

Vacuum Tube Analyzer BOM Rev.H

10/20/17 Revs use letters to avoid confusion with schematic revs. O="original"

Note-1: Surface mount parts are from resistor and cap kits by aidetech.com
 Note-2: Meter Mod Board parts have a M1 or M2 prefix.
 Note-3: PM-328 Meter Board parts have a M1* or M2* prefix. (Those are replacements and kludges.)

Notes on order qty:
 99XX - indicates commodity or on-hand code

Qty	Ord qty	Cost	Ext Cost	Ref Nos.	Vendor	Part#	Pkg	Description	Issues
1	9900		\$0.00	CM4	aidetech.com		0603	180pF NPO 5% 50V surface mount for kludge	Note-1
1	9900		\$0.00	CM5	aidetech.com		0603	0.22uF X7R 10% 25V surface mount for kludge	Note-1
1	9900		\$0.00	RM4	aidetech.com		0603	6.19K 1% surface mount for kludge	Note-1
1	9900		\$0.00	RM5	aidetech.com		0603	51.1 surface mount for kludge	Note-1
1	9900		\$0.00	RM6	aidetech.com		0603	22.1 surface mount for kludge	Note-1
1	9900		\$0.00	RM8	aidetech.com		0603	1K surface mount for kludge	Note-1
2	2	0.83	\$1.66	C211, C212	Mouser	UPW1V102MHD	12.5D x 25L 5LS 24mi	1000uF 35V Low-Z 7000hr	
2	2	3.84	\$7.68	C201, C202	Mouser	UVR1E153MRD6	25D x40L 12.5LS 39m	15000uF 25V 20% 2000hr 85C	
4	4	4.33	\$17.32	C203, C204, C209, C210	Mouser	UPW2V221MRD	25D x 50H 12.5LS	220uF 350V 20% 105C Low-Z 8000hr	
2	5	0.47	\$2.35	C213, AR_C3	Mouser	UPM1J470MPD	8Dx11.5H 3.5LS	47uF 63V 20% 105C 3000hr Low-Z	was 33uF
7	10	0.30	\$3.00	C205, C206, C207, C208, C209	Mouser	EKZE350ELL471MJ20S	10Dx20L 5LS 24mil	470uF 35V 105C Low-Z, United Chemi-Con	
3	3	1.04	\$3.12	C3, C11, C14	Mouser	EEU-FC1H681L	CPOL-USSANYO_G	680uF 50V 20% 4000hr 105C 0.04ohms 2.2A Panasonic	
43	9900	0.06	\$0.00	C15, C18, C19, C23, C24, C30, C31	Mouser	K104K15X7RF53L2	CNPOLC-CER1	0.1uF 50V 10% X7R	
6	5	0.41	\$2.05	C31, C47, C49, C73, C105, C106	Mouser	K105K20X7RF53H5	CNPOLC-CER3	1uF 50V 10% X7R	
10	20	0.12	\$2.40	C10, C20, C26, C27, C28, C29	Mouser	FK26C0G2J151J	CNPOLC-CER3	150pF 630V 5% C0G TDK	
1	20	0.10	\$2.00	C77	Mouser	140-500N5-150J-RC	CNPOLC-CER3	15pF 500V 5% Xicon C0G	
2	10	0.21	\$2.14	M1*CX1, M2*CX1	Mouser	RCE5C1H100J0A2H03B		10pF 50V 5% Murata C0G	
2	10	0.21	\$2.14	M1*CX2, M2*CX2	Mouser	RCE5C1H5R0C0A2H03B		5pF 50V Murata C0G	
1	9900	0.39	\$0.00	C93	Mouser	FK26C0G2J331J	CNPOLC-CER3	330pF C0G	
1	9900			C57	Mouser			39pF C0G	
2	9900			C68, C74	Mouser			47pF C0G	
2	5	0.38	\$1.90	C61, C71	Digikey	RPE5C2A751J2P1B03B	CNPOLC-CER6	750pF 100V 5% C0G Murata	
1	9900	0.42	\$0.00	C76	Mouser	FK26C0G2J821J	CNPOLC-CER3	820pF C0G	
2	2	1.42	\$2.84	C5, C6	Mouser	FK22X7R1E106K	CNPOLC-CER5	10uF 10% 25V X7R 125C	
1	10	0.11	\$1.10	CM3	Mouser	S102K29Y5PN6TJ5R		1000pF 1kV Y5P 10%	
1	5	0.33	\$1.65	C94	Mouser	RPE5C1H152J2P1A03B	CNPOLC-CER6	1500pF C0G 5% 50V	
2	5	1.62	\$8.10	C7, C9	Digikey	FK22X7R1C226M	CNPOLC-CER5	22uF 20% X7R 16V TDK Digikey has qty-5-min.	
