# DDDAC 1794 NOS

## A Modular DAC, based on PCM1794 WM8804 and USB WaveIO

USB 384kHz
SPDIF 192kHz

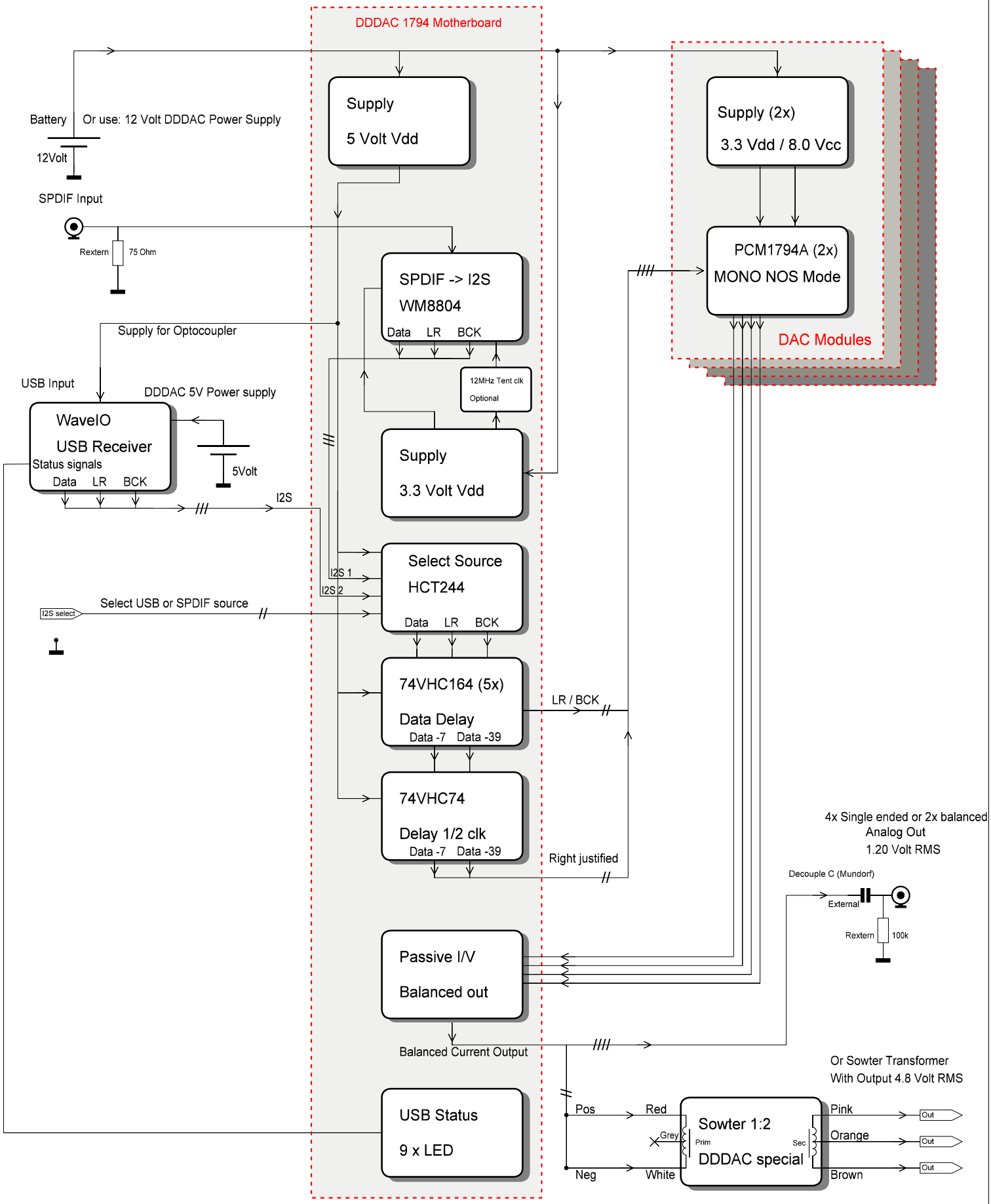
By Doede Douma

**Version 4.2**

Updated 11th May 2014
http://www.dddac.com/

# DDDAC1794S Block Diagram

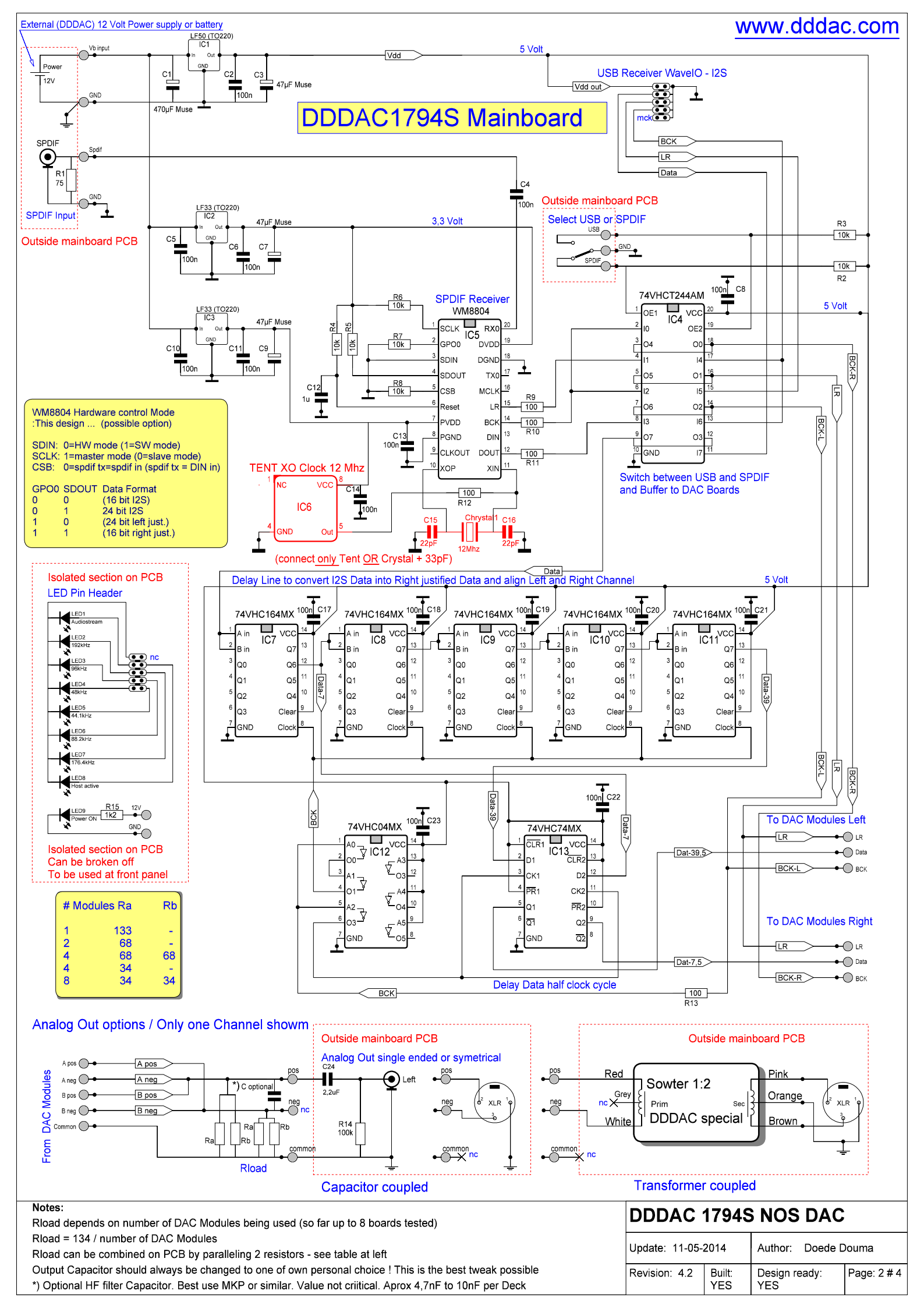
www.dddac.com




**Notes for data delay section:**

Data delay is needed to convert I2S data into right justified datastream to work with "no digital filter" mode
Datastream must be delayed by 7 clock cycles (31 - 24)
Left Channel must be delayed another 32 clock cycles to allign left and right channel sample

| DDDAC 1794S NOS DAC | | | |
|---|---|---|---|
| Update: 11-05-2014 | | Author: Doede Douma | |
| Revision: 4.2 | Built: YES | Design ready: YES | Page: 1 # 4 |




