

Haltech CAN Keypad Complete Guide to Features and Uses

Walk into any modern race workshop and you will notice a pattern. The old dashboard full of toggle switches, relays and loose wires is disappearing. In its place sits a compact panel of backlit buttons connected by just four wires. In the Haltech ecosystem, that panel is the [Haltech CAN keypad](#). This guide explains what it is, how it works, what it can control, and why so many builders now treat it as a core part of a clean, reliable, raceready cockpit.

Whether you are building a time attack car, a drag machine, a rally build or a wellsorted street car with a Haltech ECU, understanding the keypad will help you decide whether it belongs in your project and how to get the most from it.



What Is a Haltech CAN Keypad?

A Haltech CAN keypad is a programmable panel of buttons that talks to a Haltech ECU over a CAN bus connection. Instead of each switch needing its own dedicated wire running to the ECU or a relay, every button press is sent as a small digital message over a shared twowire network. The ECU, or another compatible Haltech device, reads those messages and acts on them.

Think of it as a digital control keypad for the whole car. One button might switch between fuel maps. Another might arm launch control. A third might trigger a watermethanol system, switch on cooling fans, or turn on an auxiliary output. Because the buttons are configurable, the same hardware can serve very different cars and very different drivers.

In everyday language, you will see the product described in several ways: Haltech keypad, Haltech CAN bus keypad, Haltech programmable keypad, Haltech control keypad or Haltech CAN switch panel. They all point to the same idea of a configurable, CAN-connected button panel for driver controls.

Why CAN Bus Matters for a Keypad

To understand the value of the keypad, it helps to understand CAN communication itself. Controller Area Network (CAN) was developed for vehicles so that many electronic units could share information over two twisted wires instead of dozens of point to point cables. Modern production cars use it everywhere, and motorsport has adopted it for the same reasons.

For a keypad, CAN delivers several practical advantages:

- Fewer wires. Power, ground, CAN High and CAN Low are all the panel needs, no matter how many buttons it has.
- Less electrical noise. A twisted pair differential signal is far more resistant to interference than a long single ended switch wire running near ignition coils.
- Flexibility. Button functions are defined in software, so you can change what a button does without touching the wiring.
- Expandability. Other devices on the same bus, such as dashes, wideband controllers, power distribution modules and expansion units, can share the same network.
- Weight and cost savings. Reducing a loom is one of the simplest ways to cut weight and troubleshooting time.

This is why you will see the phrases CAN bus control, ECU control and data communication used together. The keypad is not just a switch; it is a node on an electronic control system.

Key Features of the Haltech CAN Keypad

Exact specifications vary by model and revision, so always confirm details against the current Haltech product page and manual before you buy. In general, the keypad family offers the following.

Programmable Buttons

The core feature is a set of programmable CAN buttons. Each one can be assigned a role inside the ECU. Common examples include:

- Switching between tune maps or boost levels
- Enabling antilag, launch control or rolling antilag
- Activating a nitrous or watermethanol stage
- Pit limiter or traction control toggles
- Fan override, fuel pump priming or other ancillary functions

Backlit, Configurable Feedback

Most Haltech keypads use illuminated buttons so the driver can read the panel at night, in a tunnel stage, or in a dim cockpit. Backlighting can typically be configured so a button shows its state on, off, armed or active. That visual feedback is critical when you are wearing gloves and reacting at speed.

Robust Construction

Motorsport hardware must survive vibration, heat and moisture. Haltech designs its CAN devices with this in mind, using sealed, durable housings and automotive grade connectors. That makes the keypad suitable for a race car interior, a bay mounted application, or a daily driven street build.

Multiple Layouts

Haltech has offered keypads with different button counts and arrangements. A smaller panel suits a cockpit with limited space and few functions, while a larger panel is better for a car with multiple engine modes, auxiliary systems and power distribution channels. Pick the size that matches how many controls you genuinely need, with a couple of spare buttons for future upgrades.

SoftwareDefined Behaviour

Everything the buttons do is set in the Haltech software. Because the function lives in configuration rather than wiring, you can revise your setup between sessions, copy it between cars, or save versions for different events.

How the Keypad Fits Into a Haltech System

A Haltech installation usually has a hub, the ECU. Around it sit sensors, ignition and injection outputs, and the CAN network. The keypad is one of several Haltech CAN devices that plug into that network. Others commonly include:

- Haltech dashes and display units
- Power distribution modules that switch high current loads
- CAN expansion boxes, wideband controllers and thermocouple modules
- Third party devices that support compatible CAN protocols



The ECU transmits data about engine state, and the keypad transmits button states. Software links the two. If you also use a Haltech power distribution module, a keypad press can switch a fuel pump, a fan or lights directly without the ECU doing the heavy lifting. This is the heart of a modern race car electronics layout.

Common Functions You Can Control

Because the keypad is programmable, its job depends on your build. Here are the situations where it earns its place.

Engine Management Modes

Many tuners set up several map safe street maps, a highboost track map, and perhaps a wetweather or economy map. A keypad lets the driver switch between them with a single press, while the ECU decides how and when it is safe to transition. This is a classic use of engine management and ECU functions that were once hidden in laptop software.

Launch and Traction Strategies

Drag and circuit racers often need quick access to launch control, a twostep rev limiter, a burnout mode or traction control adjustments. Mapping these to clearly labelled keys avoids reaching for a hard to find switch at the wrong moment.

Auxiliary Outputs

Using auxiliary outputs on the ECU, a keypad button can drive fans, water pumps, spray systems, intercooler sprays or other accessories. The button acts as a digital input to the ECU, which then switches a configured output according to your logic.

