

Todd Moore							DES Production ICC Board, Fan Board, & Vicor RPM Board Bill of Materials				8.23.10		
Version:	Prod_Ver_3.3												
Modified:	3.31.11												
Total Number of Boards To Be Made:				14									
For Version: PROD_ICC_REV3.3													
Notes: Total purchase for production boards, including spares. (8 + 4 spares + 4 @ Uofl)													
This bill of materials is for the ICC Board Module, the Cooling Fan Load Board, & the Vicor Fan RPM Board.													
										UIUC Price Totals			
										Estimate		Cost Of	
ITEM	QTY EA.	QTY ALL	TOTAL QTY	Part Number	MFR	Dist.	Description	Comp. Price	Each Board	All Boards	Total Ordered	Order Notes	
INTERNAL CRATE CONTROLLER BOARD													
Discrete Components:													
1	6	84	100	1N4004-T	DIODES, INC.	DIGIKEY	RECTIFIER, 1N4004	\$0.09	\$0.51	\$7.14	\$8.50		
2	1	14	20	1N914BTR	FAIRCHILD	DIGIKEY	GENERAL DIODE, AXIAL,1N914B	\$0.10	\$0.10	\$1.46	\$2.08		
3	6	84	100	BAT46W-7-F	DIODES, INC.	DIGIKEY	SURFACE MOUNT SCHOTTKY BARRIER DIODE, SOD-P6KE15AG, 12.8v TRANSZORB	\$0.23	\$1.35	\$18.90	\$22.50		
4	2	32	40	P6KE15AG	On Semi	DIGIKEY		\$0.41	\$0.82	\$13.18	\$16.48		
5	2	28	0	VK200 SERIES CHOKE	IN STOCK	IN STOCK	1uH INDUCTOR, , USES 70/35 PADSTACK, .500 LONG WITH 70/35 PADS"	\$0.18	\$0.36	\$5.04	\$0.00		
6	8	112	120	C0805F103K5RACTU	Kemet	DIGIKEY	CERAMIC CAPACITOR, SMT, 0805 CASE, 10,000PF	\$0.31	\$2.46	\$34.38	\$36.84		
7	1	14	18	T350B106K006AT	Kemet	DIGIKEY	10UF CAPACITOR, THRU HOLE, .1 PITCH, TANTALUM	\$0.61	\$0.61	\$8.60	\$11.05		
8	13	182	0	293D336X9020D2TE3	IN STOCK	IN STOCK	POLARIZED TANTALUM CAP, 33UF, CT7343 SMT PACKAGE	\$0.26	\$3.38	\$47.32	\$0.00		
9	1	14	18	EEU-FC1C471	Panasonic	DIGIKEY	470UF ROUND CAPACITOR, THRU HOLE, .2 PITCH, ELE	\$0.27	\$0.27	\$3.82	\$4.91		
10	40	560	600	CC0805KRX7R9BB104	Yageo	DIGIKEY	SMT CAPACITOR, 0805, 0.1UF	\$0.02	\$0.63	\$8.80	\$9.43		
11	2	28	30	C0805C220J5GACTU	Kemet	DIGIKEY	SMT CAPACITOR, 0805 22pF	\$0.10	\$0.21	\$2.88	\$3.09		
12	1	14	20	4309R-101-103	Bourns	NEWARK	9-pin SIP resitor, 10k, pin 1 common, 1/8 watt, 2%	\$0.58	\$0.58	\$8.12	\$11.60		
13	1	14	20	MCR10EZPF49R9	Rohm	DIGIKEY	chip resistor, smt, 0805 case, 49.9 OHMS	\$0.04	\$0.04	\$0.53	\$0.76		
14	3	42	50	CRCW0805100RFKEAHP	Vishay/Dale	DIGIKEY	chip resistor, smt, 0805 case, 100 OHMS	\$0.15	\$0.44	\$6.09	\$7.25		
15	4	56	200	ERJ-6ENF1500V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 150 OHMS	\$0.01	\$0.04	\$0.56	\$2.00		
16	2	28	50	ERJ-6ENF1650V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 165 OHMS	\$0.02	\$0.03	\$0.48	\$0.85		
17	1	14	20	CRCW0805180RFKEA	Vishay/Dale	DIGIKEY	chip resistor, smt, 0805 case, 180 OHMS	\$0.09	\$0.09	\$1.25	\$1.78		
18	3	42	50	ERJ-6ENF2490V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 249 OHMS	\$0.02	\$0.05	\$0.71	\$0.85		
19	1	14	20	RC0805FR-07274RL	Vishay/Dale	DIGIKEY	chip resistor, smt, 0805 case, 274 OHMS	\$0.07	\$0.07	\$1.04	\$1.48		