**Notes:**

Rload depends on number of DAC Modules being used (so far up to 8 boards tested)

Rload = 134 / number of DAC Modules

Rload can be combined on PCB by paralleling 2 resistors - see table at left

Output Capacitor should always be changed to one of own personal choice ! This is the best tweak possible

*) Optional HF filter Capacitor. Best use MKP or similar. Value not criitical. Aprox 4,7nF to 10nF per Deck

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| | | | |
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# DDDAC1794 DAC Module PCB

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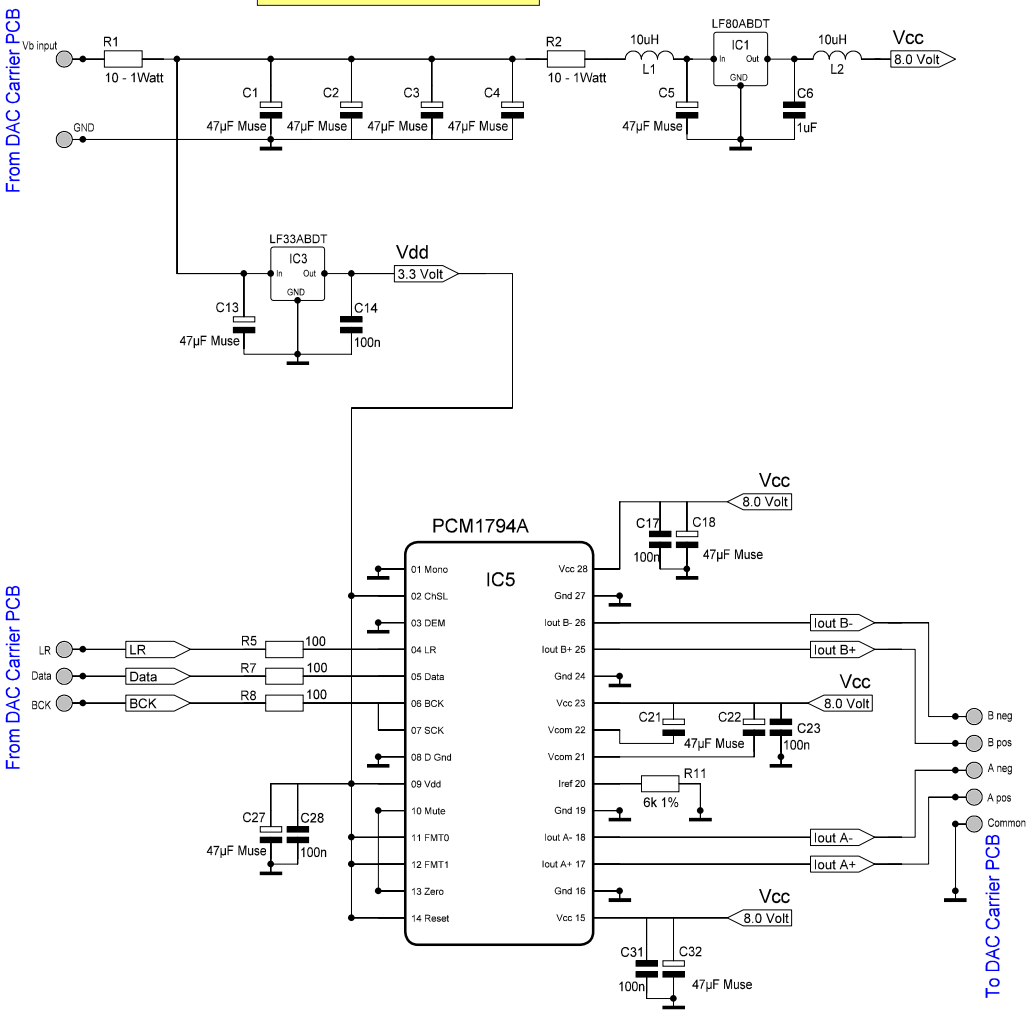
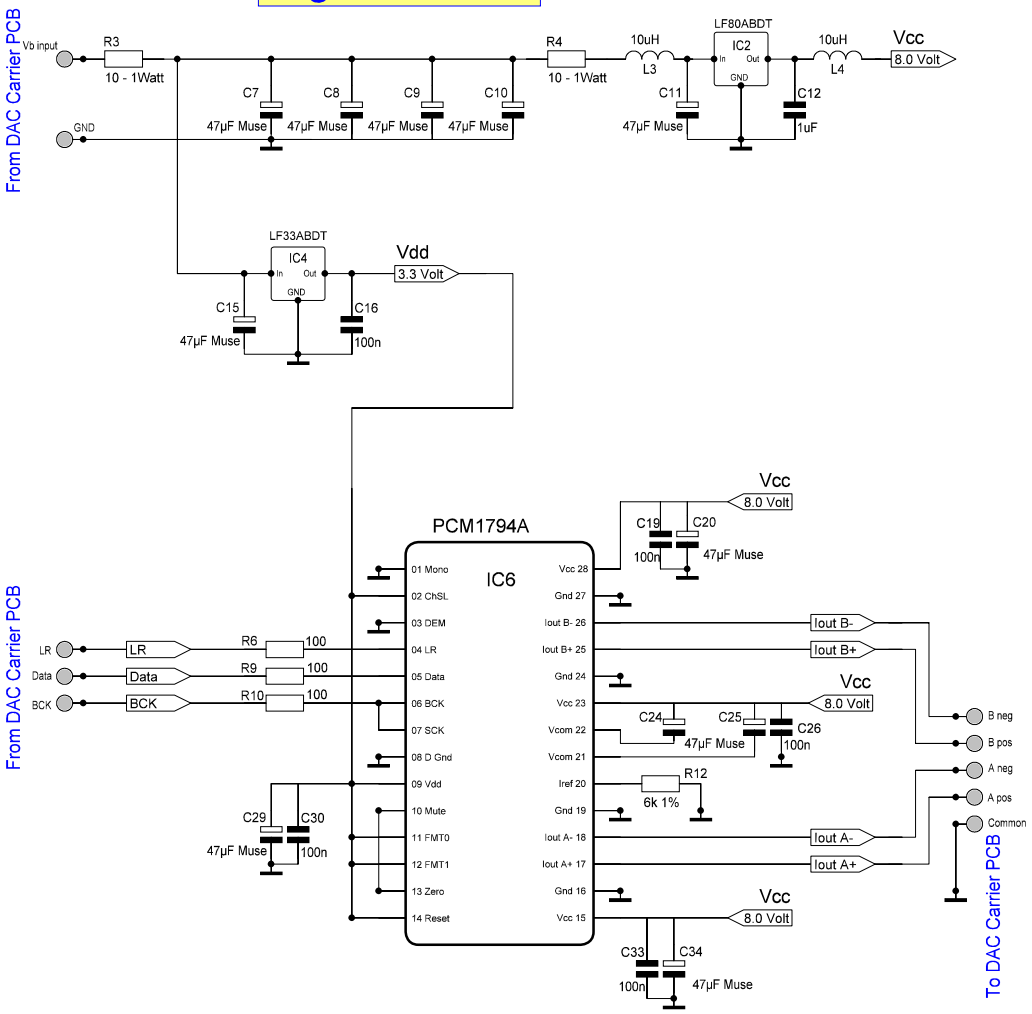
## Left Channel




