

# MAGIC SMOKE ELECTRONICS

TH-101-01 "Sheboygan" 566 VCO								
12/29/2007								
#	Designators	Description	Package	Source	Source #	Q'ty	Section	Comments
1	C1	Cap, polypropylene, 0.047uF	radial 5.0mm	Mouser	505-MKP20.047/100/5	1	VCO Core	Main Timing Cap
2	C2	Cap, ceramic, 0.001uF	radial 5.0mm	Mouser	80-C410C101J1G	1	VCO Core	HF Oscillation suppress
3	C3	Cap, polyester, 0.47uF	radial 5.0mm	Mouser	505-MKS20.47/63/5	1	VCO Core	LFO Timing Cap
4	C4, 8	Cap, Electrolytic, 4.7uF, 35VDC	radial 2.0mm	Mouser	140LLRL35V4.7-RC	2	VCF Core	power decoupling
5	C5 - 7	Cap, ceramic, 0.047uF	radial 5.0mm	Mouser	80-C410C473K5R5CA	3		
6	C9	Cap, ceramic, 100pF	radial 5.0mm	Mouser	80-C410C102J1G	1		
7	C10, 11	Cap, Electrolytic, 10uF, 35VDC	radial 2.0mm	Mouser	140LLRL35V10-RC	2	DC In	power filtering
8	C12 - 25	Cap, ceramic, 0.01uF	radial 5.0mm	Mouser	147-72-103-RC	14		power decoupling
9	C26	Cap, polyester, 0.022uF	radial 5.0mm	Mouser	581-BQ014D0223J	1		"-2" suboctave phase delay
9	D1, 2	Diode, signal, 1N4148	DO-35	Mouser	78-1N4148	2		
10	D3, 4	Diode, signal, 1N4001	DO-41	Mouser	512-1N4001	2	DC IN	Reverse polarity protection
11	IC2	LM566 VCO Chip	8 DIP	---	---	1	VCO	<b>Can also use NE566</b>
12	IC5	CD4013	14 DIP	Mouser	595-CD4013BE	1	Divider	"-1" and "-2" suboctaves
13	IC1, 3, 4, 6 - 9	Op Amp, Dual, TL072BCN	8 DIP	Mouser	595-TL072BCP	7		CV sum and waveshapers
14	Q1, 3, 4, 5	2N3904	TO-92	Mouser	512-2N3904J05Z	4		
15	Q2, 7	2N3906	TO-92	Mouser	512-2N3906J05Z	2		
16	Q6	MPF-102 FET	TO-92	Mouser	512-MPF102	1		Switch for Saw shaper
17	R5, 45	Res, 1/4W, 390 Ohm, 1%	radial .4"	Mouser	271-390-RC	2		
18	R12, 16, 20, 49, 60	Res, 1/4W, 1K, 1%	radial .4"	Mouser	271-1K-RC	5		
19	R2, 26, 40, 72, 78	Res, 1/4W, 1.5K, 1%	radial .4"	Mouser	271-1.5K-RC	5		
20	R3	Res, tempco, 2K, +3500ppm/C	radial .4"	Magic Smoke	2K Tempco	1		Temp compensation. Tempcos available from Magic Smoke. Can substitute standard 2K 1% resistor if temp compensation not needed.
