

A.P.C Semi-Patchable Synth_Card

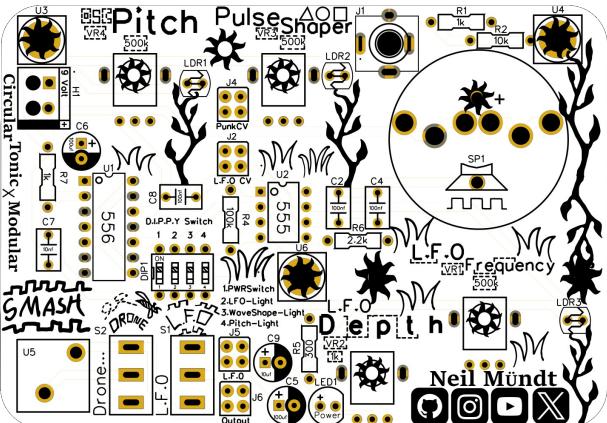


Features

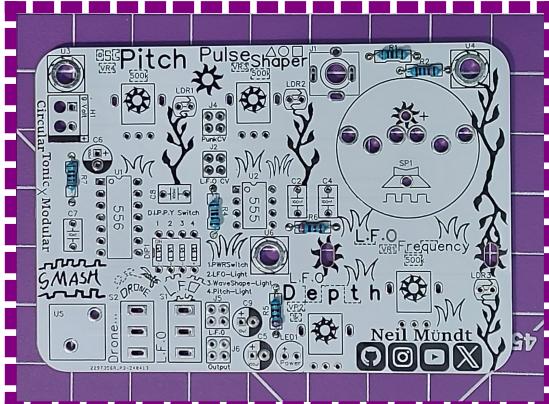
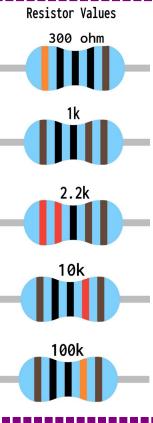
- Classic Atari Punk Console** with a 556 Core and 555 timer L.F.O
- Atari Smash Button** for those moments of gritty smashing
- Drone Switch** for Some constant BUGGY BEE BUZZING
- LFO Switch** Low Frequency Oscillator Switch for some extra modulation.
- *Optional* Semi-Patchable** with Punk CV, LFO CV, L.F.O Output, APC Output for more madness
- Dip Switch Light** Controlled Pitch, PulseShaper, LFO Frequency.
- Built-in Battery and PCB speaker** for On the go noise Session.

(Build Steps)

Step 1. Follow Legend or Measure Resistors with Multi-Meter.

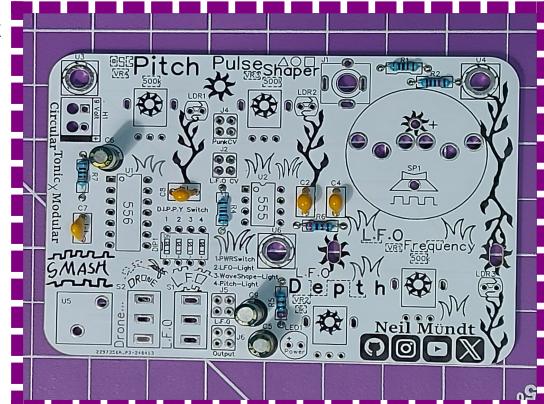


Insert Resistors and Follow PCB for Values and Placement. *Solder*



Step 2. Read Flim Box

Capacitors (104)100nf and(103)10nf then Read Electrolytic Capacitors noting the Polarity (-)Negative being the Stripe and *Solder*



