

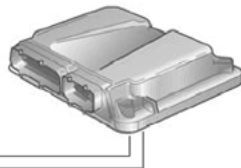
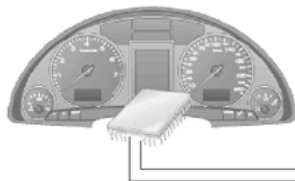
CAN-BUS Operation

SYSTEM OVERVIEWS





The **CAN-BUS** is a system that some control modules use to communicate with each other. It is made up of two wires that connect to multiple control modules.

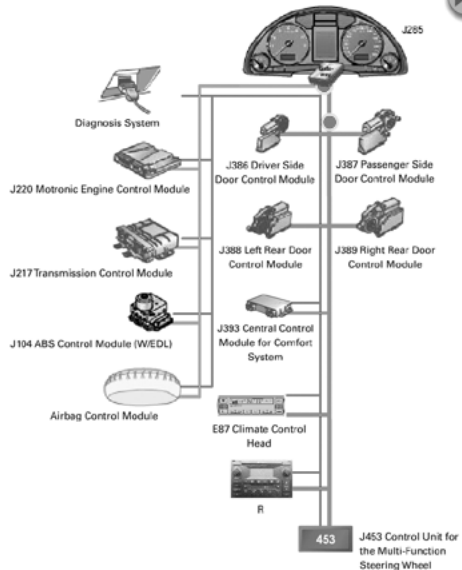


These wires are bi-directional, allowing data to be both sent and received. The two wires are referred to as **CAN-High** and **CAN-Low**.



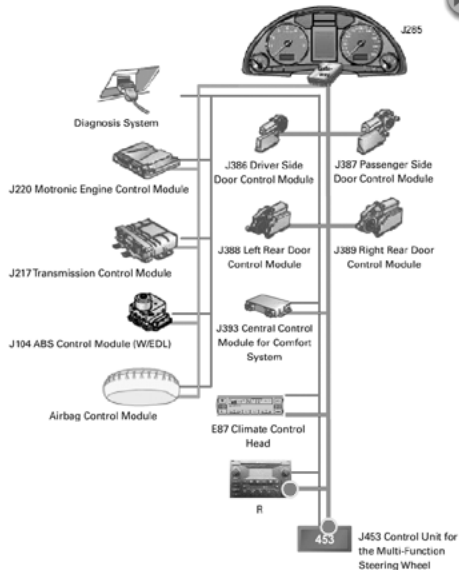


Data transfer along these two wires works like a telephone conference call.



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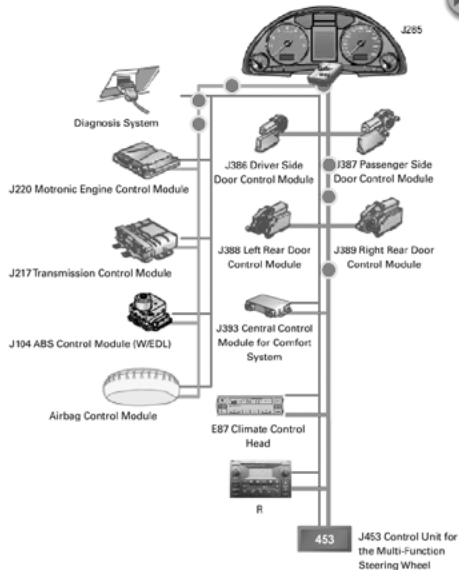
Any control module connected to the **CAN-BUS** can speak and other control modules that are interested in this data will utilize it.



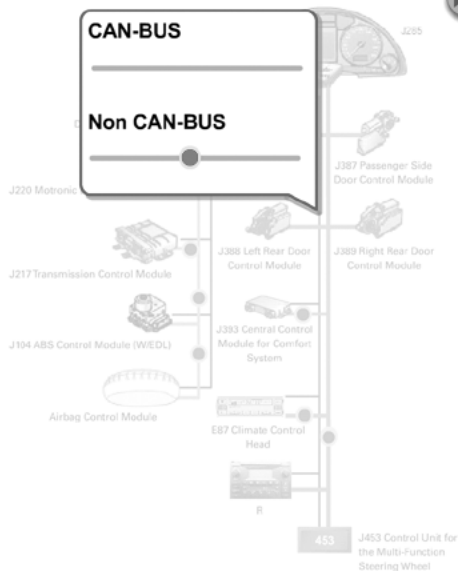
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Any control module connected to the **CAN-BUS** can speak and other control modules that are interested in this data will utilize it.

