banks

with Installation Instructions

Owner's Manual

iDash® 1.8 Super Gauge

Aftermarket ECU Supplementary Manual

For use with iDash 1.8 connected to supported aftermarket ECUs and "No OBD" configurations

THIS MANUAL IS FOR USE WITH PART NUMBER 66563 AND 66563-DL

01/07/20 **PN 97670** V.2

Introduction

This owner's manual is a supplement to the main iDash 1.8 owner's manual **(PN 97654)**. This manual covers wiring up the iDash 1.8 to aftermarket ECUs and configuring the ECU to communicate to the iDash. Please reference the main iDash owner's manual for all other iDash instructions.

Supported ECUs

Holley: ECUs that support "Racepak Dashboard" CAN configuration

Edelbrock: Pro Flo 4

Motec: M1

Motec: M400, M600, M800, M880, M84

Haltech: All CAN Bus Equipped Haltech ECUs

AEM: Infinity EMS (30-71XX), AEM V2 & EMS-4 (30-6XXX)

Link: All Link G4+ ECUs

Megasquirt: MS2, MS3, MSPNP, MS3pro, MS3Pro PNP

Emtron: ECUs with CAN output

ECU Master: EMU Series

ProEFI: Pro48, Pro128

Hondata: KPRO V4, S300 V3

MaxxECU: ECUs with CAN output

...More coming soon!

NOTE: If your ECU is not supported please email Banks Power to request support for your ECU.

Table of Contents

WIRING

Figure 1-1

Chassis Ground Ring Terminal

12Vdc Female Terminal

CAN Wire Pigtail

iDash 1.8 4-Pin Connector
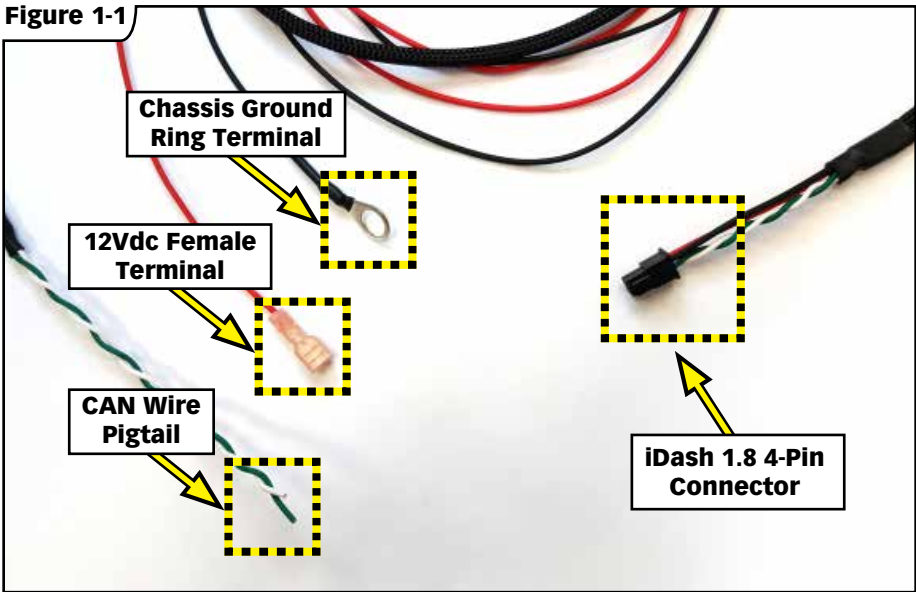
Section 1: Wiring

The included wire harness contains 4 wires: **See figure 1-1**

Red – Ignition switch, fused, +12V (9V-16V)

Black – Ground

Green – CAN Hi

White – CAN Lo

1. Red 12V wire: Find a suitable ignition switched 12V fused power source. You can used the supplied mini blade fuse tap (see figure 1-2) or tap into an existing harness wire using the provided insulated blade crimp terminal. 12V source can be from under hood or in cab. The iDash uses the 12V wire to turn on and off so it is important that the power source is ignition switched.

2. Black Ground wire: Connect the black wire with ring terminal to chassis ground. If connecting directly to the chassis, make sure the ring terminal is contacting bare metal and not a painted surface to ensure good conductivity. Alternatively, the ground wire can be connected to the negative battery terminal.

