

MAGIC SMOKE ELECTRONICS

TH-102-01 "El Cerrito" VCO Parts List				
DESIGNATOR	DESCRIPTION	QTY	MOUSER PART #	NOTES
R1	100 Ohm Trimmer	1	72-T93YB-100	Volts per Octave trim
R2	390 Ohm	1	271-390-RC	0.02 ea in quantities of 100, can also buy from Futurlec for 0.02 ea in qty 10
R3	500 Ohm Trimmer	1	72-T93YB-500	Sine Round trim
R4, R5, R105	1K	2	271-1.0K-RC	
R6, R110, R115, R120	1.8K	1	271-1.8K-RC	
R7	2K Tempco	1	---	Available from Magic Smoke Electronics
R8	2.2K	1	271-2.2K-RC	
R9, R109, R114, R119	3K	4	271-3.0K-RC	
R10 - R12	4.7K	3	271-4.7K-RC	
R13, R14	5.6K	2	271-5.6K-RC	
R15 - R19, R106 - R108, R116 - R118	10K	11	271-10K-RC	
R20	11K	1	271-11K-RC	
R21	20K	1	271-20K-RC	
R22	25K Trimmer	1	72-T93YB-25K	Sine Symmetry trim
R23	47K	1	271-47K-RC	
R24	50K Trimmer	1	72-T93YB-50K	Tri / Sine Offset trim
R25, R102	82.5K	2	271-82.5K-RC	
R26 - R31, R101, R111, R113	100K	9	271-100K-RC	
R38	150K	1	271-150K-RC	
R39, R103	200K	2	271-200K-RC	
R40, R41	220K	2	271-220K-RC	
R42	1M Trimmer	1	72-T93YB-1M	HF Track trim
R43	1.5M	1	291-1.5M-RC	
R44, R45	2.2M	2	271-2.2M-RC	
R46	3.3M	1	291-3.3M-RC	
R104	95.3K	1	271-95.3K-RC	
R112	330K	1	271-330K-RC	
R121, R122	PTC Resettable Fuse	2	652-MFR050-LF	Low resistance (0.77Ohms max at room temp). Replace with jumpers if short circuit protection not needed
R32 - R37, R123 - R125	100K Linear Panel Pot	9	313-1210F-100K	100K Linear 12mm Alpha. Order 10 for better price from Mouser. Other sizes and styles can be used, depending on panel layout.
C1	100pF Disk	1		5mm lead spacing, HF suppress
C2	470pF Disk	1	140-50N5-470J-RC	5mm lead spacing, Sync signal differentiate
C3 - C6, C101 - C106	0.01uF Disk	10	140-50Z5-103M-RC	5mm lead spacing, ceramic disk
C7	0.047uF	1		Audio Range timing cap
C8	0.022uF	1		Linear CV AC coupling
C9, C10, C107	4.7uF Electrolytic	3	140-HTRL50V4.7-RC	Decoupling for XR and 4013 chips
C11 - C13	10uF Electrolytic	3	140-NPRL50V10-RC	DC Input filtering and decoupling
C108	0.47uF	1		Low Range timing cap
D1 - D6, D103, D104	1N4148 Diode	8	512-1N4148TR	
D101, D102	Diode, Signal, 1N4001	2	512-1N4001	Reverse polarity protection. Leave off if reverse polarity protection not needed.
Q1	LM394 Matched Pair	1	LM394	Available from Futurlec. Listed as Q1 / Q2 in original schematic
Q3	2N3904	1	512-2N3904J05Z	
IC1	XR2206 VCO IC	1	---	Available from Magic Smoke, Jameco, Futurlec, Mouser
IC2	LF442 Dual Op-Amp	1	---	Available from Futurlec, Digi-Key
IC3 - IC5, IC7	TL072 Dual Op-Amp	4	TL072CP	
IC6	4013 Dual Flip Flop	1	595-CD4013BE	
J1 - J7, J101 - J106	1/8" Phone Jack	13	161-3142M-E	\$1.43 each, Order 10 for better price. 161-3142M-E is same part without washer.
S1	DPDT Toggle Switch	1	108-0010-EVX	Tri / Sine Select Switch.
S101	SPDT Toggle Switch	1	108-0009-EVX	Hi / Low Range Switch.
	IC Socket, 8 pin machine pin	6	535-08-3518-10	Optional
	IC Socket, 14 pin machine pin	1	535-14-3518-10	Optional
	IC Socket, 16 pin machine pin	1	535-16-3518-10	Optional
	2 Pin 0.1" Male PCB Connector	12	571-6404562	OPTIONAL: PCB connectors NOT required if wiring directly to PCB
	3 Pin 0.1" Male PCB Connector	12	571-6404563	OPTIONAL: PCB connectors NOT required if wiring directly to PCB
	4 Pin 0.156" Male PCB Connector	1	571-6404454	DC Power Input, 4 pin Blacet / MOTM style
	2 Pin 0.1" Female Wire Connector	12	571-3-644563-2	OPTIONAL: Wire connectors NOT required if wiring directly to PCB
	3 Pin 0.1" Female Wire Connector	12	571-3-644563-3	OPTIONAL: Wire connectors NOT required if wiring directly to PCB
	4 Pin 0.156" Female Connector	1	538-09-50-3041	DC Power Input, 4 pin Blacet / MOTM style HOUSING ONLY (order crimp pins too)
	0.156" Fem Connector Pins	4	538-08-52-0072	Crimp Pins for 4 pin .156" housing.
PCB	TH-102-02 PCB	1	TH-102-02	Available from Magic Smoke Electronics