

3IN1 VERSION 3.2 (B-2382 V3.2) Component list								
Harold Sanders								
University of Chicago								
Enrico Fermi Institute								
5640 S. Ellis Ave.								
Chicago IL 60637								
Tel: (773)-702-7801 Fax: 773-702-2971								
Email: harold@frodo.uchicago.edu								
2/2/00								
Item	Qty/Board	Top/Bot (1/2)	Reference	Value	Geometry	Tolerance(+/-)	WVDC/Pw	Rec.parts
Not used components								
0	0 of 0	2	C3	0pF*	cc0805			
0	0 of 0	2	C101	0pF*	cc0805			
0	0 of 0	2	C102	0pF*	cc0805			
0	0 of 0	2	R34	open	rc0805			
Precision small caps								
1	1 of 1	2	CS	5.1pF	cc0805	0.1pF	50V	VJ0805A5R10BXAMT
Caps with 1% tol.								
2	1 of 1	2	C104	10pF	cc0805	1%	50V	VJ0805A100FXAMT
3	1 of 1	2	C106	15pF	cc0805	1%	50V	VJ0805A150FXAMT
4	1 of 1	2	C105	68pF	cc0805	1%	50V	VJ0805A680FXAMT
5	1 of 2	1	C20	100pF	cc0805	1%	50V	VJ0805A101FXAMT
5	2 of 2	2	CL	100pF	cc0805	1%	50V	VJ0805A101FXAMT
6	1 of 2	2	C100	120pF	cc0805	1%	50V	VJ0805A121FXAMT
6	2 of 2	2	C103	120pF	cc0805	1%	50V	VJ0805A121FXAMT
Caps with 10% tol.								
7	1 of 1	1	C7	33pF	cc0805	10%	50V	VJ0805A330KXAMT
8	1 of 7	2	C2	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
8	2 of 7	2	C51	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
8	3 of 7	2	C54	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
8	4 of 7	2	C56	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
8	5 of 7	2	C59	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
8	6 of 7	1	C63	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
8	7 of 7	1	C66	1000pF	cc0805	10%	50V	VJ0805A102KXAMT
9	01 of 42	1	C8	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT
9	02 of 42	1	C10	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT
9	03 of 42	1	C11	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT
9	04 of 42	1	C12	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT
9	05 of 42	2	C13	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT

9	06 of 42	1	C14	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	07 of 42	1	C15	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	08 of 42	1	C16	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	09 of 42	2	C18	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	10 of 42	1	C19	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	11 of 42	2	C22	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	12 of 42	2	C23	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	13 of 42	1	C24	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	14 of 42	2	C25	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	15 of 42	1	C26	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	16 of 42	1	C27	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	17 of 42	1	C28	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	18 of 42	2	C29	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	19 of 42	2	C32	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	20 of 42	2	C33	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	21 of 42	2	C34	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	22 of 42	1	C40	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	23 of 42	1	C41	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	24 of 42	1	C42	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	25 of 42	1	C43	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	26 of 42	2	C44	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	27 of 42	2	C45	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	28 of 42	2	C46	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	29 of 42	1	C47	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	30 of 42	1	C48	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	31 of 42	1	C49	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	32 of 42	1	C60	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	33 of 42	1	C61	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	34 of 42	1	C67	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	35 of 42	1	C68	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	36 of 42	2	C70	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	37 of 42	1	C71	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	38 of 42	2	C72	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	39 of 42	2	C83	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	40 of 42	1	C87	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	41 of 42	2	C91	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
9	42 of 42	1	C95	0.01uF	cc0805	10%	50V	VJ0805Y103KXAMT	
10	1 of 7	1	C1	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
10	2 of 7	1	C52	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
10	3 of 7	1	C53	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
10	4 of 7	2	C57	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
10	5 of 7	2	C58	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
10	6 of 7	2	C64	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
10	7 of 7	2	C65	0.1uF	cc1206	10%	50V	VJ1206Y104KXAMT	
Caps with 20% tol.									
