TCH Technology OpenLCB CAN/USB Interface

Written by Tim Hatch

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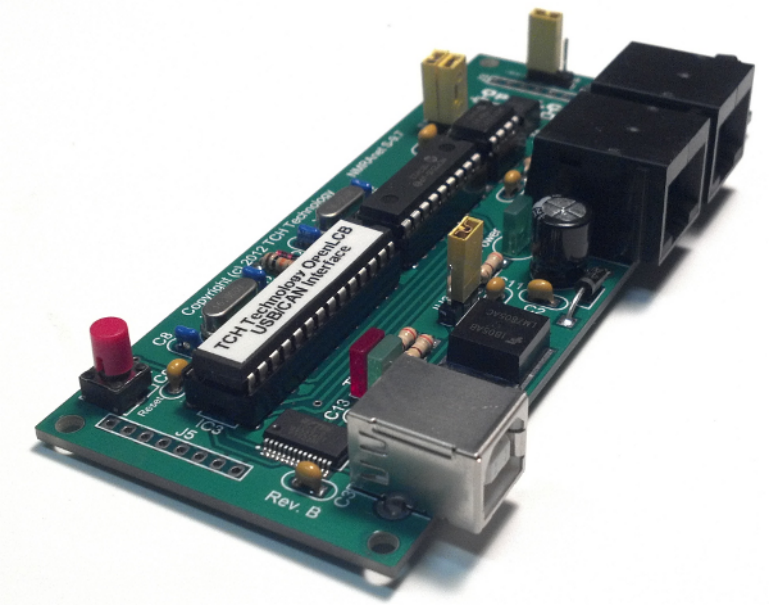
Contents

Chapter 1

Hardware

1.0.1 Included with purchase

- One OpenLCB CAN/USB Interface



The TCH Technology CAN/USB interface is used for connecting a computer to an OpenLCB CAN network. The CAN/USB interface is a plug and play device. Provisioning is by selection of various jumpers.

Chapter 2

Provisioning the CAN/USB Interface

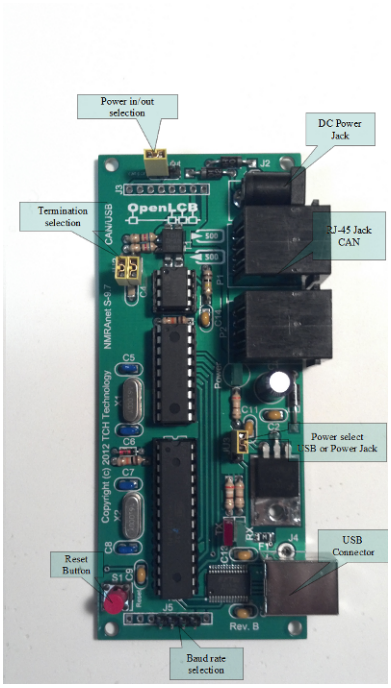


Figure 2.1: TCH TechnologyCAN/USB jumpers and connecters

The CAN/USB interface has various jumpers that need to be provisioned before it will work with your computer and other OpenLCB boards.

2.1 Powering the CAN/USB Interface

The TCH Technology CAN/USB can be powered in one of three ways: From an external power supply, via the OpenLCB bus, or via a USB connection from a PC.

2.1.1 Power from the external jack

You may power the CAN/USB using an external power supply that provides a 2.1mm center-positive plug, and between 9 and 12V DC at 500mA or more of current.

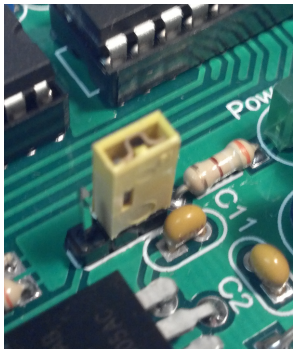


Figure 2.2: Jumper set to provide power from line in jack

2.1.2 Power from the USB

Powering the CAN/USB interface from the USB connector.

