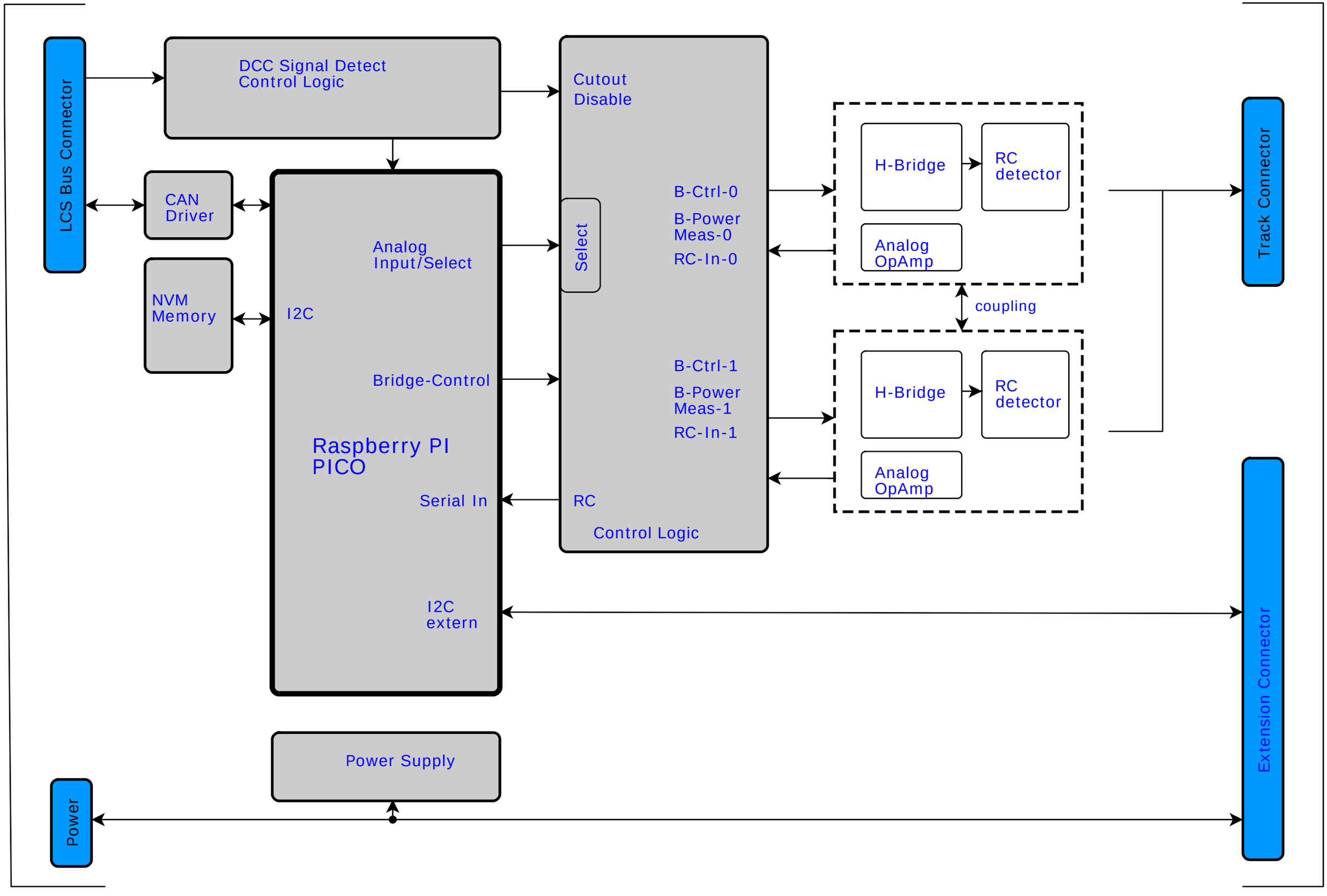
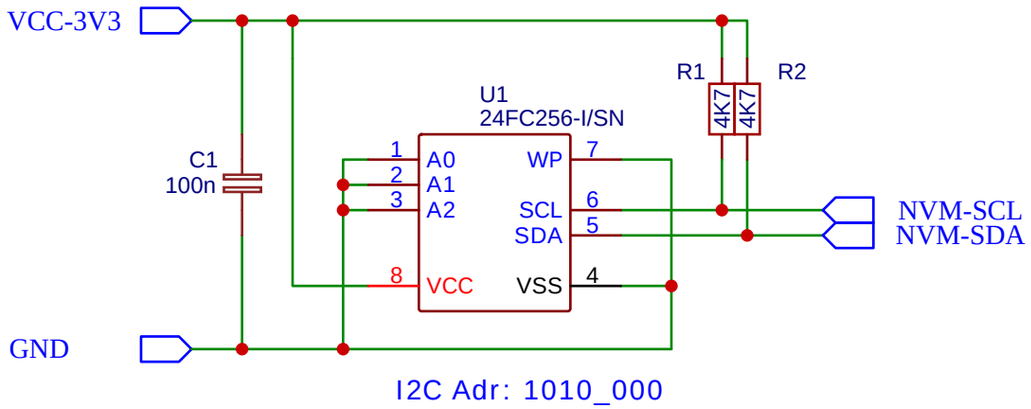
