ATTV-4
Build document

Soldering of components
Most of the components are already soldered to the PCB, there are only a few elements left to be soldered by you.

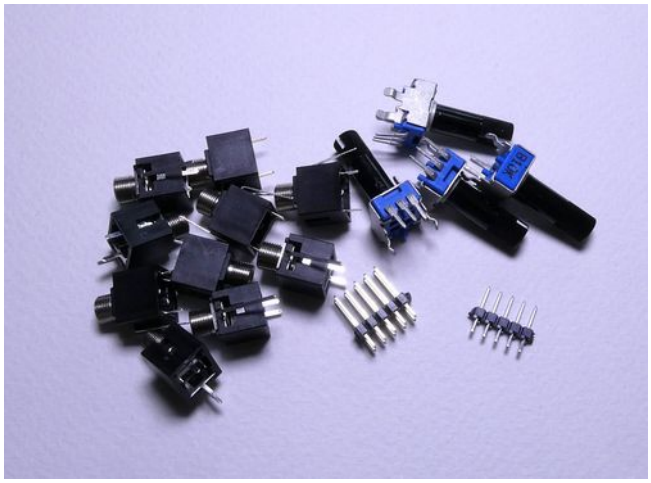
> **Soldering tip:**
> *When it comes to soldering a component, I do it this way all the time:*
> *I solder only one leg of the component. Then I adjust its position. It is indeed easy to apply the soldering iron to the soldered leg and move the component by hand to better replace it.*
> *Typically by making sure that the component is firmly seated in its place. We will see more example bellow.*

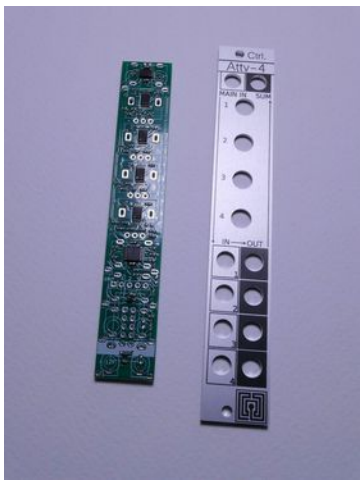
BOM :

- 2x5 Pin Header x1
  0,100 po (2,54mm)
  (exemple : PH2-10-UA Adam Tech)
- 3,5mm MONO Jacks (**Thonkiconn**) x10
- 10Kohm potentiometers x4
  (9mm Trimmer Pots)

OPTIONNAL :

