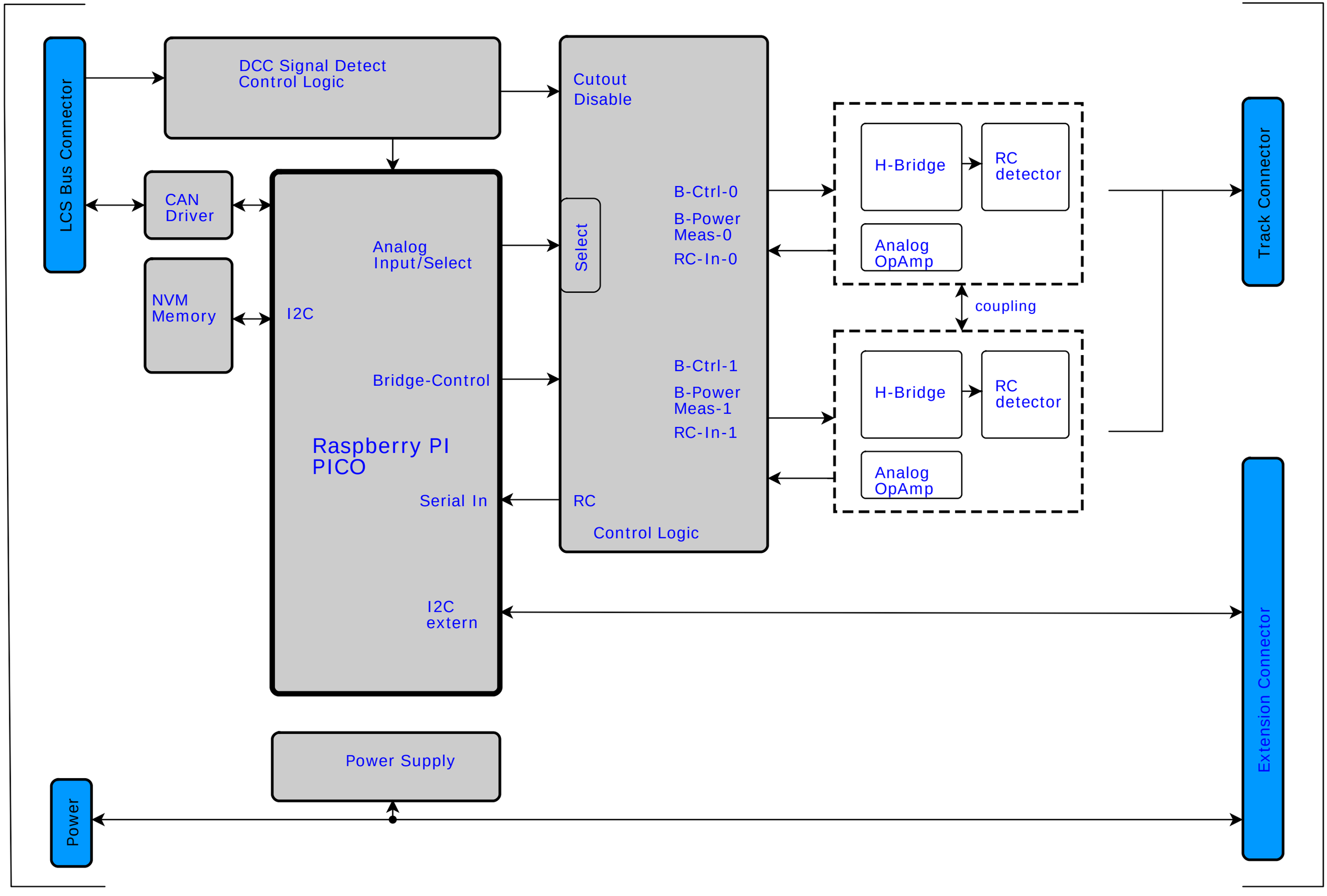
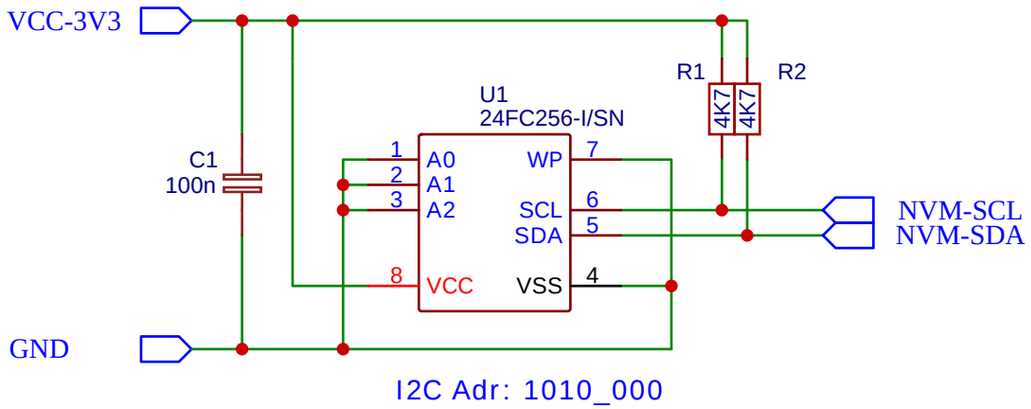
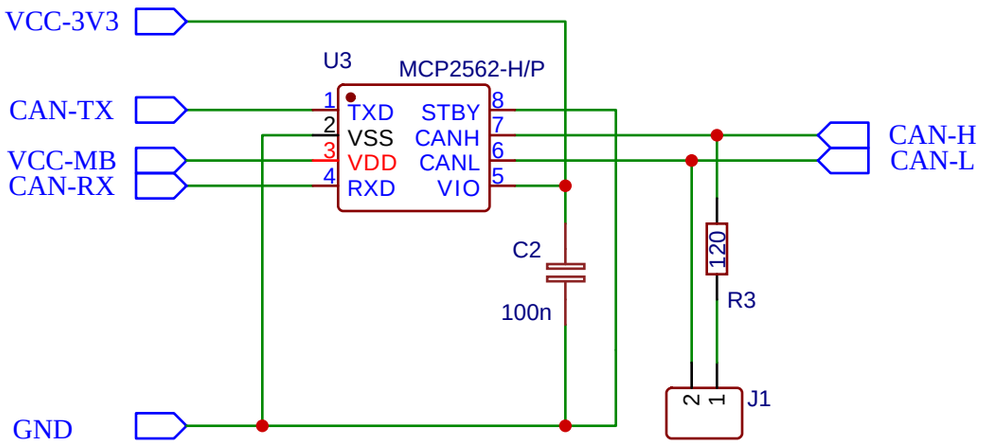