## Right Channel




Groundplanes are separated

**Notes:**

All Film capacitors are Wima MKS2

All Electrolyte capacitors 25 Volt DC Nichicon Muse

Optional HF Decouple capacitors are Wima MKP4 or MKP10 *) Per Deck use multiples of ~ 4,7nF, i.e 4 Decks 22nF

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# DDDAC1794 Power Supply 5V / 12V 1A

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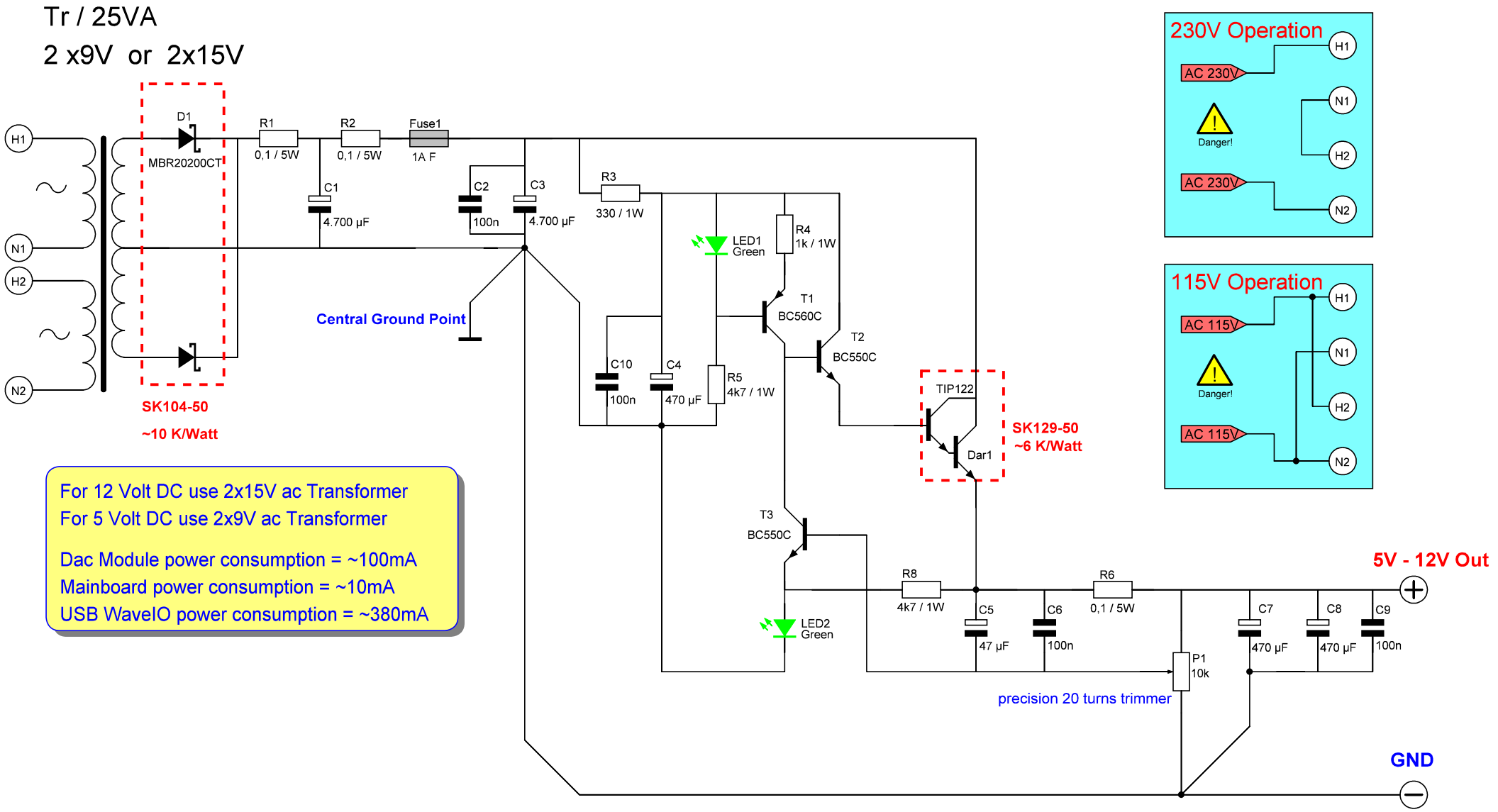