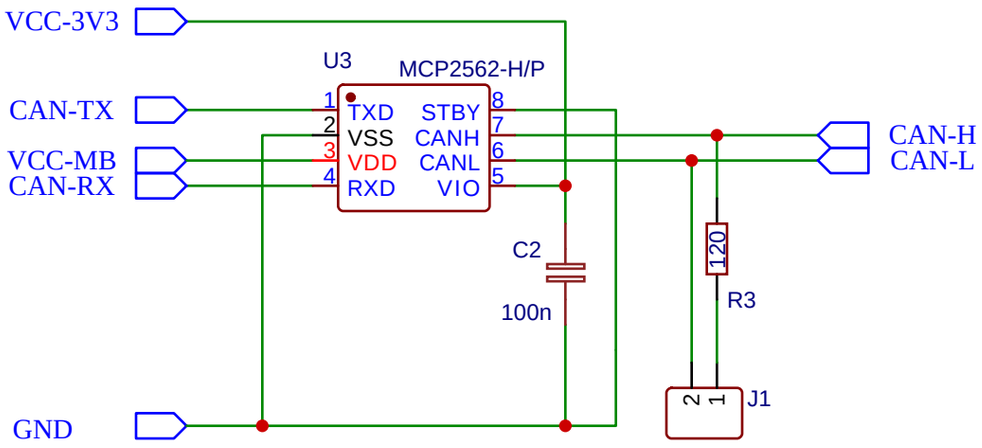