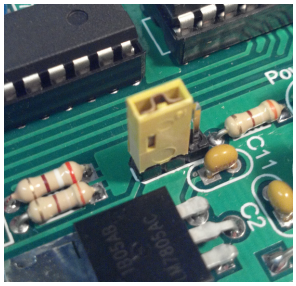


Figure 2.3: Jumper set to provide power from PC USB

2.2 Power on the OpenLCB bus

Note: Drawing power from the OpenLCB bus requires that at least one other node be configured to provide power to the OpenLCB bus. If the CAN/USB Interface is configured to use an external power supply, optionality it can be configured to provide power to the OpenLCB bus.

2.2.1 Provide power to the OpenLCB bus

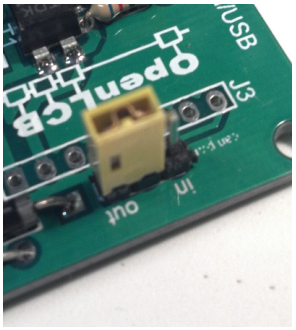


Figure 2.4: CAN POWER jumper set to provide power to the OpenLCB bus

Set the “can power” jumper to “out”, as per §2.4.

2.2.2 Provide Power from the OpenLCB bus

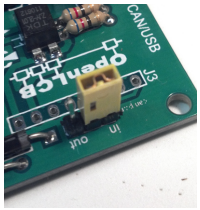


Figure 2.5: CAN POWER jumper set to provide power from the OpenLCB bus

Set the “can power” jumper to “in”, as per §2.5. Note: Remove the “can power” jumper entirely if the CAN/USB will neither draw power from nor provide power to the OpenLCB bus.

2.3 Termination of the Bus

You must determine if you need to teminate your bus. If your CAN/USB Interface is at the beginning of the CAN bus or at the end of the CAN bus you need to terminate the buss.

2.3.1 No termination

To use no termination, the yellow shorting jumers shall be in the non-shorting position. See§2.6.

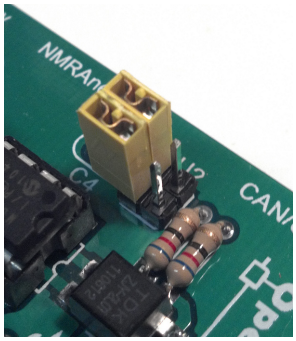


Figure 2.6: No termination

2.3.2 Resistive termination

Resistive termination uses just one yellow shorting jumper set parallel with the two resistors. See §2.7

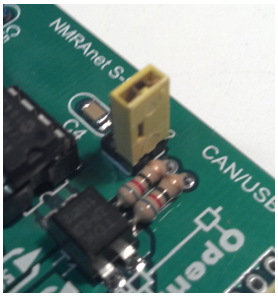


Figure 2.7: Resistive termination

2.3.3 Capacitive termination

Capacitive termination uses two yellow shorting jumpers in parallel. See§2.8

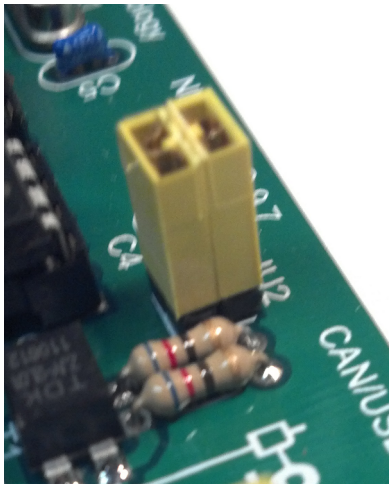


Figure 2.8: Capacitive termination

2.4 Baud Rate Selection

The CAN/USB interface has three selections for baud rate speed. 500k baud, 333,333 baud and 230,400 baud. Selection is done using the yellow jumpers.

