

Local Interconnect Network (LIN) Bus Implementation with Multiple Slaves

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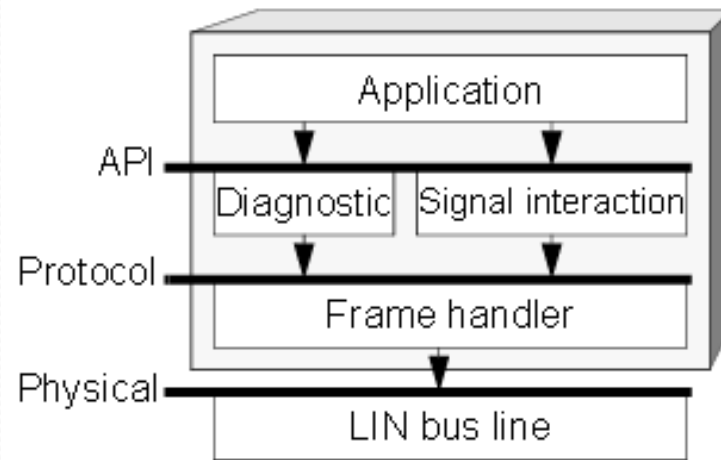


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Introduction

- Local Interconnect Network (LIN)
- Single master with multiple slaves provides communication between controllers, sensors, actuators and the software
- LIN 2.0
- LIN J2602



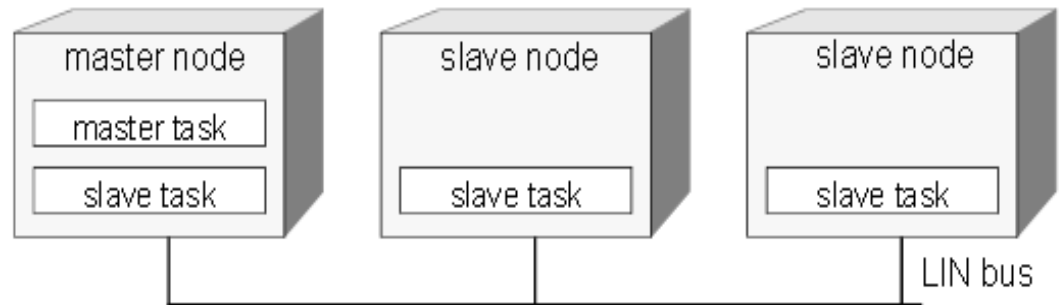
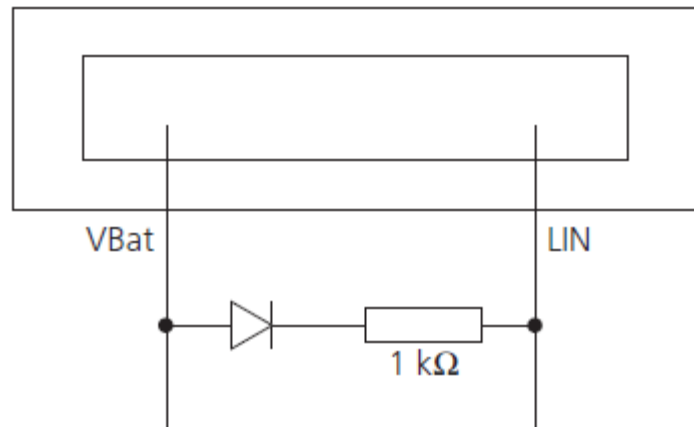
LIN Characteristics

- Self synchronization without a quartz or ceramic resonator in the slave nodes
- Signal propagation time computable in advance
- Speed up to 20 Kbit/s
- Signal based application interaction

Master and Slave

- A LIN cluster consists of one master task and several slave tasks.