LCS Bus Connector
DCC Signal Detect
Control Logic
CAN
Driver
NVM
Memory
Analog
Input/Select
I2C
Bridge-Control
Raspberry PI
PICO
Serial In
I2C
extern
Cutout
Disable
Select
B-Ctrl-0
B-Power
Meas-0
RC-In-0
B-Ctrl-1
B-Power
Meas-1
RC-In-1
RC
Control Logic
H-Bridge
RC
detector
Analog
OpAmp
coupling
H-Bridge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

Non-Volatile Memory

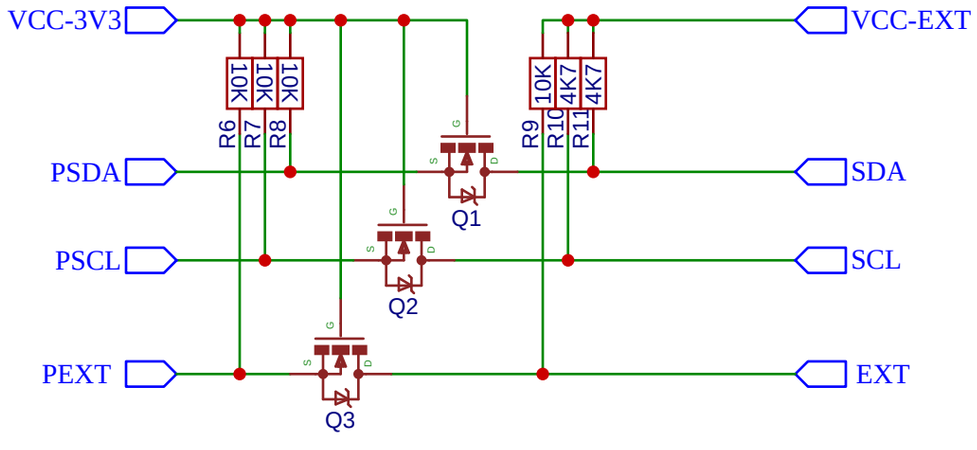