LCS Bus Connector
DCC Signal Detect
Control Logic
CAN
Driver
NVM
Memory
Analog
Input/Select
I2C
Bridge-Control
Raspberry PI
PICO
Serial In
I2C
extern
Cutout
Disable
Select
B-Ctrl-0
B-Power
Meas-0
RC-In-0
B-Ctrl-1
B-Power
Meas-1
RC-In-1
RC
Control Logic
H-Bridge
RC
detector
Analog
OpAmp
coupling
H-Bridge
RC
detector
Analog
OpAmp
Track Connector
Extension Connector
Power Supply
Power

Non-Volatile Memory

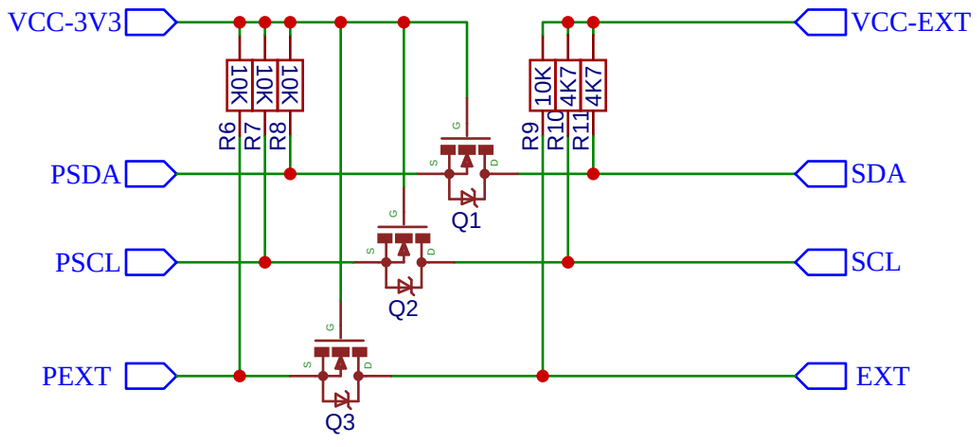


I2C Adr: 1010_000

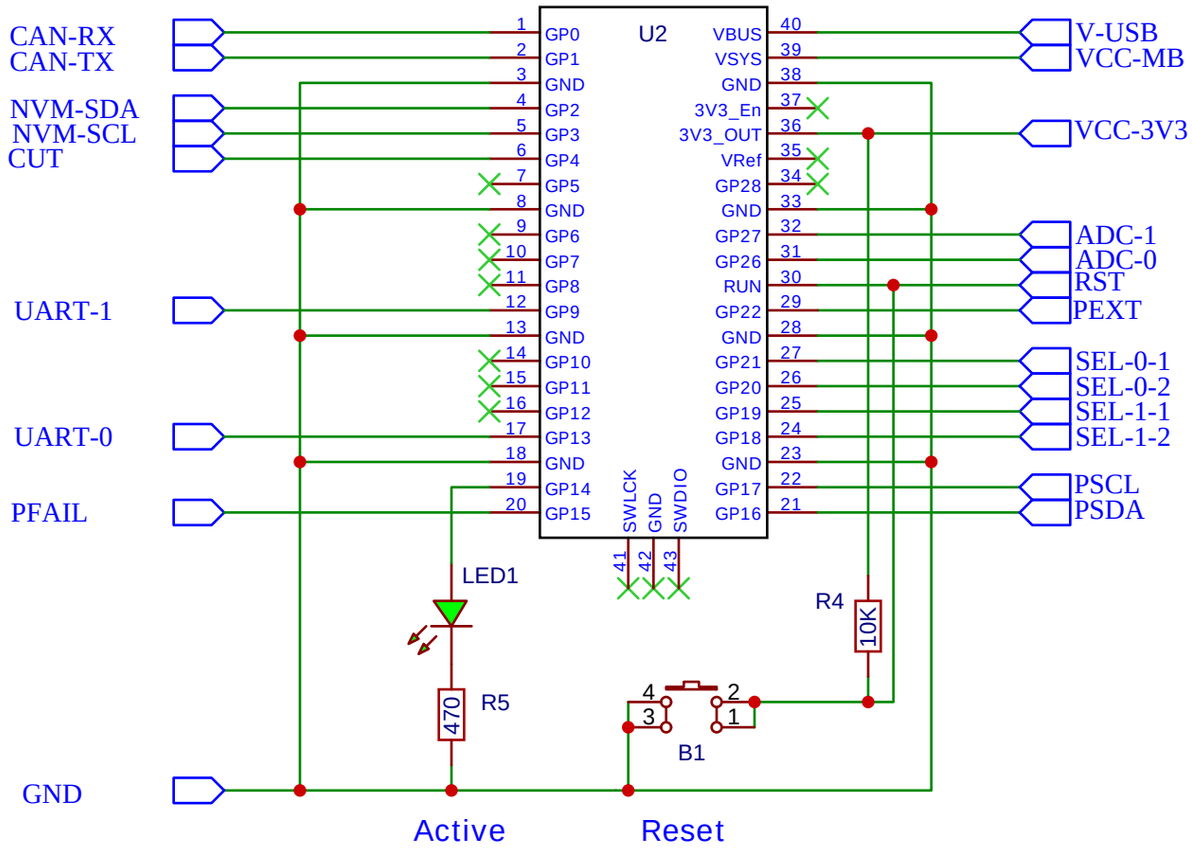
CAN Bus Line Driver



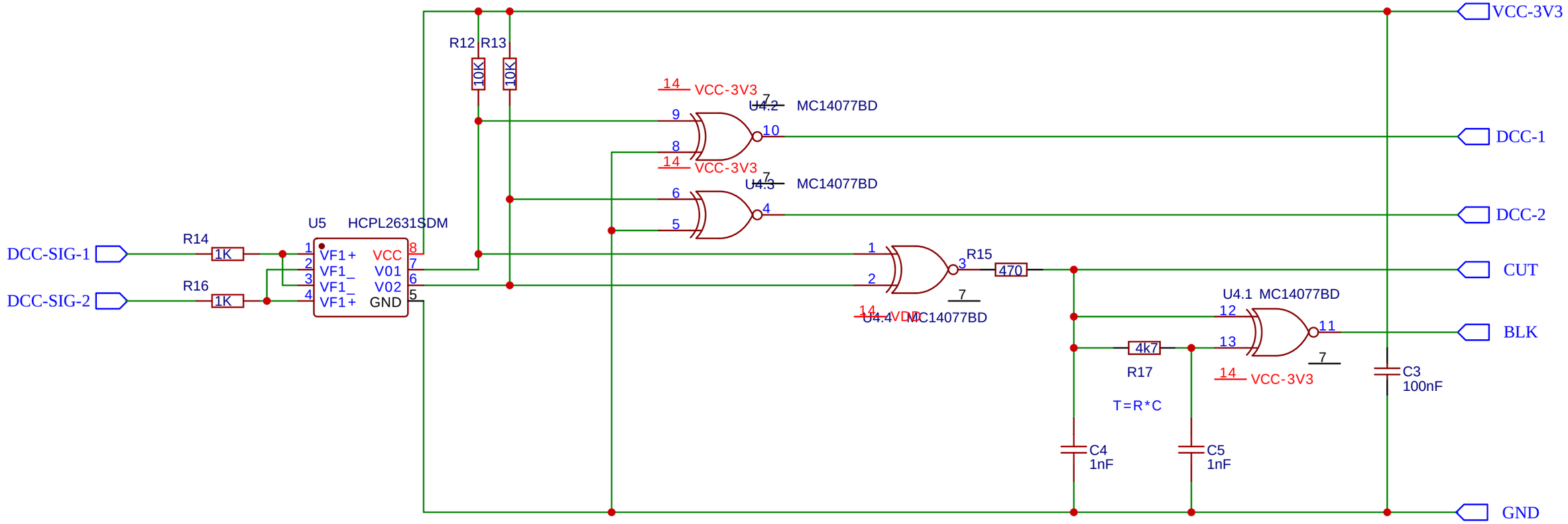
Level shifters



Main Controller - RASPBERRY Pi Pico



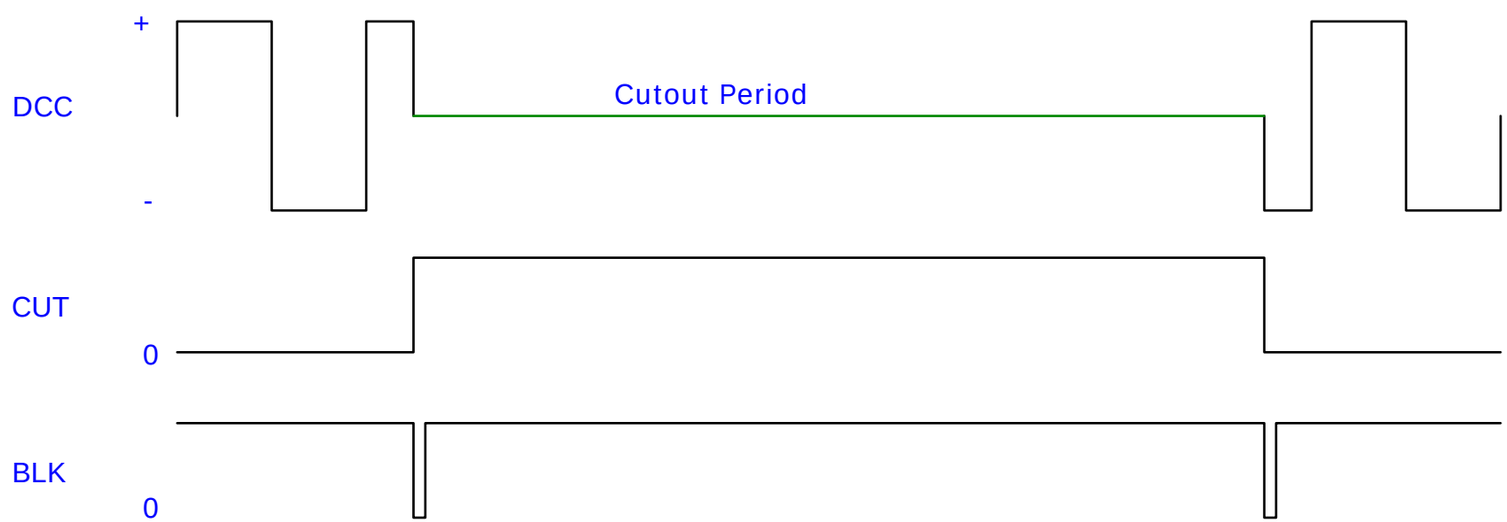
LCS Bus - DCC Signal Input



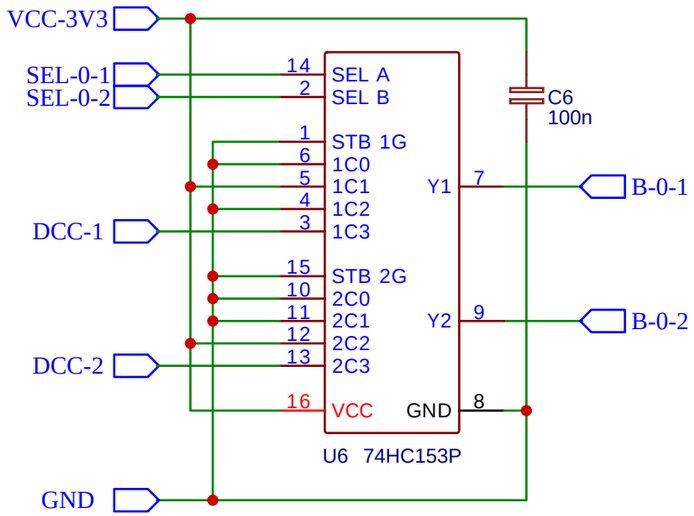