MicroAutoBox

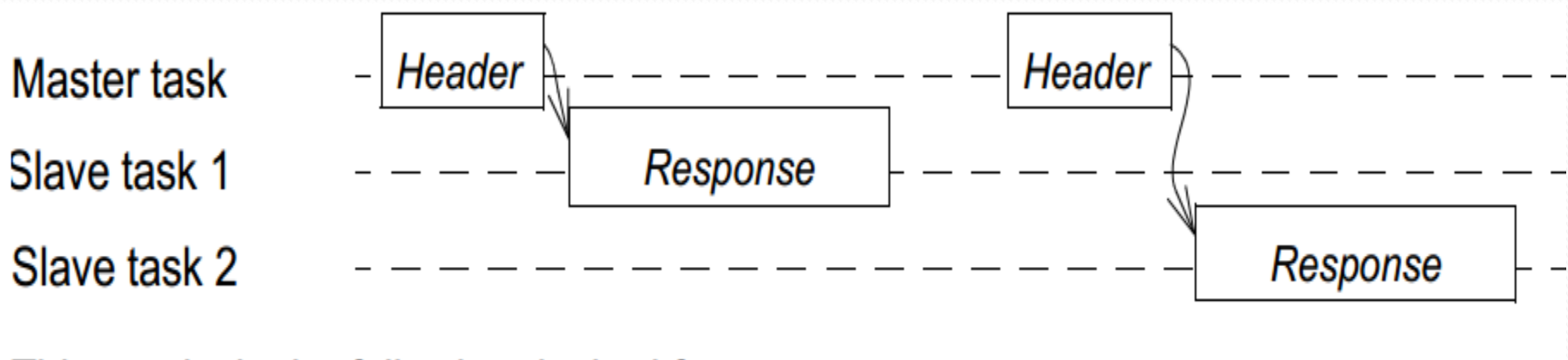


Data Transport

- Signals or diagnostic messages are transported in a frame
 - Signals are present at the same position of the data field for all frames
 - Tx signals
 - Rx signals
 - Diagnostic messages are transported in frames with two reserved identifiers

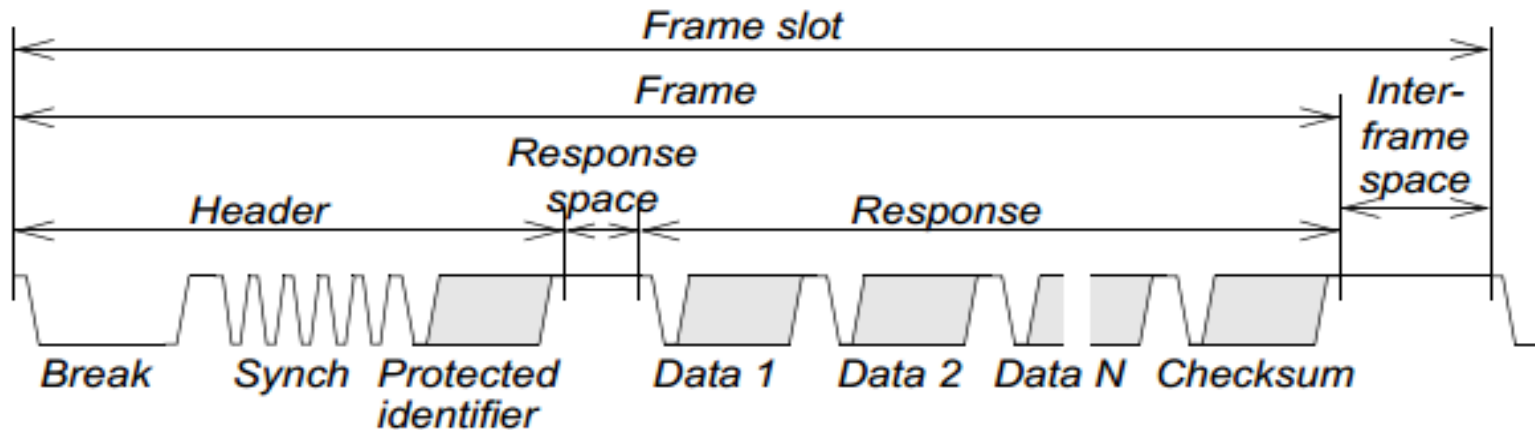
Frames

- The entities that are transferred on the LIN bus are frames
- A frame consists of a header and a response



