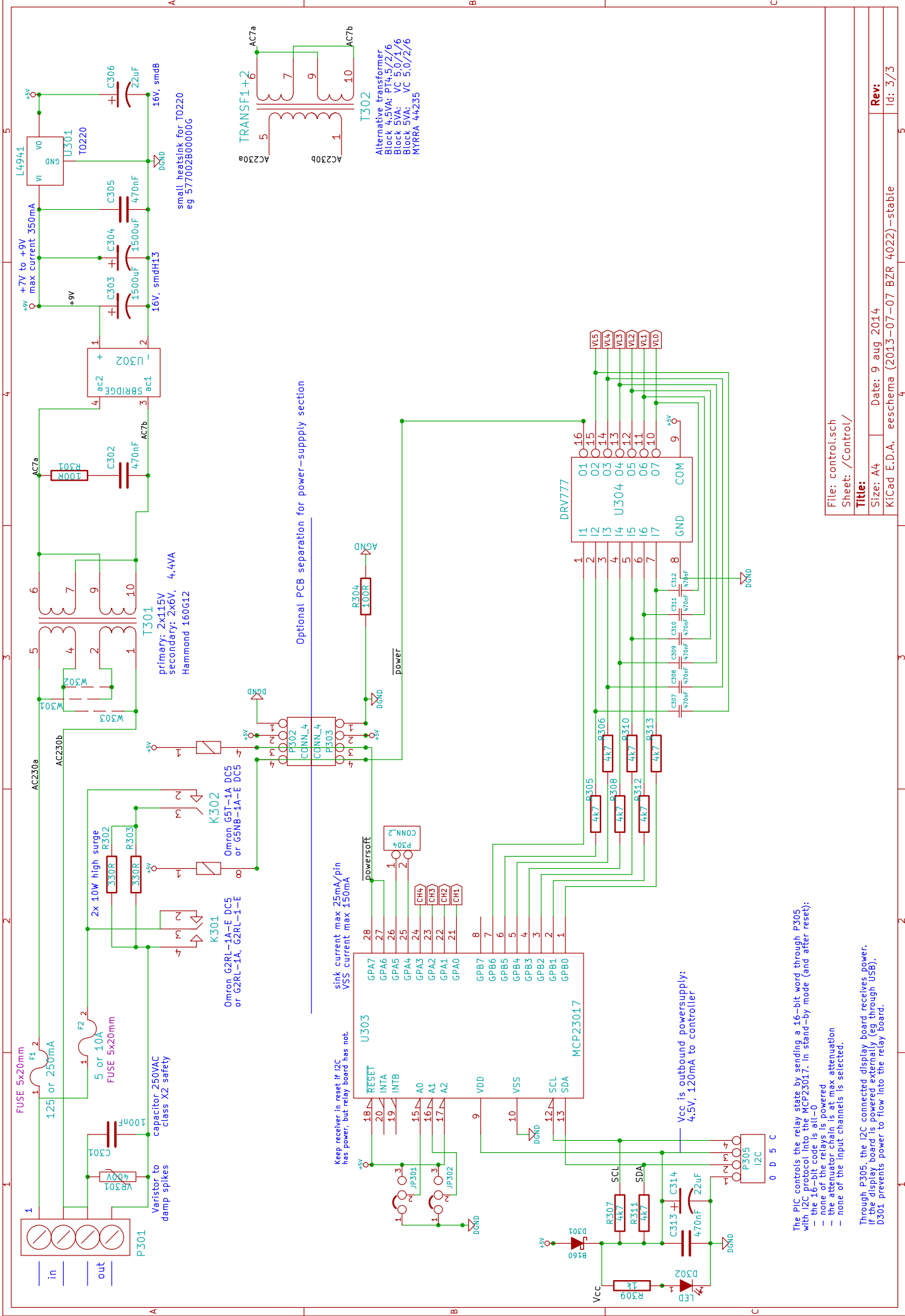


File: audio-attenuator.sch
 Sheet: /AudioAttenuator/

Title: Audio Attenuator

Size: A4 Date: 9 aug 2014
 KiCad E.D.A. eeschema (2013-07-07 BZR 4022) --stable

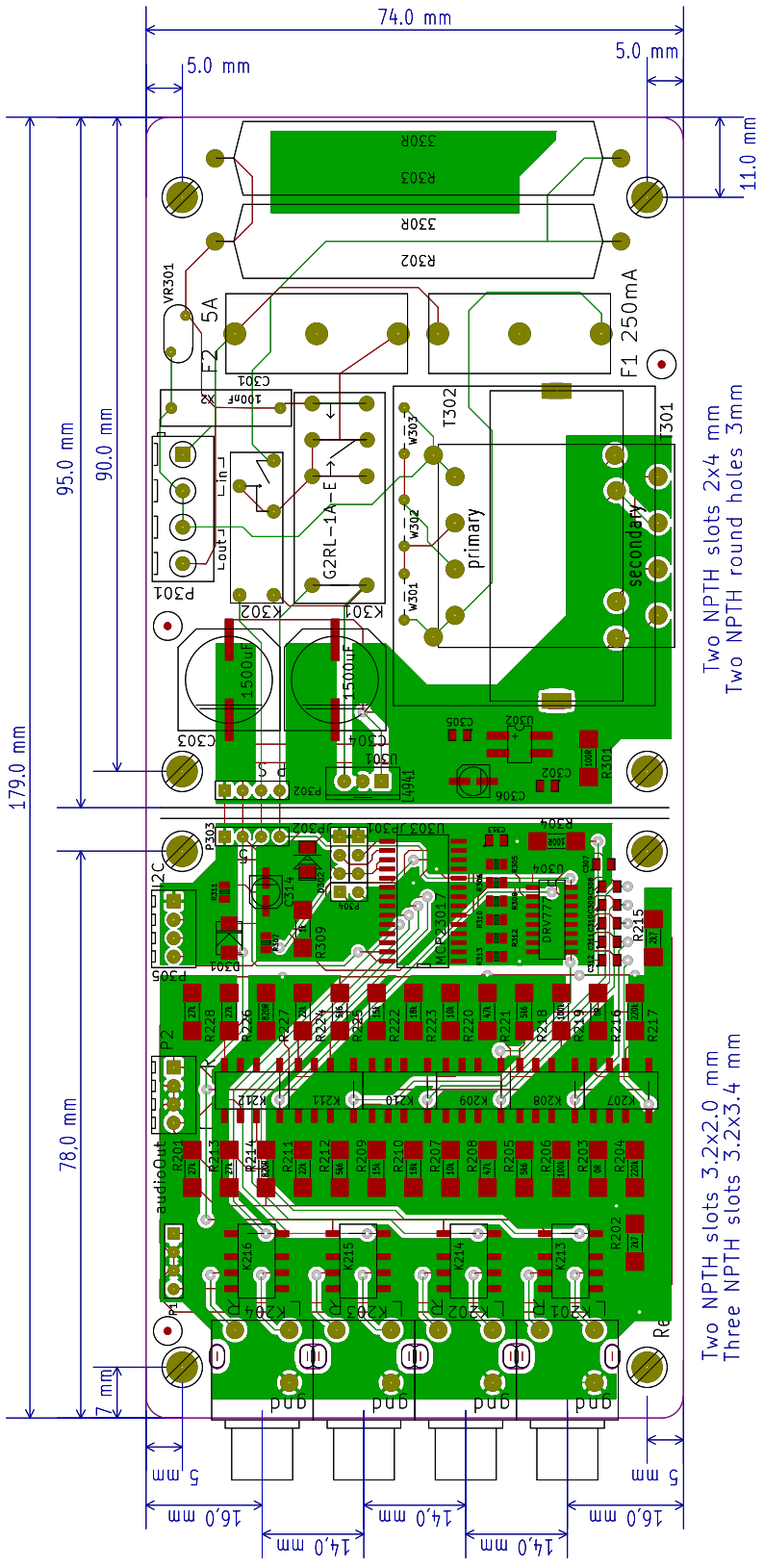
Rev: Id: 2/3