3. "No OBD" mode wiring: If you are connecting the iDash to be used in "No OBD" mode, coil up the CAN pigtail cable (green and white wires) and zip tie it out of the way. Skip to step 6.

4. Aftermarket ECU wiring: Please reference your ECU's wiring diagrams to locate the CAN Hi and CAN Lo pins. Wire in the **Green** wire of the iDash harness to the **CAN Hi** wire of your ECU harness. Wire the White wire of the iDash harness to the **CAN Lo** wire of your ECU. You can use the provided insulated crimp on butt connectors or your prefered connector of choice.

5. CAN termination: The ECU and iDash gauge communicate over CAN bus. It is important that there are exactly **2** termination resistors on the network. Some ECUs are already terminated and some are not. To check if your ECU is terminated please refer to your ECU's documentation or measure the resistance between CAN Hi and CAN Lo pins at the ECU header. If it measures around 120 ohms then it is terminated.

a) If you only have the ECU and the iDash 1.8 on the bus, install the provided Termination Cable (see figure 1-3) onto the iDash wire harness then connect the termination cable into the iDash.

b) If you have 3 or more CAN devices on the network you will need to make sure that only **2** terminations exist.

i) If only one device is terminated then install the CAN Termination Cable.

ii) If there are already two terminations on the CAN network **DO NOT** install the CAN ECU Termination Cable.

6. Secure all wires using zip ties. Be sure to keep wiring away from rotating parts, hot surfaces, and high voltage components (ignition coils, alternator and spark plug wires).

NOTE: If you want to wire additional iDash 1.8 gauges (up to 4 total), refer to the Main iDash 1.8 owner's manual (**PN 97654**) for instructions.
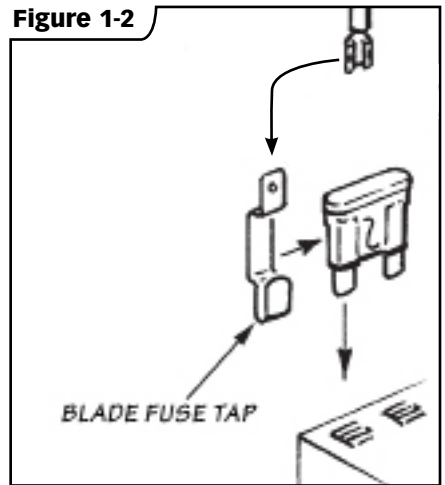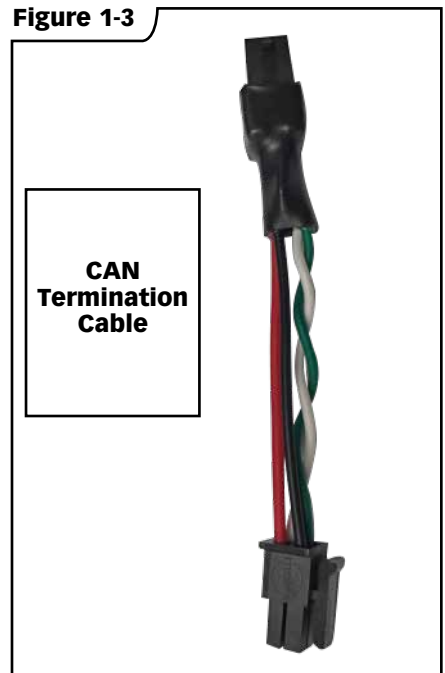
Figure 1-2

BLADE FUSE TAP

Figure 1-3

CAN Termination Cable
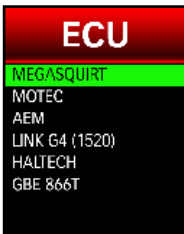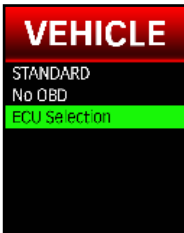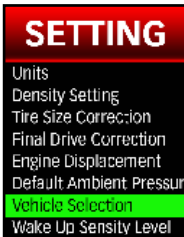
Section 2:
iDASH CONFIGURATION

iDash Configuration

1.Turn key ignition to on and press any button to wake up the iDash

2.To set up the iDash for "No OBD" mode, navigate to: **Menu -> Settings -> Vehicle Selection -> "No OBD"**

3.To set up the iDash for your aftermarket ECU, navigate to: **Menu -> Settings -> Vehicle Selection -> ECU Selection**

Then select your ECU.