DCC Signal, Cutout and Block Signal.

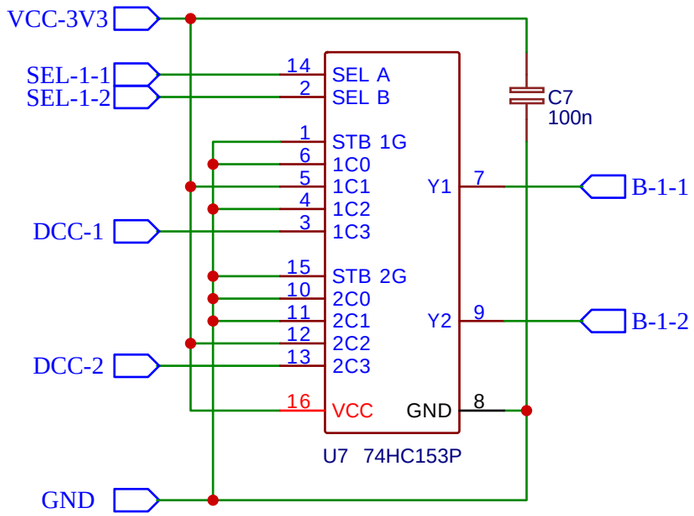
DCC Input:

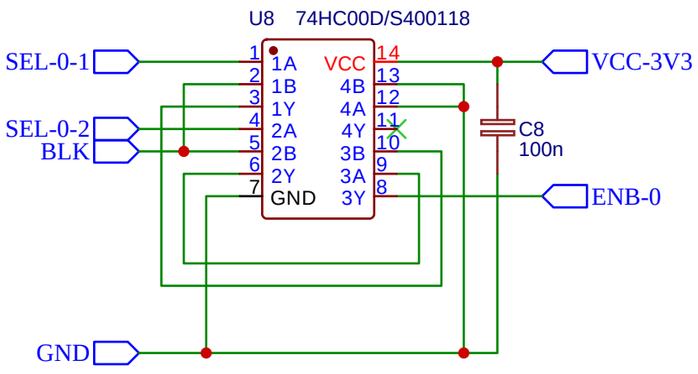
00->CUTOUT
01->DCC+
10->DCC-

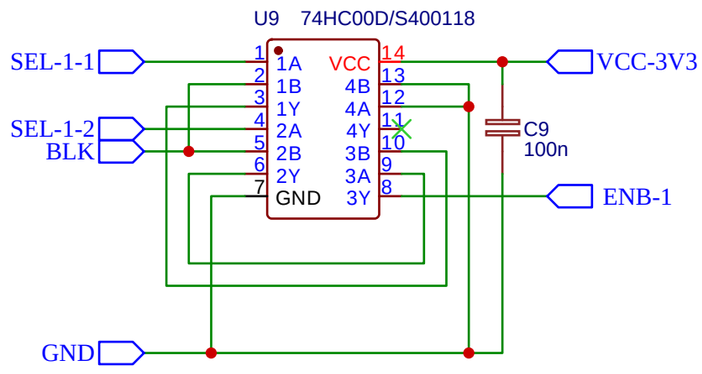


H-Bridge Control Logic





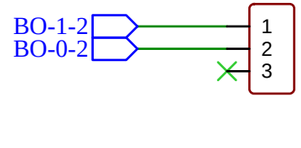





```
Control Logic Signals:

Sel-2 Sel-1 -> B-x-1 B-x-2  ENB-x  STATE

0     0     -> GND   GND    GND      "Z"
0     1     -> VCC   GND    PWM/BLK  "FWD"
1     0     -> GND   VCC    PWM/BLK  "REV"
1     1     -> DCC1  DCC2   DCC/BLK  "DCC"

ENB == LOW -> Z
```

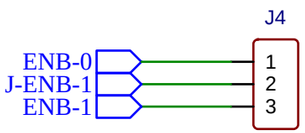
The Dual Bridges can be configured to run as a Mono Block.
Jumper position (1-2) -> MONO mode.
Jumper position (2-3) -> DUAL mode.