The PIC controls the relay state by sending a 16-bit word through P305 with the protocol into the MCP23017, in stand-by mode (and after reset):

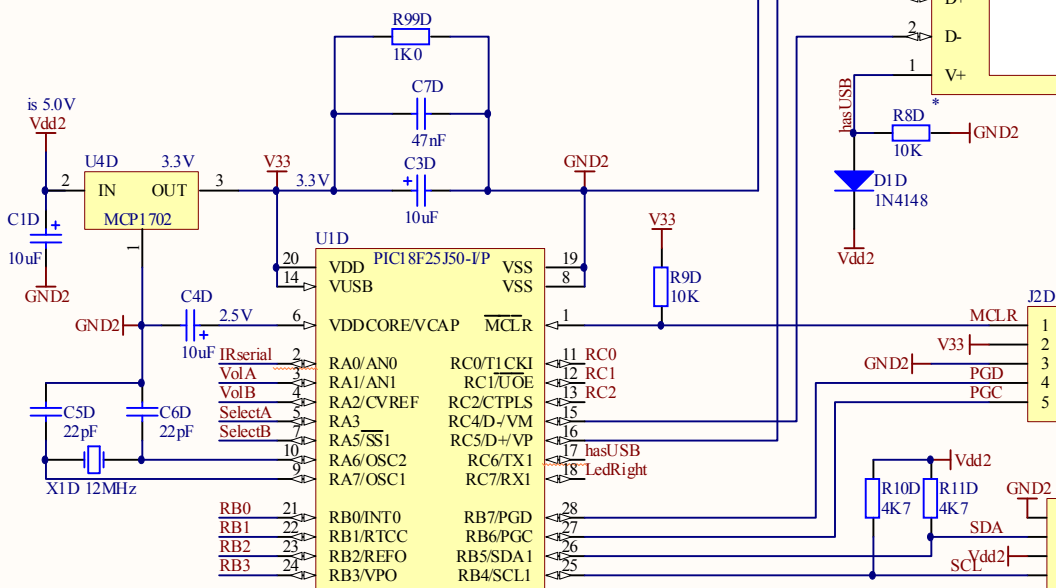
- none of the relays is powered
- the attenuator chain is at max attenuation
- none of the input channels is selected.

