

Bill of Materials for Cougar Full Kit V2.3

Item	Description	Qty	Designator	Package
	HARDWARE			
1	PLUGPACK - 15VDC @ 2.4A	1		-
2	M3 Thumbscrew	4		-
			NB: Construct-A-Rack	
	PANEL			
3	Cougar Front Panel V1.1	1		-
	KITS			
4	Octave Switcher 3U Component Kit V5	2		-
5	Cougar Expander Hardware Kit V0.0	1		-
6	Cougar Expander Component Kit V0.0	1		-
7	Cougar PCB Set V2.3	1		-
8	Cougar ASM2 Component Kit V0.0	1		-
9	Cougar ASM-2 Hardware Kit V0.0	1		-

Bill of Materials for Octave Switcher 3U Component Kit V5

Item	Description	Qty	Designator	Package
CAPACITOR				
1	33pF Ceramic NPO	1	C1	0805
2	100nF Ceramic X7R	2	C2, C3	0805
CONNECTOR				
3	Crimp to suit 0.1inch Series MTA	4		-
4	4-way 0.1inch Straight - Locking Header	1	J1	2.54MM
5	4-way 0.1inch Crimp Housing	1	J1	2.54MM
LINEAR				
6	TL082	1	U1	SO-8
RESISTOR				
7	127K 1%	2	R1, R6	0805
			NB: 15V Rails	
8	95K3 1%	2	R1, R6	0805
			NB: 12V Rails	
9	75R 1%	1	R10	0805
10	10K 1%	7	R2, R3, R4, R5, R7, R8, R9	0805
11	75K 1%	2	R1, R6	0805
			NB: 10V Rails	
SWITCH				
12	1P5W - Right-angle PCB	1	S1	-
TRIMPOT				
13	10K 25TV Cermet	2	P1, P2	3296W
14	100K 25TV Cermet	1	P3	3296W

Bill of Materials for Cougar Expander Component Kit V0.0 - 3

Item	Description	Qty	Designator	Package
	CONNECTOR			
1	Crimp to suit 0.1inch Series MTA	1		-
2	Crimp to suit 0.156inch Series MTA	1		-

Bill of Materials for Cougar Expander Component Kit V0.0 - MonoDAC

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	33pF 5% Ceramic	2	C403, C405	RAD-0.2N
2	10nF 63V Polyester	7	C401, C402, C404, C501, C502, C503, C504	RAD-0.2
3	100nF Ceramic	13	C101, C102, C103, C301, C302, C304, C305, C407, C408, C409, C410, C505, C506	RAD-0.2N
4	100nF 63V Polyester	1	C406	RAD-0.2
5	22uF 50V Electrolytic	1	C303	RB-D5.0-P2.0
	CONNECTOR			
6	1x2 Pin 9mm Header	1	JP101	2.54MM
7	8-pin IC Socket 0.3inch	5	U201, U301, U302, U402, U403	DIP-8
8	14-pin IC Socket 0.3inch	2	U401, U501	DIP-14
9	16-pin IC Socket 0.3inch	1	U303	DIP-16
10	40-pin IC Socket 0.6inch	1	U101	DIP-40
11	2-way 0.1inch Straight - Locking Header	2	D102, J202	2.54MM
12	2-way 0.1inch Crimp Housing	2	D102, J202	2.54MM
13	3-way 0.1inch Crimp Housing	3	J201, P402, P403	2.54MM
14	3-way 0.1inch Straight - Locking Header	3	J201, P402, P403	2.54MM
15	4-way 0.1inch Crimp Housing	2	J402, J501	2.54MM
16	4-way 0.1inch Straight - Locking Header	2	J402, J501	2.54MM
17	5-way 0.1inch Straight - Locking Header	1	J401	2.54MM
18	5-way 0.1inch Crimp Housing	1	J401	2.54MM
19	Jumper Shunt	1	JP101	2.54mm
	CRYSTAL			
20	16MHz Oscillator	1	X101	DIL-8
	DIODE			
21	1N4148	1	D201	DIODE-0.3
22	LM329 6V9 Precision	1	D401	TO-92
23	BAT42 Schottky Barrier Diode	1	D301	DIODE-0.3

Bill of Materials for Cougar Expander Component Kit V0.0 - MonoDAC

Item	Description	Qty	Designator	Package
	LINEAR			
24	AD712 - Dual FET Opamp	1	U302	DIP-8
25	TL084 Quad JFET Opamp	2	U401, U501	DIP-14
26	AD8300 - 12-bit Serial A/D Converter	1	U301	DIP-8
27	ATMEGA16-16PU	1	U101	DIP-40
28	LF412 - Dual Bi-FET Opamp	1	U403	DIP-8
29	TL072 Dual JFET Opamp	1	U701	DIP-8
30	TL082 Dual JFET Opamp	1	U402	DIP-8
31	6N138 - Opto-coupler	1	U201	DIP-8
	LOGIC			
32	CD4051 - Single 8-channel Multiplexer	1	U303	DIP-16
	RESISTOR			
33	4 x 1K Commoned Resistor Network	2	R106, R107	SIP-5
34	10R 1% 0.5W Metal Film	1	R305	AXIAL-0.4
35	75R 1% 0.5W Metal Film	7	R408, R413, R414, R501, R502, R503, R504	AXIAL-0.4
36	100R 1% 0.5W Metal Film	1	R314	AXIAL-0.4
37	220R 1% 0.5W Metal Film	4	R200, R201, R202, R205	AXIAL-0.4
38	1K0 1% 0.5W Metal Film	4	R102, R103, R402, R419	AXIAL-0.4
39	1K5 1% 0.5W Metal Film	1	R208	AXIAL-0.4
40	3K3 1% 0.5W Metal Film	5	R104, R306, R307, R308, R309	AXIAL-0.4
41	4K7 1% 0.5W Metal Film	6	R203, R301, R310, R311, R312, R313	AXIAL-0.4
42	10K 1% 0.5W Metal Film	12	R101, R109, R403, R407, R409, R410, R411, R412, R415, R416, R417, R418	AXIAL-0.4
43	11K 1% 0.5W Metal Film	1	R303	AXIAL-0.4
44	12K 1% 0.5W Metal Film	2	R108, R302	AXIAL-0.4
45	15K 1% 0.5W Metal Film	1	R207	AXIAL-0.4
46	22K 1% 0.5W Metal Film	1	R304	AXIAL-0.4
47	33K 1% 0.5W Metal Film	1	R204	AXIAL-0.4
48	47K 1% 0.5W Metal Film	4	R401, R404, R405, R406	AXIAL-0.4
	SWITCH			
49	4PST DIP	2	S101, S102	DIP-8