20	2	28	30	MCR10EZHF3000	Rohm	DIGIKEY	chip resistor, smt, 0805 case, 1%, 300 OHMS	\$0.04	\$0.08	\$1.15	\$1.23		
21	1	14	20	CRCW0805499RFKEAHP	Vishay/Dale	DIGIKEY	chip resistor, smt, 0805 case, 499 OHMS	\$0.27	\$0.27	\$3.78	\$5.40		
22	8	112	200	MCR10EZPF5230	Rohm	DIGIKEY	chip resistor, smt, 0805 case, 523 OHMS	\$0.02	\$0.18	\$2.46	\$4.40		
23	1	14	20	ERJ-6ENF5900V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 590 OHMS	\$0.03	\$0.03	\$0.46	\$0.66		
24	4	56	60	ERJ-6ENF8200V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 820 OHMS	\$0.02	\$0.07	\$0.95	\$1.02		
25	3	42	60	ERJ-6ENF1001V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 1K	\$0.02	\$0.05	\$0.71	\$1.02		
26	9	126	200	ERJ-6ENF2431V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 1%, 2.43K OHMS	\$0.01	\$0.09	\$1.26	\$2.00		
27	1	14	20	ERJ-6ENF3011V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 3.01K OHMS	\$0.03	\$0.03	\$0.46	\$0.66		
28	1	14	20	CRCW080520K0FKEAHP	Vishay/Dale	DIGIKEY	chip resistor, smt, 0805 case, 1%, 20K OHMS	\$0.27	\$0.27	\$3.78	\$5.40		
29	10	140	200	MCR10EZPF1002	Rohm	DIGIKEY	chip resistor, smt, 0805 case, 10K OHMS	\$0.02	\$0.22	\$3.08	\$4.40		
30	8	112	150	MCR10EZPF1003	Rohm	DIGIKEY	chip resistor, smt, 0805 case, 100K OHMS	\$0.03	\$0.21	\$2.91	\$3.90		
31	1	14	20	ERJ-6ENF1203V	Panasonic	DIGIKEY	chip resistor, smt, 0805 case, 120K	\$0.03	\$0.03	\$0.46	\$0.66		
32	1	14	20	MCR10EZPF1004	Rohm	DIGIKEY	chip resistor, smt, 0805 case, 1 MEGOHMS	\$0.04	\$0.04	\$0.53	\$0.76		

								UIUC Price Totals				
	QTY	QTY	TOTAL					Estimate			Cost Of	
	EA.	ALL	QTY					Comp.	Each	All	Total	Order
ITEM	Board	Boards	Ordered	Part Number	MFR	Dist.	Description	Price	Board	Boards	Ordered	Notes
33	1	14	20	ABLS-8.000MHZ-B2-T	ABRACON CORP.	DIGIKEY	8 MHz crystal, smt package MA-505	\$0.49	\$0.49	\$6.83	\$9.76	
34	4	56	0	HLMP-1301	IN STOCK	IN STOCK	VERTICAL MOUNTED LED, T1 STYLE, RED	\$0.33	\$1.32	\$18.48	\$0.00	
35	1	14	20	0251001.MXL	Littlefuse/Digikey	DIGIKEY	Picoll fuse, 1A	\$0.56	\$0.56	\$7.84	\$11.20	
36	1	14	20	0251.500MXL	Littlefuse/Digikey	DIGIKEY	Picoll fuse, .500A	\$0.57	\$0.57	\$7.98	\$11.40	
37	1	14		CS705015Y	Cantherm		Bi-Metal, Chassis Mount Temperature Regulator, 50 Degrees	7.70	\$7.70	\$107.80	\$0.00	
Integrated Circuits:												
38	1	14	16	CHS-UPS	TDK	DIGIKEY	HUMIDITY SENSOR, TDK, 3 PIN	\$63.77	\$63.77	\$892.75	\$1,020.29	
39	1	14	25	ISL43640IR	INTERSIL	DIGIKEY	4-1 ANALOG MUX/ SWITCH, 16 PIN QFN	\$1.69	\$1.69	\$23.67	\$42.28	
40	1	14	20	M74HC4078	TI	DIGIKEY	8 INPUT TO 1 OUTPUT CMOS OR/NOR GATE, 14 PIN PDIP, .300 WIDE"	\$0.63	\$0.63	\$8.78	\$12.54	
41	1	14	25	SN74LVC1G07DBVR	TI	DIGIKEY	SINGLE BUFFER/DRIVER WITH OPEN-DRAIN OUTPUT, SOT23-5/JEDEC MO-178	\$0.31	\$0.31	\$4.34	\$7.75	
42	8	112	120	INA121P	BURR-BROWN	DIGIKEY	FET-INPUT, INSTRUMENTATION AMPLIFIER	\$6.56	\$52.48	\$734.72	\$787.20	
43	1	14	25	BA33BC0T	ROHM	DIGIKEY	FIXED +3.3 VOLTS, VOLT REGULATOR, TO220FP-3	\$1.23	\$1.23	\$17.15	\$30.63	