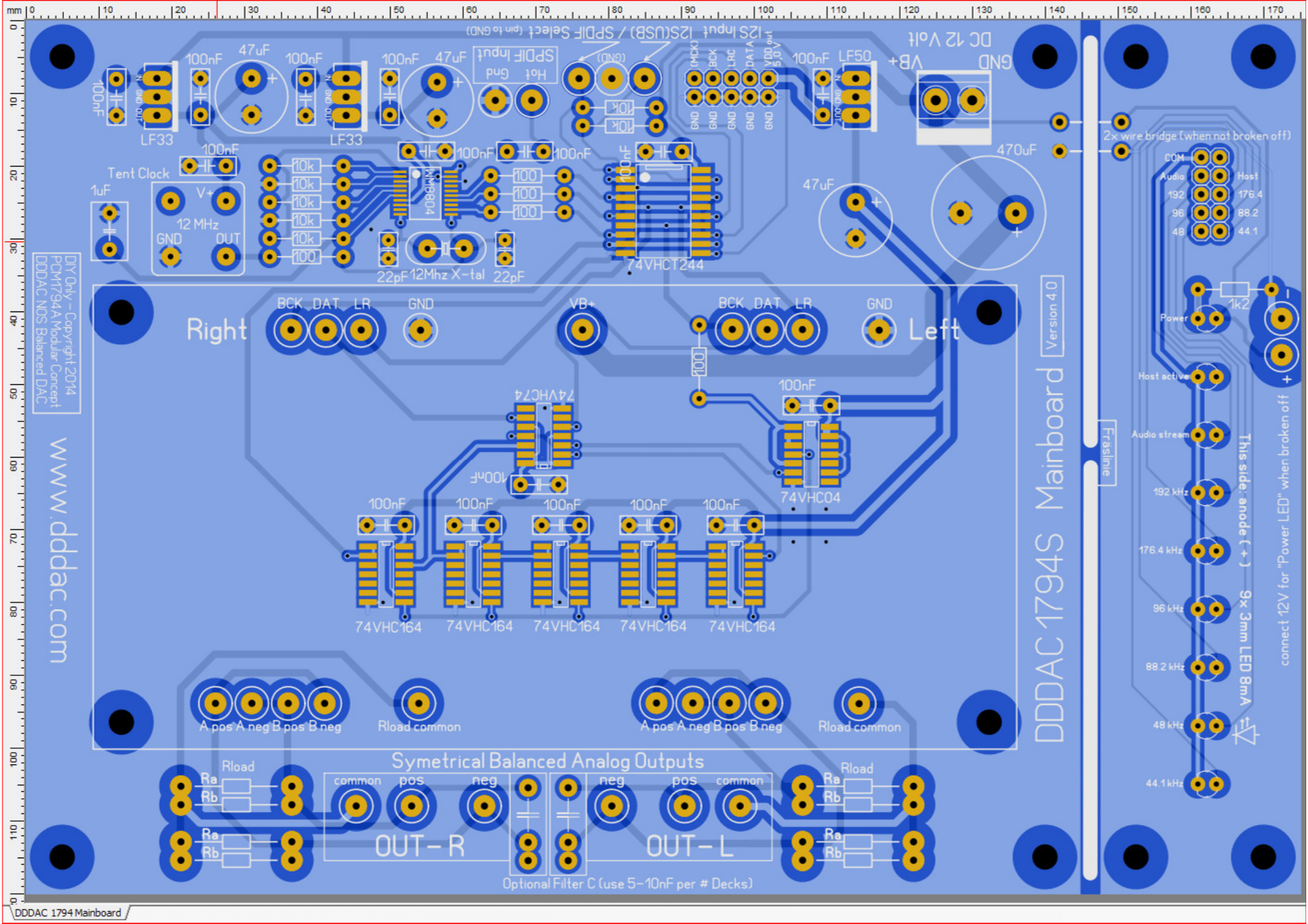

For 12 Volt DC use 2x15V ac Transformer
For 5 Volt DC use 2x9V ac Transformer

Dac Module power consumption = ~100mA
Mainboard power consumption = ~10mA
USB WaveIO power consumption = ~380mA

