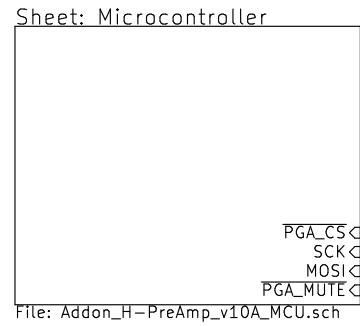
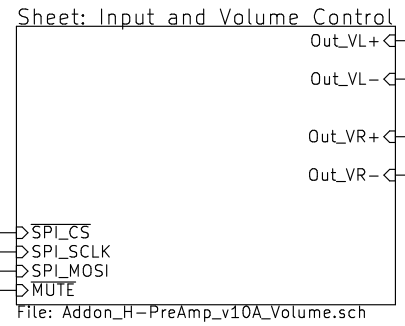


Addon H-PreAmp v1.0A

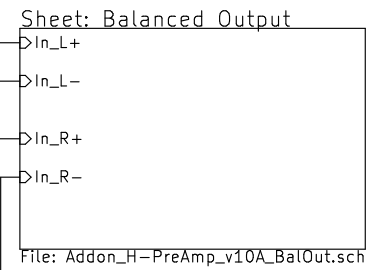
Root sheet



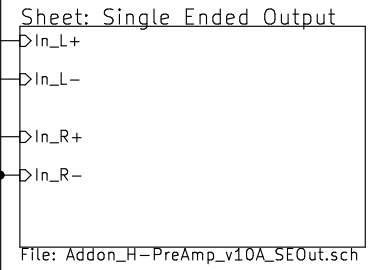
PGA_CS <
SCK <
MOSI <
PGA_MUTE <



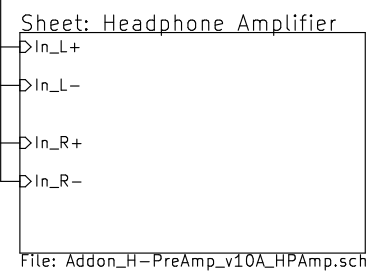
Out_VL+ <
Out_VL- <
Out_VR+ <
Out_VR- <



In_L+ >
In_L- >
In_R+ >
In_R- >



In_L+ >
In_L- >
In_R+ >
In_R- >



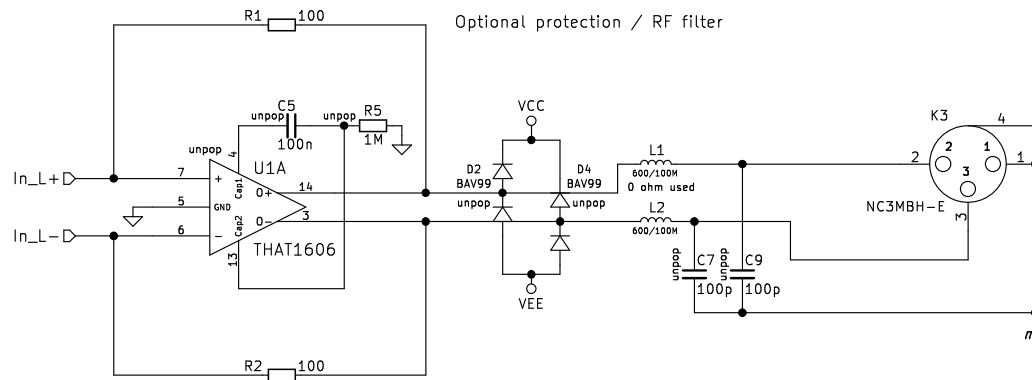
In_L+ >
In_L- >
In_R+ >
In_R- >

Tomi Nihilä	
Sheet: /	
File: Addon_H-PreAmp_V10A.sch	
Title: Addon H-PreAmp	
Size: A4	Date: 2016-05-30
KiCad E.D.A. kicad 4.0.1-stable	Rev: v1.0A
	Id: 1/6