Bill of Materials for Cougar Expander Component Kit V0.0 - MonoDAC

Item	Description	Qty	Designator	Package
	TRANSISTOR			
50	2N3906 PNP Transistor	1	Q202	TO-92
51	2N3904 NPN Transistor	7	Q101, Q201, Q291, Q301, Q302, Q303, Q304	TO-92
	TRIMPOT			
52	1K 25TV Cermet	1	P301	3296W
53	10K 25TV Cermet	1	P401	3296W

Bill of Materials for Cougar Expander Component Kit V0.0 - CGS36

Item	Description	Qty	Designator	Package
CAPACITOR				
1	10nF 5% Ceramic, Medium K	1	C701	RAD-0.2N
CONNECTOR				
2	8-pin IC Socket 0.3inch	1	U701	DIP-8
3	16-pin IC Socket 0.3inch	4	U801, U802, U803, U804	DIP-16
4	5-way 0.1inch Straight - Locking Header	1	J701	2.54MM
5	5-way 0.1inch Crimp Housing	1	J701	2.54MM
6	8-way 0.1inch Crimp Housing	1	J901	2.54MM
7	8-way 0.1inch Straight - Locking Header	1	J901	2.54MM
DIODE				
8	1N4148	17	D801, D802, D803, D804, D805, D806, D807, D808, D809, D901, D902, D903, D904, D905, D906, D907, D908	DIODE-0.3
LOGIC				
9	CD4017 - Decade Counter/Divider	4	U801, U802, U803, U804	DIP-16
RESISTOR				
10	1K0 1% 0.5W Metal Film	7	R902, R904, R907, R910, R912, R915, R917	AXIAL-0.4
11	1K5 1% 0.5W Metal Film	7	R901, R903, R906, R909, R911, R914, R916	AXIAL-0.4
12	10K 1% 0.5W Metal Film	1	R706	AXIAL-0.4
13	15K 1% 0.5W Metal Film	2	R701, R704	AXIAL-0.4
14	100K 1% 0.5W Metal Film	12	R702, R703, R705, R707, R801, R802, R803, R804, R805, R905, R908, R913	AXIAL-0.4
TRANSISTOR				
15	BC547A NPN Transistor	7	Q901, Q902, Q903, Q904, Q905, Q906, Q907	TO-92

Bill of Materials for Cougar Expander Component Kit V0.0 - ED1122

Item	Description	Qty	Designator	Package
CAPACITOR				
1	100nF Ceramic	7	C6, C12, C13, C14, C15, C16, C17	RAD-0.2N
2	1uF 35V Tantalum	1	C7	RB-D5.0-P5.0
3	4u7 Ceramic X5R	4	C2, C4, C5, C9	0805
4	10uF 35V Electrolytic	2	C10, C11	RB-D5.0-P2.0
5	100uF Electrolytic	2	C3, C8	RB-D8.0-P2.5
6	470uF 50V Electrolytic	1	C1	RB-D10.0-P5.0
CONNECTOR				
7	FASTON 6.3mm x 0.8mm PCB TAB	2	J1, J2	-
8	4-way 0.156inch Crimp Housing	1	J3	3.96MM
9	4-way 0.156inch Straight - Locking Header	1	J3	-
DIODE				
10	1N4004 200V 1A	2	D1, D2	DIODE-0.4
LINEAR				
11	PTN78000A - Isolated -3 to -15V 9W DC/DC Converter	1	U1	-
12	78L05 +5V 100mA Fixed Voltage Regulator	1	U2	TO-92
INDUCTOR				
13	Ferrite Bead - 0.45uH 7A	3	L1, L2, L3	AXIAL-0.3
RESISTOR				
14	100R 1% 0.5W Metal Film	1	R1	AXIAL-0.4
15	2K2 1% 0.5W Metal Film	2	R2, R3	AXIAL-0.4

Bill of Materials for Cougar ASM2 Component Kit V0.0 - 16

Item	Description	Qty	Designator	Package
	RESISTOR			
1	100K 1% 0.5W Metal Film	2	R149, R846	AXIAL-0.4
	KITS			
2	ASM-2 Component Kit V2.3	1		-

Bill of Materials for ASM-2 Component Kit V2.3 - 17

Item	Description	Qty	Designator	Package
	CONNECTOR			
1	Crimp to suit 0.1inch Series MTA	1		-

Bill of Materials for ASM-2 Component Kit V2.3 - VCO 1

Item	Description	Qty	Designator	Package
CAPACITOR				
1	10pF 5% Ceramic	1	C201	RAD-0.2N
2	18pF 5% Ceramic	1	C111	RAD-0.2N
3	33pF 5% Ceramic	1	C110	RAD-0.2N
4	100pF 5% Ceramic	1	C109	RAD-0.2N
5	2200pF 2.5% Polystyrene	1	C104	AXIAL-0.4
6	100nF Ceramic	5	C100, C101, C102, C103, C150	RAD-0.2N
7	680nF 63V Polyester	1	C112	RAD-0.2X
CONNECTOR				
8	8-pin IC Socket 0.3inch	3	Q101, U101, U105	DIP-8
9	14-pin IC Socket 0.3inch	3	U100, U103, U153	DIP-14
10	4-way 0.1inch Straight - Locking Header	1	J102	2.54MM
11	4-way 0.1inch Crimp Housing	1	J102	2.54MM
12	5-way 0.1inch Crimp Housing	1	J101	2.54MM
13	5-way 0.1inch Straight - Locking Header	1	J101	2.54MM
14	6-way 0.1inch Crimp Housing	1	J100	2.54MM
15	6-way 0.1inch Straight - Locking Header	1	J100	2.54MM
DIODE				
16	1N4148	4	D100, D101, D102, D106	DIODE-0.3
17	1N34A Germanium	2	D103, D104	DIODE-0.4
LINEAR				
18	TL074 Quad JFET Opamp	1	U100	DIP-14
19	TL084 Quad JFET Opamp	2	U103, U153	DIP-14
20	TL081 JFET Opamp	1	U105	DIP-8
21	CA3140 Opamp	1	U101	DIP-8
22	LM311 - Comparator	1	U102	DIP-8
RESISTOR				
23	TEMPCO - PT146 1K 3500ppm	1	Q101	AXIAL-0.5
24	62R 1% 0.5W Metal Film	1	R137	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - VCO 1