9	10	1.00	\$10.00	C81, C82, C83, C98, C99, C100	Mouser	FK22X7R2J104K	CNPOLC-CER5	0.1uF 630V X7R TDK 10%	substituting Kemet C330C104KCR5TA 0.1uF 500V X7R 10% 125C \$1.61
9	12	0.49	\$5.88	C12, C40, C41, C45, C84, C101	Mouser	R82EC4100Z370J	CNPOLC-FILM1	1uF 5% 100V Kemet	
5	5	5.81	\$29.05	C1, C8 C59, C85, C95	Mouser	MMK5475K50J06L16.5TR18	CNPOLC-FILM1	4.7uF 5% 50V 100C Kemet	WIMA MKS2-4.7/50/10 OOS \$2.21 preferred
2	10	0.31	\$3.10	C4, C92	Mouser	B32529C1334J	CNPOLC-FILM3	0.33uF 100V 5% 125C Epcos	was 0.33uF 63V 5% 105C Kemet
4	5	1.03	\$5.15	M1*C5, M2*C5, M1*C2, M2*M1	Mouser	MKP2-.1/250/5	CNPOLC-FILM4	0.1uF 5% 250V polyprop 100C Wima	
1	5	0.80	\$4.00	C88	Mouser	ECW-F2W334JAQ	CNPOLC-FILM5	0.33uF 5% 450V polyprop 105C Panasonic	
1	9900			AR_C1				10nF 10% 100V film	
11	10	0.31	\$3.10	C16, C21, C22, C42, C65, C102	Mouser	USV1V100MFD	CPOL-USC-ALUM1	10uF 35V AL 105C 5000hr Nichicon	
3	5	0.26	\$1.30	C46, C89, C90	Mouser	SEK220M0355T	CPOL-USC-ALUM1	22uF 35V AL 2000hr 105C Cornell Dubilier	
1	1	2.22	\$2.22	C37	Mouser	T350H226K025AT	CPOL-USC-TANT1	22uF 25V tant 10% 1.5ohm Kemet	
5	5	0.63	\$3.15	C17, C2, C25, C38, C39	Mouser	T352C225K035AT	CPOL-USC-TANT3	2.2uF 35V tant 10% Kemet	
1	2	0.60	\$1.20	C13	Mouser	UPW1C222MHD	CPOL-USSANYO_G	2200uF 16V low-Z 7000hr 105C Nichicon	
32	100	0.02	\$2.00	D30, D31, D34, D35, D47, D48	Mouser	1N4007-B	DO-41/DO-204AL	1N4007 1000V 1A Rectron	
4	10	0.41	\$4.10	D8, D12, D203, D204	Mouser	BY255GP-E3/54	DO-201AD	BY255GP 1300V 3A Vishay	
42	9900	0.02	\$0.00	D6, D7, D10, D11, D19, D20	Mouser	1N4148TA	DO-35-7	1N4148T Fairchild	
8	9900	0.18	\$0.00	D37, D38, D39, D40, M1D2, M1D3	Mouser	1N457A	DO-35-7	1N457 low leakage Fairchild	
2	9900		\$0.00	DM11, AR_D1	Mouser	BAT86	DO-35-8	BAT86 Schottky diode, 50V, 200mA (actually DO-34)	
4	9900	0.02	\$0.00	DM12, DM13, DM14, DM15	Mouser	1N5226B-TR	DO-35-7	1N5226 3.3V Zener Vishay	
3	9900	0.02	\$0.00	M1D1, M2D1, AR_D2	Mouser	1N5231B-TR	DO-35-7	1N5231 5.1V Zener Vishay	
8	9900	0.02	\$0.00	D13, DM1, DM2, DM3, DM4, DM5	Mouser	1N5235B-TR	DO-35-7	1N5235 6.8V Zener Vishay	
3	9900	0.02	\$0.00	D16, D36, DM10	Mouser	1N5237B-TR	DO-35-7	1N5237 8.2V Zener Vishay	
2	50	0.02	\$1.00	M1D4, M2D4	Mouser	1N5239B-TR	DO-35-7	1N5239 9.1V Zener Vishay	
1	50	0.02	\$1.00	D52	Mouser	1N5245B-TR	DO-35-7	1N5245 15V Zener Vishay	
3	3	0.52	\$1.56	D1, D14, D15	Mouser	1N5347BRLG	"Surmetic 40"	1N5347 10V 5W Zener Case 017AA-01 ON Semi	
3	5	0.32	\$1.60	D9, D201, D202	Mouser	MBR20100	TQ220VERT	MBR20100 Schottky rectifier, dual, com-cath, 100V, 10A per side	was 1N5822 3A 40V Schottky rectifier MCC
4	10	0.14	\$1.40	D326, D327, D328, D329	Mouser	VAOL-5701AE4	T-1 3/4-cylinder	LED, Red	
1	10	0.16	\$1.60	D301	Mouser	VAOL-5701DE4	T-1 3/4-cylinder	LED, Green	