WARNING: ALL jumpers blocks must be set to the correct option.

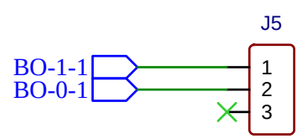


H-Bridge 1-1 Selection

H-Bridge 1-2 Selection



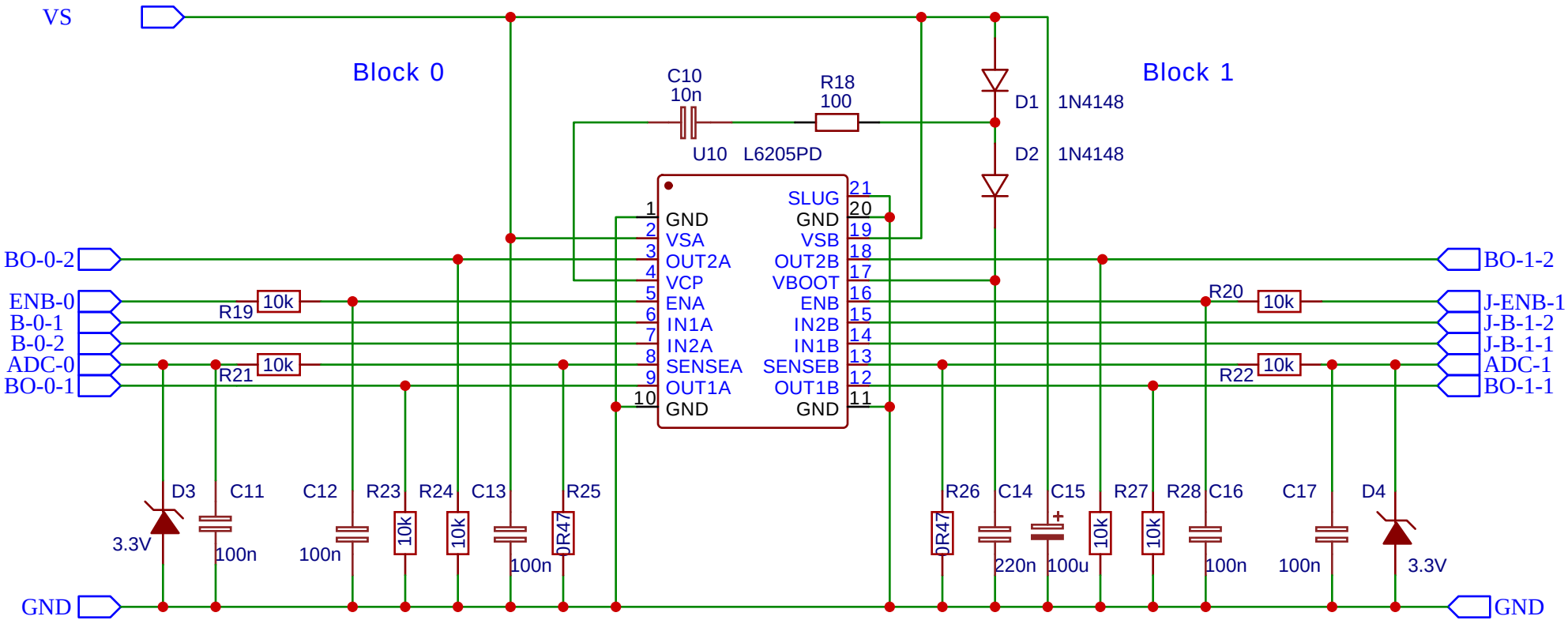
ENB-1 Selection



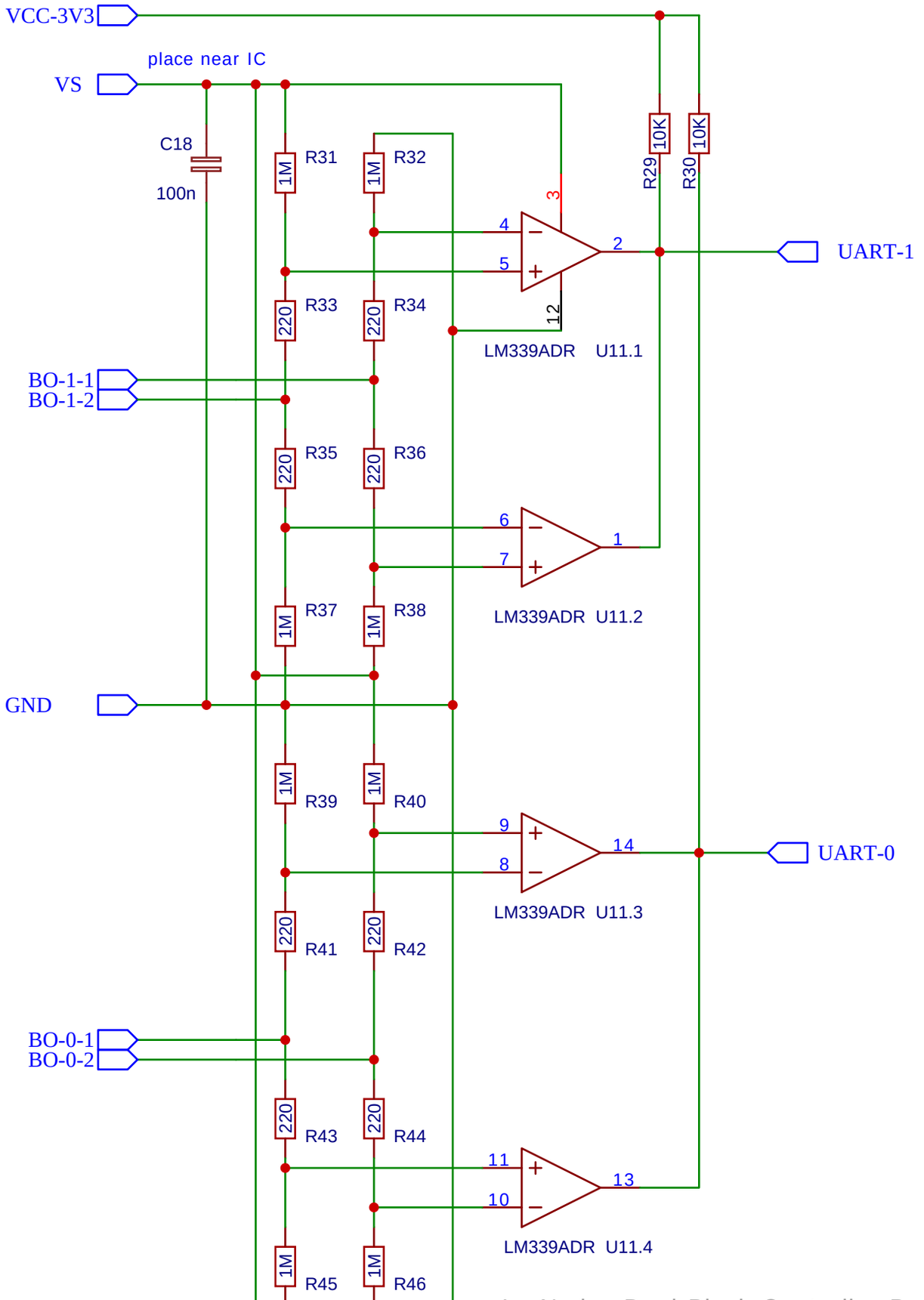
Bridge Paralell Mode

Bridge Paralell Mode

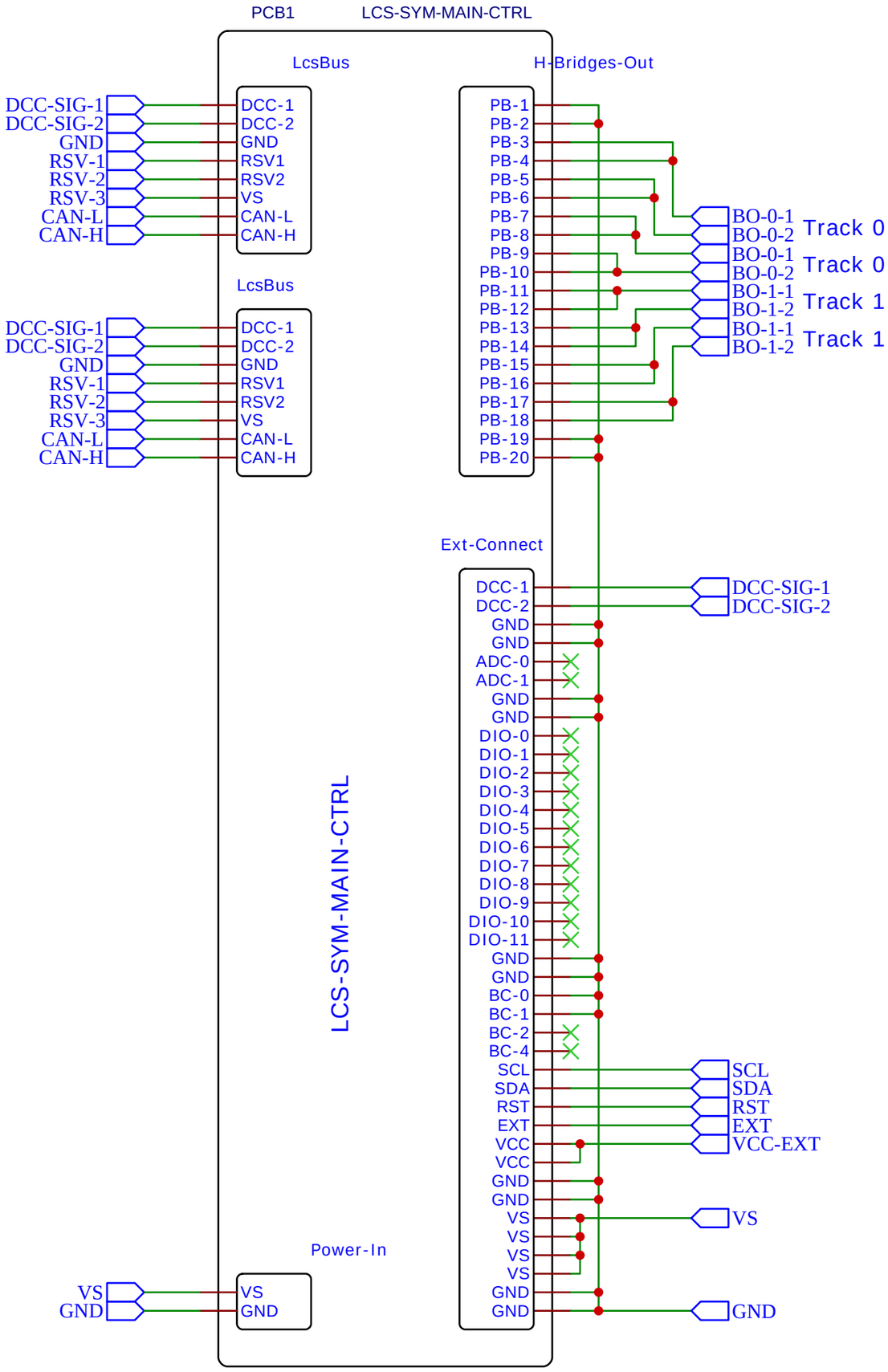
Dual H-Bridge