11	1 of 9	2	C80	1uF	cc1206	20%	25V	VJ1210U105MXXMT	

11	2 of 9	2	C81	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	3 of 9	2	C82	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	4 of 9	2	C84	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	5 of 9	1	C85	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	6 of 9	2	C86	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	7 of 9	2	C88	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	8 of 9	2	C89	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
11	9 of 9	1	C90	1uF	cc1206	20%	25V	VJ1210U105MXXMT	
12	1 of 3	2	C92	0.47uF	cc1210	20%	50V	VJ1210U474MXAMT	Rev. C: .68uF->.4
12	2 of 3	1	C93	0.47uF	cc1210	20%	50V	VJ1210U474MXAMT	Rev. C: .68uF->.4
12	3 of 3	1	C94	0.47uF	cc1210	20%	50V	VJ1210U474MXAMT	Rev. C: .68uF->.4
									Rev. A: 1206->121
Resistors with 0.1% tol.									
13	1 of 2	1	R40	61.9	rc0805	0.1%	1/10W	PTN0805E61R90BBT	
13	2 of 2	1	R41	61.9	rc0805	0.1%	1/10W	PTN0805E61R90BBT	
14	1 of 1	1	R62	280	rc0805	0.1%	1/10W	PTN0805E2800BBT	
15	01 of 10	2	R48	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	02 of 10	2	R49	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	03 of 10	1	R50	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	04 of 10	2	R51	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	05 of 10	1	R52	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	06 of 10	1	R63	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	07 of 10	2	R64	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	08 of 10	2	R65	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	09 of 10	2	R66	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
15	10 of 10	2	R67	301	rc0805	0.1%	1/10W	PTN0805E3010BBT	
16	1 of 1	2	R47	562	rc0805	0.1%	1/10W	PTN0805E5620BBT	Rev. C: 560->562
17	1 of 2	1	R7	10k	rc0805	0.1%	1/10W	PTN0805E1002BBT	
17	2 of 2	1	R8	10k	rc0805	0.1%	1/10W	PTN0805E1002BBT	
18	1 of 2	1	R9	20k	rc0805	0.1%	1/10W	PTN0805E2002BBT	
18	2 of 2	1	R10	20k	rc0805	0.1%	1/10W	PTN0805E2002BBT	
Resistors with 1% tol.									
19	1 of 2	2	R22	0	rc0805	1%	2A/50V	CRCW08050000FRT1	
19	2 of 2	1	R101	0	rc0805	1%	2A/50V	CRCW08050000FRT1	
20	1 of 1	1	R6	49.9	rc0805	1%	1/10W	CRCW080549R90FRT1	
21	01 of 12	2	R30	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	02 of 12	2	R31	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	03 of 12	2	R32	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	04 of 12	2	R33	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	05 of 12	1	R45	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	06 of 12	1	R46	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	07 of 12	1	R56	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	08 of 12	1	R58	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	09 of 12	1	R59	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	10 of 12	1	R71	100	rc0805	1%	1/10W	CRCW08051000FRT1	
21	11 of 12	1	R77	100	rc0805	1%	1/10W	CRCW08051000FRT1	

21	12 of 12	1	R90	100	rc0805	1%	1/10W	CRCW08051000FRT1	
22	1 of 2	1	R5	110	rc0805	1%	1/10W	CRCW08051100FRT1	
