

Since CTLEs are passive filters, they're no different in PAM4 systems than in PAM2-NRZ systems, but with four symbol levels, the decisions that PAM4 DFEs feedback are more complicated.

This Pulse-Amplitude Modulation 4-Level (PAM4) application note explains PAM4 theory and operation while introducing the Intel®; Stratix®; 10 TX device capability and the realization of 57.8 Gbps data ...

Multiple electrical and optical lanes are used to increase transceivers' data rates to 100 Gbps (either multi-fiber or single-fiber WDM). To break the 200 and 400 Gbps barrier an amplitude modulation ...

Although PAM4 doubles the bit bearing efficiency compared with NRZ, PAM4 has noise, linearity, and sensitivity issues. This section focuses on test technologies at the physical layer.

Last updated on Apr 29, 2026.

Understand PAM4 signaling basics and how it differs from NRZ. Expert insights on testing challenges, eye diagrams, and validation for 400G/800G Ethernet.

In copper, PAM4 uses four voltage levels to represent two-bits of data per symbol. By encoding two or more bits per symbol, PAM increases the data rate without increasing the required channel bandwidth.

PAM4 effectively doubles the data rate for a link bandwidth at the expense of reduced signal to noise ratio (SNR). PAM4 is used in 400GE, 800GE, and 1.6T Ethernet as well as PCIe 6.0®; and other ...

This application note explains PAM4 theory and its operation. It describes NRZ and PAM4 fundamentals, standards using PAM4 coding schemes, and CEI-56G Interconnect reaches and ...

Development is continuing, so all models are subject to continuous refinement.

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