2.4.1 Proceedure for setting baud rate

Each time a baud rate is selected, pushing the red reset buton is required to initialize the selection.

2.4.2 Default 500k baud

For the selection of the default 500k baud there shall be no yellow shorting jumpers on the baud rate selection pin headers.

2.4.3 333,333 baud rate selection

Position the yellow shorting jumper as per the figure in §2.9

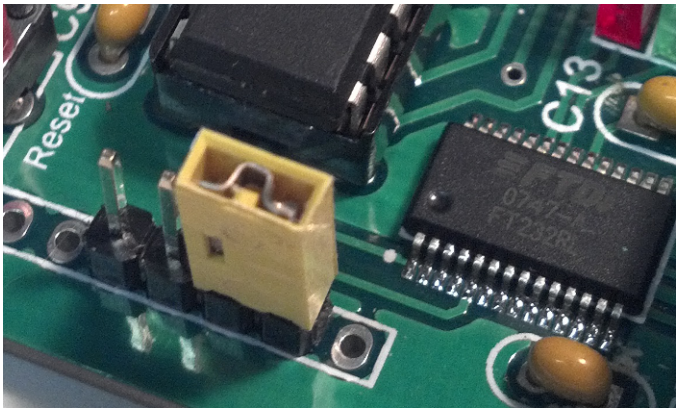


Figure 2.9: 333,333 baud rate selection

2.4.4 230,400 baud rate selection

Position the yellow shorting jumper as per the figure in §2.10

