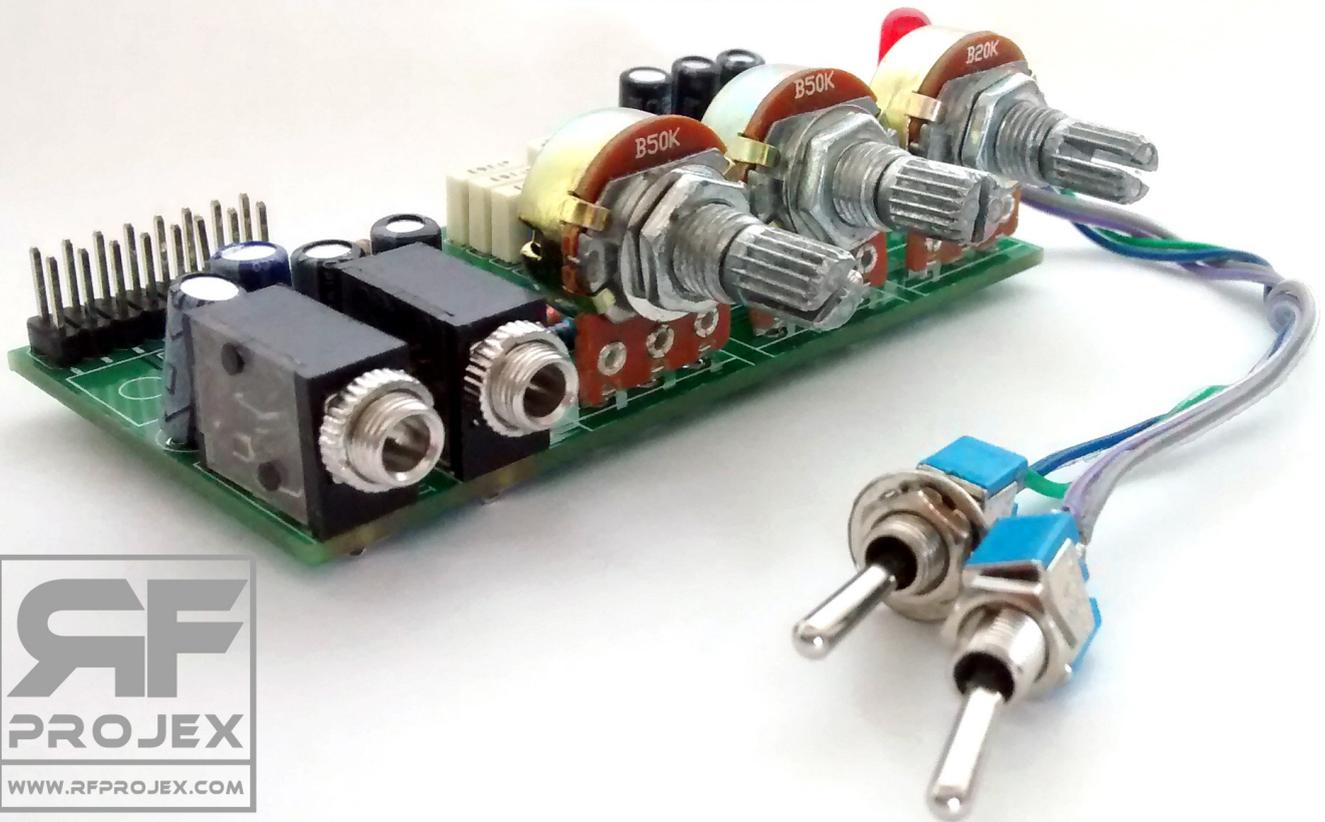


DIY DELAY EFFECT

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Bill Of Materials

Value	Qty	Ref.
RESISTORS		
10k	6	R1, R2, R3, R6, R7, R8
15k	2	R4, R11
5,6k	1	R5
4,7k	1	R9
100k	2	R10, R12
150	1	R13
200k	1	R14
CAPACITORS		
100nF	5	C2, C4, C6, C7, C8
560pF	2	C9, C13
3,3nF	2	C10, C17
10nF	1	C11
ELECTROLYTIC CAPACITORS		
100uF	1	C1
47uF	2	C3, C5
10uF	2	C12, C14
4,7uF	2	C15, C16
POTENTIOMETERS		
20K	1	P1_TIME
50k	2	P2_REPEATS, P3_FEEDBACK
IC		
PT2399	1	IC1
7805 Voltage Regulator	1	IC2
OTHERS		
JACK-3,5MM	2	IN, OUT
LED 3MM, RED		LED
Toggle switches	2	(A1, A2); (B1, B2) toggle switches
9V Battery Clip	1	Battery Clip
16 Pin IC Socket	1	DIP16
2x8 pin (male) PTH header	1	16 pin eurorack power connector
2x 10cm	2	10 Cores Ribbon Cable