4.The iDash will reset and reboot into the new protocol. This setting is saved between key cycles.

Figure 2-1

Section 3:
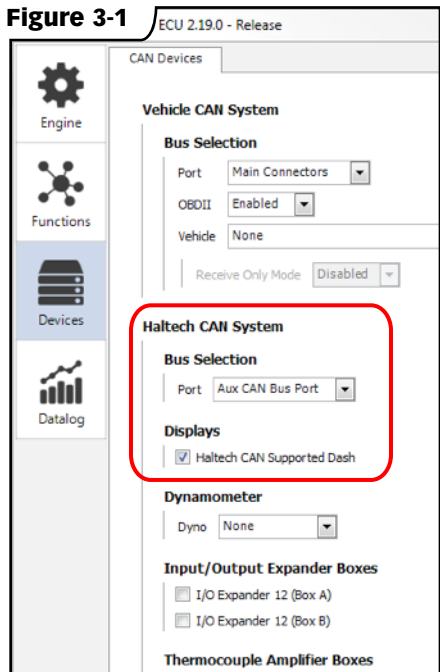## ECU CONFIGURATION

3.1: Haltech

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Haltech

Software Setup: Main Setup -> Devices

• Under "Haltech CAN System" Select the CAN port that you have wired the iDash 1.8 to.

• Enable the "Haltech CAN Supported Dash" check box.

Figure 3-1

Section 3:
ECU CONFIGURATION

3.2: Motec for M400/ M600/ M800

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Motec M3

Software Setup: Adjust -> General Setup -> Communications -> CAN Setup

- Set CAN 0 Data to "**3**"

- Set CAN 0 Address to "**232**"

- Set CAN 0 Transfer Rate to "**50**"