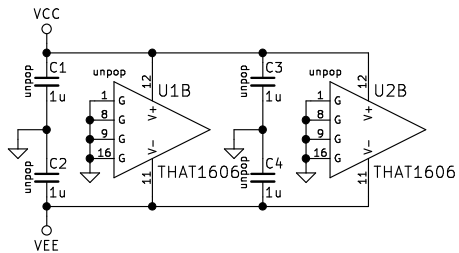
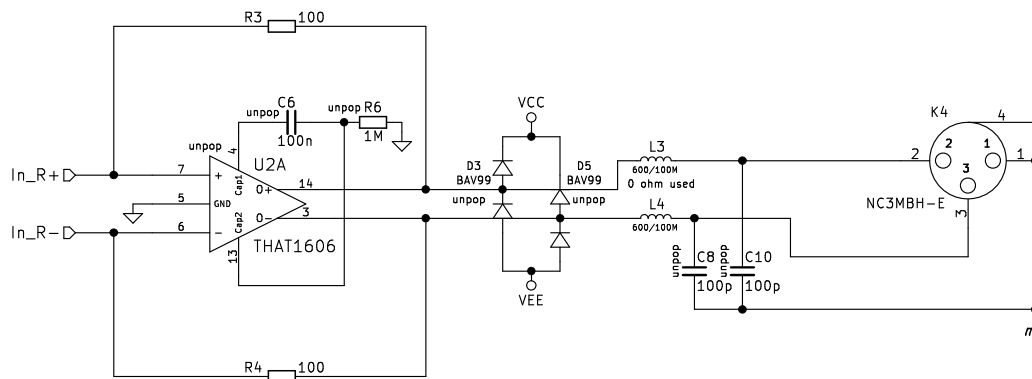
Addon H-PreAmp v1.0A

Balanced output

Optional high CMRR balanced driver. If drivers are used, do not populate R1-R4.



Note that THAT1606 has 6 dB gain



Tomi Nihtilä

Sheet: /Balanced Output/
File: Addon_H-PreAmp_v10A_BalOut.sch

Title: Addon H-PreAmp

Size: A4 Date: 2016-05-30

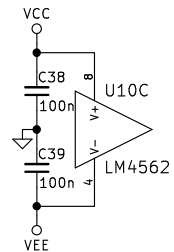
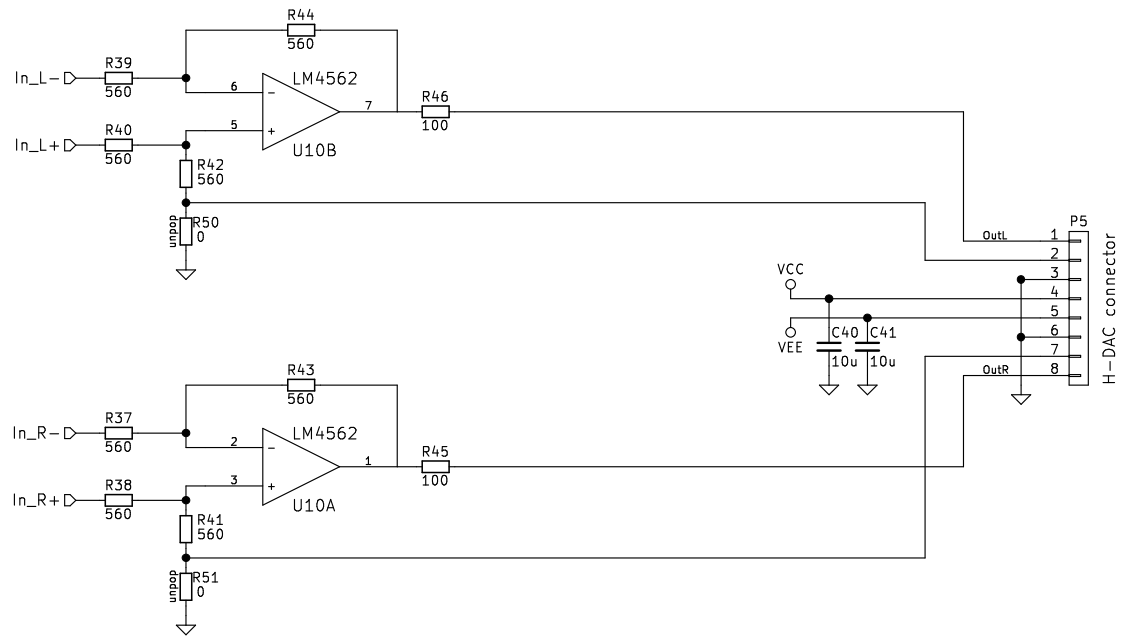
KiCad E.D.A. kicad 4.0.1-stable

