NEBULA SYSTEMS

AN RAC GROUP COMPANY

NC1701

ENHANCED VEHICLE COMMUNICATIONS CONTROLLER

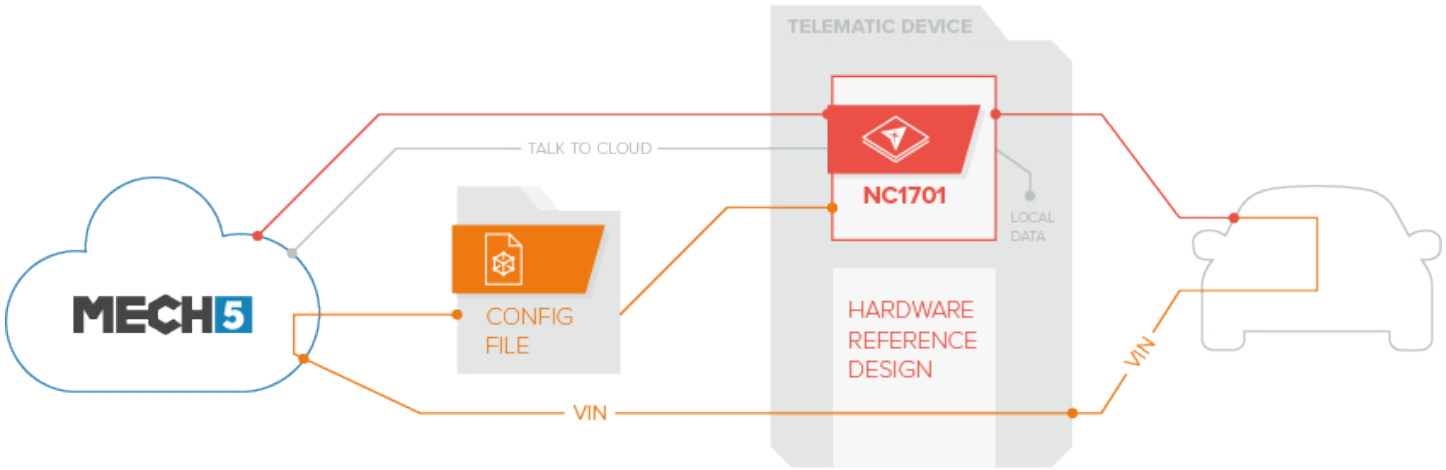
Nebula Systems has created the first dedicated controller for use in Telematics embedded systems, enabling companies in the Connected Car space to access vehicle OEM data without requiring previous knowledge of vehicle ECU communication protocols.

The NC1701 features essential functionality for most Telematics applications, and when combined with Nebula's MECH5 cloud platform, it truly "connects" the vehicle by creating a gateway to an unlimited number of applications.

WWW.NC1701.IO

ENHANCED PID READING WITH NC1701

Enhanced PIDs are manufacturer specific parameters that can be requested using manufacturer specific communication protocols from any ECU in the car. As opposed to OBDII generic PIDs which are limited in scope, and restricted to the engine only.



FASTER TIME TO MARKET

- Simple integration with your existing hardware design
- No knowledge required on diagnostic communications protocols or hardware

WWW.NC1701.IO
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FEATURES AND BENEFITS

OEM VIN READING

NC1701 provides OEM VIN reading capability. This means you now have the potential to read VINs when not available through standard OBDII requests.

ENHANCED PID READING

When connected to the MECH5 cloud platform, NC1701 can be configured to read OEM specific parameters (PIDs) from any ECU. Further reading of the parameters is all done locally requiring no GSM connection i.e. Odometer, Fuel level, Service info (dates/times, fluid levels), TPMS info, Battery condition, Vehicle occupancy, etc.

SECURITY FIRST

The NC1701 has been designed with security in mind.

It doesn't require a direct communications channel with the MECH5 APIs and relies on the Host to communicate on its behalf. Communication between the Host and the MECH5 APIs is done via a secure channel (HTTPS).

All communications between the NC1701 and the MECH5 APIs (upgrading firmware, downloading configuration files, etc.) are encrypted using enterprise-grade encryption.

ADVANCED LOW POWER MODES

NC1701 can be configured to enter "power saving mode" and can "wake up" using different sources:

- Battery voltage change
- CAN bus activity
- Advanced ignition sense signal

ADVANCED IGNITION DETECTION

NC1701 overcomes many ignition detection issues faced when working with newer or hybrid cars. The NC1701 uses a smart algorithm to detect the state of the ignition from multiple sources providing further options for Virtual Ignition Detection.

LIVE FIRMWARE UPDATES

The NC1701 firmware can be updated whilst still in use in normal operation mode. Once the download procedure has finished (and it's safe for the host to do so), the switching to the new firmware takes less than 250 ms making the downtime very short.

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FULLY MULTIPLEXED REFERENCE DESIGN

NC1701 is capable of handling multiple CAN buses and ISO lines, making it compatible with more vehicle models and ECUs than standard offerings.

NOTE: The NC1701 needs to be embedded using the suggested reference design for some of these features to work properly.

STANDARD OBD2 COMMANDS (DTC/PID READING, ETC.)

NC1701 is fully compatible with OBD2 Standard Protocols.

MECH5 X-LINK FULL REMOTE DIAGNOSTICS*

Once NC1701 has established a secure connection to the MECH5 cloud platform, full Remote Vehicle Diagnostics can be performed (only when the vehicle is stationary). This can be either by using an API to a customer backend solution or via direct access to the MECH5 Web App. All aspects of a diagnostic scan tool are at your disposal.

Layered security prevents any unauthorised access to the vehicle OBD by embedding encrypted scripts within the NC1701 itself upon configuration, thereby preventing any OBD hacking.

ENHANCED DTC READING*

Full OEM Data Trouble Code (DTC) reading across all ECUs in the vehicle. NC1701 provides OEM trouble codes, and MECH5 APIs can be used for code translation. DTCs can be stored locally after initial lookup.

GHOST MODE*

NC1701 is able to detect if a 3rd party device is using the CAN bus to connect to any ECU. If this occurs NC1701 automatically disengages.

* Feature coming soon

INTERESTED?

READ ON FOR NEXT STEPS

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I'M INTERESTED, HOW DO I GET STARTED?

STEP 1

GET IN TOUCH

Give us a call or drop us an email so we can start the process of understanding your business needs and creating the perfect NC1701 package for you.

SALES@NEBULASYSTEMS.COM

+44 (0) 1280 816 333

STEP 2

GET EVALUATION KIT

This easy to use kit allows our prospective clients to evaluate and test the NC1701 Microcontroller in a quick and simple manner.

The kit includes everything a customer needs to plug into vehicles, use our MECH5 cloud platform, download Configuration Files to use offline with the kit and read any selected telematic parameters.

THE KIT INCLUDES:

- NC1701 evaluation board
- OBD vehicle connection cable
- Serial to USB laptop connection cable
- MECH5 VCI including 12 months subscription to MECH5 cloud
- Evaluation Board User Guide
- Evaluation Software
- MECH5 account with 90-day access to Telematic Parameters Services