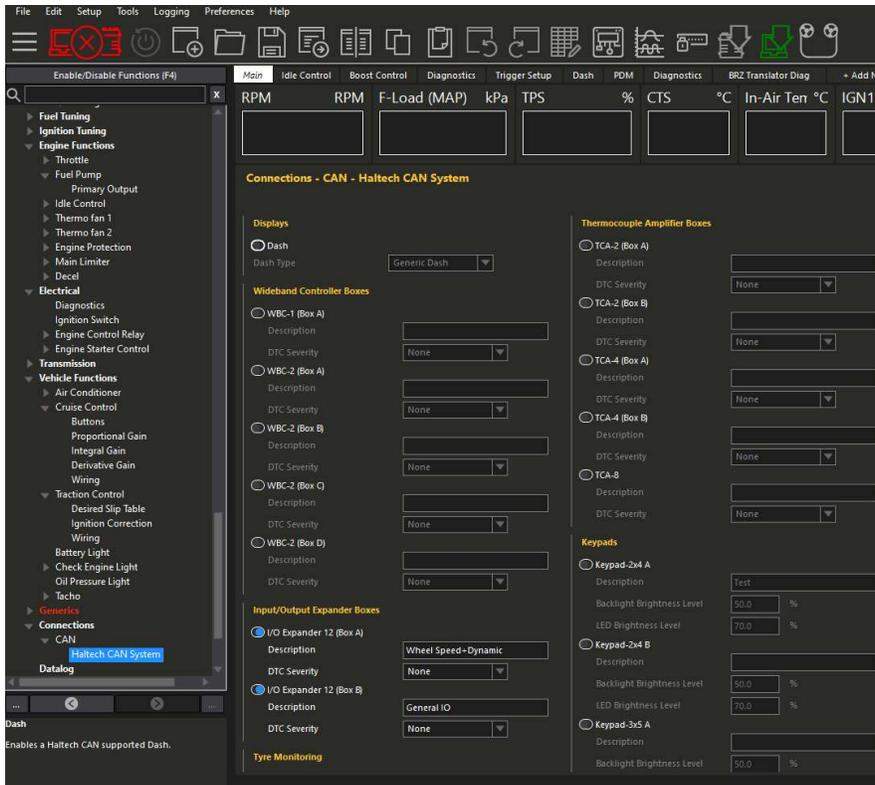
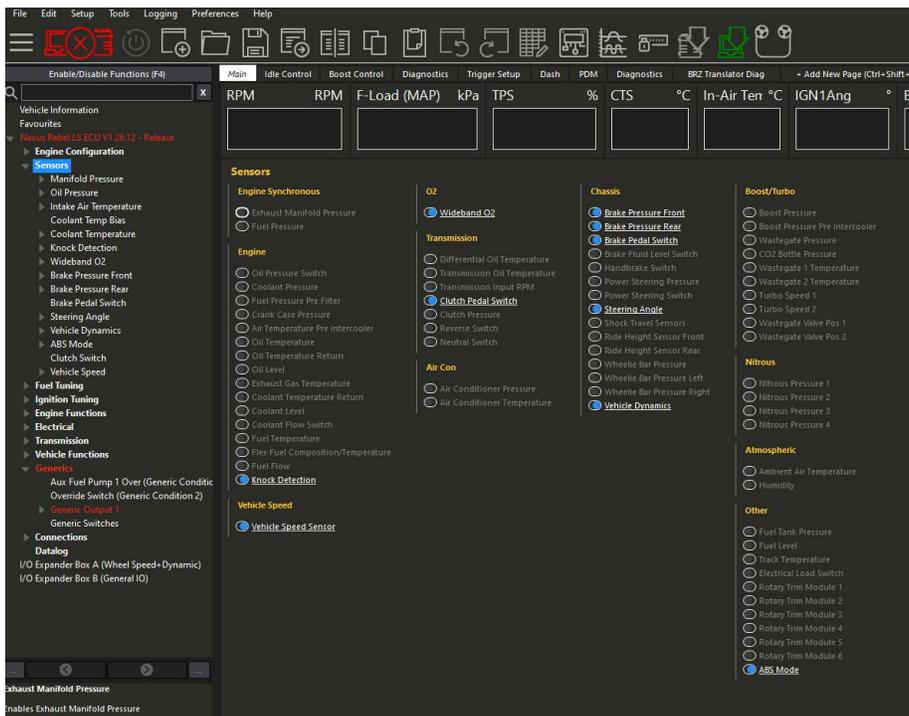


AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications



First of all you need to add the two I/O expander boxes (A+B). The translator emulates the two Haltech expander boxes to provide the Inputs/Outputs to/from the Haltech to the BRZ/GT86 With inputs including wheel speeds, G Force and Steering Angle (from ABS). Also START request, AC request, Cruise switch and clutch switch. Haltech Outputs include AC Compressor Command and Starter Relay.



Toggle options for Clutch Pedal, Braker Pressure, Steering angle, Vehicle Dynamics and ABS Mode (ABS mode is the mode of the OEM ABS unit from the user buttons (Normal, Sport VDC OFF etc)).

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

The screenshot displays the Haltech software interface for configuring a Brake Pressure Front sensor. The left sidebar shows a tree view of vehicle settings, with 'Brake Pressure Front' selected under 'Sensors'. The main panel shows configuration fields for 'Switch Threshold' (2000.0 kPa), 'Hard Braking Threshold' (5000.0 kPa), and 'Hysteresis' (100.0 kPa (Abs.)). Below these are buttons for 'Load from File', 'Save to File', 'Insert Column', 'Delete Selected Columns', and 'Linearise Selected Cells'. A table shows the linearization mapping:

Volts	0.00	3.00
kPa	0.0	20000.0

At the bottom, a graph shows a linear relationship between voltage (0.00 to 3.00) and pressure (0.0 to 20000.0 kPa). The y-axis labels are: 0.0, 1176.4, 2352.9, 3529.4, 4705.8, 5882.3, 7058.8, 8235.2, 9411.7, 10588.2, 11764.7, 12941.1, 14117.6, 15294.1, 16470.5, 17647.0, 18823.5, 20000.0.

