



G-ROM Mazda RX-8 EPAS Enabler User Manual

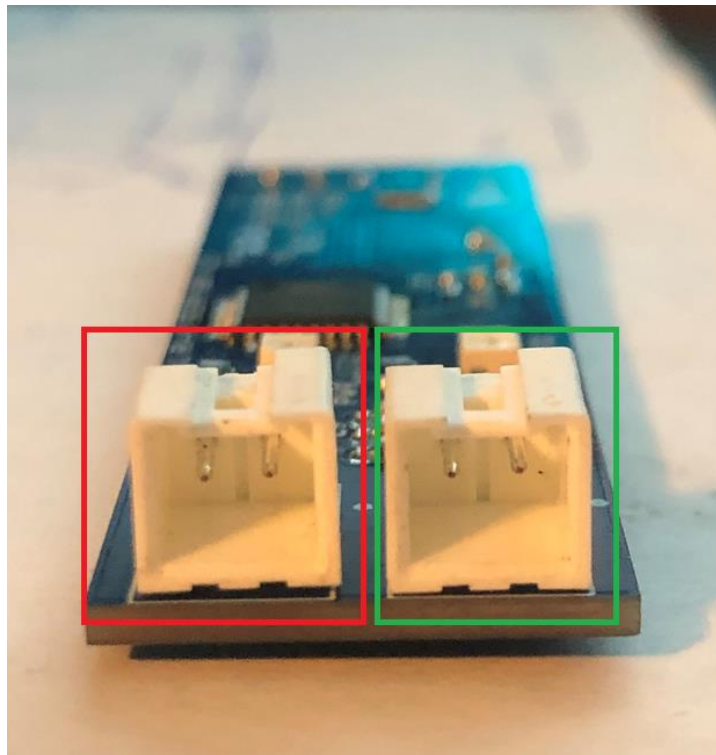
This manual will describe how to wire the G-ROM Mazda RX-8 EPAS Enabler, as well as describe limits and general usage notes. If you have any questions, feel free to send me an email (garrettgloceri@comcast.net) or a message on the G-ROM Facebook page: www.facebook.com/GROMElectronics. I'm just one dude, so like.. please be patient on a response. I promise I will get to you!

How the G-ROM RX-8 EPAS Enabler Works

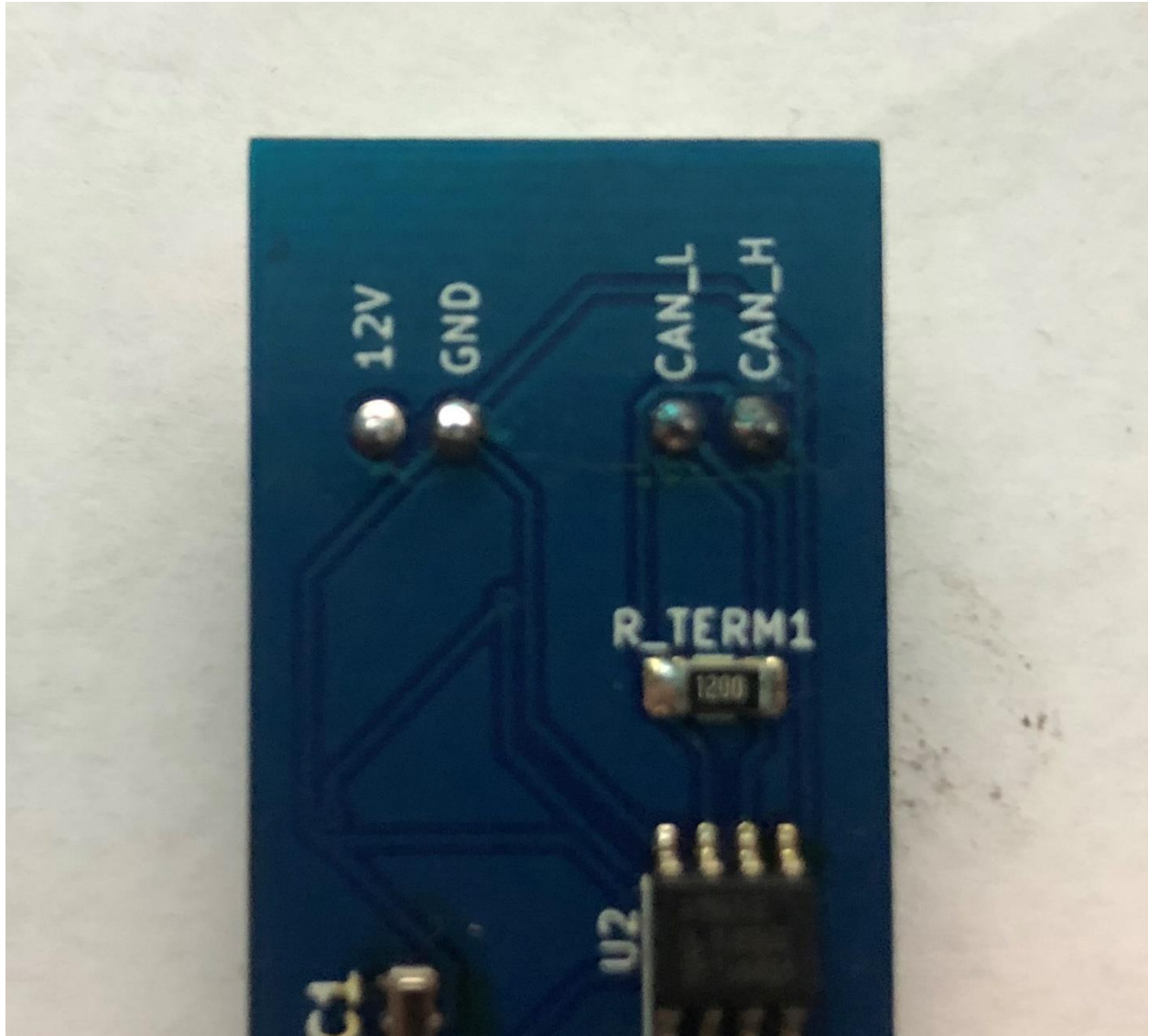
The device works by sending out the very specific CAN messages the EPS controller needs to see that would originally be sent by the OEM Mazda ECM and other powertrain/drivetrain components. This allows for the steering motor to provide steering assist to the driver without the need of a bunch of wiring and modules from the stock vehicle. The EPS system relies only on internal sensors for its use, so no other wiring needs to be plumbed to the controller and operation should be as seamless as factory. Pretty rad, eh?

