

ELITE 1000

PART NUMBER: HT-150800 (ECU only)



The future of engine management is here!

Haltech's Elite 1000 ECU takes the art of engine calibration to a whole new level.

Featuring a robust environmentally sealed waterproof case, intake cam control, short term and long term map learning, knock control, and much more, the Elite 1000 ECU provides engine calibrators the tools they need to get the job done right.

Alongside the Elite 1000 ECU is the Elite Software Programmer (ESP) that brings levels of functionality and user friendliness never seen before in an engine control package. Together they offer true cutting edge technology to tuners and performance enthusiasts worldwide.

ELITE 1000

PART NUMBER: HT-151900

FEATURES & APPLICATIONS

OVERVIEW

- Supports 1 to 12 Cylinder engines
- 2 Rotor engines
- Normally aspirated or forced induction
- Load sensing by Throttle Position (TPS), Manifold Absolute Pressure (MAP) or Mass Air Flow (MAF)
- Staged, Sequential, semi sequential, batch or multipoint injection patterns
- Distributor ignition systems, multi-coil systems, expand CDI range or Haltech Multiplex CDI systems
- Connect to a wide range of display dashes and expansion devices via CAN.
- Waterproof Case (With Pocket Cover Fitted)
- 4 x Fuel Injection Outputs
- 4 x Ignition Outputs
- 10 x Digital Outputs
- 10 x Analogue Voltage Inputs
- 4 x Synchronised Pulsed Inputs
- 3 x Dedicated inputs (Knock, ignition Switch & onboard MAP Sensor)
- 2 x Dedicated Engine Position Inputs with extensive trigger type support
- Up to 45 channels of Input & Output (I/O) expansion (via CAN)
- USB Laptop communication (Windows)
- ESP Calibration Software - Intuitive and easy to use

FEATURES

- Low Impedance Injector control with Programmable Injector Peak and Hold Currents & Programmable peak time
- Flex Fuel Function (Direct sensor input) - Tune your engines boost, fuel and ignition by ethanol content
- Flexible tuning setup for Petrol (Gasoline), Methanol and Ethanol allows you to simply select your fuel type
- Closed Loop O2 Control – Dual bank control for precise tuning (With optional external CAN O2 Wideband Controller Kit)
- Knock Control - Synchronised to engine position with high speed digital filtering for accurate detection
- Variable cam control - Independently control up to 2 intake camshafts - Requires a minimum of 1 user defined input & output per variable cam
- Closed Loop Idle Speed Control with learning for consistent idle stability. Requires 1 or 2 user defined outputs (BAC type) or 4 user defined outputs (Stepper motor type)
- Long term learning (Auto tune) on fuel, cam, boost & idle control maps (up to 4D)
- On-board data logging - Up to 20 channels of logging at sample rates up to 50ms with 1MB of internal memory
- Laptop data logging –Data log all available channels directly to your laptops hard drive for both tuning and diagnostics
- Dual CAN Bus communication for Haltech Dashes and expansion devices & OBDII (view live engine data & set and clear diagnostic trouble codes)
- Injection Stages 1 – 4 with individual injector flow rates per injector
- Anti-Lag/Rotational idle – for closed course racing, rally, circuit or drift. Build and maintain boost during closed throttle conditions
- Rolling Anti-Lag – lock to your current (or pre-set) RPM or road speed for roll racing or pit lane limiting
- Launch Control – Control your engines power delivery, RPM & boost for consistent performance at the start line

ADVANCED TUNING

- Tuning Table Resolution up to 32 x 32
- Limitless tuning flexibility -Tune your engine by a combination of 3D tuning tables combined with 3D per cylinder compensations and multiple user definable corrections

Example tune by a combination of manifold pressure, throttle position, cam position, ethanol content, gear, road speed, EGT or any channel for ultimate flexibility – Dual mapping is a thing of the past.

- Per Cylinder Tuning Correction - 3D
- Wideband O2 - Connect up to 7 Channels via CAN expansion devices
- Thermocouples/EGT (Exhaust Gas Temperature) - Connect up to 12 Channels via external CAN expansion devices
- Traction Control – Control your engines power output via mappable front vs rear axle or individual wheel speed slip.