Item	Description	Qty	Designator	Package
	RESISTOR - continued			
25	Wire Link	1	LK100	TO FIT
26	680R 1% 0.5W Metal Film	1	R112	AXIAL-0.4
27	1K0 1% 0.5W Metal Film	3	R121, R123, R124	AXIAL-0.4
28	1K5 1% 0.5W Metal Film	1	R143	AXIAL-0.4
29	2K2 1% 0.5W Metal Film	1	R141	AXIAL-0.4
30	3K0 1% 0.5W Metal Film	1	R144	AXIAL-0.4
31	3K3 1% 0.5W Metal Film	1	R139	AXIAL-0.4
32	3K9 1% 0.5W Metal Film	3	R116, R118, R168	AXIAL-0.4
33	10K 1% 0.5W Metal Film	16	R114, R115, R117, R120, R122, R126, R129, R147, R164, R165, R167, R170, R172, R176, R179, R197	AXIAL-0.4
34	15K 1% 0.5W Metal Film	3	R125, R127, R128	AXIAL-0.4
35	20K 1% 0.5W Metal Film	1	R131	AXIAL-0.4
36	47K 1% 0.5W Metal Film	1	R100A	AXIAL-0.4
37	56K 1% 0.5W Metal Film	2	R130, R133	AXIAL-0.4
38	68K 1% 0.5W Metal Film	1	R113	AXIAL-0.4
39	75K 1% 0.5W Metal Film	1	R132	AXIAL-0.4
40	93K1 1% 0.5W Metal Film	1	R108	AXIAL-0.4
41	100K 1% 0.5W Metal Film	7	R102, R103, R109, R110, R111, R148, R149	AXIAL-0.4
42	100K 0.1% Metal Film	4	R104, R105, R106, R107	AXIAL-0.4
43	300K 1% 0.5W Metal Film	2	R140, R145	AXIAL-0.4
44	390K 1% 0.5W Metal Film	1	R138	AXIAL-0.4
45	560K 1% 0.5W Metal Film	2	R134, R135	AXIAL-0.4
46	680K 1% 0.5W Metal Film	1	R101	AXIAL-0.4
47	750K 1% 0.5W Metal Film	1	R136	AXIAL-0.4
48	1M0 1% 0.5W Metal Film	1	R119	AXIAL-0.4
49	1M8 1% 0.5W Metal Film	1	R100	AXIAL-0.4
50	2M2 1% 0.5W Metal Film	1	R142	AXIAL-0.4
	TRANSISTOR			
51	2N3904 NPN Transistor	1	Q103	TO-92
52	LS312 - Dual Supermatched Transistors	1	Q101	DIP-8
53	J108 JFET	1	Q100	TO-92

Bill of Materials for ASM-2 Component Kit V2.3 - VCF 1

Item	Description	Qty	Designator	Package
CAPACITOR				
1	10pF 5% Ceramic	1	C203	RAD-0.2N
2	330pF 5% Ceramic	2	C202, C204	RAD-0.2N
3	100nF Ceramic	4	C205, C206, C207, C208	RAD-0.2N
CONNECTOR				
4	8-pin IC Socket 0.3inch	6	U201, U202, U203, U204, U205, U206	DIP-8
5	14-pin IC Socket 0.3inch	1	U207	DIP-14
6	2-way 0.1inch Crimp Housing	1	J204	2.54MM
7	2-way 0.1inch Straight - Locking Header	1	J204	2.54MM
8	3-way 0.1inch Crimp Housing	1	P204	2.54MM
9	3-way 0.1inch Straight - Locking Header	1	P204	2.54MM
10	4-way 0.1inch Straight - Locking Header	3	J201, J202, J203	2.54MM
11	4-way 0.1inch Crimp Housing	3	J201, J202, J203	2.54MM
LINEAR				
12	TL084 Quad JFET Opamp	1	U207	DIP-14
13	TL082 Dual JFET Opamp	1	U201	DIP-8
14	CA3140 Opamp	3	U202, U204, U206	DIP-8
15	CA3080 - Transconductance Opamp	2	U203, U205	DIP-8
RESISTOR				
16	22R 1% 0.5W Metal Film	2	R221, R226	AXIAL-0.4
17	47R 1% 0.5W Metal Film	1	R243	AXIAL-0.4
18	220R 1% 0.5W Metal Film	2	R222, R228	AXIAL-0.4
19	390R 1% 0.5W Metal Film	1	R210	AXIAL-0.4
20	1K0 1% 0.5W Metal Film	4	R237, R238, R239, R240	AXIAL-0.4
21	2K0 1% 0.5W Metal Film	1	R208	AXIAL-0.4
22	10K 1% 0.5W Metal Film	2	R220, R225	AXIAL-0.4
23	15K 1% 0.5W Metal Film	1	R219	AXIAL-0.4
24	18K 1% 0.5W Metal Film	2	R224, R229	AXIAL-0.4
25	20K 1% 0.5W Metal Film	1	R209	AXIAL-0.4
26	27K 1% 0.5W Metal Film	1	R216	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - VCF 1

Item	Description	Qty	Designator	Package
RESISTOR - continued				
27	33K 1% 0.5W Metal Film	1	R241	AXIAL-0.4
28	47K 1% 0.5W Metal Film	2	R205, R242	AXIAL-0.4
29	51K 1% 0.5W Metal Film	1	R204	AXIAL-0.4
30	100K 1% 0.5W Metal Film	14	R201, R202, R203, R206, R207, R212, R213, R214, R215, R217, R218, R234, R235, R236	AXIAL-0.4
31	150K 1% 0.5W Metal Film	1	R211	AXIAL-0.4
32	1M0 1% 0.5W Metal Film	2	R223, R227	AXIAL-0.4
TRANSISTOR				
33	2N3904 NPN Transistor	1	Q201	TO-92
34	2N3906 PNP Transistor	2	Q202, Q203	TO-92
TRIMPOT				
35	100R 25TV Cermet	1	P201	3296W
36	100K 25TV Cermet	2	P202, P203	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - VCA 1

Item	Description	Qty	Designator	Package
CAPACITOR				
1	10pF 5% Ceramic	1	C301	RAD-0.2N
2	100nF Ceramic	2	C302, C303	RAD-0.2N
CONNECTOR				
3	8-pin IC Socket 0.3inch	3	U301, U302, U352	DIP-8
4	3-way 0.1inch Crimp Housing	1	J302	2.54MM
5	3-way 0.1inch Straight - Locking Header	1	J302	2.54MM
6	4-way 0.1inch Straight - Locking Header	1	J301	2.54MM
7	4-way 0.1inch Crimp Housing	1	J301	2.54MM
DIODE				
8	1N4148	2	D301, D302	DIODE-0.3
LINEAR				
9	TL082 Dual JFET Opamp	1	U301	DIP-8
10	CA3080 - Transconductance Opamp	2	U302, U352	DIP-8
RESISTOR				
11	220R 1% 0.5W Metal Film	2	R305, R307	AXIAL-0.4
12	1K0 1% 0.5W Metal Film	1	R310	AXIAL-0.4
13	100K 1% 0.5W Metal Film	6	R301, R302, R303, R304, R306, R311	AXIAL-0.4
14	560K 1% 0.5W Metal Film	1	R309	AXIAL-0.4
15	1M0 1% 0.5W Metal Film	1	R308	AXIAL-0.4
TRIMPOT				
16	100K 25TV Cermet	1	P301	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - ADSR 1

