

Glasgow 2x CAN Add-On

This add-on is intended to permit easy interfacing with CAN devices.

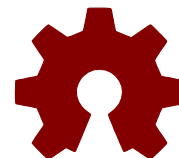
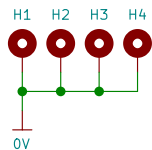
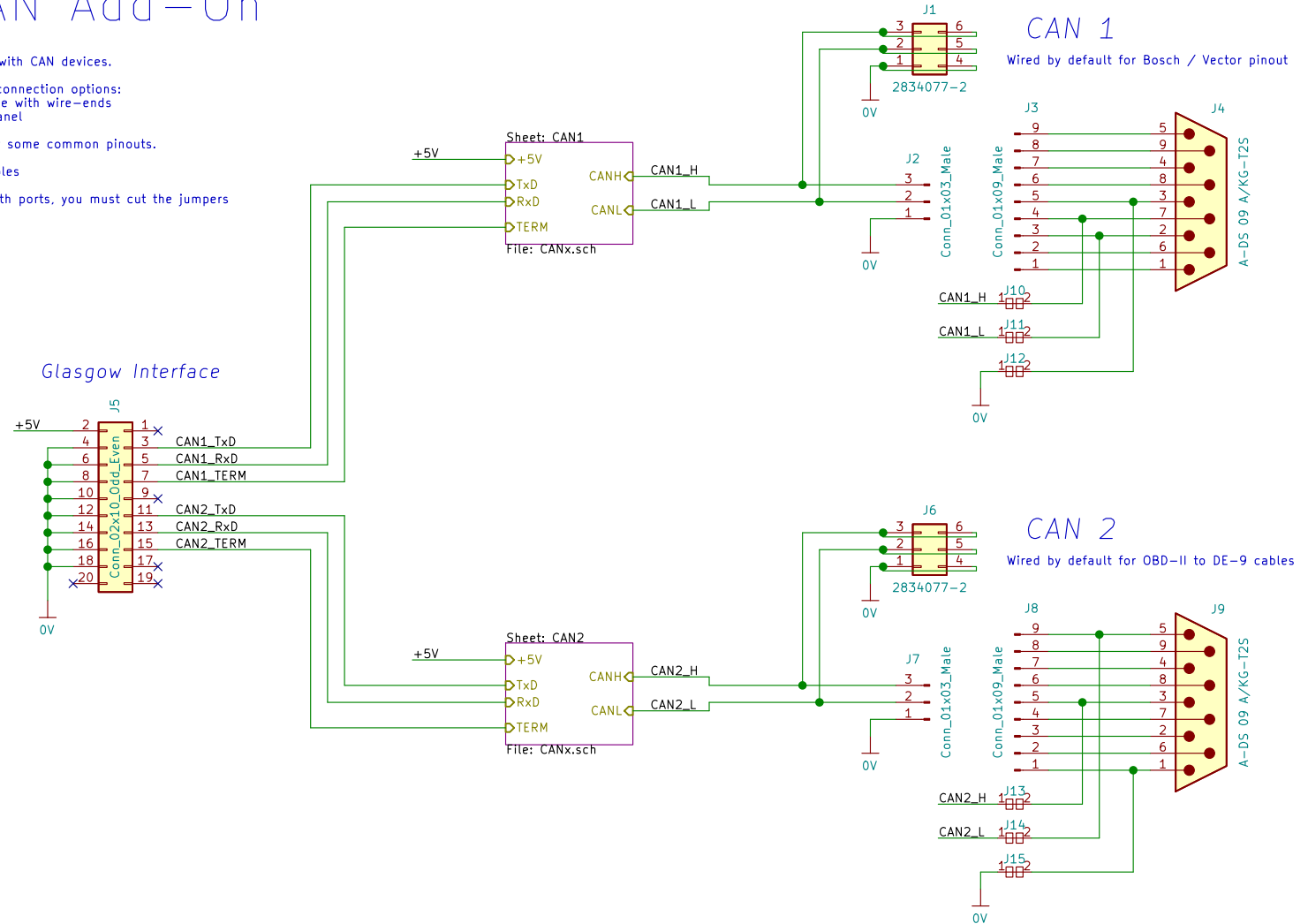
Two channels are provided, each of which has two connection options:

1. A spring-loaded terminal block, suitable for use with wire-ends
2. A DE-9 with pins, paired with a small patch panel

The board ships with the DE-9 connectors wired for some common pinouts.

- CAN1 is wired for Bosch / Vector
- CAN2 is wired for common DE-9 to OBD-II cables

If you require a different pinout, or the same on both ports, you must cut the jumpers and patch in your own pinout.



