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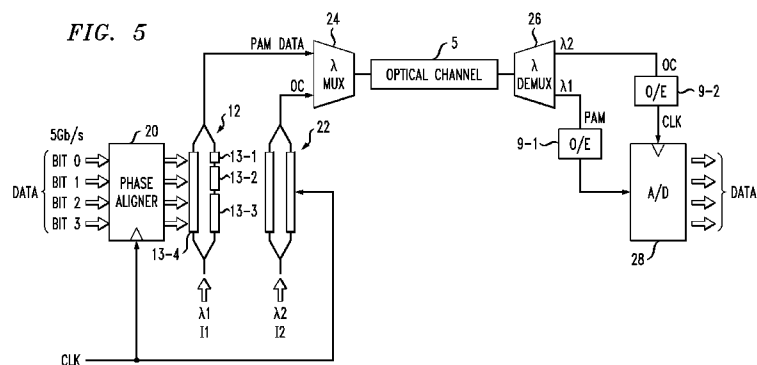
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(54) **Title:** OPTICAL INTERCONNECTION ARRANGEMENT FOR HIGH SPEED, HIGH DENSITY COMMUNICATION SYSTEMS



(57) **Abstract:** An optical interconnection arrangement for use in high data applications is presented that eliminates the need for extensive serialization/de-serialization (SERDES) functionality by utilizing pulse amplitude modulation (PAM) techniques to represent the data in the optical domain while utilizing a separate channel for transmitting an optical clock signal, eliminating the need for clock recovery circuitry on the receive end of the arrangement.