Item	Description	Qty	Designator	Package
CAPACITOR				
1	10nF 63V Polyester	2	C402, C403	RAD-0.2
2	100nF Ceramic	2	C404, C405	RAD-0.2N
3	4.7uF 35V Tantalum	1	C401	RB-D6.5-P5.0
CONNECTOR				
4	8-pin IC Socket 0.3inch	3	U401, U402, U405	DIP-8
5	14-pin IC Socket 0.3inch	1	U404	DIP-14
6	16-pin IC Socket 0.3inch	1	U403	DIP-16
7	2-way 0.1inch Crimp Housing	2	J402, J452	2.54MM
8	2-way 0.1inch Straight - Locking Header	2	J402, J452	2.54MM
9	3-way 0.1inch Crimp Housing	5	J401, P402, P403, P404, P405	2.54MM
10	3-way 0.1inch Straight - Locking Header	5	J401, P402, P403, P404, P405	2.54MM
DIODE				
11	1N4148	3	D401, D402, D403	DIODE-0.3
LINEAR				
12	LM358 - Dual Opamp	2	U402, U405	DIP-8
13	TL082 Dual JFET Opamp	1	U401	DIP-8
LOGIC				
14	CD4002 - Dual 4-input NOR Gate	1	U404	DIP-14
15	CD4053 - Triple 2-channel Multiplexer	1	U403	DIP-16
RESISTOR				
16	10R 1% 0.5W Metal Film	1	R405	AXIAL-0.4
17	1K0 1% 0.5W Metal Film	1	R406	AXIAL-0.4
18	1K5 1% 0.5W Metal Film	1	R407	AXIAL-0.4
19	10K 1% 0.5W Metal Film	1	R404	AXIAL-0.4
20	47K 1% 0.5W Metal Film	1	R402	AXIAL-0.4
21	75K 1% 0.5W Metal Film	1	R403	AXIAL-0.4
22	100K 1% 0.5W Metal Film	4	R401, R408, R409, R410	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - ADSR 1

Item	Description	Qty	Designator	Package
	TRIMPOT			
23	100K 25TV Cermet	2	P400, P406	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - VCLFO 1

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	100nF Ceramic	2	C502, C503	RAD-0.2N
2	470nF 63V Polyester	1	C501	RAD-0.2X
	CONNECTOR			
3	8-pin IC Socket 0.3inch	1	U502	DIP-8
4	14-pin IC Socket 0.3inch	1	U501	DIP-14
5	2-way 0.1inch Crimp Housing	1	J502	2.54MM
6	2-way 0.1inch Straight - Locking Header	1	J502	2.54MM
7	3-way 0.1inch Crimp Housing	4	J501, P501, P502, P503	2.54MM
8	3-way 0.1inch Straight - Locking Header	4	J501, P501, P502, P503	2.54MM
	DIODE			
9	1N4148	3	D501, D502, D503	DIODE-0.3
	LINEAR			
10	TL084 Quad JFET Opamp	1	U501	DIP-14
11	TL081 JFET Opamp	1	U502	DIP-8
	RESISTOR			
12	47R 1% 0.5W Metal Film	1	R507	AXIAL-0.4
13	470R 1% 0.5W Metal Film	1	R514	AXIAL-0.4
14	1K0 1% 0.5W Metal Film	1	R511	AXIAL-0.4
15	1K5 1% 0.5W Metal Film	2	R515, R516	AXIAL-0.4
16	3K0 1% 0.5W Metal Film	1	R512	AXIAL-0.4
17	10K 1% 0.5W Metal Film	2	R506, R518	AXIAL-0.4
18	22K 1% 0.5W Metal Film	1	R513	AXIAL-0.4
19	47K 1% 0.5W Metal Film	1	R502	AXIAL-0.4
20	68K 1% 0.5W Metal Film	2	R508, R509	AXIAL-0.4
21	100K 1% 0.5W Metal Film	5	R501, R503, R504, R505, R510	AXIAL-0.4
22	330K 1% 0.5W Metal Film	1	R517	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - NOISE

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	5n6 63V Polyester	1	C604	RAD-0.2
2	8n2F 63V Polyester	2	C603, C607	RAD-0.2
3	100nF 63V Polyester	2	C601, C608	RAD-0.2
4	100nF Ceramic	1	C703	RAD-0.2N
5	220nF 63V Polyester	1	C606	RAD-0.2
6	2.2uF Electrolytic	1	C605	RB-D5.0-P2.0
7	4.7uF 35V Tantalum	1	C602	RB-D6.5-P5.0
8	10uF 35V Electrolytic	2	C609, C610	RB-D5.0-P2.0
	CONNECTOR			
9	8-pin IC Socket 0.3inch	2	U601, U602	DIP-8
10	3-way 0.1inch Crimp Housing	3	J601, P602, P603	2.54MM
11	3-way 0.1inch Straight - Locking Header	3	J601, P602, P603	2.54MM
	LINEAR			
12	TL082 Dual JFET Opamp	1	U601	DIP-8
13	LM1458 - Dual Opamp	1	U602	DIP-8
	RESISTOR			
14	22R 1% 0.5W Metal Film	2	R618, R619	AXIAL-0.4
15	470R 1% 0.5W Metal Film	2	R605, R606	AXIAL-0.4
16	1K0 1% 0.5W Metal Film	3	R614, R615, R616	AXIAL-0.4
17	2K2 1% 0.5W Metal Film	1	R602	AXIAL-0.4
18	2K7 1% 0.5W Metal Film	2	R608, R609	AXIAL-0.4
19	3K3 1% 0.5W Metal Film	1	R610	AXIAL-0.4
20	15K 1% 0.5W Metal Film	1	R620	AXIAL-0.4
21	22K 1% 0.5W Metal Film	2	R611, R612	AXIAL-0.4
22	68K 1% 0.5W Metal Film	1	R617	AXIAL-0.4
23	100K 1% 0.5W Metal Film	1	R613	AXIAL-0.4
24	1M0 1% 0.5W Metal Film	3	R601, R603, R604	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - GLIDE

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	100nF Ceramic	1	C811	RAD-0.2N
2	1000nF 63V Polyester	1	C701	RAD-0.2X
	CONNECTOR			
3	8-pin IC Socket 0.3inch	1	U701	DIP-8
4	2-way 0.1inch Crimp Housing	1	J701	2.54MM
5	2-way 0.1inch Straight - Locking Header	1	J701	2.54MM
6	3-way 0.1inch Crimp Housing	3	JP701, JP702, P701	2.54MM
7	3-way 0.1inch Straight - Locking Header	3	JP701, JP702, P701	2.54MM
	LINEAR			
8	TL082 Dual JFET Opamp	1	U701	DIP-8
	RESISTOR			
9	10R 1% 0.5W Metal Film	1	R702	AXIAL-0.4
10	330R 1% 0.5W Metal Film	1	R701	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - VCF 2