Figure 3-2

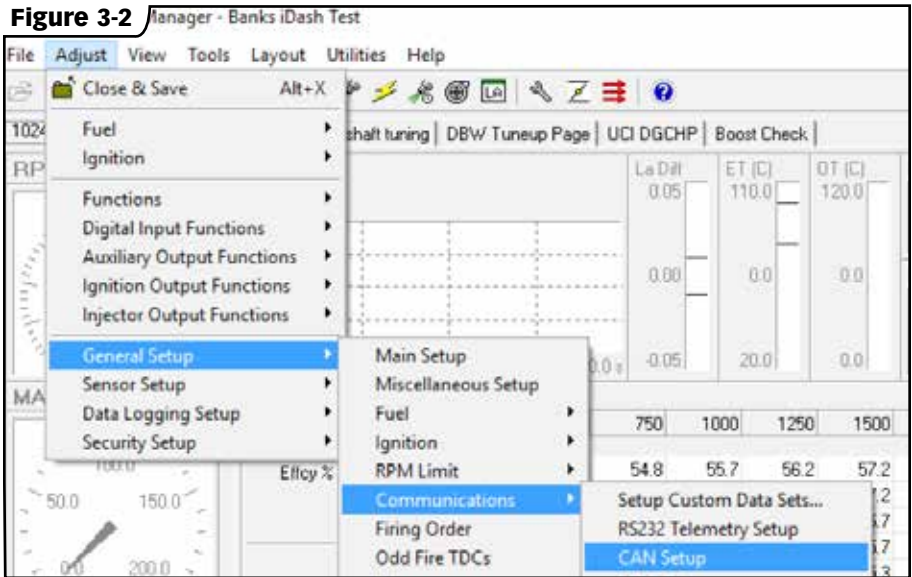**Figure 3-3**

Section 3:
ECU CONFIGURATION

3.3: Motec for M84

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Motec M3

Software Setup: Adjust -> General Setup -> Communications -> CAN Setup
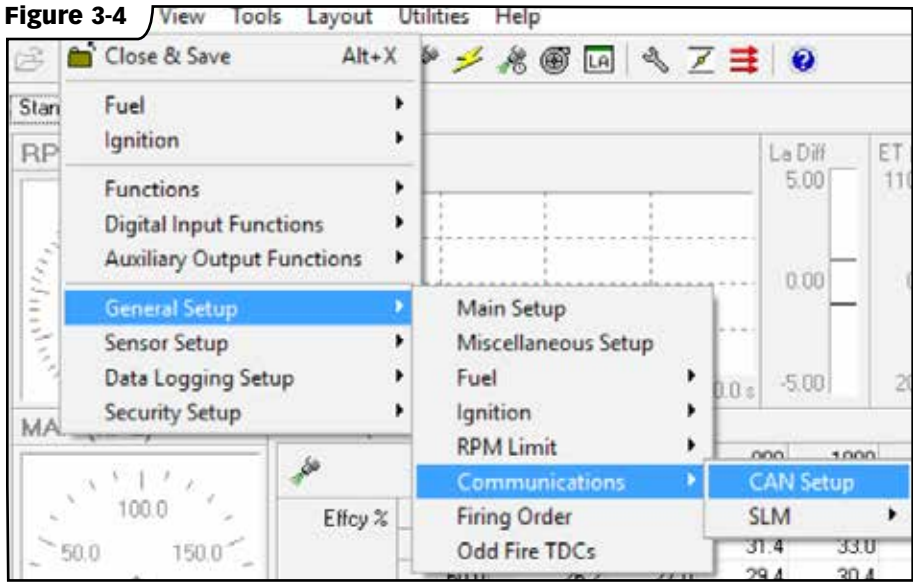
• Set Dash/Logger CAN Address to **"232"**

Figure 3-4

**Figure 3-5**

ECU CONFIGURATION

3.4: Motec for M1

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Motec M1 General

Software Setup: Adjust -> General Setup -> Communications -> CAN Setup

• In Motec M1 Tune Software navigate to the "Vehicle" settings then expand the "CAN" Settings.

• Select "Bus 1" or any other bus you want to utilize with the iDash

• Set "Mode" to "Enabled"

• Set "Speed" to "1Mbps"

Wiring Setup: Look up CAN H and CAN L wiring info for the selected CAN Bus from your ECU's manual

Figure 3-3
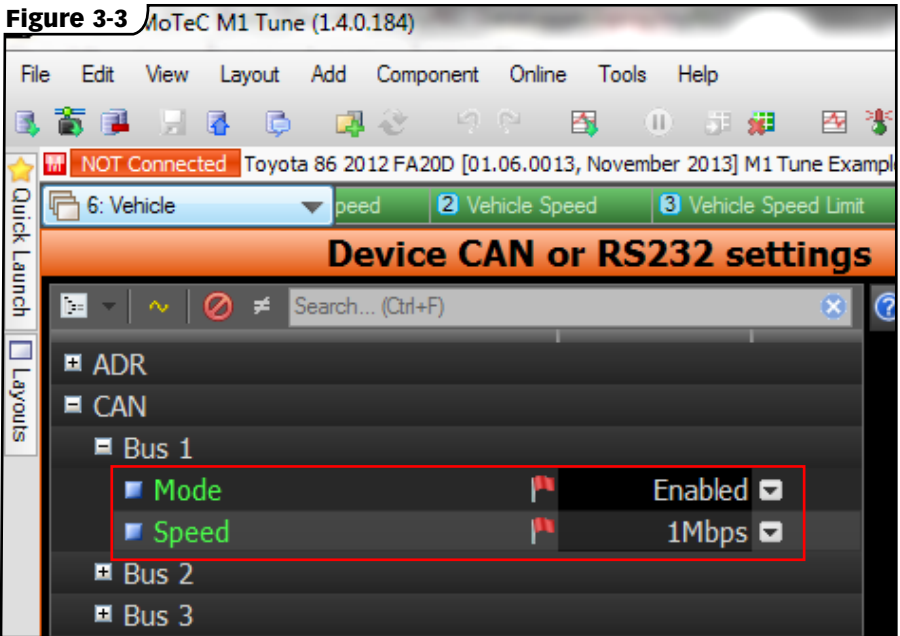
3.5: AEM

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> AEM

Software Setup: No Software configuration is required for the AEM ECUs. The CAN data broadcast is already enabled by default.

