Power Supply
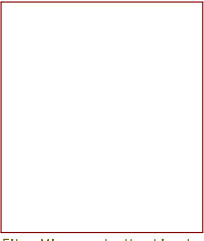
File: Power Supply.kicad_sch

Voltage Amplifier

File: Voltage Amplifier.kicad_sch

Microcontroller

File: Microcontroller.kicad_sch

R1 10K

R2 4.7K

R3 10K

U1A LM358

GND

Q1 2N3904

VB_OUT

R4 1K

GND

C1 100n

24V

V+ 8

V- 4

U1C LM358

GND

GND

VC_OUT

R5 33

R6 10

J3 AD4

J1 RC_SEL

COLLECTOR/DRAIN

J2 AD3

ADC4 100K

ADC4

ADC3

ADC3 100K

GND

GND

DacPower

5V

R7 50R

PWR_FLAG

C2 10u

C3 100n

GND

U2 MCP4822

SCK

LDAC

SDI

CS

SCK

LDAC

SDI

CS

Vdd

CNTRL

Vss

DAC

DAC

VA

VB

GND

R8 10K

R10 4.7K

R11 10K

U1B LM358

12V

Q2 2SC5706

VC_OUT

R9 1K

GND

GND

J4 RB_SEL

J6 AD2

R12 1K

R13 510

VB_OUT

BASE/GATE

ADC2

ADC2 100K

GND

J5 AD1

ADC1

ADC1 100K

GND

X1 14Pin ZIF

BASE/GATE

COLLECTOR/DRAIN

GND

GND

COLLECTOR/DRAIN

BASE/GATE

GND

BASE/GATE

COLLECTOR/DRAIN

U3 LM7805

C4 22u

C5 10u

C15 100n

VI 1 | GND | VO 3

2

GND

12V

5V

PWR_FLAG

12V

PWR_FLAG

GND

24V

PWR_FLAG

D1 1N5817

12V → VIN

VIN

J7 PWR

1
2
3

GND

12V

D2 PWR

R14 1K

GND

J9 5V

2
1

5V

GND

J8 13.8V MAX

VIN

1
2

GND

U4 ICL7660

12V

D3 1N4148

C6 100n

GND

D4 1N4148

24V

C8 47u

GND

8 V+ | VOUT 5
1 NC | CAP+ 2
7 OSC | |
6 LV | GND | CAP− 4
| 3 GND |

VOUT → GND

47u C7

GND