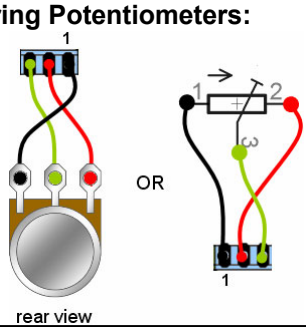
fonitrOnik Attenuverting Mixer

rev3

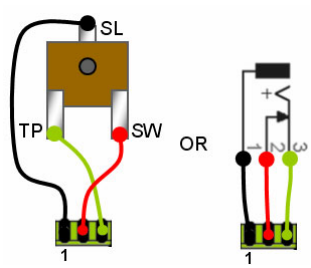
Capacitors	
C5-12 (decoupling)	10n
C1, C2	100n
C3, C4	10uf
C13	22uf
Resistors	
R1, R2	22R
R26	680R
R5, R8, R11, R14, R22, R28, R29	1k
R27	4k7
R3, R6, R9, R12, R15	10k
R4, R7, R10, R13, R16-21, R23-25	47k
R31	100k
P1-5 (process potentiometer)	50k
T1-5 (multiturn trimmer)	50k
Semi's	
IC1-4	TL072 (or similar)
LED1, LED2	-,+ indicator
Z5.1 (or 1N715A)	Zener Diode
Misc	
J11	sum out
J1-5	in
J6-10	single outputs
SW1	3PST on-off

Wiring Potentiometers:



Wiring Sockets:

You don't have to use switched sockets (omitt red wires). Nevertheless certain functions won't be available then (see module desciption above).



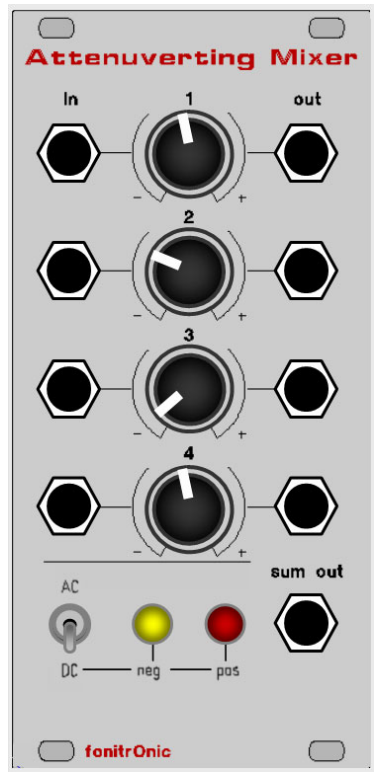
Wiring AC/DC Switch:

You need a 3-pole 2-position switch (on-on or even on-off). When switch is closed (connections on PCB paired by small arcs), DC mode and LEDs are on.

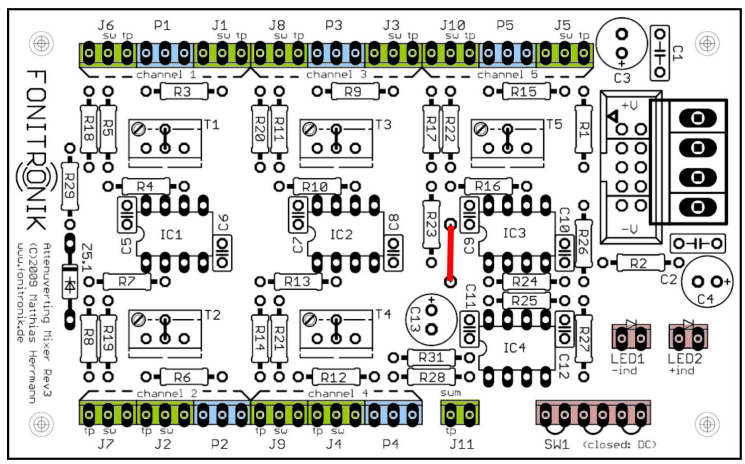
Wiring the LEDs:

Just follow the labels on the PCB…

Here we have an attenuverting mixer. Maybe not the most sexy module of your modular, but a real plodder.
You may use it as audio or CV 5 channel mixer and/or CV attenuverter: i.e. use in1/out1 for CV attenuvertion, you can still use the inputs 2-5 for audio mix!
The module provides one attenuverter for each input. Each input is normalled to 7.5V, allowing an offset function. All attenuverted signals get summed (IC3 1-3/IC4 5-7), as long as the appropriate single output is not used (switching jack sockets). The summed signal is switchable from AC to DC. In AC mode the summed signal has to go thru a cap. In DC mode the the cap is bypassed and the signal is also routed to a LED driver (IC4 1-3), indicating the positive or negative portions of the signal.