5	10	0.29	\$2.90	D314, D315, D324, D325, D326	Mouser	VAOL-5701SBY4	T-1 3/4-cylinder	LED, Blue	

1	2	4.29	\$8.58	D342	Frys	474385	T-1	LED, Blue, 3mm, with chassis clip, Linrose B4303F6	for auto-range GmH extension
2	4	0.80	\$3.20	D18, D28	Mouser	LM385BLP-1-2	TO-92	LM385-1.2 1% 20ppm-tyl TI	
3	5	0.94	\$4.70	D4, D17, D26	Mouser	LM4040D41ILP	TO-92	LM4040-4.1 TI	
2	10	0.16	\$1.60	M1IC2, M2IC2	Mouser	TL431CLP	TO-92	TL431CLP 2.5V 2% Fairchild	
1	5	0.61	\$3.05	F301	Mouser	0313002.HXP	3AG	Fuse & holder, 2A fuse have holder/order fuse, 1.25" Slo-Blo	
1	9900			AR_IC1			DIL14	4011B quad NAND	
1	9900	0.48	\$0.00	IC3	Mouser	HCF4053BEY	DIL16	4053B	
1	9900			AR_IC2			DIL08	LM393	
1	5	0.44	\$2.20	IC30	Mouser	SN74HC02NE4	DIL14	74HC02N TI	
1	5	0.47	\$2.35	IC22	Mouser	74HC4040N.652	DIL16	74HC4040N NXP	
1	10	0.27	\$2.70	IC21	Mouser	74HC74N.652	DIL14	74HC74N NXP	
1	9900		\$0.00	IC28	Mouser	7805T	TO220VERT	7805T	
1	9900		\$0.00	IC9	Mouser	7812T	TO220VERT	7812T	
4	9900		\$0.00	IC10, IC38, M1IC3, M2IC3	Mouser	7815T	TO220VERT	7815T	
2	9900		\$0.00	IC12, IC36	Mouser	78L15Z	TO92	78L15Z	
1	9900		\$0.00	IC11	Mouser	7915T	TO220VERT	7915	
3	9900		\$0.00	IC13, IC37, IC39	Mouser	79L15Z	TO92	79L15Z	
3	3	2.88	\$8.64	IC6, IC20, IC33	Mouser	DG303BDJ-E3	DIL14	DG303 CDIP-14 Vishay/Siliconix	
1	1	2.52	\$2.52	IC24	Digikey	FOD3181-ND	DIL08	FOD3181	
1	2	2.50	\$5.00	IC7	Mouser	LM2576TV-ADJG	TO220-51	LM2576TV-ADJG ON Semi	
11	20	3.30	\$66.00	IC2, IC4, IC5, IC8, IC15, IC11	Linear Tech	LT1884CN8#PBF	DIL08	LT1884CP	
3	3	6.22	\$18.66	IC23, M1IC1, M2IC1	Mouser	REF02BP	DIL08	REF02BP TI	
3	3	4.84	\$14.52	IC1, IC14, IC18	Mouser	REF102APG4	DIL08	REF102A 10ppm 0.1% TI	
4	5	1.37	\$6.85	IC25, IC26, IC27, IC29	Mouser	SFH6701	DIL08	SFH6701 (Mouser shows wrong pkg pic)	
3	3	2.67	\$8.01	K1, K2, K301	Mouser	G6J-2P-Y-DC12		RELAY-DPDT, 12V, 12mA	
1				K302	Mouser	G6A-474P-ST40-US-DC12		RELAY-4PDT, 12V, 17mA	obsolete at main distributors
1	1	2.00	\$2.00	L2	Mouser	15223C	22UH_MUR	Inductor, 22uH, 6.8A inductor, Murata 15223C	
1	1	2.13	\$2.13	L3	Mouser	2117-V	270UH_2117	Inductor, 270uH, 1.8A, Bourns-Miller 2117V	
6	10	0.75	\$7.50	L4, L5, L6, L7, L8, L9	Mouser	07P-472J-50	4.7MH_FAS	Inductor, 4.7mH, 70mA, 18.5ohm	was 47mH 13R476C
1	1	4.27	\$4.27	L1	Newark	2321-H-RC	560UH_MLR	Inductor, 560uH, 3.6A, 0.14ohm, Bourns-Miller, conv to vert mt	
1	2	0.81	\$1.62	M1	Mouser	FDP8878	TO220VERT	MOSFET, N-chan, 30V, 40W, 0.019ohm, 40A, Fairchild	
3	6	2.50	\$15.00	M2, M3, M5	Mouser	FQP12N60	TO220VERT	MOSFET N-chan, 600V, 180W, 0.7ohm, 12A, Fairchild	
1	3	15.69	\$47.07	M4	Mouser	IXTH12N100L	TO247-3	MOSFET N-chan, 1000V, 400W, 1.3ohm, 12A, IXYS	beefier replacement for M4 FQP12N60C, rated for continuous Id