Rev: v1.0A

Id: 2/6

Addon H-PreAmp v1.0A

Single-ended output



Tomi Nihtilä

Sheet: /Single Ended Output/
File: Addon_H-PreAmp_v10A_SEOut.sch

Title: Addon H-PreAmp

Size: A4 Date: 2016-05-30

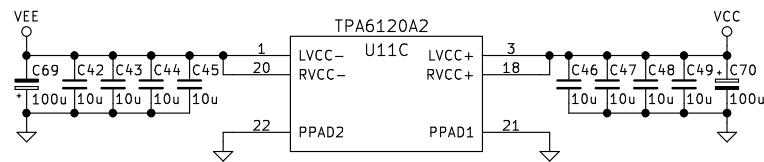
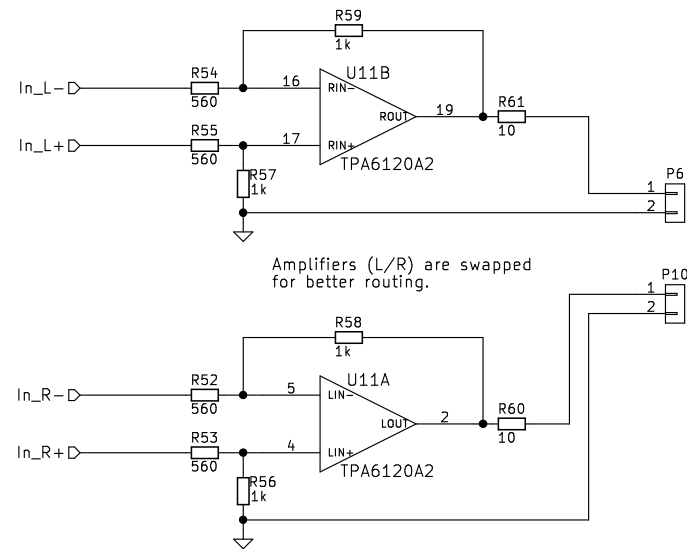
KiCad E.D.A. kicad 4.0.1-stable

Rev: v1.0A

Id: 3/6

Addon H-PreAmp v1.0A

Headphone amplifier



Tomi Nihtilä

Sheet: /Headphone Amplifier/
File: Addon_H-PreAmp_v10A_HPamp.sch

Title: Addon H-PreAmp

Size: A4 Date: 2016-05-30

KiCad E.D.A. kicad 4.0.1-stable

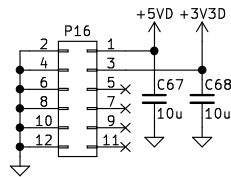
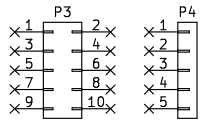
Rev: v1.0A