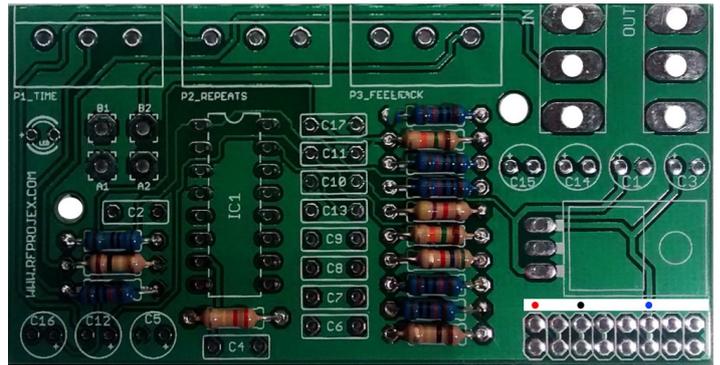
Assembly Instruction

1. RESISTORS (R1-R14)

Insert resistors into their respective positions on PCB and solder them to the board.

Be sure that all resistors values are correct before soldering them.

(Every resistor in KIT is packed and labelled separately to allow easy identification of the value)

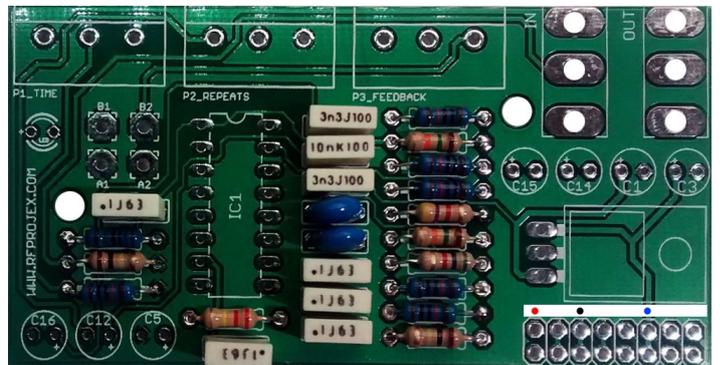


2. CAPACITORS (ceramic & polyester) (C2, C4, C6-C11, C13, C17)

Insert capacitors into their respective positions on PCB and solder them to the board.

Capacitors may look very similar to each other and can be hard to identify.

(Every capacitor in KIT is packed and labelled separately to allow easy identification of the value)



3. ELECTROLYTIC CAPACITORS (C1, C3, C5, C12, C14, C15, C16)

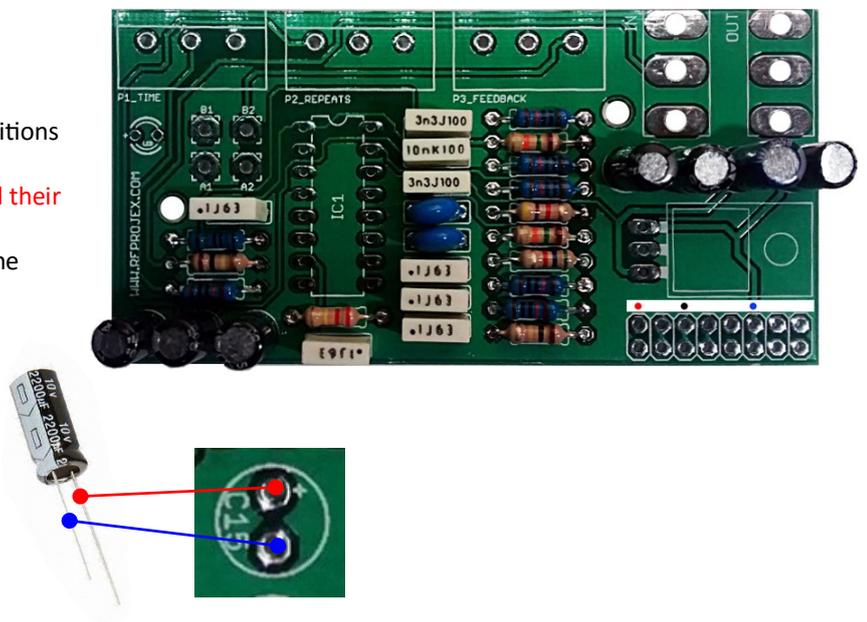
Insert electrolytic capacitors into their respective positions on PCB and solder them to the board.