2	3	3.15	\$9.45	M6, M7	Mouser	MTP2P50EG	TO220VERT	MOSFET P-chan, 500V, 75W, 6ohm, 2A, ON Semi	
2	10	0.42	\$4.20	M8, M9	Mouser	FQN1N60C	TO92	MOSFET, N-chan, 600V, 9.3ohm, 300mA, Fairchild	was ZVNL120A
2	9900		\$0.00	Q4, Q11		2N3904	TO92	BJT, NPN	
3	9900		\$0.00	Q1, Q2, AR_Q1		2N3906	TO92	BJT, PNP	
1	2	0.88	\$1.76	Q3	Mouser	KSE45H11	TO220VERT	BJT, PNP, 80V, B=100typ, 10A, 50W	
3	10	0.12	\$1.20	Q5, Q6, Q8	Mouser	KSP44TF	TO92	BJT, NPN, Vcbo=500V, B=100typ, 300mA, Cob=10pF@2V typ	
3	5	0.72	\$3.60	Q7, Q9, Q10	Mouser	ZTX558	TO92	BJT, PNP, 400V, B=100min, Cob=5pFmax@20V	
2	5	0.92	\$4.60	R175, R177	Mouser	82PR20LF	82P	Pot, trimmer, cermet, 0.25"D, 20ohm, 100ppm, sealed, BiTech	
3	9900	0.83	\$0.00	R96, R149, R172	Mouser	3362P-1-201LF	3362P	Pot, trimmer, cermet, 0.25", 200ohm, Bourns	
4	5	0.83	\$4.15	R24, M1R1, M2R1, RM9	Mouser	3362P-1-501LF	3362P	Pot, trimmer, cermet, 0.25", 500ohm, Bourns	
3	4	0.83	\$3.32	R54, R124, R129	Mouser	3362P-1-102LF	3362P	Pot, trimmer, cermet, 0.25", 1Kohm, Bourns	
2	2	0.98	\$1.96	R189, R318	Mouser	3362P-1-202LF	3362P	Pot, trimmer, cermet, 0.25", 2Kohm, Bourns	
1	3	0.83	\$2.49	R42	Mouser	3362P-1-502LF	3362P	Pot, trimmer, cermet, 0.25", 5Kohm, Bourns	
3	3	0.83	\$2.49	R20, R30, R47	Mouser	3362P-1-104LF	3362P	Pot, trimmer, cermet, 0.25", 100Kohm, Bourns	
1	1	12.78	\$12.78	RN301	Digikey	1776-C681		R-network, 1K,9K,90K,900K,9M, 0.05%, Caddock	
2	2	1.61	\$3.22	R37, R74	Mouser	13FR015	R-US_0617/5V	0.015 1% 50ppm 3W	went with 3W instead of 2W
1	10	0.12	\$1.20	R73	Mouser	MOSX1CT52RR33J	R-US_0309/12	0.33, metal oxide, 5%, 1W, 300ppm	
1	4	0.32	\$1.28	R203	Mouser	CF1/2C911J	R-US_0309/12	910 0.5W, KOA	
1	9900		\$0.00	R1	Mouser		R-US_0309/12	22 0.5W	
1	9900		\$0.00	R204	Mouser			33 0.5W	
2	2	1.13	\$2.26	R201, R202	Mouser	CW00522K00JB12		22K 5W	
2	9900		\$0.00	R205, R206	Mouser			22K 0.5W	
1	10	0.14	\$1.40	R99	Mouser	MO2CT631R511J	R-US_0617/5V	510, metal oxide, 5%, 2W	
2	9900		\$0.00	M1*R2, M2*R2	Mouser		R-US_0207/10	1M	
5	9900		\$0.00	R50, R69, R70, R103, R104	Mouser		R-US_0207/10	1.1K	
3	9900		\$0.00	R153, R156, AR_R2	Mouser		R-US_0207/10	1.3K	
1	9900		\$0.00	R33	Mouser		R-US_0207/10	1.3M	
1	9900		\$0.00	R88	Mouser		R-US_0207/10	1.5K	
1	9900		\$0.00	R92	Mouser		R-US_0207/10	1.6K	

1	9900		\$0.00 R79	Mouser		R-US_0207/10	10	
3	3	0.96	\$2.88 R6, R48, R106	Mouser	RC55LF-D-10R2-B-B	R-US_0207/10	10.2 0.1% 25ppm 1/4W	Don't see 10ppm going with 25ppm
1	1	0.96	\$0.96 R146	Mouser	RC55LF-D-10K5-B-B	R-US_0207/10	10.5K 0.1% 25ppm 1/4W	
5	9900		\$0.00 R64, R68, R75, R114, R186	Mouser		R-US_0207/10	100	
1	1	5.94	\$5.94 R155	Mouser	PTF56100R00TYEK	R-US_0207/10	100 0.01% 1/8W	
4	4	0.58	\$2.32 R84, R133, R173, R191	Mouser	PTF56100K00BYEK	R-US_0207/10	100K 0.1% 10ppm 1/8W	