22	2 of 2	2	R102	110	rc0805	1%	1/10W	CRCW08051100FRT1	
23	1 of 2	1	R42	301	rc0805	1%	1/10W	CRCW08053010FRT1	
23	2 of 2	2	R44	301	rc0805	1%	1/10W	CRCW08053010FRT1	
24	1 of 2	1	R57	1.5k	rc0805	1%	1/10W	CRCW08051501FRT1	
24	2 of 2	1	R61	1.5k	rc0805	1%	1/10W	CRCW08051501FRT1	
25	1 of 2	1	R72	2k	rc0805	1%	1/10W	CRCW08052001FRT1	
25	2 of 2	1	R78	2k	rc0805	1%	1/10W	CRCW08052001FRT1	
26	1 of 2	2	R3	2.49k	rc0805	1%	1/10W	CRCW08052491FRT1	
26	2 of 2	1	R4	2.49k	rc0805	1%	1/10W	CRCW08052491FRT1	
27	1 of 2	1	R43	3.01k	rc0805	1%	1/10W	CRCW08053011FRT1	
27	2 of 2	1	R60	3.01k	rc0805	1%	1/10W	CRCW08053011FRT1	
28	1 of 1	2	R2	4.02K	rc0805	1%	1/10W	CRCW08054021FRT1	
29	1 of 2	2	R13	10k	rc0805	1%	1/10W	CRCW08051002FRT1	
29	2 of 2	2	R14	10k	rc0805	1%	1/10W	CRCW08051002FRT1	
30	1 of 2	2	R20	100k	rc0805	1%	1/10W	CRCW08051003FRT1	
30	2 of 2	2	R35	100k	rc0805	1%	1/10W	CRCW08051003FRT1	
31	1 of 1	1	R21	2M	rc0805	1%	1/10W	CRCW08052004FRT1	
32	1 of 1	1	R27	1.5M, 1/8W	rc1206	1%	State of the ar	InS1206CPX155F20	Rev. C: 3.3M->1.5
33	1 of 1	1	R26	2.7M, 1/10W	rc1206	1%	State of the ar	InS1206CPX275F20	Rev. C: 5.6M->2.7
34	1 of 1	1	R25	2.7M, 1/10W	rc1206	1%	State of the ar	InS1206CPX275F20	Rev. C: 7.5M->2.7
35	1 of 1	1	R24	25M, 1/10W	rc1206	1%	State of the ar	InS1206CPX256F20	Rev. C: 20M->25M
Inductors with 2% tol.									
36	1 of 2	2	L13	0.1uH	s1008	2%	API Delevan	S1008-101G	
36	2 of 2	2	L15	0.1uH	s1008	2%	API Delevan	S1008-101G	
37	1 of 2	2	L11	0.68uH	s1008	2%	API Delevan	S1008-681G	
37	2 of 2	2	L14	0.68uH	s1008	2%	API Delevan	S1008-681G	
38	1 of 1	2	L12	1.5uH	s1008	2%	API Delevan	S1008-152G	
39	1 of 1	2	L10	1.8uH	s1008	2%	API Delevan	S1008-182G	
ICs and Misc.									
40	1 of 4	1	L1	EMI FILTER	ELKS		PANASONIC	EXEC-CET103U	
40	2 of 4	1	L2	EMI FILTER	ELKS		PANASONIC	EXEC-CET103U	
40	3 of 4	1	L3	EMI FILTER	ELKS		PANASONIC	EXEC-CET103U	
40	4 of 4	1	L4	EMI FILTER	ELKS		PANASONIC	EXEC-CET103U	
41	1 of 1	2	D1	Diode	sot_23		Central Semi.	CMPD4150	
42	1 of 2	2	U1	Line Receiver	soic16		National	DS26C32ATM	
42	2 of 2	2	U2	Line Receiver	soic16		National	DS26C32ATM	
43	1 of 1	1	U3	Line Driver	soic16		National	DS26C31TM	
44	1 of 1	2	U4	EPLD	tqfp-44	Supplied by UofC	Altera	epm7064stc44-10	
45	1 of 1	2	U5	DAC	soic161	Supplied by UofC	Exar	MP7633JS	
46	1 of 1	2	U6	10k ,01% Net. Res	soic8		Vishay	ORNA1002A	
47	1 of 1	1	U7	Quad, Prec. Op-amp	soic16		Burr-Brown	OPA4277UA	
48	1 of 3	2	U8	Quad, Analog Switch	soic16		Siliconex	DG611DY	

48	2 of 3	1	U10	Quad, Analog Switch	soic16		Siliconex	DG611DY	
48	3 of 3	2	U11	Quad, Analog Switch	soic16		Siliconex	DG611DY	
49	1 of 2	1	U9	Slow Op-amp	soic8		National	LF411C	
49	2 of 2	1	U19	Slow Op-amp	soic8		National	LF411C	
50	1 of 1	1	U14	Clamping Op-amp	soic8		Comlinear	CLC502AJE	
51	1 of 1	1	U15	Clamping Op-amp	soic8		Comlinear	CLC501AJE	
52	1 of 1	1	U16	Quad Op-amp	soic14		Burr-Brown	OPA4650U	
53	1 of 2	1	U17	Disable Op-amp	soic8		Comlinear	CLC405AJE	
53	2 of 2	1	U18	Disable Op-amp	soic8		Comlinear	CLC405AJE	
Connector, cable and misc.									