Item	Description	Qty	Designator	Package
CAPACITOR				
1	1nF 63V Polyester	1	C806	RAD-0.2
2	10nF 63V Polyester	1	C807	RAD-0.2
3	68nF 63V Polyester	4	C802, C803, C804, C805	RAD-0.2
4	100nF Ceramic	1	C812	RAD-0.2N
5	680nF 63V Polyester	1	C818	RAD-0.2X
6	220uF 25V Electrolytic	1	C808	RB-PD10.0-P5.0
CONNECTOR				
7	9-way 0.1" Straight - Locking Header	1	J801	-
8	9-way 0.1inch Crimp Housing	1	J801	-
9	8-pin IC Socket 0.3inch	2	U802, U803	DIP-8
10	14-pin IC Socket 0.3inch	3	U801, U804, U805	DIP-14
11	3-way 0.1inch Crimp Housing	2	P801, P805	2.54MM
12	3-way 0.1inch Straight - Locking Header	2	P801, P805	2.54MM
DIODE				
13	1N4148	2	D801, D803	DIODE-0.3
14	LM329 6V9 Precision	1	D802	TO-92
LINEAR				
15	TL084 Quad JFET Opamp	1	U801	DIP-14
16	LF412 - Dual Bi-FET Opamp	2	U802, U803	DIP-8
RESISTOR				
17	33R 1% 0.5W Metal Film	1	R845	AXIAL-0.4
18	150R 1% 0.5W Metal Film	4	R809, R810, R811, R812	AXIAL-0.4
19	200R 1% 0.5W Metal Film	1	R814	AXIAL-0.4
20	330R 1% 0.5W Metal Film	1	R844	AXIAL-0.4
21	390R 1% 0.5W Metal Film	1	R808	AXIAL-0.4
22	680R 1% 0.5W Metal Film	1	R832	AXIAL-0.4
23	1K0 1% 0.5W Metal Film	7	R813, R815, R817, R818, R824, R835, R843	AXIAL-0.4
24	1K5 1% 0.5W Metal Film	1	R830	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - VCF 2

Item	Description	Qty	Designator	Package
	RESISTOR - continued			
25	1K82 1% 0.5W Metal Film	1	R840	AXIAL-0.4
26	2K2 1% 0.5W Metal Film	3	R836, R837, R841	AXIAL-0.4
27	2K4 1% 0.5W Metal Film	1	R831	AXIAL-0.4
28	3K3 1% 0.5W Metal Film	1	R846	AXIAL-0.4
29	6K8 1% 0.5W Metal Film	2	R819, R820	AXIAL-0.4
30	10K 1% 0.5W Metal Film	4	R821, R822, R838, R842	AXIAL-0.4
31	18K 1% 0.5W Metal Film	1	R839	AXIAL-0.4
32	39K 1% 0.5W Metal Film	1	R807	AXIAL-0.4
33	47K 1% 0.5W Metal Film	1	R805	AXIAL-0.4
34	100K 1% 0.5W Metal Film	11	R801, R802, R803, R804, R806, R825, R826, R827, R828, R829, R847	AXIAL-0.4
35	200K 1% 0.5W Metal Film	1	R823	AXIAL-0.4
36	1M0 1% 0.5W Metal Film	3	R816, R833, R834	AXIAL-0.4
	TRANSISTOR			
37	CA3046 5 NPN Transistors	2	U804, U805	DIP-14
38	BC549C NPN Transistor	6	Q801, Q802, Q803, Q804, Q805, Q806	TO-92
	TRIMPOT			
39	200R 25TV Cermet	1	P802	3296W
40	500R 25TV Cermet	1	P807	3296W
41	1K 25TV Cermet	1	P804	3296W
42	100K 25TV Cermet	2	P803, P806	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - S&H

Item	Description	Qty	Designator	Package
CAPACITOR				
1	2.2nF 63V Polyester	1	C903	RAD-0.2
2	100nF Ceramic	2	C905, C906	RAD-0.2N
3	680nF 63V Polyester	1	C902	RAD-0.2X
4	1000nF 63V Polyester	1	C904	RAD-0.2X
CONNECTOR				
5	8-pin IC Socket 0.3inch	1	U902	DIP-8
6	14-pin IC Socket 0.3inch	2	U901, U903	DIP-14
7	2-way 0.1inch Crimp Housing	1	D905	2.54MM
8	2-way 0.1inch Straight - Locking Header	1	D905	2.54MM
9	3-way 0.1inch Crimp Housing	1	P901	2.54MM
10	3-way 0.1inch Straight - Locking Header	1	P901	2.54MM
11	4-way 0.1inch Straight - Locking Header	2	J901, J902	2.54MM
12	4-way 0.1inch Crimp Housing	2	J901, J902	2.54MM
DIODE				
13	1N4148	3	D901, D902, D904	DIODE-0.3
LINEAR				
14	TL084 Quad JFET Opamp	1	U901	DIP-14
15	CA3140 Opamp	1	U902	DIP-8
LOGIC				
16	CD40106 - Hex Schmitt Trigger	1	U903	DIP-14
RESISTOR				
17	1K0 1% 0.5W Metal Film	5	R901, R903, R909, R910, R915	AXIAL-0.4
18	2K2 1% 0.5W Metal Film	2	R905, R908	AXIAL-0.4
19	4K7 1% 0.5W Metal Film	1	R904	AXIAL-0.4
20	10K 1% 0.5W Metal Film	1	R912	AXIAL-0.4
21	12K 1% 0.5W Metal Film	1	R907	AXIAL-0.4
22	20K 1% 0.5W Metal Film	1	C901	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - S&H

Item	Description	Qty	Designator	Package
	RESISTOR - continued			
23	30K 1% 0.5W Metal Film	1	R900	AXIAL-0.4
24	47K 1% 0.5W Metal Film	2	R906, R922	AXIAL-0.4
25	100K 1% 0.5W Metal Film	2	R913, R914	AXIAL-0.4
26	120K 1% 0.5W Metal Film	1	R921	AXIAL-0.4
27	1M0 1% 0.5W Metal Film	1	R902	AXIAL-0.4
28	2M2 1% 0.5W Metal Film	1	R911	AXIAL-0.4
	TRANSISTOR			
29	2N3904 NPN Transistor	1	Q902	TO-92
30	J108 JFET	1	Q901	TO-92