5	9900		\$0.00 R34, R63, R139, RM1, AR_R	Mouser		R-US_0207/10	10K	
4	5	0.73	\$3.65 R21, R22, R25, R55	Mouser	PTF5610K000BYEK	R-US_0207/10	10K 0.1% 10ppm 1/8W	
8	9900		\$0.00 R52, R60, R61, R62, R89, R	Mouser		R-US_0207/10	11K	
1	1	1.26	\$1.26 R174	Mouser	PTF5611K000BYBF	R-US_0207/10	11K 0.1% 10ppm 1/8W	
1	9900		\$0.00 R15	Mouser		R-US_0207/10	120K	
1	1		\$0.00 R94	Mouser		R-US_0207/10	12.725K 0.1% 10ppm 1/8W	
1	9900		\$0.00 AR_R4			R-US_0207/10	110K	
2	9900		\$0.00 R148, R163	Mouser		R-US_0207/10	130K	
2	9900		\$0.00 R44, R110	Mouser		R-US_0207/10	13K	
1	9900		\$0.00 R41	Mouser		R-US_0207/10	15K	
1	9900		\$0.00 R71	Mouser		R-US_0207/10	160K	
5	9900		\$0.00 R56, R66, R116, R164, RM2	Mouser		R-US_0207/10	18K	
1	1		\$0.00 R144	Mouser	RC55LF-D-191K-B-B	R-US_0207/10	191K 0.1% 25ppm 1/4W	
3	9900		\$0.00 R152, RM3, RM7	Mouser		R-US_0207/10	1K	
1	1	7.43	\$7.43 R151	Mouser	PTF561K0000TYEK	R-US_0207/10	1K 0.01% 10ppm 1/8W	
2	20	0.04	\$0.80 R154, R158	Mouser	CCF551K00FKE36	R-US_0207/10	1K 1% 100ppm 1/4W	
4	3	1.13	\$3.39 R18, R176, R178, R188	Mouser	PTF561K0000BYEB	R-US_0207/10	1K .1% 10ppm 1/8W	
5	9900		\$0.00 R150, R157, R159, M1*R2, M	Mouser		R-US_0207/10	1M	
2	2	1.55	\$3.10 R121, R125	Mouser	PTF651M0000BYBF	R-US_0207/10	1M 0.1% 10ppm 1/4W	
1	2	0.82	\$1.64 R190	Mouser	RN55E20R0BB14	R-US_0207/10	20 0.1% 25ppm	
4	9900		\$0.00 R141, R143, R180, R181	Mouser		R-US_0207/10	220	
1	9900		\$0.00 RM10	Mouser		R-US_0207/10	220 1% 10ppm	
4	9900		\$0.00 R43, R86, R160, R167	Mouser		R-US_0207/10	2.2K	
2	9900		\$0.00 R100, R102	Mouser		R-US_0207/10	2.4K	
1	9900		\$0.00 R32	Mouser		R-US_0207/10	2.7M	
1	9900		\$0.00 R169	Mouser		R-US_0207/10	200K	
4	4	2.12	\$8.48 R105, R119, R131, R134	Mouser	PTF56200K00BZEK	R-US_0207/10	200K 0.1% 5ppm 1/8W	
4	9900		\$0.00 R27, R28, R161, R168	Mouser		R-US_0207/10	20K	
1	2	0.58	\$1.16 R120	Mouser	PTF5620K000BYEK	R-US_0207/10	20K 0.1% 10ppm 1/8W	
3	9900		\$0.00 R23, R83, R93	Mouser		R-US_0207/10	22K	
1	9900		\$0.00 R171	Mouser		R-US_0207/10	240	
1	1	1.35	\$1.35 R316	Mouser	PTF56250K00FZEB	R-US_0207/10	250K 1% 5ppm 1/8W	
3	3	0.48	\$1.44 R81, R122, R126	Mouser	PTF5625K000BYEB	R-US_0207/10	25K 0.1% 10ppm 1/8W	
1	1	1.96	\$1.96 R317	Mouser	PTF5626K902BZBF	R-US_0207/10	26.9K 0.1% 5ppm 1/8W	
1	9900		\$0.00 R101	Mouser		R-US_0207/10	270	
5	9900		\$0.00 R3, R8, R9, R46, R165	Mouser		R-US_0207/10	2K	
1	9900		\$0.00 AR_R8			R-US_0207/10	2.7K	
1	2	0.73	\$1.46 R109	Mouser	PTF562K0000BYEK	R-US_0207/10	2K 0.1% 10ppm 1/8W	
1	9900		\$0.00 R170	Mouser		R-US_0207/10	2M	
1	1		\$0.00 R95	Mouser		R-US_0207/10	3.16K 0.1% 10ppm 1/8W	
1	2	0.77	\$1.54 R145	Mouser	RN60C3202BB14	R-US_0207/10	32K 0.1% 50ppm 1/8W	going with 8.7mm (Will need to shoehorn it in.)