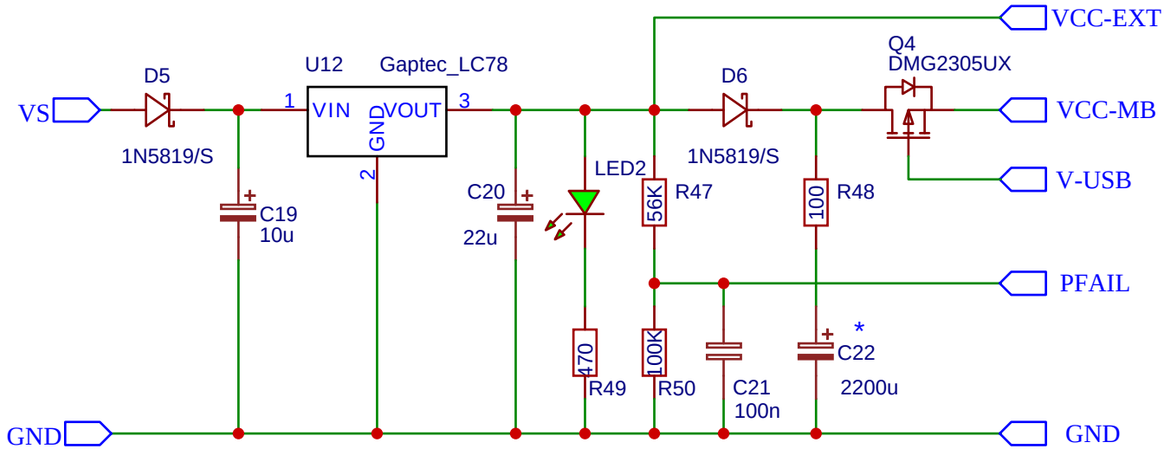
Dual RailCom Detector



Block Controller PCB connectors



Power Supply with Powerfail Option



* optional, only for PFAIL option