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

The screenshot shows the Haltech software interface with the 'Main' tab selected. The top menu bar includes File, Edit, Setup, Tools, Logging, Preferences, and Help. Below the menu is a toolbar with various icons. The main window is divided into several sections:

- Vehicle Information:** Includes a search bar and a list of favourites, with 'Nexus Rebel LS ECU V1.26.12 - Release' selected.
- Engine Configuration:** A tree view showing various sensor and diagnostic options. 'Sensors' is expanded, and 'Brake Pressure Front' is selected, with 'Wiring' highlighted.
- Sensors - Brake Pressure Front - Wiring:** The main configuration area. It shows 'Options' with 'Input Type' set to 'Analogue - Voltage'. Under 'Connections', 'Front Brake Pressure Input' is assigned to 'IOB AVI 2' (IO/R, P19). There are 'Assign' and 'Clear' buttons, and a 'Pull Up' dropdown menu set to 'Disable'.
- Dashboard:** A row of empty boxes for monitoring RPM, F-Load (MAP), kPa, TPS, %, CTS, °C, In-Air Ten °C, and IGN.

This screenshot is similar to the one above, but it shows the configuration for the rear brake pressure sensor. The 'Main' tab is still selected, and the 'Wiring' option under 'Brake Pressure Rear' is highlighted in the tree view.

- Sensors - Brake Pressure Rear - Wiring:** The main configuration area. It shows 'Options' with 'Input Type' set to 'Analogue - Voltage'. Under 'Connections', 'Rear Brake Pressure Input' is assigned to 'IOB AVI 3' (IO/R, P18). There are 'Assign' and 'Clear' buttons, and a 'Pull Up' dropdown menu set to 'Disable'.

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

The screenshot displays the Haltech software interface for configuring a vehicle's sensors. The top menu bar includes File, Edit, Setup, Tools, Logging, Preferences, and Help. Below the menu is a toolbar with various icons for file operations and system functions. The main window is divided into several sections:

- Left Panel (Vehicle Information):** A tree view showing the configuration structure for a "Nexus Rebel LS ECU V1.26.12 - Release". The "Sensors" category is expanded, and "Brake Pedal Switch" is highlighted in blue.
- Top Panel (Main):** A row of tabs for different vehicle parameters: RPM, RPM, F-Load (MAP), kPa, TPS, %, CTS, °C, and In-Air Ten °C. Each tab has a corresponding empty data field below it.
- Center Panel (Sensors - Brake Pedal Switch):** The active configuration screen for the Brake Pedal Switch. It shows:
 - Connections:** A section with a sub-label "Brake Pedal Switch 1 Input" and a "THROT / IAC 3" indicator.
 - Active State:** A dropdown menu currently set to "High".
 - Visual Feedback:** A horizontal bar with a green-to-red gradient, indicating the current state of the switch.

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

File Edit Setup Tools Logging Preferences Help

Enable/Disable Functions (F4) Main Idle Control Boost Control Diagnostics Trigger Setup Dash PDM Diagnostics BRZ Translator Diag

Vehicle Information
Favourites
Nexus Rebel LS ECU V1.26.12 - Release

Engine Configuration

Sensors

- Manifold Pressure
- Oil Pressure
- Intake Air Temperature
- Coolant Temp Bias
- Coolant Temperature
- Knock Detection
- Wideband O2
- Brake Pressure Front
 - Diagnostics
 - Wiring
- Brake Pressure Rear
- Brake Pedal Switch
- Steering Angle
 - Diagnostics
 - Wiring
- Vehicle Dynamics
- ABS Mode
- Clutch Switch
- Vehicle Speed

Fuel Tuning

Ignition Tuning

Engine Functions

Electrical

Transmission

Vehicle Functions

Generics

- Aux Fuel Pump 1 Over (Generic Condition)
- Override Switch (Generic Condition 2)
- Generic Output 1
- Generic Switches

Connections

Datalog

I/O Expander Box A (Wheel Speed+Dynamic)

I/O Expander Box B (General IO)

RPM RPM F-Load (MAP) kPa TPS % CTS °C In-Air Ten °C

Sensors - Steering Angle

Load from File Save to File Insert Column Delete Selected Columns Linearise Selected Cells

Volts	0.68	2.50	4.32
*	-300.0	0.0	300.0

File Edit Setup Tools Logging Preferences Help

Enable/Disable Functions (F4) Main Idle Control Boost Control Diagnostics Trigger Setup Dash PDM Diagnostics BRZ Translator Diag

Vehicle Information
Favourites
Nexus Rebel LS ECU V1.26.12 - Release

Engine Configuration

Sensors

- Manifold Pressure
- Oil Pressure
- Intake Air Temperature
- Coolant Temp Bias
- Coolant Temperature
- Knock Detection
- Wideband O2
- Brake Pressure Front
 - Diagnostics
 - Wiring
- Brake Pressure Rear
- Brake Pedal Switch
- Steering Angle
 - Diagnostics
 - Wiring
- Vehicle Dynamics
- ABS Mode
- Clutch Switch
- Vehicle Speed

Fuel Tuning

Ignition Tuning

Engine Functions

Electrical

Transmission

Vehicle Functions

Generics

- Aux Fuel Pump 1 Over (Generic Condition)
- Override Switch (Generic Condition 2)
- Generic Output 1
- Generic Switches

Connections

Datalog

I/O Expander Box A (Wheel Speed+Dynamic)

I/O Expander Box B (General IO)

RPM RPM F-Load (MAP) kPa TPS % CTS °C In-Air Ten °C

Sensors - Steering Angle - Wiring

Options

Input Type: Analogue - Voltage

Connections

Steering Angle Input [Assign] IOB AVI 4 [Clear]