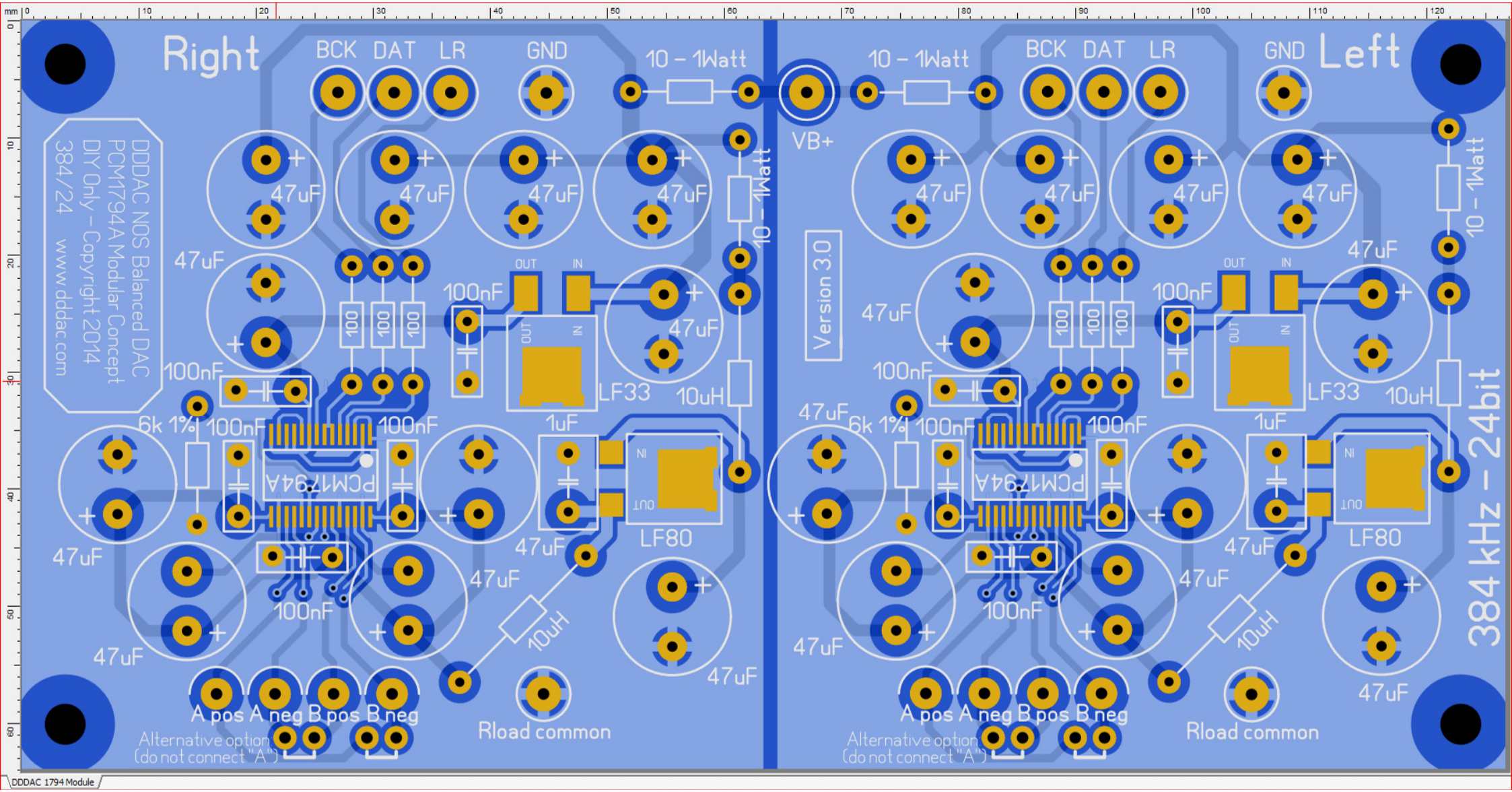
**Notes:**

Use Trimmer P1 to adjust output at 5.0 Volt or 12 Volt
Actual Output current is limited by Fuse and rating of Transformer
47uF and 470uF are Nichicon Muze Audio Grade KZ series Capacitors - (25 or 50 Volts)
4.700uF are Nichicon Long Life Capacitors. Series HE (25 Volts)

| DDDAC 1794 NOS DAC | | | |
|---|---|---|---|
| Update: 14-11-2012 | | Author: Doede Douma | |
| Revision: 3.1 | Built: YES | Design ready: YES | Page: 4 # 4 |




DDDAC 1794 Mainboard


Right
Left
BCK DAT LR GND
10 – 1Watt
VB+
47uF
100nF
100
OUT IN
LF33
LF80
10uH
1uF
6k 1%
PCM1794A
A pos A neg B pos B neg
Alternative option
(do not connect "A")
Rload common
DDDAC NOS Balanced DAC
PCM1794A Modular Concept
DIY Only – Copyright 2014
384/24 www.dddac.com
Version 3.0
384 kHz – 24bit
DDDAC 1794 Module

DDDAC Power Supply