BSD-3-Clause

Designed by: Attie Grande
Sheet: Top Level

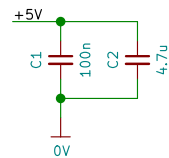
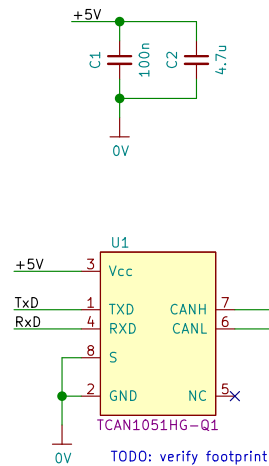
Sheet: /
File: glasgow-can.sch

Title: Glasgow CAN Add-On

Size: A4 Date: 2020-12-19
KiCad E.D.A. kicad (5.1.8)-1

Rev: r0
Id: 1/3

+5V — +5V
TxD — TxD
RxD — RxD
TERM — TERM

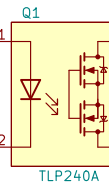


R1 is 1206 / 125mW
In fault (bus shorted) it will see:
 $V=24v$ $R=120\Omega$ $P=24v^2/120\Omega=4.8W$

Termination

$V=5v$ $I=7.5mA$
 $V_f=1.27v$ $V_r=3.73v$
 $R=506\Omega \rightarrow 510\Omega$

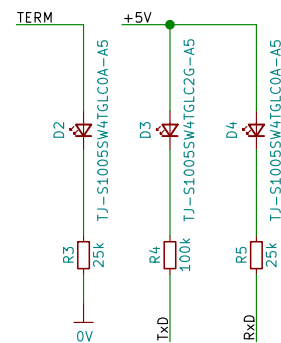
TERM R2 510



R1 120

D1 PESDZCAN

0V



Status LED

Orange: Termination Active
Green: CAN Tx
Blue: CAN Rx

Orange: 100mcd $V_f=2.1v$ $V_r=2.9v$ $I=100\mu A$ $R=29k\Omega$
Green: 250mcd $V_f=3.1v$ $V_r=1.9v$ $I=20\mu A$ $R=95k\Omega$ *
Blue: 100mcd $V_f=3.1v$ $V_r=1.9v$ $I=100\mu A$ $R=19k\Omega$

* Green has far higher lumosity, so current is reduced.

Designed by: Attie Grande
Sheet: CAN Channel

Sheet: /CAN1/
File: CANx.sch

Title: Glasgow CAN Add-On

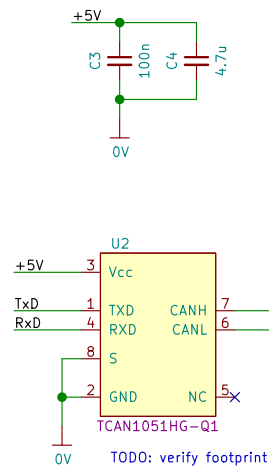
Size: A4 Date: 2020-12-19

KiCad E.D.A. kicad (5.1.8)-1

Rev: r0

Id: 2/3

+5V — +5V
TxD — TxD
RxD — RxD
TERM — TERM

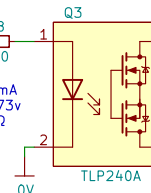


R1 is 1206 / 125mW
In fault (bus shorted) it will see:
 $V=24v$ $R=120\Omega$ $P=24v^2/120\Omega=4.8W$

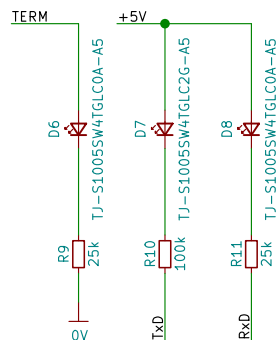
Termination

$V=5v$ $I=7.5mA$
 $V_f=1.27v$ $V_r=3.73v$
 $R=506\Omega \rightarrow 510\Omega$

TERM — R8 — 510



D5 — PES02CAN
1 — 2 — 3 — 0V



Status LED

Orange: Termination Active
Green: CAN Tx
Blue: CAN Rx

Orange: 100mcd $V_f=2.1v$ $V_r=2.9v$ $I=100\mu A$ $R=29k\Omega$
Green: 250mcd $V_f=3.1v$ $V_r=1.9v$ $I=20\mu A$ $R=95k\Omega$ *
Blue: 100mcd $V_f=3.1v$ $V_r=1.9v$ $I=100\mu A$ $R=19k\Omega$

* Green has far higher lumosity, so current is reduced.

Designed by: Attie Grande
Sheet: CAN Channel

Sheet: /CAN2/
File: CANx.sch

Title: Glasgow CAN Add-On

Size: A4 Date: 2020-12-19
KiCad E.D.A. kicad (5.1.8)-1

Rev: r0
Id: 3/3