Frame - Header

- Break
- Synch
- Protected identifier

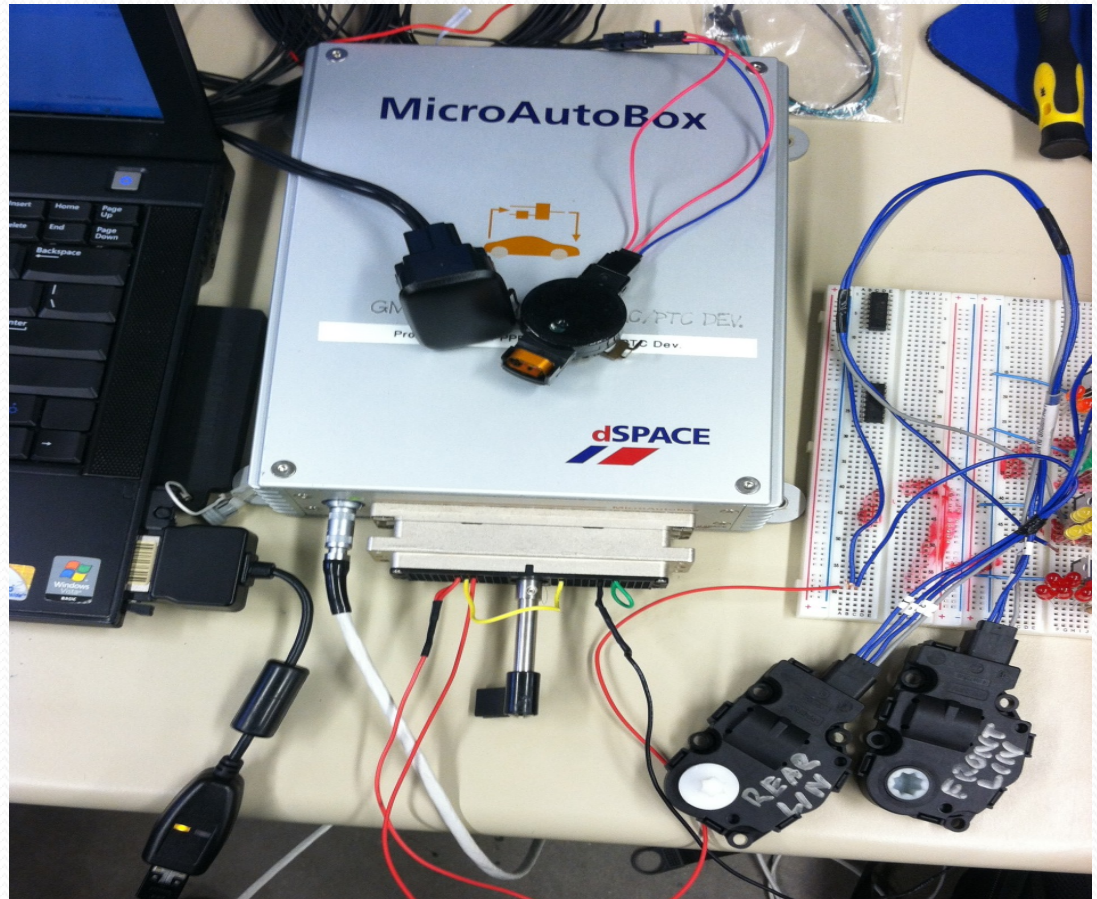


Frames

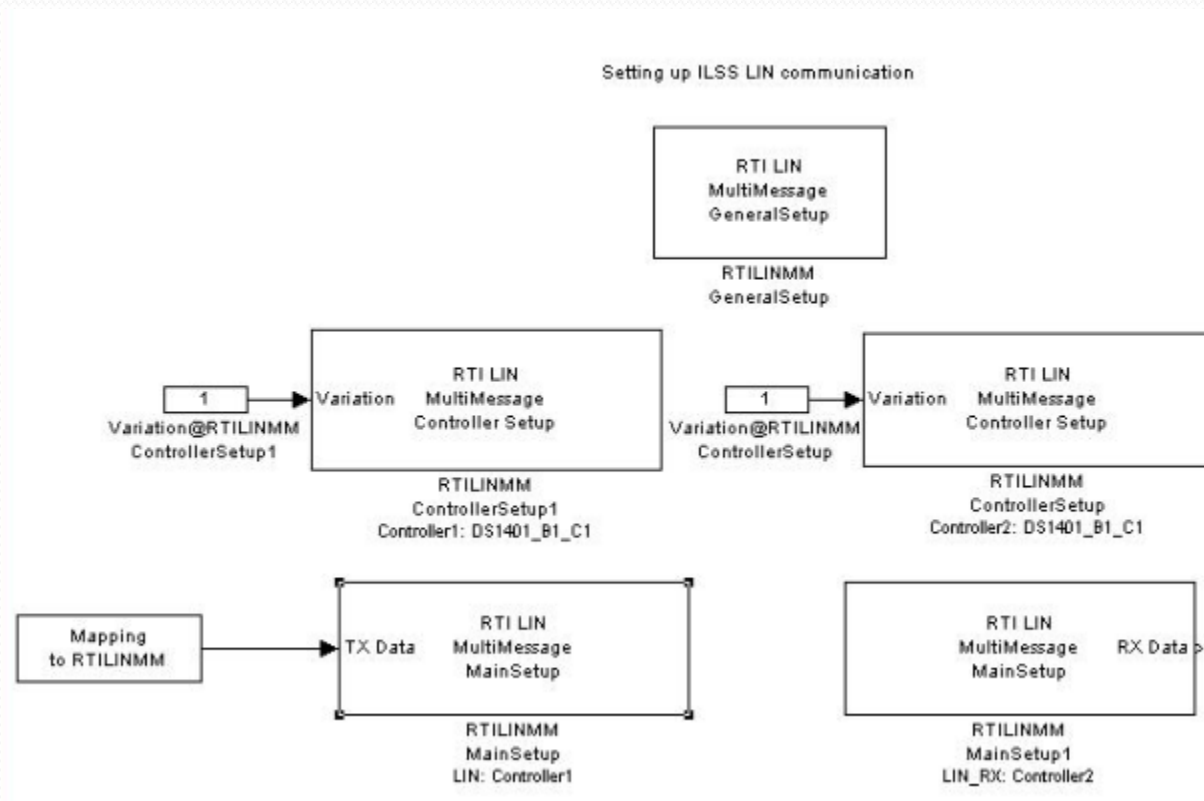
- Four types of frames:
 1. Unconditional frame
 2. Event triggered frame
 3. Sporadic frame
 4. Diagnostic frames

Real World Application

- MicroAutoBox
- Actuators on a single LIN bus



Simulink Block Structure





Questions?