Wiring Setup: Please refer to user manual for CAN wiring pinout

Section 3:
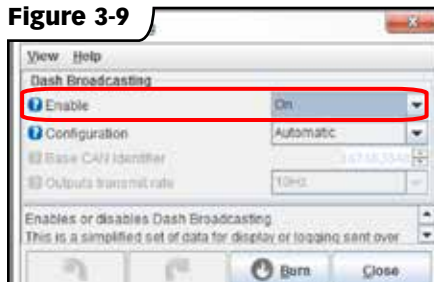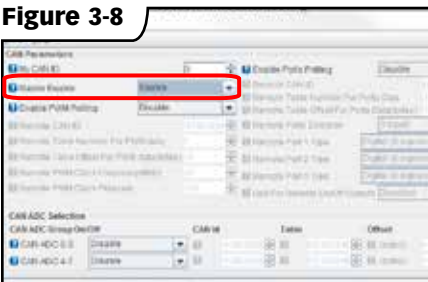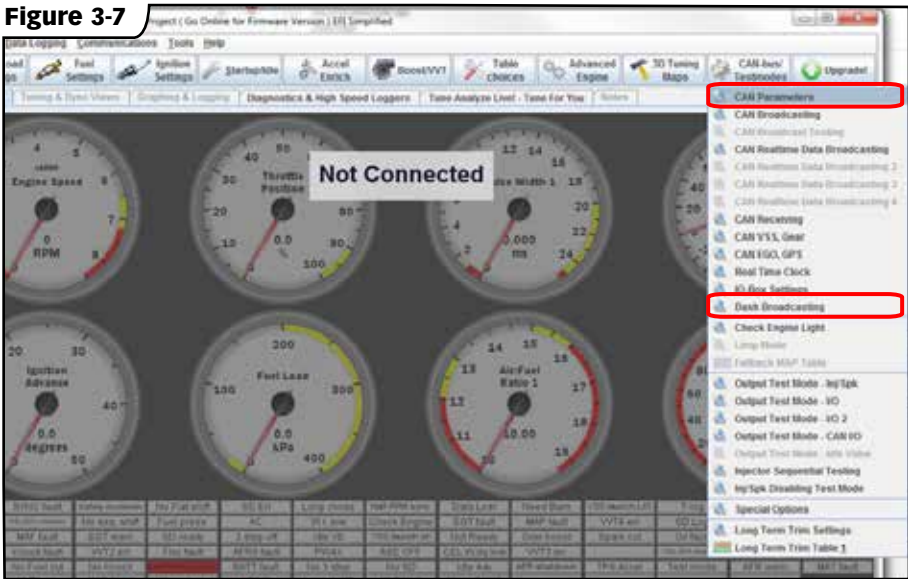# ECU CONFIGURATION

3.6: Megasquirt

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Megasquirt

Software Setup: CAN bus/Testmode -> CAN Parameters

• Set Master Enable to **"Enable"** See **Figure 3-8.**

To enable CAN Brodcasting: **CAN bus/ Testmode -> Dash Broadcasting**

• Set Enable to **"On"** See **Figure 3-9.**

Figure 3-7
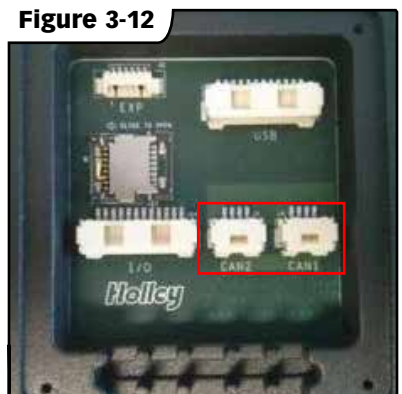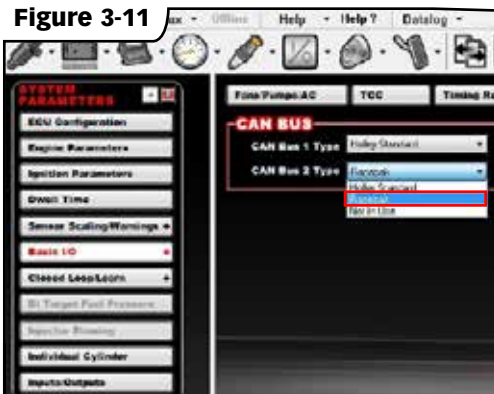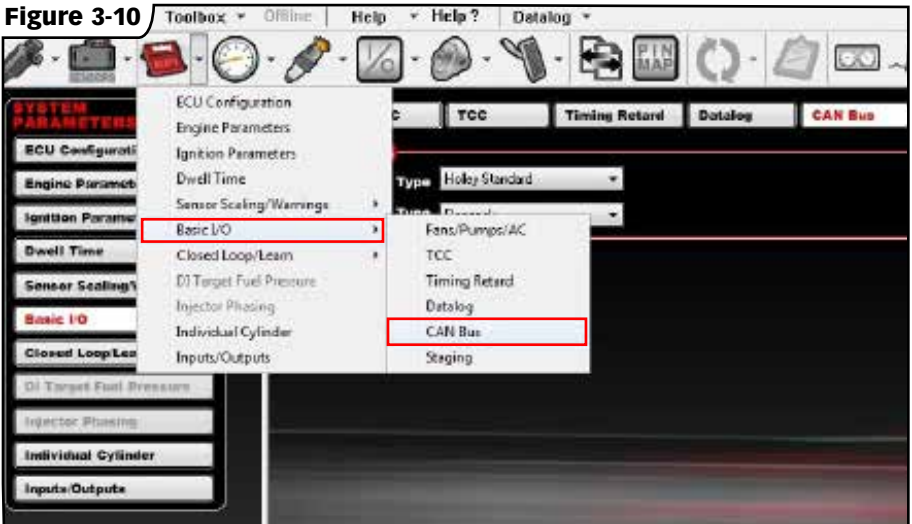

