

SAE J2716 (SENT) Gateway Delay Measurement

MACH SYSTEMS s.r.o.



Changes

Date	Change	Changed by
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Contents

1. Introduction.....	2
2. SENT to CAN	2
3. CAN to SENT	2
4. SENT to Analogue.....	3
5. Contact	4

1. Introduction

This document describes measurements of frame delay of the [SAE J2716 Gateway](#). The device is available in two variants: SENT-CAN and SENT-RS232. Both variants also have analogue output channels (12-bit DAC with 0-4.095 V range) which can be mapped onto data bytes of a SENT frame.

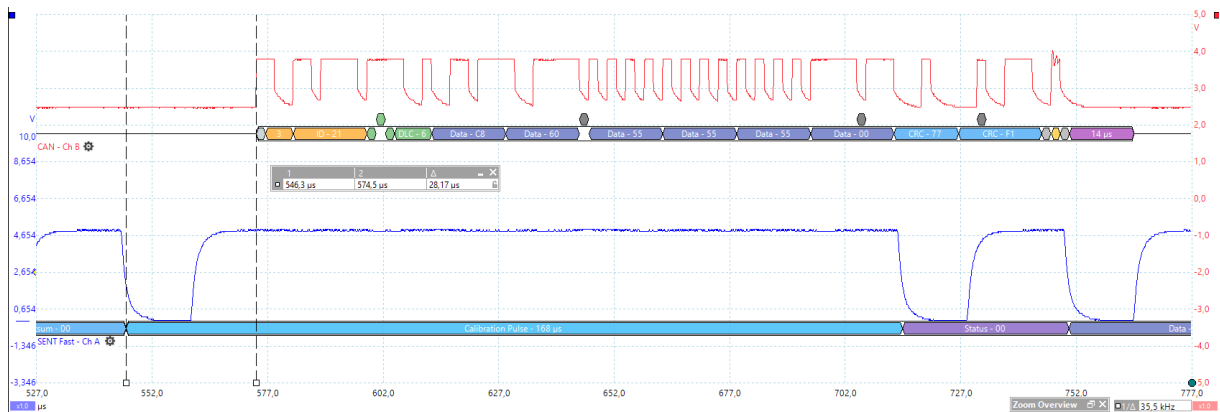
The delays between the SENT bus and CAN bus in both directions, and between the SENT bus and an analogue output channel have been measured and the results are shown below.

All measurements have been done for SENT frames with **6 data nibbles**.

2. SENT to CAN

A typical delay between the end of a SENT frame and the Start-of-Frame (SOF) of a CAN frame (that forwards that SENT frame information onto the CAN bus) is:

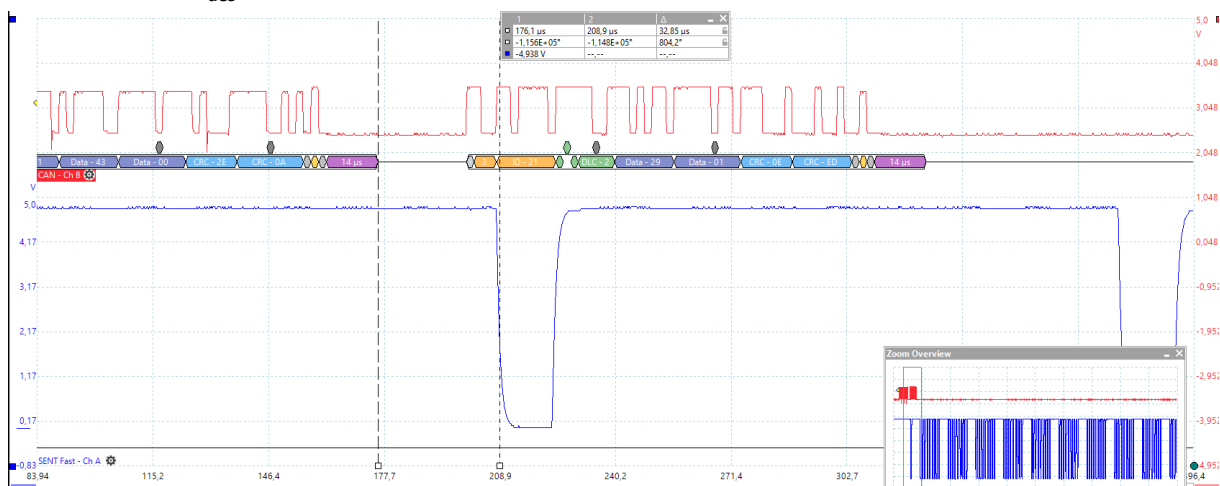
$$T_{dsc} = 28 \text{ us} \pm 2.5 \text{ us}$$



3. CAN to SENT

A typical delay between the End-of frame (EOF) of a CAN frame and the start of a SENT frame is:

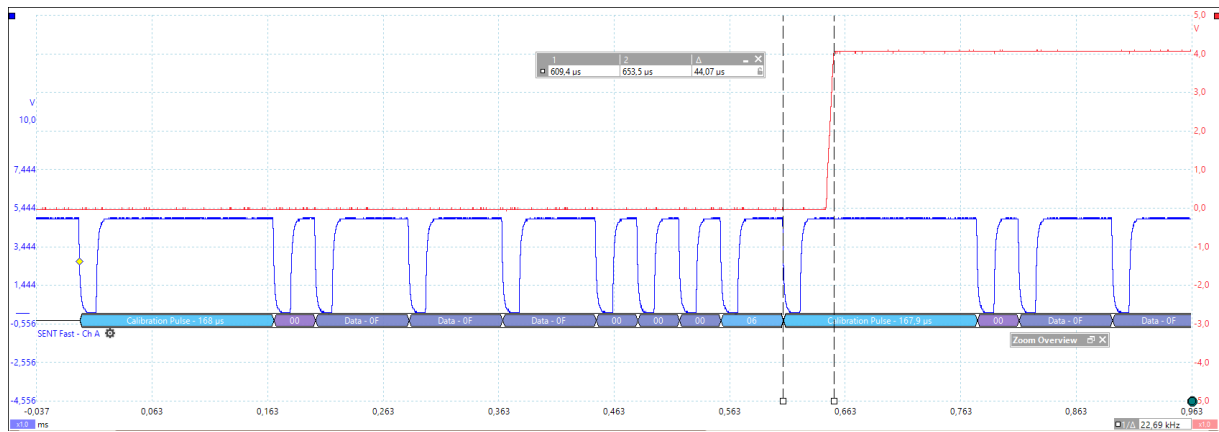
$$T_{dcs} = 33 \text{ us} \pm 1 \text{ us}$$



4. SENT to Analogue

A typical delay between the end of a SENT frame and the setting time of an analogue output is:

$$T_{dA} = 43 \text{ us} \pm 2 \text{ us}$$



5. Contact

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