	RESC.0402		0.5	0	0.01	1M-AV	0.5	0	0.01	0
53	84	R1099, R1100	RES 100R 62mW 0.01 R0201		CRCW0201100RFKED	C0201		0.5	0.014	0.01	1M-AV	4.2	1.176	0.84	0
54	3	R1141	RES 499R 62mW 0.01 R0402		CRCW0402499R9FKED	RESC.0402		0.5	0	0.01	1M-AV	1.5	0	0.03	0
55	7	R1116, R1119	RES 1K 62mW 0.01 R0402		CRCW04021K00FKED	RESC.0402		0.5	0	0.01	1M-AV	3.5	0	0.07	0
56	1	R1137	RES 10R 62mW 0.01 R0805		6-8065			2.5	0	0.01	1M-AV	2.5	0	0.01	0
57	16	R1214, R1219	RES 100K 50mW 0.01 R0201		C0201			0.2	0	0.01	1M-AV	3.2	0	0.16	0
58	1	BP1	4-Resistor Array 3.2x1.6mm		Bourns CAY18-472J4LF	RPAK4LCC-2		5.12	0	13	910-AV	5.12	0	0.13	0
59	1	SW1	SW_PB_SPST_4POS_SMT		8-1437565-0	SW_PB_SPST_4POS_SMT		20	0	0.81	0	20	0	0.81	0
60	0	U6, U7, U8	Micro Megas Analog Input ASIC Version 2		VMM2			196	0.640	40	BNL	0	0	0	0
61	0	U9	Pb-Free		XC7A200T-1FBG484I	FBG484		529	8	241	250-AV	0	0	0	0
62	1	U10	NOR Flash Serial-SPI 1.8V 256Mbit 256M128M64M x 1bit/2bit/4bit 8ns 8-Pin DFN EP		n25q256a11ef840	S09W		48	0.036	3.2	250-AV	48	0.036	3.2	0
63	2	U11, U14	4-bit non-inverting translator 1.2 V to 5 V		TXB0104RUT	RUT-N12_OFN127P600-8N		4	0	0.75	1200-AV	8	0	1.5	0
64	0	U12	Ethernet 10/100/1000 GMI to CU 88E1111-B2-BAB1C000 TFBGA		88E1111-B2-BAB1C000	TFBGA117		162	7	15	10K-AV	0	0	0	0
65	1	U13	Osc SM 50MHz 50ppm 15pF 2.5mm x 2mm OSC-4 XTAL_KC2520		XC2520S0.0000C10E00	XTAL_KC2520		5	0.020	3.21	13K-AV	5	0.02	3.21	0
66	0	X1, X4	CRYSTAL 25.00MHz 2T 18PF		ABM6-25.00MHz-B2-T	abm6		20	12.5	1	3000-AV	0	0	0	0
67	0	X2	Osc SM LVDS 200MHz DSC1123 / S1530 LVDS OSC		DSC1123D12-200.0000T	XTAL_S1530		35	0.1	1	200-AV	0	0	0	0
68	0	X3	IC CLK GEN ETH LVDS 8TSSOP		IC934400180-01LF	TOPF934400180-01		19.2	0.245	1	10K-AV	0	0	0	0
69	0	X5	Osc SM LVDS 200MHz DSC1123 / S1530 LVDS OSC		DSC1123D12-200.0000T	XTAL_S1530		35	0.80	1	70-DK	0	0	0	0
70	1	Z1	Elastomeric Connector Retainer		ZEBRA	Zebra Holster		2050	0	2.73	Sarah	2050	0	2.73	0

Approved	Notes	6975.46	64.22	\$217.08
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[sales@7pcb.com](mailto:sales@7pcb.com)

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Board Quantity  \*

Board Size  X  inches \*

Thickness  inch

Layers

Copper Weight  oz

Solder Mask Color

Routing

Impedance Control

Re-Calculate

Turnaround (Days)	Price (US\$)
12	194,167.26

**Notes:** The price above is for the minimum trace/space = 4 mil, the minimum hole size = 8 mil, 2 Sides Silkscreen, 2 Sides Solder Mask, ENIG(RoHS), 100% Electrical Testing.

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Kenneth Johns <kjohnsaz@gmail.com>

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## FW: PCB assembly 5000pcs

1 message

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**Hart, William A - (billhart)** <billhart@email.arizona.edu>  
To: Kenneth Johns <johns@physics.arizona.edu>

Tue, May 20, 2014 at 8:33 PM

FYI

From: Stephen Yun [mailto:[Steve@boardassembly.com](mailto:Steve@boardassembly.com)]  
Sent: Tuesday, May 20, 2014 5:25 PM  
To: Hart, William A - (billhart)  
Subject: RE: PCB assembly 5000pcs

Hi William,  
Here is the budgetary quote for your reference.  
1000pcs to 5000pcs on 4 weeks lead time \$140.00ea

Thanks,

Stephen Yun

[cid:image008.jpg@01CF7450.65F69BE0]<<http://www.youtube.com/watch?v=9PW0qmkXb6E>>