1	9900		\$0.00 R45	Mouser		R-US_0207/10	33	
2	9900		\$0.00 R77, R78	Mouser		R-US_0207/10	330	
2	9900		\$0.00 M1*RX1, M2*RX1	Mouser		R-US_0207/10	330K	
2	9900		\$0.00 R29, R31	Mouser		R-US_0207/10	360K	
1	9900		\$0.00 R2	Mouser		R-US_0207/10	36K	
5	9900		\$0.00 R123, R128, M1R4, M2R4, A	Mouser		R-US_0207/10	39K	
1	9900		\$0.00 R315	Mouser		R-US_0207/10	3.9K	
2	9900		\$0.00 R162, R166	Mouser		R-US_0207/10	3M	
1	2	0.77	\$1.54 R140	Mouser	RN55D3004FB14	R-US_0207/10	3M 1% 1/8W 100ppm	
2	9900		\$0.00 R142, R179			R-US_0207/10	430	
1			\$0.00 RM11			R-US_0207/10	470 1% 10ppm	
4	9900		\$0.00 R7, R136, R313, R314	Mouser		R-US_0207/10	4.3K	
5	9900		\$0.00 R182, R183, R184, R311, R312	Mouser		R-US_0207/10	4.7K	
1	1	0.96	\$0.96 R53	Mouser	RC55LF-D-4K75-B-B	R-US_0207/10	4.75K 1% 10ppm 1/4W	
3	3	2.01	\$6.03 R97, M1R2, M2R2	Mouser	PTF5640K200BZBF	R-US_0207/10	40.2K 0.1% 5ppm 1/8W	

2	9900		\$0.00	R11, R12	Mouser		R-US_0207/10	43K	
1	9900		\$0.00	AR_R1			R-US_0207/10	47K	
7	9900		\$0.00	R57, R82, R85, R91, R127, R128	Mouser		R-US_0207/10	5.1K	
1	1	0.96	\$0.96	R132	Mouser	RC55LF-D-5K62-B-B	R-US_0207/10	5.62K 1% 10ppm	Went with 25ppm
2	9900		\$0.00	R98, R111	Mouser		R-US_0207/10	51	
1	1		\$0.00	R13	Mouser	PTF56500R00BYEK	R-US_0207/10	500 0.1% 10ppm 1/8W	
3	9900		\$0.00	M1*R5, M2*R5, RM13	Mouser		R-US_0207/10	62K	
3	9900		\$0.00	R14, R49, R107	Mouser		R-US_0207/10	6.2K	
1	1	0.96	\$0.96	R35	Mouser	RC55LF-D-6K34-B-B	R-US_0207/10	6.34K 0.1% 25ppm 1/4W	
1	9900		\$0.00	RM12	Mouser		R-US_0207/11	6.8K	
1	1	1.87	\$1.87	R26	Mouser	PTF656K8100FZBF	R-US_0207/10	6.81K 1% 10ppm 1/8W	going with 5ppm, 1/4W 9.5mm
1	9900		\$0.00	R72	Mouser		R-US_0207/10	68	
4	9900		\$0.00	R39, R76, R87, R4	Mouser		R-US_0207/10	680	
1	9900		\$0.00	AR_R3			R-US_0207/10	680K	
2	9900		\$0.00	R17, R67	Mouser		R-US_0207/10	7.5K	
2	9900		\$0.00	R38, R187	Mouser		R-US_0207/10	75	
3	9900		\$0.00	R16, R51, R108	Mouser		R-US_0207/10	750	
1	1	2.01	\$2.01	R58	Mouser	PTF568K0600BZBF	R-US_0207/10	8.06K 0.1% 10ppm 1/8W	Going with 5ppm
4	9900		\$0.00	R65, R115, R130, R135	Mouser		R-US_0207/10	8.2K	
2	9900		\$0.00	R80, R319	Mouser		R-US_0207/10	82	