44	1	14	25	MC7805CTG	ON SEMI	DIGIKEY	FIXED 5 VOLT VREG, TO-220	\$0.50	\$0.50	\$7.00	\$12.50	
45	1	14	18	PIC24FJ128GA010-I/PT	MICROCHIP	DIGIKEY	MICROCONTROLLER, 100 PIN TQFP-PT PACKAGE	\$4.84	\$4.84	\$67.76	\$87.12	
46	1	14	18	BQ4011LYMA-70N	TI	DIGIKEY	NON-VOLATILE SRAM, 256K (32KX8), +3.3V SUPPLY, .600 WIDE DIP28	\$14.87	\$14.87	\$208.18	\$267.66	
47	2	28	28	TLP523-4	Toshiba	NEWARK	OPTOCOUPLER, DARLINGTON TRANS, 4 CHANNEL, 16 PIN DIP, 0.300 WIDE	\$3.03	\$6.06	\$84.84	\$84.84	CAN USE EITHER TOSHIBA TLP523-4 OR SHARP PC845
48	5	70	75	AQV453	PANASONIC	DIGIKEY	Solid-State Relay, SPST, NC, 300 wide DIP, 1 Form B Package"	\$4.88	\$24.40	\$341.60	\$366.00	
49	1	14	20	TC1047AVNBTR	MICROCHIP	NEWARK	TEMPERATURE DETECTOR, LINEAR, SOT-23	\$0.62	\$0.62	\$8.68	\$12.40	
50	9	126	135	TC670ECHTR	MICROCHIP	NEWARK	Tiny predictive fan fault detector	\$1.00	\$9.00	\$126.00	\$135.00	
51	8	112	125	TC54VN2102ECB713	MICROCHIP	MICROCHIP	VOLTAGE DETECTOR	\$0.40	\$3.20	\$44.80	\$50.00	
52	2	28	35	SDA08H0BD	C&K	DIGIKEY	Dip Slide Switch, SPST, 8 pos, thru hole	\$1.30	\$2.60	\$36.40	\$45.50	DISABLES VOLTAGE ALERTS & BYPASSES UNUSED SLOTS ON VICOR
53	1	14	20	SDA01H0SBR	C&K	DIGIKEY	1 POS DIP SLIDE SWITCH, SPST, SMT	\$1.17	\$1.17	\$16.38	\$23.40	SELECTS FIRMWARE VERSION: HEATER OR DAQ
54	1	14	20	CAS-220TB	COPAL ELECTRONICS	DIGIKEY	1 POS DIP SLIDE SWITCH, DPDT, GULLWING, SMT	\$2.10	\$2.10	\$29.40	\$42.00	DISABLES VICOR FAN ALERT & SENSOR ANODE VOLTAGE
Mechanical:												
55	1	14		ICC-PCB	American Standard Circuits		Printed Circuit Board, 13" L x 2.875" H, 6 Layers, 0.093" Thick	\$90.00	\$90.00	\$1,260.00	\$0.00	
56	1	14					Contract Assembly of ICC-PCB	\$180.00	\$180.00	\$2,520.00	\$0.00	cost based on previous quote
57	0.1	1.4	2	304-13-164-41-780000	Mill-Max	DIGIKEY	1 position 0.025-sq wirewrap post, ELFAB Socket	\$12.03	\$1.20	\$16.84	\$24.06	4 for fuses
58	5	70	100	PPPC021LFBN-RC	Sullins Connector	DIGIKEY	CONN RECEIPT 2POS .100 VERT DUAL	\$0.15	\$0.74	\$10.36	\$14.80	5 for leds, added
59	1	14	20	42878-6218	MOLEX	DIGIKEY	RJ11 MODULAR CONNECTOR, PC MOUNT, TOP-ENTRY	\$1.15	\$1.15	\$16.04	\$22.92	
60	8	112	120	5009	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, YELLOW -- O.V. VOLTAGE INPUT	\$0.31	\$2.48	\$34.72	\$37.20	
61	4	56	70	5006	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, BLACK -- RETURN	\$0.33	\$1.32	\$18.48	\$23.10	min order

ITEM	QTY			Part Number	MFR	Dist.	Description	UIUC Price Totals				Order Notes
	EA.	ALL	TOTAL					Comp.	Estimate		Cost Of	
	Board	Boards	Ordered						Price	Each Board	All Boards	
62	10	140	150	5005	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, RED -- ADC VOLTAGE INPUT	\$0.31	\$3.10	\$43.40	\$46.50	min order
63	9	126	140	5007	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, WHITE -- FAN RPM VOLTAGE THRESHOLD INPUT	\$0.31	\$2.79	\$39.06	\$43.40	min order