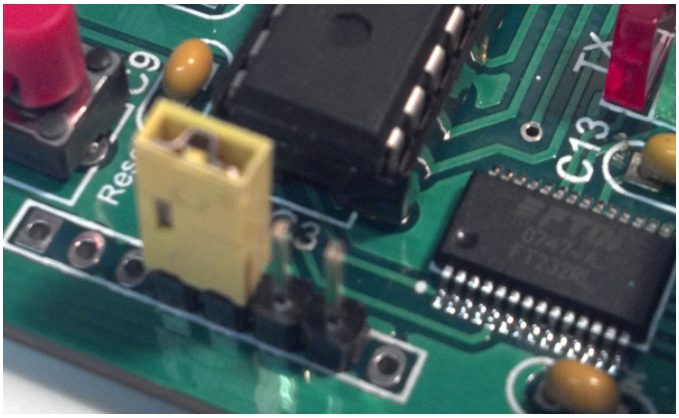


Figure 2.10: 230,400 baud rate selection

Chapter 3

Using JMRI Panel Pro

JMRI Main Screen

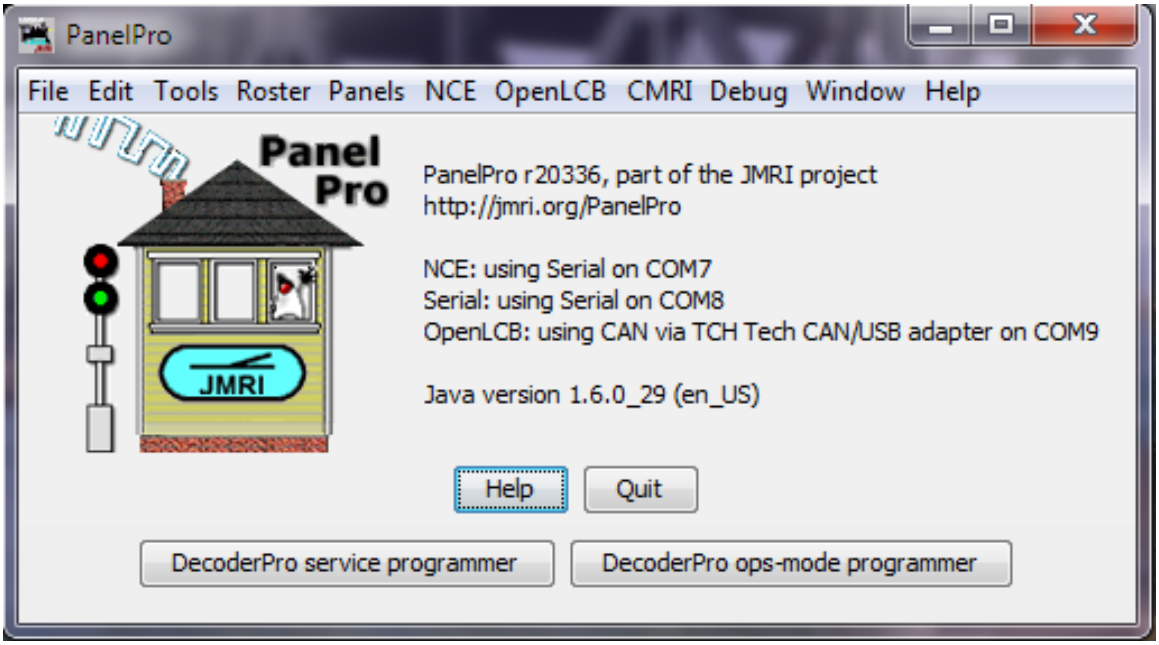


Figure 3.1: JMRI Panel Pro

3.1 JMRI Preferences

3.1.1 Connections

JMRI Preferences Screen. Select OpenLCB for your connection.

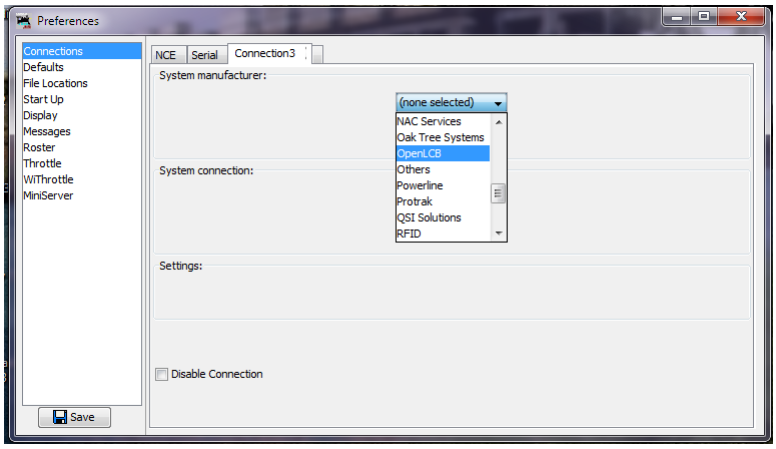


Figure 3.2: JMRI Preferences

3.1.2 TCH Tech Adapter

Select the "CAN via TCH Tech CAN/USB adapter"

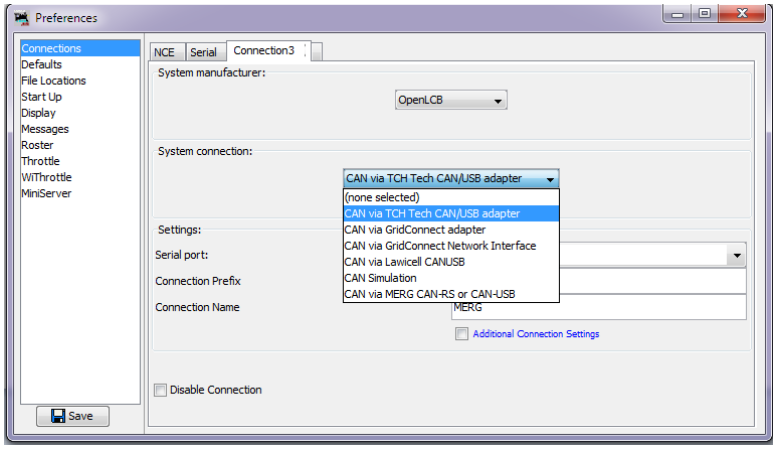


Figure 3.3: JMRI TCH Tech Adapter

3.1.3 JMRI comport

Select the “COM Port”