Electrolytic capacitors are polarized components and their PCB placement matters!

The shorter lead and the band on the body identify the negative lead.

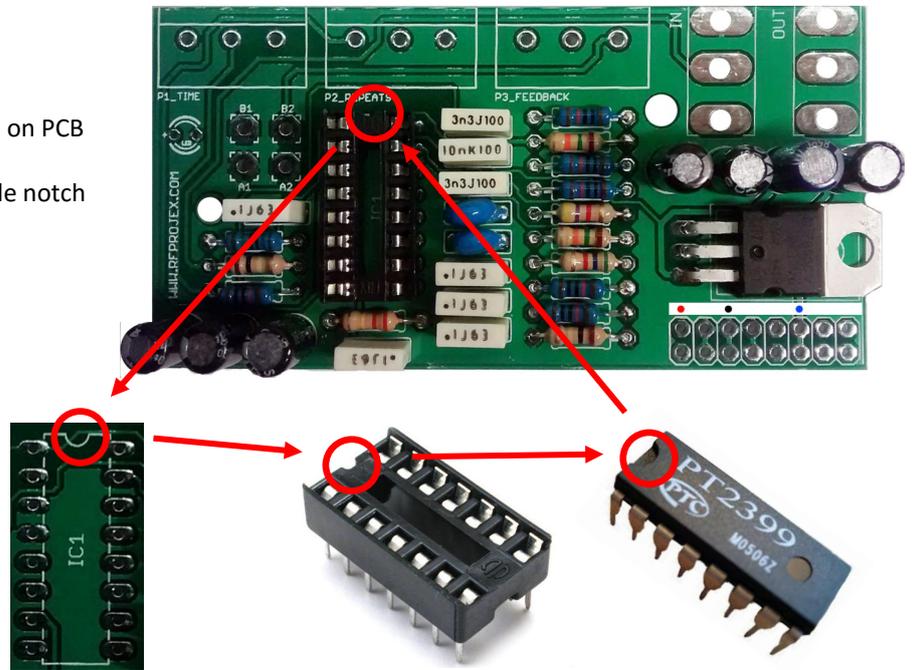
The positive lead is longer and should be inserted into through-hole marked with + sign.

(Every capacitor in KIT is packed and labelled separately to allow easy identification of the value)



4. PT2399 IC & socket (IC1)

Insert 16 pin IC socket into its respective position on PCB and solder it to the board.
IC sockets and integrated circuits have a half-circle notch that identifies their correct pin placement.



5. Power

KIT power circuit is prepared to work in two configurations:

- A) **Eurorack module:** 5V power supply from 16 pin doepfer style cable.
- B) **Stand alone delay unit:** 7÷12 volt from any power source.

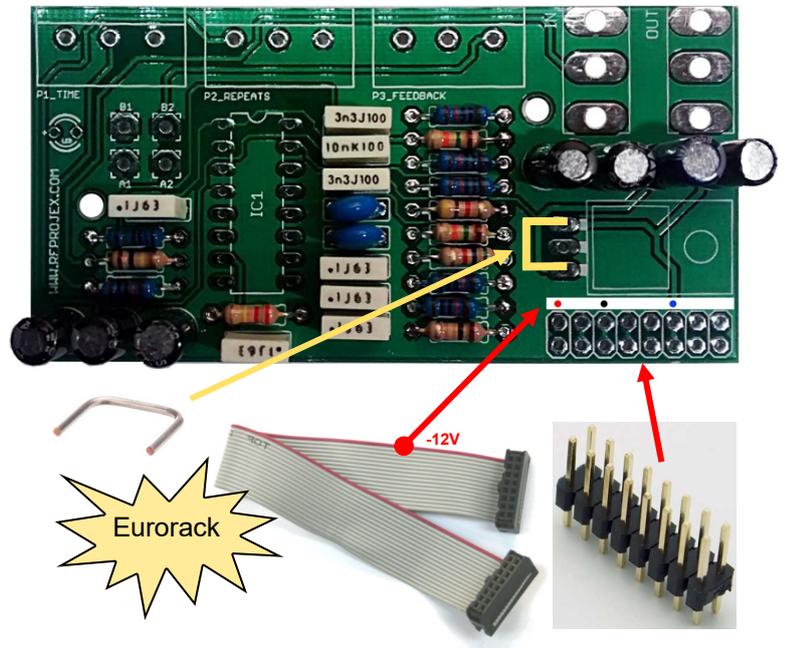
A) Eurorack delay module (5V):

If you are planning to use your delay KIT as eurorack module than you don't need to install IC2 LM7805 voltage regulator.