Pull Up: Disable

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

File Edit Setup Tools Logging Preferences Help

Enable/Disable Functions (F4)

Vehicle Information
Favourites
Nexus Rebel L5 ECU V1.26.12 - Release

- Engine Configuration
 - Sensors
 - Manifold Pressure
 - Oil Pressure
 - Intake Air Temperature
 - Coolant Temp Bias
 - Coolant Temperature
 - Knock Detection
 - Wideband O2
 - Brake Pressure Front
 - Diagnostics
 - Wiring
 - Brake Pressure Rear
 - Brake Pedal Switch
 - Steering Angle
 - Diagnostics
 - Wiring
 - Vehicle Dynamics**
 - Diagnostics
 - Lateral G
 - Longitudinal G
 - G-Force Filter
 - Yaw Rate
 - Angular Rate Filter
 - Wiring
 - ABS Mode
 - Clutch Switch
 - Vehicle Speed
 - Fuel Tuning
 - Ignition Tuning
 - Engine Functions
 - Electrical
 - Transmission
 - Vehicle Functions
 - Generics
 - Aux Fuel Pump 1 Over (Generic Con...

Main | Idle Control | Boost Control | Diagnostics | Trigger Setup | Dash | PDM | Diagnostics | BRZ Translator Diag

RPM RPM F-Load (MAP) kPa TPS % CTS °C In-Air Tem °C

Sensors - Vehicle Dynamics

Accel (G) Sensor Enables Angular Rate Sensor Enables

Lateral G Pitch Rate
 Longitudinal G Roll Rate
 Vertical G Yaw Rate

File Edit Setup Tools Logging Preferences Help

Enable/Disable Functions (F4)

Vehicle Information
Favourites
Nexus Rebel L5 ECU V1.26.12 - Release

- Engine Configuration
 - Sensors
 - Manifold Pressure
 - Oil Pressure
 - Intake Air Temperature
 - Coolant Temp Bias
 - Coolant Temperature
 - Knock Detection
 - Wideband O2
 - Brake Pressure Front
 - Diagnostics
 - Wiring
 - Brake Pressure Rear
 - Brake Pedal Switch
 - Steering Angle
 - Diagnostics
 - Wiring
 - Vehicle Dynamics**
 - Diagnostics
 - Lateral G**
 - Longitudinal G
 - G-Force Filter
 - Yaw Rate
 - Angular Rate Filter
 - Wiring
 - ABS Mode
 - Clutch Switch
 - Vehicle Speed
 - Fuel Tuning
 - Ignition Tuning
 - Engine Functions
 - Electrical
 - Transmission
 - Vehicle Functions
 - Generics
 - Aux Fuel Pump 1 Over (Generic Con...

Main | Idle Control | Boost Control | Diagnostics | Trigger Setup | Dash | PDM | Diagnostics | BRZ Translator Diag

RPM RPM F-Load (MAP) kPa TPS % CTS °C In-Air Tem °C

Sensors - Vehicle Dynamics - Lateral G

Load from File Save to File Insert Column Delete Selected Columns Linearise Selected Cells

Volts	0.00	2.50	5.00
m/s ²	-25.0	0.0	25.0

25.0
22.0
19.1
16.1
13.2
10.2
7.3
4.4
1.4
-1.5
-4.5
-7.4
-10.3
-13.3
-16.2
-19.2
-22.1
-25.0

0.00 2.50 5.00

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

File Edit Setup Tools Logging Preferences Help

Enable/Disable Functions (F4)

Vehicle Information
Favourites
Nexus Rebel LS ECU V1.26.12 - Release

Engine Configuration

Sensors

- Manifold Pressure
- Oil Pressure
- Intake Air Temperature
- Coolant Temp Bias
- Coolant Temperature
- Knock Detection
- Wideband O2
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- Brake Pedal Switch
- Steering Angle
 - Diagnostics
 - Wiring
- Vehicle Dynamics
 - Diagnostics
 - Lateral G
 - Longitudinal G**
 - G-Force Filter
 - Yaw Rate
 - Angular Rate Filter
 - Wiring
- ABS Mode
- Clutch Switch
- Vehicle Speed

Fuel Tuning

Ignition Tuning

Engine Functions

Electrical

Transmission

Vehicle Functions

Generics

Aux Fuel Pump 1 Over (Generic Cont...

Main Idle Control Boost Control Diagnostics Trigger Setup Dash PDM Diagnostics BRZ Translator Diag

RPM RPM F-Load (MAP) kPa TPS % CTS °C In-Air Ten °C

Sensors - Vehicle Dynamics - Longitudinal G

Load from File Save to File Insert Column Delete Selected Columns Linearise Selected Cells

	0.00	2.50	5.00
Volts	0.00	2.50	5.00
m/s ²	12.5	0.0	-12.5

File Edit Setup Tools Logging Preferences Help

Enable/Disable Functions (F4)

Vehicle Information
Favourites
Nexus Rebel LS ECU V1.26.12 - Release

Engine Configuration

Sensors

- Manifold Pressure
- Oil Pressure
- Intake Air Temperature
- Coolant Temp Bias
- Coolant Temperature
- Knock Detection
- Wideband O2
- Brake Pressure Front
 - Diagnostics
 - Wiring
- Brake Pressure Rear
- Brake Pedal Switch
- Steering Angle
 - Diagnostics
 - Wiring
- Vehicle Dynamics
 - Diagnostics
 - Lateral G
 - Longitudinal G
 - G-Force Filter
 - Yaw Rate**
 - Angular Rate Filter
 - Wiring
- ABS Mode
- Clutch Switch
- Vehicle Speed

Fuel Tuning

Ignition Tuning

Engine Functions

Electrical

Transmission

Vehicle Functions

Generics

Aux Fuel Pump 1 Over (Generic Cont...