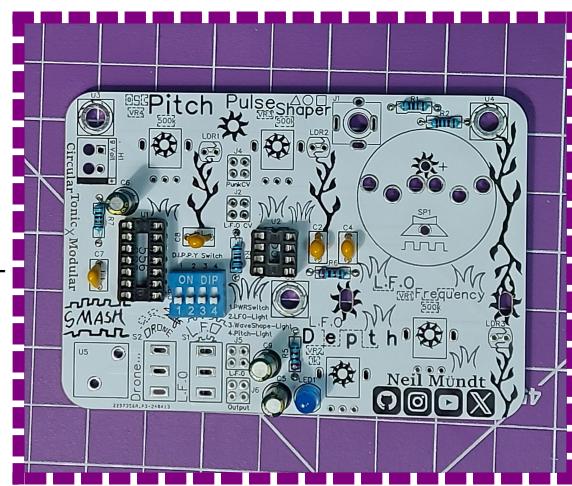
Step 3. Choose LED Color and Insert the LED. Take note of the Polarity on the PCB. The longer

lead (+Positive) and the Shorter FlatSide (-) is Negative then *Solder* *R5 Can Be changed if you want to change the LED Color (300ohm Red) or (2.2k Blue) ...Ect Just lookup a Voltage LED Calculator.



Step 4. Insert U1 and U2 Sockets and Dip1 Switch.

Solder



Step 5. *Optional Patches* The Semi-Patchable Headers for the Punk CV, LFO CV, L.F.O Output, APC Output. It Adds some different madness VIA Mini Jumper to the Synth. You can do 1x4-Pin Female header or 1x2-Pin x 2.54MM Female/ScopeHooks for viewing the waveform.



Step 6. Snip off the plastic nubs off the Button to make the Button more flush with pcb. Then  *Solder*

Step 7. Insert Buzzy BEE Drone Switch and LFO Modulator Switch and  *Solder*

Step 8. Insert the J1 3.5mm Output Jack  *Solder*



Step 9. Insert the Potentiometers. Then read the underside of the potentiometers (1k)Pots are Labeled (B102) and (500k) Pots are labeled (B504). Bend the Potentiometer leads flat under the battery like this before soldering. Follow Silkscreen for Ω ohm Values and  *Solder*

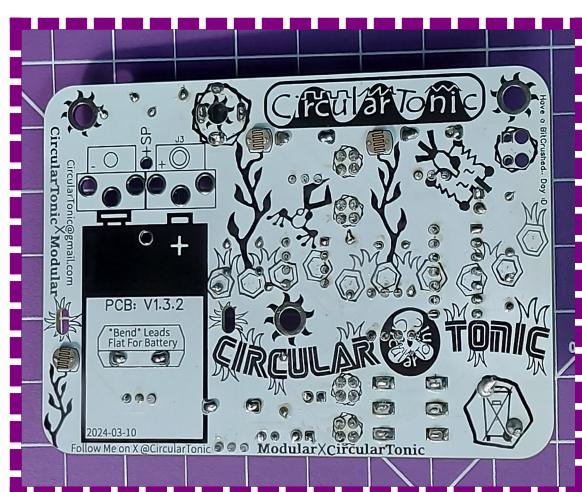


TOP~SIDE

OR

BOTTOM~SIDE

Step 10. Insert (LDR)Light Dependant Resistors into the Flowers on the Silkscreen. So you can insert them either side of the board. You can do the topside if you want to have knobs it helps to (Prevent Blocking of light Control) While Twisting Knobs or you can have them on the Back. I RECOMMEND the LDRs on the Backside of the card. So you can point the Card at a Light Source  like a Point and Shoot Camera 



Step 11. Cut a Piece of Foam the Size of a the 9-Volt Battery and Warp it with Electrical Tape. So the battery sits more Flush or you can warp it completely x2 with electrical Tape. So it Prevents the battery from contacting the PCB and ~~Shorting~~ out. I suggest a piece of foam it helps it sit more flush. ZipTie Battery is *Optional*