64	9	126	140	5121	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, GREEN -- FAN RPM CLEAR INPUT	\$0.31	\$2.79	\$39.06	\$43.40	
65	9	126	140	5008	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, ORANGE -- FAN ALERT OUTPUT	\$0.31	\$2.79	\$39.06	\$43.40	
66	8	112	120	5122	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, BLUE -- O.V. VOLTAGE ALERT OUTPUT	\$0.32	\$2.54	\$35.62	\$38.16	
67	5	70	80	5123	KEYSTONE	DIGIKEY	THRU-HOLE MOUNT TEST POINTS, COMPACT SERIES, GREY -- FAULT RELAY INPUTS	\$0.33	\$1.65	\$23.10	\$26.40	
68	4	56			MCMaster-CARR		#6-32 x 3/8" LONG S.S. MACHINE SCREW, PAN HEAD	\$0.45	\$1.80	\$25.20	\$0.00	
69	1	8		SY31-M63C	HARLAN & LASH		ICC BOARD MOUNTS, MACHINED	\$75.00	\$75.00	\$600.00	\$0.00	
70	1	8		SY31-M62	HARLAN & LASH		ICC BOARD COVERS/SHIELDS, MACHINED	\$75.00	\$75.00	\$600.00	\$0.00	
								Subtotal 1:	\$658.07	\$8,314.64	\$3,595.77	
CABLES & PANEL-MOUNT CONNECTORS												
1	1	1	1		ALPAH WIRE CO.	MCMaster	22 AWG Wire, RED, 300V, 7/30 Strands, PVC insulation, 100 ft roll	\$8.22	\$8.22	\$8.22	\$8.22	
2	1	1	1		ALPAH WIRE CO.	MCMaster	22 AWG Wire, BLACK, 300V, 7/30 Strands, PVC insulation, 100 ft roll	\$8.22	\$8.22	\$8.22	\$8.22	
3	1	1	1		ALPAH WIRE CO.	MCMaster	22 AWG Wire, GREEN, 300V, 7/30 Strands, PVC insulation, 100 ft roll	\$8.22	\$8.22	\$8.22	\$8.22	
4	1	1	1		ALPAH WIRE CO.	MCMaster	22 AWG Wire, GREY, 300V, 7/30 Strands, PVC insulation, 100 ft roll	\$8.22	\$8.22	\$8.22	\$8.22	
5	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, YELLOW, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
6	1	1	2		ALPAH WIRE CO.	MCMaster	26 AWG Wire, BLACK, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$13.12	
7	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, BLUE, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
8	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, GREEN, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
9	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, BROWN, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
10	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, WHITE, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
11	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, RED, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
12	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, ORANGE, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
13	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, VIOLET, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
14	1	1	1		ALPAH WIRE CO.	MCMaster	26 AWG Wire, GREY, 300V, 7/36 Strands, PVC insulation, 100 ft roll	\$6.56	\$6.56	\$6.56	\$6.56	
15	1	14	16	SPC15239	SPC	NEWARK	D-SUB 15 CONNECTOR, MALE PINS, SOLDERCUP	\$1.01	\$1.01	\$14.14	\$16.16	

ITEM	QTY			Part Number	MFR	Dist.	Description	UIUC Price Totals				Order Notes
	EA.	ALL	TOTAL					Comp. Price	Estimate		Cost Of	
	Board	Boards	Ordered						Each Board	All Boards	Total Ordered	