Bill of Materials for ASM-2 Component Kit V2.3 - ADSR 2

Item	Description	Qty	Designator	Package
CAPACITOR				
1	10nF 63V Polyester	2	C452, C453	RAD-0.2
2	100nF Ceramic	3	C454, C455, C1605	RAD-0.2N
3	4.7uF 35V Tantalum	1	C451	RB-D6.5-P5.0
CONNECTOR				
4	8-pin IC Socket 0.3inch	3	U451, U452, U455	DIP-8
5	14-pin IC Socket 0.3inch	1	U454	DIP-14
6	16-pin IC Socket 0.3inch	1	U453	DIP-16
7	3-way 0.1inch Crimp Housing	5	J451, P452, P453, P454, P455	2.54MM
8	3-way 0.1inch Straight - Locking Header	5	J451, P452, P453, P454, P455	2.54MM
DIODE				
9	1N4148	3	D451, D452, D453	DIODE-0.3
LINEAR				
10	LM358 - Dual Opamp	2	U452, U455	DIP-8
11	TL082 Dual JFET Opamp	1	U451	DIP-8
LOGIC				
12	CD4002 - Dual 4-input NOR Gate	1	U454	DIP-14
13	CD4053 - Triple 2-channel Multiplexer	1	U453	DIP-16
RESISTOR				
14	10R 1% 0.5W Metal Film	1	R455	AXIAL-0.4
15	1K0 1% 0.5W Metal Film	1	R456	AXIAL-0.4
16	1K5 1% 0.5W Metal Film	1	R457	AXIAL-0.4
17	10K 1% 0.5W Metal Film	1	R454	AXIAL-0.4
18	47K 1% 0.5W Metal Film	1	R452	AXIAL-0.4
19	75K 1% 0.5W Metal Film	1	R453	AXIAL-0.4
20	100K 1% 0.5W Metal Film	4	R451, R458, R459, R460	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - ADSR 2

Item	Description	Qty	Designator	Package
	TRIMPOT			
21	100K 25TV Cermet	2	P450, P456	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - VCO 2

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	18pF 5% Ceramic	1	C161	RAD-0.2N
2	33pF 5% Ceramic	1	C160	RAD-0.2N
3	100pF 5% Ceramic	1	C159	RAD-0.2N
4	2200pF 2.5% Polystyrene	1	C154	AXIAL-0.4
5	100nF Ceramic	4	C151, C152, C153, C1606	RAD-0.2N
6	680nF 63V Polyester	1	C162	RAD-0.2X
	CONNECTOR			
7	8-pin IC Socket 0.3inch	4	Q151, U151, U152, U155	DIP-8
8	14-pin IC Socket 0.3inch	1	U150	DIP-14
9	4-way 0.1inch Straight - Locking Header	1	J152	2.54MM
10	4-way 0.1inch Crimp Housing	1	J152	2.54MM
11	5-way 0.1inch Crimp Housing	1	J151	2.54MM
12	5-way 0.1inch Straight - Locking Header	1	J151	2.54MM
13	6-way 0.1inch Crimp Housing	1	J150	2.54MM
14	6-way 0.1inch Straight - Locking Header	1	J150	2.54MM
	DIODE			
15	1N4148	4	D150, D151, D152, D156	DIODE-0.3
16	1N34A Germanium	2	D153, D154	DIODE-0.4
	LINEAR			
17	TL074 Quad JFET Opamp	1	U150	DIP-14
18	TL081 JFET Opamp	1	U155	DIP-8
19	CA3140 Opamp	1	U151	DIP-8
20	LM311 - Comparator	1	U152	DIP-8
	RESISTOR			
21	TEMPCO - PT146 1K 3500ppm	1	Q151	AXIAL-0.5
22	62R 1% 0.5W Metal Film	1	R187	AXIAL-0.4
23	Wire Link	1	LK150	TO FIT
24	680R 1% 0.5W Metal Film	1	R162	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - VCO 2

Item	Description	Qty	Designator	Package
	RESISTOR - continued			
25	1K0 1% 0.5W Metal Film	5	R146, R171, R173, R174, R196	AXIAL-0.4
26	1K5 1% 0.5W Metal Film	1	R193	AXIAL-0.4
27	2K2 1% 0.5W Metal Film	1	R191	AXIAL-0.4
28	3K0 1% 0.5W Metal Film	1	R194	AXIAL-0.4
29	3K3 1% 0.5W Metal Film	1	R189	AXIAL-0.4
30	3K9 1% 0.5W Metal Film	1	R166	AXIAL-0.4
31	15K 1% 0.5W Metal Film	3	R175, R177, R178	AXIAL-0.4
32	20K 1% 0.5W Metal Film	1	R181	AXIAL-0.4
33	47K 1% 0.5W Metal Film	1	R150A	AXIAL-0.4
34	56K 1% 0.5W Metal Film	2	R180, R183	AXIAL-0.4
35	68K 1% 0.5W Metal Film	1	R163	AXIAL-0.4
36	75K 1% 0.5W Metal Film	1	R182	AXIAL-0.4
37	93K1 1% 0.5W Metal Film	1	R158	AXIAL-0.4
38	100K 1% 0.5W Metal Film	7	R152, R153, R159, R160, R161, R198, R199	AXIAL-0.4
39	100K 0.1% Metal Film	4	R154, R155, R156, R157	AXIAL-0.4
40	300K 1% 0.5W Metal Film	2	R190, R195	AXIAL-0.4
41	390K 1% 0.5W Metal Film	1	R188	AXIAL-0.4
42	560K 1% 0.5W Metal Film	2	R184, R185	AXIAL-0.4
43	680K 1% 0.5W Metal Film	1	R151	AXIAL-0.4
44	750K 1% 0.5W Metal Film	1	R186	AXIAL-0.4
45	1M0 1% 0.5W Metal Film	1	R169	AXIAL-0.4
46	1M8 1% 0.5W Metal Film	1	R150	AXIAL-0.4
47	2M2 1% 0.5W Metal Film	1	R192	AXIAL-0.4
	TRANSISTOR			
48	2N3904 NPN Transistor	1	Q153	TO-92
49	LS312 - Dual Supermatched Transistors	1	Q151	DIP-8
50	J108 JFET	1	Q150	TO-92
	TRIMPOT			
51	10K 25TV Cermet	2	P154, P157	3296W
52	100K 25TV Cermet	6	P150, P151, P152, P153, P155, P156	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - VCLFO 2