Figure 3-8

Figure 3-9

ECU CONFIGURATION

3.7: Holley EFI

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Holley

Software Setup: System ICF -> Basic I/O -> CAN Bus

- Set CAN Bus Type to "**Racepak**" for applicable Output.
  See Figure 3.11 & 3.12

Figure 3-10

Figure 3-11

Figure 3-12

Section 3:
ECU CONFIGURATION

3.8: Link G4

Wiring Setup: Refer to **Figure 3-13** to ensure the CAN Hi & Lo pins are in the correct location.

Figure 3-13

ECU	CAN Hi Pin	CAN Lo Pin
Atom 11	28	29
Storm (Black)	B27	B28
Fury	B27	B28
Xtreme	B29	B28
Thunder	D24	D25
Farce GDI	B27	B28
Kurofune	JST3	JST2
Monsoon	28	29
PlugIn ECUs	Comms 3	Comms 4

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Link G4+ (1000)

Software Setup: ECU Controls -> CAN Setup (See Figure 3-14)

- Select desired module to be used and select the "**User Defined**" mode.

- Set the Bit Rate to 1 Mbit/s, and then select a spare CAN channel

- From the drop-down mode list, select "**Transmit Generic Dash**".

- Set the CAN ID to 1000, and set the Format to "**Normal**".

- Change the Transmit Rate to **20hz**, hit **Apply**, and then **OK**. **See Figure 3-15**

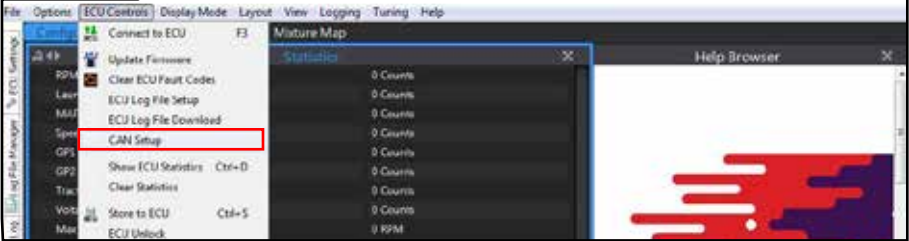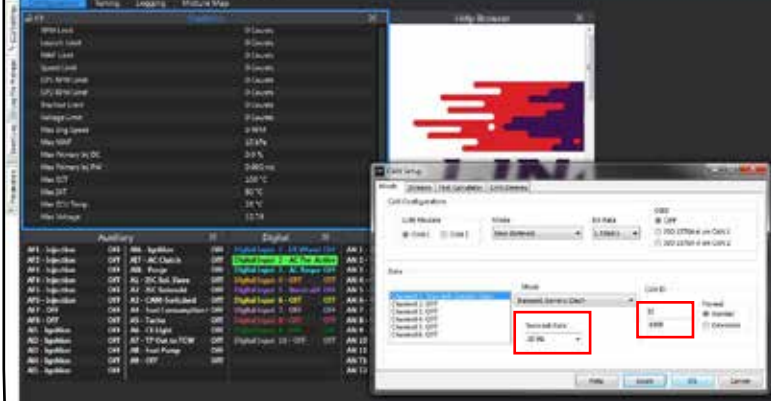- Make sure to store these setting by hitting **F4**

