

Title: Constraints using MFM Encoding on AS8202NF**Subject: Hardware Bug Related to Protocol Version 2.04 of TASM Software****Introduction:**

When the RS485Bit is set during MFM operation (Speed 500kBit/s) the communication between the nodes (and the monitoring node) does not work as specified.

Description:

- 1) This erratum is relevant for MFM encoding only, i.e., there is no impact when using Manchester encoding.
- 2) The impact exists only if the RS485 bit is set in the MEDL, i.e. even for MFM encoding there is no application limitation if the RS485 flag is not set in the MEDL.

Conclusion, Work-around:

One of these has to be selected:

- 1) Don't enable RS485 along with MFM encoding.
- 2) If using asymmetrical physical layer like RS485 it is necessary to introduce a small disbalance on the communication bus that makes the RXD inputs of the AS8202NF device driven high by the physical layer when no bus driver is active on the bus.

The following is an example for a simple circuitry that introduces such a disbalance to the communication bus. By adding a static current path over the termination resistor the differential amplifiers of the bus drivers get a small positive voltage when the bus is idle and set RXD to high. Values for resistors and current path supply voltage have to be validated against physical and timing properties. Due to the disbalance the physical layer edge jitter can be increased.