Wiring and Connectors

The G-ROM RX-8 EPAS Enabler has two connectors. They are both of the same type, so care is needed in order to ensure the proper connections to the board are made. Connector one (RED) is the power connector, and connector two (GREEN) is the CAN connector. The board does have reverse polarity and CAN circuit protection, so if you DO mess up, nothing should explode... but let's not try to test if this functionality works too hard.

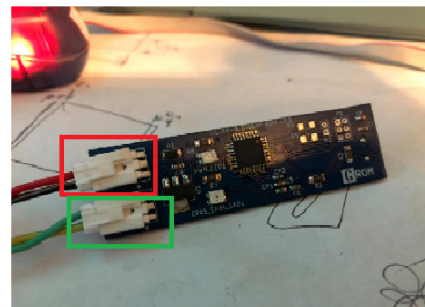
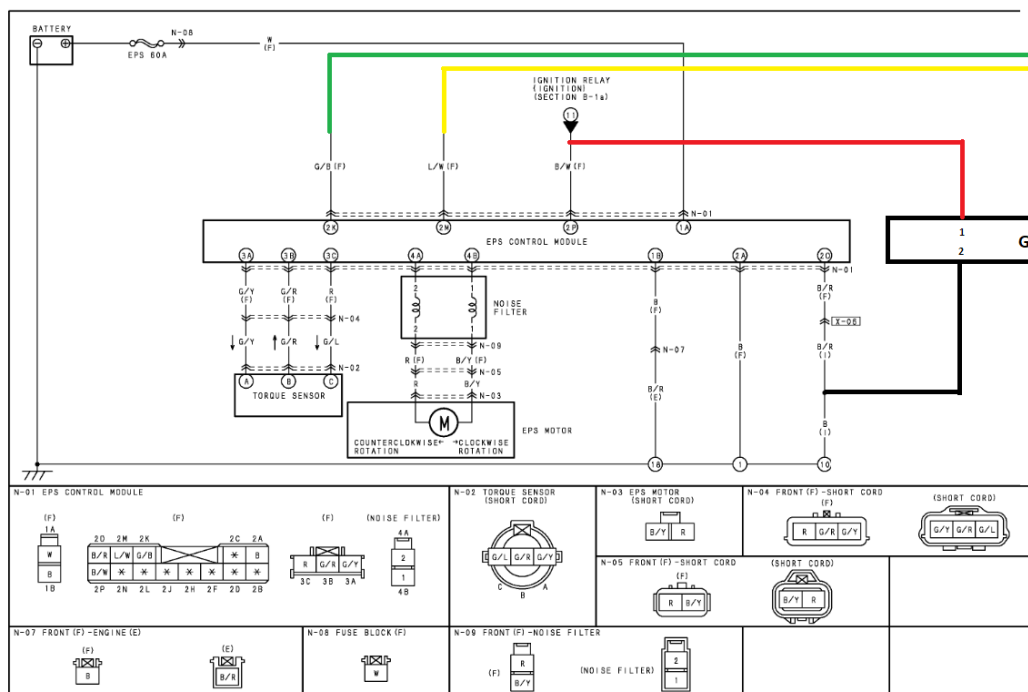


On the back of the board, a description of each pin is marked. Make sure when making connections, these are followed regardless of wire color in the provided harness.