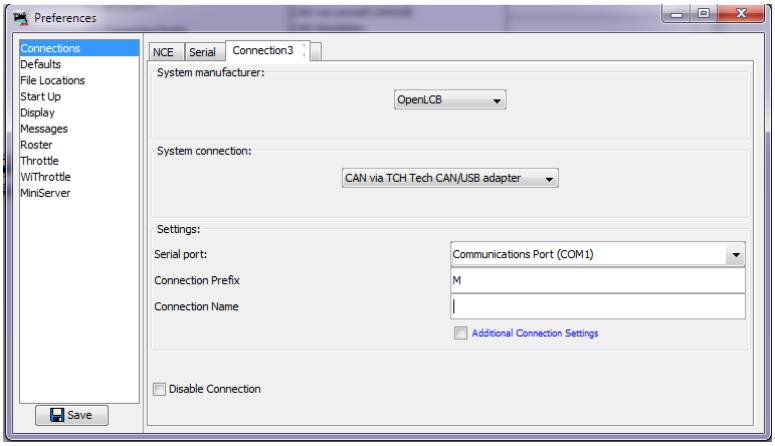


Figure 3.4: JMRI comport

3.1.4 JMRI baud rate

Type in your “Connection Name” usually “OpenLCB”. Click on the box for Additional Connection Settings. Select the “comport baud rate”

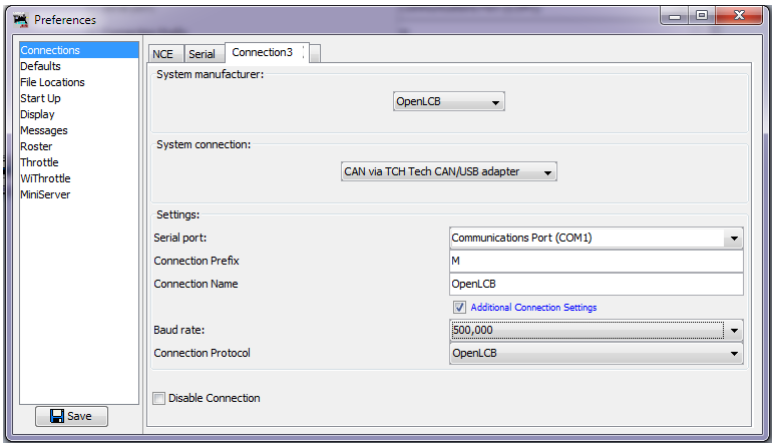


Figure 3.5: JMRI baud rate selection

3.1.5 JMRI complete

Your connection to JMRI should now be complete.

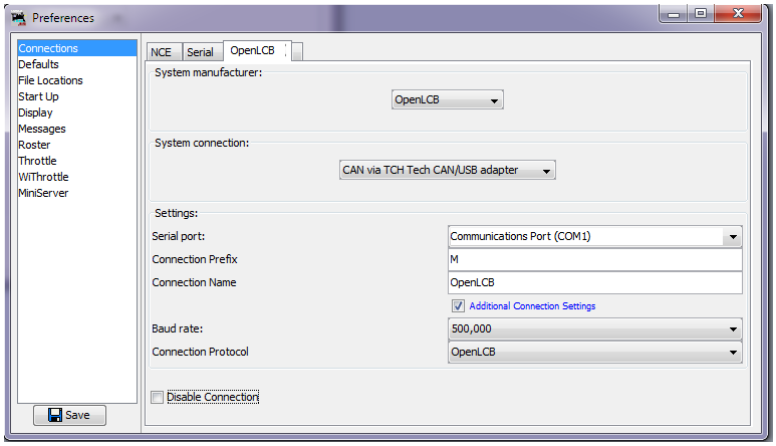


Figure 3.6: JMRI Completion

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