Through P305, the I2C connected display board receives power. If the display board is powered externally (eg through USB), D301 prevents power to flow into the relay board.



Two NPTH slots 3.2x2.0 mm
 Three NPTH slots 3.2x3.4 mm

Two NPTH slots 2x4 mm
 Two NPTH round holes 3mm



Note: RB[4:7] and RC[6:7] are 5V tolerant, only RB and RC are high-current

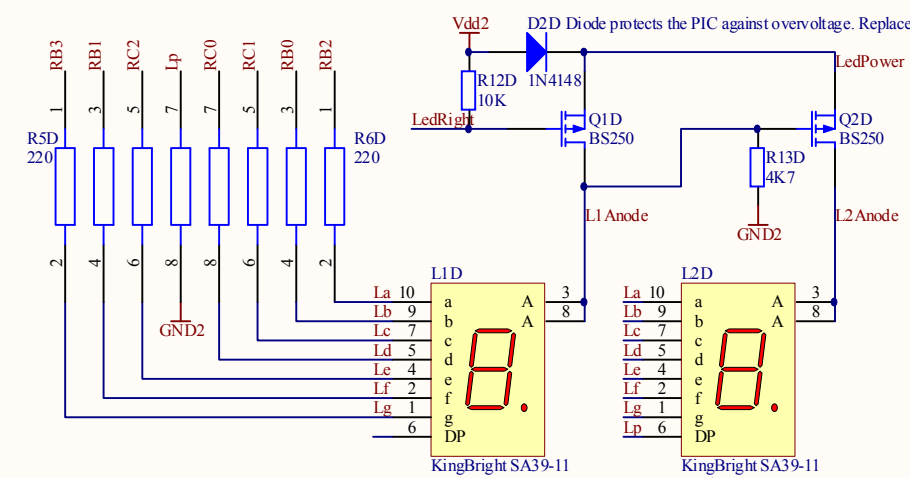
All components mount on the front-side of the Display-PCB, except for J1D, J2D, J3D, which are mounted on the backside. The PCB backside is mostly covered by a groundplane, to minimize digital EMI (radiation)

USB B-type connector for updating firmware, or developer debug
USB can provide power for reprogramming with amplifier switched off
(Note: USB power gives Vdd=4.3, which is still fine for MCP1702)

10u caps are radial, H=7mm, D=4mm, pitch=1.5mm, low-ESR types
Resistors are MELF 0207

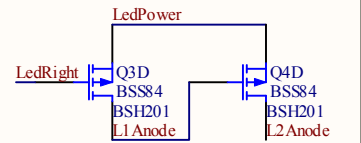
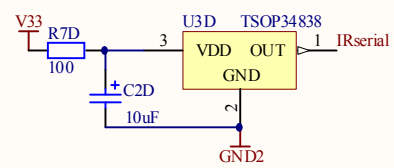
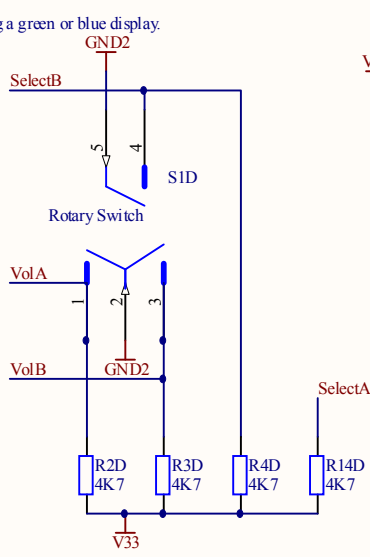
ICSP / Debug Header
ICSP can provide power for reprogramming with amplifier switched off
(Note: Ok because MCP1702 can withstand reverse power)

I2C output control signals to relay board
Pin 3 provides the +5V power to this display board during normal operation



The 220-ohm resistors are combined by 4 in an 8-pin SIL footprint
e.g. Bourns 4608X-102-221
or BI Technologies L83C221

KingBright SA39-11
or Liteon LTS4801
or Avago HDSP 315 series CA



Q3D/Q4D are alternative to Q1D/Q2D (different footprint)

Title		
RelaiXed2 preamp - Display Board		
Size	Number	Revision
A4	Copyright Jos van Eijndhoven	1.0
Date:	8/4/2011	Sheet of
File:	E:\RELAIXED2\AltiumSheetDisplay.SchDoc	Drawn By: Jos van Eijndhoven

Display PCB July 2011

