

Title: AS8202NF TASM Software V2.04 MFM RS485 Bug

Subject:

When operated with the TASM Software V2.04, the AS8202NF cannot handle MFM encoding in RS485 media tolerance mode correctly. MFM encoding with RS485 cannot be used with this TASM Software release.

Description:

The cause for the trouble is a bug in the receiver formerly recorded in AN121 as "AS8202NF_rx002-bug". The bug fix for this issue requires checking of the 'silence' status bit of the receiver usually only used for chip debugging. Developed for Manchester encoding with or without RS485 as well as MFM encoding without RS485 media tolerance, the 'silence' status bit does not work for MFM encoding with RS485 media tolerance.

Background: The receiver treats any non-activity on the media for a duration longer than 2.5 bit cells (5 symbols at two symbols per bit) as a 'silence' condition. When RS485 is activated, activity is only raised by falling edges on the media. This results in a maximum of 4 bit cells between such 'activity' conditions resetting the silence status. For bit patterns resulting in more than 2.5 bit cells without a falling edge (like the repeated bit pattern '0101...') the 'silence' bit will be set within this frame. In this situation, when the TASM software reads the active silence status from the receiver, it will incorrectly terminate the reception. Opposed to this, if RS485 is not activated, any falling edge as well as any low signal condition on the receiver input is treated as an 'activity' condition.

Resolution:

Don't use RS485 media tolerance when MFM is activated.