16	1	14	20	SPC15422	SPC	NEWARK	25 PIN D-SUB CONNECTOR, MALE PINS, SOLDERCUP	\$1.92	\$1.92	\$26.88	\$38.40	
17	1	14	10	SPC15276	SPC	NEWARK	25 PIN D-SUB CONNECTOR, FEMALE PINS, SOLDERCUP	\$1.63	\$1.63	\$22.82	\$16.30	
18	1	14	18	SPC15292	SPC	NEWARK	JACK SCREWS FOR DB CONNECTORS ON ICC BOARD, 1 PAIR	\$1.09	\$1.09	\$15.26	\$19.62	
19	1	8	12	LF10WBR-4S	Hirose Electric Co.	DIGIKEY	4 PIN, CIRCULAR RECEPTACLE, FEMALE PINS, PANEL MOUNT	\$9.48	\$9.48	\$75.84	\$113.76	
20	1	8	16	LF10WBR-4P	Hirose Electric Co.	DIGIKEY	4 PIN CIRCULAR RECEPTACLE, MALE PINS, SHIELDED, PANEL MOUNT	\$9.48	\$9.48	\$75.84	\$151.68	
21	2	16	25	LF10WBR-12S	Hirose Electric Co.	DIGIKEY	12 PIN, CIRCULAR RECEPTACLE, FEMALE PINS, SHIELDED, PANEL MOUNT	\$9.99	\$19.98	\$159.84	\$249.75	
22	2	16	14	LF10WBR-12P	Hirose Electric Co.	DIGIKEY	12 PIN, CIRCULAR RECEPTACLE, MALE PINS, SHIELDED, PANEL MOUNT	\$9.41	\$18.82	\$150.56	\$131.74	had 4 in stock
SUBTOTAL 2:									\$161.89	\$639.66	\$842.45	
COOLING FAN LOAD BOARD												
1	1	14					Printed Circuit Board, 2.5" W x 2.0" L, 4 Layers, 0.093" Thick	\$80.00	\$80.00	\$1,120.00	\$0.00	
2	4	56		1206_CAP			SMT CAPACITOR, 1206, 0.1UF	\$0.11	\$0.44	\$6.16	\$0.00	
3	4	56	70	ALSR-5-.50-1%	HUNTINGTON ELECTRIC		POWER RESISTOR, WIREWOUND, AXIAL, 0.5 OHM. 1%, 5W	\$1.20	\$4.80	\$67.20	\$84.00	
4	1	14			Vishay/Dale		chip resistor, smt, 0805 case, 10K OHMS	\$0.05	\$0.05	\$0.70	\$0.00	
5	1	14			Vishay/Dale		chip resistor, smt, 0805 case, 620 OHMS	\$0.05	\$0.05	\$0.70	\$0.00	
6	1	14	25	MMBT3904	FAIRCHILD		NPN TRANSISTOR, SOT-23 CASE	\$0.21	\$0.21	\$2.94	\$5.25	
7	1	14	16	FQP50N06L	FAIRCHILD		MOSFET N-CH 60V 52.4A TO-220	\$0.87	\$0.87	\$12.18	\$13.92	
8	8	112	100		MCMaster-CARR		#4-40 x 5/16" LONG S.S. MACHINE SCREW, PAN HEAD	\$0.04	\$0.29	\$4.03	\$3.60	
9	4	56	70	2203	KEYSTONE		STANDOFF, THREADED, #4-40 x 0.50" LONG, ALUMINUM	\$0.27	\$1.08	\$15.12	\$18.90	
Subtotal 2:									\$87.79	\$1,229.03	\$125.67	
VICOR FAN RPM BOARD												
1	1	14					Printed Circuit Board, 1.0" W x 0.650" L, 4 Layers, 0.093" Thick	\$80.00	\$80.00	\$1,120.00	\$0.00	
2	1	14		103670-3	AMP		AMP MODU MTE 4-Pin Vert. Header, solder pins, w/ latch holder	\$0.71	\$0.71	\$9.89	\$0.00	Used to connect Vicor Fan Detector. POST4 symbol/cell in design
3	1	14		OPB607A	OPTEK		REFLECTIVE PHOTO TRANSISTOR SENSOR, DARLINGTON OUTPUT, PCB MOUNT	4.70	4.70	\$65.80	\$0.00	
4	1	14	25	MMBT3904	FAIRCHILD		NPN TRANSISTOR, SOT-23 CASE	\$0.21	\$0.21	\$2.94	\$5.25	
5	1	14					SMT CAPACITOR, 0805 CASE, 0.1UF	\$0.11	\$0.11	\$1.54	\$0.00	
6	1	14					chip resistor, smt, 0805 case, 50 OHMS	\$0.11	\$0.11	\$1.54	\$0.00	
7	1	14			CAPITOL ADVANCED TECH.		4 PIN SIP ADAPTER BOARD, THRU-HOLE	\$0.11	\$0.11	\$1.54	\$0.00	
8	2	28	200	9911-250	BIVAR, INC.		SPACER NYLON #4 SCREW 1/4"	\$0.04	\$0.08	\$1.06	\$7.60	
Subtotal 3:									\$86.02	\$1,204.31	\$12.85	
PROJECT COST:									\$993.77	\$11,387.64	\$4,576.74	