The other control modules can use or ignore the data.

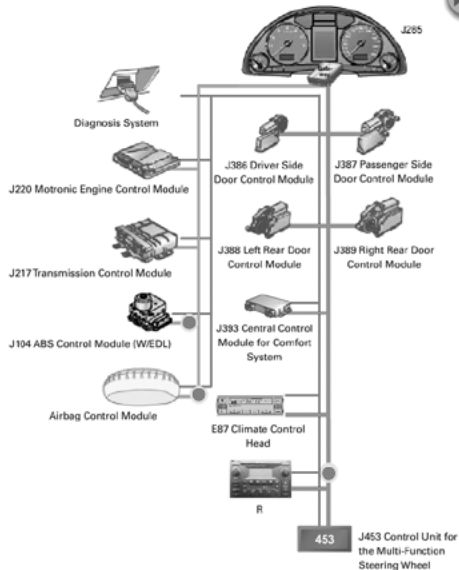


The **CAN-BUS** not only reduces the wires going to each component, but it increases the speed of data transfer between control modules.



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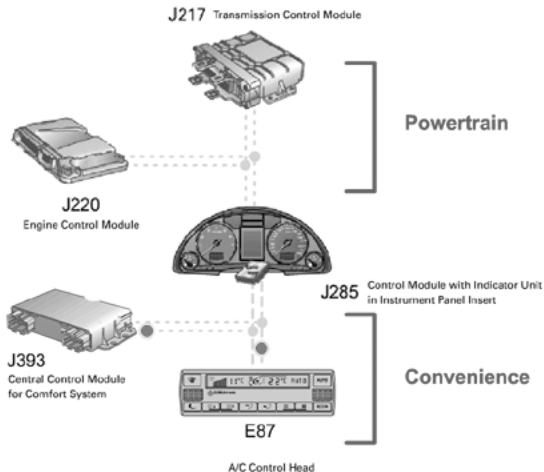
Each control module sends its data about every 20 milliseconds. Data transfer between control modules takes approximately 1 millisecond.





Gateway

In a vehicle such as the Passat, there are two **CAN-BUS** lines, the **Powertrain CAN-BUS** and the **Convenience CAN-BUS**.

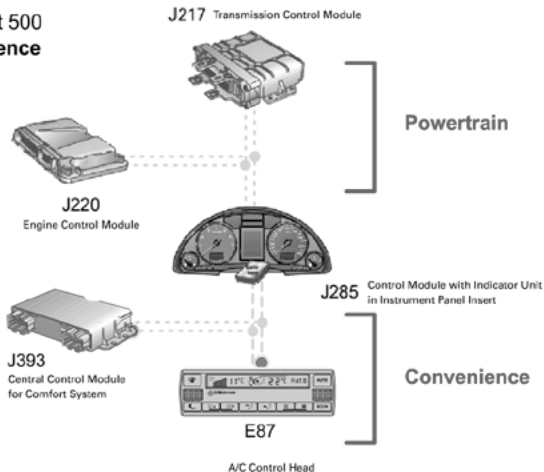




Gateway

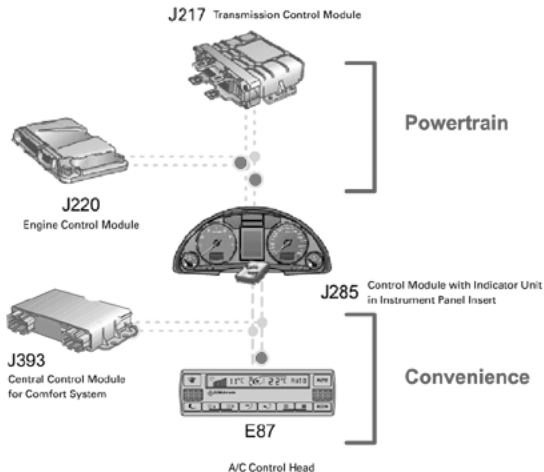
In a vehicle such as the Passat, there are two **CAN-BUS** lines, the **Powertrain CAN-BUS** and the **Convenience CAN-BUS**.