T | 310.715.1898 x 210 \* F | 310.878.6967 | 161 Selandia Lane. Carson, CA 90746  
[steve@boardassembly.com](mailto:steve@boardassembly.com)<mailto:[steve@boardassembly.com](mailto:steve@boardassembly.com)> | [www.boardassembly.com](http://www.boardassembly.com)<<http://www.boardassembly.com>> [cid:image016.jpg@01CF7450.65F69BE0] <<https://twitter.com/AcmePCBassembly>> [cid:image010.jpg@01CF7450.65F69BE0] <<https://www.facebook.com/pages/ACME-PCB-Assembly/277481888928865>> [cid:image018.jpg@01CF7450.65F69BE0] <<http://www.linkedin.com/company/2328821?trk=tyah&trkInfo=tas%3Acme%20pcb%2Cidx%3A1-1-1>> [cid:image019.jpg@01CF7450.65F69BE0] <mailto:[steve@boardassembly.com](mailto:steve@boardassembly.com)> [cid:image020.jpg@01CF7450.65F69BE0] <<http://www.boardassembly.com>>  
ACME PCB assembly is IPC A-610 Certified Tranier and ISO 9001:2008 company<[http://www.youtube.com/watch?v=8bgF\\_wXpKoc](http://www.youtube.com/watch?v=8bgF_wXpKoc)>

[cid:image001.jpg@01CDDD0A.196D7E30]<<http://www.boardassembly.com>>

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From: Hart, William A - (billhart) [mailto:[billhart@email.arizona.edu](mailto:billhart@email.arizona.edu)]  
Sent: Friday, May 16, 2014 12:34 PM  
To: Stephen Yun  
Subject: RE: PCB assembly 5000pcs

Hi Stephen,  
We need a budgetary quote as the layout is barely started.  
This board is very congested at 215mm x 60mm.  
I am including the current BOM.  
I hope you can give us a good quote!  
Thanks,  
Bill

From: Stephen Yun [mailto:[Steve@boardassembly.com](mailto:Steve@boardassembly.com)]  
Sent: Friday, May 16, 2014 10:23 AM  
To: Hart, William A - (billhart)  
Subject: RE: PCB assembly 5000pcs

Hi William,  
We are PCB assembly house in Carson CA. we are working many college, such as USC , university of Michigan, UCLA and so on...  
Please send me your BOM, GERBER, and drawing for quote.

Here is a 3 minutes<[http://www.youtube.com/watch?v=8bgF\\_wXpKoc](http://www.youtube.com/watch?v=8bgF_wXpKoc)> video to introduce our company for your review.

Thanks,

Stephen Yun

[cid:image015.jpg@01CF7450.65F69BE0]<<http://www.youtube.com/watch?v=9PW0qmkXb6E>>

T | [310.715.1898](tel:310.715.1898) x 210 \* F | [310.878.6967](tel:310.878.6967) | 161 Selandia Lane. Carson, CA 90746  
[steve@boardassembly.com](mailto:steve@boardassembly.com)<<mailto:steve@boardassembly.com>> | [www.boardassembly.com](http://www.boardassembly.com)<<http://www.boardassembly.com>> [cid:image016.jpg@01CF7450.65F69BE0] <<https://twitter.com/AcmePCBassembly>> [cid:image017.jpg@01CF7450.65F69BE0] <<https://www.facebook.com/pages/ACME-PCB-Assembly/277481888928865>> [cid:image018.jpg@01CF7450.65F69BE0] <<http://www.linkedin.com/company/2328821?trk=tyah&trkInfo=tas%3Acme%20pcb%2Cid%3A1-1-1>> [cid:image019.jpg@01CF7450.65F69BE0] <<mailto:steve@boardassembly.com>> [cid:image020.jpg@01CF7450.65F69BE0] <<http://www.boardassembly.com/>>  
ACME PCB assembly is IPC A-610 Certified Tranier and ISO 9001:2008 company<[http://www.youtube.com/watch?v=8bgF\\_wXpKoc](http://www.youtube.com/watch?v=8bgF_wXpKoc)>

[cid:image001.jpg@01CDDD0A.196D7E30]<<http://www.boardassembly.com/>>

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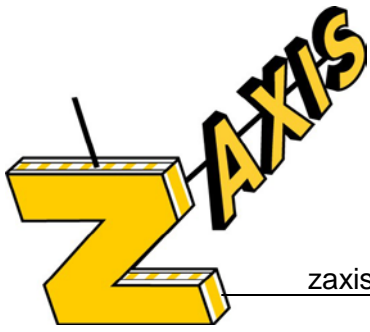
From: Hart, William A - (billhart) [mailto:[billhart@email.arizona.edu](mailto:billhart@email.arizona.edu)]  
Sent: Thursday, May 15, 2014 7:35 PM  
To: Stephen Yun  
Subject: PCB assembly 5000pcs

Hi,  
I'm a design engineer @U of Arizona  
We are looking for someone who can assembly 5000 PCB's for us next year or a large physics experiment at the LHC in CERN...  
These boards are still being designed, but will be ~2" x 10", ~14 layers, 10 x 400pin BGA's, 5x uHDMI. Assorted popcorn and regulators....  
Can you guys quote something like this?  
Thanks,  
Bill

---

**9 attachments**





zaxisconnector.com

**Z-AXIS Connector Company**  
345 Ivyland Road Warminster, PA 18974  
(267) 803-9000 FAX (267) 803-9004

May 21, 2014

Quote # 05-21-2014-University of Arizona Atlas Program

Sarah Jones  
PhD Research Student  
University of Arizona  
Department of Physics  
1118 East 4<sup>th</sup> Street  
Tucson, AZ 85721

Tel: (260) 402-9627

email: [SarahJones@email.arizona.edu](mailto:SarahJones@email.arizona.edu)

<u>Part Number / Description</u>	<u>Quantity</u>	<u>Unit Price</u>
Zwrap-305-02 Rev D / 103.2mm L x 6.5mm H x 2.4mm W	50	\$ 40.00
	9,500	12.00

Delivery Prototypes 3 weeks ARO, Production 8 weeks ARO  
Terms: Net 30 or Credit Card  
ExWorks: Warminster, PA  
Quotation Valid for 30 days

By: George Glatts