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	100nF Ceramic	3	C552, C553, C2602	RAD-0.2N
2	470nF 63V Polyester	1	C551	RAD-0.2X
	CONNECTOR			
3	8-pin IC Socket 0.3inch	1	U552	DIP-8
4	14-pin IC Socket 0.3inch	1	U551	DIP-14
5	2-way 0.1inch Crimp Housing	1	J552	2.54MM
6	2-way 0.1inch Straight - Locking Header	1	J552	2.54MM
7	3-way 0.1inch Crimp Housing	4	J551, P551, P552, P553	2.54MM
8	3-way 0.1inch Straight - Locking Header	4	J551, P551, P552, P553	2.54MM
	DIODE			
9	1N4148	3	D551, D552, D553	DIODE-0.3
	LINEAR			
10	TL084 Quad JFET Opamp	1	U551	DIP-14
11	TL081 JFET Opamp	1	U552	DIP-8
	RESISTOR			
12	47R 1% 0.5W Metal Film	1	R557	AXIAL-0.4
13	470R 1% 0.5W Metal Film	1	R564	AXIAL-0.4
14	1K0 1% 0.5W Metal Film	1	R561	AXIAL-0.4
15	1K5 1% 0.5W Metal Film	2	R565, R566	AXIAL-0.4
16	3K0 1% 0.5W Metal Film	1	R562	AXIAL-0.4
17	10K 1% 0.5W Metal Film	2	R556, R568	AXIAL-0.4
18	22K 1% 0.5W Metal Film	1	R563	AXIAL-0.4
19	47K 1% 0.5W Metal Film	1	R552	AXIAL-0.4
20	68K 1% 0.5W Metal Film	2	R558, R559	AXIAL-0.4
21	100K 1% 0.5W Metal Film	5	R551, R553, R554, R555, R560	AXIAL-0.4
22	330K 1% 0.5W Metal Film	1	R567	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - VCLFO 2

Item	Description	Qty	Designator	Package
	TRIMPOT			
23	10K 25TV Cermet	1	P555	3296W
24	100K 25TV Cermet	1	P554	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - VCA 2

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	10pF 5% Ceramic	1	C351	RAD-0.2N
2	100nF Ceramic	3	C352, C353, C2603	RAD-0.2N
	CONNECTOR			
3	8-pin IC Socket 0.3inch	1	U351	DIP-8
4	3-way 0.1inch Crimp Housing	1	J352	2.54MM
5	3-way 0.1inch Straight - Locking Header	1	J352	2.54MM
6	4-way 0.1inch Straight - Locking Header	1	J351	2.54MM
7	4-way 0.1inch Crimp Housing	1	J351	2.54MM
	DIODE			
8	1N4148	2	D351, D352	DIODE-0.3
	LINEAR			
9	TL082 Dual JFET Opamp	1	U351	DIP-8
	RESISTOR			
10	220R 1% 0.5W Metal Film	2	R355, R357	AXIAL-0.4
11	1K0 1% 0.5W Metal Film	1	R360	AXIAL-0.4
12	100K 1% 0.5W Metal Film	6	R351, R352, R353, R354, R356, R361	AXIAL-0.4
13	560K 1% 0.5W Metal Film	1	R359	AXIAL-0.4
14	1M0 1% 0.5W Metal Film	1	R358	AXIAL-0.4
	TRIMPOT			
15	100K 25TV Cermet	1	P351	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - Headphone-Left

Item	Description	Qty	Designator	Package
CAPACITOR				
1	100nF Ceramic	1	C2612	RAD-0.2N
2	1uF 35V Bipolar Electrolytic	1	C2601	RB-D6.3-P2.5
CONNECTOR				
3	8-pin IC Socket 0.3inch	3	U2601, U2602, U2603	DIP-8
4	2-way 0.1inch Crimp Housing	2	J2601, J2602	2.54MM
5	2-way 0.1inch Straight - Locking Header	2	J2601, J2602	2.54MM
6	3-way 0.1inch Crimp Housing	1	P2601	2.54MM
7	3-way 0.1inch Straight - Locking Header	1	P2601	2.54MM
LINEAR				
8	OPA134	3	6U2601, 6U2602, 6U2603	DIP-8
RESISTOR				
9	10R 1% 0.5W Metal Film	1	R2607	AXIAL-0.4
10	51R 1% 0.5W Metal Film	2	R2605, R2606	AXIAL-0.4
11	6K8 1% 0.5W Metal Film	1	R2603	AXIAL-0.4
12	10K 1% 0.5W Metal Film	1	R2604	AXIAL-0.4
13	15K 1% 0.5W Metal Film	1	R2601	AXIAL-0.4
14	100K 1% 0.5W Metal Film	2	R2602, R2608	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - Headphone-Right

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	100nF Ceramic	1	C2613	RAD-0.2N
2	1uF 35V Bipolar Electrolytic	1	C2611	RB-D6.3-P2.5
	CONNECTOR			
3	8-pin IC Socket 0.3inch	3	U2611, U2612, U2613	DIP-8
4	2-way 0.1inch Crimp Housing	2	J2611, J2612	2.54MM
5	2-way 0.1inch Straight - Locking Header	2	J2611, J2612	2.54MM
	LINEAR			
6	OPA134	3	U2611, U2612, U2613	DIP-8
	RESISTOR			
7	10R 1% 0.5W Metal Film	1	R2617	AXIAL-0.4
8	51R 1% 0.5W Metal Film	2	R2615, R2616	AXIAL-0.4
9	6K8 1% 0.5W Metal Film	1	R2613	AXIAL-0.4
10	10K 1% 0.5W Metal Film	1	R2614	AXIAL-0.4
11	15K 1% 0.5W Metal Film	1	R2611	AXIAL-0.4
12	100K 1% 0.5W Metal Film	2	R2612, R2618	AXIAL-0.4

Bill of Materials for ASM-2 Component Kit V2.3 - Ring Mod

Item	Description	Qty	Designator	Package
CAPACITOR				
1	120nF 63V Polyester	2	C1602, C1603	RAD-0.2
2	470nF 63V Polyester	1	C1604	RAD-0.2X
3	100uF Electrolytic	1	C1601	RB-D8.0-P2.5
CONNECTOR				
4	8-pin IC Socket 0.3inch	1	U1602	DIP-8
5	14-pin IC Socket 0.3inch	1	U1601	DIP-14
6	3-way 0.1inch Crimp Housing	1	J1601	2.54MM
7	3-way 0.1inch Straight - Locking Header	1	J1601	2.54MM
LINEAR				
8	TL081 JFET Opamp	1	U1602	DIP-8
9	MC1496 - Balanced Modulator/Demodulator	1	U1601	DIP-14
RESISTOR				
10	1K0 1% 0.5W Metal Film	1	R1621	AXIAL-0.4
11	1K2 1% 0.5W Metal Film	2	R1615, R1616	AXIAL-0.4
12	1K5 1% 0.5W Metal Film	2	R1606, R1607	AXIAL-0.4
13	2K7 1% 0.5W Metal Film	4	R1603, R1604, R1611, R1613	AXIAL-0.4
14	6K8 1% 0.5W Metal Film	3	R1610, R1612, R1614	AXIAL-0.4
15	12K 1% 0.5W Metal Film	2	R1602, R1605	AXIAL-0.4
16	15K 1% 0.5W Metal Film	2	R1617, R1618	AXIAL-0.4
17	100K 1% 0.5W Metal Film	4	R1601, R1608, R1619, R1620	AXIAL-0.4
TRIMPOT				
18	200R 25TV Cermet	1	P1601	3296W
19	500R 25TV Cermet	1	P1602	3296W