I2C Adr: 1010_000

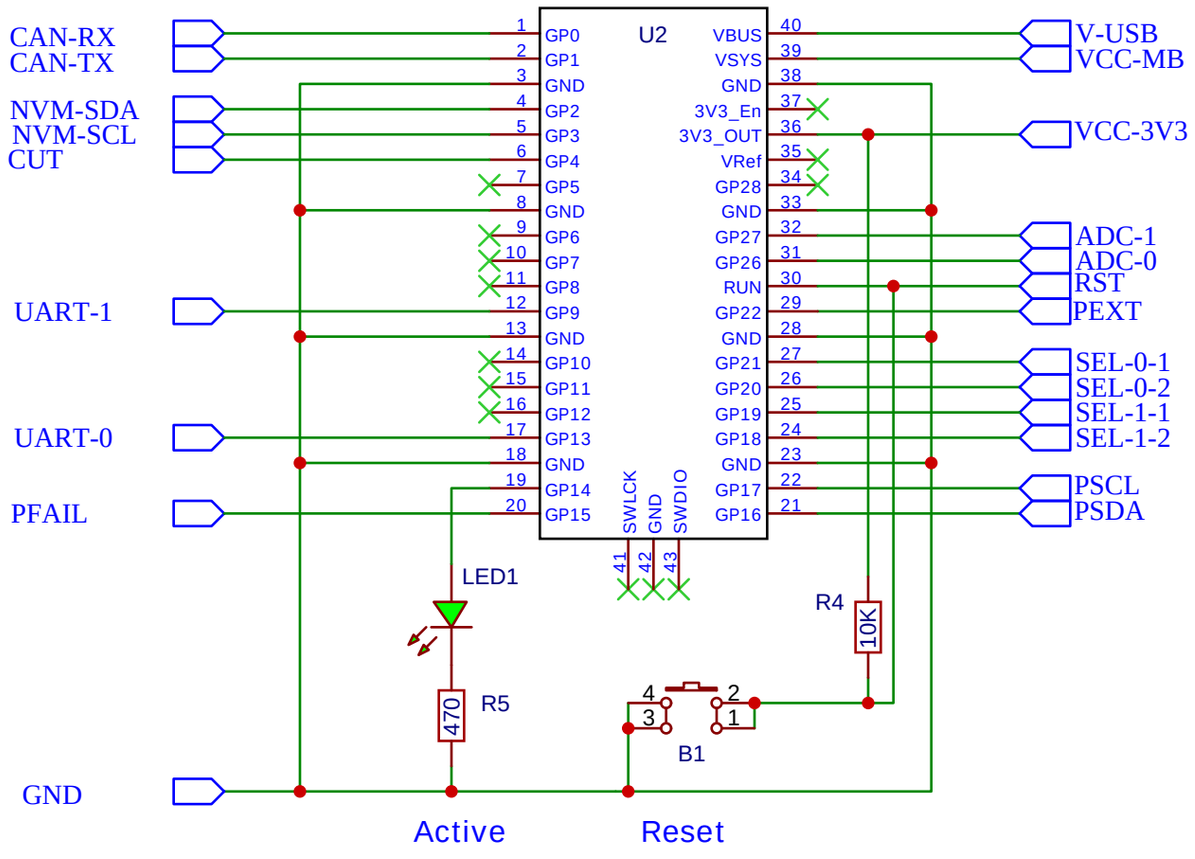
CAN Bus Line Driver



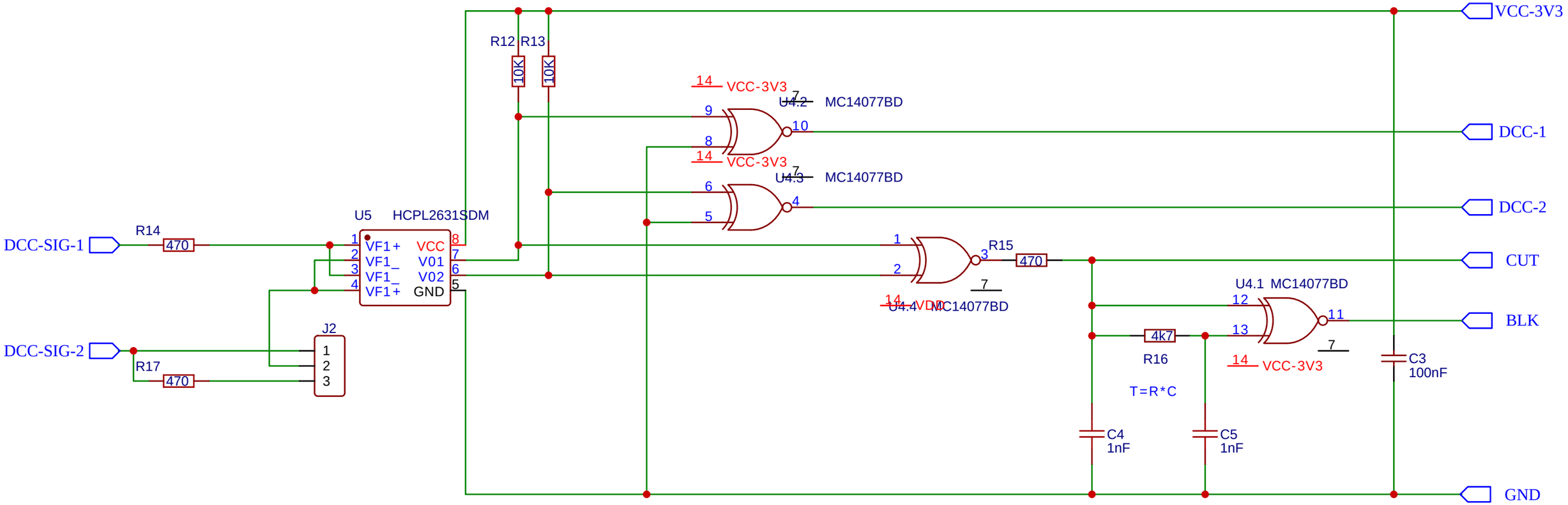
Level shifters



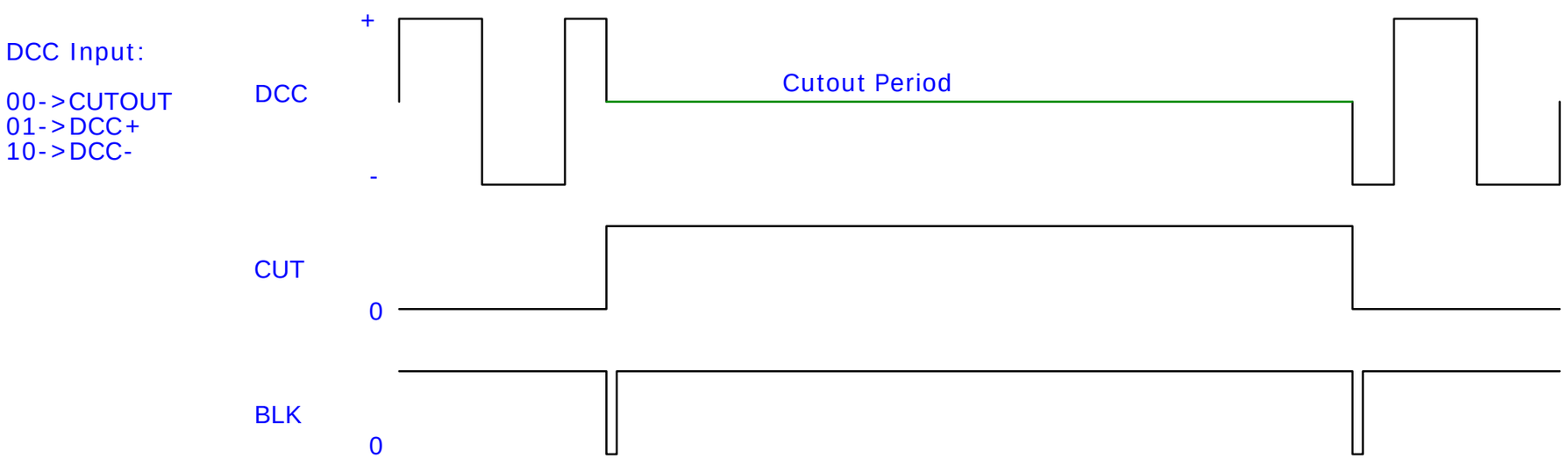
Main Controller - RASPBERRY Pi Pico



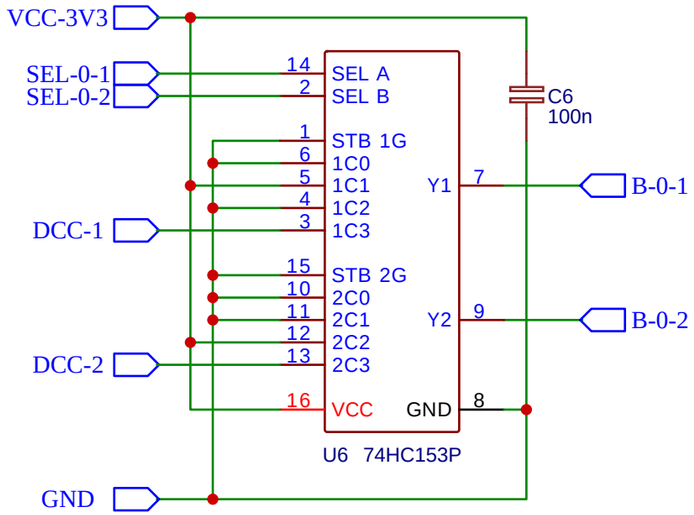
LCS Bus - DCC Signal Input

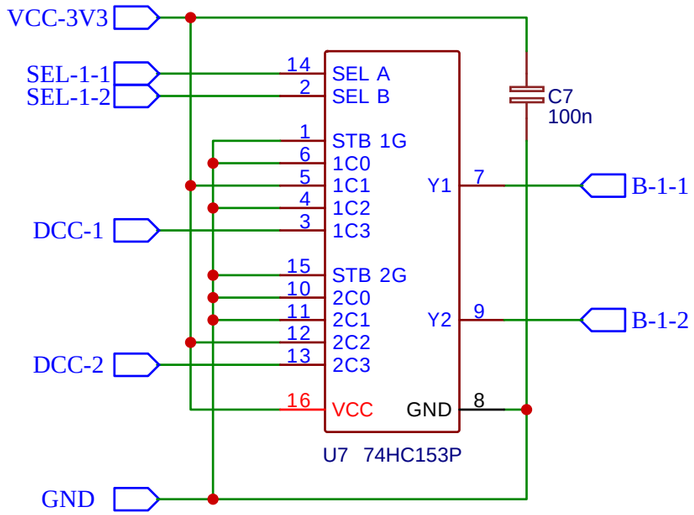


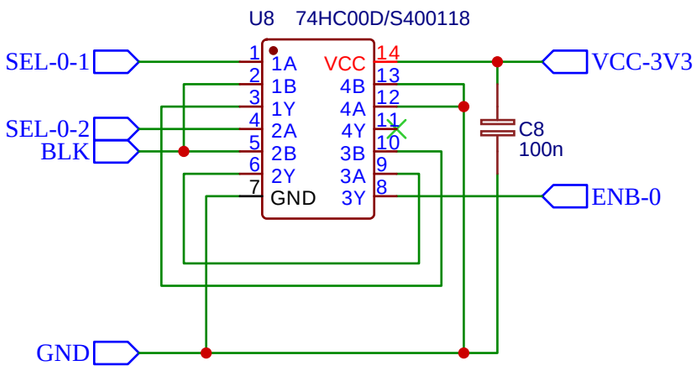
DCC Signal, Cutout and Block Signal.

