## CubuSynth – ENGINE Shopping List – PCB V1.1 May 2022

Engine PCBs
Switch Adapter PCB



Quantity sistors	y Name	Description	Footprint
3	10R/Bead	Ferrite Bead or 1/4W Metal Film Resistor 1%	L_AXIAL-0.4
2	220R	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
4	470R	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
6	820R	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
28	1k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
2	1k8	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
7	2k2	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
3	4k7	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
2	5k6	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
4	6k8	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
22	10k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
2	15k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
36	20k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
2	24k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
4	33k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
12	47k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
3	68k	1/8 or 1/4W Metal Film Resistor 1%	R AXIAL-0.3
34	100k	1/8 or 1/4W Metal Film Resistor 1%	_
			R_AXIAL-0.3
9	200k	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
7	330k	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
3	470k	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
2	560k	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
6	1M	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
2	1.5M	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
2	3.3M	1/8 or 1/4W Metal Film Resistor 1%	R_AXIAL-0.3
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pacitors 3	47u	47uf Electrolytic Capacitor, min. 16V	CAP-D6.3-F2.5
2	1n Polystyrene	1nf / 1000pf Polystyrene (or WIMA) Capacitor	CAP-D0.3-F2.3 CAPACITOR-0.10.4
6	100pf	Ceramic Disc Capacitor (Footprint also allows 0805 SMD)	RAD-0.1
4	1n	Ceramic Disc Capacitor (Footprint also allows 0805 SMD)	RAD-0.1
20	10n 100n	Ceramic Disc Capacitor (Footprint also allows 0805 SMD)  Ceramic Disc Capacitor (Footprint also allows 0805 SMD)	RAD-0.1
	10011	Ceramic Disc Capacitor (1 ootprint also allows 0000 SiviD)	IVAD-0.1
ansistors	s / Diodes		
1	2N5457	JFET - General Purpose N-Channel	TO-92
8	2N3904	General Purpose Transistor NPN	TO-92
8	2N3906	General Purpose Transistor PNP	TO-92
2	1N4001	1N40011N4007 or 1N5819	DO-41 BD2.4-L4.7-P8.70-D0.9-RD
5	1N4148	high-speed switching diode	DO-35 BD2.0-L4.0-P8.00-D0.5-FD
12	LED-TH-3mm White	White Bright LEDs	LED-TH BD3.0 RED
8	LED-TH-3mm_Colored	BLUE,GREEN,ORANGE,PINK,PURPLE,RED,Y-GREEN,YELLOW	LED-TH_BD3.0_RED
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ontrols	D400K D + C	T.	ALBUA OMANIERTICAL BOT
5	B100K Potentiometer		ALPHA 9MM VERTICAL POT
10	B100K Tall Trimmer Pot		9MM TALL TRIMMER POT
27	PJ-301M	PJ301M / PJ-398SM / PJ3001F (Thonkiconn)	PJ-301M
2	RS16 2P4T SWITCH	16mm 2 pole, 4 position Rotary Switch	ROTARY_SWITCH_4POS
1	SS-24E01	4 Position Slide Switch	SW-TH_SS-24E01-L5
1	MINI TOGGLE On/Off/On		MINI SPDT On/Off/On
2	MINI TOGGLE On/On		MINI SPDT On/On
2	V/O trim	3296W trimmer 10k (103)	TH_3296W
2	Hftrim	3296W trimmer 20k (203)	
			TH 3296W
2		3296W trimmer 100k (104)	
2 7	SineSymmetry Knobs (Knurled shaft)		TH_3296W TH_3296W
7	SineSymmetry		
7 s	SineSymmetry Knobs (Knurled shaft)		TH_3296W
7 s 5	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin		TH_3296W
7 s 5 8	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin		TH_3296W  DIP16 DIP14
7 5 8 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin	3296W trimmer 100k (104)	DIP16 DIP14 DIP8
7 5 8 1 2	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340	3296W trimmer 100k (104)  Can use AS or CEM chips / no changes on Resistors needed	DIP16 DIP14 DIP8 DIP16
7 s 5 8 1 2	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16
7 s 5 8 1 2 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030)	TH_3296W  DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16
7 5 8 1 2 1 1 2	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N	3296W trimmer 100k (104)  Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16
7 5 8 1 2 1 1 2 7	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074	3296W trimmer 100k (104)  Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14
7 5 8 1 2 1 1 2	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N	3296W trimmer 100k (104)  Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16