Figure 3-14

Figure 3-15
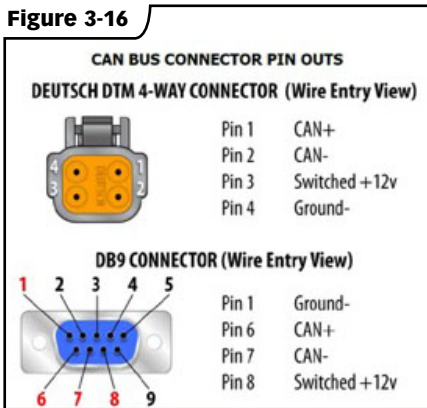
ECU CONFIGURATION

3.9: Edelbrock

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Edelbrock

Software Setup: If using firmware version v53 or later, no Software configuration is required for the Edelbrock ECUs. The CAN data stream is already active

Wiring Info: Connect green wire of the iDash harness to CAN+ and the white wire of the iDash harness to CAN-

Update: Starting early 2019, the CAN connector on all Pro-Flo 4 wiring harnesses switched from a DB9 plug to Deutsch DTM 4 pin plug. See information below regarding pin out for each connector type. Note that all future Edelbrock CAN enabled devices will use DTM type connectors and replacing the DB9 connector of your harness may be necessary.

Figure 3-16

CAN BUS CONNECTOR PIN OUTS

DEUTSCH DTM 4-WAY CONNECTOR (Wire Entry View)

Pin 1	CAN+
Pin 2	CAN-
Pin 3	Switched +12v
Pin 4	Ground-

DB9 CONNECTOR (Wire Entry View)

Pin 1	Ground-
Pin 6	CAN+
Pin 7	CAN-
Pin 8	Switched +12v

Section 3:
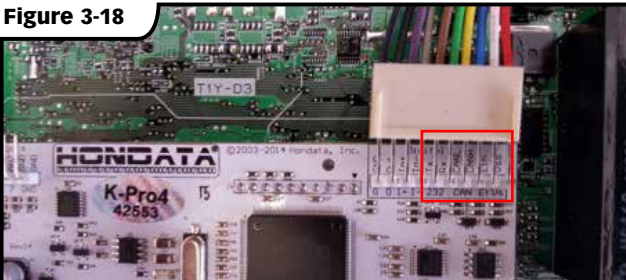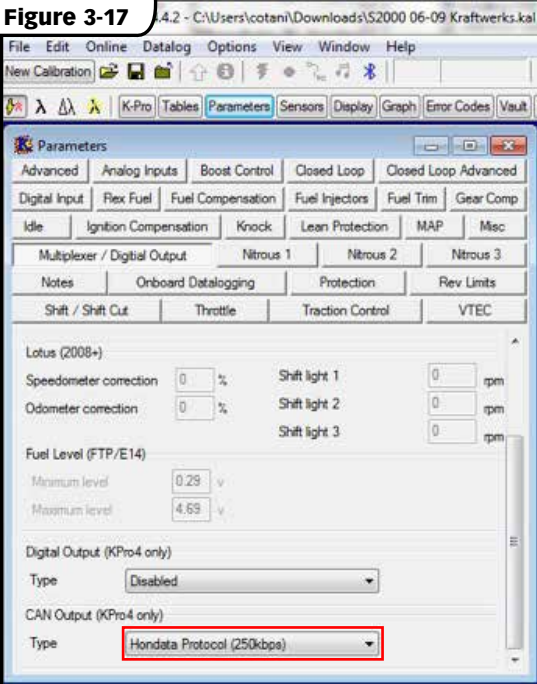# ECU CONFIGURATION

3.10: Hondata Kpro/ Kmanager

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Hondata

Software Setup: Parameters -> Multiplexer/Digital Output -> CAN Output (KPro4 only)

• Set **"Type"** to **"Hondata Protocol (250kbps)"**

Wiring info: Connect green wire of the iDash harness to CANH and the white wire of the iDash harness to CANL

NOTE: Hondata Kpro does not have an internal termination resistor. The Banks Inline Termination cable must be used.

Figure 3-17

Figure 3-18

ECU CONFIGURATION

3.11: Hondata S300/ SManager

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> Hondata

**NOTE:** S300 V3 only (white board)

Software Setup: To configure the ECU CAN Output: Parameters -> Digital Input/ Output -> CAN Output (S300 V3 only)

• Set "**Frequency**" to "**1000**"

Wiring Info: Connect green wire of the iDash harness to CANH and the white wire of the iDash harness to CANL

NOTE: If it doesn't work try swapping CAN HI/CAN LO

NOTE: Hondata Spro does not have an internal termination resistor. The Banks Inline Termination cable must be used.