Main Idle Control Boost Control Diagnostics Trigger Setup Dash PDM Diagnostics BRZ Translator Diag

RPM RPM F-Load (MAP) kPa TPS % CTS °C In-Air Ten °C

Sensors - Vehicle Dynamics - Yaw Rate

Load from File Save to File Insert Column Delete Selected Columns Linearise Selected Cells

	1.81	2.50	3.19
Volts	1.81	2.50	3.19
°/sec	-150.0	0.0	150.0

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

The screenshot shows the Haltech software interface with the 'Sensors - Vehicle Dynamics - Wiring' configuration page. The left sidebar contains a tree view of system components, with 'Wiring' under 'Vehicle Dynamics' selected. The main panel displays the following settings:

- Options:**
 - Lateral G Input Type: Analogue - Voltage
 - Longitudinal G Input Type: Analogue - Voltage
 - Vertical G Input Type: (empty)
 - Pitch Rate Input Type: (empty)
 - Roll Rate Input Type: (empty)
 - Yaw Rate Input Type: Analogue - Voltage
- Connections:**
 - Lateral G Input:** Assign: IOA AVI 2 [O/B], P19; Clear: (button); Pull Up: Disable
 - Longitudinal G Input:** Assign: IOA AVI 3 [O/R], P18; Clear: (button); Pull Up: Disable
 - Yaw Rate Input:** Assign: IOA AVI 4 [O/M], P17; Clear: (button); Pull Up: Disable

The screenshot shows the Haltech software interface with the 'Sensors - ABS Mode' configuration page. The left sidebar shows 'ABS Mode' selected under 'Vehicle Dynamics'. The main panel displays the following settings:

- Remember Position:** (radio button)
- Input Style:** Single Input
- Max Position:** 3
- Input Light Mode:** Dot
- Input Light Direction:** Forward

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

Sensors - ABS Mode - Calibration

Volts	0.49	0.87	1.25	1.64	2.02	2.40	2.78	3.17	3.55	3.93	4.32
Positor	12	11	10	9	8	7	6	5	4	3	2

The graph shows a linear relationship between voltage (0.49V to 4.32V) and position (12 to 2). The y-axis ranges from 1 to 12, and the x-axis ranges from 0.49 to 4.70.