1	9900		\$0.00	AR_R7			R-US_0207/10	820	
2	9900		\$0.00	R10, R40	Mouser		R-US_0207/10	820K	
3	9900		\$0.00	R59, R117, R118	Mouser		R-US_0207/10	9.1K	
1	1		\$0.00	R19	Mouser	PTF569K0900BYEK	R-US_0207/10	9.1K 1% 10ppm 1/8W	going with 9.09K 0.1%
2	2	1.37	\$2.74	M1R3, M2R3	Mouser	PTF569K9000BYEK	R-US_0207/10	9.9K 0.1% 10ppm 1/8W	
5	5	19.38	\$96.90	R301, R302, R303, R304, R305	Digikey	533B1103JCB10	chassis mount	Pot, 10K, WW, 3T, 20ppm, 0.034% resn, Vishay-Spectrol	Heater, Grid, Grid Fine, Plate, Screen
1	2	16.81	\$33.62	S302	Mouser	C4D0406N	chassis mount	Switch, 4P, 2-6posn as 4P5T Meter-1 Fcn, Electros	Meter1 function switch
1	1	25.68	\$25.68	S318	Mouser	C4D0412N	chassis mount	Switch, 4P, 2-12posn as 4P9T Meter-2 Fcn, Electros	Meter2 function switch
2	2	6.74	\$13.48	S303, S304	Mouser	108-1M41T1B1M2QE-EVX	chassis mount	Switch, 4PDT, toggle, 250VAC 2A, HV Test & Gx-Cal, Mountain Swch	HV Test, Gm/Gp cal
12	12	19.38	\$232.56	S305, S306, S307, S308, S309	Newark	C4D0212N-A	chassis mount	Switch, DP8T, rotary, Pin Switches, Electros	
2	2	1.90	\$3.80	S301, S317	Mouser	108-1MS1T1B1M1QE-EVX	chassis mount	Switch, SPDT, toggle, 250VAC 2A, Power & Pent/Triode, Mtn Swch	Power, Pentode/triode
1	1	11.55	\$11.55	S320	Mouser	MP0045/3D0NN000	chassis mount	Switch, DPDT, pushbutton, Data Hold, 16mm hole, 250VAC 3A, Bulgin	Hold button
3	3	12.64	\$37.92	T203, T204, T205	Digikey	LP-30-200	PC mount	Transformer, 2X 15VAC 200mA 6VA Semi Toroidal, Signal Trans.	
1	1	7.85	\$7.85	T202	Digikey	3FS-448	PC mount	Transformer, 48VAC 125mA Tamura	
1	1	68.00	\$68.00	T301	Angela	273BX	chassis mount	Transformer, 700VCT @ 201mA, 5V@3A, 6.3V @ 5A, Hammond	
1	1	1.87	\$1.87	Y1	Mouser	ECS100AX2.0	DIL14S	Oscillator, Crystal, 2MHz, 5VDC	
2	3	1.72	\$5.16	M1*Y1, M2*Y1	Digikey	SER3335-ND		Crystal, 120kHz, 11pF, tuning fork, Epson	
1	5	30.00	\$150.00		Advanced Ckts	TPCB102		PCB, VT Analyzer	
2	3	16.28	\$48.84		BatchPCB	TPCB103		PCB, PM328 Meter Mod Board	
2	2	19.88	\$39.76	M301, M302	Web-tronics	PM-328	PCB module	4.5-digit, 200mV panel meter	
14	9900		\$0.00	XV1, XV2, etc.	various		chassis mount	Tube sockets, 7,8,9,12,4,5,6 pin etc.	