Figure 3-19

Figure 3-20
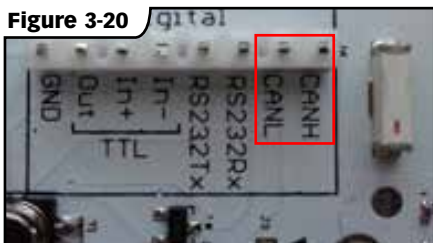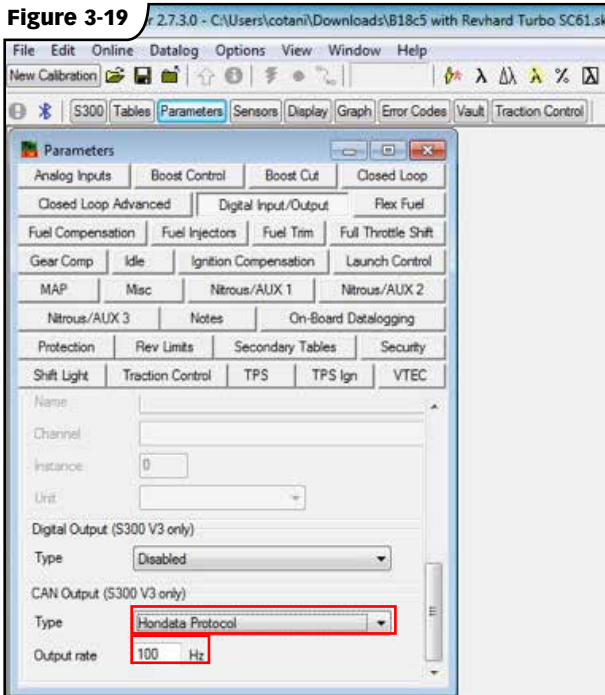
Section 3:
ECU CONFIGURATION

3.12: MaxxECU

iDash Setup: Menu -> Settings -> Vehicle Selection -> Aftermarket ECU -> MAXX ECU
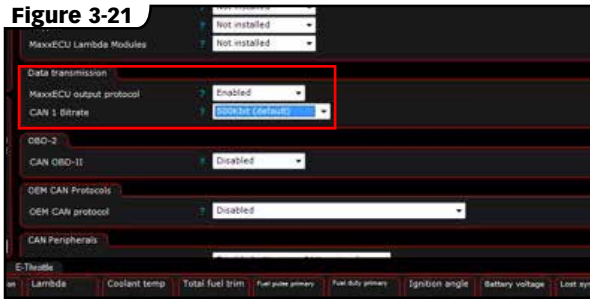
Software Setup: To configure the ECU CAN Output: CAN Bus -> CAN Settings -> Data Transmission

• Set "**MaxxECU**" output protocol to "**Enabled**"

• Set "**CAN 1 Botrate**" to "**500kbit (default)**"

Wiring info: Visit http://www.maxxecu.com/webhelp/wirings-maxxecu_pinout.html to find the CAN bus pins for your specific ECU.

NOTE: CAN is internally terminated in ECU

Figure 3-21

Section 4:
TROUBLESHOOTING:

4.1: iDash is not powering on

1. With ignition in the on position and the iDash plugged in, press any button to wake up the iDash.

2. If the iDash does not wake up, use a multimeter to confirm that there is 12V between the black and red wires at the 4 pin connector.

3. If there is no power, check the fuse on the line the Red wire is connected to and replace if blown. Check that the Ground wire has good connection to the Chassis. Make sure it is connected to bare metal and not a painted surface.

4.2: No Communication with ECU

1. Make sure the iDash 1.8 is configured for your ECU. *See section 2*.

2. Make sure your ECU is configured properly to broadcast data to the iDash. See section 3.

3. Make sure CAN Hi and CAN Lo are properly connected. *See section 1*. Confirm wire pinout is correct using your ECU's wiring diagram documentation. Check termination to make sure there are two CAN terminations on the network. If you have CAN devices on the same network other than the ECU and iDash 1.8, temporarily disconnect the other CAN devices to troubleshoot.