
Interfacing the MAX3265 to the MAX3875

MAXIM High-Frequency/Fiber Communications Group





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The MAX3265 has CML outputs and the MAX3875 has CML inputs, which makes interfacing the two relatively straightforward. The main consideration in accomplishing this interface is to be aware that the pullup resistors in the MAX3265 CML output structure are 100Ω rather than 50Ω . (This is done to facilitate operation in $>50\Omega$ environments.)

A related item to consider is that the maximum output of the MAX3265 is 1200mV (LEVEL = open, RLOAD = 50Ω). This differential

swing is too high for the MAX3875 inputs, which have a maximum input of 800mV differential.

A compromise must be reached between input swing to the MAX3875 and maintaining a transmitter output impedance of $\sim 50\Omega$. One solution is to make $R = 33.2\Omega$, which sets the transmitter output impedance to 25Ω , setting the maximum differential voltage swing to the MAX3875 at 800mV . Even though the transmitter output impedance is now only 25Ω , reflections should not be a problem because the MAX3875 provides a well-matched termination.