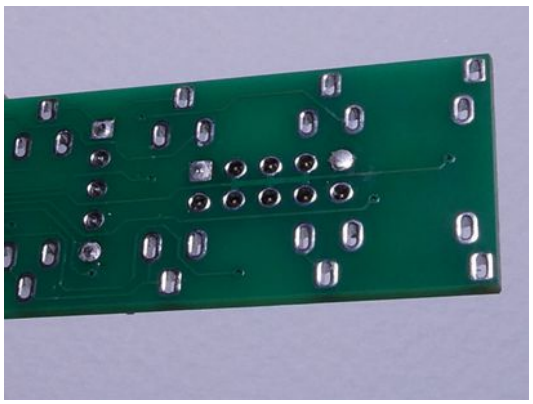
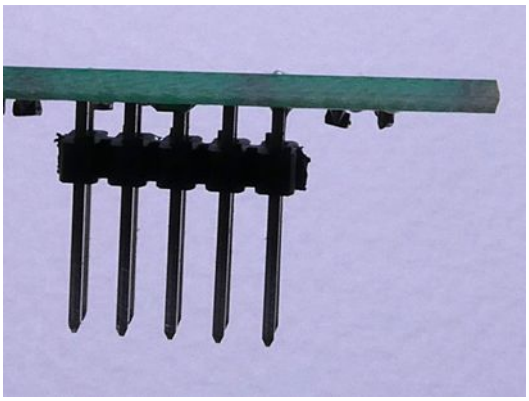
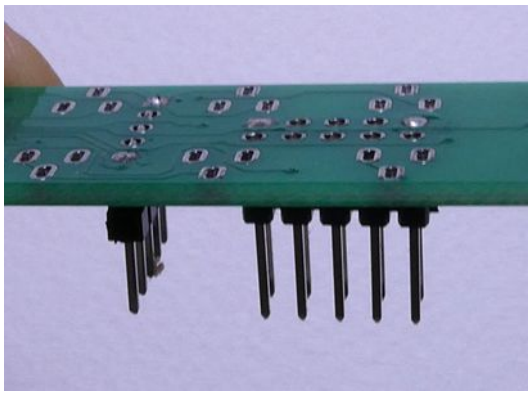
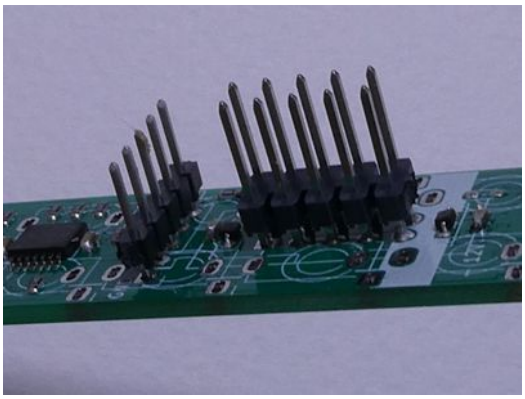
- 1x5 Pin Header x4
  (PH1-05-UA Adam Tech)
  You can use longeur Breakable Strip too.



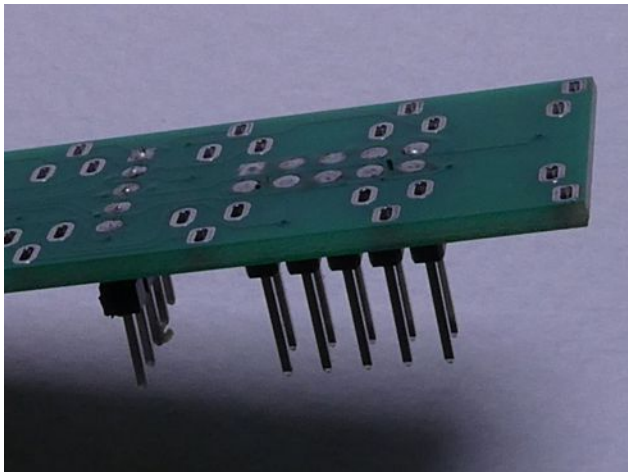


A- components side:

1-PSU connector:
Solder the 2x5-pin connector.
WARNING ! The PSU connector is just behind the jacks, so do not push the connector all the way in : On the other side, the pins should not extend beyond the edge of the PCB.

After soldering one pin, and adjusting the position, you can finish to solder all the others.
Don't worry : being excatly on the edge of the PCB is not critical.
But make sure to have filled the hole well with solder, to have good mechanical solidity.



3- Optional connector:

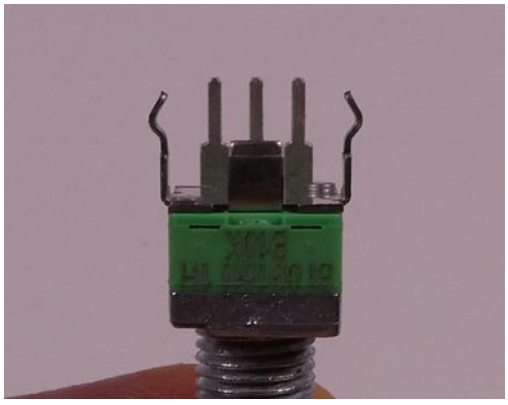
There are one optional connectors: **the 5 pins connector**
These are the outputs of the 4 attenuverters, the same signal as the one on the front jack.
The CV inputs of most LARIX-ELEKTRO (LE) modules have the same connector on the back.
This allows you to add the attenuversion function to these CV entries without having to patch the 2 module together. thus saving cables at the front.
It can also be useful for DIYers.
If you don't think you need this feature, then there's no need to solder these connectors.