Id: 4/6

Addon H-PreAmp v1.0A

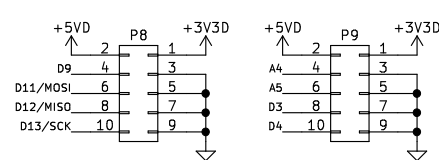
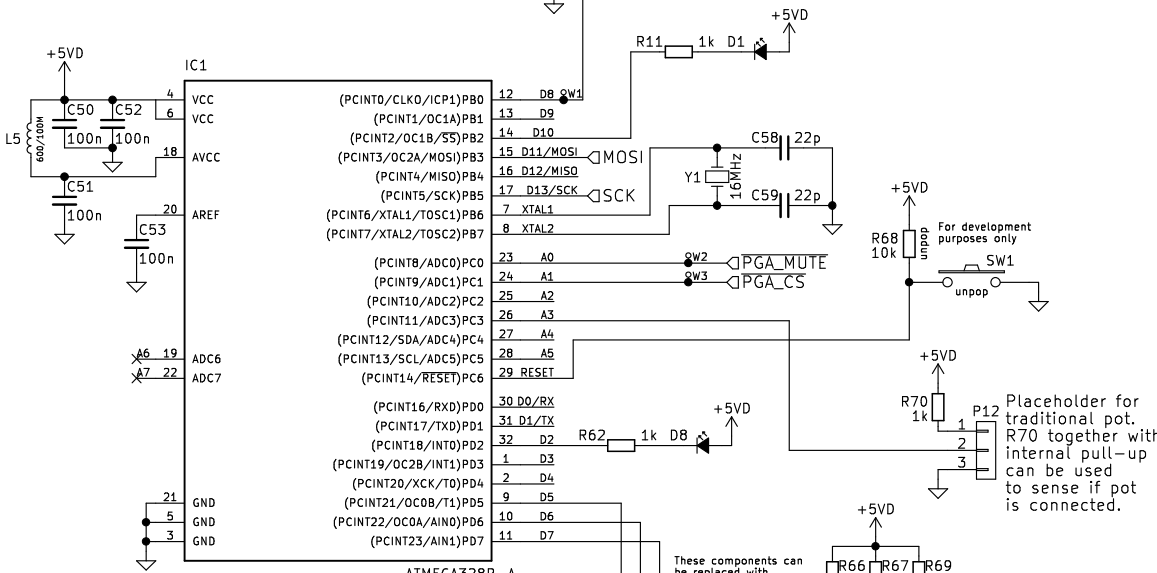
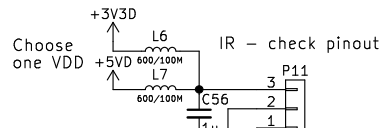
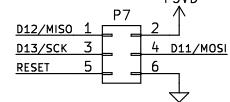
Microcontroller circuit

H-DAC connectors for mechanical support

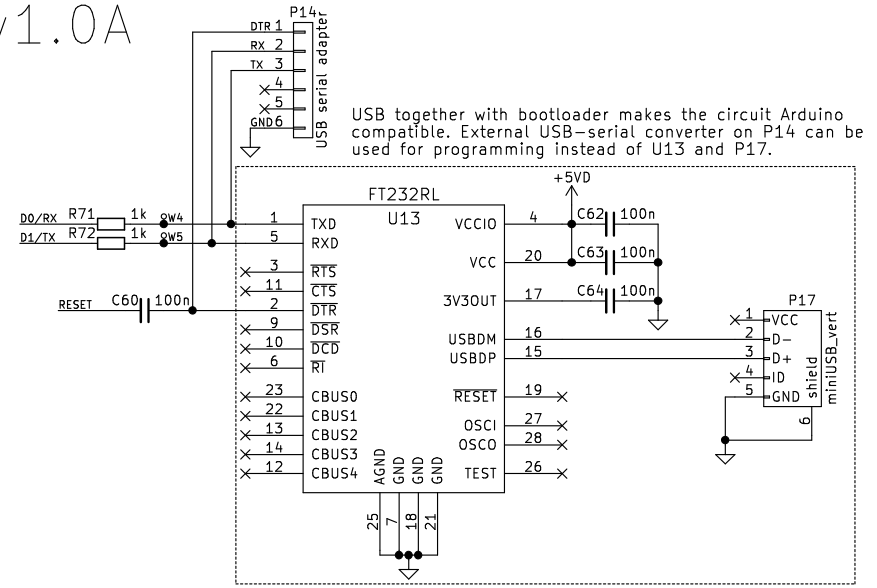


Populate only components and connectors that are needed.

