

How Can You Really Tell Transmit From Receive?

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One of the stickiest areas of confusion in datacom is over the terms "transmit" and "receive" as they pertain to DTE (data terminal equipment) and DCE (data communication equipment). In synchronous communication, this confusion is particularly acute, because more signals are involved.

So why is it that you sometimes send data on TD, and other times you send data on RD? Is this just a cruel form of mental torture? Not really. The secret lies in adopting the proper perspective. In datacom, the proper perspective is always from the point of view of the DTE. When you sit at a PC, terminal or workstation (DTE) and transmit data to somewhere far away, you naturally do so on the TD (transmit data) line. When your modem or CSU/DSU (DCE) receives this incoming data, it receives the data on the TD line as well. Why? Because the only perspective that counts in datacom is the perspective of the DTE. It does not matter that the DCE thinks it is receiving data; the line is still called "TD". Conversely, when the modem or CSU/DSU receives data from the outside world and sends it to the DTE, it sends it on the RD line. Why? Because from the perspective of the DTE, the data is being received! So when wondering, "Is this line TD or RD? Is it TC or RC?" Ask yourself, "What would the DTE say?"



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