

**Technote #**  
100016

**EIA-422 & EIA-485 Polarity**

**Date**  
November 20, 1997

QUESTION: Why do I need to connect the XMT+ on the Patton interface converter to the RCV- on some of the other manufacturer's equipment which uses EIA-422 or EIA-485 interfaces?

ANSWER: This specifically refers to Models 285, 2085, 2089, 222N, and the 222N9 plus the rack card versions. The reason for this apparent discrepancy is related to the interpretation of the RS-422/485 specifications. They define the polarity of the transmit and receive signals as neither positive (+) nor negative (-) but rather as Transmit-A, Transmit-B, Receive-A and Receive-B. Consequently it is an arbitrary choice to call the "A"/"B" signals positive/negative or negative/positive.

Therefore if the interface converters are not communicating with another manufacturer's product with either the EIA-422 or the EIA-485 interface, simply change the polarity of the twisted pair connection.

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