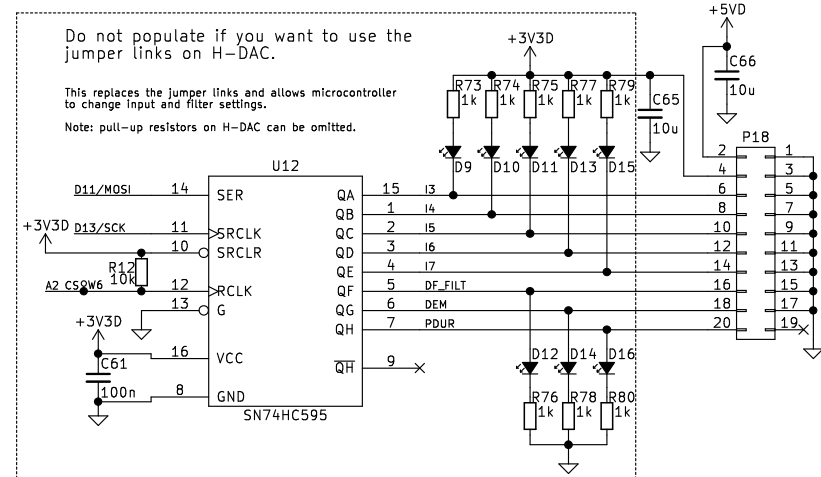
SPI programming connector



SPI and I2C connectors for external peripherals, such as display. Ensure voltage levels are compatible.



USB together with bootloader makes the circuit Arduino compatible. External USB-serial converter on P14 can be used for programming instead of U13 and P17.



Do not populate if you want to use the jumper links on H-DAC.

This replaces the jumper links and allows microcontroller to change input and filter settings. Note: pull-up resistors on H-DAC can be omitted.

Placeholder for traditional pot. R70 together with internal pull-up can be used to sense if pot is connected.

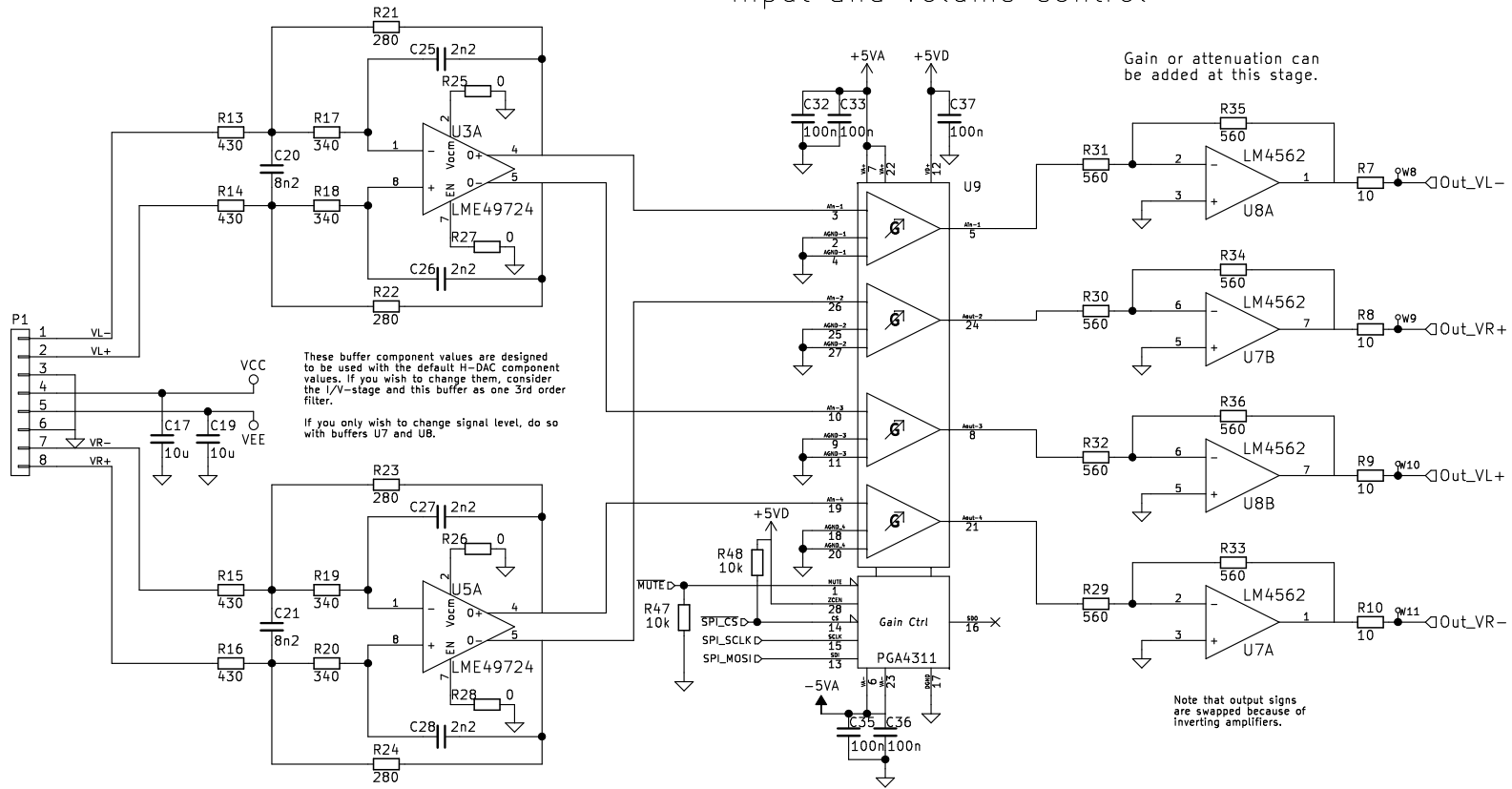
These components can be replaced with software filtering.