The board is left completely open to the atmosphere to promote flexible mounting, wiring and routing. That being said, the board will need to be isolated from battery power and chassis ground in order to prevent internal board components from shorting out. Sliding the unit into shrink tube is recommended after the unit is wired in and confirmed operational. Wrapping the unit in electrical tape will suffice in a pinch. That also being said, the unit will need to be isolated from water/dirt/drifty boy tire rubber as best as possible to ensure prolonged operation.

Typical wiring application (external image file is available for closer review):



1 - RED - Switched 12V
2 - BLACK - GROUND
3 - GREEN - CAN LOW
4 - YELLOW - CAN HIGH

The unit can be tied directly to the OEM EPAS low power connector (2). Switched power and ground can be sourced elsewhere, if your application doesn't allow for this. CAN LOW should go to the EPS controller CAN LOW and CAN HIGH should go to the EPS CAN HIGH wires. These wires should NOT go to any other wiring of the OEM harness or CANbus. Let's read that sentence over again in big red text.

IT IS CRITICAL THAT THE OEM EPS CONTROLLER CAN WIRES GO DIRECTLY AND ONLY TO THE G-ROM EPAS ENABLER. FAILURE TO DO THIS CAN CAUSE DAMAGE TO OTHER VEHICLE COMPONENTS AND ERRATIC VEHICLE BEHAVIOR!

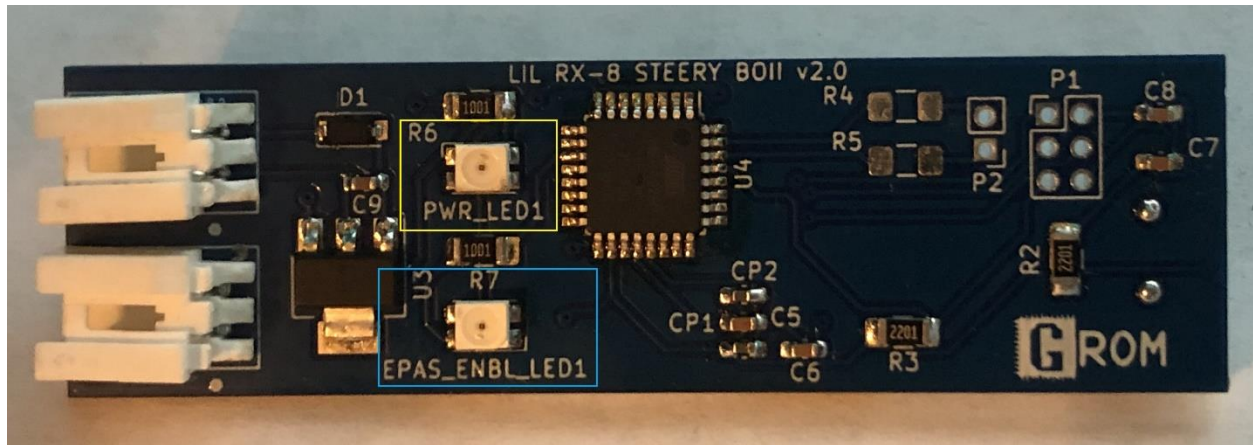
NO SERIOUSLY, THIS TEXT IS BOLD AND RED FOR A REASON! G-ROM CLUSTER FLASHING WILL TAKE NO LIABILITY FOR ANY JANKY STUFF YOU DO TO YOUR OWN VEHICLE DURING INSTALL OF THIS DEVICE!

Device Use

Okay cool, so we've got the board all wired up.. now how does it work? The unit has two LEDs (Sorry they are so bright I am reusing components here, okay!) that show the status of power, as well as the status of the electric power steering.

The power LED (YELLOW and Labeled PWR_LED1 on board) will illuminate when the device is powered on and sending out CAN messages to the EPS controller. If the light is not on, your device isn't on.

The power steering enabled LED (BLUE, and labeled EPAS_ENBL_LED1 on board) will illuminate when it receives a signal from the EPS controller that it has enabled the power steering motor, and power steering assist is active. If this LED is illuminated, you have power steering.



In a rare occasion, if the device loses connection to the EPS controller, the power steering enabled LED will turn off after 5 seconds. Power steering still may be enabled, but it cannot be guaranteed for the duration of the key cycle. To re-enable, a key cycle will be required.

That's it. That's all there is to it. Go turn some laps, burn some tires, or go killmode on that Honda that won't stop revving at you at the stoplight on your way home from work. Look, you've got power steering in your swapped RX-8 now. You can literally do anything!

****NOTE: In a typically application, power steering will be enabled, even if the vehicle's engine is off (Key is on, engine is off) and use of steering wheel without the engine running will drain the 12V system fairly quickly. Please be mindful when keeping your key on and sawing on the steering wheel from a stop. This is the high current draw the system will have.