RACE FUNCTIONS

- Nitrous control with advanced programming of wet or dry nitrous kits with on/off delays & banked control options. 3D fuel and ignition corrections for all stages.
- Boost Control –Intelligent Closed loop learning, with flexible user definable axis and 14 fully user definable corrections
Multiple modes – example boost by gear, road speed etc.
- Sequential turbo control
- CO2 Boost control, wastegate pressure & position, intake air bleed control (charge pipe wastegate) functionality for the hard-core racer
- Flat shift – Optimise your shifting precision via a combination of inputs such as a clutch switch or strain gauge.
- Timer Functions – Use Generic Timer for time based control of multiple engine parameters, power delivery and other user definable functions

ELITE 2500

PART NUMBER: HT-151300

SPECIFICATIONS

OUTPUTS (Total 18)

4 Injection Outputs:

- Current controlled injector drivers
- High or low impedance injector compatible
- Programmable peak current - 0A to 8A
- Programmable hold current - 0A to 2A
- Up to 3 unused injector outputs can be re-assigned as user definable outputs (DPOs) with 1A Max output.

4 Ignition Outputs:

- Over current protected ignition drivers
- Max current 1A per driver
- Up to 3 unused ignition outputs can be re-assigned as user definable generic outputs (DPOs) with 1A Max output.

1 Dedicated Output (non re-assignable):

- Engine control relay (ECR) output - controls up to 6 relays simultaneously

9 User Definable Outputs:

4 Stepper Motor Control:

- 1 x 4 wire stepper motor control
- Can be configured as 4 x hi / low side outputs
- Max drive current 1A per output
- Max sink current 1A per output
- Over current protected
- Can be re-assigned as user definable generic outputs (DPOs) with 1A Max output.

5 Digital Pulsed Outputs:

- Over current protected low side pulsed outputs

INPUTS (Total 19)

5 Dedicated Inputs (non re-assignable):

1 Knock:

- Supports piezo knock sensors
- Synchronised to engine position

2 Crank & Cam Synchronised Pulsed Inputs:

- Supports variable reluctor (VR) and digital (hall effect) inputs - 50KHz Max frequency
- Accepts up to 20V Max input voltage

1 Ignition Switch (for ECR function):

- 1 On-board 3 Bar MAP sensor
- Supports up to 200Kpa of boost (2Bar / 29psi)

14 User Definable Inputs:

10 Analogue Voltage Inputs:

- 2 are compatible with narrowband O2 sensors
- Switchable 1K Ohm Pull-up resistor for sensors
- Accepts up to 20V Max input voltage
- Supports up to 1.5KHz input frequency

4 Synchronised Pulsed Inputs:

- Supports digital (hall effect) inputs - 50KHz Max frequency
- Accepts up to 20V Max input voltage
- Accepts up to 20V Max input voltage
- Can be also be used as Analogue Voltage Input

**Input & Output (I/O) expansion (via CAN)
(Total 45)****Connect up to 2 I/O Expander 12 devices**

- Up to 8 x AVI
- Up to 8 x DPI
- Up to 8 x DPO

Connect up to 4 Wideband O2 devices

- WBC1 and 3 WBC2 (7 Channels)

Connect up to 4 Thermocouple Amplifier devices

- 2 TCA2 and 2 TCA4 (12 sensors)
- K-Type thermocouple sensors can be used for EGT (Exhaust Gas Temperature) or any high range temperature measurement

POWER REQUIREMENTS & RATINGS

Input Supply Voltage: 8VDC to 16VDC

Output Sensor Supply Maximum Current Ratings:

- 5V Supply: 100mA Max
- 8V Supply: 100mA Max

DIMENSIONS

185mm (L) X 125mm (W) X 43.5mm(H)

WEIGHT

ECU: 590g (1.3lb)

ECU & 2.5m (8 ft) Basic Universal Wire-in Harness kit
1.95 Kg (4.3lb)

ECU & 2.5m (8 ft) Premium Universal Wire-in Harness kit
3.10 Kg (6.8lb)