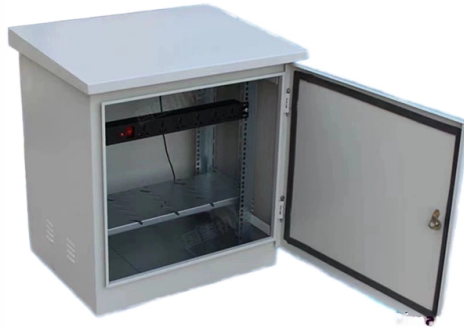


How to reduce bit error rate



Overview

The BER may be improved by choosing a strong signal strength (unless this causes cross-talk and more bit errors), by choosing a slow and robust modulation scheme or line coding scheme, and by applying channel coding schemes such as redundant forward error correction codes. The bit error rate (BER) is the number of bit errors per unit time. In formula form: $BER = \frac{\text{Number of incorrect bits received}}{\text{Total number of bits transmitted}}$ For example: if you send 1,000,000 bits. This topic describes how to compute error statistics for various communications systems. The biterr function, discussed in the Compute SERs and BERs Using Simulated Data section, can help you gather empirical error statistics, but validating your results by comparing them to the theoretical error. To reduce bit error rate (BER), you must primarily focus on improving the signal-to-noise ratio (SNR) by increasing signal strength and minimizing interference, and by implementing robust error correction codes to detect and fix errors during data transmission. A high BER can affect the quality and reliability of your data transmission, especially in noisy or fading channels.



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Contact Us

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