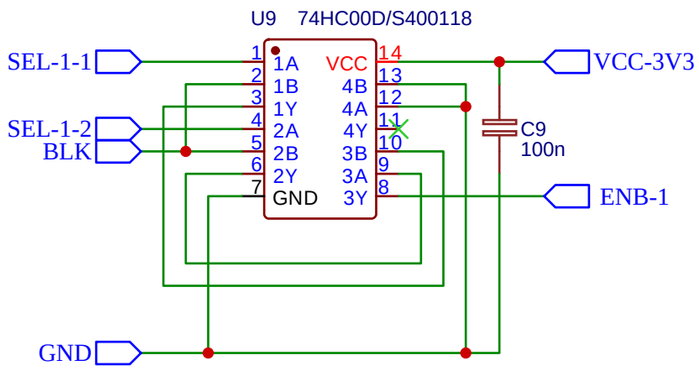


H-Bridge Control Logic









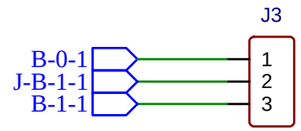
Control Logic Signals:

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"

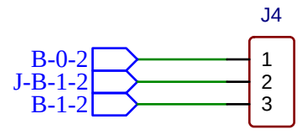
ENB == LOW -> Z

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

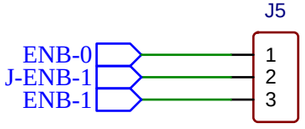
WARNING: ALL jumpers blocks must be set to the correct option.