116	9900		\$0.00	P's	Mouser	T68/C	PCB push-in	Terminal, stake, miniwrap, Vector	
1	9900		\$0.00	JP4			0.1" spacing	Jumper, 2-pin with shunt	for heater shutdown mod
1	9900	0.21	\$0.00		Mouser	745	0.5hole, 0.375ID	Grommet, rubber, black, Keystone	
1	1	3.38	\$3.38	P301	Mouser	211018-06		AC power cord with ground, gray	
1	1	81.97	\$81.97		Mouser	MDC-15155		Enclosure, sloped, 15x15x4.5", .063AL, Beige/Ivory, LMB-Heeger	
4	12	0.64	\$7.68		MSC	82336017		Standoff, #4 1.5x3/16 hex F/F, AL	for Main board
6	0		\$0.00		Jameco			Standoff, 0.56x.188 #4 F/F, AL	for PS Bd
1	3	0.95	\$2.85		Jameco	126981	.81x.81x.3	Feet, 4-pack, adhesive, rubber, black, square, tapered	
7	12	0.46	\$5.52		Mouser	173-7-220P		Insulator for TO220, 0.33C/W, DeltaPads, 7mil, Wakefield	
7	12	0.32	\$3.84		Mouser	7721-7PPSG		Insulating shoulder washer for TO220, Aavid	
1	1	16.33	\$16.33		HeatsinkUSA.com	E004	chassis mount	Heatsink, 10x2.5x4"	main heatsink
4	20	0.48	\$9.68		Arrow	4170G		Insulator for TO220, Aavid, Alum Oxide, 0.062 thick	required by M2, M3, M4, M5 for HV
9	20	0.31	\$6.20		Mouser	575200B00000G	TO92HS	Heatsink for TO92, Thermalloy	
1	1	6.95	\$6.95	FA301	Jameco	2099462	80x80x15mm	Fan, 12V 90mA 20CFM 20dBA	
1	0	6.50	\$0.00	J301	rfparts.com	PC509	pigtail on FP	Connector, cap, grid/plate, 1/4" for EL509, 6KD6, 6K7 etc.	Ours from 666 parts unit
3	10	0.14	\$1.39	P71, P72, P72	Frys	3582124		Connector, 3-pin, male, PCB, Pan Pacific MLX-WF03-P10, "fan" type	for M2, M3 move to main heatsink and M4 TO247
3	3	3.99	\$11.97	J1, J2, J3	Frys	8115855		Connector, 3-pin, female, with wires, "fan cable," Raidmax RC-008-B	for M2, M3 move to main heatsink and M4 TO247
1	1	2.99	\$2.99	P318, P333	RadioShack	274-662	chassis mount	Binding post banana jack 2-pack, red/blk, for ext pin conn and gnd	Have a pair of similar
9	20	0.25	\$5.00		Mouser	4304MC	chassis mount	LED holder for T-1 3/4, 2-piece, CML	
4	20	0.42	\$8.40		Mouser	24445	15x5.5mm	Standoff, 15mmL x5.5mmD hex brass M3, metric	for meter mod board
4	100	0.10	\$9.94		MSC	68019207	M3x6mm	Screw, pan hd, philips, SS, M3x6mm, metric	for meter mod board

4	100	0.16	\$16.00	MSC	67572206	10-32 x 3/4	Screw, pan hd, philips, SS, 10-32 x 3/4	for main transformer
4	8	1.17	\$9.36	MSC	67715540	#10 3/8 spacer	Spacer, 3/8L #10 inside 3/8 OD, brass/zinc plated	for main transformer
14	15	1.29	\$19.35	Allied	1500AU		knob, pin & fcn switches, 1.13"D, black, phenolic, Davies	
4	4	5.47	\$21.88	Mouser	450-KB301		knob, voltage pots, 1.18", black, alum, Eagle	
1	1	3.77	\$5.51	Mouser	450-KB201		knob, grid fine, 0.8"D black, alum, Eagle	
2	2	9.10	\$18.20	Mouser	400R0111-22-9		Hookup wire, 600V, 22AWG, wht, stranded, polyolefin, per 100ft	for most wiring
1	1	5.00	\$5.00	Home Depot	7005015		Hardboard panel, tempered, 2x4ft, For baffle board.	
2	4	0.50	\$2.00	Home Depot	527580		Corner brace, 3/4", 1/2" wide, zinc plated steel	for baffle board
1	1	14.95	\$14.95	Jameco	105187	5.8x7.5"	Perfboard, 0.1" spacing, 0.062" epoxy glass, 5.8 x 7.5",	for PS board
16	50	0.13	\$6.50	Mouser	2743004111		Bead, Fair-Rite #43 leaded, 110Ω, ID=.xxx OD=.138 L=.300, "LB110"	for loctal, octal sockets
37	50	0.19	\$9.50	Mouser	2743007111		Bead, Fair-Rite #43 leaded, 150Ω, ID=.xxx OD=.138 L=.374, "LB150"	for 9P, 12P noval, 7P, 9P mini sockets
20	50	0.13	\$6.50	Mouser	2643005701		Bead, Fair-Rite #43 sleeve, 120Ω, ID=.090 OD=.200 L=.500, "SB120"	for submini, nuvistor 5P, 7P sockets
22	50	0.10	\$5.00	Mouser	2643021801		Bead, Fair-Rite #43 sleeve, 131Ω, ID=.200 OD=.062 L=.437, "SB131"	for UX sockets
24	50	0.11	\$5.50	Mouser	2643250402		Bead, Fair-Rite #43 sleeve, 102Ω, ID=.125 OD=.250 L=.500, "SB102"	for feed lines
TOTAL			\$1,620.45					

Note: The TOTAL is not accurate due to: Some parts were "on hand," extra quantities were ordered for stock or spares and some like tube sockets were not individually tracked.
Also, not all fasteners are included.

875 components