If you think you will need this optional conncetor, solder it as for the PSU connector.
(The images used to show how to solder the PSU connector also show the optional connector)

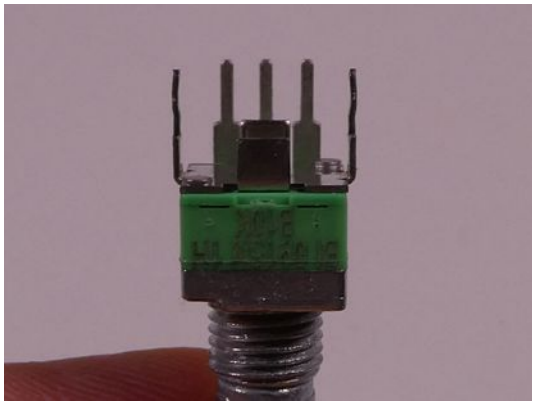
B- Side without components:

All that remains is what will be on the front panel: the jacks, potentiometers, switches and LEDs.

As space was limited, it was necessary to reduce the size of some holes.
"Pinch" the pin of the potentiometer to make it straight:



before



After

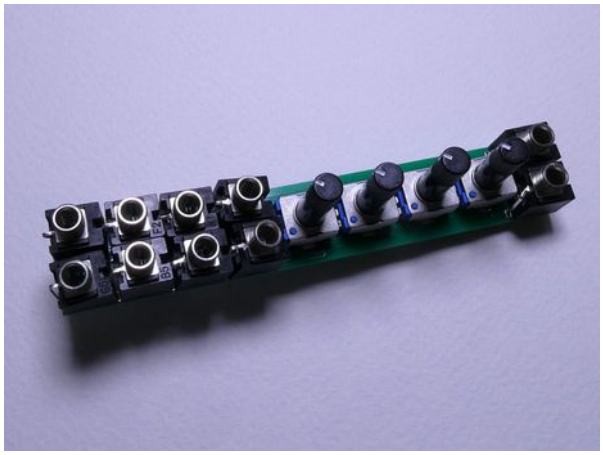
(*Ok, this is not the same pots as you need, but the idea is the same...*)

JACKs and POTENTIOMETERS
Place all jacks on the PCB. There are **10** in all.
Then place all the potentiometers. There are **4** in all.

Insert the front panel into the jacks.
Screw 4 jacks onto the front, one of each corner. There is no need to screw them too hard.
This is just to fixe everything together.

Before soldering, check that the jacks are firmly inserted in the PCB.
(*Ok, you may have a small space due to the connectors, it's not a problem*)

As with the previous step, solder only one PIN of each Jack.
Check again that all the jacks are against the PCB befor soldering all the others pins.



4- Finalize
Screw the last jacks, and it's done !

C- TESTING YOU MODULE :

There are no adjustments to be made, the module is ready to use.
But I recommend testing that each circuit is working before attaching the module to your rack.
Ideally, you need a signal generator like an LFO, or a fixed voltage, and an oscilloscope.
But for example, you can use a VCO that will be frequency controlled. Thus, its modulation will make it possible to make audible the proper functioning of the module.

As a first step, test the attenuators one by one. Checking that the potentiometer is working properly: no output signal at 12 o'clock, inverted signal when the potentiometer is pointed to the left, and not inverted when the potentiometer is pointed to the right.

Next, check the common Input. Normally, with the first test already done, it is not necessary to check the output of each circuit in the line, just one is enough.

Finally, test the common output. Connect the signal to one of the inputs.
As with the previous test, there is no need to check the output.

> If one of the circuits does not work, check that a solder has not been missed. In most cases, that's where the problem comes from !

And now,it's time to have fun with your module !

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