Bill of Materials for ASM-2 Component Kit V2.3 - PSU

Item	Description	Qty	Designator	Package
	CAPACITOR			
1	100nF Ceramic	4	C5, C7, C9, C10	RAD-0.2N
2	1uF 35V Tantalum	2	C6, C8	RB-D5.0-P5.0
3	10uF 35V Electrolytic	2	C1, C3	RB-D5.0-P2.0
	CONNECTOR			
4	3-way 0.1inch Crimp Housing	3	J1, J2, J3	2.54MM
5	3-way 0.1inch Straight - Locking Header	3	J1, J2, J3	2.54MM
	LINEAR			
6	LM337LZ - Adjustable Negative Voltage Regulator	1	U4	TO-92
7	LM317LZ - Adjustable Positive Voltage Regulator	1	U3	TO-92
	INDUCTOR			
8	Ferrite Bead - 0.45uH 7A	2	L1, L2	AXIAL-0.3
	RESISTOR			
9	Wire Link	1	LK1	TO FIT
10	270R 1% 0.5W Metal Film	2	R1, R4	AXIAL-0.4
11	1K2 1% 0.5W Metal Film	2	R3, R6	AXIAL-0.4
	TRIMPOT			
12	200R 25TV Cermet	2	P1, P2	3296W

Bill of Materials for Cougar Expander Hardware Kit V0.0 - MonoDAC

Item	Description	Qty	Designator	Package
	CONNECTOR			
1	5-PIN DIN Panel Socket	2	J201, J202	-
2	3.5mm Mono PCB Socket c/w Nut - Yellow	1	J405	-
3	3.5mm Mono PCB Socket c/w Nut - Green	2	J403, J404	-
4	3.5mm Stereo Socket - Panel	2	J406, J407	-
	HARDWARE			
5	KNOB - Panther Hi-contrast Blue	2	P402, P403	18T SPLINE
	OPTO-ELECTRONIC			
6	3mm HE-Green LED	1	D102	-
7	3mm Clear Lens Mount	1	D102	-
	POTENTIOMETER			
8	50KB LIN - 18T Spline	2	P402, P403	ALPHA 16MM
	SWITCH			
9	SPDT Panel [ON-ON]	1	S103 NB: S	-
10	SPDT PB Panel [ON-MOM]	1	S102	-

Bill of Materials for Cougar ASM-2 Hardware Kit V0.0 - ADSR1

Item	Description	Qty	Designator	Package
	CONNECTOR			
1	3.5mm Mono PCB Socket c/w Nut - Green	1	XJ404	-
2	3.5mm Mono PCB Socket c/w Nut - Red	2	XJ403, XJ405	-
	HARDWARE			
3	KNOB - Panther Hi-contrast Blue	4	P402, P403, P404, P405	18T SPLINE
	OPTO-ELECTRONIC			
4	3mm HE-Yellow LED	1	J402	-
5	3mm Clear Lens Mount	1	J402	-
	POTENTIOMETER			
6	100KB LIN - 18T Spline	1	P402	ALPHA 16MM
7	1MA LOG - 18T Spline	3	P403, P404, P405	ALPHA 16MM
	SWITCH			
8	SPDT PB Panel [ON-MOM]	1	S401	-

Bill of Materials for Cougar ASM-2 Hardware Kit V0.0 - ADSR2

Item	Description	Qty	Designator	Package
	CONNECTOR			
1	3.5mm Mono PCB Socket c/w Nut - Green	1	XJ454	-
2	3.5mm Mono PCB Socket c/w Nut - Red	2	XJ453, XJ455	-
	HARDWARE			
3	KNOB - Panther Hi-contrast Blue	4	P402, P453, P454, P455	18T SPLINE
	OPTO-ELECTRONIC			
4	3mm HE-Yellow LED	1	J402	-
5	3mm Clear Lens Mount	1	J402	-
	POTENTIOMETER			
6	100KB LIN - 18T Spline	1	P402	ALPHA 16MM
7	1MA LOG - 18T Spline	3	P453, P454, P455	ALPHA 16MM
	SWITCH			
8	SPDT PB Panel [ON-MOM]	1	S401	-

Bill of Materials for Cougar ASM-2 Hardware Kit V0.0 - LFO2

Item	Description	Qty	Designator	Package
CONNECTOR				
1	3.5mm Mono PCB Socket c/w Nut - White	2	XJ553, XJ554	-
2	3.5mm Mono PCB Socket c/w Nut - Blue	1	XJ555	-
HARDWARE				
3	KNOB - Panther Hi-contrast Blue	3	P551, P552, P553	18T SPLINE
OPTO-ELECTRONIC				
4	3mm HE-Red LED	1	J552	-
5	3mm Clear Lens Mount	1	J552	-
POTENTIOMETER				
6	100KB LIN - 18T Spline	2	P551, P552	ALPHA 16MM
7	100KA LOG - 18T Spline	1	P553	ALPHA 16MM

Bill of Materials for Cougar ASM-2 Hardware Kit V0.0 - VCO2

Item	Description	Qty	Designator	Package
CONNECTOR				
1	3.5mm Mono PCB Socket c/w Nut - White	4	XJ191, XJ192, XJ193, XJ194	-
2	3.5mm Mono PCB Socket c/w Nut - Blue	6	XJ160, XJ161, XJ162, XJ164, XJ165, XJ167	-
3	3.5mm Mono PCB Socket c/w Nut - Red	1	XJ166	-
HARDWARE				
4	KNOB - Panther Hi-contrast Blue	10	P160, P161, P162, P163, P164, P165, P166, P167, P168, TRANSPOSE2	18T SPLINE
POTENTIOMETER				
5	100KB LIN - 18T Spline	9	P160, P161, P162, P163, P164, P165, P166, P167, P168	ALPHA 16MM
SWITCH				
6	SPDT Panel [ON-ON]	2	S160, S161	-

Bill of Materials for Cougar ASM-2 Hardware Kit V0.0 - Multiples

Item	Description	Qty	Designator	Package
	CONNECTOR			
1	3.5mm Mono PCB Socket c/w Nut - White	6	J1008, J1009, J1014, J1017, J1018, J1615	-
2	3.5mm Mono PCB Socket c/w Nut - Green	6	J1002, J1003, J1005, J1006, J1011, J1012	-
3	3.5mm Mono PCB Socket c/w Nut - Blue	3	J1001, J1004, J1010	-
4	3.5mm Mono PCB Socket c/w Nut - Black	3	J1007, J1013, J1016	-