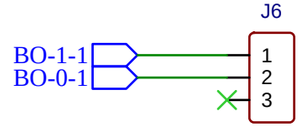
H-Bridge 1-1 Selection



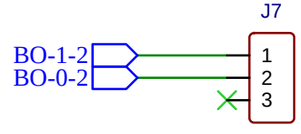
H-Bridge 1-2 Selection



ENB-1 Selection

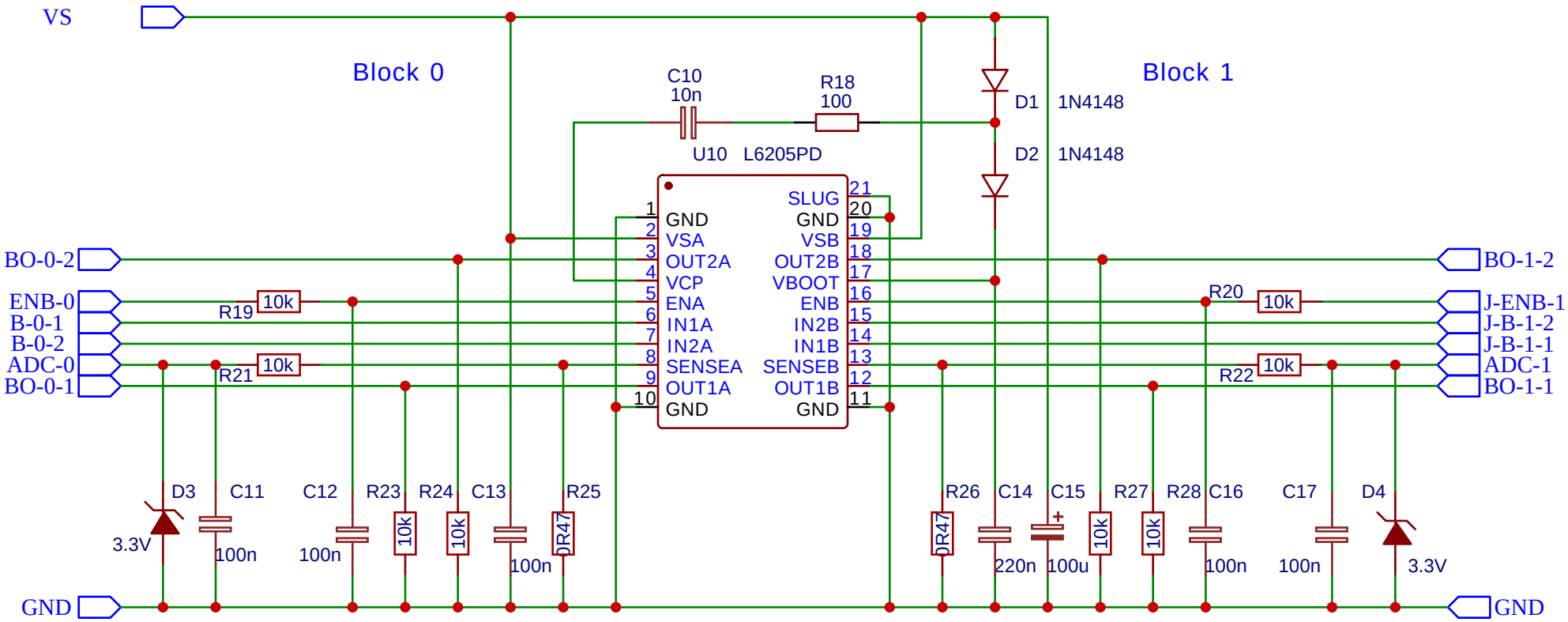


Bridge Paralell Mode

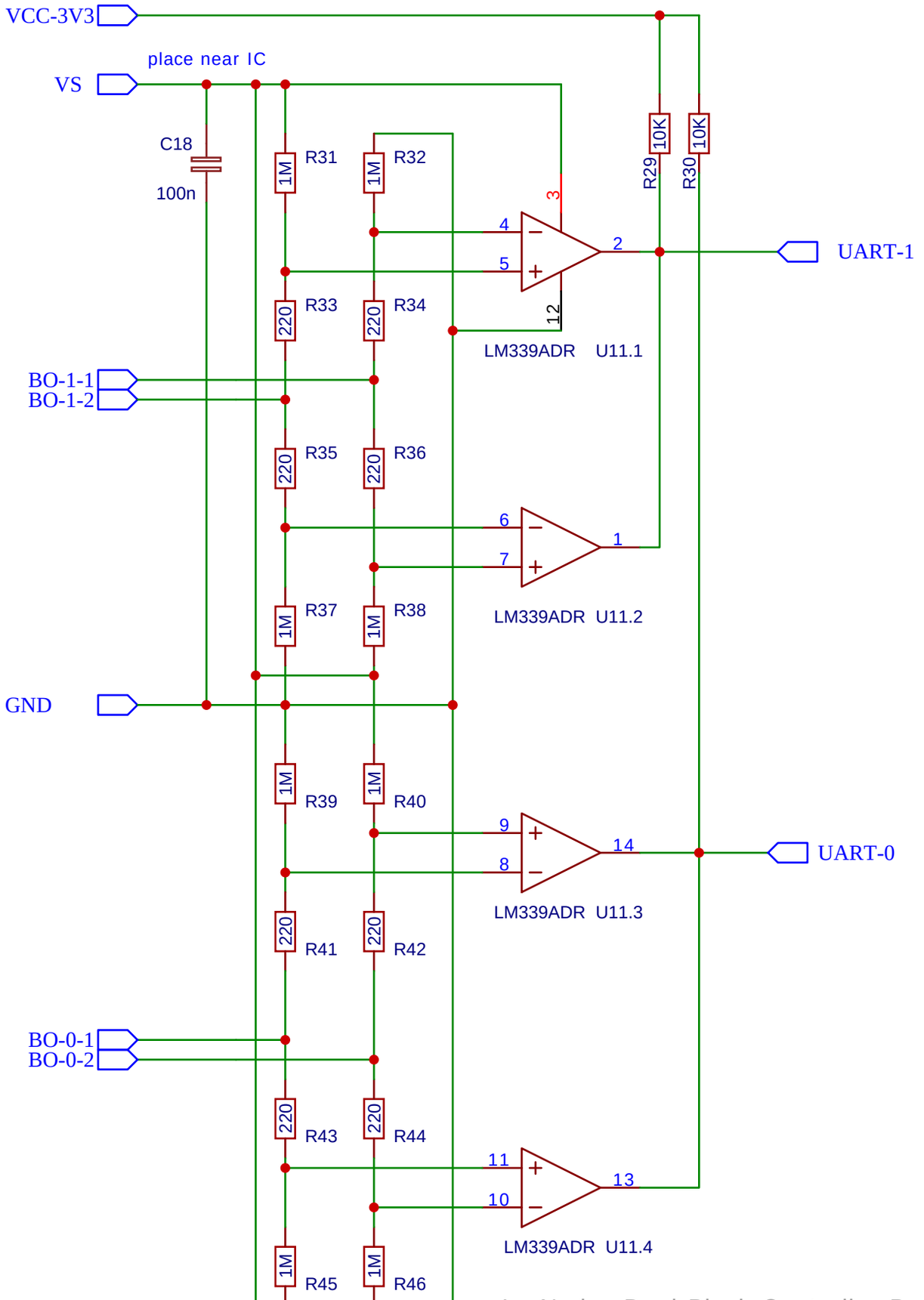


Bridge Paralell Mode

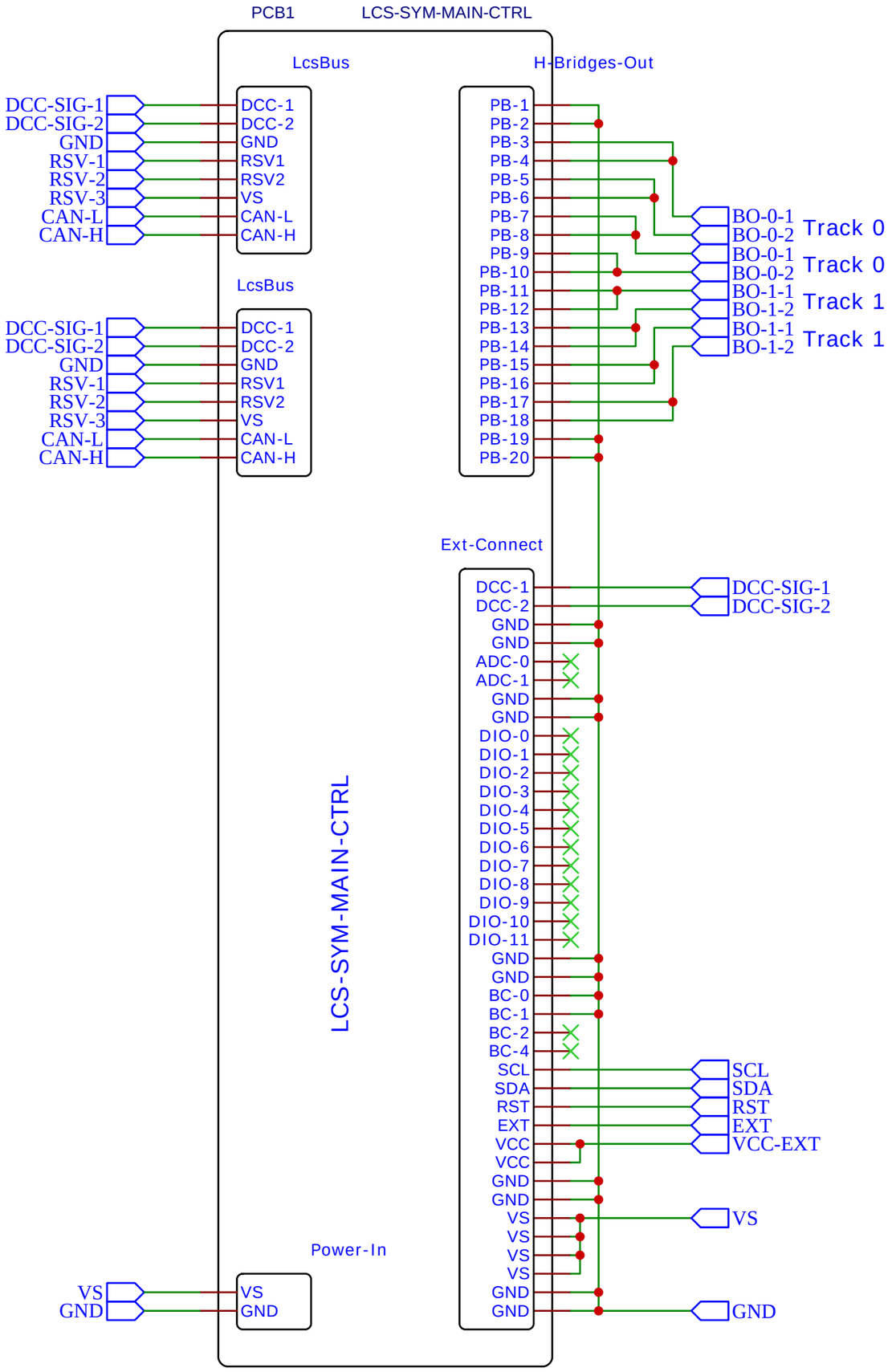
Dual H-Bridge