Instead of that instal jumper between input and output PCB pads of voltage regulator. Jumper can be made from leftover cutoff resistor leg bent into C shape. Be sure that jumper is not touching middle PCB pad of voltage regulator.

Solder 16 pin header into PCB so you will be able to use standard 16 pin doepfer style eurorack power supply cable as source of 5V power.

Red dot on PCB identify red cable (-12V) of doepfer power supply cable.



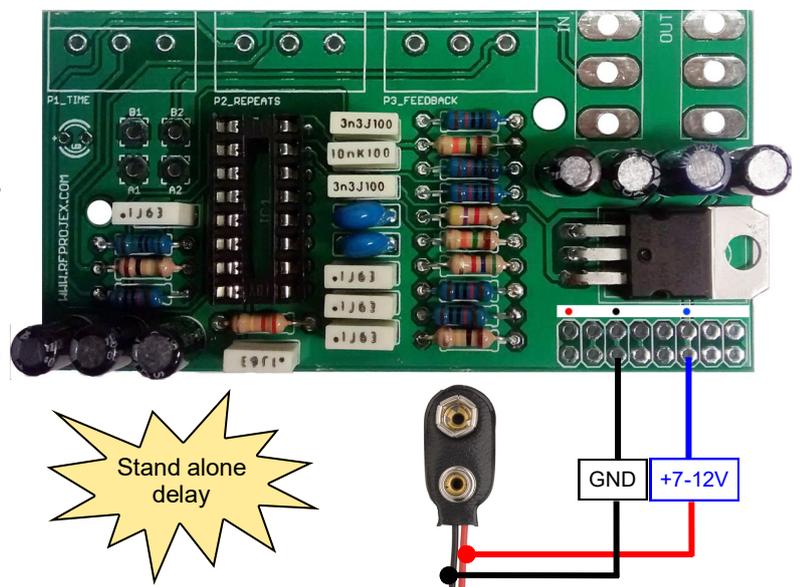
B) Stand alone delay unit (7÷12V):

If you are planning to integrate your delay KIT into existing synthesizer or use it as stand alone unit and power it up with 7÷12V voltage - you need to instal IC2 LM7805 voltage regulator to reduce power to 5V.

Insert LM7805 voltage regulator into its respective position on PCB and solder it to the board.

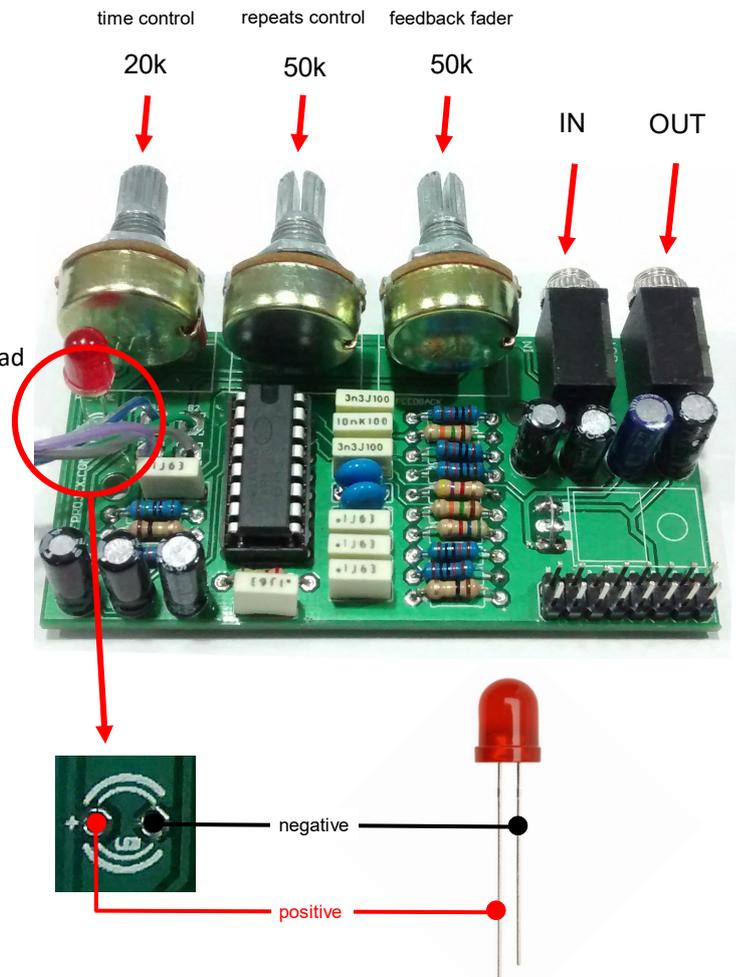
Pins of the voltage regulator LM7805 needs to be bent with 90° angle before installing. Check photos for details.