21	R23, 32, 37, 44, 48, 69	Res, 1/4W, 2.2K, 1%	radial .4"	Mouser	271-2.2K-RC	6		
22	R25, 34, 39, 71	Res, 1/4W, 3K, 1%	radial .4"	Mouser	271-3K-RC	4		
23	R73	Res, 1/4W, 5.6K, 1%	radial .4"	Mouser	271-5.6K-RC	1		
24	R1, 14, 17, 27 - 31, 35, 36, 42, 43, 46, 47, 57 - 59	Res, 1/4W, 10K, 1%	radial .4"	Mouser	271-10K-RC	17		
25	R51	Res, 1/4W, 18K, 1%	radial .4"	Mouser	271-18K-RC	1		
26	R77	Res, 1/4W, 22K, 1%	radial .4"	Mouser	271-22K-RC	1		
27	R62	Res, 1/4W, 33K, 1%	radial .4"	Mouser	271-33K-RC	1		
28	R18, 21	Res, 1/4W, 36K, 1%	radial .4"	Mouser	271-36K-RC	2		
29	R74, 76	Res, 1/4W, 39K, 1%	radial .4"	Mouser	271-39K-RC	2		
30	R56	Res, 1/4W, 56K, 1%	radial .4"	Mouser	271-56K-RC	1		
31	R6, 7a, b, d, e, 11, 13, 55, 65, 75	Res, 1/4W, 100K, 1%	radial .4"	Mouser	271-100K-RC	10		Change R13 to 120k for higher noise level. R7b sets Coarse Tune range
32	R19	Res, 1/4W, 120K, 1%	radial .4"	Mouser	271-120K-RC	1		
33	R68	Res, 1/4W, 180K, 1%	radial .4"	Mouser	271-180K-RC	1		
34	R54	Res, 1/4W, 300K, 1%	radial .4"	Mouser	271-300K-RC	1		
35	R67	Res, 1/4W, 330K, 1%	radial .4"	Mouser	271-330K-RC	1		
36	R9, 10, 53	Res, 1/4W, 1M, 1%	radial .4"	Mouser	271-1M-RC	3		
37	R24, 33, 38, 70	Res, 1/4W, 2.2M, 1%	radial .4"	Mouser	271-2.2M-RC	4		
38	R7c	Res, 1/4W, 3.3M, 1%	radial .4"	Mouser	271-3.3M-RC	1		Sets Fine Tune range
39	R4	Pot, Trim, 100 Ohm, multi-turn	3/8" sq "v"	Mouser	72-T93YB-100	1	CV Sum	V/Oct Scale Trim
40	R22	Pot, Trim, 10K, multi-turn	3/8" sq "v"	Mouser	72-T93YB-10K	1		Triangle Offset
41	R50	Pot, Trim, 50K, multi-turn	3/8" sq "v"	Mouser	72-T93YB-50K	1		Sine Symmetry
42	R41, 52	Pot, Trim, 100K, multi-turn	3/8" sq "v"	Mouser	72-T93YB-100K	2		Sine Shape, Ramp Trim
43	R8b, c, d, e, 15, 64, 66	Pot, Panel, 100K, linear	12mm	Mouser	313-1210F-100K	7	Panel	Panel pots. Order 10 to get better price from Mouser
44	PT1, 2	Resettable Fuse, 0.5A, 0.77Ohm	radial .25"	Mouser	652-MFR050-LF	2	DC IN	optional - overcurrent circuit protection. Can replace with ferrite beads, 10R resistors or jumper.
45	J1 - J12	Jack, phone, 1/8"		Mouser	16PJ012	12	Panel	
46	S1	Switch, SPST		Mouser	108-0001-EVX	1	Panel	Hi / Lo Range
47		Main PCB		MSE	TH-101-01	1		
48		Front Panel		MSE		1	Panel	
49		IC Socket, machine pin, 8 pin		Mouser	535-08-3518-10	8		optional
50		IC Socket, machine pin, 14 pin		Mouser	535-14-3518-10	1		optional
51								
52		PCB Male conn, .100, friction lock, 2 pin		Mouser	571-6404562	13		PCB Mount connectors
53		PCB Male conn, .100, friction lock, 3 pin		Mouser	571-6404563	8		PCB Mount connectors
54	CN1	PCB Male conn, .100, friction lock, 6 pin		Mouser	571-6404566	1		DC input (Dot Com style) Can use .156" 4 pin MTA (Blacet/MOTM style) instead
55		Fem term housing, .100, w/tabs, 2 pin		Mouser	571-6445632	13		Panel component connector
56		Fem term housing, .100, w/tabs, 3 pin		Mouser	571-6445633	8		Panel component connector
57	CN1	Fem term housing, .100, w/tabs, 6 pin		Mouser	571-6445636	1		DC input (Dot Com style)