Sensors - ABS Mode - Wiring

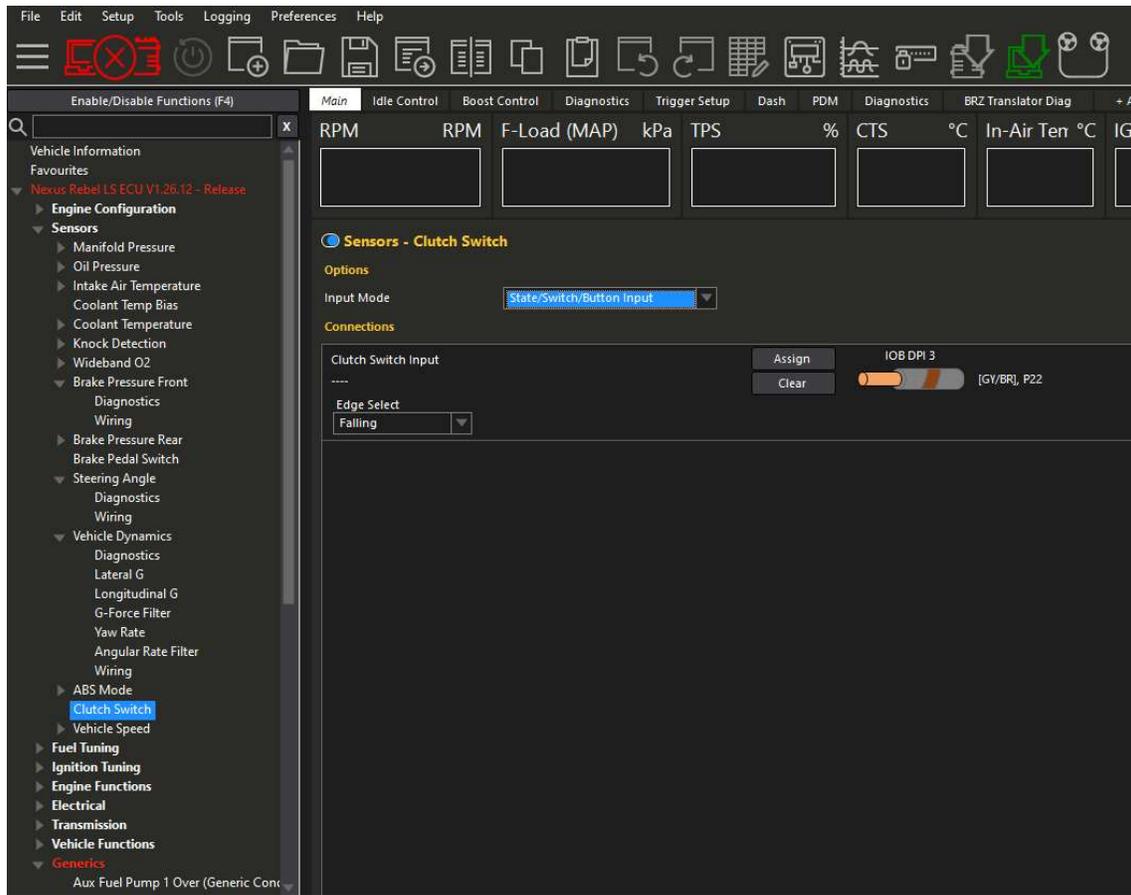
Options

Input Type: **Analogue - Voltage**

Connections

ABS Mode Input: [Assign] IOA AW1 1 [Clear] [IO/G], P20

Pull Up: Disable



AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

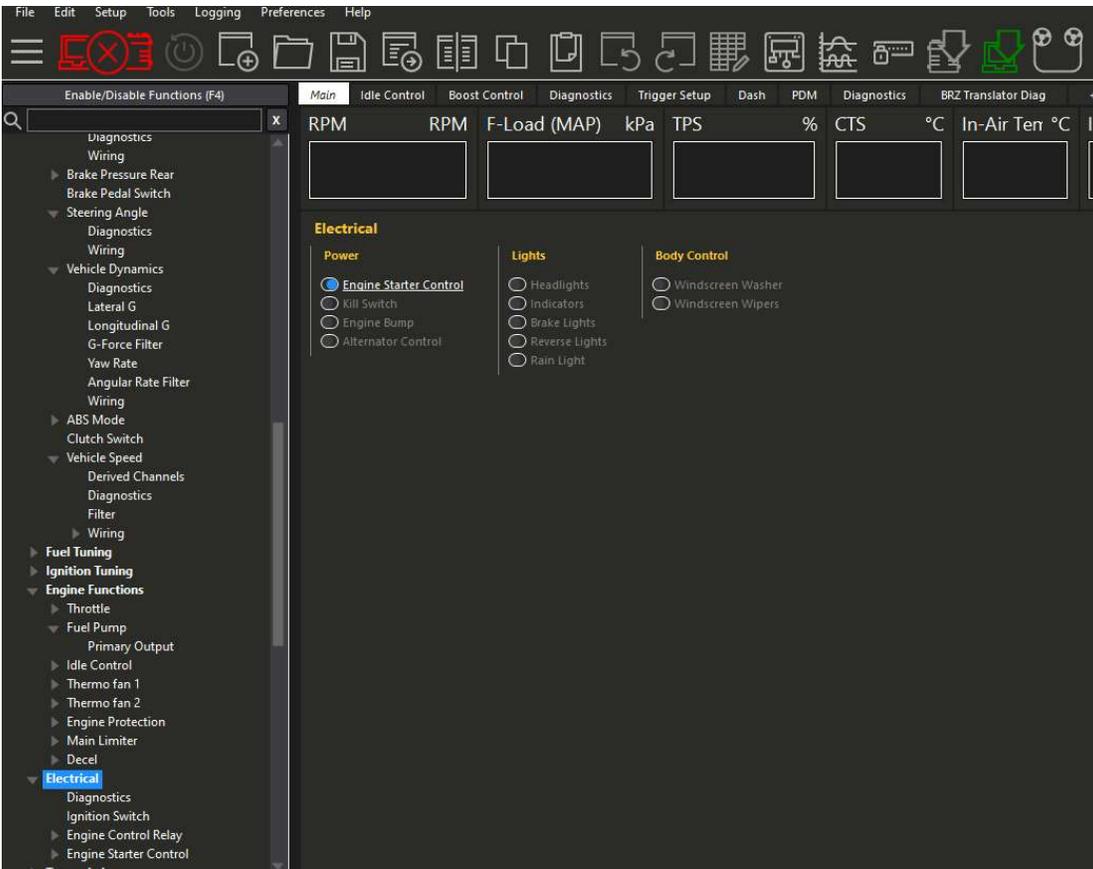
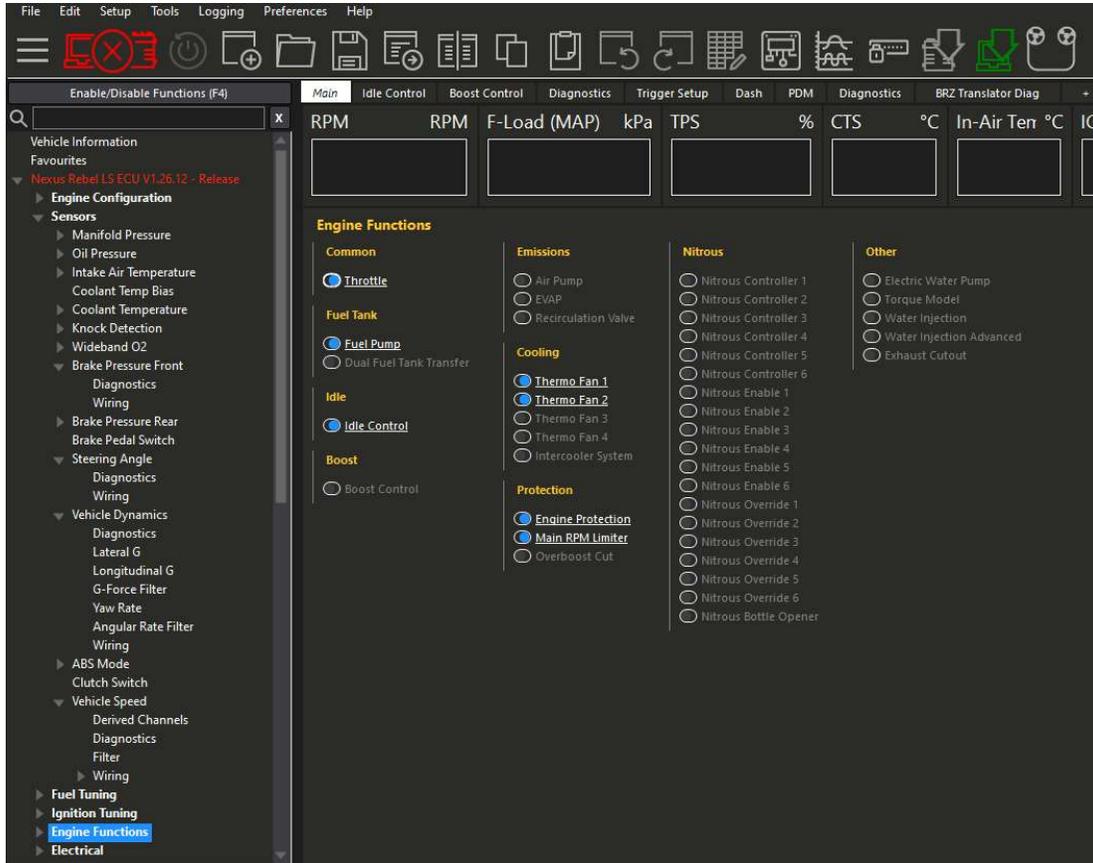
The screenshot shows the Haltech software interface with the 'Sensors - Vehicle Speed' configuration page selected. The left sidebar contains a tree view with 'Vehicle Information' expanded to 'Vehicle Speed'. The main panel displays various sensor configuration options:

- Enables:**
 - Main Source: Drive Train
 - Front Left Wheel Sensor (selected)
 - Front Right Wheel Sensor
 - Rear Left Wheel Sensor
 - Rear Right Wheel Sensor
 - GPS Speed Input
- Drive Shaft RPM Sensor:**
 - Number of Teeth: 8
 - Max Derivative: 50000 RPM
- Calibration:**
 - Calibration Speed: 25.0 km/h
 - Front Left Sensor: 1285 Pulses/km
 - Front Right Sensor: 1285 Pulses/km
 - Rear Left Sensor: 1285 Pulses/km
 - Rear Right Sensor: 1285 Pulses/km
 - Drive Train Sensor: 29154 Pulses/km
 - GPS Input: 5000 Pulses/km

The screenshot shows the Haltech software interface with the 'Sensors - Vehicle Speed - Wiring' configuration page selected. The left sidebar contains a tree view with 'Vehicle Information' expanded to 'Vehicle Speed' and 'Wiring' selected. The main panel displays wiring configuration options:

- Options:**
 - Front Left Sensor Type: Digital - Frequency
 - Front Right Sensor Type: Digital - Frequency
 - Rear Left Sensor Type: Digital - Frequency
 - Rear Right Sensor Type: Digital - Frequency
- Connections:**
 - Vehicle Speed Input: TRANSMISSION / VSS [GV/LG], C20
 - Vehicle Speed Front Left Input: IOA DPI 2 [GV/B], P23
 - Vehicle Speed Front Right Input: IOA DPI 1 [GV], P24
 - Vehicle Speed Rear Left Input: IOA DPI 4 [GV/O], P21
 - Vehicle Speed Rear Right Input: IOA DPI 3 [GV/BR], P22

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This screenshot shows the 'Electrical - Engine Starter Control' configuration page in the Haltech software. The left sidebar contains a tree view with 'Engine Starter Control' selected. The main panel is divided into several sections:

- Start/Stop Button General Settings:** Includes a radio button for 'Start/Stop Button' and a dropdown for 'Button Input Type' set to 'Momentary'.
- Start/Stop Button Normal Operation Settings:** Includes dropdowns for 'Button Action to Start Engine' and 'Button Action to Stop Engine', both set to 'Short/Single Press'. A text field for 'Short/Single Press Stop Max Speed' is set to '5.0 km/h'.
- Start/Stop Button Emergency Engine Stop Settings:** Includes a text field for 'Min Button Hold Duration' set to '1,000 s' and a text field for 'Min Number of Panic Presses' set to '3'.
- Starter Motor General Settings:** Includes a radio button for 'Starter Motor Control Enable', a text field for 'Max Starting Attempt Time' set to '3,000 s', and a text field for 'Starter-Off Engine RPM' set to '350 RPM'.
- Starter Motor Lockout Conditions:** Includes radio buttons for 'Brake Not Applied', 'Clutch Not Applied', 'Not in Neutral Gear / Park', and 'Custom Condition'.

This screenshot shows the 'Electrical - Engine Starter Control - Wiring' configuration page in the Haltech software. The left sidebar has 'Wiring' selected under 'Engine Starter Control'. The main panel shows the following wiring configuration:

- Start Button Input:** Assigned to IOB DPI 1. The 'Edge Select' is set to 'Falling'.
- Starter Motor Relay Output:** Assigned to AX25+ (R/L, E1). The 'Active State' is set to 'High', 'Drive Type' is 'Both', 'Fuse Current' is '25.0 A', and 'Soft Start Current' is '25.0 A'.
- Soft Start Settings:** 'Soft Start Duration' is '0,100 s', 'Maximum Retries' is 'Always Retry', and 'Retry Delay' is '10 s'.

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

The screenshot displays the Haltech software interface for configuring vehicle functions. The top menu bar includes File, Edit, Setup, Tools, Logging, Preferences, and Help. Below the menu is a toolbar with various icons. The main window is divided into several sections:

- Enable/Disable Functions (F4):** A search bar and a list of functions on the left side, including G-Force Filter, Yaw Rate, Angular Rate Filter, Wiring, ABS Mode, Clutch Switch, Vehicle Speed, Derived Channels, Diagnostics, Filter, Fuel Tuning, Ignition Tuning, Engine Functions, Throttle, Fuel Pump, Primary Output, Idle Control, Thermo fan 1, Thermo fan 2, Engine Protection, Main Limiter, Decel, Electrical, Diagnostics, Ignition Switch, Engine Control Relay, Engine Starter Control, Transmission, Vehicle Functions, Air Conditioner, Wiring, Cruise Control, Traction Control, Battery Light, Check Engine Light, Oil Pressure Light, Tacho, and Generics.
- Main:** A tabbed interface with options like RPM, RPM, F-Load (MAP), kPa, TPS, %, CTS, °C, In-Air Ten °C, and IG.
- Vehicle Functions - Air Conditioner - Wiring:** The active configuration panel, which includes:
 - Options:** A radio button for "Air Conditioner Output Enable" (checked), "Input Mode" set to "State/Switch/Button Input", and "Compressor Mode" set to "Digital - Switched Output".
 - Connections:** Two connection points are shown:
 - A/C Request Switch Input:** Assigned to IOB DPI 4. It includes a "Conditional" toggle (set to ON) and a "Clear" button. The "Edge Select" is set to "Falling" and "Button Mode" is set to "Momentary".
 - A/C Output:** Assigned to OUTPUTS / DPO 1. It includes a "Clear" button. The "Active State" is set to "Low" and "Pull Up Voltage" is set to "Disable".

