

RP1210 API, Version 2.1

Running Applications on CAN, SAE J1939 and SAE J1708/J1587 Networks

The RP1210 API is an open interface between Windows-based applications and in-vehicle communication networks. This interface offers functionality for bus systems as well as for higher layer protocols. Its areas of use are very diverse and depend on the implemented application. The RP1210 specification was developed as a "Recommended Engineering and Maintenance Practice" by the Technology & Maintenance Council (TMC) of the American Trucking Association (ATA). Especially in the USA, voluntary conformance to this recommended practice has gained the support of commercial trucking companies, OEMs and suppliers.

Application Areas

Typical RP1210 applications involve diagnostic tools in the heavy-duty vehicle field, such as those used in the service area. Vector's RP1210 API can be used to operate these tools during development, including with Vector interface hardware.

Special Functions

- > Comfortable channel mapping enabled by full integration in the configuration dialog of the Vector hardware interfaces
- > Multiple clients per channel
- > Full multithreading capability including different optional wait modes, e.g. waiting for tx indications of messages or completion of higher layer protocol transactions.
- > Compatibility to RP1210-0, RP1210-A and RP1210-B (draft)

Functions for CAN (extract):

- > Standard (11-bit identifier) & extended (29-bit identifier) format
- > Hardware based CAN-ID filtering
- > Concurrent cyclic Broadcast Message delivery option

Functions for SAE J1939 (extract):

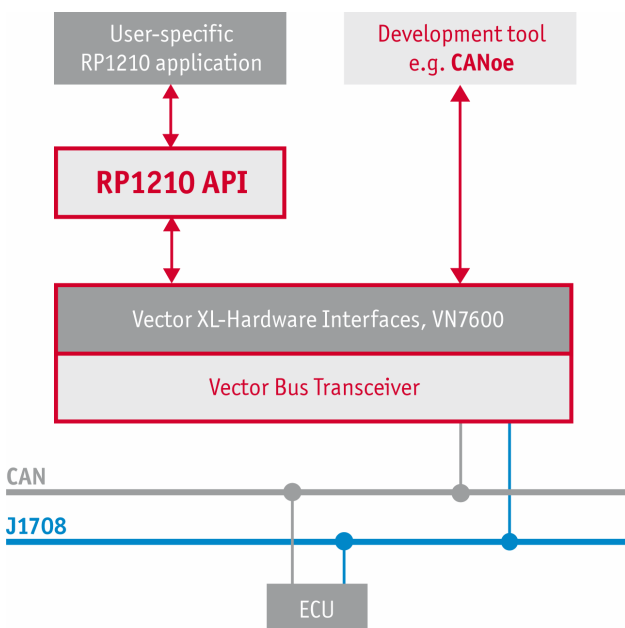
- > Data Link Layer: Parameter Group (PG-) Data & Transport Protocol Handling (BAM & CMTD)
- > Network Layer: Dynamic address management (claiming/ protection of address)
- > Various filtering possibilities (e.g. PGN, source and destination address)
- > Concurrent cyclic Broadcast PG delivery option

Functions for SAE J1708/J1587 (extract):

- > Optional checksum generation & error validation
- > Message Identifier filtering possibilities
- > Concurrent cyclic Broadcast Message delivery option

Hardware Interfaces

The RP1210 API can be used together with Vector XL-Interface hardware and the VN7600, and with the related bus transceivers. The VN7600 interface does not offer any support for J1708/J1587.



Application Architecture utilizing the RP1210 API