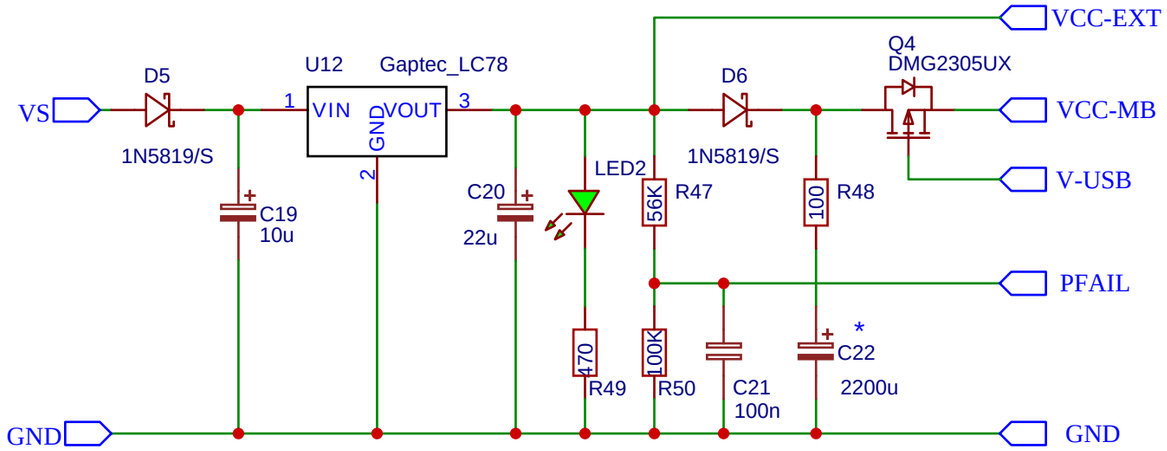
Dual RailCom Detector



Block Controller PCB connectors



Power Supply with Powerfail Option



* optional, only for PFAIL option