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications

The screenshot shows the Haltech software interface with the 'Vehicle Functions - Cruise Control - Buttons' configuration window open. The left sidebar contains a tree view of various engine and vehicle functions, with 'Buttons' selected under 'Cruise Control'. The main window displays settings for six buttons:

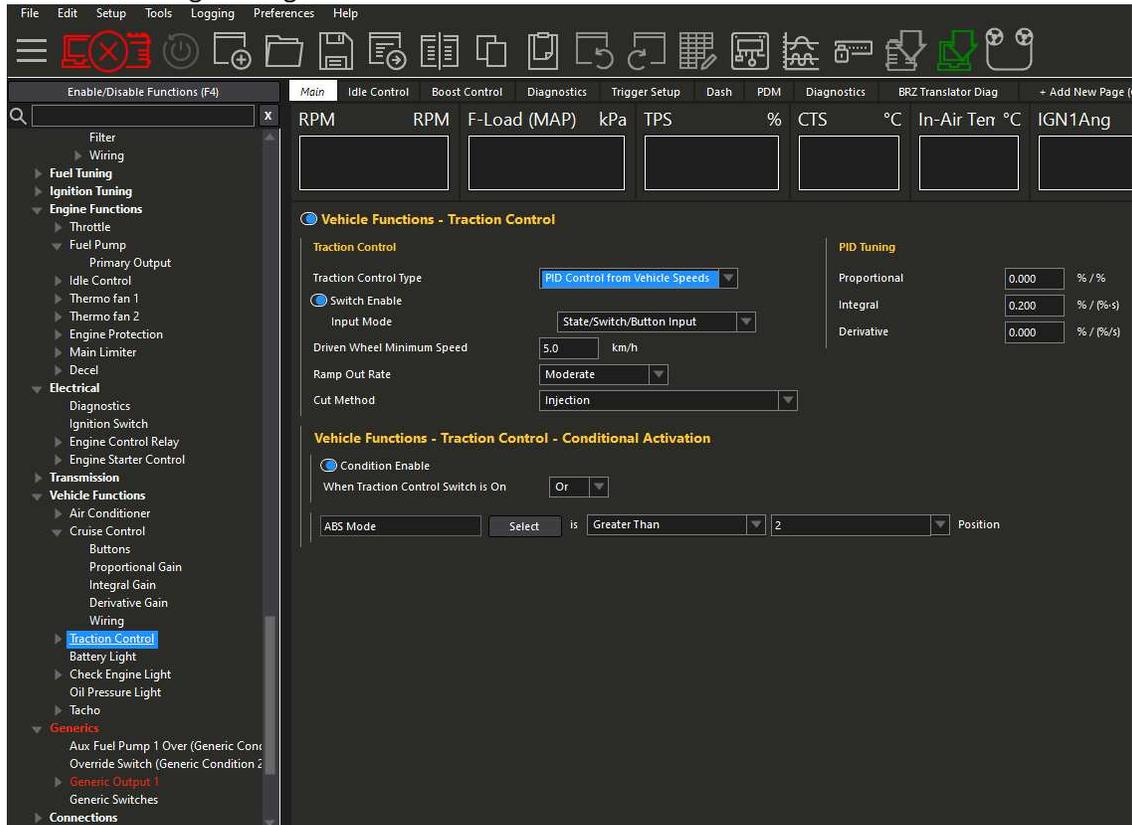
- Common Button Settings:** Input Type: Analogue - Voltage; Voltage Tolerance: 0.20 Volts; Long Press Time: 500 ms.
- Button 1:** Function: Rest Position; Voltage: 4.50 Volts; Calibrate button.
- Button 2:** Function: Enable / Disable; Voltage: 0.09 Volts; Calibrate button.
- Button 3:** Function: Set / Coast / -; Voltage: 1.94 Volts; Calibrate button.
- Button 4:** Function: Resume / Accel / +; Voltage: 0.97 Volts; Calibrate button.
- Button 5:** Function: Cancel; Voltage: 3.03 Volts; Calibrate button.
- Button 6:** Function: None; Voltage: 0.00 Volts; Calibrate button.

At the bottom left, there is a note: "Important: All input types are expecting..."

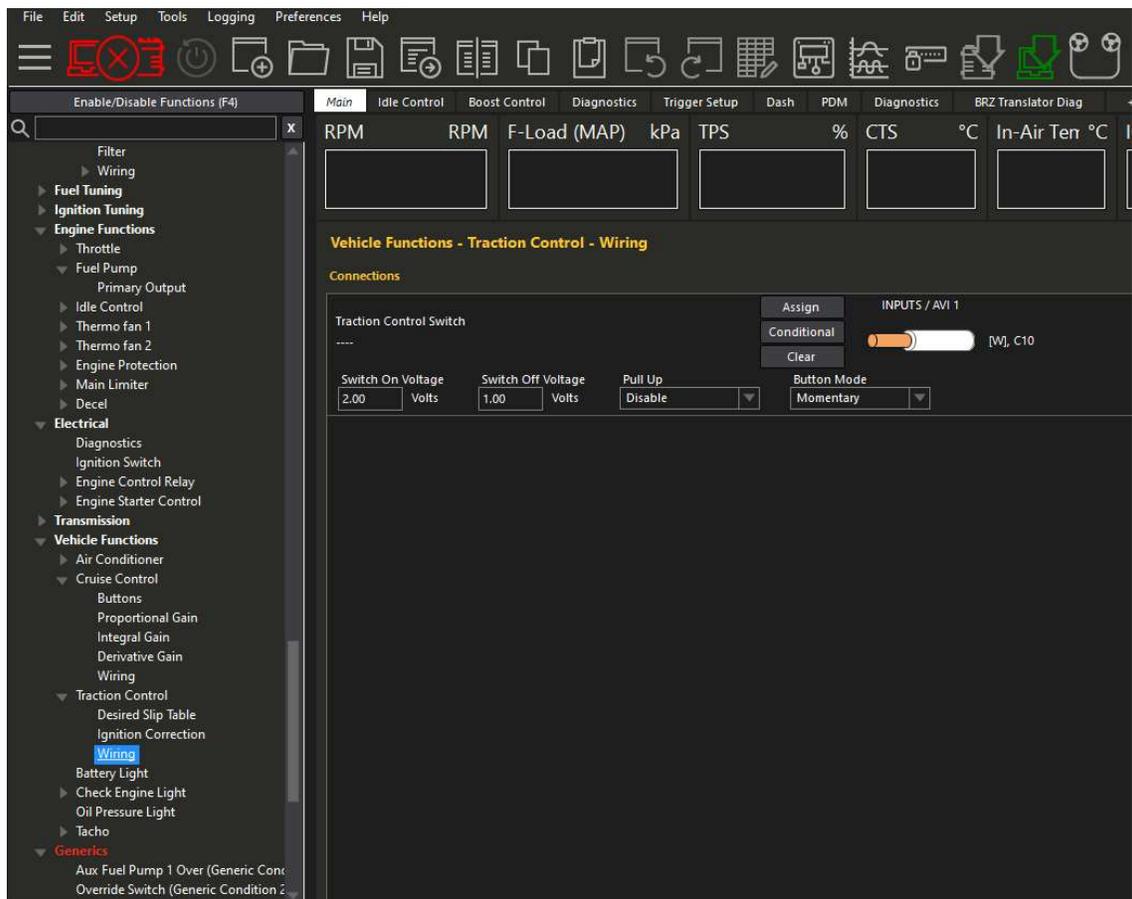
The screenshot shows the Haltech software interface with the 'Vehicle Functions - Cruise Control - Wiring' configuration window open. The left sidebar shows 'Wiring' selected under 'Cruise Control'. The main window displays the following settings:

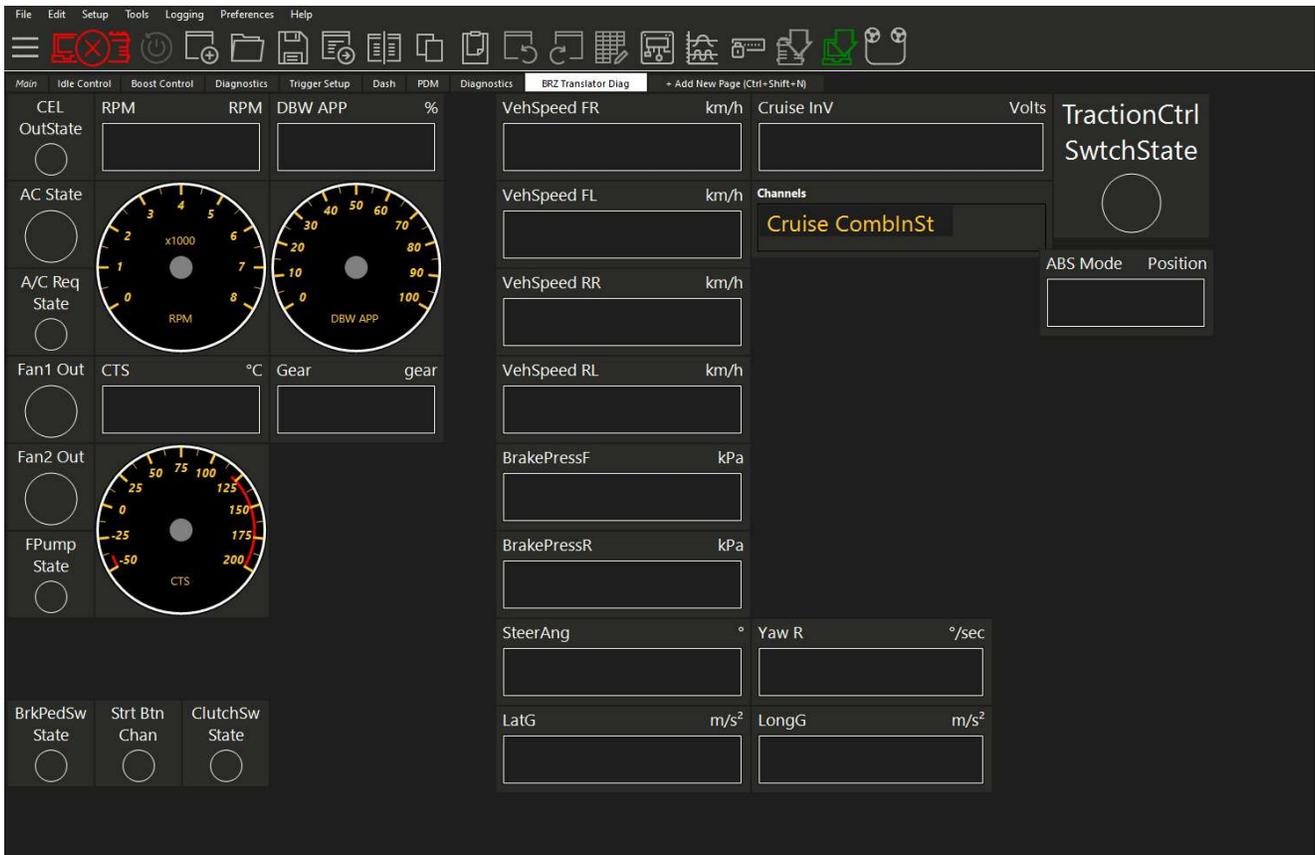
- Options:** Enabled Light Output Type: Disabled; Active Light Output Type: Disabled; Separate Enable Input: .
- Connections:** Input: IOB AV1 1; Assign button; Clear button; Pull Up: Disable; [O/G], P20.

AGT Engineering – BRZ/GT86 to Haltech Translator – Haltech tune modifications



The ABS Mode allows you to turn on/off the Traction control with the OEM Traction control buttons (TRAC OFF)





Page created with good diagnostic data associated with the translator. Note Brake Pressure (FRONT) and Brake Pressure (REAR) will be the same value as the BRZ only transmits the overall combined pressure.