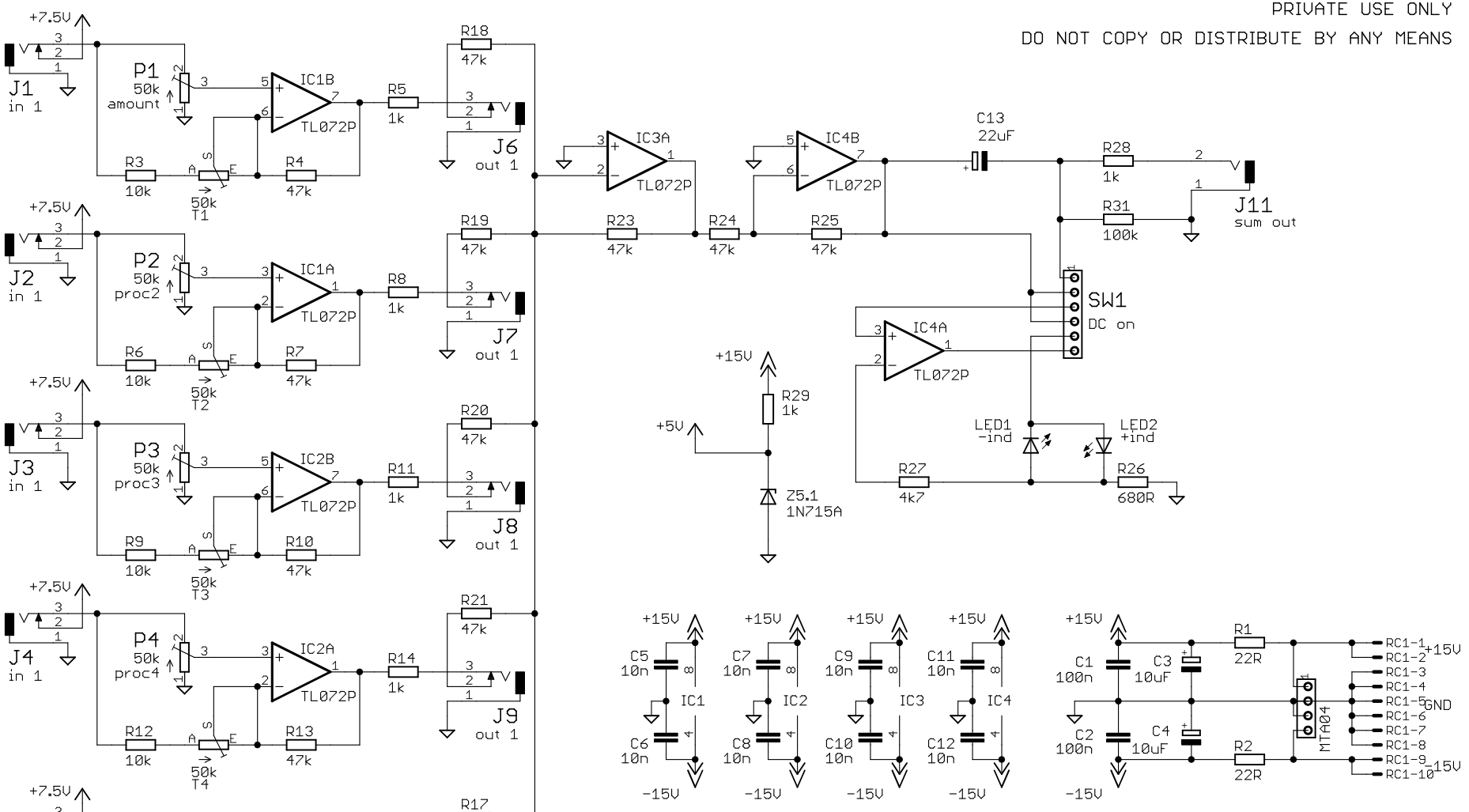
Front Panel suggestion for a 4-channel Euro-Module.



PCB rev3 layout

Setting up the module:

You only have to set the Trimmers for each input to asure that there is zero attenuvertion at the center position of the potentiometers.
Without multimeter proceeed as follows: Disconnect all attenuverters but the one you want to adjust (by pluging a cord into their output switching sockets). Choose DC mode. Now set pot to center and adjust the trimmer in a way there is no LED lit.
With multimeter proceed as follows: just measure the output of each attenuverter and adjust the trimmer to read 0V.
The Zener Diode defines the offset voltage. I used Z5.1 (1N715A, 1N4733A) for approx 5V. Simply select the value you want.



FONITRONIK Attenuverting Mixer

TITLE: f-mixer-rev3	
Document Number:	REV: 3
Date: 5/11/2009 9:55:08 AM	Sheet: 1/1