54	1 of 1	1	J4	3-position socket	connlx3	cut from str	Epm Tech. Inc.	251-1-3610-1516	
55	1 of 1	1	J1 set	40-pin header	conn4x10		Cir. Assembly	CA-40NFT-1T	
56	1 of 1		J1 set	40-pos sockets			Cir. Assembly	CA-40NFS-12G	
57	1 of 1		J1 set	40-pin cable crimp tip			Cir. Assembly	CA-SR40NFS	
58	1 of 1		J1 set	100mm long, 30awg	40-wire 1mm pitch cable		Thomas&Betts	AMP 57131-2	
59	1 of 3	1	J5	coaxial cable crimp	cable_conn4		AMP	226177-2	
59	2 of 3	1	J6	coaxial cable crimp	cable_conn4		AMP	226177-2	
59	3 of 3	1	J7	coaxial cable crimp	cable_conn4		AMP	226177-2	
60	1 of 2		J5 cable	222mm long, 3-wire shielded cable			Tensolite	28440/9N133X-2(LD), green	Rev B: 185 mm ->
60	2 of 2		J7 cable	222mm long, 3-wire shielded cable			Tensolite	28440/9N133X-2(LD), green	Rev B: 185 mm ->
61	1 of 1		J6 cable	220mm long, 3-wire shielded cable			Tensolite	28440/9N133X-2(LD), blue	
62	1 of 3		J5 crimp	Shrink tubing	3/32"Dia x 3/8" long		Alpha	FIT- 221-3/32, black	
62	2 of 3		J6 crimp	Shrink tubing	3/32"Dia x 3/8" long		Alpha	FIT- 221-3/32, black	
62	3 of 3		J7 crimp	Shrink tubing	3/32"Dia x 3/8" long		Alpha	FIT- 221-3/32, black	
63	1 of 3	inner layer	J5/J6 Socket	Shrink tubing	1/8"Dia x 3/4" long		Alpha	FIT-221-1/8, green	Rev C: item corre
63	2 of 3	inner layer	J7 Socket	Shrink tubing	1/8"Dia x 3/4" long		Alpha	FIT-221-1/8, green	Rev C: item corre
63	3 of 3	mid layer	J7 Socket	Shrink tubing	1/8"Dia x 3/4" long		Alpha	FIT-221-1/8, green	Rev C: item corre
64	1 of 2	mid layer1	J5/J6 Socket	Shrink tubing	3/16"Dia x 3/4"long		Alpha	FIT-221-3/16, green	Rev C: item corre
64	2 of 2	mid layer2	J5/J6 Socket	Shrink tubing	3/16"Dia x 3/4"long		Alpha	FIT-221-3/16, green	Rev C: item corre
65	1 of 1	outer layer	J7 Socket	Shrink tubing	1/4"Dia x 7/8"long		Alpha	FIT-221-1/4, green	Rev C: item corre
66	1 of 1	outer layer	J5/J6 Socket	Shrink tubing	3/8"Dia x 7/8"long		Alpha	FIT-221-3/8, green	Rev C: item corre
67	1			3-pin mini-latch housing			Berg	78211-103	Rev B: added entr
68	1			5-pin mini-latch housing			Berg	78211-105	Rev B: added entr
69	8			mini-latch pin			Berg	47745-000	Rev B: added entr
Notes:									
				(1) All the cable assembly, please see drawing	ATLAS-A-1432-02				
					ATLAS-A-1432-03				
					ATLAS-A-1432-04B				Rev B: 04 -> 04B
				(2) All thick film resistors must be supplied by Visahy as part number indicates or equivenent State-of-The Art, Inc. part					
				(3) All capacitors must be supplied by Vishay as part number indicates or equivenent Novacap parts					