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Anomaly of the SJA1000 Stand-alone CAN Controller

During enhanced system evaluation of the SJA1000 an anomaly has been found concerning the **Receive FIFO**.

When does the anomaly occur and what happens?

The anomaly occurs for receiving nodes only, if the following conditions are fulfilled :

- BasicCAN Mode (82C200 compatibility mode)
- **32 consecutive messages** with **no data bytes** are received without releasing the Receive Buffer

Messages with no data bytes included are Remote Frames or Data Frames with Data Length Code set to zero.
If the FIFO is filled with these 32 messages it internally overflows without signaling an overflow condition. As a result of this overflow, a Release Receive Buffer command clears the complete FIFO and following messages are not stored correctly. A software reset (entering Reset Mode) is sufficient to synchronize the FIFO again.
If at least one message with one or more data byte is stored within the FIFO, this behaviour will **not** occur.
The PeliCAN Mode is not affected.

Does the anomaly affect the application?

It is quite unlikely that applications would get into a situation, where 32 “0-data-byte” messages are accumulated within the FIFO without being read by the CPU. Therefore there is no impact of this anomaly for nearly all applications.