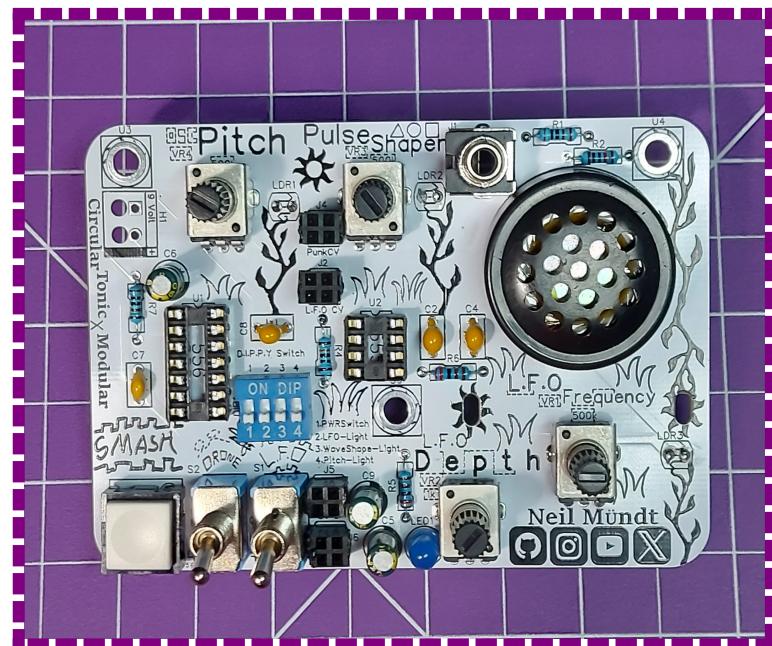
Step 12. Connect 9-Volt_Battery to Terminals of the Battery. Note the Polarity on Silkscreen and Match it with the Battery.

Then *Solder* it in place on PCB. This needs to be done Before soldering the Speaker. Flip it over and touch up the joints like this.



Step 13. Insert the Speaker into the PCB. Follow the Polarity+ Marking on the Speaker and Match it with the PCB Then

Solder



Step 14. Insert the 556 and 555 timer Intergrated Circuits into the DIP Sockets. There you go now you got yourself a one of a kind of a Noise maker. Here is one I made. You can always Finish it off with Your Own Knobs and a Wii Strap for a Retro Look synth. If you need help or Have any questions you can contact me by Email or Send me a Message on X Email:CircularTonic@gmail.com
Youtube:Circulartonic
X@CircularTonic
Tiktok@CircularTonic
Website:Circulartonic.com

Bill of Materials (BOM)

Name	Designator	Footprint	Quantity
300Ω	R5	RD-6X2.5-1/4W RESISTOR	1
9-Volt Terminals	J3	9-VOLT Terminals	2
L.F.O V Control	J2	PINHEADER 1X4 2.54MM Female	1
V Control	J4	PINHEADER 1X4 2.54MM Female	1
L.F.O Wave TP	J5	PINHEADER 1X4 2.54MM Female	1
Output TP	J6	PINHEADER 1X4 2.54MM Female	1
1k	R1, R7	RD-6X2.5-1/4W RESISTOR	2
10k	R2	RD-6X2.5-1/4W RESISTOR	1
9-volt PWR Header	H1	9-VOLT BATTERY CONNECTOR	1
PJ-301M	J1	PJ301BM JACK	1
100k	R4	RD-6X2.5-1/4W RESISTOR	1
2.2k	R6	RD-6X2.5-1/4W RESISTOR	1
30mm Speaker	SP1	SPEAKER 30MM PCB	1
Smash BUTTON	U5	12MMX12MM MOMENTARY BUTTON	1
SWITCH	DIP1	DIP SWITCH 4 SWITCHES	1
LDR(light Dependant Resistor	LDR1,LDR2,LDR3	LDR	3
100uf	C6, C5	Electrolytic Capacitor	2
100nf	C2, C4	BOX CAP(104)	2
10nf	C7	BOX CAP(103)	1
100nf	C8	BOX CAP(104)	1
1k	VR2	T18 ALPHA 9MM	1
500k	VR4, VR1, VR3	T18 ALPHA 9MM	3
Power LED	LED1	LED	1
NE556	U1	NE556 IC	1
555 TIMER	U2	555TIMER IC	1
10uf	C9	Electrolytic Capacitor	1
LFO Switch	S1	TOGGLE SWITCH	1
Drone Switch	S2	TOGGLE SWITCH	1