7 5 8 1 2 1 1 2 7	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072	3296W trimmer 100k (104)  Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14
7 s 5 8 1 2 1 1 2 7 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072	3296W trimmer 100k (104)  Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP16 DIP14 DIP18 DIP14 DIP18
7 s 5 8 1 2 1 1 2 7 1 1 2 7	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp J12,J13	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP16 DIP14 DIP18 DIP18 HDR-M-2.54_1X15
7 s 5 8 1 2 1 1 2 7 1 n Header 2 2	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072  TBHDR-M-2.54_1x15 HDR-F-2.54_1x15	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp J12,J13 H1,H2	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP18 DIP18 DIP18 DIP18 HDR-M-2.54_1X15 HDR-F-2.54_1X15
7 s 5 8 1 2 1 1 2 7 1 n Header 2 2 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp J12,J13 H1,H2 J25	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP18 DIP18 DIP18 DIP18 HDR-M-2.54_1X15 HDR-F-2.54_1X15 HDR-M-2.54_2X10
7 s 5 8 1 2 1 1 2 7 1 1 2 7 1 1 1 1 2 7 1 1 1 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp J12,J13 H1,H2 J25 H5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP18 DIP18  HDR-M-2.54_1X15 HDR-F-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10
7  S  5  8  1  2  1  1  2  7  1  m Header  2  1  1  2  7	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 8pin CEM/AS3340 CD4094 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP8  HDR-M-2.54_1X15 HDR-F-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_1X6
7 5 8 1 2 1 1 2 7 1 1 1 2 2 1 1 1 2 7 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6 Eurorack Power 16 Pin IDC	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31 U5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP98  HDR-M-2.54_1X15 HDR-M-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_1X6 HDR-M-2.54_1X6 HDR-M-2.54_2X8 Boxed
7 s 5 8 1 2 1 1 2 7 1 n Header 2 2 1 1 2 2	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 8pin CEM/AS3340 CD4094 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP8  HDR-M-2.54_1X15 HDR-F-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_1X6
7 s 5 8 1 2 1 1 2 7 1 1 2 2 7 1 1 1 2 2 1 1 1 2 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6 Eurorack Power 16 Pin IDC	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31 U5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP98  HDR-M-2.54_1X15 HDR-M-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_1X6 HDR-M-2.54_1X6 HDR-M-2.54_2X8 Boxed
7 5 8 1 2 1 1 2 7 1 Header 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6 Eurorack Power 16 Pin IDC	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31 U5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP98  HDR-M-2.54_1X15 HDR-M-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_1X6 HDR-M-2.54_1X6 HDR-M-2.54_2X8 Boxed
7 s s 5 8 1 2 1 1 2 7 1 1 Header 2 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 1 1	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6 Eurorack Power 16 Pin IDC	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31 U5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP98  HDR-M-2.54_1X15 HDR-M-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_1X6 HDR-M-2.54_1X6 HDR-M-2.54_2X8 Boxed
7 s 5 8 1 2 1 1 2 7 1 n Header 2 1 1 2 1 1 1 2 CBs	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072  TS  HDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6 Eurorack Power 16 Pin IDC To Expander 10 Pin IDC	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31 U5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP18 DIP18  HDR-M-2.54_1X15 HDR-F-2.54_1X15 HDR-M-2.54_2X10 HDR-F-2.54_2X10 HDR-M-2.54_2X8 Boxed HDR-F-2.54_2X5
7 s 5 8 1 2 1 1 2 7 1 n Header 2 1 1 1 2 1 1 1 CBs	SineSymmetry Knobs (Knurled shaft)  IC Socket 16pin IC Socket 14pin IC Socket 8pin CEM/AS3340 CD4094 CD4070 LM13700N TL074 TL072  TBHDR-M-2.54_1x15 HDR-F-2.54_1x15 HDR-M-2.54_2x10 HDR-F-2.54_2x10 HDR-M-2.54_1x6 Eurorack Power 16 Pin IDC To Expander 10 Pin IDC	Can use AS or CEM chips / no changes on Resistors needed 8-STAGE SHIFT-AND-STORE BUS REGISTER Quad Exclusive-OR (also works with CD4030) Dual transconductance amplifier Quad Op-Amp Dual Op-Amp  J12,J13 H1,H2 J25 H5 J28,J31 U5	DIP16 DIP14 DIP8 DIP16 DIP16 DIP16 DIP16 DIP14 DIP16 DIP14 DIP8  HDR-M-2.54_1X15 HDR-F-2.54_1X15 HDR-M-2.54_2X10 HDR-M-2.54_2X10 HDR-M-2.54_2X8 Boxed HDR-F-2.54_2X5  EURORACK_Panel 24HP