Driver Controls

The phrase driver controls covers everything a driver needs to reach with minimal distraction: pit limiter, flatshift, boost up and down, display page change and starter. Putting these in one lit, logically arranged panel improves safety and consistency.

Diagnostics and Data

Because the keypad is on the CAN network, button states can be logged alongside RPM, boost and temperatures. When you review data after a run, you can see exactly when the driver pressed a button, which is invaluable for diagnosing both car and driver behaviour.

Haltech CAN Keypad vs Traditional Switches

Is a keypad really better than a row of switches? In most cases, for a serious build, yes. The table below summarises the differences.

Feature	Traditional switches	Haltech CAN keypad
Wiring	One or more wires per switch	Four wires for the whole panel
Flexibility	Fixed function	Reassignable in software
Feedback	Needs separate indicator lights	Built-in configurable backlighting
Weight	Heavier loom	Lighter, simpler loom
Logging	Not available	Button state can be logged
Failure points	Many connectors and relays	Fewer connections

There are still places for traditional switches. A kill switch, battery isolator and fire system pull should remain hardwired and independent of any electronics, in line with your sport's safety regulations. The keypad is for operational controls, not safety critical shutoffs.

Planning Your Wiring Before You Buy

Even though the keypad has a simple connection, the wider harness still matters. A tidy build starts with choosing proper connectors. Many Haltech and aftermarket motorsport looms rely on Deutsch Autosport connectors because they are sealed, vibration resistant and easy to service. If you are building a harness for your ECU, power distribution or expansion hardware, it is worth browsing the Deutsch Autosport ASDD connector range to see which pin counts suit your layout.

A few examples of how builders use these connectors in practice:

- A compact 9way connector such as [asdd9wayplgsktnkeyred](#) suits small sensor groups, switch panels or auxiliary breakouts.
- An 11way option like [asdd11wayplgsktnkeyred](#) gives a little more room for grouped signals.
- Larger multiway plugs such as [asdd23wayplgpinakeyyellow](#) and [asdd41wayplgpinakeyyellow](#) are used when many circuits need to pass through a single sealed bulkhead or interface.

Always check the pin count, keying and contact type against your own harness drawing. These connectors are general motorsport wiring components and are not specific to the keypad itself, so match them to your project rather than assuming compatibility.

Who Should Use a Haltech CAN Keypad?

The keypad is a strong fit for:

- Time attack and circuit cars that run multiple maps and need fast driver adjustments.
- Drag racers managing launch control, nitrous stages and shift strategy.
- Rally and offroad builds where a simplified, vibration resistant loom is a major benefit.
- High end street builds that want a clean interior without a rat's nest of switches.
- Engine swap projects where the ECU, power distribution and dash all share one CAN network.

It may be overkill for a mild street car that needs only one or two accessory switches. In that case, a simple toggle may be more economical. The more functions you have, the more the keypad pays for itself.

Planning Which Functions Go on Which Button

A well designed layout makes a keypad intuitive. Some practical principles:

1. Group by purpose. Put enginemode buttons together, accessories together and racestart functions together.
2. Keep critical controls in easy reach. The buttons used most often should sit where a gloved thumb can find them without looking.
3. Avoid accidental activation. Place high consequence functions such as nitrous arming away from frequently pressed keys, or use ECU logic that requires multiple conditions.
4. Label clearly. Use engraved or printed labels so a co driver or future owner understands the layout.
5. Leave spare buttons. Future upgrades are easier when you already have free inputs.

Best Practices for Reliable Operation

- Use proper twisted pair cable for CAN High and CAN Low.
- Respect the bus termination requirements for your Haltech network.
- Provide a clean, fused power supply and a solid ground.

- Secure the harness so connectors do not flex or vibrate loose.
- Test every function with the engine off before you test with it running.

Our companion articles cover [wiring, setup and programming](#) in more depth, but the points above cover the basics.

Conclusion

The Haltech CAN keypad turns a messy collection of switches into a clean, programmable and informative control surface. By using CAN bus communication, it reduces wiring, improves reliability, and opens up a level of flexibility that traditional switches simply cannot match. From map switching and launch control to auxiliary outputs and data logging, it gives drivers faster access to the functions that matter and gives tuners more freedom to refine the car. If you are planning a build around a Haltech ECU, start by deciding which functions you actually need, choose a keypad size to match, and plan a sealed, serviceable harness with quality connectors. Browse the full range of motorsport wiring components at [Arctic Performance Parts](#) to complete a professional, race-ready installation.

Frequently Asked Questions (FAQs)

What does a Haltech CAN keypad do?

It provides a set of programmable, backlit buttons that send commands to a Haltech ECU or compatible device over CAN bus. You can assign functions such as map switching, launch control, auxiliary outputs and driver aids to the buttons through Haltech software.

Do I need a Haltech ECU to use the keypad?

The keypad is designed to work within the Haltech CAN ecosystem, so a compatible Haltech ECU or device that supports it is the intended pairing. Always check the manual and software version for compatibility with your specific ECU.

How many wires does a Haltech CAN keypad need?

In general it needs power, ground, CAN High and CAN Low. That is the main appeal of a CAN keypad the number of buttons does not change the number of wires. Confirm exact pin assignments in the official documentation for your model.

Can I change what each button does later?

Yes. Button behaviour is defined in software, so you can reassign functions, change lighting behaviour and add new features without rewiring, as long as the ECU has the resources to support them.

Is a CAN keypad suitable for street cars?

Absolutely. Many street builds use a keypad to tidy up the interior and manage functions such as map selection, fans or lighting. For safety critical items like kill switches, keep a dedicated hardwired solution.