Minimum Data-Prefix Time

Proposal
for
IEEE 1934a Supplement

Minimum Data-Prefix Time

- Problem Statement
  - Some older S100 PHY designs based on Apple licensed core logic cannot reliably receive packets with minimum data-prefix of 140ns
  - Receiver logic enabled too late - causes first 2 to 4 bits to be missed

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- Problem Statement (cont.)
  - These PHYs are in existing consumer products
  - These PHYs require at least 180 ns of data-prefix preceding clocked data in order to receive packets reliably (including self-ID packets)

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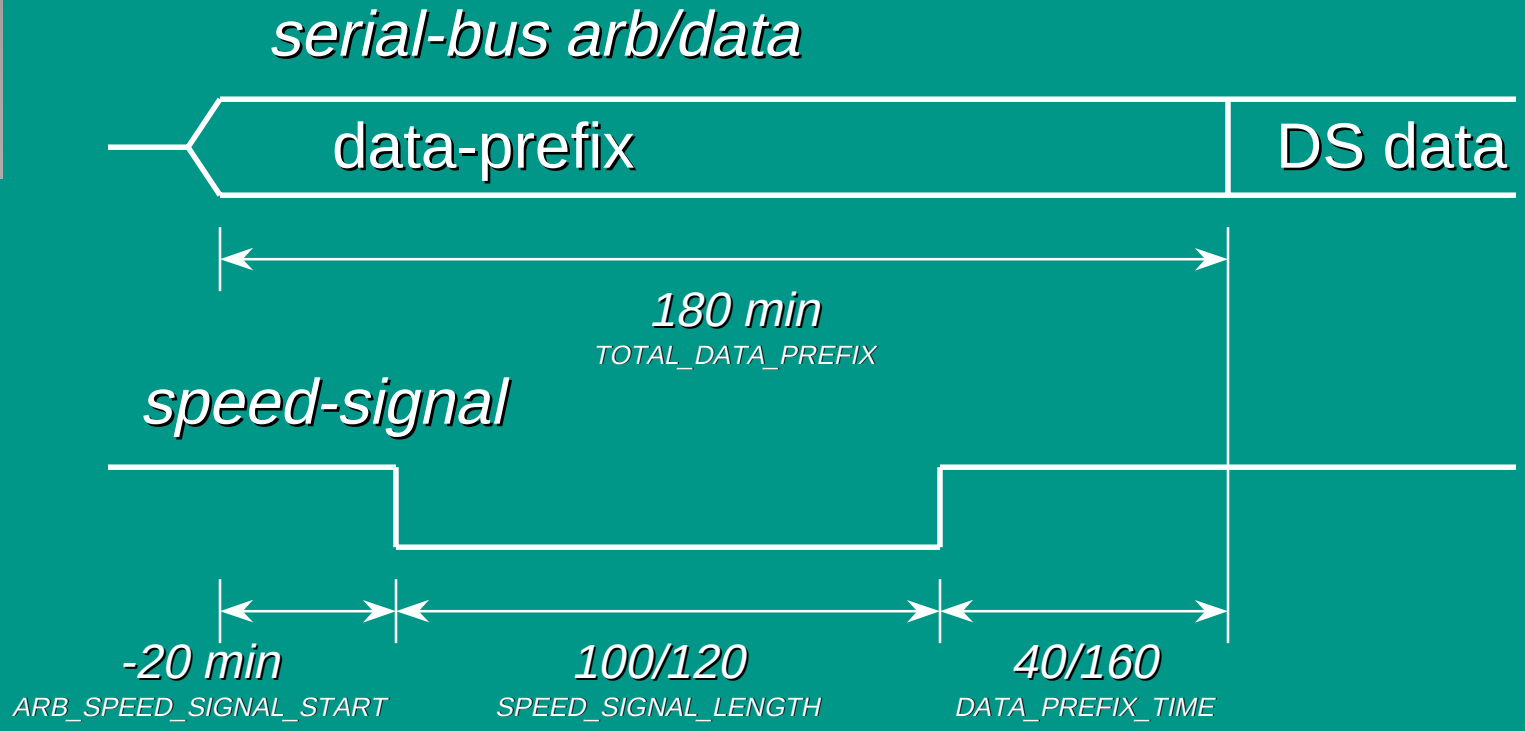
- *Proposal Statement*
  - *New timing constant added to Table 7-7:*

	Min	Max	Comment
TOTAL_DATA_PREFIX	180ns	-	Total data-prefix arbitration signal preceding clocked data (including during speed-signal time)

Minimum Data-Prefix Time

- Packet Data-Prefix Timing



Minimum Data-Prefix Time

- *Implementation*
  - *Increase data-prefix time before speed-signal, or*
  - *Increase data-prefix time after speed-signal and before clocked data, or*
  - *Both of above*

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- Impact
  - Max throughput reduced slightly - for a 64 bit S400 packet, min possible transmission time increased from 560 ns to 600 ns
  - All currently available and planned TI PHYs generate at least 180 ns of data-prefix preceding clock data