Blue dot identify positive power supply lead 7÷12V.
Black dot identify negative power supply lead GND.
To use 9 volt battery as power source instal added to kit battery clip.



6. Potentiometers, LED, Input & Output Jacks (P1-P3, LED, IN & OUT)

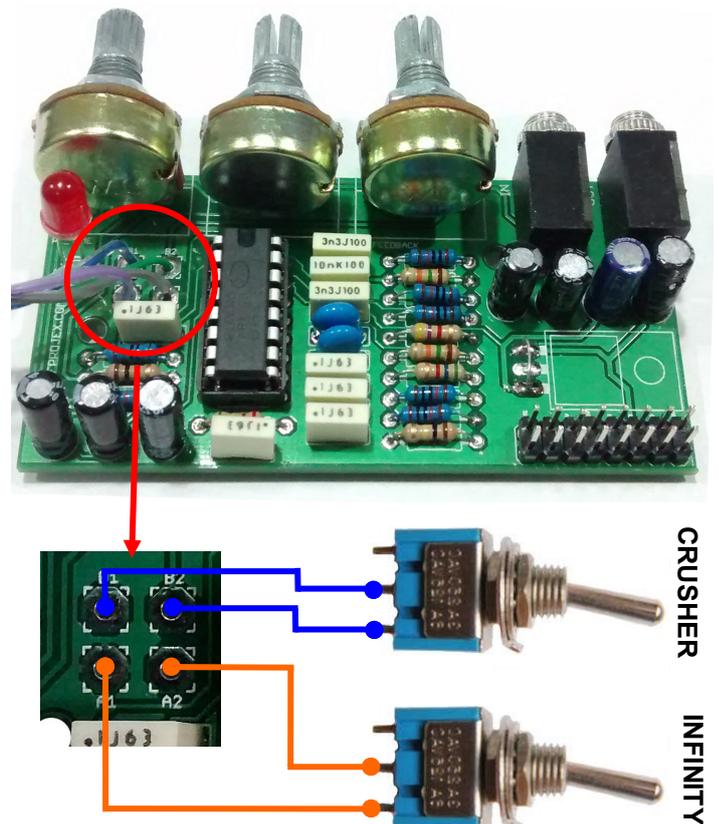
- Instal potentiometers as follow:
 - 20k for time control
 - 50k for repeats control
 - 50k for feedback fader(max. fader=min. feedback)
- Instal audio signal input and output 3,5 mm jack sockets
- Instal power indicator LED diode. **LED diods are polarized components and their PCB placement matters!**
The shorter lead identifies the negative lead. The positive lead is longer and should be inserted into through-hole marked with + sign.



7. Mod toggle switches (A1-A2, B1-B2)

To add additional features to your delay you can instal toggle switches (attached to KIT) into places marked on PCB board as A1-A2 and B1-B2.

- Toggle switch A** - „Infinity Feedback”
- Toggle switch B** - „Sound Crusher”



8. Playing with delay effect

Playing with delay effect is simple and intuitive...

Time Control potentiometer increase delay time of sound.

Repeats Control potentiometer gives you control over amount of repeats/echo effect.

Feedback Fader potentiometer decrease self feedback pattern of sound. Minimum setting gives none fade out feedback sound and maximum setting will give you clean delay sound without any feedback background pattern.

Infinity Feedback switch - turning this switch ON will change your delay into self feeding and oscillating ambient drone monster.

Sound Crusher - turning this switch ON will add flat digital effect to your output signal. With this effect your sound will get more „mechanical” shape.