Tomi Nihilä	
Sheet: /Microcontroller/	
File: Addon_H-PreAmp_v10A_MCU.sch	
Title: Addon H-PreAmp	
Size: A4	Date: 2016-05-30
KiCad E.D.A. kicad 4.0.1-stable	Rev: v1.0A
	Id: 5/6

Addon H-PreAmp v1.0A

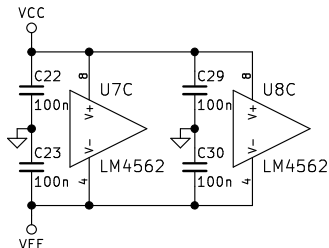
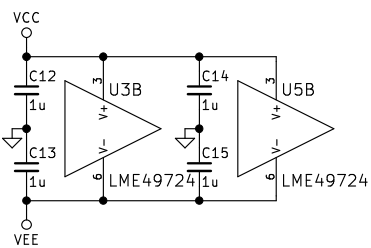
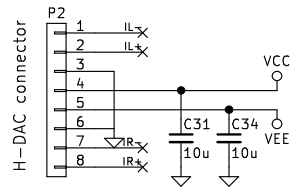
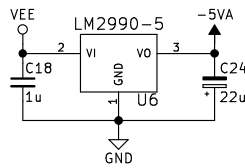
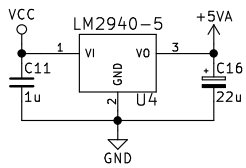
Input and volume control

H-DAC connector.
This is after IV stage and still has CM voltage.



These buffer component values are designed to be used with the default H-DAC component values. If you wish to change them, consider the 1/V-stage and this buffer as one 3rd order filter.

If you only wish to change signal level, do so with buffers U7 and U8.



Tomi Nihtilä

Sheet: /Input and Volume Control/
File: Addon_H-PreAmp_v10A_Volume.sch

Title: Addon H-PreAmp

Size: A4 Date: 2016-05-30

KiCad E.D.A. kicad 4.0.1-stable

Rev: v1.0A

Id: 6/6