The **Powertrain CAN-BUS** operates at 500 kilobytes per second and the **Convenience CAN-BUS** operates at 100 kilobytes per second.



Gateway

Since these two lines cannot understand each other, they need a translator to be able to share signals.

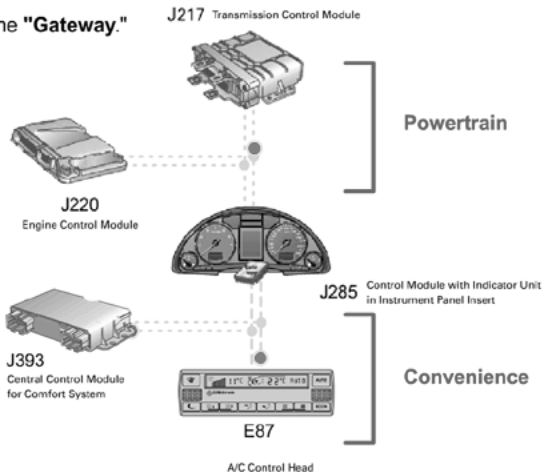




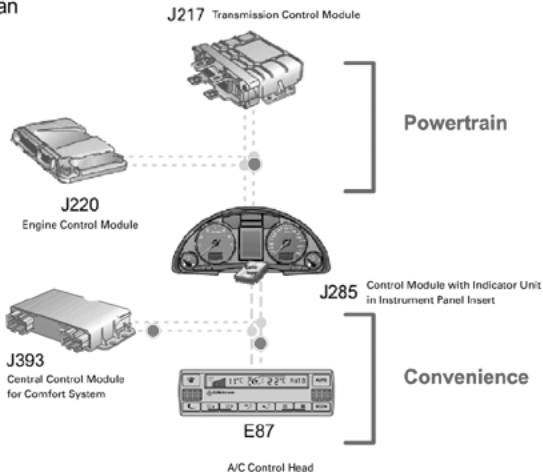
Gateway

Since these two lines cannot understand each other, they need a translator to be able to share signals.

That translator is **J533**, referred to as the **"Gateway."**



J533, the **Gateway**, is located in **J285**, the **Control Module with Indicator Unit** in **Instrument Panel Insert**, and either speeds up or slows down signals so that control modules on different **CAN-BUS** lines can understand each other.

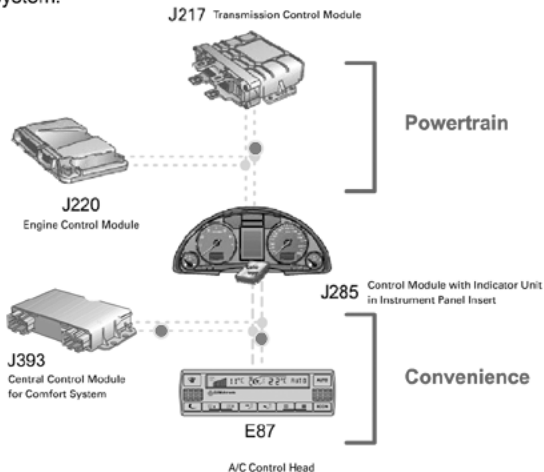




Diagnosis

The **CAN-BUS** has fault memory and DTCs.

Guided Fault Finding in the **VAS 5051** is used to diagnose and repair the **CAN-BUS** system.





If the **Instrument Cluster** is replaced and either the fuel gauge is not working or communication errors appear, check to make sure the **Gateway** has been coded.

If the **Gateway** has not been coded after installation of a new or used cluster, some components may not be able to communicate with each other.